

**Hawai'i  
Pregnancy Risk Assessment  
Monitoring System  
(PRAMS)**

**Hawai'i County PRAMS Report**

**2000-2008**



Family Health  
Services Division

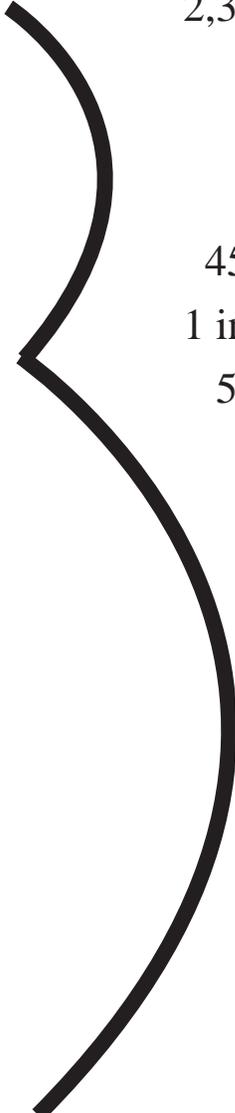


**April 2011**



## First Trimester Prenatal Care

### In an average year in Hawai'i County\*...



2,350 babies are born.

1 in 2 pregnancies are unintended.

1,650 moms take inadequate preconception vitamins.

3 in 4 moms receive first trimester prenatal care.

450 moms report multiple stressful life events.

1 in 6 moms are obese before they got pregnant.

500 moms binge drink prior to pregnancy.

1 in 8 moms smoke during pregnancy.

100 moms report drug use during pregnancy.

1 in 10 babies are born premature.

700 babies are delivered by cesarean section.

1 in 12 moms report intimate partner violence.

750 moms saw a dentist during their pregnancy.

7 in 10 infants are breast fed at least eight weeks.

1,500 infants sleep on their backs.

1 in 7 moms report postpartum depression.

1,900 moms report postpartum contraception use.

1 in 22 infants are exposed to secondhand smoke.

\*Based on aggregated data from 2004-2008

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# Foreword

The Hawai‘i Department of Health has been collecting important information through the Pregnancy Risk Assessment Monitoring System (PRAMS) project from mothers about their experiences before and during pregnancy, and in the first few months postpartum since 2000. We are pleased to present the first Hawai‘i County PRAMS Report and believe it will be a valuable reference on maternal and infant health issues. The report is in follow up to the Statewide report Hawai‘i PRAMS Trend Report, 2000-2008 that was released in 2010. This report will highlight the same 16 indicators used for the Statewide report, but provides county specific measures over time, by maternal race, by maternal age, and by maternal education. We have also included the additional indicator of prematurity in this report. It is hoped that sharing this report and its data will generate ideas and develop solutions for some highly preventable issues facing our families.

It is my hope that this report will be a useful source of quantitative information to health policy makers, planners, and all of us in the community who share a common desire to improve the health of our mothers, children, and families.



Loretta J. Fuddy, ACSW, MPH

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# Acknowledgements

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Tuyet Hayes, MEd

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## Additional Resources:

<http://Hawaii.gov/health/family-child-health/mchb/programs/prams.html>

<http://www.cdc.gov/prams/index.htm>

<http://hawaii.gov/health/neighbor/big-island/index.html>

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The Hawai'i District Health Office represents the Office of the Director of Health for the County of Hawai'i. The Hawai'i District Health Office serves the community with proficiencies in emergency preparedness, family health services (children with special health needs, early intervention, maternal and child health), public health nursing, services for the developmentally delayed, environmental health services (clean water, sanitation), vital statistics (births, marriages, deaths), epidemiology, health promotion & education, and women and infant care (WIC).

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# PRAMS Overview

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a Centers for Disease Control & Prevention (CDC) funded project with participation in 37 states, New York City, and South Dakota (Yankton Sioux Tribe). It is an ongoing population-based surveillance system to identify and monitor maternal behaviors and experiences before, during, and in the first few months after delivery. The data is used to monitor several Healthy People 2010 and other Maternal and Child Health objectives at the state and national level. In an effort to reduce infant mortality in 1987 the Division of Reproductive Health at CDC developed PRAMS. The systemic collection of information related to perinatal health is intended to inform the development of strategies to improve the health among mothers, their children, and their families. The survey is made up of a set of core questions that are asked by all participating states, and additional questions selected by individual states.

Hawai'i started PRAMS in 1999 with the first full year of data collected in 2000. Hawai'i PRAMS works in collaboration with the Hawai'i Department of Health, Office of Health Status Monitoring (OHSM) to identify women who have a live birth in Hawai'i. Of the approximately 18,350 births in Hawai'i each year, about 200 surveys are sent out each month to mothers about 2 months after delivery, with regular follow up by mail and telephone up to 6 months postpartum. The survey is completed by 75% of mothers. Weighted estimates from Hawai'i PRAMS are generalizable to all pregnant women having a live birth in the state. The estimates are weighted based on information from the birth certificate such as age, education, and race. This weighting accounts for differences in characteristics between those that responded and those that didn't to develop estimates representative of the population. Information such as insurance is not available on the birth certificate so it can't be used in the weighting process. Thus, some specific groups of insurance such as those on medicaid/QUEST may be underestimated in the PRAMS data if they didn't respond to the survey at the same rate as other groups.

The Hawai'i PRAMS steering committee is made up of staff in the Hawai'i Department of Health and community stakeholders to provide oversight and guidance for the program. The core questions in the survey are changed every 3-5 years by CDC. The state selected questions are changed at the same time based on input from the steering committee. In 2007, PRAMS initiated discussions on revision of the survey that was implemented in 2009. A series of meetings were held with the steering committee to determine which state added questions would be included in the new survey expected to cover births from 2009-2011. Over sampling of non-Honolulu Counties was also implemented and should allow more precise county level estimates. In this report, we have included the 95% confidence intervals (95% CI) in all the graphs to demonstrate the differences between the population groups. Confidence intervals demonstrate the precision of the estimate and depends on both the sample size and the variability of responses. The 95% CI means that within an error of 5%, the true value will be within the boundaries of the interval. The 95% CI can be used to compare different populations. For example, if the interval of the two groups overlap, it can be inferred that there is unlikely to be a statistical difference between the estimates. On the other hand, if there is no overlap for the two groups, it can be concluded that the estimates are different from each other. Caution must be used in interpretation of those estimates with wide confidence intervals due to lack of precision of the estimate. Additionally, if there was more than a 10% percent standard error in the estimate, it was deemed unreliable and suppressed as noted by an asterisk in graphs. Only reliable estimates among the individual groups in the "All Others" race group was reported in the narrative.

The data has been used in various ways in the State of Hawai'i. For example, a series of fact sheets on several perinatal issues were developed and distributed. Some of these fact sheets informed legislation and were used by community groups to apply for grant opportunities, evaluate the needs of their community, and assist in the development of policies. Hawai'i PRAMS data has also been included in several national reports and analyses have been published in peer reviewed journal articles highlighting issues such as postpartum depression and prenatal care access in our population. This report includes the same indicators that were released in the 2010 Hawaii PRAMS Statewide Trend Report and is meant to highlight data specific to residents of Hawai'i County.

# Population Characteristics

The following table highlights some of the basic characteristics of women and their related perinatal outcomes in Hawai'i County. The annual estimated births and the prevalence estimate for the entire population of women having a live birth in the county are shown. Also shown are the 95% CI which demonstrates the precision of the estimate which is partly dependent on the number of respondents who complete the survey and variability in their responses. The data was aggregated for the time period from 2004-2008 to generate more stable estimates than could be obtained from a single year of data. However, even with this aggregation of data some of the population groups are still small and estimates can't be reported for. This is particularly pronounced with maternal race in which estimates for many of the subgroups in the "All Others" can't be reported.

There was an average annual estimate of 2,350 resident births to Hawai'i County residents over the time period. About three-quarters of all births occurred in those women 20-34 years of age. Approximately 12.0% of births were to mothers 35 years of age and greater, while 11.6% were to those under 20 years of age.

The Hawai'i Department of Health, Office of Health Status and Monitoring assigns all people that report more than one race group to a single group for reporting purposes. Therefore, this single race group is all that is available in the PRAMS data for analysis. Being of Hawaiian race represented 42.4% of all births, followed by White race with 20.8% of births, Filipino race with 13.3% of births, Japanese race with 7.4% of births, "Other Pacific Islander" race with 6.1% of births, and American Indian race with 3.5% of all births for the time period. About 4.4% were classified as "All Others" which was made up of "Other Asian" (0.9% of all births), "Hispanic" (1.8% of all births), Samoan (0.7% of all births), Black (0.6% of all births), and "refused/unknown" (0.3% of all births). The numbers were too small to further characterize these groups: "Other Pacific Islander" consisted of Guamanian (n=3) and all other pacific islanders (n=49); "Other Asian" consisted of Vietnamese (n=3), Asian Indian (n=2), and all other Asians (n=5); and "Hispanic" consisted of Mexican (n=12), and Puerto Rican (n=6).

In nearly two-thirds of all births to Hawai'i County residents, the mother had a high school or less level of education with 47.6% having a high school level education. About 20.2% reported some college education and 18.5% were college graduates. Just under half of the births occurred to mothers who were married at the time of the delivery.

Among all births to Hawai'i County residents, 42.7% occurred among mothers who reported income and household size that would put them at below 100% of the federal poverty level. Just over 20% of mothers were at the 101-185% of the federal poverty level. This demonstrates that nearly two-thirds of those who have a live birth in the county would likely meet the criteria for Medicaid/QUEST eligibility during pregnancy. Of the 1,450 women each year who are eligible based on federal poverty level for Medicaid/QUEST, about 500 women each year could potentially lose that coverage postpartum at eight weeks postpartum unless the addition of a new infant or a change in their overall income would allow them to remain eligible by shifting them to below the 100% federal poverty level. An estimated 12.5% reported levels consistent with being at a federal poverty level of 186-300%, and just under a quarter were over 300% of federal poverty level.

Health insurance coverage for prenatal care was reported by the majority of new mothers with only 2.6% reporting no coverage. Private insurance was the most common with more than half, followed by Medicaid/QUEST Insurance with just under half. In nearly 60% of births to Hawai'i County residents, the mothers were seen in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) during prenatal care. A low birth weight birth, defined as less than 2,500 grams, occurred in 7.9% of births to Hawai'i County residents for the time period.

# Population Characteristics

	Estimated Annual Births (N)*	Weighted Percent Estimate* (%)	95% Confidence Interval*	Respondents (n)*
<b>Maternal Age</b>				
Under 20 years	250	11.6	9.7-13.8	110
20-24 years	700	29.2	26.6-32.1	285
25-34 years	1,100	47.1	44.2-50.2	498
35 years and greater	300	12.0	10.3-14.0	142
<b>Maternal Race</b>				
White	500	20.8	18.6-23.1	219
Hawaiian	1,000	42.4	39.6-45.2	378
“Other Pacific Islander”	150	6.1	4.7-7.8	52
Filipino	300	13.3	11.6-15.2	158
Japanese	150	7.4	6.0-9.1	79
Chinese	50	1.3	1.0-1.7	45
Korean	25	0.8	0.6-1.2	27
American Indian	100	3.5	2.5-4.9	32
All Others	100	4.4	3.3-5.7	44
Black	15	0.6	0.3-1.3	6
Samoan	20	0.7	0.4-1.5	7
“Other Asian”	20	0.9	0.5-1.7	10
“Hispanic”	40	1.8	1.1-2.7	18
“refused/unknown”	5	0.3	0.1-0.8	4
<b>Maternal Education</b>				
Less Than High School	300	13.7	11.7-16.1	123
High School	1,100	47.6	44.6-50.6	463
Some College	450	20.2	18.0-22.7	224
College Graduate	450	18.5	16.4-20.8	219
<b>Marital Status</b>				
Married	1,150	48.2	45.2-51.2	535
Other	1,200	51.8	48.8-54.8	500
<b>Percent of Federal Poverty Level</b>				
0-100%	950	42.7	39.6-45.8	385
101-185%	500	21.9	19.4-24.6	204
186-300%	250	12.5	10.6-14.6	124
301% +	500	23.0	20.5-25.6	242
Missing	200			80
<b>Insurance Coverage for Prenatal Care</b>				
No coverage	50	2.6	1.8-3.7	28
Medicaid/QUEST	950	43.4	40.3-46.5	395
Private Insurance	1,200	54.0	50.9-57.1	554
Missing				58
<b>Prenatal WIC Participation</b>				
No	950	40.8	37.8-43.8	438
Yes	1,350	59.2	56.2-62.2	574
<b>Low Birth Weight</b>				
No	2,150	92.1	90.4-93.6	952
Yes	200	7.9	6.4-9.6	82
<b>Overall</b>	<b>2,350</b>	<b>100</b>		<b>1,035</b>

\*Aggregated data from 2004-2008

# *Unintended Pregnancy*

## **Background:**

When pregnancies are intended and planned, there is greater opportunity and motivation for women and their partners to adopt or maintain positive health behaviors, often leading to improved infant outcomes. An unintended pregnancy is associated with late or inadequate prenatal care, intimate partner violence, low birth weight, infant deaths, and other adverse consequences to the mother and her infant. An unintended pregnancy is complex, but is often associated with substance use which places the fetus at risk for exposure to alcohol and other substances, and lack of effective family planning. The U.S. Healthy People 2010 objective was to increase the proportion of intended pregnancies to 70%.

## **PRAMS Definition:**

An Unintended pregnancy was defined by a question among mothers who had a live birth about timing of the pregnancy. A report of wanting it “then” or “sooner” was considered an intended pregnancy, while wanting it “later” or “did not want then or at anytime in the future” was considered an unintended pregnancy. PRAMS data does not allow a determination of an unintended pregnancy among those pregnancies that did not result in a live birth.

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 45.3% reported having an unintended pregnancy. Those living in Hawai‘i County had the highest estimate of all counties at 50.6%. Kauai County residents also had a higher estimate, while those living in Honolulu and Maui Counties had lower estimates of an unintended pregnancy.

## **Trends over Time:**

Although some fluctuation over time, there has been little change in Hawai‘i County with 48.5% in 2008 reporting an unintended pregnancy, compared to 50.4% in 2000. However, there has been some declines since 2005 when 56.0% reported an unintended pregnancy.

## **Differences Related to Maternal Race:**

“Other Pacific Islander,” “All Others,” Hawaiian, and American Indian mothers reported the highest estimates of an unintended pregnancy. Filipino mothers reported intermediate estimates of an unintended pregnancy. Korean, Chinese, White, and Japanese mothers reported the lowest estimates of an unintended pregnancy. There were no individual estimates for race groups within “All Others” that were reportable.

## **Differences Related to Maternal Age:**

Mothers under 20 and those 20-24 years of age were more likely to report an unintended pregnancy with lower estimates among those 25-34 and 35 years and greater. The lowest estimate of unintended pregnancy was among those 35 years and greater.

## **Differences Related to Maternal Education:**

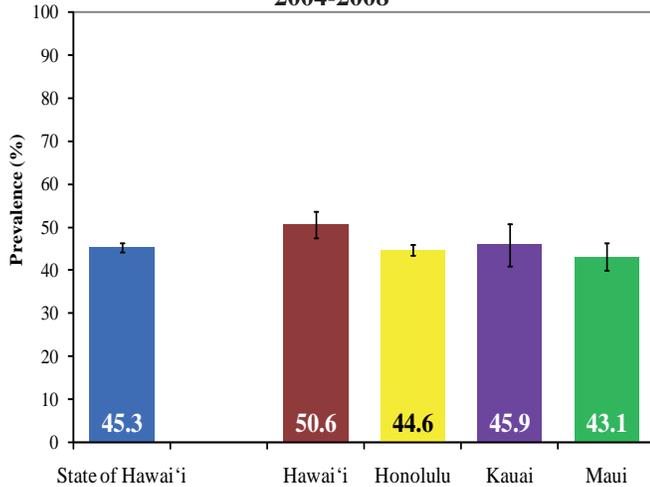
Mothers with less than a high school education were more likely to report the pregnancy being unintended compared to those who with more education. Similar estimates were seen among those with a high school or some college level of education. The lowest estimates of an unintended pregnancy was among those who were college graduates.

## **Recommendations/Implications:**

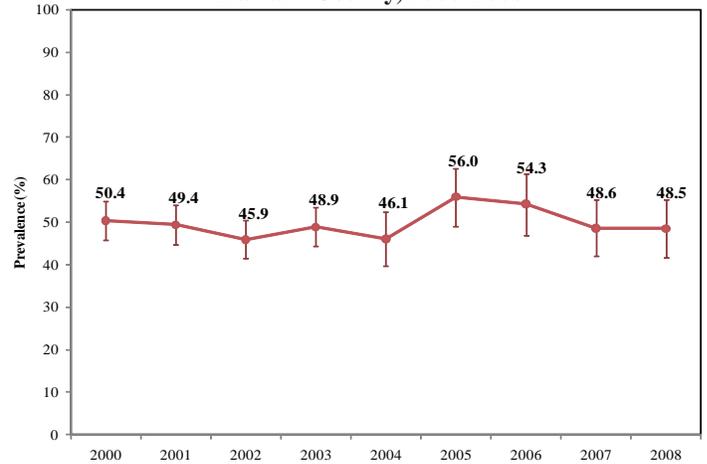
An estimated 50.6% of mothers in Hawai‘i County who had a live birth reported an unintended pregnancy which is higher than the overall State estimate and the highest among all counties. If pregnancies that did not result in a live birth are included, the estimate for an unintended pregnancy would be even higher. Emphasizing the development of a reproductive health plan and ensuring access to effective family planning methods in all women of reproductive age could potentially decrease the impact and costs associated with an unintended pregnancy. Particular focus among those living in Hawai‘i County would include; those of “Other Pacific Islander,” Hawaiian, and American Indian race; those under 25 years of age; and those with an education of less than high school. Other potential correlates that would be beneficial to explore include those related to substance use, insurance coverage, and socio-economic conditions before pregnancy due to their relationships with having an unintended pregnancy.

# Unintended Pregnancy

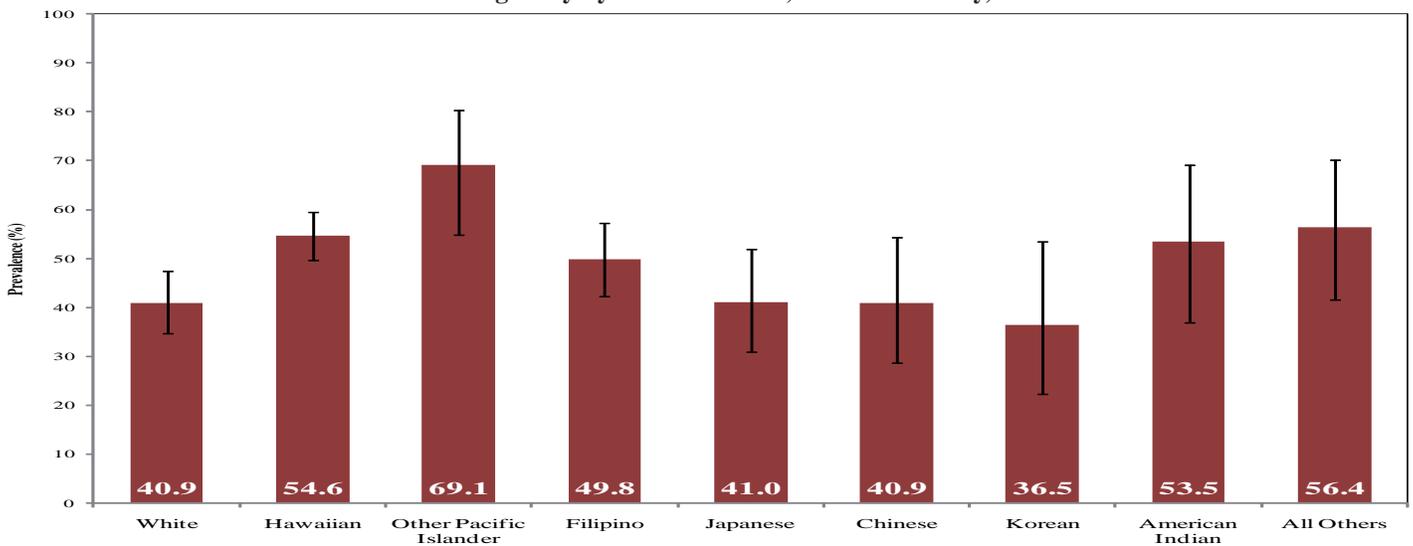
Unintended Pregnancy by State and County, 2004-2008



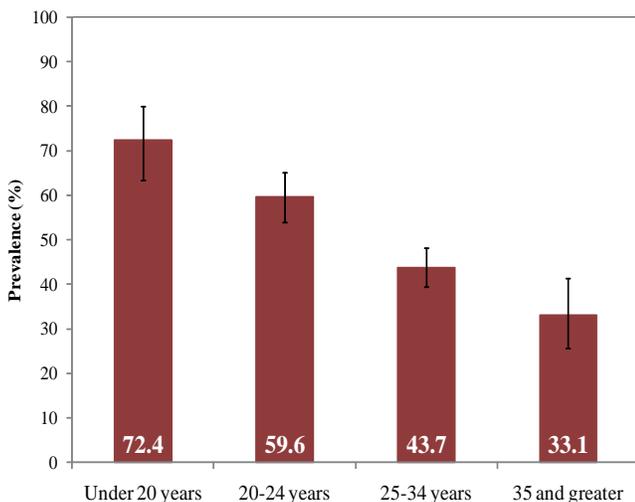
Unintended Pregnancy over time, Hawai'i County, 2000-2008



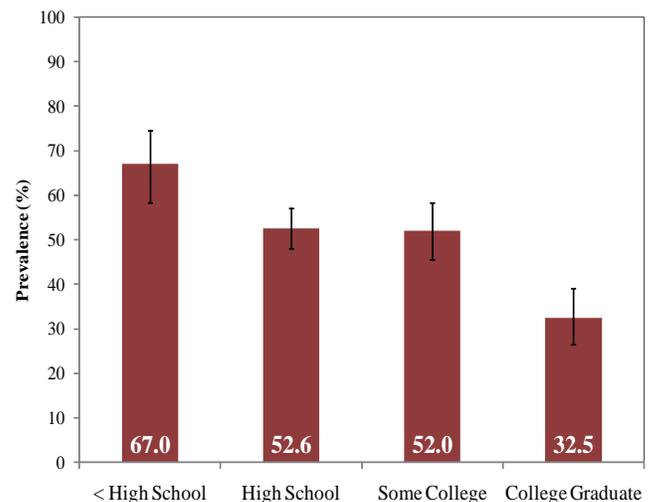
Unintended Pregnancy by Maternal Race, Hawai'i County, 2004-2008



Unintended Pregnancy by Maternal Age, Hawai'i County, 2004-2008



Unintended Pregnancy by Maternal Education, Hawai'i County, 2004-2008



# Preconception Vitamin

## **Background:**

Multivitamins or prenatal vitamins typically contain folic acid that can reduce the risk of neural tube defects (NTD), particularly spina bifida and anencephaly, when taken in sufficient amounts during the first month of pregnancy. Studies have shown that 400 micrograms of folic acid taken daily before pregnancy can reduce the risk of having a child with a NTD by half. The U.S. Healthy People 2010 objective was to increase the daily intake of folic acid among all women of childbearing age to 80%, or have less than 20% reporting less than daily intake.

## **PRAMS Definition:**

Inadequate preconception vitamin is defined as intake of multivitamins or prenatal vitamins on average < 4 times a week in the month before pregnancy. This is a conservative approach and is less than the daily recommended intake.

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 63.4% took an inadequate amount of preconception vitamins in the month before pregnancy. Those living in Hawai‘i County had the highest estimate of all counties at 69.7%. Kauai County residents also had a higher estimate, while those living in Maui and Honolulu Counties had lower estimates of inadequate preconception vitamins.

## **Trends over Time:**

Although some fluctuation over time, there appears to be some improvement in Hawai‘i County with 62.8% in 2008 reporting inadequate preconception vitamins compared to 68.0% in 2000 and 73.2% in 2006 and 2007.

## **Differences Related to Maternal Race:**

American Indian, “All Others,” and Hawaiian mothers reported the highest estimates of inadequate preconception vitamins. Korean, Japanese, and “Other Pacific Islander,” mothers reported intermediate estimates. White, Filipino, and Chinese mothers reported the lowest estimates of inadequate intake of preconception vitamins. The only individual race group within “All Others” that could be reported was “Hispanic” (83.5%; 95% CI = 60.5-94.4) mothers.

## **Differences Related to Maternal Age:**

Mothers under 20 and those 20-24 years of age were more likely to take an inadequate amount of preconception vitamins compared to those 25-34 and 35 years of age and greater. Those 35 years and greater had the lowest estimate of inadequate intake of preconception vitamins.

## **Differences Related to Maternal Education:**

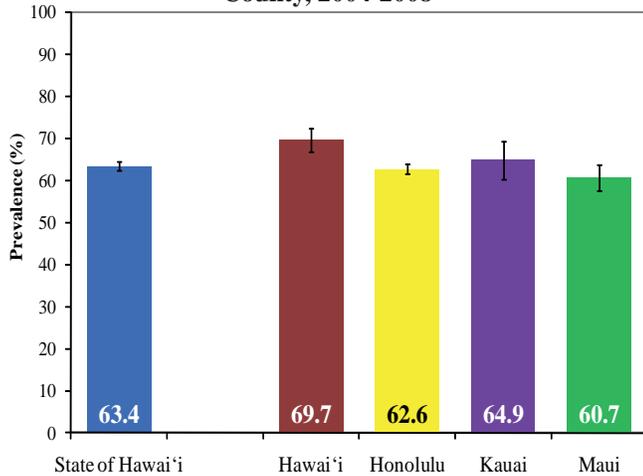
The highest estimates of inadequate preconception vitamins was among those with a high school or less education. Intermediate estimates were seen in those with some college education. Mothers that were college graduates were the least likely to report an inadequate amount of preconception vitamins.

## **Recommendations/Implications:**

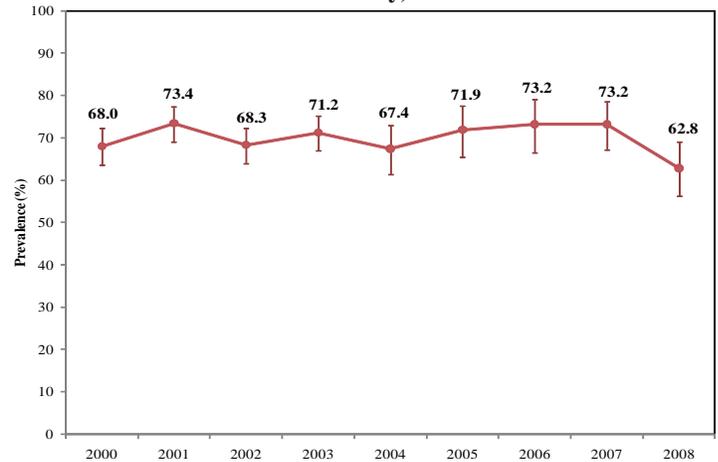
An estimated 69.7% of mothers in Hawai‘i County who had a live birth reported an inadequate intake of preconception vitamins which is higher than the overall State estimate and the highest among all counties. There are significant disparities in the use of preconception vitamins during a critical period of infant development by geography, maternal race, age, and education. Emphasizing the use of vitamins in all women of reproductive age could potentially decrease birth defects associated with inadequate folic acid intake. Of particular concern is that even in the best group, only about half reported taking vitamins on at least 4 of the 7 days in the month before pregnancy. Prenatal vitamins are not covered by insurance until a woman is already confirmed to be pregnant so the beneficial effect related to preventing neural tube defects in the first month after conception may not be realized due to costs and access. In order to decrease disparities, particular focus among those living in Hawai‘i County may include specific attention to: those of American Indian, “Hispanic,” and Hawaiian race; those under 25 years of age; and those with a high school or less education. Other potential correlates that would be beneficial to explore include those related to poverty and socio-economic conditions.

# Preconception Vitamin

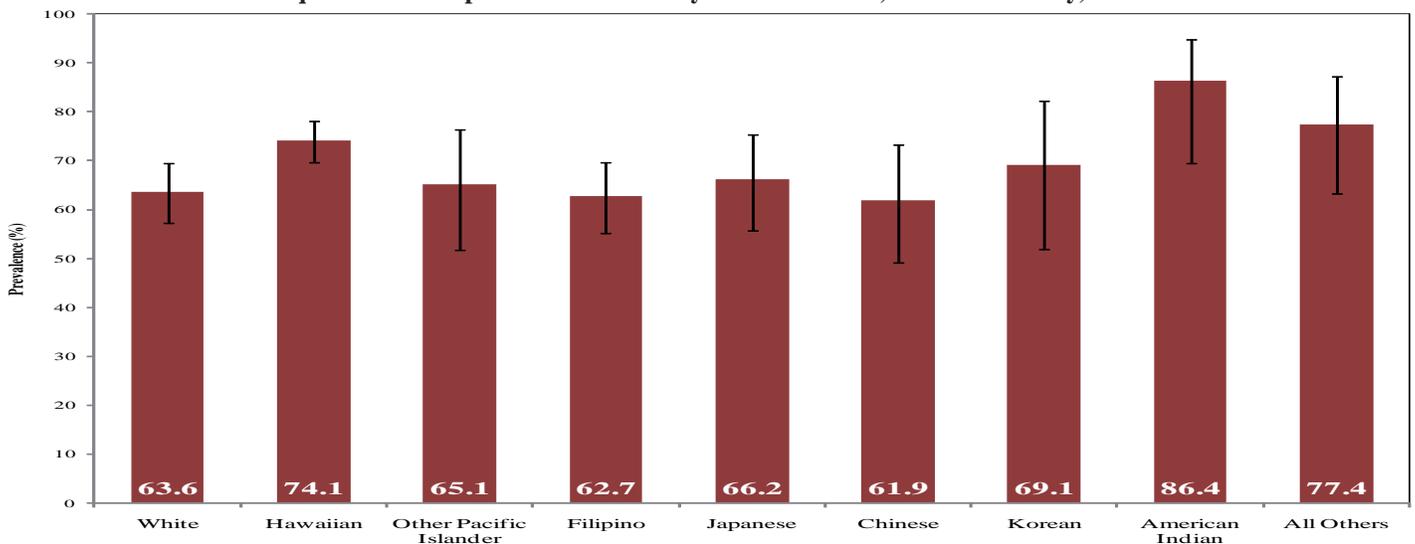
**Inadequate Preconception Vitamin Use by State and County, 2004-2008**



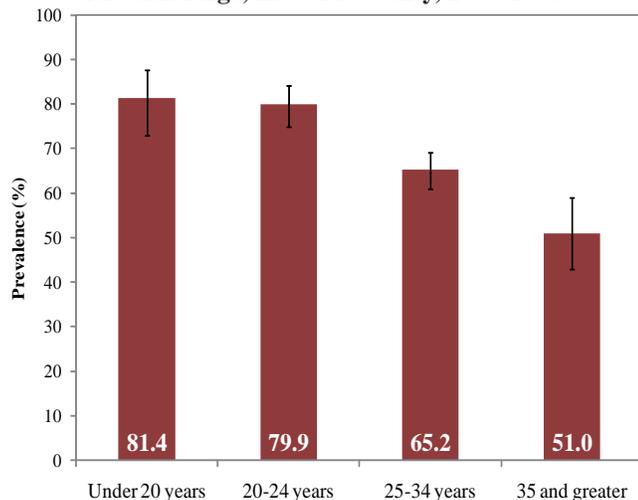
**Inadequate Preconception Vitamin Use over time, Hawai'i County, 2000-2008**



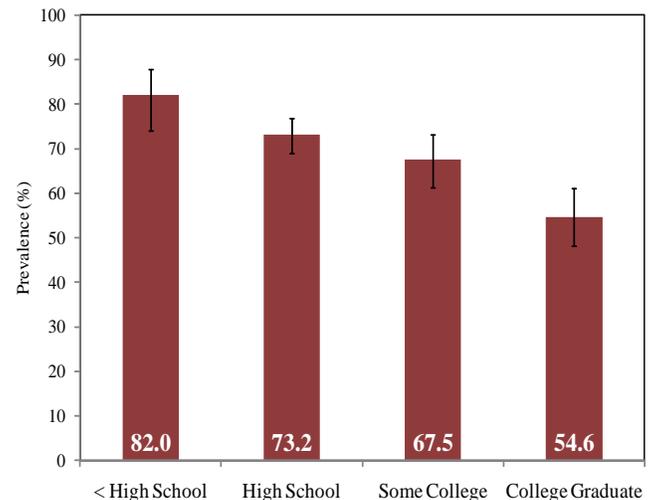
**Inadequate Preconception Vitamin Use by Maternal Race, Hawai'i County, 2004-2008**



**Inadequate Preconception Vitamin Use by Maternal Age, Hawai'i County, 2004-2008**



**Inadequate Preconception Vitamin Use by Maternal Education, Hawai'i County, 2004-2008**



# First Trimester Prenatal Care

## **Background:**

Early identification of maternal disease and risks for complications of pregnancy or birth are important reasons for mothers to have first trimester prenatal care. This can help establish a relationship with the clinical provider and support staff to ensure that women with complex problems and women with chronic illness or other risks are seen by specialists if required. Early high quality prenatal care is critical to improving pregnancy outcomes. The U.S. Healthy People 2010 objective was to increase the proportion of pregnant women who receive prenatal care in the first trimester of pregnancy to 90%. Common reasons reported for not obtaining first trimester prenatal care in PRAMS include not being able to get an appointment, being too busy, not having enough money, wanting to keep the pregnancy a secret, and other reasons (e.g., no transportation, no insurance card, no child care, and could not get time off from work).

## **PRAMS Definition:**

First trimester prenatal care was defined by the birth certificate variable for the month that prenatal care began within the first three months. If the response was missing from the birth certificate, the PRAMS variable for number of weeks (<13) or months ( $\leq 3$ ) that was reported as the first prenatal care visit was used.

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 82.2% received prenatal care within the first three months of the pregnancy. Those living in Hawai‘i County had the lowest estimate of all counties at 73.5%. Kauai and Maui County residents also had lower estimates, while those living in Honolulu County had higher first trimester prenatal care estimates.

## **Trends over Time:**

Although some fluctuation over time, there has been little change in Hawai‘i County with 74.6% in 2008 reporting first trimester prenatal care, compared to 77.7% in 2000. However, there appears to be some improvement since 2006 when 66.9% reported first trimester prenatal care.

## **Differences Related to Maternal Race:**

“Other Pacific Islander” mothers reported the lowest estimates of first trimester prenatal care. “All Others,” American Indian, Chinese, Filipino, and Hawaiian mothers reported intermediate estimates of first trimester prenatal care. White, Japanese, and Korean mothers reported the highest estimates of first trimester prenatal care. There were no individual estimates for race groups within “All Others” that were reportable.

## **Differences Related to Maternal Age:**

Mothers under 20 years of age had the lowest estimates of first trimester prenatal care. There was steady improvement in first trimester prenatal care with increasing age, with mothers 35 years and greater reporting the highest estimate.

## **Differences Related to Maternal Education:**

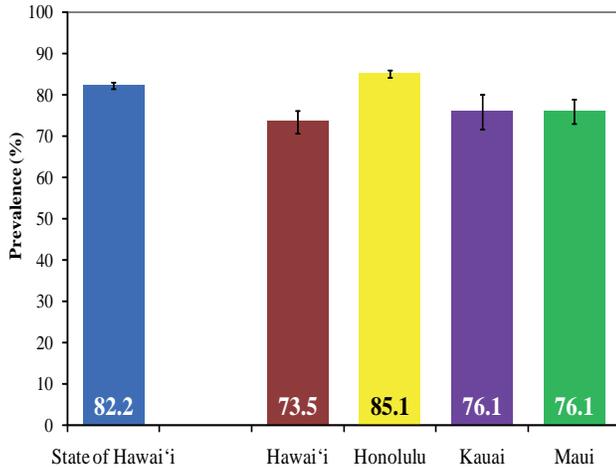
The lowest estimate of first trimester prenatal care was among those with less than a high school education. There was a steady increase in estimates of first trimester prenatal care with increasing education, with mothers that were college graduates reporting the highest estimate of first trimester prenatal care.

## **Recommendations/Implications:**

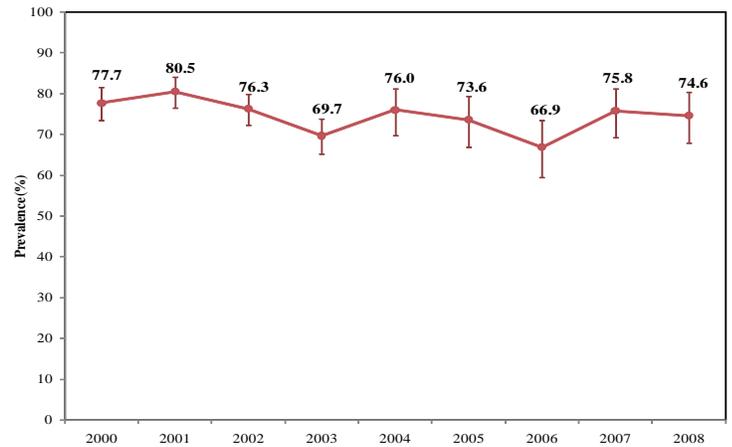
An estimated 73.5% of mothers who had a live birth in Hawai‘i County received prenatal care in the first trimester which is lower than the estimate for the State and is the lowest among all counties. There are significant differences by geography, maternal race, age, and education. Emphasizing the importance of prenatal care and minimizing barriers in receiving early prenatal care is needed to change these trends. Eligibility for public insurance coverage is expanded to 185% of Federal Poverty Level once a woman becomes pregnant, but there may be difficulty accessing care in the first trimester due to appointment availability and distribution of providers. In order to decrease disparities, particular focus among those living in Hawai‘i County may include specific attention to: those of “Other Pacific Islander” race; those under 20 years of age; and those with less than a high school education. Other potential correlates that would be beneficial to explore to improve access to first trimester prenatal care may include those related to poverty and socio-economic conditions, and work force issues such as the availability and distribution of providers.

# First Trimester Prenatal Care

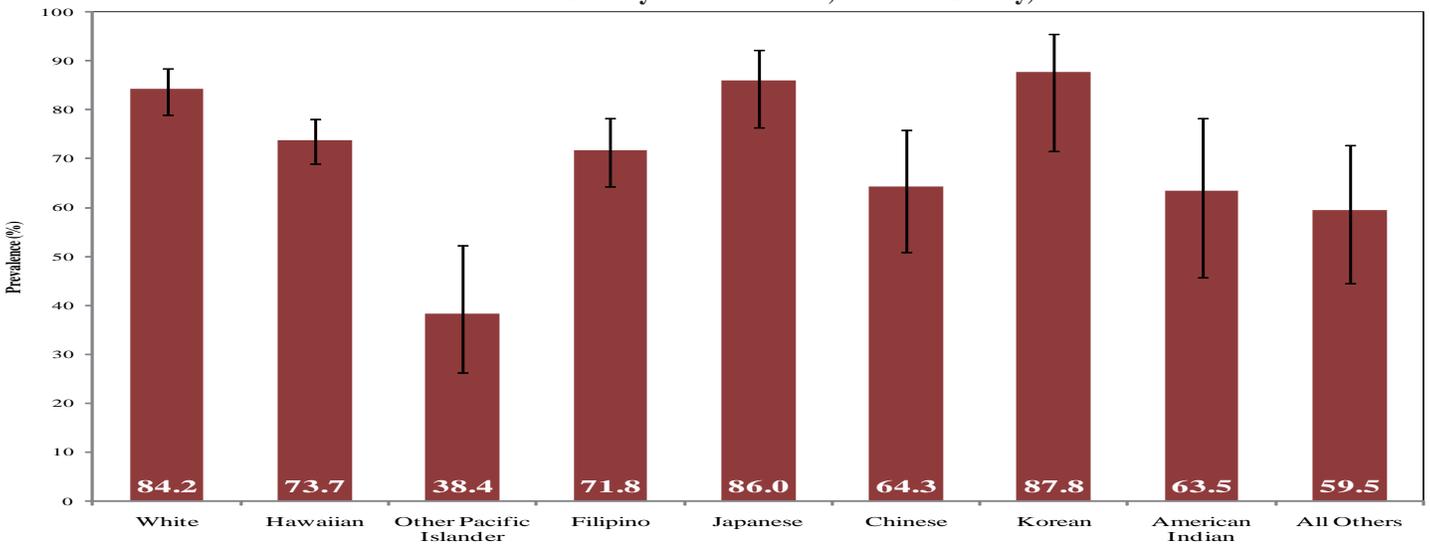
First Trimester Prenatal Care by State and County, 2004-2008



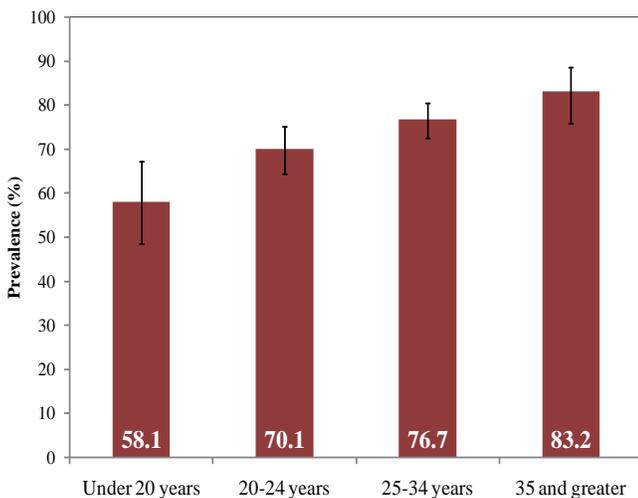
First Trimester Prenatal Care over time, Hawai'i County, 2000-2008



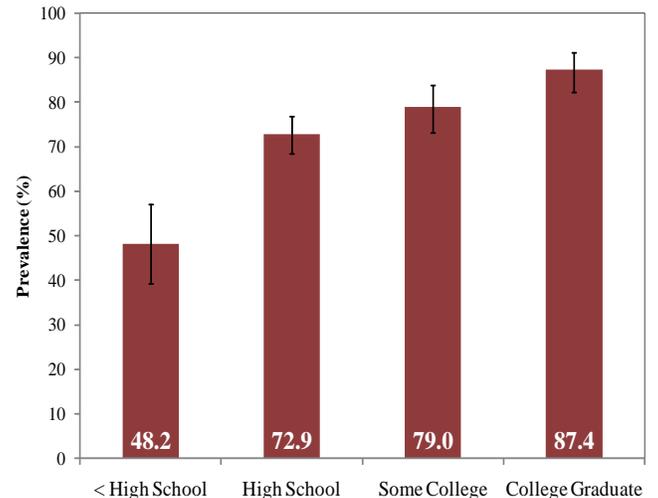
First Trimester Prenatal Care by Maternal Race, Hawai'i County, 2004-2008



First Trimester Prenatal Care by Maternal Age, Hawai'i County, 2004-2008



First Trimester Prenatal Care by Maternal Education, Hawai'i County, 2004-2008



# Stressful Life Events

## **Background:**

Experiencing stressful life events can affect a woman's health and result in poor health practices as a way to alleviate the stress. Poor health practices such as smoking, drinking, poor diet, lack of exercise, unsafe sexual activity, and poor hygienic practices, can adversely affect an unborn child. In addition, there are several theories that stress may be biologically linked with prematurity and other adverse outcomes. The impact of stress can impact children during all phases of life, particularly during early childhood, when they are dependent on the family environment for growth, learning, and childhood development.

## **PRAMS Definition:**

Stressful life events was defined by the occurrence of at least 4 of the following self reported situations during the 12 months before the baby was born: "close family member hospitalized;" "separation/divorce;" "moved to a new address;" "was homeless;" "husband/partner/mother lost job;" "argued with partner/husband more than usual;" "husband/partner said he did not want me to be pregnant;" "couldn't pay bills;" "was in a physical fight;" "partner/husband went to jail;" "someone close had bad problem with drinking or drugs;" or "someone very close died."

## **Differences Related to County of Residence:**

In the State of Hawai'i an estimated 14.7% reported stressful life events. Those living in Hawai'i County had the highest estimate of all counties at 18.6%. Kauai and Maui County residents also had higher estimates, while those living in Honolulu County had lower estimates of stressful life events.

## **Trends over Time:**

Although some fluctuation over time, there has been little change in Hawai'i County with 19.8% in 2008 reporting stressful life events, compared to 22.0% in 2000.

## **Differences Related to Maternal Race:**

American Indian, "All Others," Hawaiian and Korean mothers reported the highest estimates of stressful life events, with White and Chinese mothers having intermediate estimates. The lowest estimates of stressful life events were reported among Filipino, "Other Pacific Islander," and Japanese mothers. The only individual race group within "All Others" that could be reported was "Hispanic" (6.4%; 95% CI = 1.0-32.0) mothers.

## **Differences Related to Maternal Age:**

Mothers under 20-24 and those 25-34 years of age were more likely to report stressful life events, with lower estimates in those under 20 and those 35 years of age and greater. The lowest estimate of stressful life events was among those under 20 years of age.

## **Differences Related to Maternal Education:**

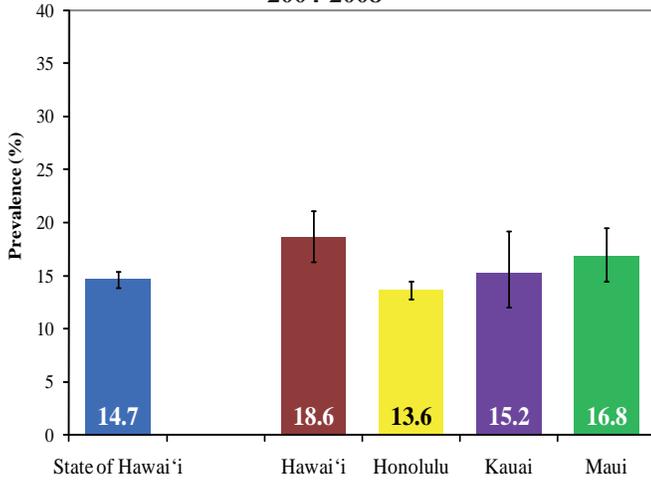
The highest estimates of stressful life events was among those with less than a high school education and was slightly lower in those with a high school education. There was a steady decline in the reporting of stressful life events with increasing education, with mothers who were college graduates reporting the lowest estimate of stressful life events.

## **Recommendations/Implications:**

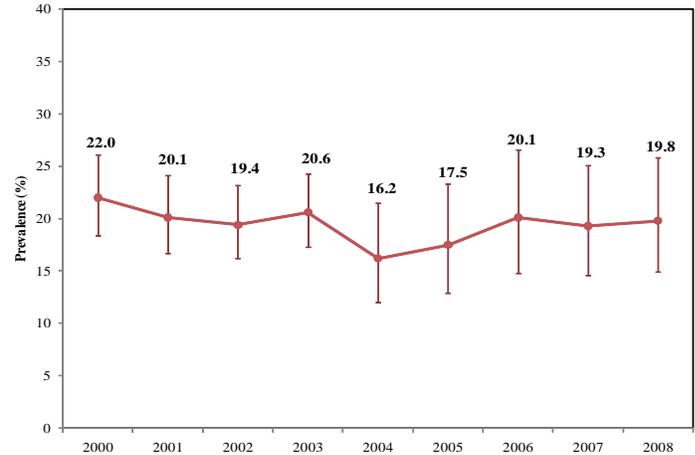
An estimated 18.6% of mothers in Hawai'i County who had a live birth reported at least four stressful life events during the 12 months before the birth of their baby which is higher than the overall estimate for the State and highest among all counties. There are significant differences by geography, maternal race, age, and education. Emphasizing the importance of coping skills and ensuring adequate support for all pregnant women may improve birth outcomes. In order to decrease disparities, particular focus among those living in Hawai'i County may include specific attention to; those of American Indian, Hawaiian, and Korean race; those 20-34 years of age; and those with a high school or less education. Other potential correlates that would be beneficial to explore include those related to poverty and socio-economic conditions as they contribute to the experience of stressful life events.

# Stressful Life Events

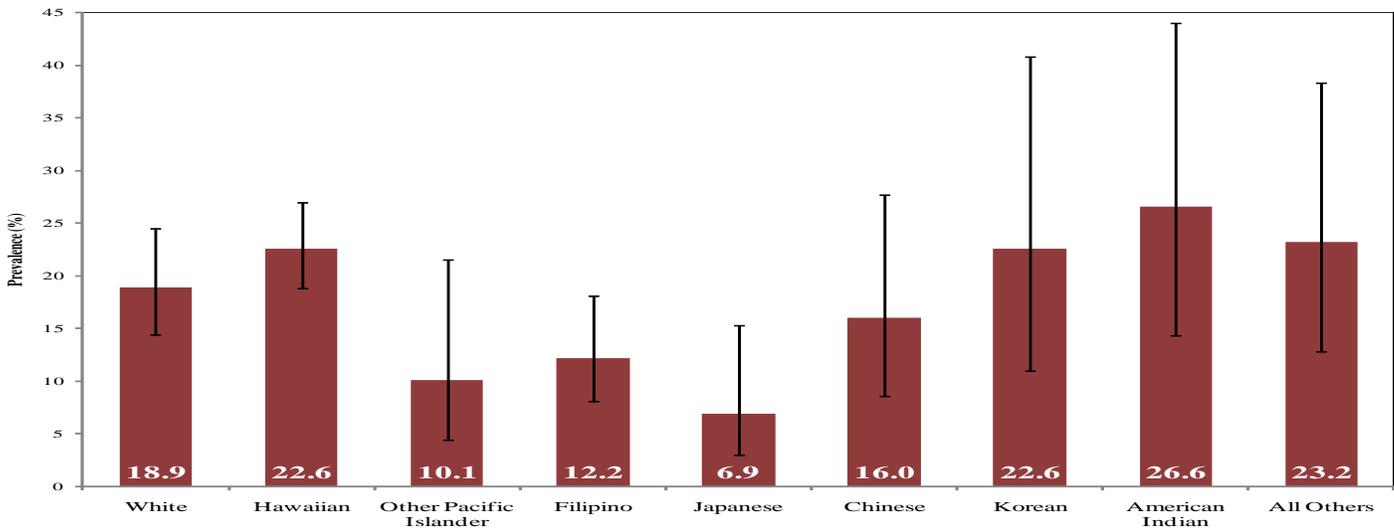
Stressful Life Events by State and County, 2004-2008



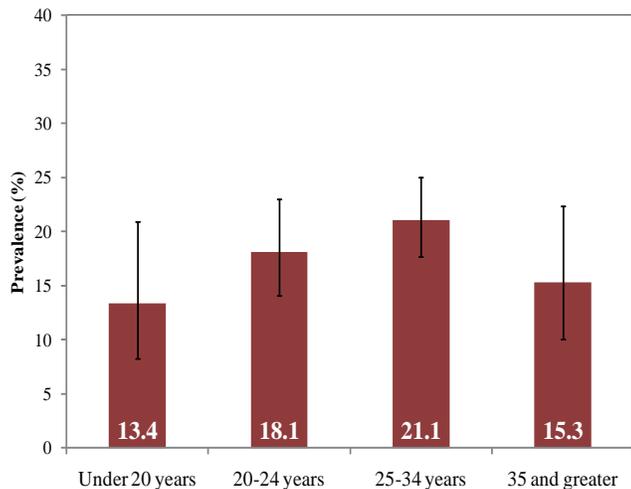
Stressful Life Events over time, Hawai'i County, 2000-2008



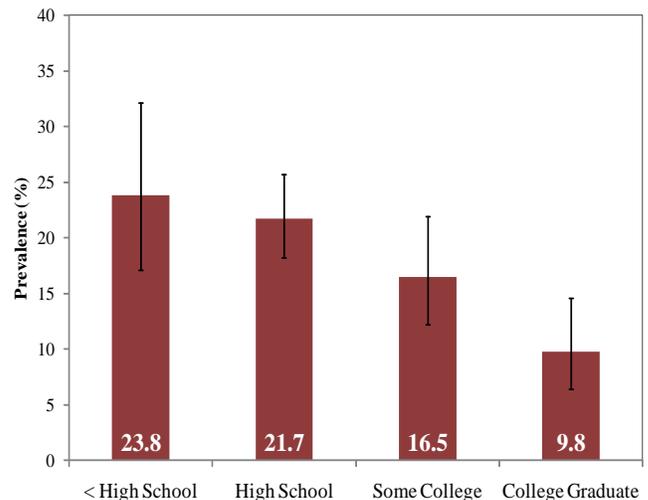
Stressful Life Events by Maternal Race, Hawai'i County, 2004-2008



Stressful Life Events by Maternal Age, Hawai'i County, 2004-2008



Stressful Life Events by Maternal Education, Hawai'i County, 2004-2008



# Preconception Obesity

## **Background:**

Obesity is associated with multiple health consequences including the leading causes of death such as coronary heart disease, stroke, cancers of the breast and colon, and type 2 diabetes. Additionally, obesity is associated with poor female reproductive health and pre-pregnancy obesity has been found to be an independent risk factor for adverse pregnancy and neonatal outcomes. Pregnancy complications associated with obesity include gestational diabetes, gestational hypertension, pre-eclampsia, and cesarean delivery.

## **PRAMS Definition:**

Self-reported height and weight prior to pregnancy was used to calculate a body mass index (weight in kilograms divided by the height in meters-squared). A level of 30.0 or higher was considered preconception obesity. Since these are based on self-reported information several months after the pregnancy about her weight before the pregnancy, these estimates may be somewhat underestimated.

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 15.8% reported preconception obesity. Those living in Hawai‘i County had the highest estimate of all counties at 17.7%. Honolulu County residents also had higher estimates, while those living in Kauai and Maui Counties had lower estimates of preconception obesity.

## **Trends Over Time:**

Although some fluctuation over time, the estimates of preconception obesity in Hawai‘i County has steadily worsened with 17.1% in 2008 reporting preconception obesity, compared to 11.6% in 2000.

## **Differences Related to Maternal Race:**

“Other Pacific Islander,” Hawaiian, and “All Others” mothers had the highest estimates of preconception obesity. Japanese, Korean, and American Indian mothers had intermediate estimates, while White and Filipino mothers had the lowest estimates of preconception obesity. There were no individual estimates for race groups within “All Others” that were reportable.

## **Differences Related to Maternal Age:**

Mothers under 20 years of age had the lowest estimates of preconception obesity. There was a steady increase in preconception obesity with increasing age, with those 35 years and greater having the highest estimate of preconception obesity.

## **Differences Related to Maternal Education:**

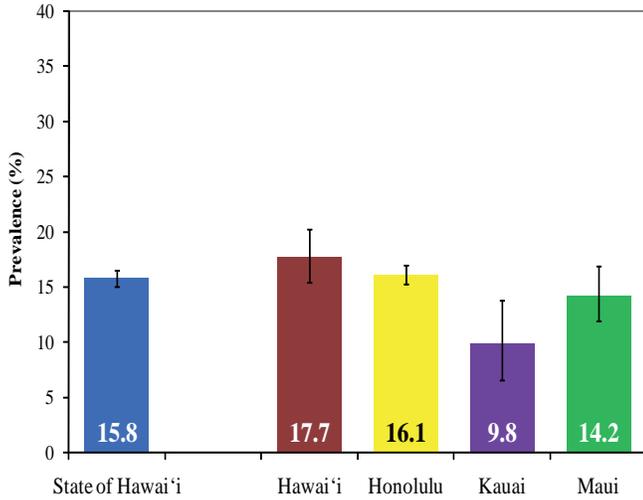
The highest estimates of preconception obesity was among those with a high school education. Those who reported some college or were college graduates had somewhat intermediate estimates of preconception obesity. Those with less than a high school education reported the lowest estimate of preconception obesity.

## **Recommendations/Implications:**

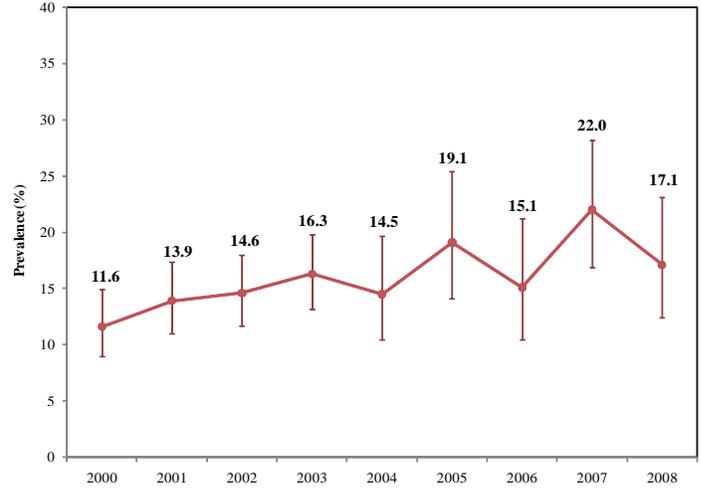
An estimated 17.7% of mothers in Hawai‘i County who had a live birth report heights and weights consistent with preconception obesity, which is higher than the overall State estimate and highest among all counties. There are significant differences by geography, maternal race, age, and education. Emphasizing physical activity and proper nutrition in women of reproductive age could decrease the impact of obesity on birth outcomes. Additionally, the reduction of obesity would improve the health status of all and likely decrease the development of chronic conditions and their associated costs. In order to decrease disparities, particular focus among those living in Hawai‘i County may include specific attention to: those of “Other Pacific Islander” and Hawaiian race; those 25 years of age and older; and those with a high school education. Other potential correlates that would be beneficial to explore include those related to poverty and socio-economic conditions as they are likely related to preconception obesity.

# Preconception Obesity

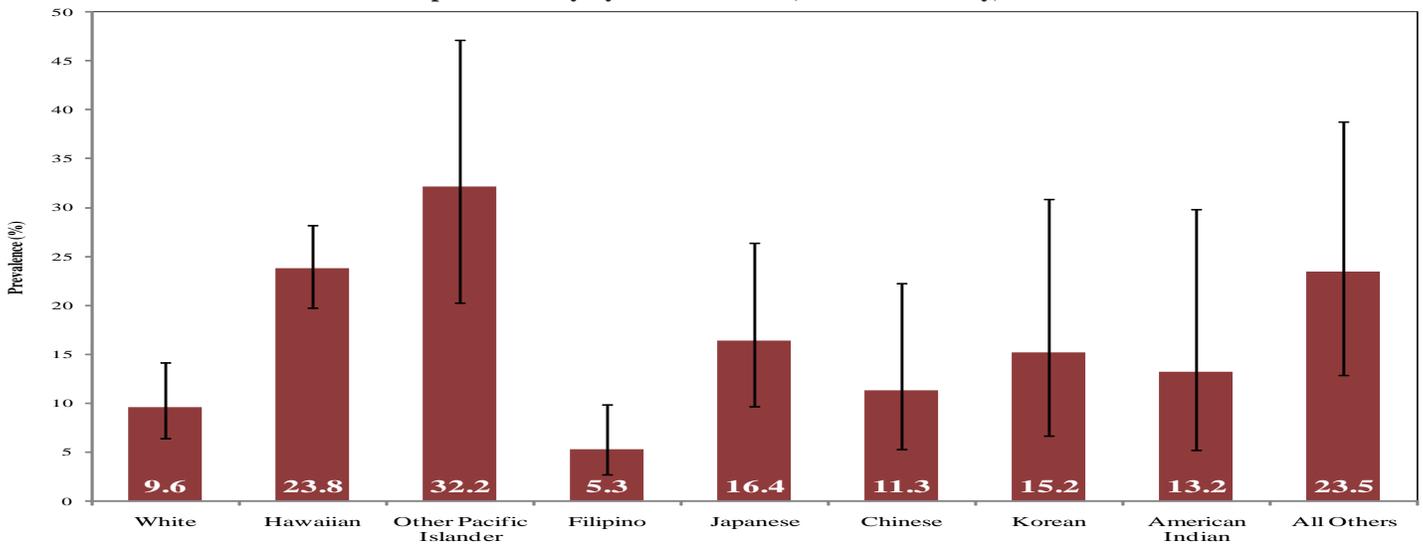
**Preconception Obesity by State and County, 2004-2008**



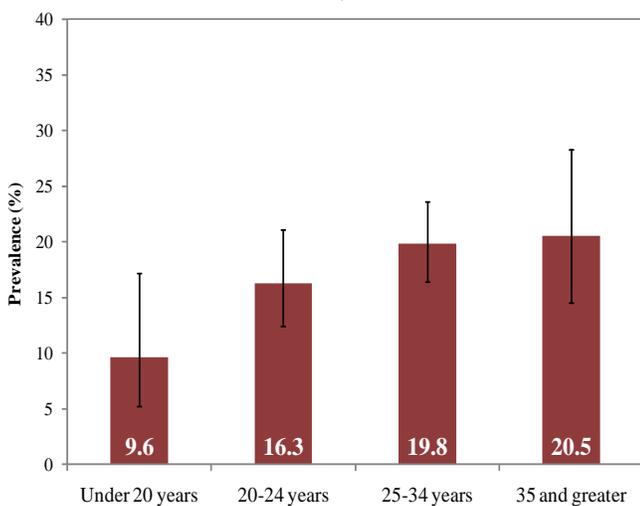
**Preconception Obesity over time, Hawai'i County, 2000-2008**



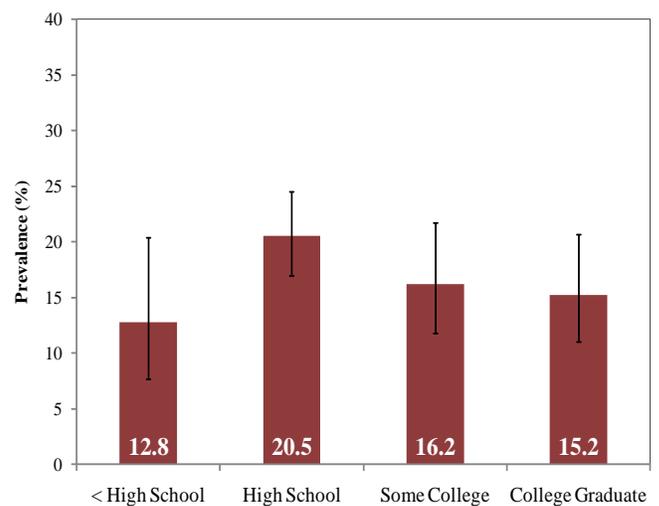
**Preconception Obesity by Maternal Race, Hawai'i County, 2004-2008**



**Preconception Obesity by Maternal Age, Hawai'i County, 2004-2008**



**Preconception Obesity by Maternal Education, Hawai'i County, 2004-2008**



# *Binge Drinking Prior to Pregnancy*

## **Background:**

Any consumption of alcohol at any time during pregnancy is considered unsafe to the developing fetus. Research has determined that binge drinking during early pregnancy is especially deleterious for the fetus. Binge drinking before pregnancy may overlap with the critical exposure period for birth defects including those related to alcohol in the first trimester. Binge drinking may also be related to having an unintended pregnancy and the consequent impact on the mother, families, and society.

## **PRAMS Definition:**

Binge drinking was defined by the reported intake of 5 or more drinks in one sitting at least once in the three months before becoming pregnant. The question changed significantly in the survey in 2004 so this report only includes data from 2004 to 2008.

## **Differences Related to County of Residence:**

In the State of Hawai'i an estimated 18.7% reported binge drinking prior to pregnancy. Those living in Hawai'i County had a higher estimate of 19.7%. Kauai and Maui County residents had higher estimates, while those living in Honolulu County had lower estimates of binge drinking prior to pregnancy.

## **Trends Over Time:**

Although some fluctuation over time, there has been little change in Hawai'i County with 19.7% in 2008 reporting binge drinking prior to pregnancy, compared to 21.4% in 2004.

## **Differences Related to Maternal Race:**

White, Hawaiian, Filipino, and American Indian mothers reported the highest estimates of binge drinking in the three months prior to pregnancy. "All Others" mothers reported intermediate estimates. "Other Pacific Islander," Japanese, and Chinese mothers reported the lowest estimates of binge drinking in the three months prior to pregnancy. The only individual race group within "All Others" that could be reported was "Hispanic" (14.5%; 95% CI = 4.9-35.7) mothers.

## **Differences Related to Maternal Age:**

Mothers 20-24 years of age had the highest estimates of binge drinking in the three months prior to pregnancy, while those under 20 and those 25-34 years of age had intermediate estimates. Mothers 35 years and greater had the lowest estimate of binge drinking in the three months prior to pregnancy.

## **Differences Related to Maternal Education:**

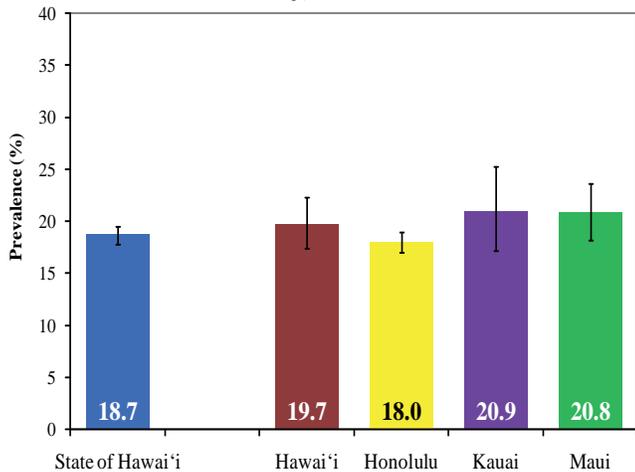
The highest estimates of binge drinking in the three months prior to pregnancy was among those with some college education. Those with a high school or less education had somewhat lower estimates, while those who were college graduates reported the lowest estimates of binge drinking in the three months prior to pregnancy.

## **Recommendations/Implications:**

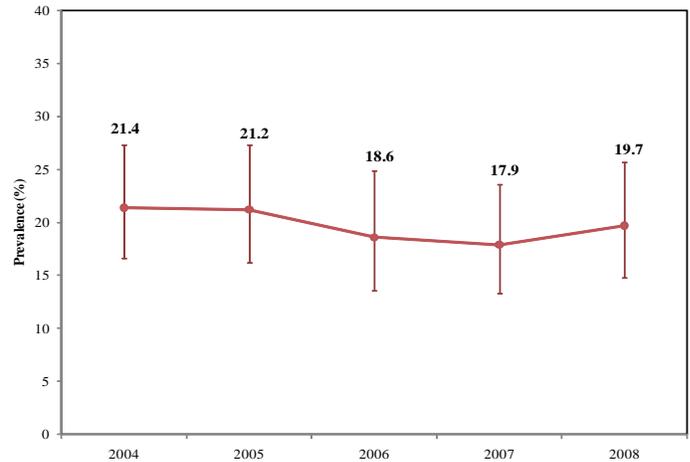
An estimated 19.7% of mothers in Hawai'i County who had a live birth reported binge drinking in the three months prior to pregnancy which is higher than the overall State estimate. There are significant disparities in binge drinking in the three months prior to pregnancy by geography, maternal race, age, and education. An important and simple message to not drink at all while pregnant would prevent birth defects and other adverse outcomes related to drinking during pregnancy. Additionally, it is important to emphasize the reduction of episodes of binge drinking in women of reproductive age which may decrease the likelihood of unintended pregnancies and limit exposure of alcohol in the earliest period of pregnancy. In order to decrease disparities, particular focus among those living in Hawai'i County may include specific attention to: those of White, Hawaiian, Filipino, and American Indian race; those 20-24 years of age; and those who were not college graduates. Other potential correlates that would be beneficial to explore include those related to poverty and socio-economic conditions as they are likely associated with binge drinking prior to pregnancy.

# Binge Drinking Prior to Pregnancy

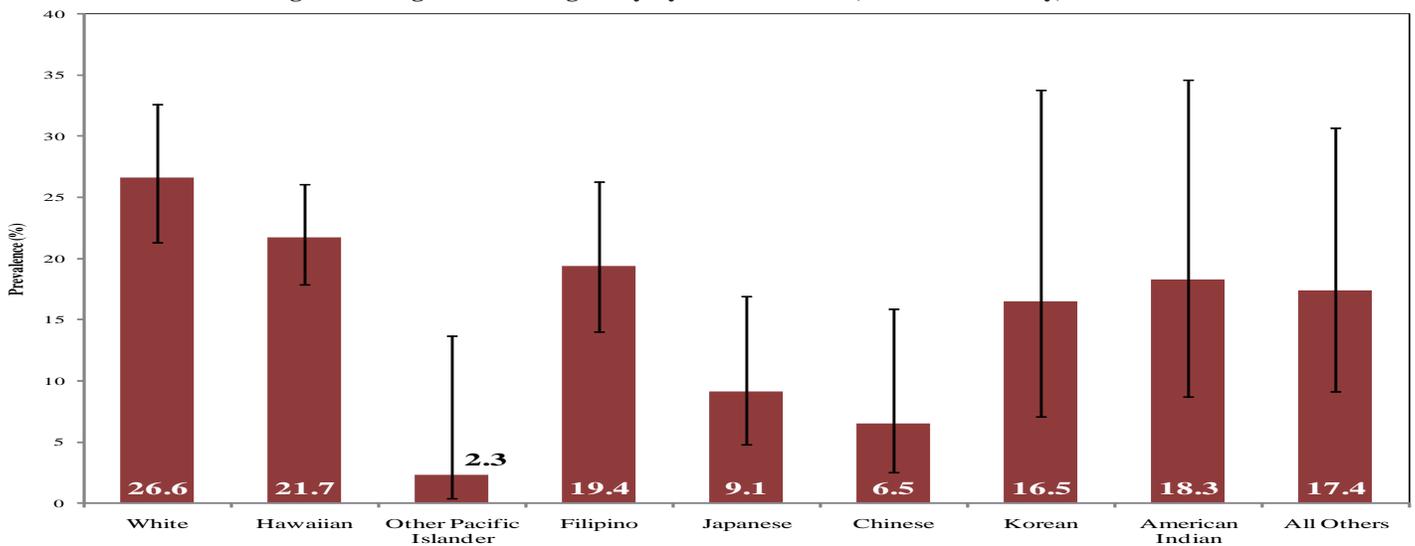
**Binge Drinking Prior to Pregnancy by State and County, 2004-2008**



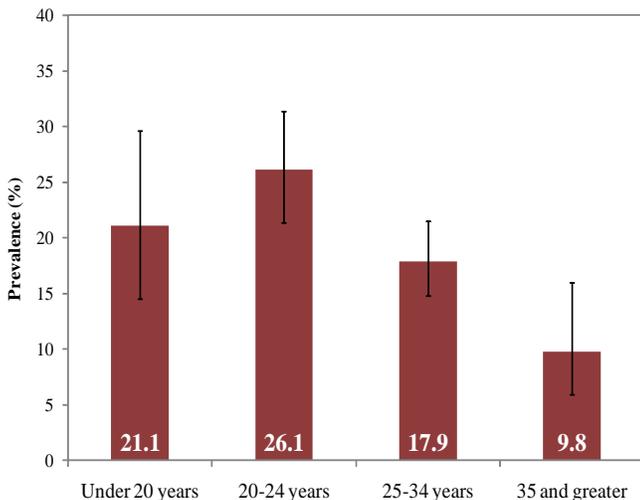
**Binge Drinking Prior to Pregnancy over time, Hawai'i County, 2000-2008**



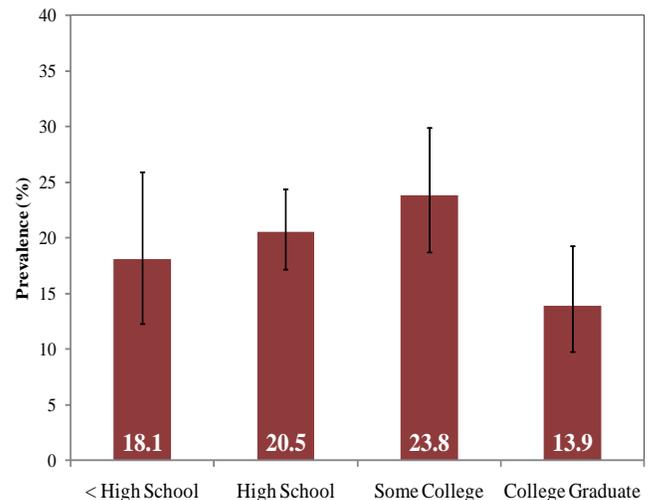
**Binge Drinking Prior to Pregnancy by Maternal Race, Hawai'i County, 2004-2008**



**Binge Drinking Prior to Pregnancy by Maternal Age, Hawai'i County, 2004-2008**



**Binge Drinking Prior to Pregnancy by Maternal Education, Hawai'i County, 2004-2008**



# Smoking During Pregnancy

## **Background:**

Smoking is one of the most preventable causes of neonatal morbidity and mental retardation in developed countries. Research has determined that smoking during pregnancy is associated with premature delivery, low birth weight, and other adverse perinatal outcomes. In Hawai'i, there has been significant legislation to create smoke-free work places and restaurants, and increase taxation in an effort to reduce the overall rate of smoking. The U.S. Healthy People 2010 objective was for women to abstain from smoking during pregnancy. Smoking is often under-reported due to societal concerns and this under-reporting is likely even greater among women while they are pregnant.

## **PRAMS Definition:**

Smoking during pregnancy was defined by the report of smoking at least one cigarette per day in the last three months of the pregnancy.

## **Differences Related to County of Residence:**

In the State of Hawai'i an estimated 8.5% of mothers reported smoking during the last three months of pregnancy. Those living in Hawai'i County had the highest estimate of all counties at 11.9%. Those living Honolulu, Kauai, and Maui Counties had lower estimates of smoking during pregnancy.

## **Trends Over Time:**

Although some fluctuation over time, there has been some improvement in Hawai'i County with 11.2% in 2008 reporting smoking during pregnancy, compared to 15.0% in 2000.

## **Differences Related to Maternal Race:**

American Indian, Hawaiian, and Japanese mothers reported the highest estimates of smoking during pregnancy. Chinese, Filipino, and White mothers reported intermediate estimates of smoking during pregnancy. "All Others," Korean, and "Other Pacific Islander" mothers reported the lowest estimates. The only individual race group within "All Others" that could be reported was "Hispanic" (5.8%; 95% CI = 0.9-29.7) mothers.

## **Differences Related to Maternal Age:**

Mothers under 20 and those 20-24 years of age had the highest estimates of smoking during pregnancy, while those 25-34 years of age had the lowest estimate. Those 35 years and greater had an intermediate estimate of smoking during pregnancy.

## **Differences Related to Maternal Education:**

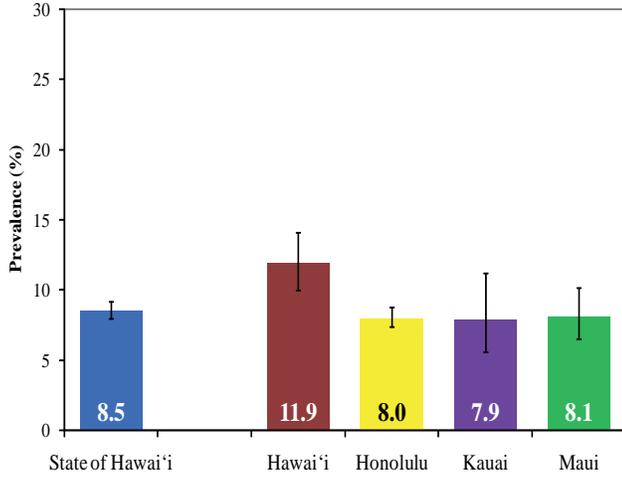
The highest estimate of smoking during the last three months of pregnancy was among those with less than a high school education, and slightly lower estimates were among those with a high school education. There was steady improvement in estimates of smoking during pregnancy with increasing education, with college graduates reporting the lowest estimates of smoking during pregnancy.

## **Recommendations/Implications:**

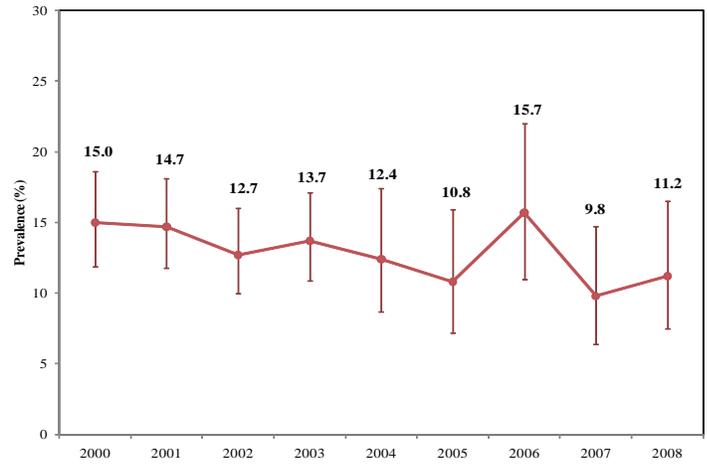
An estimated 11.9% of mothers in Hawai'i County who had a live birth reported smoking during the last three months of pregnancy which is higher than the overall State estimate and highest among all counties. There are significant disparities in the estimates of smoking during pregnancy by geography, maternal race, age, and education. Although this is probably an under-estimate of the true burden, PRAMS provides some data that can inform the community. Emphasizing the reduction of smoking before, during, and after pregnancy in women of reproductive age could decrease costs associated with adverse birth outcomes and promote healthy lifestyle behaviors across the life span. In order to decrease disparities, particular focus among those living in Hawai'i County may include specific attention to: those of American Indian, Hawaiian, and Japanese race; those under 25 years of age; and those with a high school or less education. Other potential correlates that would be beneficial to explore include those related to poverty and socio-economic conditions as they are likely associated with smoking during the last three months of pregnancy.

# Smoking During Pregnancy

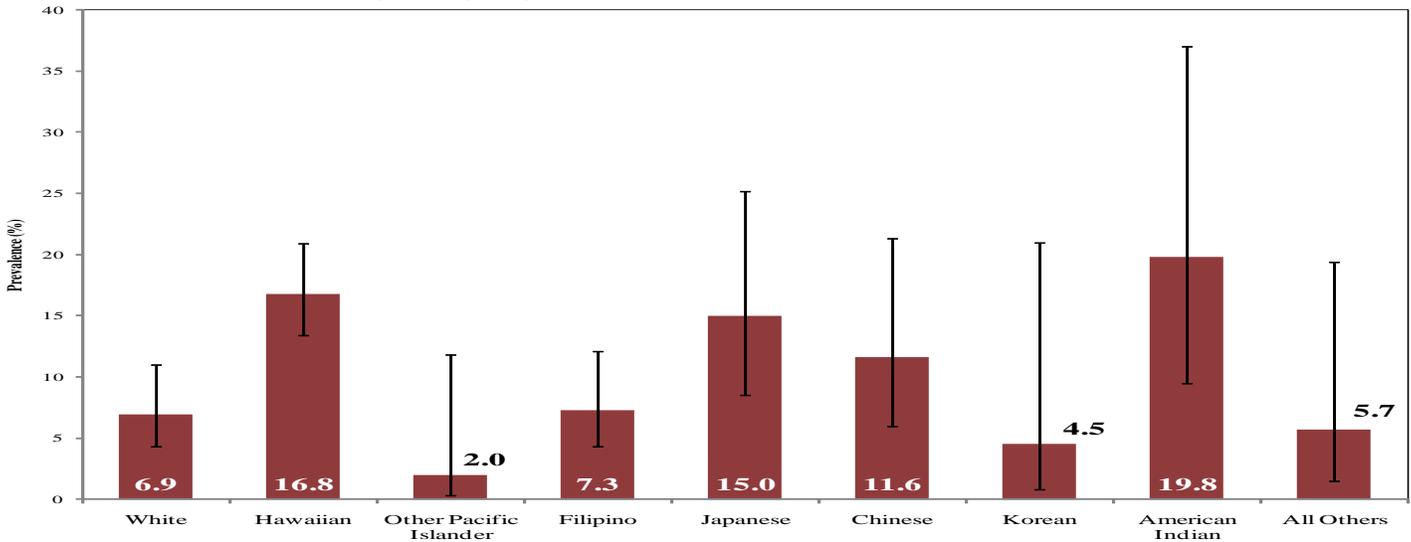
Smoking During Pregnancy by State and County, 2004-2008



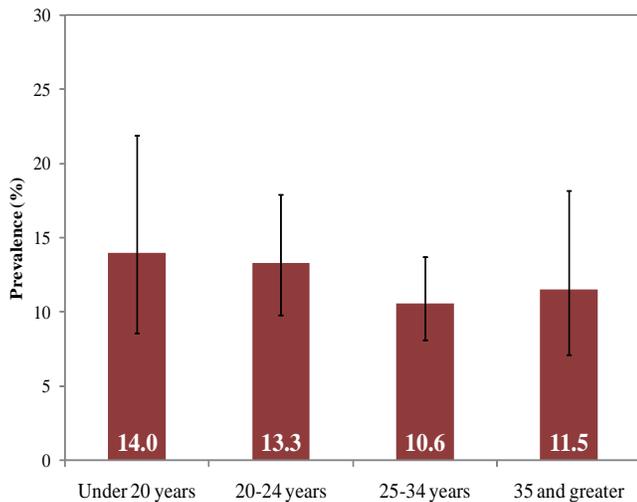
Smoking During Pregnancy over time, Hawai'i County, 2000-2008



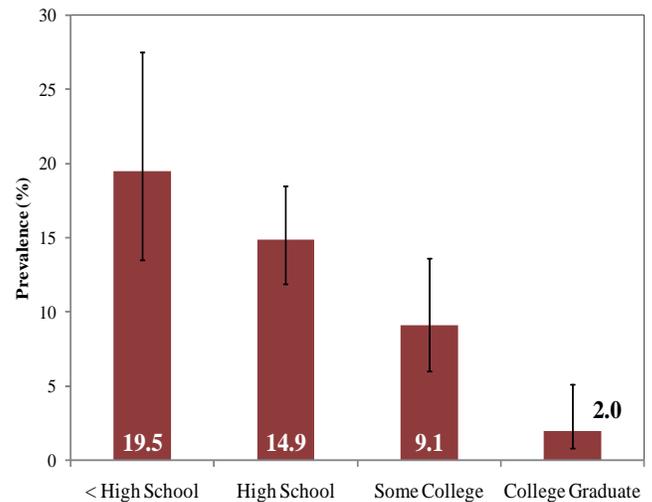
Smoking During Pregnancy by Maternal Race, Hawai'i County, 2004-2008



Smoking During Pregnancy by Maternal Age, Hawai'i County, 2004-2008



Smoking During Pregnancy by Maternal Education, Hawai'i County, 2004-2008



# Drug Use During Pregnancy

## **Background:**

The use of drugs during pregnancy can have significant impacts on the developing fetus and cause adverse birth outcomes including prematurity, low birth weight, birth defects, and developmental delays. Those that use drugs often have other conditions and factors that may place their infant and families at increased risks for poor outcomes. Drug use is often under reported due to societal perceptions and this is likely even greater among women who are pregnant. The U.S. Healthy People 2010 objective was to abstain from drugs during pregnancy. Illicit drug use is often under-reported due to societal concerns and this under-reporting is likely even greater among women while they are pregnant.

## **PRAMS Definition:**

Drug use during pregnancy was defined by the report of using “marijuana,” “amphetamines,” “cocaine,” “tranquilizers or hallucinogens,” or “sniffing products such as gasoline, glue, hairspray, or other aerosols” at least one time during the pregnancy.

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 2.7% reported drug use during pregnancy. Those living in Hawai‘i County had a higher estimate of 4.0%. Maui and Kauai County residents also had higher estimates, while those living in Honolulu County had lower estimates of drug use during pregnancy.

## **Trends Over Time:**

Although some fluctuation over time, there has been little change in Hawai‘i County with 2.3% in 2008 reporting drug use during pregnancy, compared to 3.4% in 2000. However, there appears to be some improvement since 2005 when and estimated 6.4% reported drug use during pregnancy.

## **Differences Related to Maternal Race:**

American Indian and White mothers reported the highest estimates of drug use during pregnancy. Chinese, Japanese, and Hawaiian mothers reported intermediate estimates. Filipino and “Other Pacific Islander” mothers reported the lowest estimates of drug use during pregnancy. The asterisks denote that the estimates for Korean and “All Others” mothers were not reportable.

## **Differences Related to Maternal Age:**

There was no difference in reports of drug use during pregnancy by maternal age.

## **Differences Related to Maternal Education:**

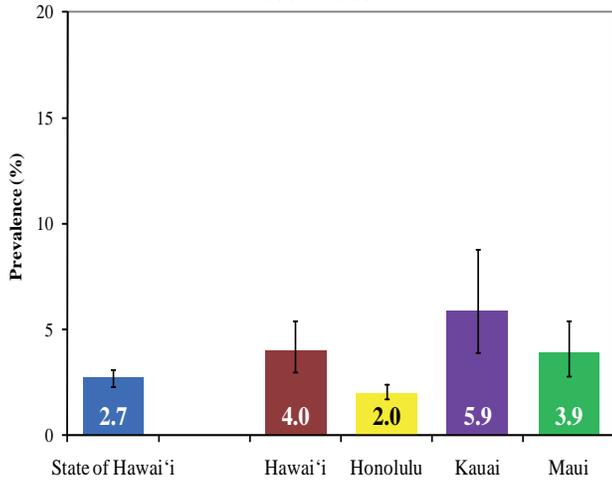
The highest estimate of drug use during pregnancy was among those with some college education. Those who had a high school education had intermediate estimates, while those that had less than a high school education or were college graduates had the lowest estimate of drug use during pregnancy.

## **Recommendations/Implications:**

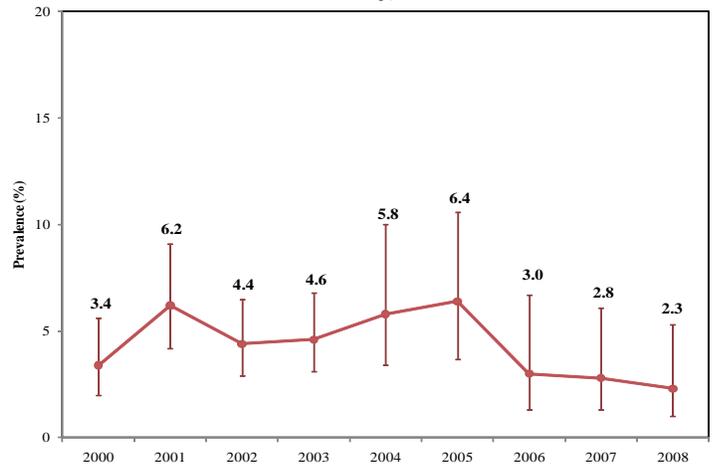
An estimated 4.0% of mothers in Hawai‘i County who had a live birth reported using illicit drugs during pregnancy which was higher than the overall State estimate. There are significant disparities in the use of drugs during pregnancy by geography, maternal race, and education. Although this is probably an under-estimate of the true burden, PRAMS provides data that can inform the community. Emphasizing the reduction of illicit drugs before, during, and after pregnancy in women of reproductive age could decrease costs associated with adverse birth outcomes and promote healthy lifestyle behaviors across the life span. In order to decrease disparities, particular focus among those living in Hawai‘i County may include specific attention to: those of American Indian and White race; and those with some college and those with less than a high school education. Other potential correlates that would be beneficial to explore include those related to poverty and socio-economic conditions as they are likely associated with drug use during pregnancy.

# Drug Use During Pregnancy

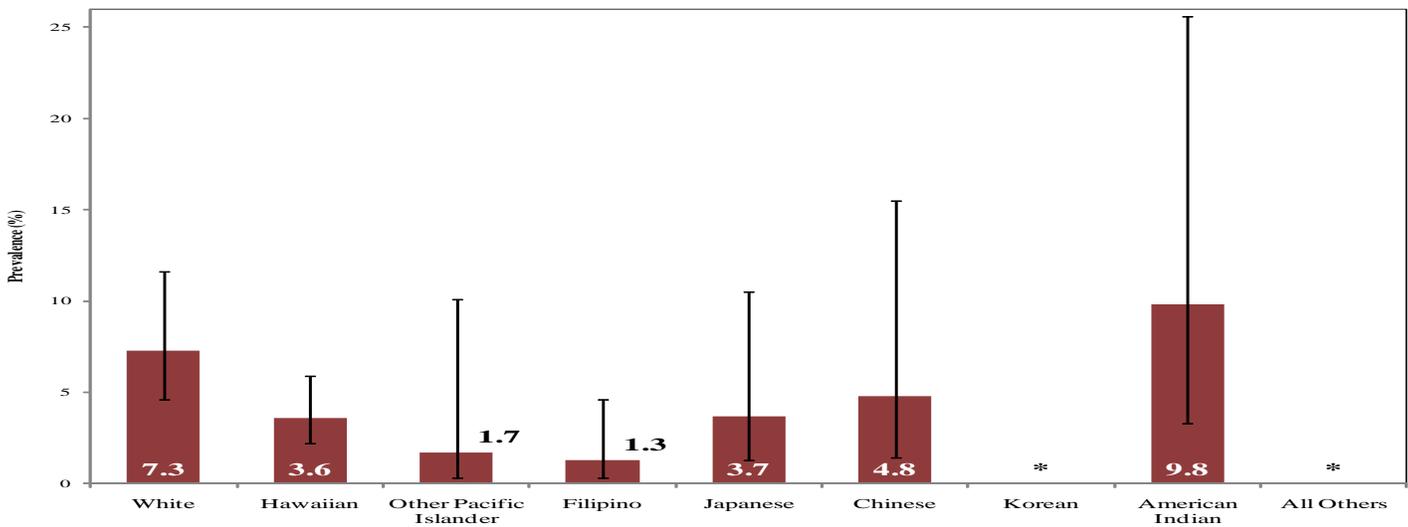
**Drug Use During Pregnancy by State and County, 2004-2008**



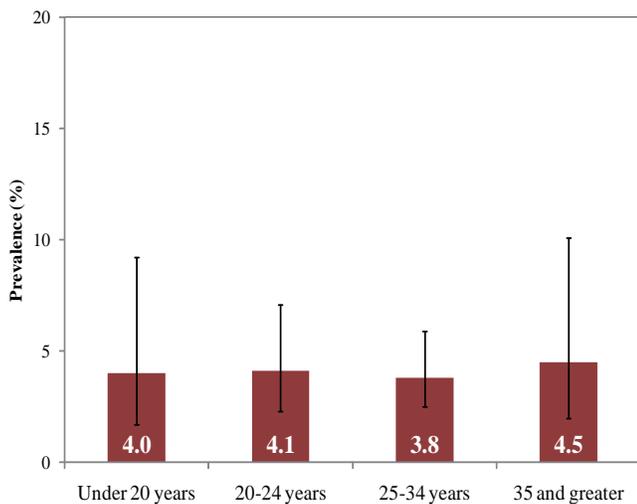
**Drug Use During Pregnancy over time, Hawai'i County, 2000-2008**



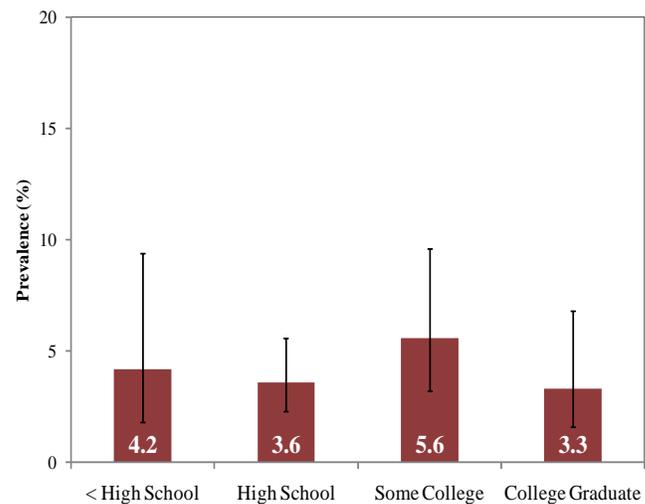
**Drug Use During Pregnancy by Maternal Race, Hawai'i County, 2004-2008**



**Drug Use During Pregnancy by Maternal Age, Hawai'i County, 2004-2008**



**Drug Use During Pregnancy by Maternal Education, Hawai'i County, 2004-2008**



# Prematurity

## **Background:**

The annual cost of prematurity and its associated consequences was estimated to be at least \$26.2 billion dollars in 2005 nationwide. Prematurity is the leading cause of infant deaths in the first month of life and is associated with birth defects and long term health problems. Common risk factors for prematurity include a prior preterm birth, a low preconception weight, inadequate weight gain during pregnancy, maternal conditions including high blood pressure and diabetes, and use of alcohol, tobacco, or other drugs during pregnancy. However, over half of all premature births have no identified risk factor.

## **PRAMS Definition:**

Prematurity was defined by the birth certificate variable based on the clinical estimate of gestational age which is recorded in the birth record. This method was used as it would include adjustments based on clinical data to be reflective of clinical decision making at time of the birth. The overall estimate in PRAMS depends on response patterns and may underestimate prematurity (9.4% in the State of Hawai‘i in PRAMS data, compared to 10.8% for all residents births in Hawai‘i 2004-2008) if those that aren’t represented in the responses suffer a greater burden compared to those that do respond. These estimates for prematurity will also vary from those based on the date of the last menstrual period (LMP) which tends to give higher estimates (12.3% for all resident births from 2004-2008 based on LMP).

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 9.4% of births were premature. Those living in Hawai‘i County had the highest estimate of all counties at 10.5%. Kauai County residents also had higher estimates, while those living in Honolulu and Maui Counties had lower estimates of prematurity.

## **Trends Over Time:**

Although some fluctuation over time, there has been little change in Hawai‘i County with 11.0% in 2008 births were premature, compared to 8.5% in 2000.

## **Differences Related to Maternal Race:**

“Other Pacific Islander” mothers had the highest estimates of prematurity. Filipino, Hawaiian, and Japanese mothers also had high estimates, while White and Chinese mothers had intermediate estimates of prematurity. The lowest estimates were among the Korean and American Indian mothers, although wide confidence intervals makes it difficult to make conclusions. The asterisk denotes that the estimate for “All Others” mothers was not reportable.

## **Differences Related to Maternal Age:**

Mothers under 20 and those 35 years of age and greater had the highest estimates of prematurity. Lower estimates were seen among the other age groups with slightly higher estimates were seen among those 20-24 years of age compared to those 25-34 years of age.

## **Differences Related to Maternal Education:**

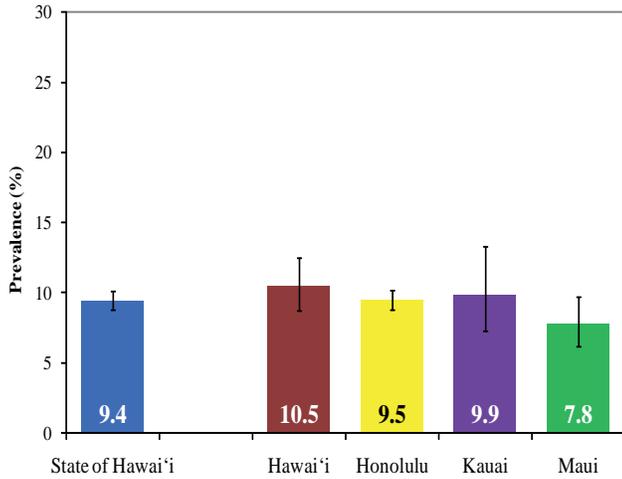
The highest estimate of prematurity were among those with less than a high school education. The estimates were similar across all other education levels.

## **Recommendations/Implications:**

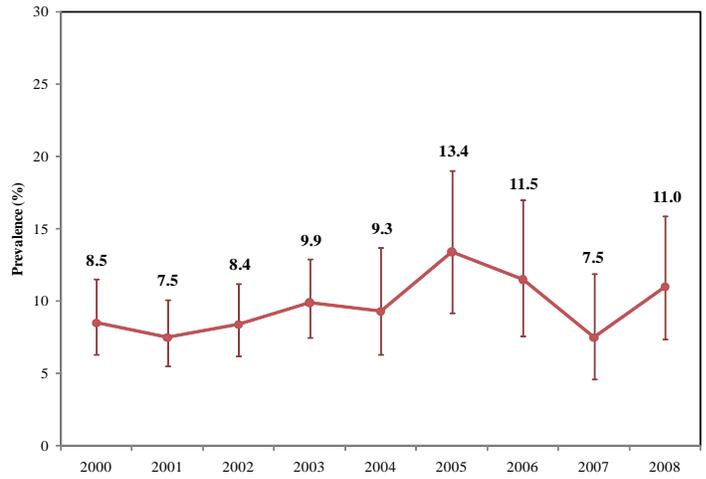
An estimated 10.5% of mothers had premature births in Hawai‘i County, which is above the overall State estimate and highest among all counties. There were significant differences by geography, maternal race, age, and education. Although the estimates in PRAMS are below that obtained from all resident births in the State, important information related to risks and disparities can help inform the community. In order to decrease disparities, particular focus among those living in Hawai‘i County may include specific attention to: those of Hawaiian, Filipino, and White race; those under 20 years of age; and those with less than a high school education. Other potential correlates that would be beneficial to explore include those related to poverty, socio-economic conditions, and maternal and pregnancy related factors that are likely associated with prematurity.

# Prematurity

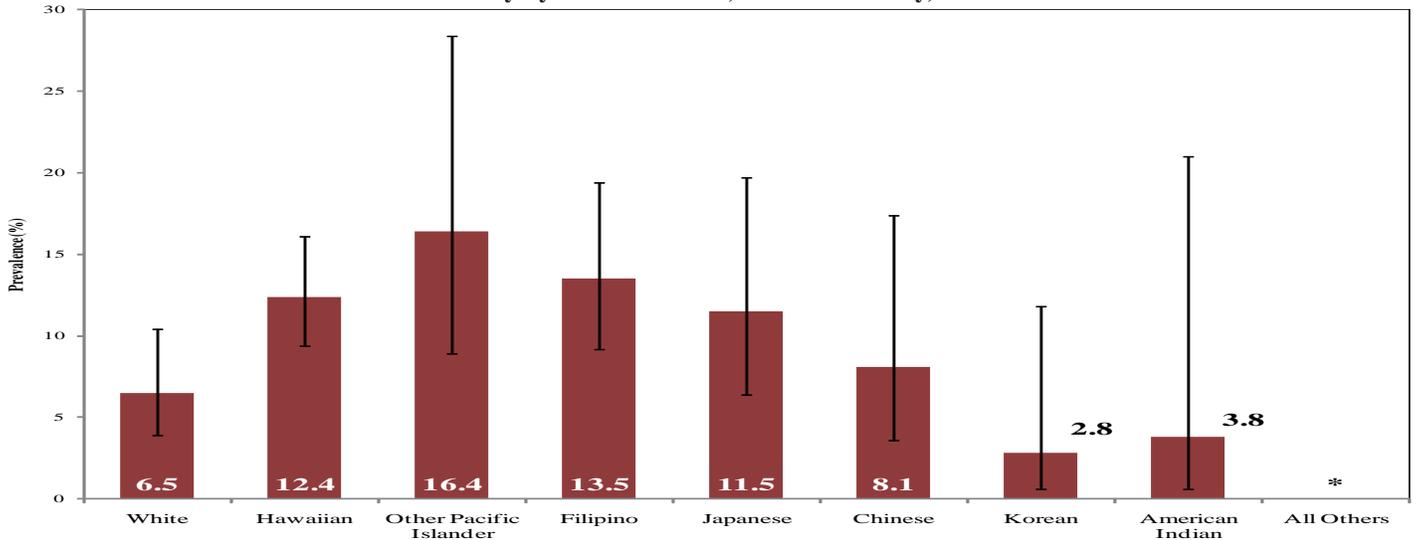
Prematurity by State and County, 2004-2008



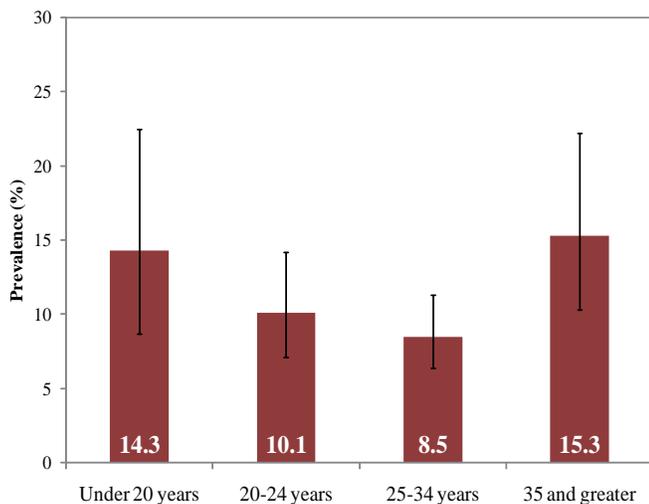
Prematurity over time, Hawai'i County, 2000-2008



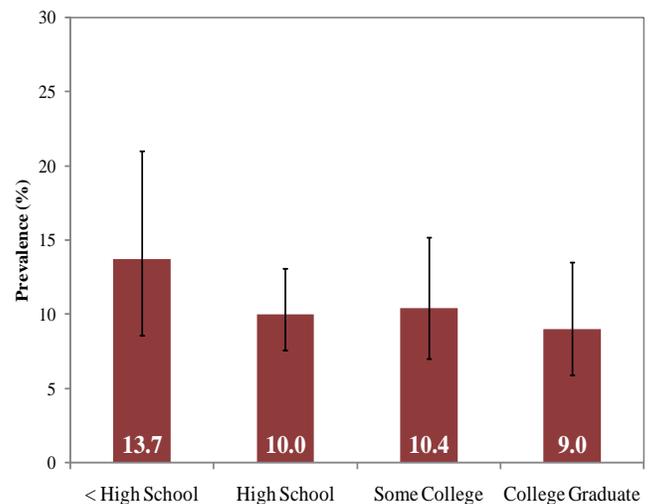
Prematurity by Maternal Race, Hawai'i County, 2004-2008



Prematurity by Maternal Age, Hawai'i County, 2004-2008



Prematurity by Maternal Education, Hawai'i County, 2004-2008



# Cesarean Deliveries

## **Background:**

Cesarean delivery is the most common surgical procedure done in the United States and results in higher costs, longer hospitalization, and increased risks of short and long term morbidity compared to a normal vaginal delivery. The decision to have a cesarean delivery is complex and is made in consultation between the medical provider, the pregnant women, and her family. The decision to have a cesarean delivery considers specific indications including medical risks, complications during labor, previous pregnancy outcomes, and other factors that could impact the health of both the mother and her infant.

## **PRAMS Definition:**

A cesarean delivery was defined from the birth certificate variable listing the occurrence of a repeat or primary cesarean delivery, with consideration that all other births (e.g., vaginal birth after cesarean and vaginal delivery) are considered a vaginal delivery.

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 25.7% had a cesarean delivery. Those living in Hawai‘i County had a higher estimate of 30.7%. Kauai and Maui County residents also had higher estimates, while those living in Honolulu County had lower estimates of cesarean delivery.

## **Trends Over Time:**

Although some fluctuation over time, there has been a steady increase in Hawai‘i County with 28.5% in 2008 having a cesarean delivery, compared to 20.3% in 2000.

## **Differences Related to Maternal Race:**

American Indian, Filipino, and “Other Pacific Islander” mothers had the highest estimates of cesarean delivery. Japanese, “All Others,” Hawaiian, and Korean mothers had intermediate estimates. White and Chinese mothers had the lowest estimate of cesarean delivery. There were no individual estimates for race groups within “All Others” that were reportable.

## **Differences Related to Maternal Age:**

Mothers 35 years and greater had the highest estimate of cesarean delivery. There was a steady decline in estimates of cesarean delivery with decreasing age, with those under 20 years of age having the lowest estimate of cesarean delivery.

## **Differences Related to Maternal Education:**

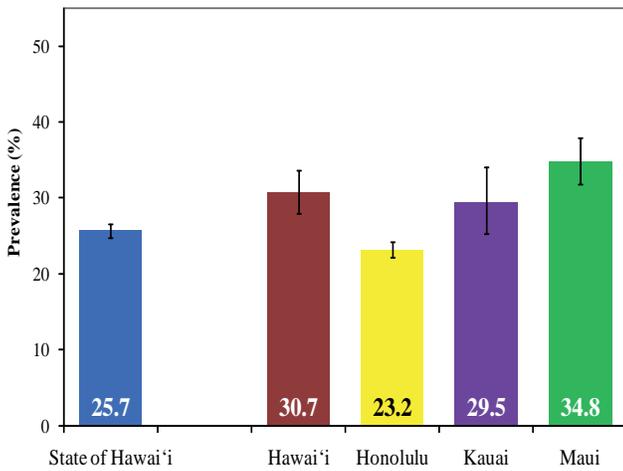
There was little difference in estimates of cesarean delivery by education group. Although mothers, with a high school or less education had lower estimates of cesarean deliveries compared to college graduates.

## **Recommendations/Implications:**

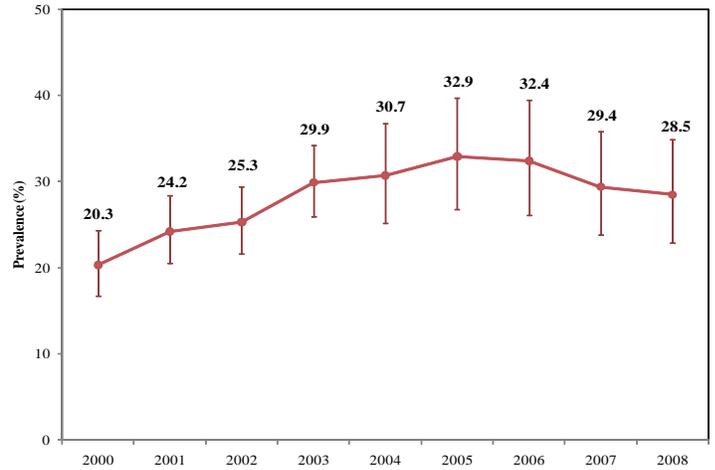
An estimated 30.7% of mothers in Hawai‘i County who had a live birth had a cesarean delivery which is higher than the overall State estimate. There were some disparities by geography, maternal race, age, and education. The emphasis of healthy lifestyle choices before, during, and after pregnancy and ensuring access to timely and quality prenatal care may help decrease the overall rate of cesarean deliveries and promote optimal birth outcomes. In order to decrease disparities, particular focus among those living in Hawai‘i County may include specific attention to: those of American Indian, Filipino, and “Other Pacific Islander” race; those 35 years of age and older; and those with a high school or less education. Exploration of medical indications and the differentiation between primary and repeat cesarean delivery estimates may also provide insight into this complex issue. Other potential correlates that would be beneficial to explore include those related to insurance status, socio-economic conditions, and availability of services and providers as these are all likely associated with cesarean delivery.

# Cesarean Deliveries

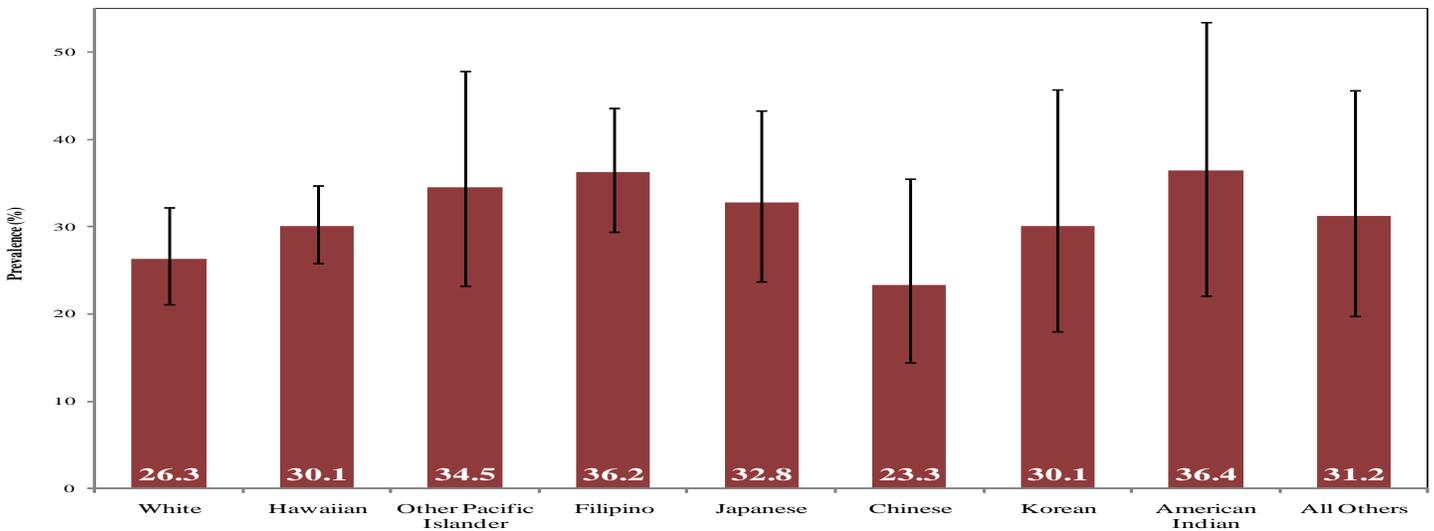
**Cesarean Deliveries by State and County, 2004-2008**



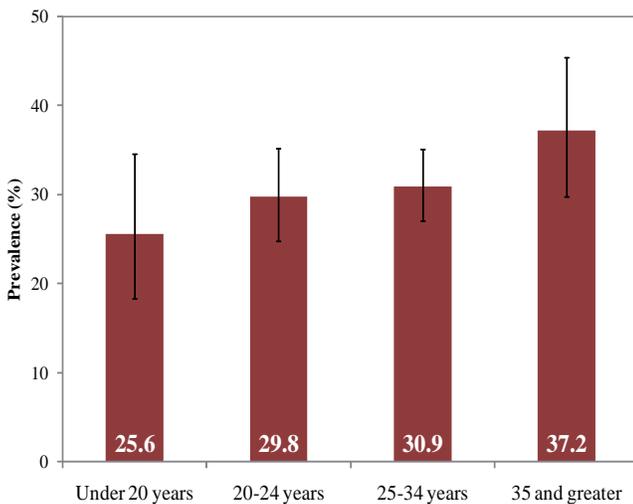
**Cesarean Deliveries over time, Hawai'i County, 2000-2008**



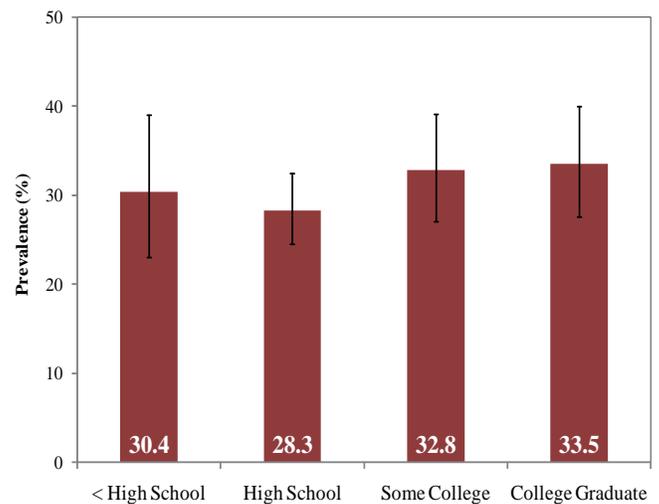
**Cesarean Deliveries by Maternal Race, Hawai'i County, 2004-2008**



**Cesarean Deliveries by Maternal Age, Hawai'i County, 2004-2008**



**Cesarean Deliveries by Maternal Education, Hawai'i County, 2004-2008**



# Intimate Partner Violence

## **Background:**

Violence between intimate partners whether physical and psychological has important health consequences. Intimate partner violence is related to adverse birth outcomes such as premature labor, low birth weight infants, and infant death. Intimate partner violence is also associated with other behaviors that can influence outcomes including smoking, alcohol, drug use, depression, and ultimately violence and death within the family. Intimate partner violence is often under reported due to societal perceptions and this under-reporting is likely even greater during pregnancy.

## **PRAMS Definition:**

Intimate partner violence was defined by self-report from a mother who recently had a live birth that her husband, ex-husband, partner, or ex-partner ever “physically hurt” or “push, hit, slap, kick, choke, or physically hurt you in any other way?” in the 12 months before getting pregnant or during the most recent pregnancy.

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 6.5% reported intimate partner violence. Those living in Hawai‘i County had the highest estimate of all counties at 8.7%. Kauai and Maui County residents also had higher estimates, while those living in Honolulu County had lower estimates of intimate partner violence.

## **Trends Over Time:**

Although some fluctuation over time, there has been little change in Hawai‘i County with 11.5% in 2008 reporting intimate partner violence, compared to 10.5% in 2000.

## **Differences Related to Maternal Race:**

American Indian mothers reported the highest estimates of intimate partner violence. Hawaiian, “Other Pacific Islander,” and Filipino mothers reported intermediate estimates of intimate partner violence. White, “All Others,” Korean, and Chinese mothers reported the lowest estimates of intimate partner violence. There were no individual estimates for race groups within “All Others” that were reportable. The asterisk denotes that the estimate for Japanese mothers was not reportable.

## **Differences Related to Maternal Age:**

Mothers under 20 years of age had the highest estimate of intimate partner violence. There was a steady decline in intimate partner violence with increasing age, with mothers 35 years and greater reported the lowest estimate.

## **Differences Related to Maternal Education:**

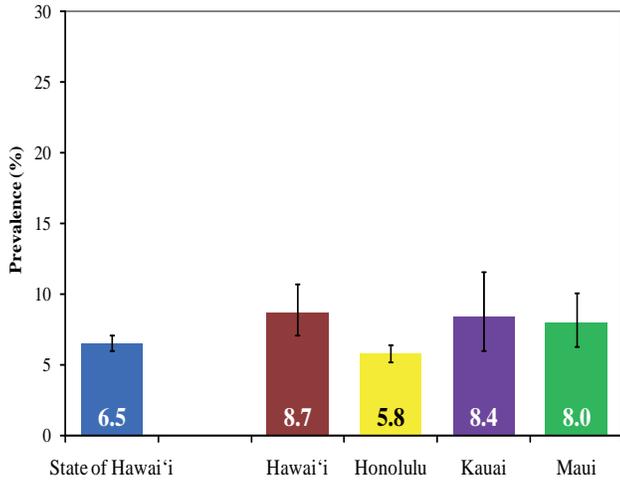
The highest estimate of intimate partner violence was among those with less than a high school education. There was a steady decline in reporting of intimate partner violence with increasing education, with college graduates reporting the lowest estimate.

## **Recommendations/Implications:**

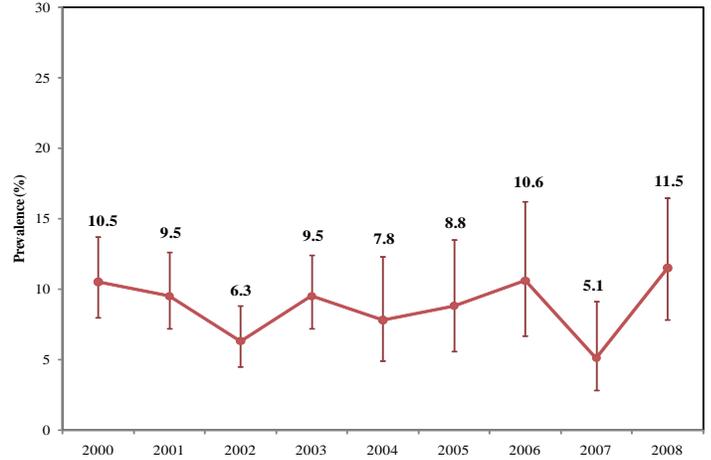
An estimated 8.7% of mothers in Hawai‘i County who recently had a live birth reported intimate partner violence in the year before and during the most recent pregnancy, which is above the overall State estimate and highest among all counties. There were significant differences by geography, maternal race, age, and education. The questions in PRAMS only looks at the physical nature of intimate partner violence and does not include the strong psychological components that may cause an even greater impact. Although this is likely an under-estimate of the true burden, PRAMS provides data that can inform the community. Emphasizing the availability of resources, increased awareness, and the promotion of appropriate coping skills may reduce both physical and psychological components of intimate partner violence. In order to decrease disparities, particular focus among those living in Hawai‘i County may include specific attention to: those of American Indian, Hawaiian, “Other Pacific Islander,” and Filipino race; those under 25 years of age; and those with a high school or less education. Other potential correlates that would be beneficial to explore include those related to poverty and socio-economic conditions as they are likely associated with intimate partner violence.

# Intimate Partner Violence

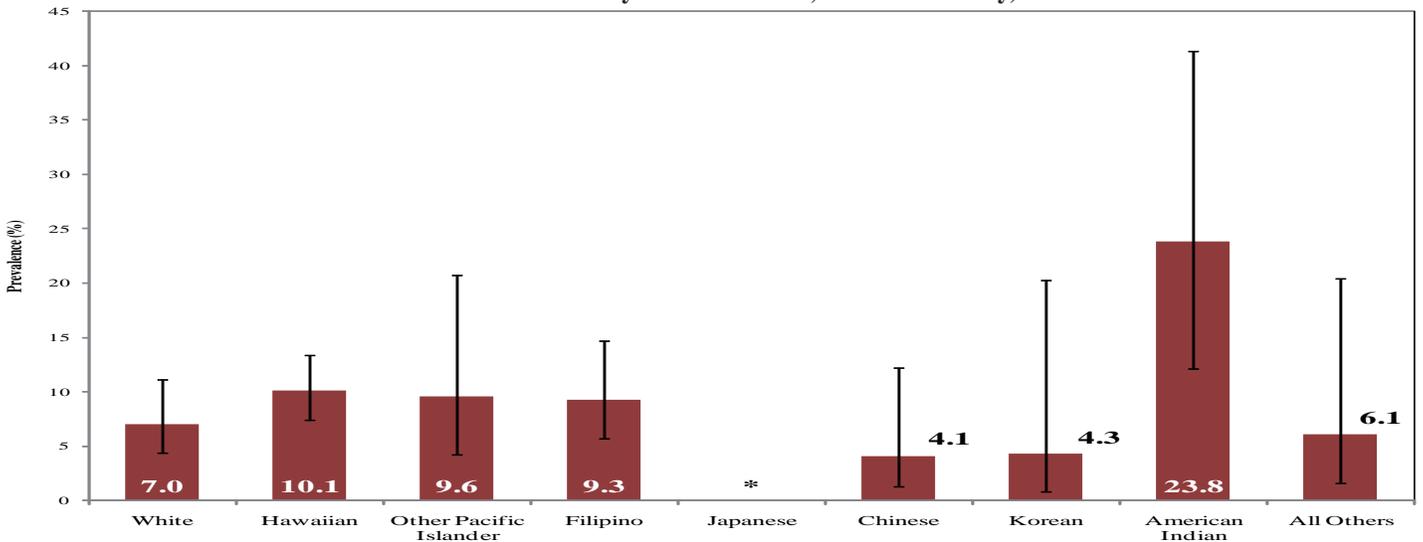
**Intimate Partner Violence by State and County, 2004-2008**



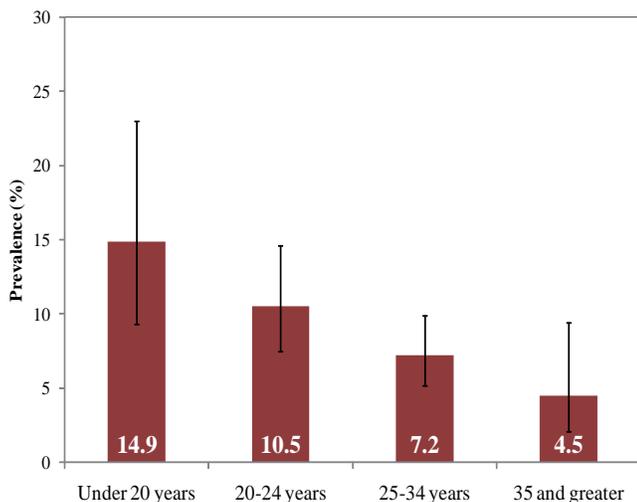
**Intimate Partner Violence over time, Hawai'i County, 2000-2008**



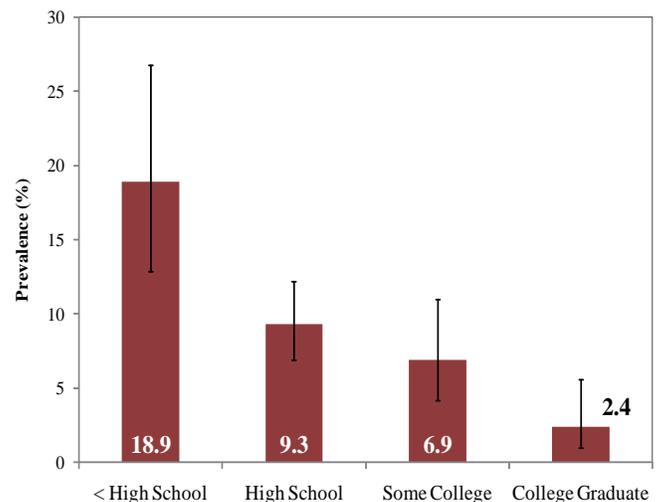
**Intimate Partner Violence by Maternal Race, Hawai'i County, 2004-2008**



**Intimate Partner Violence by Maternal Age, Hawai'i County, 2004-2008**



**Intimate Partner Violence by Maternal Education, Hawai'i County, 2004-2008**



# *Dental Visit During Pregnancy*

## **Background:**

Oral health is an essential and integral component of health throughout life and is associated with increased health care costs, decreased productivity, increased absenteeism, and can result in significant illness, disease, and even death. Regular dental visits provide an opportunity for early diagnosis, prevention, and treatment of oral and associated disease among persons of all ages. Pregnancy is an important time to visit the dentist for continuity of regular professional care and due to the potential increase of adverse birth outcomes associated with poor oral health.

## **PRAMS Definition:**

This measure of utilization of oral health services was based on a self-reported visit to a dentist or dental clinic during pregnancy.

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 38.9% reported seeing a dentist during pregnancy. Those living in Hawai‘i County had the lowest estimate of all counties at 31.3%. Kauai and Maui County residents also had lower estimates, while those living in Honolulu County had higher estimates of seeing a dentist during pregnancy.

## **Trends Over Time:**

Although some fluctuation over time, there has been some improvement in Hawai‘i County with 37.5% in 2008 having a dental visit during pregnancy, compared to 32.6% in 2000. This includes some improvement since 2005 when an estimate 27.0 reported a dental visit during pregnancy.

## **Differences Related to Maternal Race:**

“All Others,” “Other Pacific Islander,” and Hawaiian mothers had the lowest estimates of a dental visit during pregnancy. Filipino and Hawaiian also had low estimates. Korean, Filipino, and White reported intermediate estimates of dental visits during pregnancy. American Indian and Japanese mothers reported the highest estimates of dental visits during pregnancy. The only individual race group within “All Others” that could be reported was “Hispanic” (10.8%; 95% CI = 2.8-33.3) mothers.

## **Differences Related to Maternal Age:**

Mothers 20-24 years of age reported the lowest estimates of dental visits, while higher estimates were seen in those that were under 20, those 25-34, and those 35 years of age and greater.

## **Differences Related to Maternal Education:**

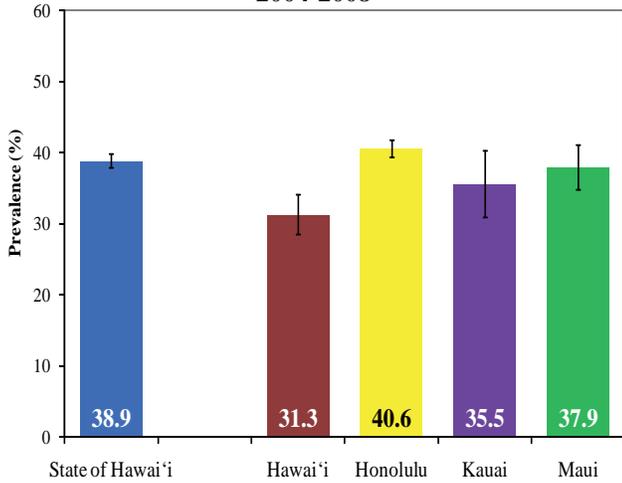
The lowest estimates of a dental visit during pregnancy was among those with less than a high school education. There was a steady increase in the estimates of dental visits during pregnancy with increasing education, with college graduates having the highest estimate.

## **Recommendations/Implications:**

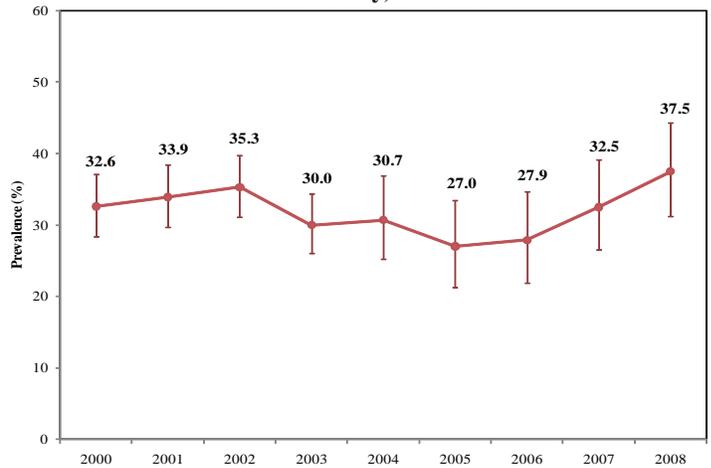
An estimated 31.3% of mothers in Hawai‘i County who had a live birth reported a dental visit during their most recent pregnancy which is lower than the overall State estimate and is the worst among all counties. There are significant differences by geography, maternal race, age, and education. Of particular concern is that even in the best group, less than half reported having a dental visit during pregnancy. Emphasizing appropriate access to services including oral health may promote healthy birth outcomes and overall health across the life span. This could include increasing awareness of the impact that oral health can have on pregnancy outcomes. In order to decrease disparities, particular focus among those living in Hawai‘i County may include specific attention to: those of “Hispanic,” “Other Pacific Islander,” and Hawaiian race; those 20-24 years of age; and those with less than a high school education. Other potential correlates that would be beneficial to explore include those related to poverty and socio-economic conditions, insurance status, and the availability of providers as they are likely associated with accessing a dentist during pregnancy.

# Dental Visit During Pregnancy

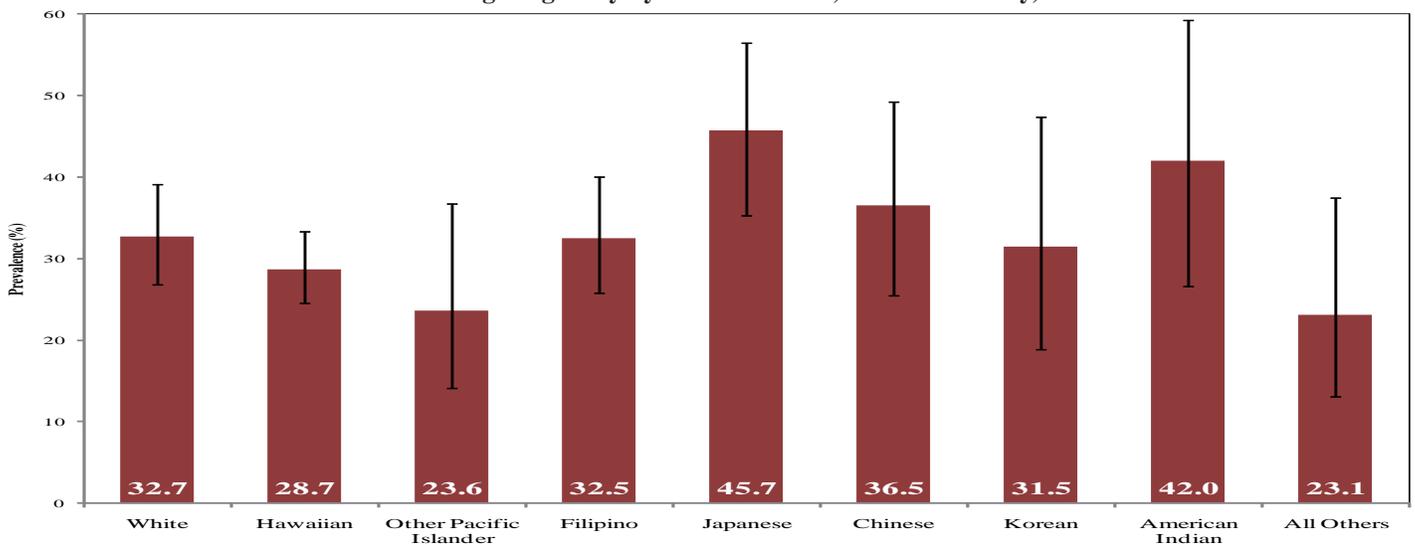
**Dental Visit During Pregnancy by State and County, 2004-2008**



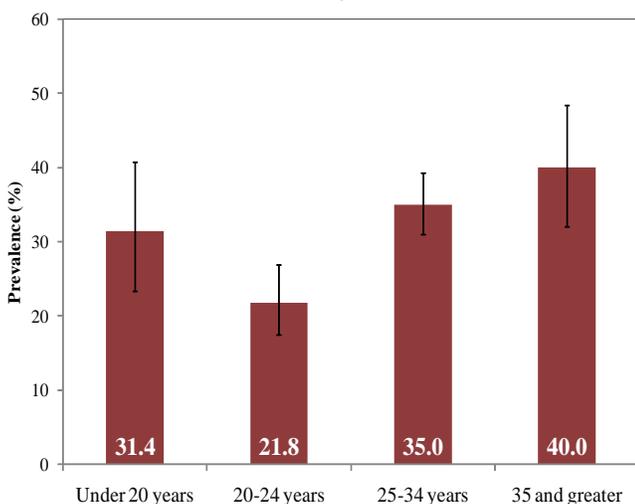
**Dental Visit During Pregnancy over time, Hawai'i County, 2000-2008**



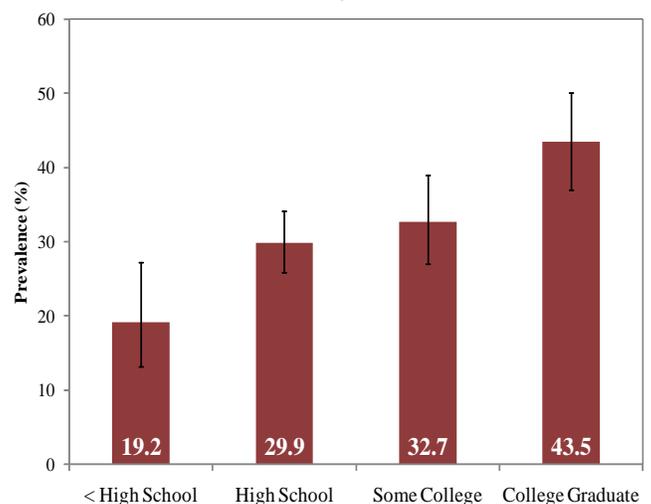
**Dental Visit During Pregnancy by Maternal Race, Hawai'i County, 2004-2008**



**Dental Visit During Pregnancy by Maternal Age, Hawai'i County, 2004-2008**



**Dental Visit During Pregnancy by Maternal Education, Hawai'i County, 2004-2008**



# Breastfeeding Eight Weeks

## **Background:**

Breast milk is the most complete form of nutrition for infants, and offers a range of benefits for infant including prevention of childhood illnesses such as obesity and ear infections. Breastfeeding mothers report fewer sick visits for their children, and improvement in work productivity for mothers and society. The U.S. Healthy People 2010 objective was to increase the initiation of breastfeeding in the early postpartum period to 75% of newborns and to improve breastfeeding estimates to 50% of infants at age 6 months and 25% at 1 year.

## **PRAMS Definition:**

Self-reported measures of timing of breastfeeding for at least eight weeks was calculated. In mothers who reported no longer breastfeeding on the survey, the time that mothers reported stopping was used. Among mothers that were still breastfeeding at time the survey was completed, the number of weeks at that point was used. This measure did not include the degree of exclusive breastfeeding.

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 71.0% reported breastfeeding at least eight weeks. Those living in Hawai‘i County had a similar estimate of 70.6%. Honolulu and Maui County residents also had similar estimates, while those living in Kauai County had a higher estimate of breastfeeding at least eight weeks.

## **Trends Over Time:**

Although some fluctuation over time, there has been steady improvement in Hawai‘i County with 68.8% in 2008 reporting breastfeeding at least eight weeks, compared to 61.0% in 2000.

## **Differences Related to Maternal Race:**

Hawaiian, Filipino, and Chinese mothers had the lowest estimates of breastfeeding at least 8 weeks. “All Others” and American Indian mothers reported intermediate estimates. “Other Pacific Islander,” Korean, Japanese, and White mothers reported the highest estimates of breastfeeding at least 8 weeks. There were no individual estimates for race groups within “All Others” that were reportable.

## **Differences Related to Maternal Age:**

The lowest estimates of breastfeeding at least 8 weeks was among those under 20 years of age, and were slightly higher among those 20-24 years of age. There was some improvement in the estimates of breastfeeding at least 8 weeks with increasing age, with mothers 25-34 and those 35 years of age and greater having similar and the highest estimates.

## **Differences Related to Maternal Education:**

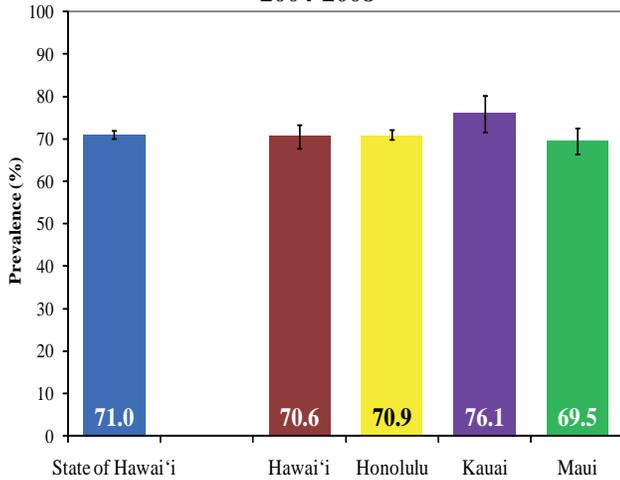
The lowest estimate of breastfeeding at least 8 weeks was among those with a high school or less education. Those with some college education had an intermediate estimate, while those who were college graduates having the highest estimate of breastfeeding at least 8 weeks.

## **Recommendations/Implications:**

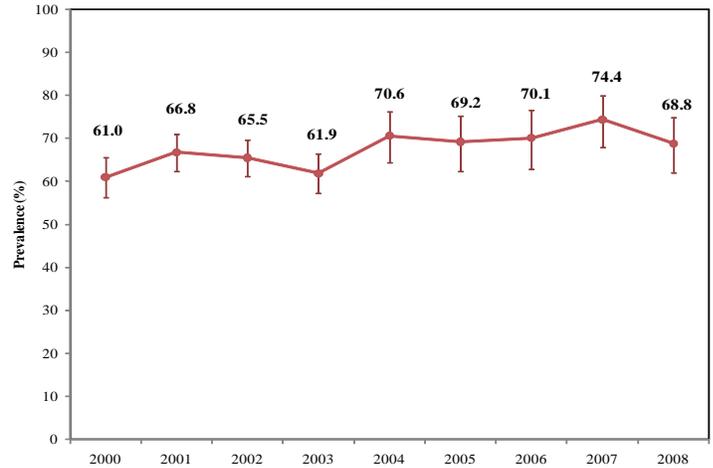
An estimated 70.6% of mothers in Hawai‘i County who had a live birth reported breastfeeding at least 8 weeks which is similar to the overall State estimate. There were significant differences by geography, maternal race, age, and education. Emphasizing appropriate support and education on the benefits of sustained and exclusive breastfeeding may promote healthy outcomes across the life span. Individual barriers to breastfeeding could be reduced by increasing mothers’ access to lactation consultants, trained breastfeeding peer counselors, and support groups. Societal level barriers could be reduced with hospital policies and workplace environments that support breastfeeding. In order to decrease disparities, particular focus among those living in Hawai‘i County may include specific attention to: those of Hawaiian, Filipino, and Chinese race; those under 25 years of age; and those with a high school or less education. Other potential correlates that would be beneficial to explore include those related to poverty and socio-economic conditions as they are also likely associated with duration of breastfeeding.

# Breastfeeding Eight Weeks

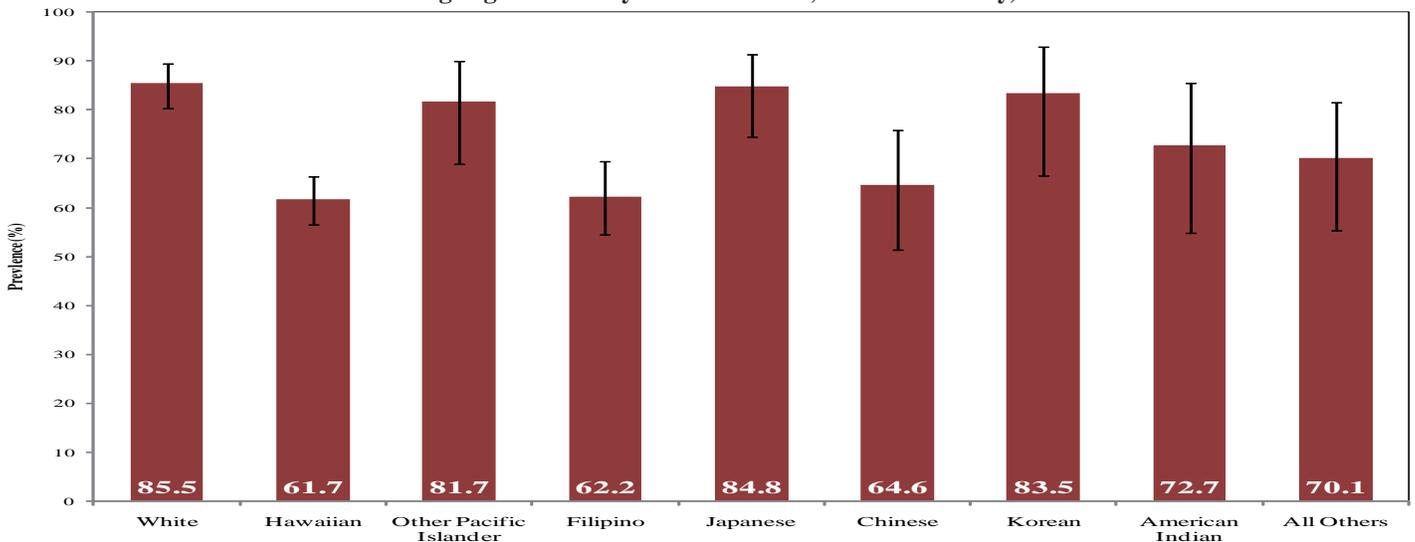
**Breastfeeding Eight Weeks by State and County, 2004-2008**



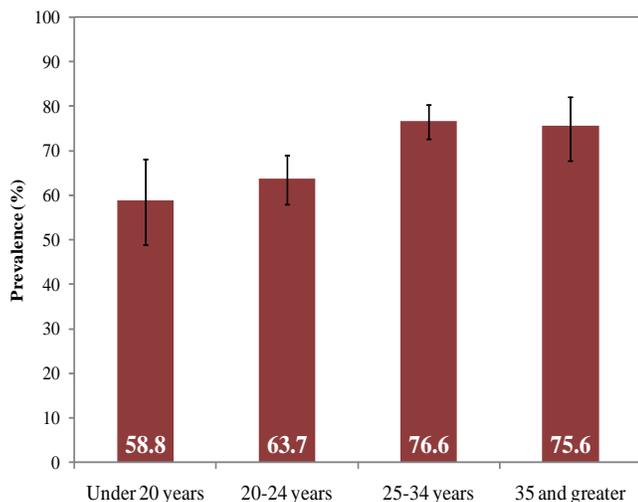
**Breastfeeding Eight Weeks over time, Hawai'i County, 2000-2008**



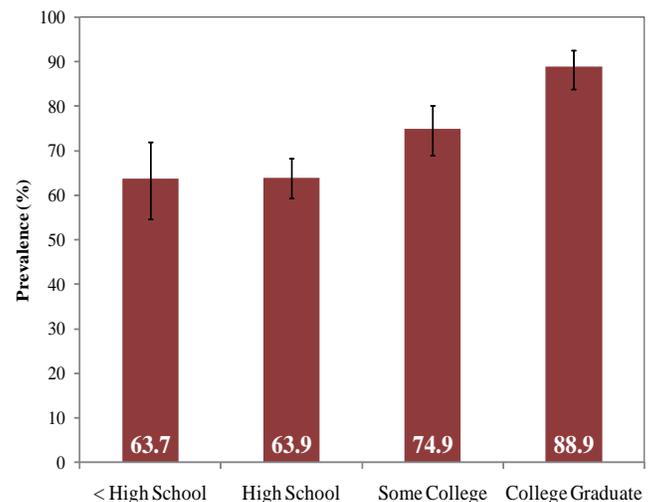
**Breastfeeding Eight Weeks by Maternal Race, Hawai'i County, 2004-2008**



**Breastfeeding Eight Weeks by Maternal Age, Hawai'i County, 2004-2008**



**Breastfeeding Eight Weeks by Maternal Education, Hawai'i County, 2004-2008**



# Infant Sleep Position

## **Background:**

Sudden Infant Death Syndrome (SIDS), the sudden, unexplained death of an infant under 1 year of age, is the leading cause of post-neonatal mortality (death between 1 month and 1 year of age). Putting infants to sleep on their back, can decrease the risks for sudden infant death syndrome (SIDS). This is because infants are more likely to suffocate when placed on their stomach or side to sleep. Because most infants placed on their side to sleep will naturally roll to their stomach, this sleep position is considered to be equally dangerous. The “Back to Sleep” public health campaign in the United States dramatically improved back sleep position from 13% in 1992 to 67% in 1999 with a corresponding 50% decline in SIDS. The U.S. Healthy People 2010 objective was to increase the proportion of infants placed on their backs to sleep to 70%.

## **PRAMS Definition:**

Back sleep positioning was determined from the self-reported measure of “how do you most often lay your baby down to sleep,” was categorized as back only compared to all other positions or combinations.

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 69.1% reported a back sleep position. Those living in Hawai‘i County had a lower estimate of 65.1%. Kauai and Maui County residents also had lower estimates, while those living in Honolulu County had higher estimates of a back sleep position.

## **Trends Over Time:**

Although some fluctuation over time, there has been steady improvement in Hawai‘i County with 66.4% in 2008 reporting a back sleeping position for infants, compared to 57.9% in 2000.

## **Differences Related to Maternal Race:**

“Other Pacific Islander” and Hawaiian mothers reported the lowest estimates of back sleep position. “All Others,” American Indian, and Filipino mothers also reported low estimates. Korean, White, Chinese, and Japanese mothers reported the highest estimates of back sleep position. There were no individual estimates for race groups within “All Others” that were reportable.

## **Differences Related to Maternal Age:**

The lowest estimates of back sleep position was among those under 20 years of age, and only slightly better in those 20-24 years of age. There was a steady increase in estimates of back sleep position with increasing age, with mothers 35 years and greater having the highest estimate.

## **Differences Related to Maternal Education:**

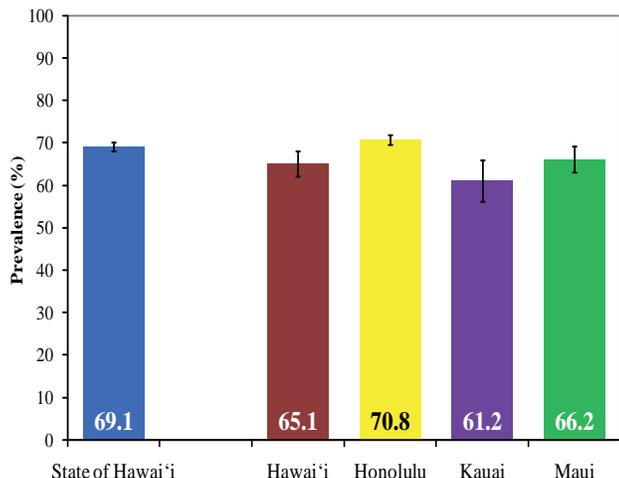
The lowest estimates of back sleep position was among those with less than a high school education. There was a steady increase in estimates of back sleep position with increasing education, with college graduates having the highest estimate.

## **Recommendations/Implications:**

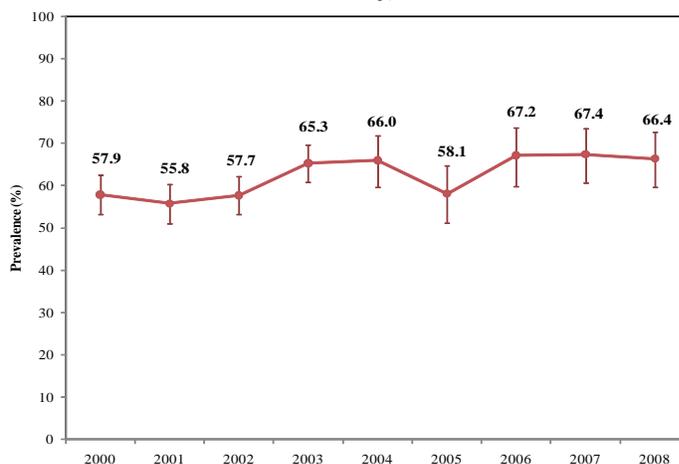
An estimated 65.1% of mothers in Hawai‘i County who had a live birth reported placing their infants down to sleep in a back sleeping position which is lower than the overall State estimate. There were significant differences by geography, maternal race, age, and education. In addition to a back sleep position, other factors such as appropriate bedding are important to ensure a safe sleep environment for infants. Educating mothers, families, and caregivers in the hospital with frequent reinforcement in the outpatient setting may decrease some preventable infant deaths and improve the health of families. In order to decrease disparities, particular focus among those living in Hawai‘i County may include specific attention to: those of “Other Pacific Islander” and Hawaiian race; those under 25 years of age; and those with a high school or less education. Other potential correlates that would be beneficial to explore include those related to poverty, socio-economic conditions, and cultural issues as they are likely associated with safe sleep environments.

# Infant Sleep Position

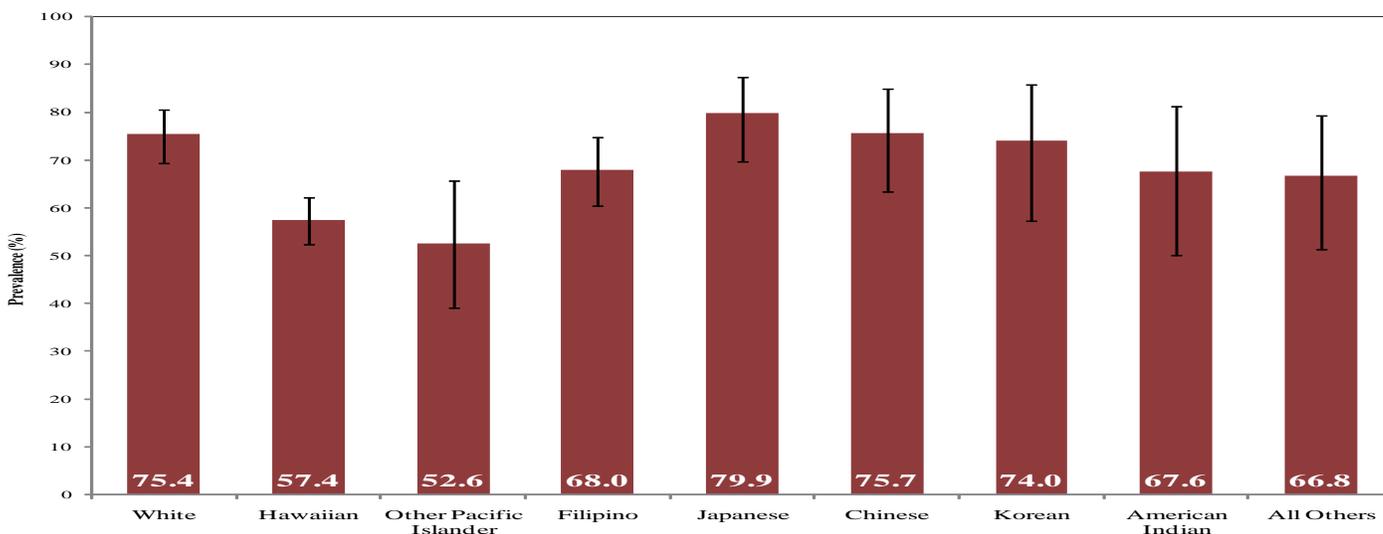
**Infant Back Sleep Position by State and County, 2004-2008**



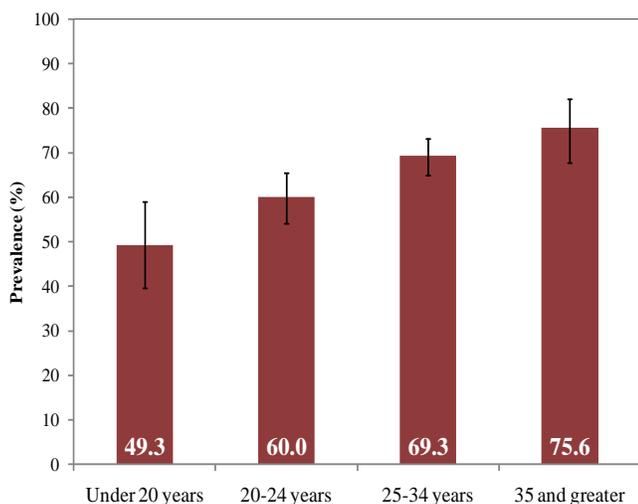
**Infant Back Sleep Position over time, Hawai'i County, 2000-2008**



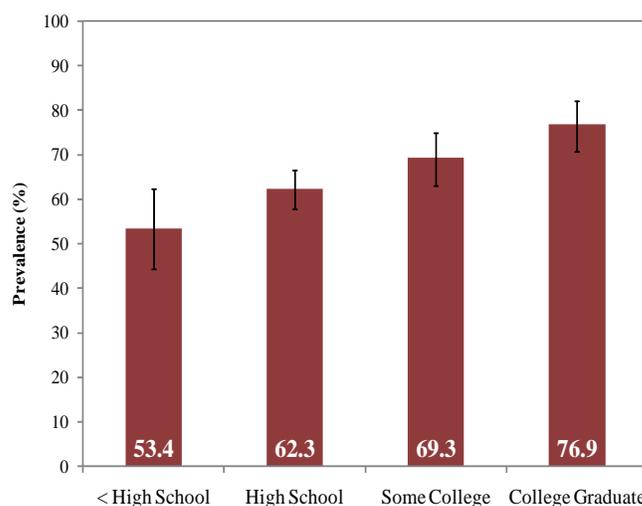
**Infant Back Sleep Position by Maternal Race, Hawai'i County, 2004-2008**



**Infant Back Sleep Position by Maternal Age, Hawai'i County, 2004-2008**



**Infant Back Sleep Position by Maternal Education, Hawai'i County, 2004-2008**



# Postpartum Depression

## **Background:**

Pregnancy and childbirth can be a very rewarding and exciting time, but it can also be a period of severe emotional stress. Postpartum depression can be disabling for the mother and limit her ability to care for her new infant resulting in increased use of health care services and more hospitalizations. Mothers with postpartum depression are less likely to do basic preventive services such as putting the infant to sleep on the back, attending well child visits, and keeping up to date on immunization coverage. In severe cases of postpartum depression, women may harm themselves, their infants, and others.

## **PRAMS Definition:**

Self-reported postpartum depressive symptoms was defined by a response of “always” or “often” to “how often have you felt down, depressed, or hopeless?” or “how often have you had little interest or little pleasure in doing things” since your new baby was born. These questions were not asked in Hawai‘i PRAMS prior to 2004 so this report only includes data from 2004 to 2008.

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 14.5% had self-reported postpartum depressive symptoms. Those living in Hawai‘i County had a slightly lower estimate at 14.1%. Maui and Kauai County residents had lower estimates, while those living in Honolulu County had higher estimates of self-reported postpartum depressive symptoms.

## **Trends Over Time:**

Although some fluctuation over time, there appears to be some improvement in Hawai‘i County with 13.9% in 2008 reporting self-reported postpartum depressive symptoms, compared to 16.5% in 2004.

## **Differences Related to Maternal Race:**

Korean, Chinese, American Indian, “All Others,” and “Other Pacific Islander” mothers reported the highest estimates of self-reported postpartum depressive symptoms. Intermediate estimates were seen among Hawaiian mothers, while the lowest estimate was in White and Japanese mothers. The only individual race group within “All Others” that could be reported was “Hispanic” (19.7%; 95% CI = 6.9-44.9) mothers.

## **Differences Related to Maternal Age:**

Mothers 35 years and greater and those under 20 years of age and the highest estimates of self-reported postpartum depressive symptoms. Mothers 20-24 had lower estimates, while those 25-34 years of age reported the lowest estimates.

## **Differences Related to Maternal Education:**

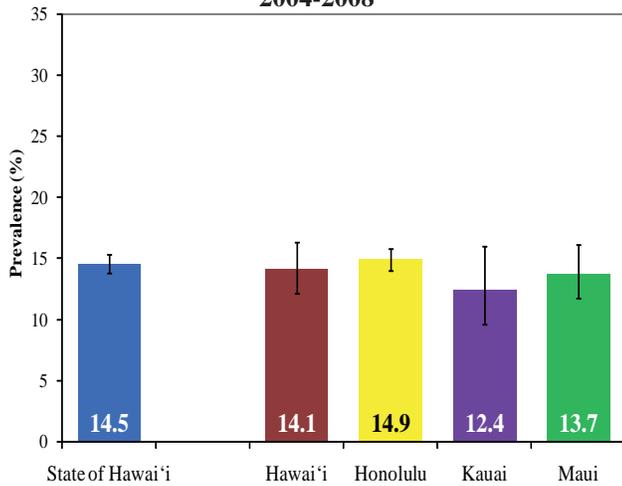
The highest estimates of self-reported postpartum depressive symptoms was among those with less than a high school education. There was a steady decrease in the estimates of self-reported postpartum depressive symptoms with increasing education, with college graduates having the lowest estimate.

## **Recommendations/Implications:**

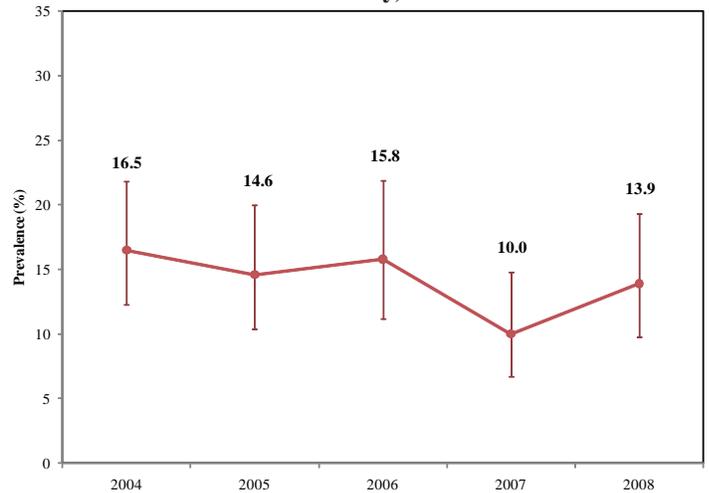
An estimated 14.1% of mothers in Hawai‘i County who had a live birth had self-reported postpartum depressive symptoms which is similar to the overall State estimate. There were significant differences by geography, maternal race, age, and education. Those that work with women during and after their pregnancy should be aware of postpartum depression, be able to do a brief assessment, and be aware of appropriate resources for women with postpartum depression. It will also be important to develop culturally appropriate programs to increase awareness of postpartum depression and highlight the burden on society. In order to decrease disparities, particular focus among those living in Hawai‘i County may include specific attention to: those of Korean, Chinese, “Hispanic,” American Indian, and “Other Pacific Islander” race; those under 25 years of age and those 35 years and greater; and those with less than a high school education. Other potential correlates that would be beneficial to explore include those related to poverty, socio-economic conditions, substance abuse, and partner violence as they are likely associated with postpartum depression.

# Postpartum Depression

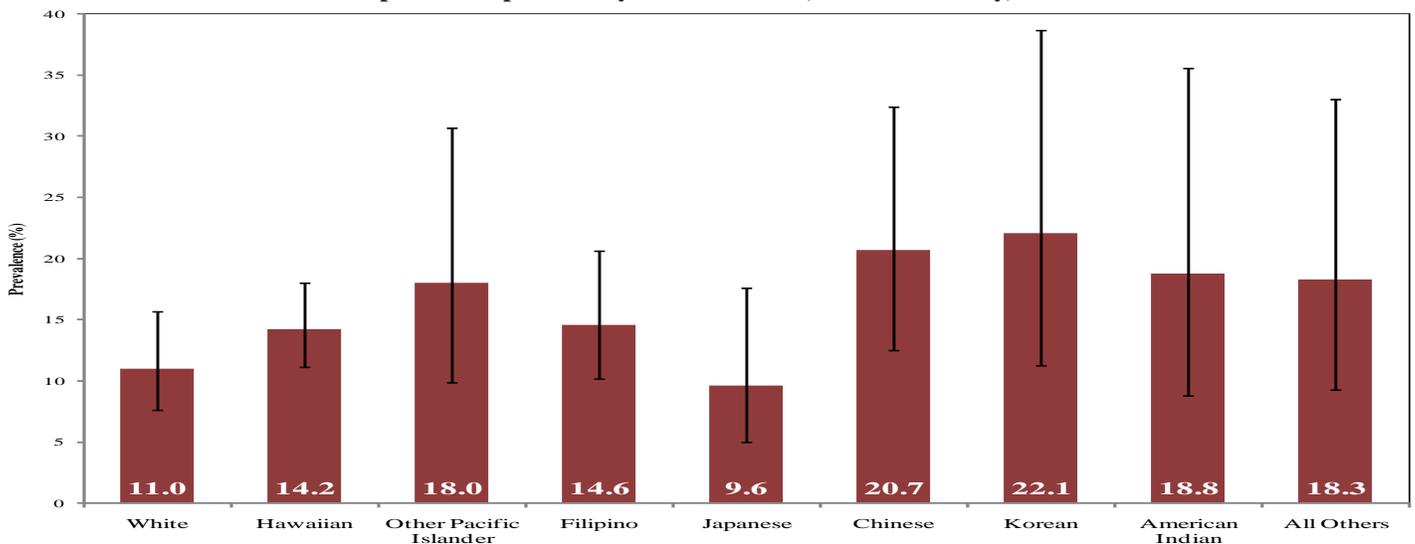
**Postpartum Depression by State and County, 2004-2008**



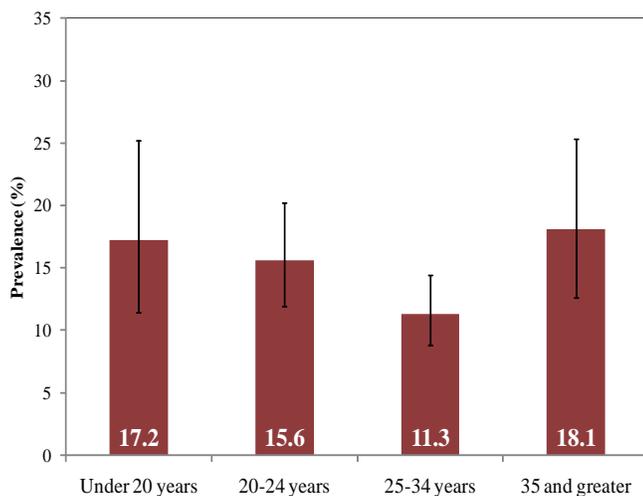
**Postpartum Depression over time, Hawai'i County, 2000-2008**



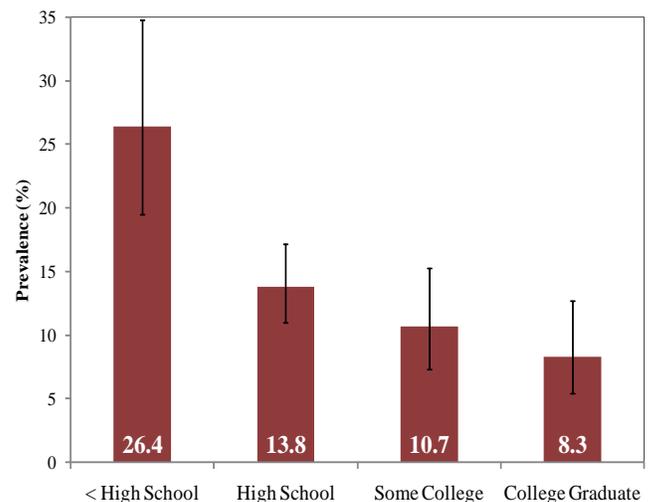
**Postpartum Depression by Maternal Race, Hawai'i County, 2004-2008**



**Postpartum Depression by Maternal Age, Hawai'i County, 2004-2008**



**Postpartum Depression by Maternal Education, Hawai'i County, 2004-2008**



# Postpartum Contraception

## **Background:**

Sufficient spacing of births helps to promote optimal maternal and infant health outcomes. Effective use of contraception in the postpartum and the inter-conception period can promote birth spacing and help families address the challenges and experience the satisfaction in raising a new infant. Common reasons reported for not using postpartum contraception in PRAMS are not having sex, not wanting to use birth control, and other reasons (e.g., absent partner, breastfeeding, and ambivalence).

## **PRAMS Definition:**

Postpartum contraception was assessed among the response to the question “are you or your husband doing anything now to keep from getting pregnant?” Accompanying text in the question included not having sex at certain times, withdrawal, using birth control methods such as pills, condoms, cervical ring, intrauterine device, having their tubes tied, or their partner having a vasectomy.

## **Differences Related to County of Residence:**

In the State of Hawai‘i an estimated 78.2% of mothers reported use of postpartum contraception,. Those living in Hawai‘i County had a higher estimate of 81.4%. Kauai and Maui County residents also had higher estimates, while those living in Honolulu County had lower estimates of postpartum contraception.

## **Trends Over Time:**

Although some fluctuation over time, there has been little change in Hawai‘i County with 82.8% in 2008 reporting use of postpartum contraception, compared to 80.5% in 2000.

## **Differences Related to Maternal Race:**

“Other Pacific Islander” and Korean mothers reported the lowest estimates of postpartum contraception. “All Others,” Hawaiian, Japanese, Chinese, White, American Indian, and Filipino mothers reported the highest estimates of postpartum contraception. There were no individual estimates for race groups within “All Others” that were reportable.

## **Differences Related to Maternal Age:**

Mothers that were 35 years and greater reported the lowest estimates of postpartum contraception use. There were no differences in estimates of postpartum contraception among other age groups.

## **Differences Related to Maternal Education:**

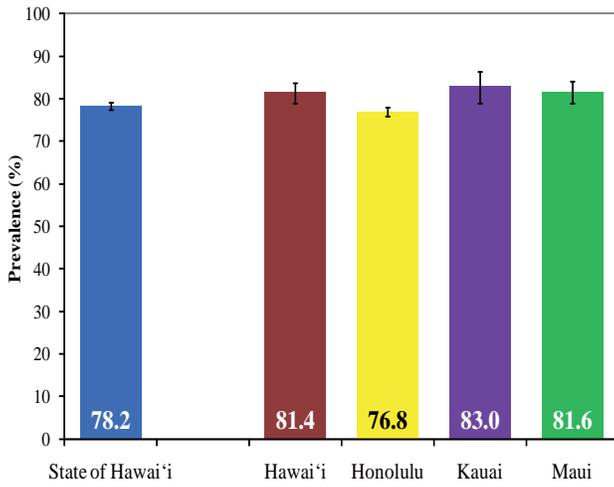
Mothers with less than a high school education had the lowest estimates of postpartum contraception. There was some increase in use with increasing maternal education, with those that were college graduates reporting the highest estimates of postpartum contraception.

## **Recommendations/Implications:**

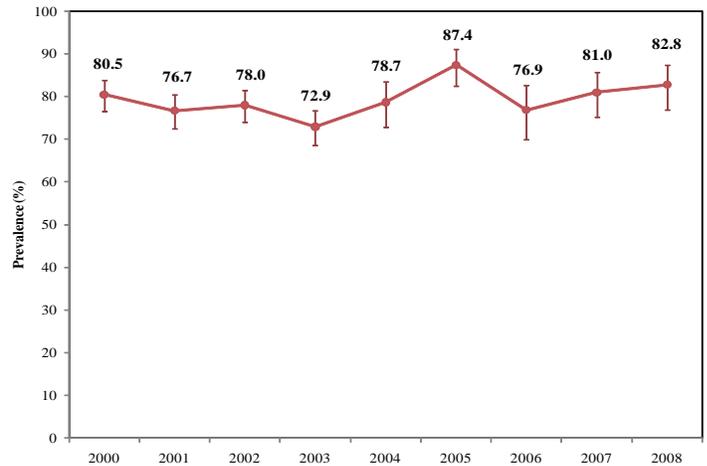
An estimated 81.4% of mothers in Hawai‘i County who had a live birth reported use of postpartum contraception which is higher than the overall State estimate. There were significant differences by geography, maternal race, and education. Emphasizing the use of postpartum contraception can help improve birth spacing, decrease unintended pregnancies, and promote healthier outcomes across the life course. In order to decrease disparities, particular focus among those living in Hawai‘i County may include specific attention to: those of “Other Pacific Islander” and Korean race; those 35 years and greater; and those with less than a high school education. Other potential correlates that would be beneficial to explore include those related to poverty, insurance status, and socio-economic conditions including health care coverage as they are likely associated with not receiving postpartum care.

# Postpartum Contraception

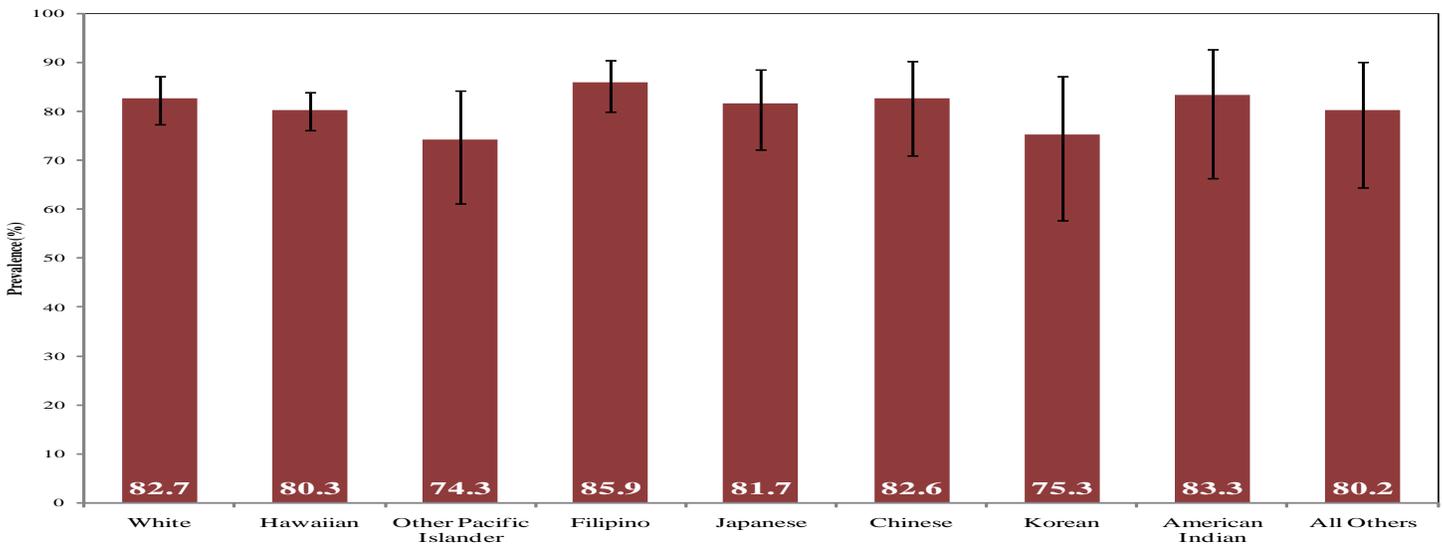
Postpartum Contraception by State and County, 2004-2008



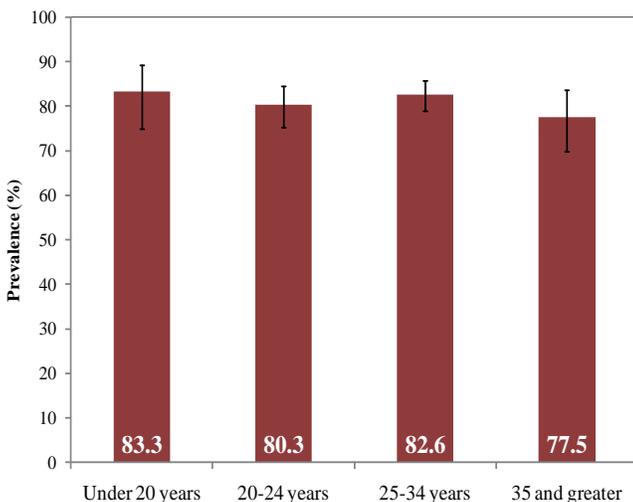
Postpartum Contraception over time, Hawai'i County, 2000-2008



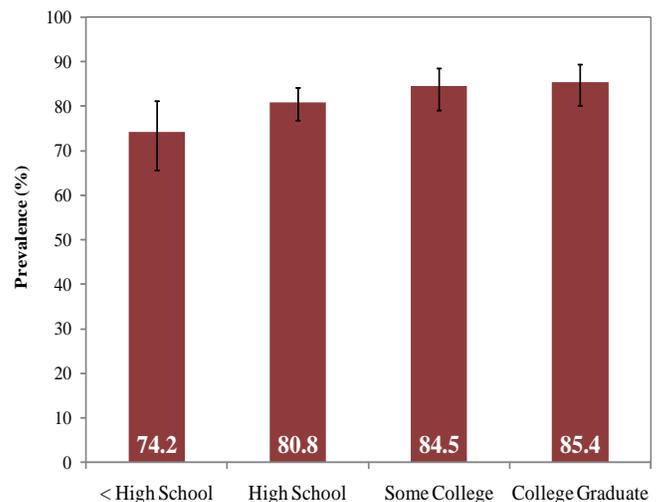
Postpartum Contraception by Maternal Race, Hawai'i County, 2004-2008



Postpartum Contraception by Maternal Age, Hawai'i County, 2004-2008



Postpartum Contraception by Maternal Education, Hawai'i County, 2004-2008



# *Infant Exposure to Second Hand Smoke*

## **Background:**

Exposure to secondhand smoke increases the risk of childhood respiratory illnesses, ear infections, and sudden infant death. Exposure to secondhand smoke could come from being in the same room as a smoker including the parents, other family members, and caregivers. There is also concern related to contact with someone who has a residual amount of smoke on the clothes that they were wearing while smoking elsewhere. PRAMS data shows that although more than half of smokers quit by the last three months of pregnancy, only a third remained smoke free in the postpartum period when infants can suffer respiratory afflictions and other health problems related to secondhand smoke exposure, and its impact on the mother's own long term health.

## **PRAMS Definition:**

Infant exposure to smoke was determined by the self-report of the infant being present in the same room with someone who is smoking for at least one hour on an average day. This definition does not include those who have family members or care givers who closely handle an infant after smoking in a different area.

## **Differences Related to County of Residence:**

In the State of Hawai'i an estimated 3.3% of mothers reported their infants were exposed to second hand smoke. Those living in Hawai'i County had the highest estimate of all counties at 4.4%. Kauai County residents had similar estimates, while those living in Maui and Honolulu Counties had lower estimates of second hand smoke exposure.

## **Trends Over Time:**

Although some fluctuation over time, there has been improvement in Hawai'i County with 3.0% in 2008 reporting infant exposure to second hand smoke compared to 9.8% in 2000.

## **Differences Related to Maternal Race:**

"All Others," American Indian, and Japanese mothers reported high estimates of infant exposure to second hand smoke. Intermediate estimates were seen in Hawaiian and "Other Pacific Islander" mothers. Filipino, Korean, White, and Chinese mothers reported the lowest estimates of infant exposure to second hand smoke. There were no individual estimates for race groups within "All Others" that were reportable.

## **Differences Related to Maternal Age:**

Mothers under 20 years of age reported the highest estimates of infant exposure to second hand smoke, with those 20-24 years of age reported lower estimates. Mothers 25-34 years of age reported the lowest estimates of infant exposure to second hand smoke, with a slightly increase seen among those 35 years and greater.

## **Differences Related to Maternal Education:**

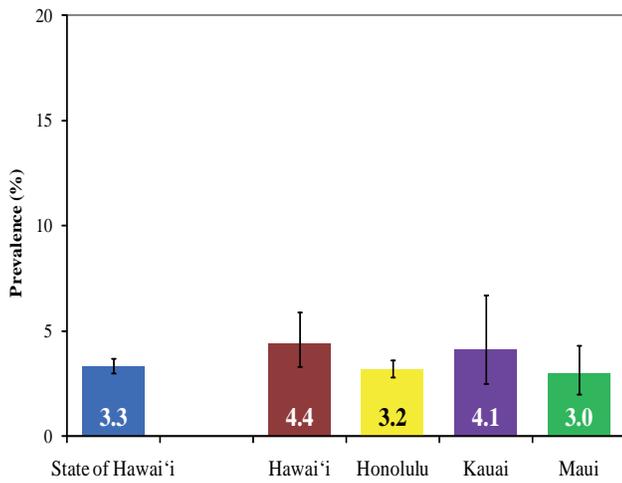
Mothers with the lowest level of education have the highest estimate of infant exposure to second hand smoke. There was a steady decline with increasing education, with mothers that were college graduates reporting the lowest estimate of infant exposure to second hand smoke.

## **Recommendations/Implications:**

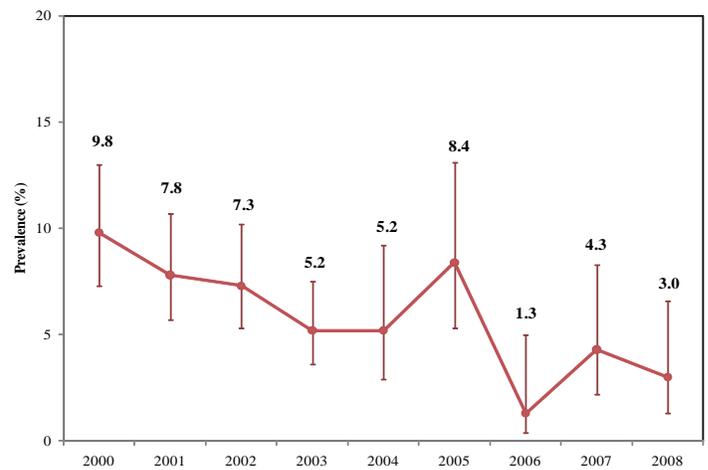
An estimated 4.4% of mothers in Hawai'i County who had a live birth reported infant exposure to second hand smoke averaging at least 1 hour daily which is higher than the overall State estimate and highest among all counties. There were some differences by geography, maternal race, age, and education. The overall improvement seen since 2000 is due to many factors and likely includes an increased awareness of the danger of smoking, increased taxes on cigarettes, and changes related to smoking in public. Emphasizing the importance of decreasing exposure to smoke among infants may promote healthier outcomes across the life course. In order to decrease disparities, particular focus among those living in Hawai'i County may include specific attention to: those of American Indian and Japanese; those under 25 years of age, and those with less than a high school education. Other potential correlates that would be beneficial to explore include those related to poverty and socio-economic conditions as they are likely associated with infant exposure to second hand smoke.

# Infant Exposure to Second Hand Smoke

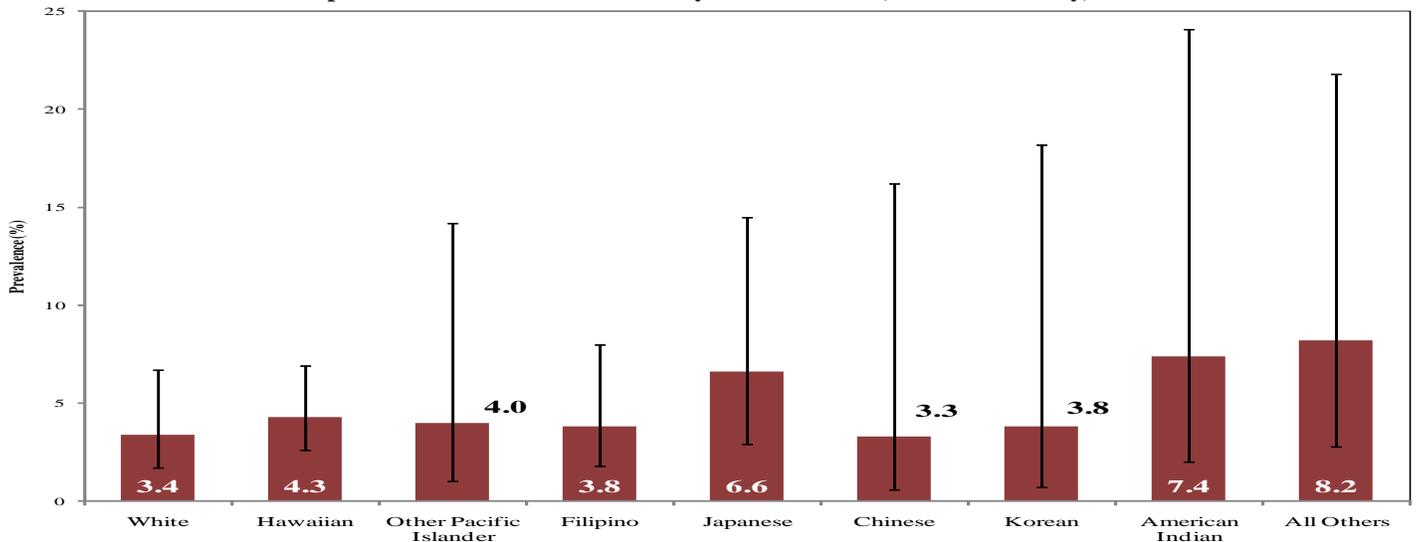
**Infant Exposure to Second Hand Smoke by State and County, 2004-2008**



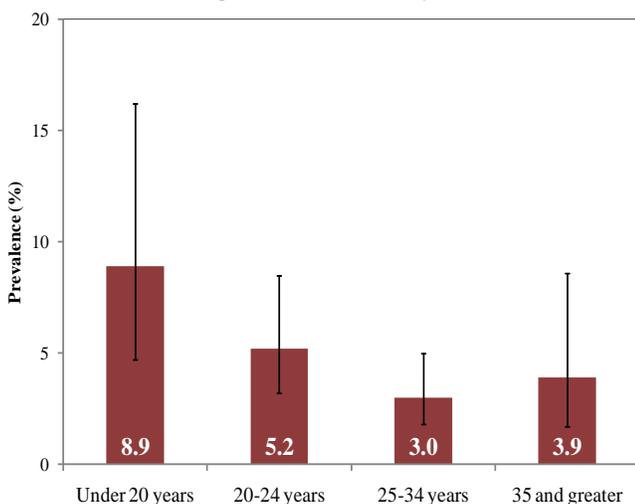
**Infant Exposure to Second Hand Smoke over time, Hawai'i County, 2000-2008**



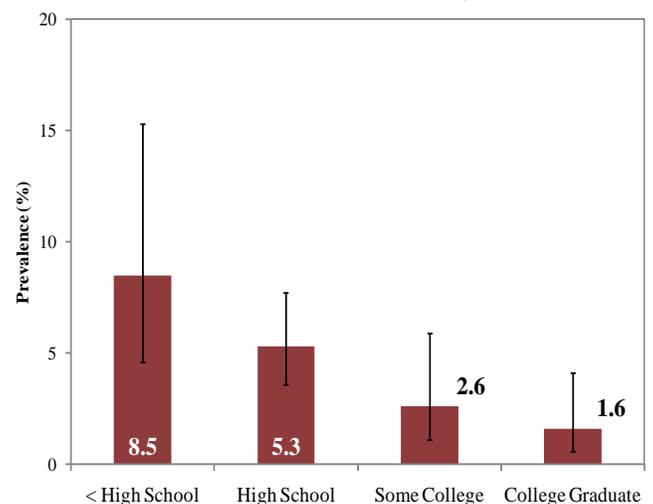
**Infant Exposure to Second Hand Smoke by Maternal Race, Hawai'i County, 2004-2008**



**Infant Exposure to Second Hand Smoke by Maternal Age, Hawai'i County, 2004-2008**



**Infant Exposure to Second Hand Smoke by Maternal Education, Hawai'i County, 2004-2008**



# Comments from PRAMS Mothers

*"I think for you and the baby to become healthy, eat good food, have enough rest and don't stress yourself. Enjoy every moment of your pregnancy and especially when the baby was born enjoy every second of it."*

*"I usually don't do surveys, but if this survey will help babies stay safe & get mommies to be safe then it's worth it. Too many sad cases & babies going to strangers cause they got a bad batch of moms. I really appreciate the nurse that didn't give up and kept calling from Hapai Pono. Mahalo HMSA."*

*"What I feel they should make a place a in patient where women can have their babies, & get help with their addiction. Because its not fair that the state can always do this take away babies, & put them in a foster place,they won't even let you see. To me your child belongs with you no matter what kind of mistakes you have. It's not fair for them I'm really upset, because the situation they have here-I hope one day they will realize what kind of heart they have."*

*"I think it's very sad that there are so few doctors on the west side of the island. It overloads those few doctors that do prenatal care & delivery and that tends to frustrate many patients."*

*"Need longer post partum period on Quest for post partum depression."*

*"I would like to see that women/mothers get more access to mid wives and to get more knowledge about the benefits of breastfeeding & natural births & bonding with their child. Mahalo for caring about the moms & keikis of Hawaii ! Aloha!"*

*"Because of the high cost of insurance, many OB's are turning over their practices to midwives. Here on the Big Island North Hawaii Community Hospital have only a few beds to serve all the west side and HonaKa'a. The nursing staff is excellent . They are short staffed when so many are in labor at once. As for the prenatal care, because the women center serve such a vast community, the appointment wait is long and patient time is rushed or hurried sense of feel. They rely mostly on handouts to deal with concerns. I had a concern of a vaginal rash. I called the office at 8:30 and my call was not returned till 3:30 in the afternoon and all they said was go ahead and make an appointment. On my 2nd week checkup, the midwife was more concerned about my headache, instead of a previous fever. Too many pregnant women, too few doctors or midwives."*

*"I had a friend who recently lost her 3 month old baby from SIDS. She smoked cigarettes through her pregnancy and this is her 3rd child. They must enforce women not to smoke while pregnant !! It's very sad!!"*

*"There needs to be more support given to moms to be in the hospital. No one told me how important it was to have a support systems et up beforehand. Also they should set them up with an automatic breast pump--very helpful!! Otherwise very happy with all the help I received during pregnancy and after."*

*"I would like to use birth control, but I can't afford it. What should I do?"*

*"More drug prevention help and support for mothers during and after pregnancy. To quit any drug use and to stay clean for the benefit of themselves and their children. Thank you."*

*"Physical fitness, I feel , should be included in the questionairre. I was physically fit before I was pregnant. Kept up the routine during the pregnancy. My recovery was the quickest out of any of my deliveries and my energy was higher."*

*"It is really important to have support at the hospital to breastfeed. I was given such a hard time to breastfeed my twins. They constantly fed them formula and I had to fight to breastfeed my babies. We should be encouraging supporting mothers to breastfeed their babies!"*

# Comments from PRAMS Mothers

*"I work on an organic farm, so I have plenty of fresh produce to eat. I got plenty of rest and fresh air during my pregnancy. I always avoid synthetic materials, as well as chemicals. I am healthy and so is my baby."*

*"Breastfeeding is best...although it takes 6-8 weeks to get use to it. It's so healthy, free, and versatile. Don't give up when it's uncomfortable at first."*

*"I have learned during my pregnancy that my health and my baby's health is very important. I had received the best care from my OB doctor that helped me to prevent any problem that may occur during my pregnancy. Although it takes time to do all the tests, I can say that it's worth it. It pays off when pregnant women really take good care of themselves. It shows when I finally had my baby in my arms. He's so healthy and adorable. "Hawaii really cares!" It's so awesome that Hawaii has programs like WIC and MedQuest to assist families who needs assistance. All I can say is MAHALO!"*

*"It's hard to get a doctor on the Big Island. I know a lot of women who have to drive 2 or more hours to see a doctor."*

*"At the beginning of my pregnancy, I couldn't find a doctor accepting new patients. I had to settle for a clinic. It was frustrating, because your're always being told different things, such as what lab work I needed. I was almost treated twice for the same bladder infection. I think it is important for expecting mothers to pay close attention to what goes on during their pre natal visits and to question doctors when something doesn't sound right, especially if they are going to a clinic. By doing so, they are protecting their health and the health of their baby."*

*"My personal thoughts about healthy babies....healthy, cautious, caring, loving mothers make healthy babies."*

*"I feel privileged to have had a great education from my parents and school. I believe that educating our youth is important in order to prevent unwanted pregnancies and sexually transmitted diseases. During my early 20's I protected myself, once I was ready to have a child I took great care of myself, by taking vitamins, eating healthy, exercising, and trying to live a less stressful"*

*"I think good nutrition, a positive outlook, and exercise are the best ways to ensure a healthy pregnancy and baby."*

*"Hilo needs better quality care. One doctor has patients waiting 2-3 hours to be seen!!! There is such a shortage of doctors here- it's horrible. We need more resources for women and more options for physicians."*

*"I believe the emotional health of the mother is the most important factor in healthy pregnancy. I also believe the husband/partner/father is a crucial part of this emotional health. If you want to help pregnant moms---then help the dads give them supporting way they will be receptive to and teach young boys about healthy fatherhood (even if unplanned)! while they are still in school."*

*"For the mother just take care ourselves coz were not kids we know what is wright or wrong. And especially our babies we should take care them very well coz that's a blessing to us."*

*"The best care I received was support from my friends. I gave birth in Waimea and the nurses and mid wives were very caring and respectful. I had a Doula for my own support which cost me \$350. Doulas should be paid for by insurance companies. I have heard horrible things about the hospitals in Kona and elsewhere besides Waimea. WIC should support organic diets since pregnancy is such an important time for women to eat well, especially organic milk and dairy products."*

*"I stayed 2 weeks at Kapiolani and a month at the Pagoda Hotel, because Hilo Medical Center would not have been able to deliver a premature baby. Equipment, training, and facilities should be provided on the Big Island. My mother took care of my 14 year old daughter and I could only afford to see her twice in a month in a half."*

# Summary Comments

The Hawai‘i PRAMS data provides information on many common issues related to the health of the mother and her baby. Describing this unique population with questions that are included in PRAMS adds significantly more information that can be used to identify preventive opportunities. This report is meant to highlight Hawai‘i County specific data, allow comparison between counties and the overall state, and serve as a baseline for data collected in the future. It is hoped that this report will increase awareness, discussion, and assist communities in developing solutions to critical issues facing our mothers, children, and families.

Throughout the report, some of the major changes over time and significant differences have been highlighted for Hawai‘i County residents. Some of these differences are pronounced and lend themselves to developing interventions to eliminate disparities and help decrease the overall burden of disease. However, it is important to realize that all of these issues are complex and will require multiple strategies to effectively make a difference. This report serves to bring an awareness to disparities to help frame future activities to characterize why they exist and what can be done to eliminate them.

Compared to the overall state wide estimates, residents of Hawai‘i County had worse estimates for 14 of the 17 indicators. Additionally, 10 of the indicators were among the worst of all counties. These issues are very complex, but some of the differences may be related to a demographically higher risk population in Hawai‘i County compared to the rest of the state. For example, based on comparison of the population characteristics to the other Counties: Hawai‘i County had the highest proportion of families living below the Federal poverty level, the highest proportion with Medicaid/QUEST insurance coverage, the highest proportion with less than a high school education, the highest proportion of births to those under 25 years of age, the highest proportion of mothers of Hawaiian race, and the highest proportion of mothers of “Other Pacific Islander” race. Hawai‘i County also had the highest estimates of premature delivery and low birth weight of all the Counties.

Looking at improvement in trends over time, seven indicators improved, two worsened, and eight had little to no change. A better understanding of why some of the indicators improved or even stayed the same (e.g., prematurity) could be helpful for identifying strategies to promote further gains in these and other areas of health. To continue to improve the health of families in Hawai‘i County, efforts to improve in all aspects of health is needed. This report highlights some representative indicators and significant disparities in them related to the health and well-being of women and their families in the perinatal period.

Common recommendations identified include 1) The need for further analysis between poverty and socio-economic determinants of health; 2) Improved access and availability of services; 3) Promotion of preconception health; and 4) Development of effective culturally appropriate interventions through collaborations with community partners.

Hawai‘i PRAMS is committed to provide valuable data and promote awareness of issues facing mothers, children, and their families. Additional data and information is available and those interested are encouraged to contact Hawai‘i PRAMS.



# Hawai'i County PRAMS Report

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This document is also available online at:

**[http://hawaii.gov/health/doc/Hawaii\\_County\\_PramsReport2011.pdf](http://hawaii.gov/health/doc/Hawaii_County_PramsReport2011.pdf)**

We value your feedback, please complete the evaluation form online at:

**<http://hawaii.gov/health/doc/eval.pdf>**

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