

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

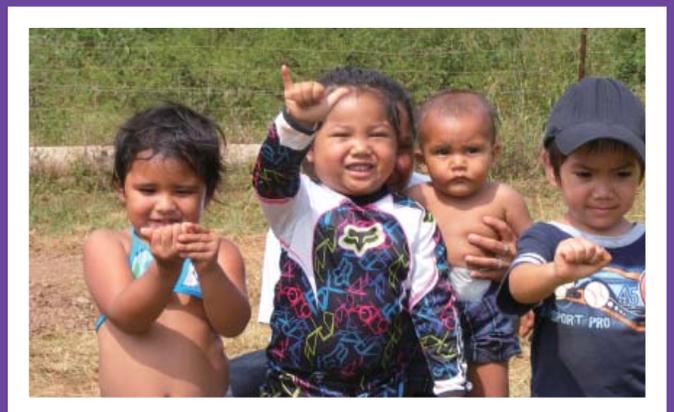
**Kauai County PRAMS Report  
2000-2008**



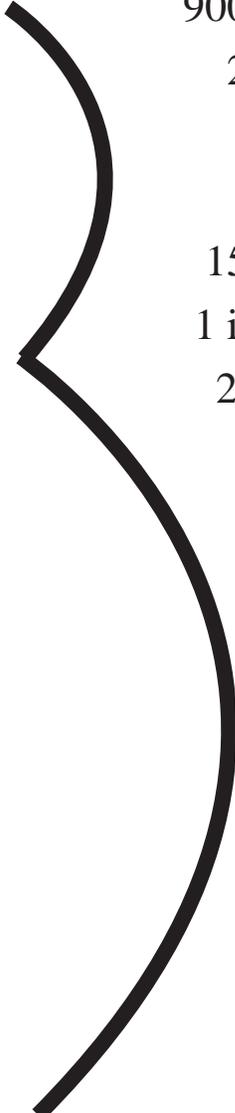
Family Health  
Services Division



**April 2011**



## *First Trimester Prenatal Care* **In an average year in Kauai County\*...**



900 babies are born.

2 in 5 pregnancies are unintended

600 moms take inadequate preconception vitamins.

3 in 4 moms receive first trimester prenatal care.

150 moms report multiple stressful life events.

1 in 10 moms are obese before they got pregnant.

200 moms binge drink prior to pregnancy.

1 in 12 moms smoke during pregnancy.

50 moms report drug use during pregnancy.

1 in 10 babies are born premature.

300 babies are delivered by cesarean section.

1 in 12 moms report intimate partner violence.

300 moms saw a dentist during their pregnancy.

3 in 4 infants are breast fed at least eight weeks.

550 infants sleep on their backs.

1 in 8 moms report postpartum depression.

750 moms report postpartum contraception use.

1 in 24 infants are exposed to secondhand smoke.

\*Based on aggregated data from 2004-2008

# Table of Contents

<b>Foreword</b> .....	1
<b>Acknowledgements</b> .....	2
<b>PRAMS Overview</b> .....	3
<b>Population Characteristics</b> .....	4
<b>Selected Indicators</b>	
Unintended Pregnancy .....	6
Preconception Vitamin .....	8
First Trimester Prenatal Care .....	10
Stressful Life Events .....	12
Preconception Obesity .....	14
Binge Drinking Prior to Pregnancy.....	16
Smoking During Pregnancy .....	18
Drug Use During Pregnancy .....	20
Prematurity.....	22
Cesarean Deliveries .....	24
Intimate Partner Violence.....	26
Dental Visit During Pregnancy .....	28
Breastfeeding Eight Weeks .....	30
Infant Sleep Position .....	32
Postpartum Depression .....	34
Postpartum Contraception.....	36
Infant Exposure to Secondhand Smoke .....	38
<b>Comments from Kauai County PRAMS Mothers</b> .....	40
<b>Summary Comments</b> .....	42

# 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 Kauai 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

Director of Health

# Acknowledgements

## Contributors:

Loretta Fuddy, ACSW, MPH; Director of Health  
Donald Hayes, MD, MPH; Epidemiologist, Family Health Services Division (FHSD)\*  
Cash Lopez, RN, MSN; Program Manager, Kauai District Health Office, FHSD  
Emily Roberson, MPH; PRAMS Coordinator, Maternal and Child Health Branch, FHSD  
Rebecca Shor MPH; Epidemiologist, FHSD\*\*

## Acknowledgements:

Barbara Yamashita; Branch Chief, Maternal and Child Health Branch  
Candice Calhoun, ACSW, LSW; Supervisor, Women's Health Section, Maternal and Child Health Branch  
Trudy Okada, RN; Perinatal Health Program Manager, Women's Health Section, Maternal and Child Health Branch  
Jane Awakuni; PRAMS Data Manager, Maternal and Child Health Branch  
John Yamauchi; Information Specialist, FHSD

## Special Thanks to:

Mothers of Kauai County that responded to the PRAMS survey  
All those that contributed photographs  
Office of Health Status and Monitoring, Hawai'i Department of Health  
Tuyet Hayes, MEd

## Suggested Citation:

Hawai'i PRAMS. *Kauai County PRAMS Report 2000-2008*. Honolulu, HI. Hawai'i Department of Health. Family Health Services Division. April 2011.

## 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/kauai/index.html>

Kauai District Health Office 3040 Umi Street Lihue, HI 96766	Contact: Cash Lopez Office: (808) 241-3565 Fax: (808) 241-3480
--	--

The Kauai District Health Office is an extension of the State of Hawai'i Department of Health for the County of Kauai. The county includes the islands of Kauai and Ni'ihau. The Kauai District Health Office serves the community with proficiencies in emergency preparedness, family health services, public health nursing, services for the developmentally delayed, environmental health services which includes clean air, clean water, and sanitation programs, vital statistics (births, marriages, deaths), and mental health services.

\* position supported by the Family Health Services Division; the MCH Epidemiology Program, Centers for Disease Control and Prevention; and the MCH Bureau, Health Resources and Services Administration

\*\*position supported by the Family Health Services Division; the MCH Epidemiology Program, Centers for Disease Control and Prevention; and the Council of State and Territorial Epidemiologists Fellowship Program

# 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 Kauai County.

# Population Characteristics

The following table highlights some of the basic characteristics of women and their related perinatal outcomes in Kauai 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, but does involve other groups as well.

There was an average annual estimate of 900 resident births to Kauai County residents over the time period. About two-thirds of all births occurred in those women 25 years of age and older, with half of all births occurring in women 25-34 years of age. Approximately 16.5% of births were to mothers 35 years of age and greater, while 13.0% 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 34.3% of all births, followed by White race with 23.3% of births, Filipino race with 26.4% of births, and Japanese race with 8.6% of births. About 7.4% of births were classified as "All Others" which was made up of "Hispanic" (1.8% of all births), "Other Pacific Islander" (1.0% of all births), Chinese (1.0% of all births), American Indian (0.9% of all births), Samoan (0.8% of all births), "Other Asian" (0.7% of all births), Black (0.6% of all births), Korean (0.2% 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=1) and all other pacific islanders (n=2); "Other Asian" consisted of Vietnamese (n=1), Asian Indian (n=1), and all other Asians (n=1); and "Hispanic" consisted of Mexican (n=6), and Puerto Rican (n=1).

In about half of all births to Kauai County residents, the mother had a high school or less level of education with 40.6% having a high school level education. About 25.2% reported some college education and 23.3% were college graduates. Just over half of the births occurred to mothers who were married at the time of the delivery.

Among all births to Kauai County residents, 32.0% occurred among mothers who reported income and household size that would put them at below 100% of the federal poverty level, and 16.4% of mothers were at the 101-185% of the federal poverty level. This demonstrates that nearly half of those who have a live birth would meet the criteria for Medicaid/QUEST eligibility during pregnancy. Of the 400 women each year who are eligible based on federal poverty level for Medicaid/QUEST, about 150 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 at below the 100% federal poverty level. An estimated 17.0% reported levels consistent with being at a federal poverty level of 186-300%, and just over a third were over 300% of federal poverty level.

Health insurance coverage for prenatal care was reported by the majority of new mothers with only 4.3% reporting no coverage. Private insurance was the most common, followed by Medicaid/QUEST Insurance. In nearly half of births, 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 6.6% of births to Kauai 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	100	13.0	10.0-16.9	45
20-24 years	200	20.3	16.7-24.5	80
25-34 years	450	50.1	45.3-54.9	200
35 years and greater	150	16.5	13.3-20.3	73
<b>Maternal Race</b>				
White	200	23.3	19.6-27.4	93
Hawaiian	300	34.3	29.8-39.1	114
Filipino	250	26.4	22.7-30.5	118
Japanese	100	8.6	6.3-11.7	34
All Others	50	7.4	5.3-10.3	39
American Indian	10	0.9	0.3-2.7	3
Black	5	0.6	0.1-2.2	2
Samoan	5	0.8	0.3-2.3	3
“Other Pacific Islander”	10	1.0	0.3-3.0	3
Chinese	10	1.0	0.6-1.6	13
Korean	<5	0.2	0.1-0.6	4
“Other Asian”	5	0.7	0.2-2.4	3
“Hispanic”	15	1.8	0.9-3.7	7
“refused/unknown”	<5	0.3	0.0-1.7	1
<b>Maternal Education</b>				
Less Than High School	100	10.9	8.1-14.6	36
High School	350	40.6	35.9-45.5	151
Some College	200	25.2	21.3-29.5	108
College Graduate	200	23.3	19.6-27.5	101
<b>Marital Status</b>				
Married	500	57.4	52.5-62.1	241
Other	400	42.6	37.9-47.5	157
<b>Percent of Federal Poverty Level</b>				
0-100%	250	32.0	27.4-36.9	108
101-185%	150	16.4	13.0-20.5	60
186-300%	150	17.0	13.6-21.1	65
301% +	300	34.7	30.0-39.6	130
Missing				35
<b>Insurance Coverage for Prenatal Care</b>				
No coverage	50	4.3	2.6-6.9	15
Medicaid/QUEST	300	32.0	27.5-36.8	118
Private Insurance	550	63.8	58.9-68.4	254
Missing				11
<b>Prenatal WIC Participation</b>				
No	500	55.4	50.6-60.2	224
Yes	400	44.6	39.8-49.4	169
<b>Low Birth Weight</b>				
No	825	93.4	90.4-95.5	372
Yes	50	6.6	4.5-9.6	26
<b>Overall</b>	<b>900</b>	<b>100</b>		<b>398</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 Kauai County had a slightly higher estimate at 45.9%. Hawai‘i County residents had higher estimates, while those living in Honolulu and Maui Counties had lower estimates of unintended pregnancy.

## **Trends over Time:**

Although some fluctuation over time, there has been little change in Kauai County with 37.7% in 2008 reporting an unintended pregnancy, compared to 41.0% in 2000. There has been improvement since 2005 when the estimate of an unintended pregnancy was 56.2%.

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

Hawaiian, Filipino, and the “All Others” mothers reported the highest estimates of an unintended pregnancy. White mothers reported intermediate estimates of an unintended pregnancy. 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.

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

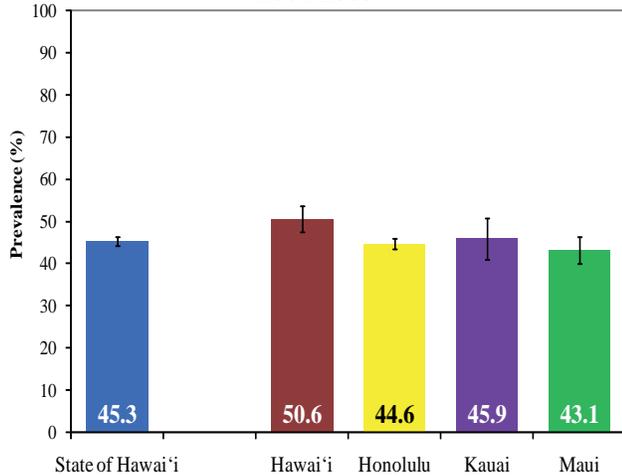
Mothers with less than a high school education were more likely to report the pregnancy being unintended compared to those who with more education. High estimates were also seen among those with a high school or completed some college compared to those who were college graduates. The lowest estimate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

## **Recommendations/Implications:**

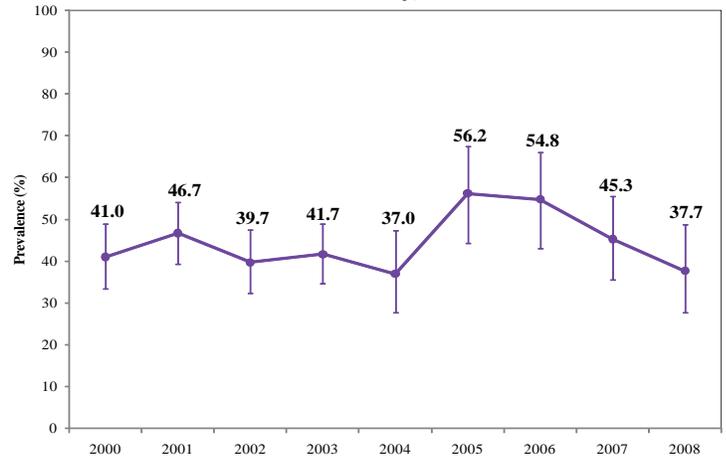
An estimated 45.9% of mothers in Kauai County who had a live birth reported an unintended pregnancy which is similar to the overall State estimate. There are significant differences by geography, maternal race, age, and education. If pregnancies that did not result in a live birth are included, the estimate for unintended pregnancies 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. In order to decrease disparities, particular focus among those living in Kauai County may include specific attention to: those of Hawaiian and Filipino 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

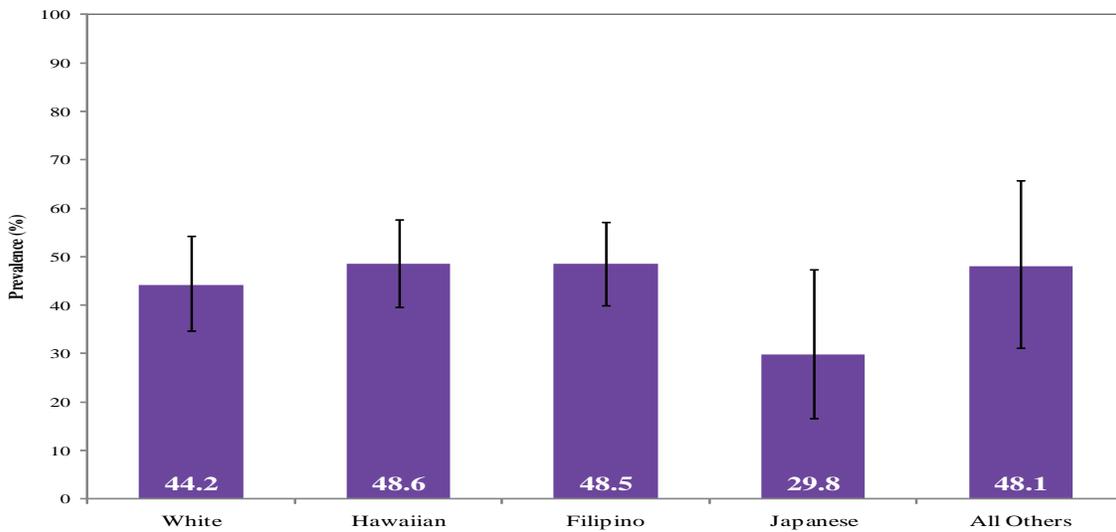
**Unintended Pregnancy by State and County, 2004-2008**



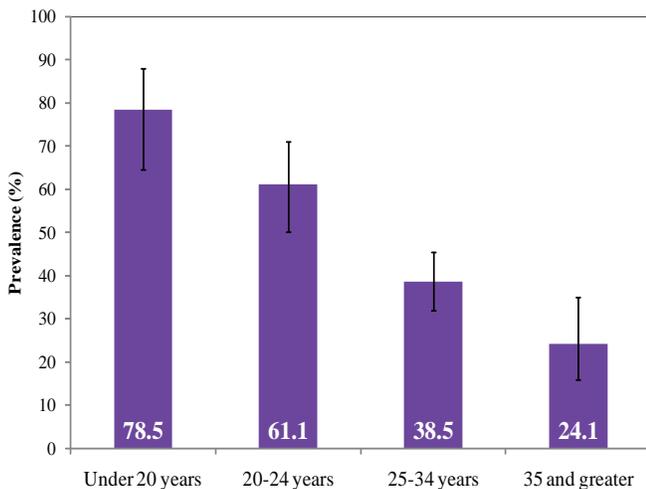
**Unintended Pregnancy over time, Kauai County, 2000-2008**



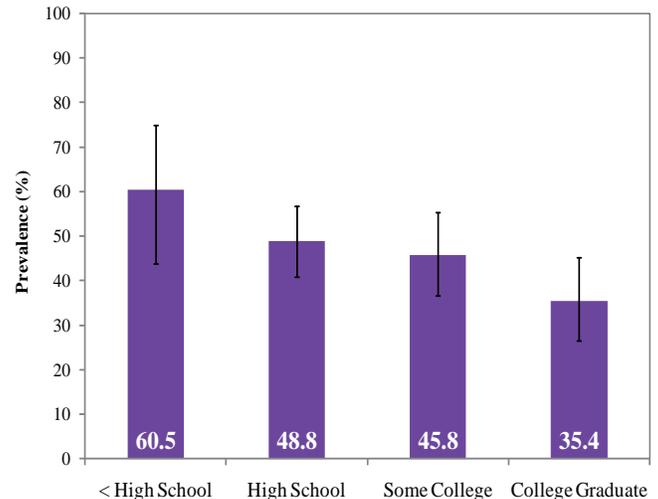
**Unintended Pregnancy by Maternal Race, Kauai County, 2004-2008**



**Unintended Pregnancy by Maternal Age, Kauai County, 2004-2008**



**Unintended Pregnancy by Maternal Education, Kauai 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 Kauai County had a slightly higher estimate at 64.9%. Hawai‘i County residents had a higher estimate, while those living in Maui and Honolulu Counties had lower estimates.

## **Trends over Time:**

Although some fluctuation over time, there appears to be little change in Kauai County with 64.4% in 2008 reporting inadequate preconception vitamins compared to 68.3% in 2000.

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

Hawaiian and Japanese mothers reported the highest estimates of inadequate preconception vitamins. While, “All Others” and Filipino mothers reported intermediate estimates. White mothers reported the lowest estimates of inadequate intake of preconception vitamins. 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 take an inadequate amount of preconception vitamins compared to those 25-34 and 35 years and greater. Those 35 years and greater had the lowest estimate of inadequate intake of preconception vitamins.

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

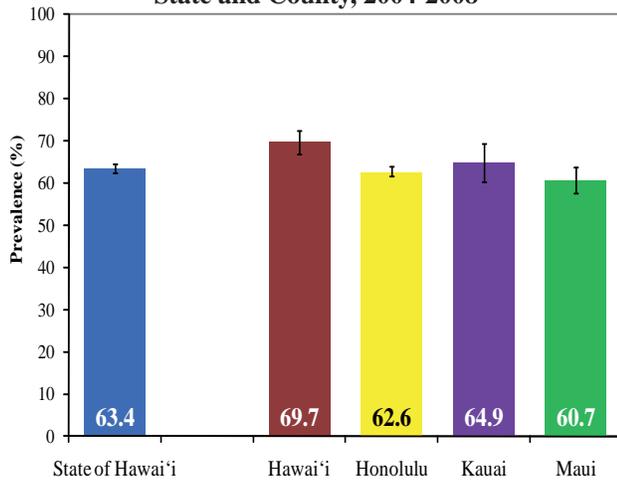
The highest estimate of inadequate preconception vitamins was among those who with a high school or less education. Lower estimates were reported in those with some college education, and the lowest estimate of inadequate preconception vitamins was among those who were college graduates.

## **Recommendations/Implications:**

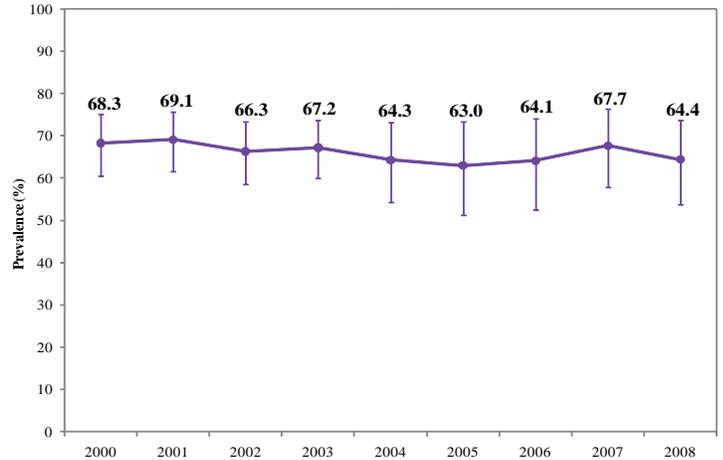
An estimated 64.9% of mothers in Kauai County who had a live birth reported an inadequate intake of preconception vitamins which is higher than the overall State estimate. There are significant disparities in the use of preconception vitamins during a critical period of infant development by geography, 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 Kauai County may include specific attention to: those of 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.

# Preconception Vitamin

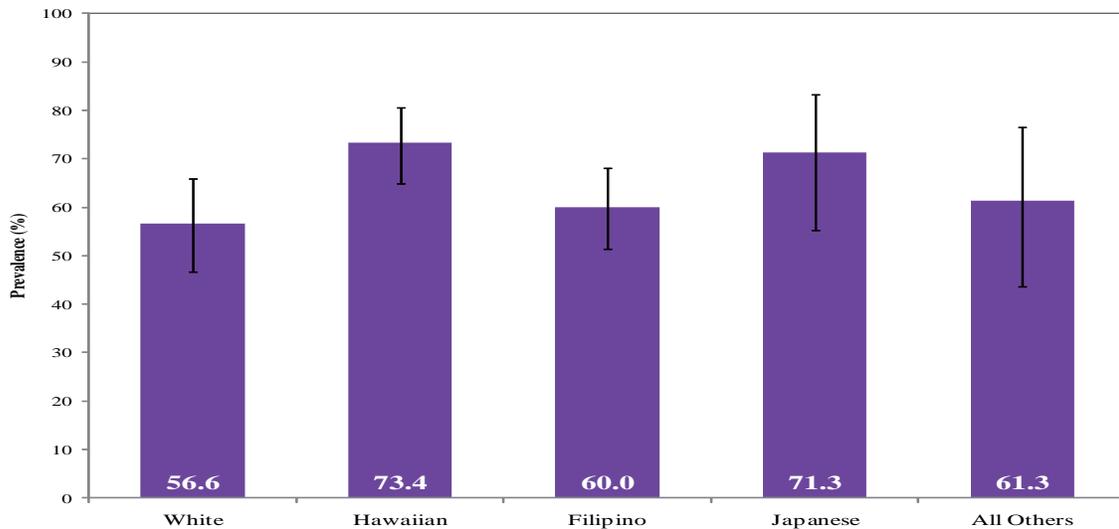
**Inadequate Preconception Vitamin Use by State and County, 2004-2008**



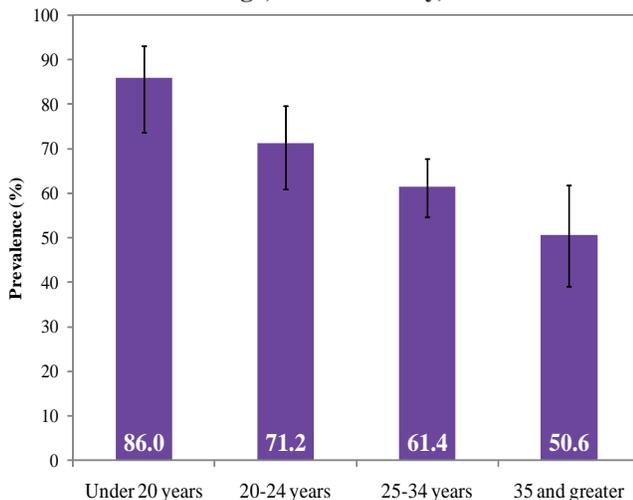
**Inadequate Preconception Vitamin Use over time, Kauai County, 2000-2008**



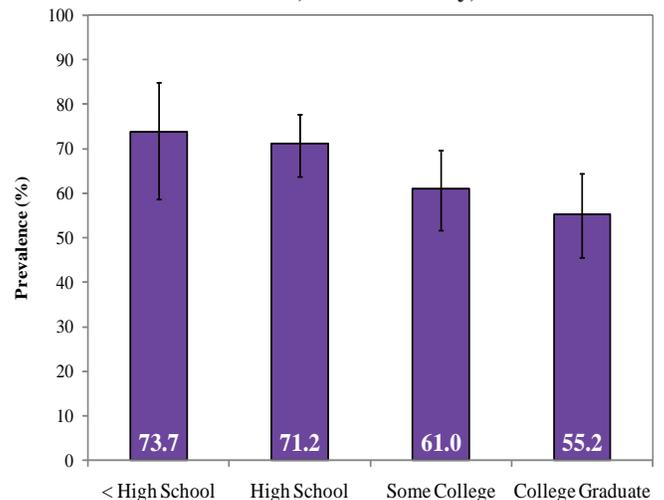
**Inadequate Preconception Vitamin Use by Maternal Race, Kauai County, 2004-2008**



**Inadequate Preconception Vitamin Use by Maternal Age, Kauai County, 2004-2008**



**Inadequate Preconception Vitamin Use by Maternal Education, Kauai 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 Kauai County had a lower estimate at 76.1%. Maui and Hawai'i County residents also had lower estimates, while those living in Honolulu County had higher estimates of first trimester prenatal care.

## **Trends over Time:**

Although some fluctuation over time, there has been overall improvement in Kauai County with 83.6% in 2008 reporting first trimester prenatal care, compared to 75.7% in 2000. There has been some improvement since 2005 when an estimated 69.4% reported first trimester prenatal care.

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

"All Others," Filipino, Japanese, and Hawaiian mothers reported the lowest estimates of first trimester prenatal care. White mothers reported the highest estimate of first trimester prenatal care. The only individual race group within "All Others" that could be reported was Chinese (78.7%; 95% CI = 55.9-91.5) mothers.

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

Mothers under 20 years of age and those 20-24 years of age were less likely to obtain first trimester prenatal care. Mothers 25-34 and those 35 years of age and older had higher estimates of first trimester prenatal care, with the highest estimate among those 25-34 years of age.

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

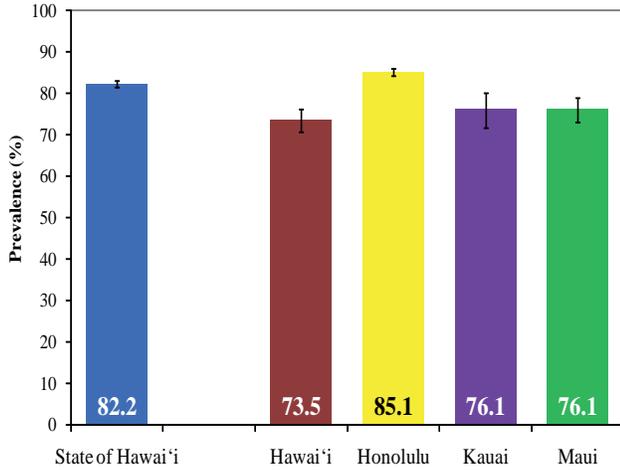
The lowest estimate of first trimester prenatal care was among those with less than a high school education. Those who had a high school level education had slightly higher estimates of first trimester prenatal care and were similar to those with some college education. The highest estimate of first trimester prenatal care was among college graduates.

## **Recommendations/Implications:**

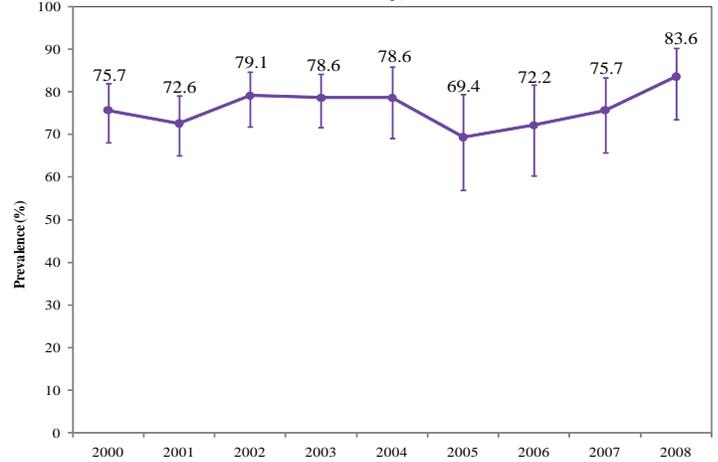
An estimated 76.1% of mothers who had a live birth in Kauai County received prenatal care in the first trimester which is lower than the estimate for the State. There are significant differences by geography, maternal race, age, and education. Emphasizing the importance of prenatal care and minimizing 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 Kauai County may include specific attention to: those of Filipino, Japanese, 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 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

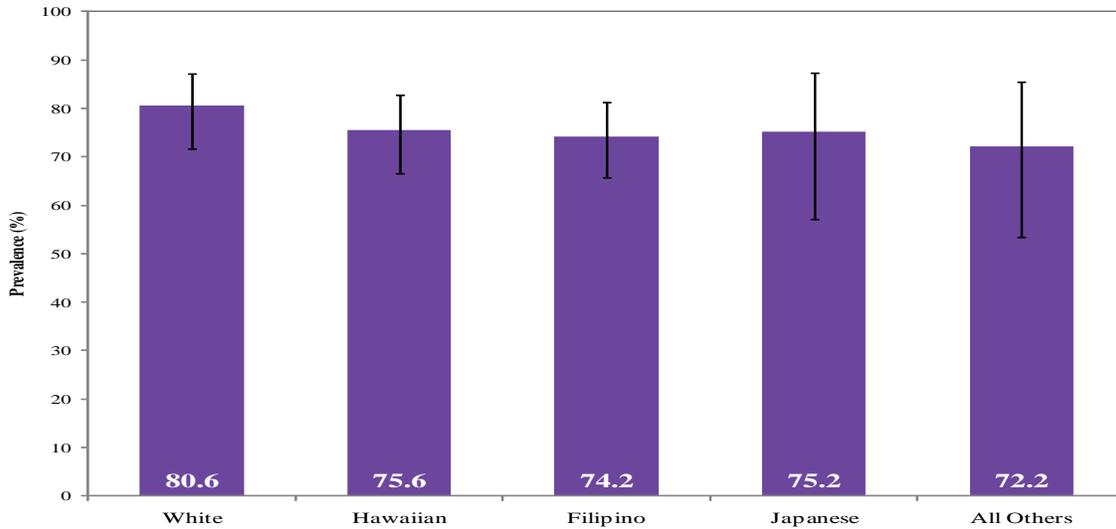
**First Trimester Prenatal Care by State and County, 2004-2008**



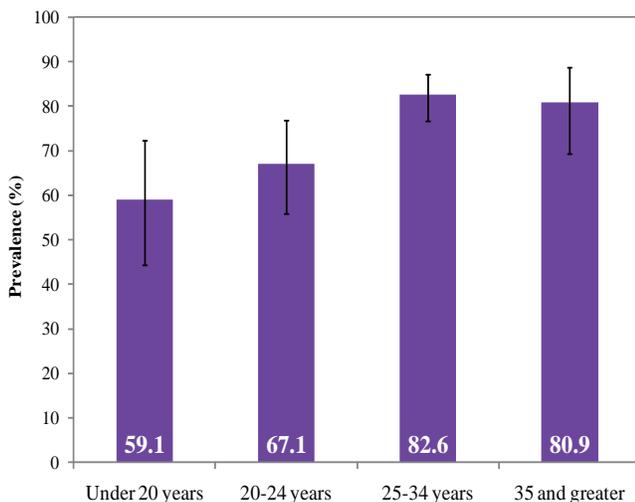
**First Trimester Prenatal Care over time, Kauai County, 2000-2008**



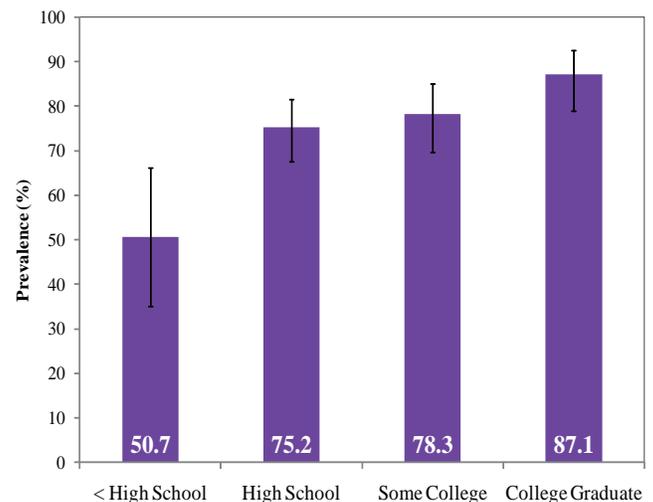
**First Trimester Prenatal Care by Maternal Race, Kauai County, 2004-2008**



**First Trimester Prenatal Care by Maternal Age, Kauai County, 2004-2008**



**First Trimester Prenatal Care by Maternal Education, Kauai 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 Kauai County had a similar estimate at 15.2%. Maui and Hawai'i County residents 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 Kauai County with 15.2% in 2008 reporting stressful life events, compared to 19.7% in 2000.

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

Hawaiian and "All Others" mothers reported the highest estimates of stressful life events, with White mothers having intermediate estimates. The lowest estimates of stressful life events were reported among Filipino and Japanese mothers. There were no individual estimates for race groups within "All Others" that were reportable.

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

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

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

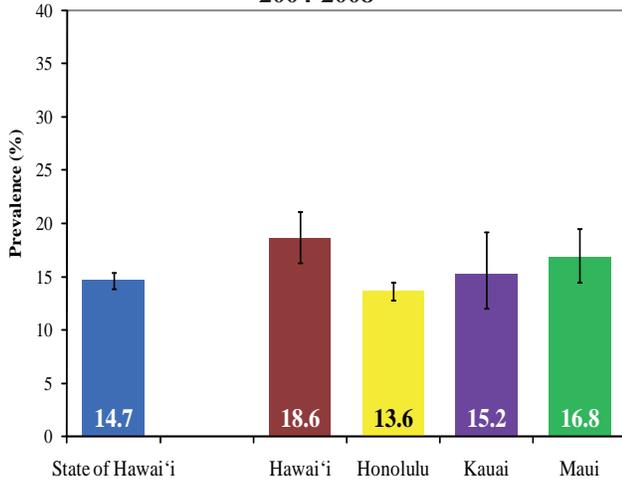
The highest estimates of stressful life events was among those with less than a high school education. Those who had a high school or some college education had slightly higher estimates of stressful life events, but were below college graduates.

## **Recommendations/Implications:**

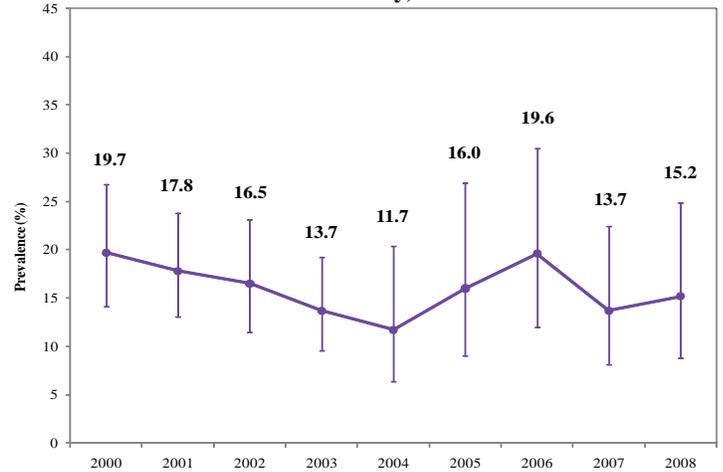
An estimated 15.2% of mothers in Kauai County who had a live birth reported at least four stressful life events during the 12 months before the birth of their baby which is similar to the overall estimate for the State. There are significant differences by geography, maternal race, age, and education. 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 Kauai County may include specific attention to; those of Hawaiian and "All Others" 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 contribute to the experience of stressful life events.

# Stressful Life Events

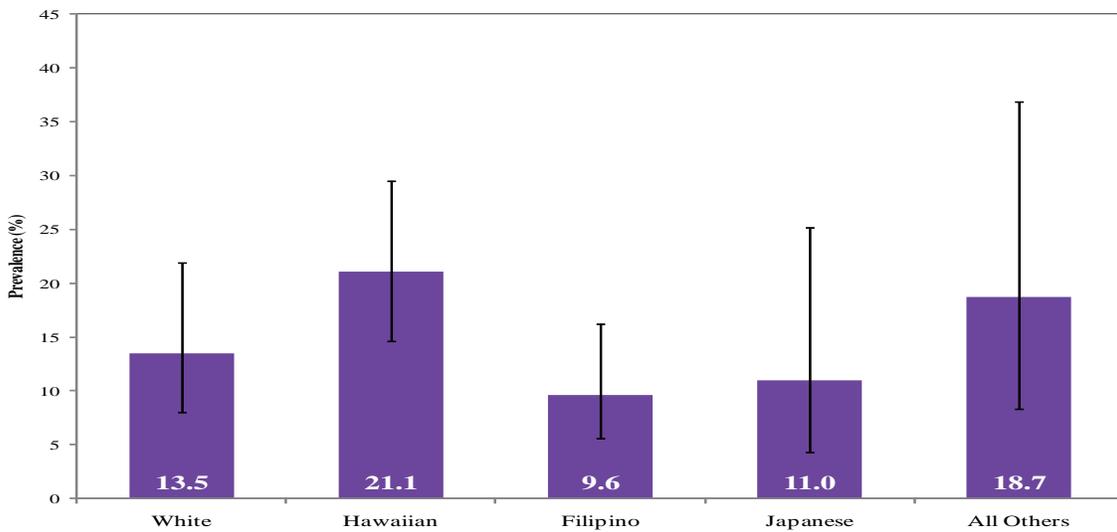
**Stressful Life Events by State and County, 2004-2008**



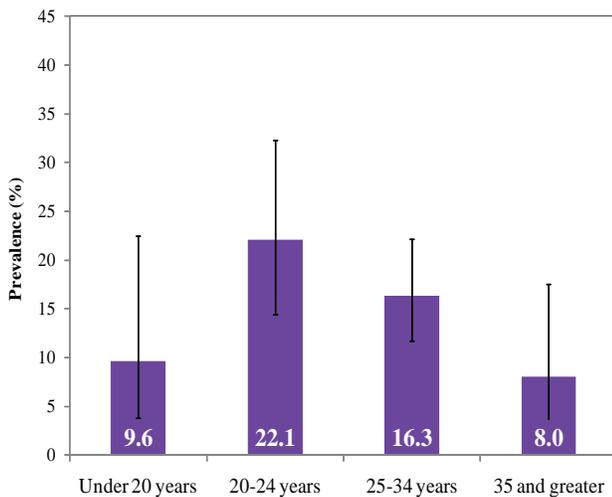
**Stressful Life Events over time, Kauai County, 2000-2008**



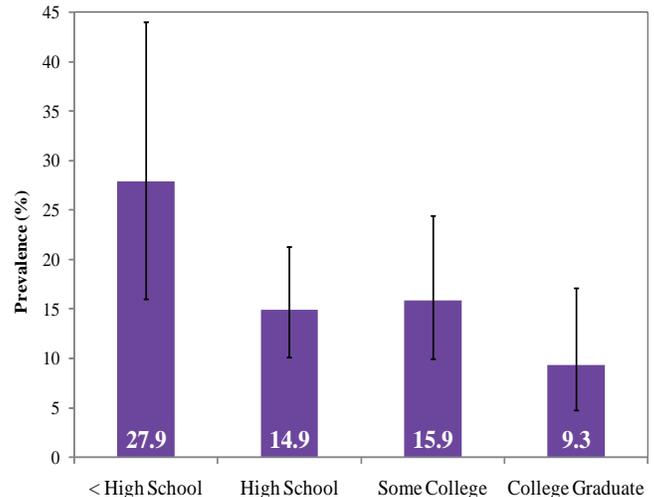
**Stressful Life Events by Maternal Race, Kauai County, 2004-2008**



**Stressful Life Events by Maternal Age, Kauai County, 2004-2008**



**Stressful Life Events by Maternal Education, Kauai 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 Kauai County had lower estimates at 9.8%. Maui County residents also had lower estimates, while those living in Honolulu and Hawai'i Counties had higher estimates of preconception obesity.

## **Trends Over Time:**

Although some fluctuation over time, there has been little change in the estimates of preconception obesity in Kauai County with 5.3% in 2008 reporting preconception obesity, compared to 7.5% in 2000. There appears to be some improvement since 2004 when an estimate 15.7% reported preconception obesity.

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

Hawaiian mothers had the highest estimates of preconception obesity. "All Others," Japanese, and Filipino mothers had intermediate estimates, while White mothers had the lowest estimates of preconception obesity. The only individual race group within "All Others" that could be reported was Chinese (6.4%; 95% CI = 1.4-24.7) mothers.

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

Mothers under 20 and those 20-24 years of age had the lowest estimates of preconception obesity. Mothers 25-34 and those 35 years of age and greater had higher and similar estimates.

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

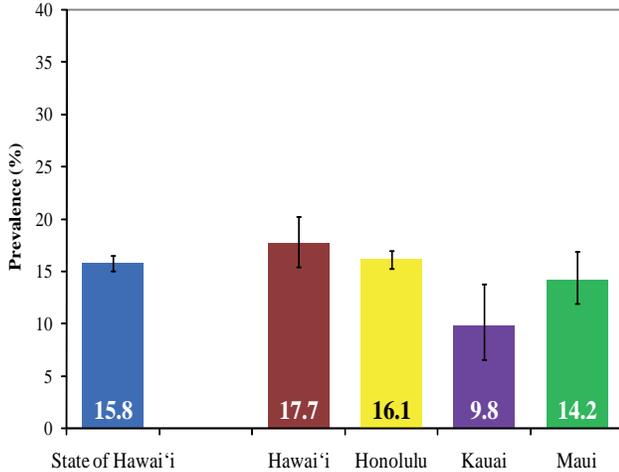
The highest estimates of preconception obesity was among those with a high school or some college education. Those who were college graduates had somewhat lower estimates of preconception obesity. The asterisk denote that the estimates for those with less than a high school education was not reportable.

## **Recommendations/Implications:**

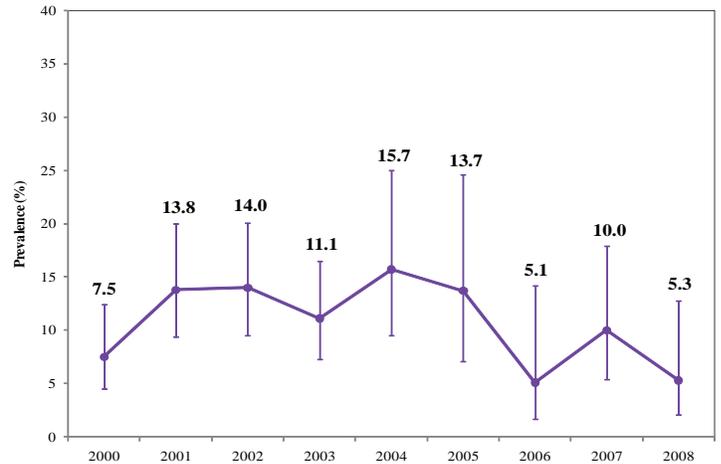
An estimated 9.8% of mothers in Kauai County who had a live birth report heights and weights consistent with preconception obesity, which is below the overall State estimate. There are significant differences by geography, maternal race, age, and education. Emphasizing physical activity and proper nutrition 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 Kauai County may include specific attention to: those of Hawaiian race; those 25 years of age and older; and those who with a high school or some college 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

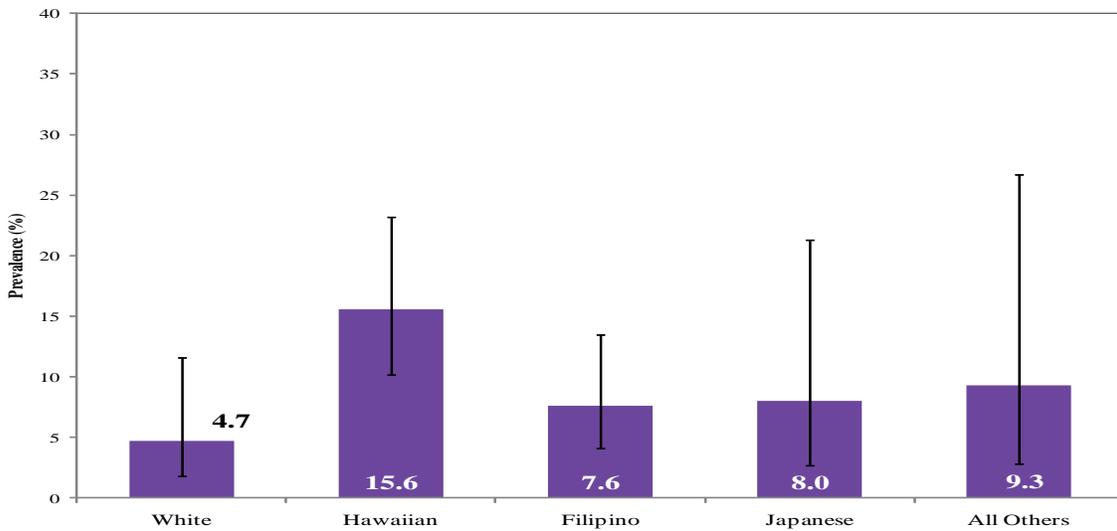
**Preconception Obesity by State and County, 2004-2008**



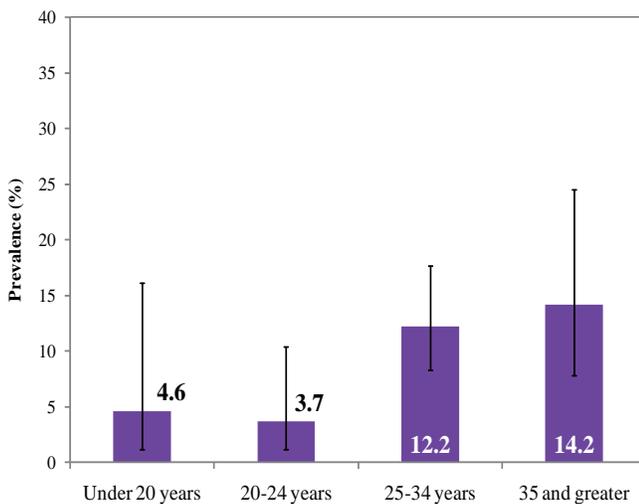
**Preconception Obesity over time, Kauai County, 2000-2008**



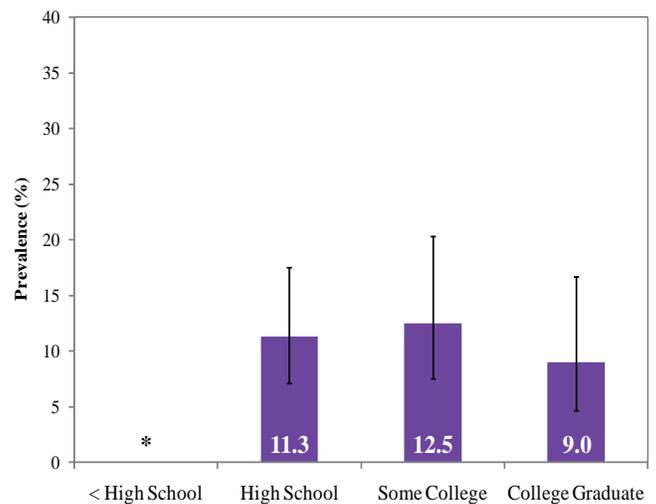
**Preconception Obesity by Maternal Race, Kauai County, 2004-2008**



**Preconception Obesity by Maternal Age, Kauai County, 2004-2008**



**Preconception Obesity by Maternal Education, Kauai 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 Kauai County had a higher estimate of 20.9%. Hawai‘i and Maui County residents also 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 some worsening in Kauai County with 24.4% in 2008 reporting binge drinking prior to pregnancy, compared to 17.9% in 2004.

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

Hawaiian and White mothers reported the highest estimates of binge drinking in the three months prior to pregnancy. “All Others” and Japanese mothers reported intermediate estimates. Filipino mothers reported the lowest estimates of binge drinking in the three months prior to pregnancy. There were no individual estimates for race groups within “All Others” that were reportable.

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

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

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

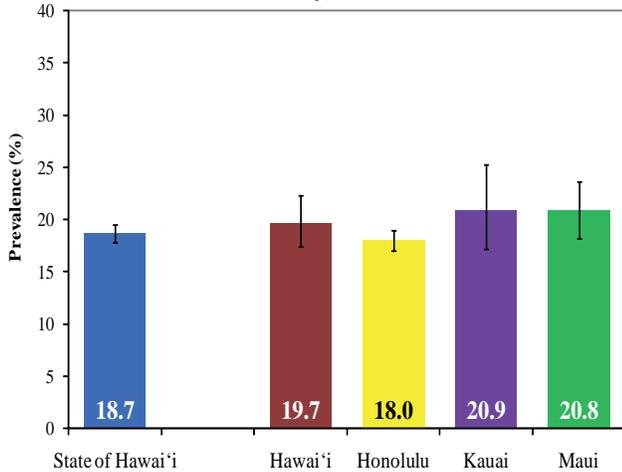
There was little difference in estimates of binge drinking in the three months prior to pregnancy by education level.

## **Recommendations/Implications:**

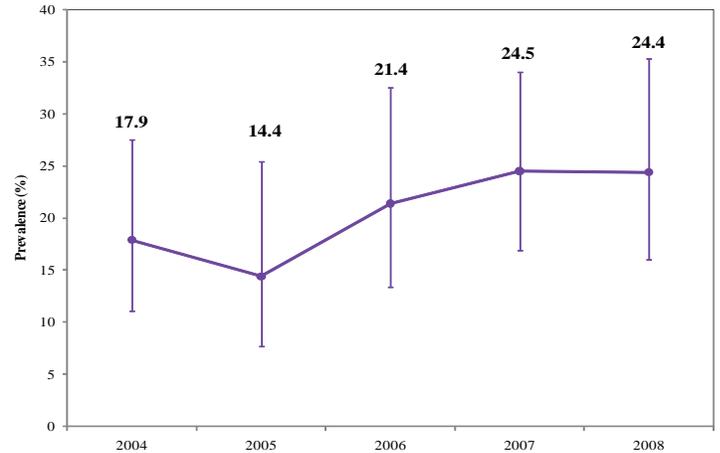
An estimated 20.9% of mothers in Kauai County who had a live birth reported binge drinking in the three months prior to pregnancy which is higher than the overall State estimate. There are significant disparities in binge drinking in the three months prior to pregnancy by geography, maternal race, and age. 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 Kauai County may include specific attention to: those of Hawaiian and White race; and those under 35 years of age. Other potential correlates that would be beneficial to explore include those related to poverty and socio-economic conditions as they are likely to be associated with binge drinking prior to pregnancy.

# Binge Drinking Prior to Pregnancy

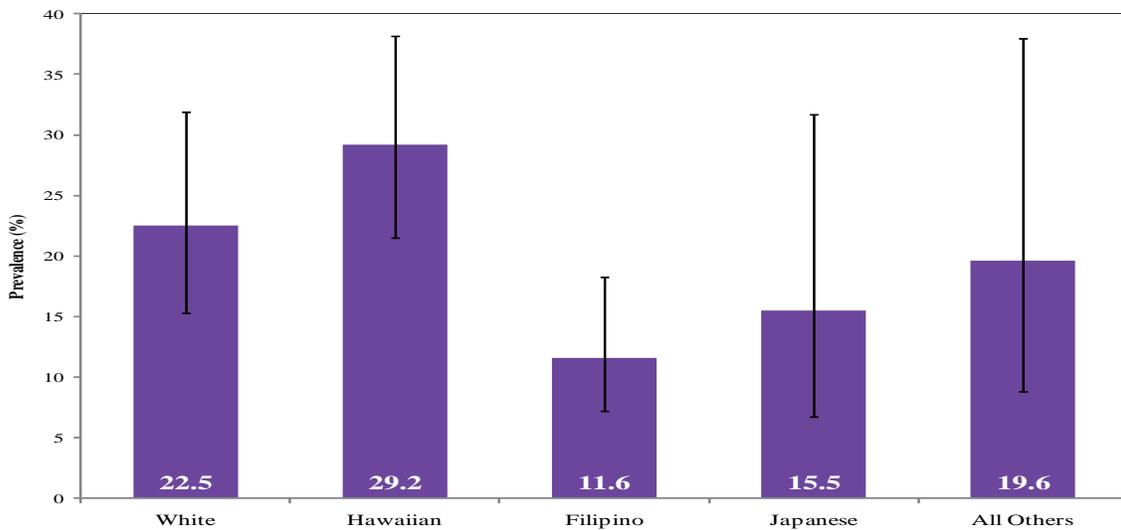
**Binge Drinking Prior to Pregnancy by State and County, 2004-2008**



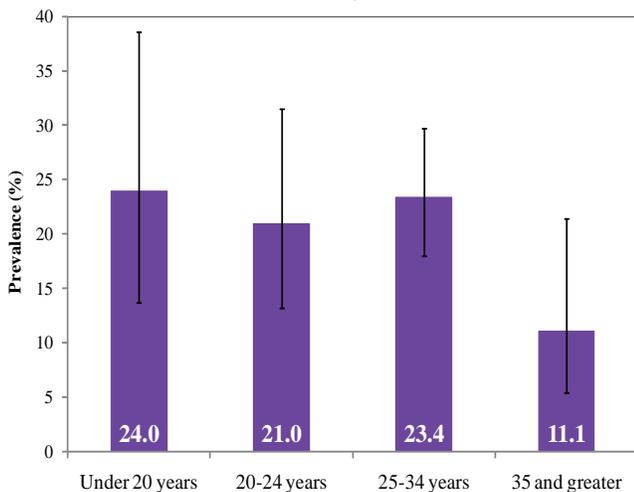
**Binge Drinking Prior to Pregnancy over time, Kauai County, 2000-2008**



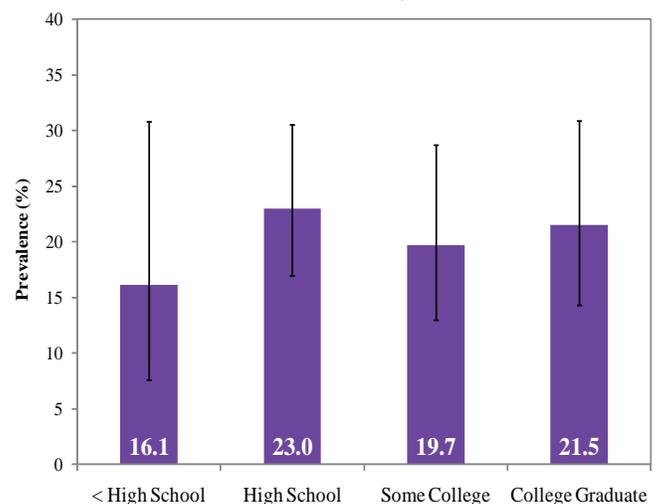
**Binge Drinking Prior to Pregnancy by Maternal Race, Kauai County, 2004-2008**



**Binge Drinking Prior to Pregnancy by Maternal Age, Kauai County, 2004-2008**



**Binge Drinking Prior to Pregnancy by Maternal Education, Kauai 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 Kauai County had a lower estimate at 7.9%. Honolulu and Maui County residents also had lower estimates, while those living in Hawai'i County had higher estimates of smoking during pregnancy.

## **Trends Over Time:**

Although some fluctuation over time, there has been little change in Kauai County with 8.7% in 2008 reporting smoking during pregnancy, compared to 7.9% in 2000. However, there appears to be some improvement since 2001 when an estimated 15.7% reported smoking during pregnancy.

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

"All Others" and Hawaiian mothers reported the highest estimates of smoking during the last three months of pregnancy. Filipino mothers reported intermediate estimates of smoking during pregnancy. White mothers reported the lowest estimate. 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, those 20-24, and those 25-34 years of age had similar and the highest estimates of smoking in the last three months of pregnancy. Those 35 years and greater had the lowest estimate of smoking in the last three months of pregnancy.

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

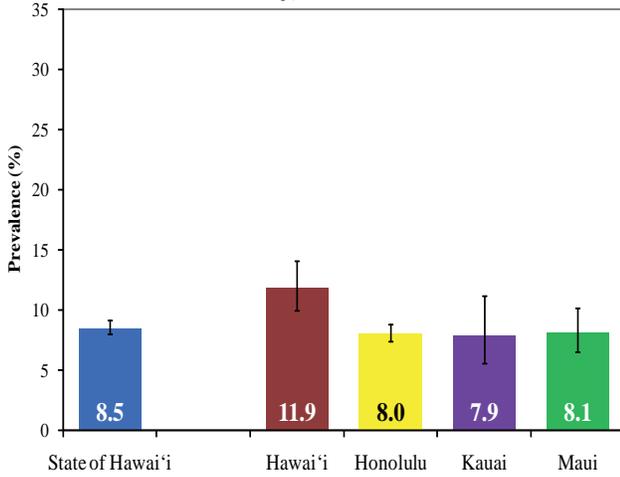
The highest estimate of smoking in the last three months of pregnancy was among those with less than a high school education. Those who had a high school education had slightly lower estimates, while those that had some college had the lowest estimate of smoking during the last three months of pregnancy. The asterisk denote that the estimates for those who were college graduates was not reportable.

## **Recommendations/Implications:**

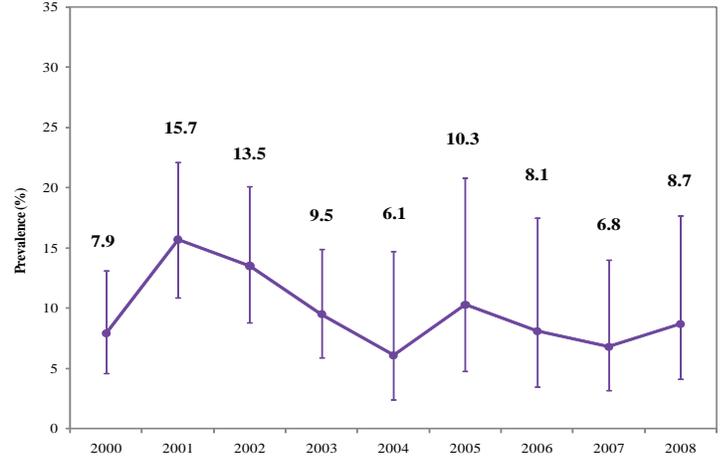
An estimated 7.9% of mothers in Kauai County who had a live birth reported smoking during the last three months pregnancy which is slightly below the overall State estimate. There are significant disparities in the estimates of smoking during the last three months of pregnancy by geography, maternal race, education, and age. 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 Kauai County may include specific attention to: those of Hawaiian race; those under 23 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 to be associated with smoking during the last three months of pregnancy.

# Smoking During Pregnancy

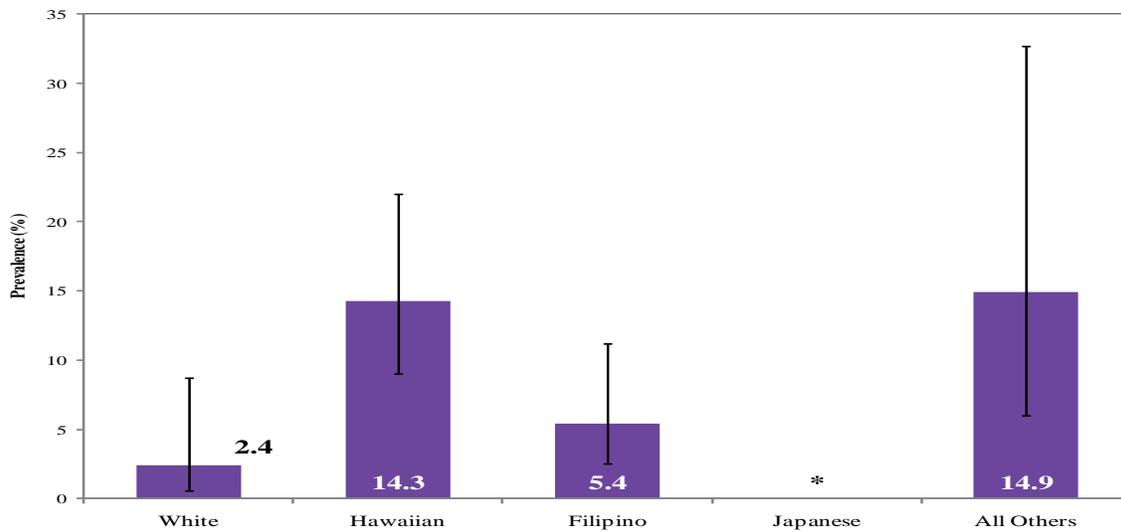
**Smoking During Pregnancy by State and County, 2004-2008**



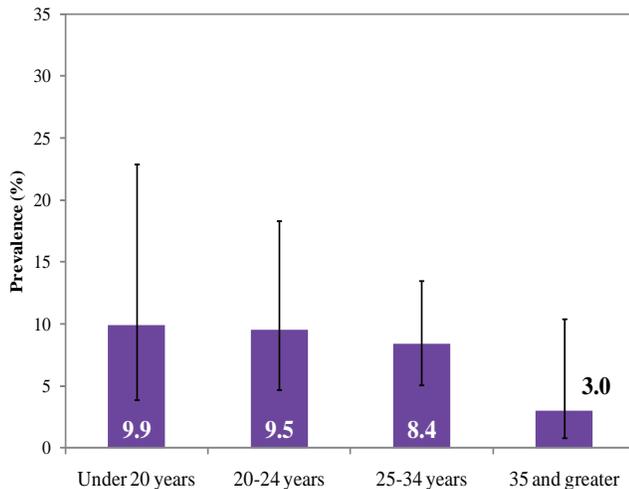
**Smoking During Pregnancy over time, Kauai County, 2000-2008**



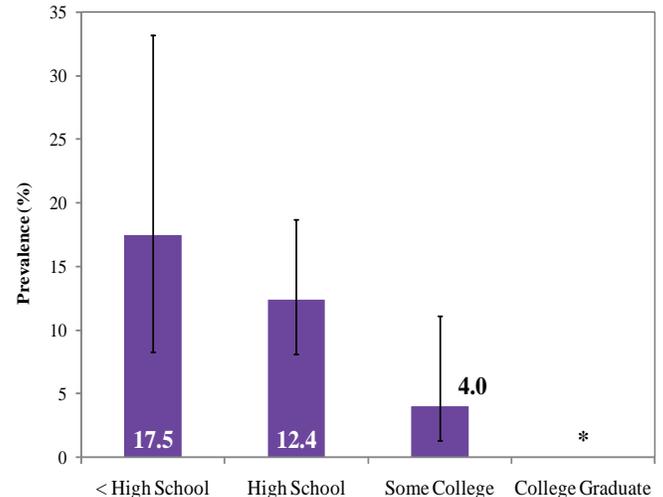
**Smoking During Pregnancy by Maternal Race, Kauai County, 2004-2008**



**Smoking During Pregnancy by Maternal Age, Kauai County, 2004-2008**



**Smoking During Pregnancy by Maternal Education, Kauai 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 Kauai County had the highest estimate of all counties at 5.9%. Maui and Hawai‘i County residents also had higher estimate, while those living in Honolulu County had lower estimates of drug use during pregnancy.

## **Trends Over Time:**

Although some fluctuation over time, there appears to be some overall improvement in Kauai County with 2.8% in 2008 reporting drug use during pregnancy, compared to 5.1% in 2000. Notably, there has been a continued decline since 2006 when an estimated 12.0% reported drug use during pregnancy.

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

“All Others” mothers reported the highest estimates of drug use during pregnancy. Hawaiian, White, and Filipino mothers also reported high estimates of drug use during pregnancy. 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 and those 20-24 years of age had similar and the highest estimates of drug use during pregnancy. Mothers 25-34 and those 35 years of age and greater had lower estimates of drug use during pregnancy.

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

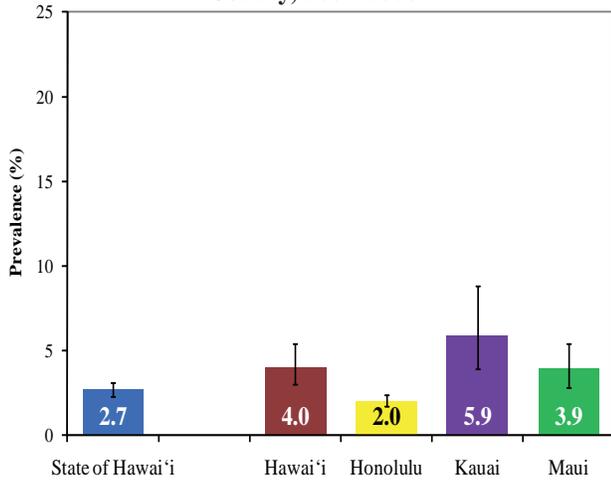
The highest estimate of drug use during pregnancy was among those with a high school education. Those who had less than a high school education and those with some college education had intermediate estimates. Those that were college graduates had the lowest estimate of drug use during pregnancy.

## **Recommendations/Implications:**

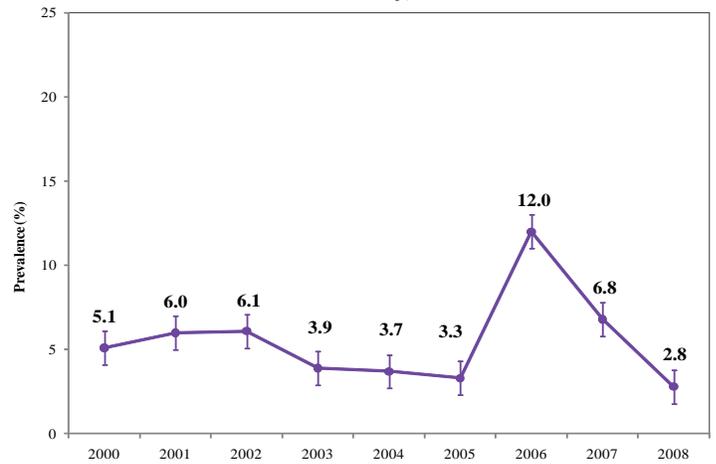
An estimated 5.9% of mothers in Kauai County who had a live birth reported using illicit drugs during pregnancy which was higher than the overall State estimate. There are significant disparities in the use of drugs during pregnancy by geography, maternal race, age, and education. Although this is probably 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 Kauai County may include specific attention to: those of Hawaiian race; those under 25 years of age; and those with some college or lower education. Other potential correlates that would be beneficial to explore include those related to poverty and socio-economic conditions as they are likely to be associated with drug use during pregnancy.

# Drug Use During Pregnancy

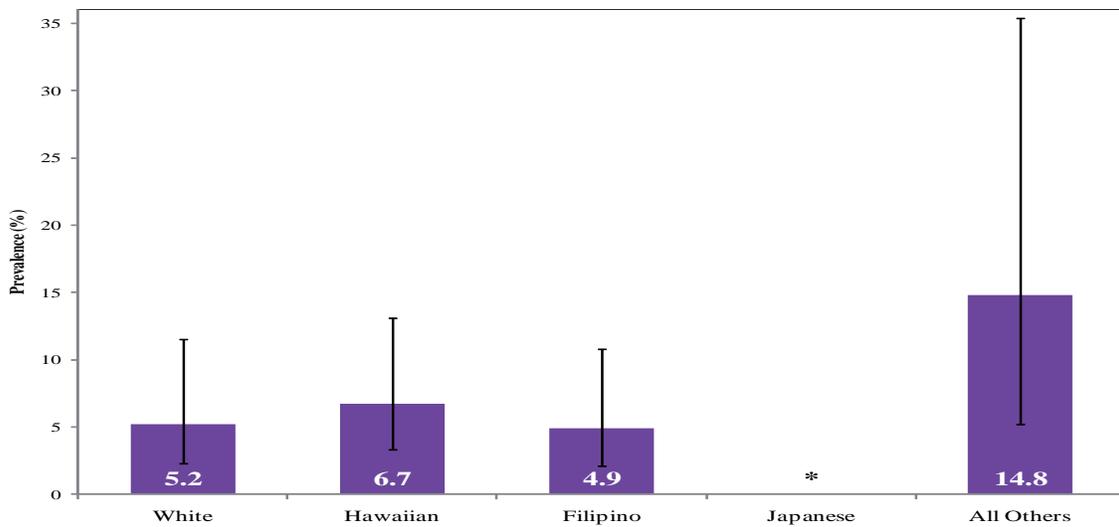
**Drug Use During Pregnancy by State and County, 2004-2008**



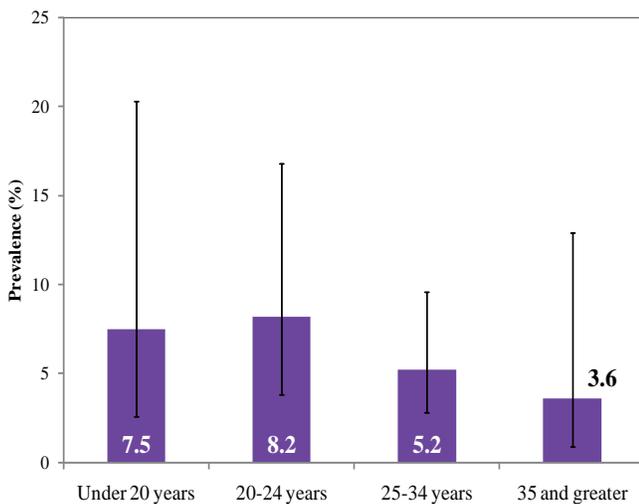
**Drug Use During Pregnancy over time, Kauai County, 2000-2008**



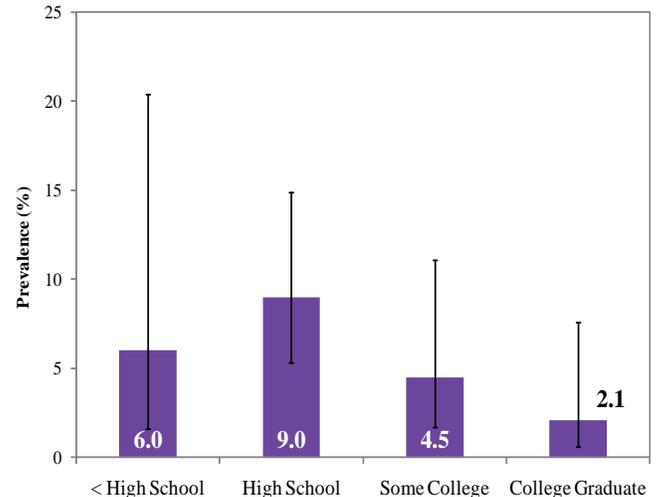
**Drug Use During Pregnancy by Maternal Race, Kauai County, 2004-2008**



**Drug Use During Pregnancy by Maternal Age, Kauai County, 2004-2008**



**Drug Use During Pregnancy by Maternal Education, Kauai 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 Kauai County had a slightly higher estimate of 9.9%. Hawai‘i County residents had higher estimates of prematurity, 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 Kauai County with 5.4% in 2008 births were premature, compared to 6.7% in 2000. However, there was a big decline in 2008 from a high of 13.2% in both 2006 and 2007.

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

Hawaiian mothers had the highest estimates of prematurity. Filipino and White mothers also had high estimates of prematurity. “All Others” mothers had intermediate estimates of prematurity. The lowest estimates were among the Japanese mothers, although the wide confidence intervals for these groups makes it difficult to make conclusions. 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 highest estimate of prematurity. Similar estimates were seen among other age groups.

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

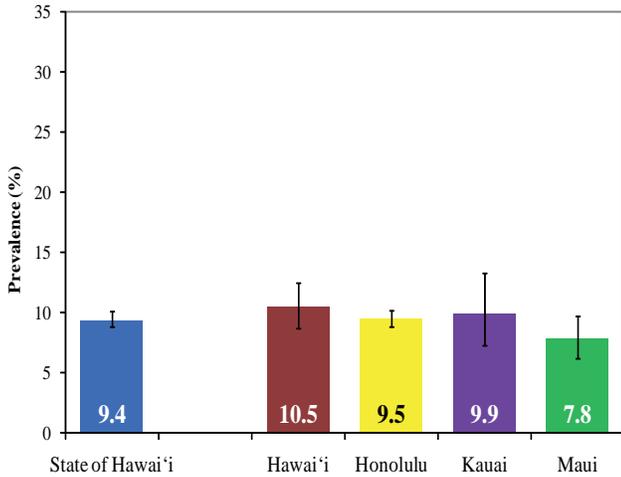
The highest estimate of prematurity were among those with a high school or less than a high school education. There was a steady decline in prematurity with increasing education, with college graduates reporting the lowest estimate.

## **Recommendations/Implications:**

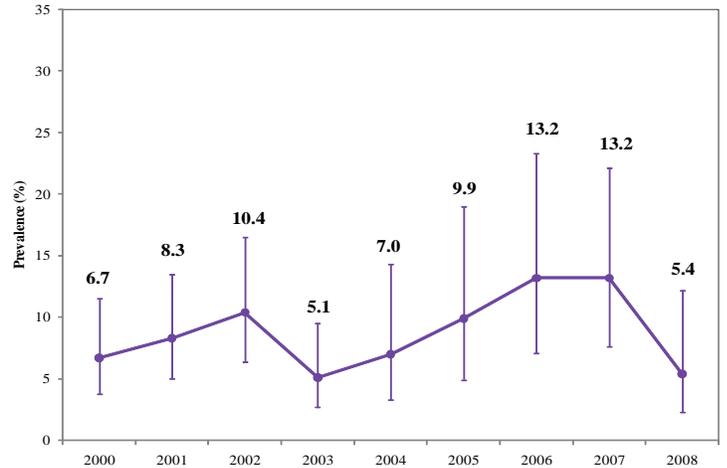
An estimated 9.9% of mothers had premature births in Kauai County, which is above the overall State estimate. There were significant differences by geography, maternal race, age, and education. Although the estimates in PRAMS are below that obtained from all resident births in the State, important information related to risks and disparities can help inform the community. In order to decrease disparities, particular focus among those living in Kauai County may include specific attention to: those of Hawaiian, Filipino, and White race; those under 20 years of age; and those with a high school or less than a high school education. Other potential correlates that would be beneficial to explore include those related to poverty, socio-economic conditions, and those related to maternal and pregnancy related factors that are likely to be associated with prematurity.

# Prematurity

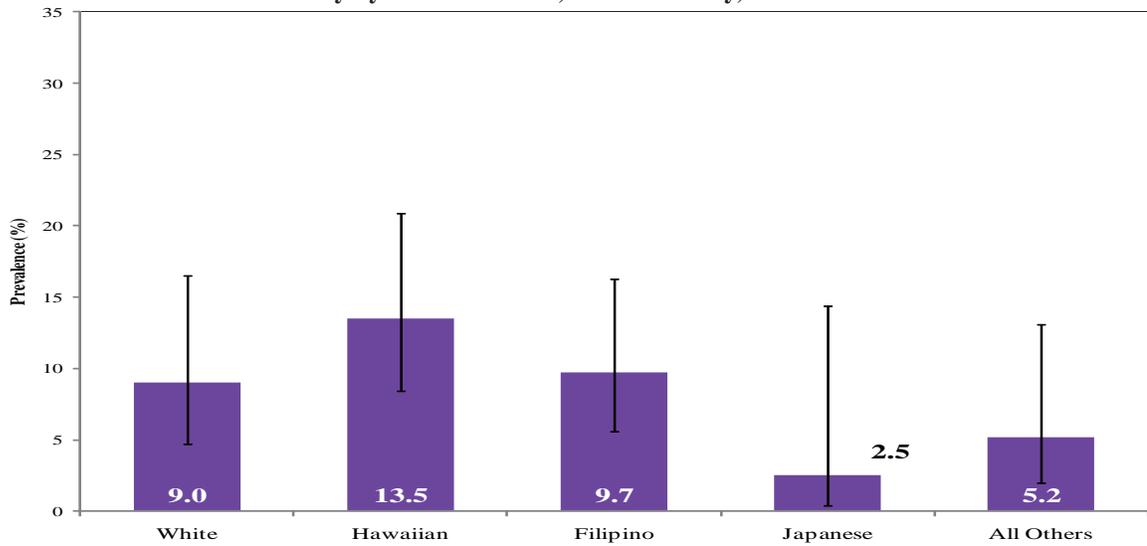
**Prematurity by State and County, 2004-2008**



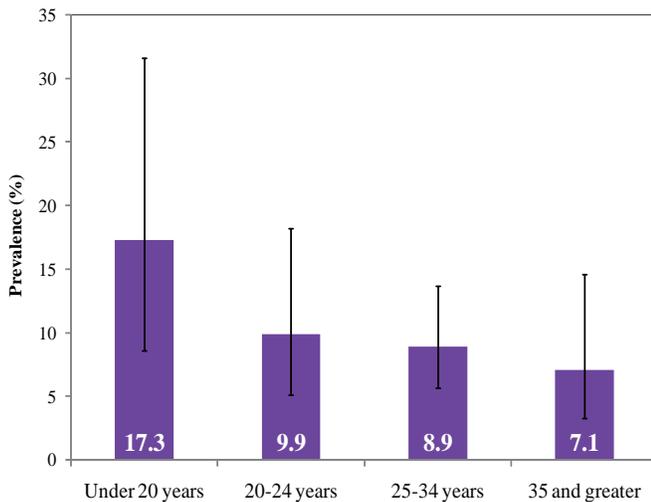
**Prematurity over time, Kauai County, 2000-2008**



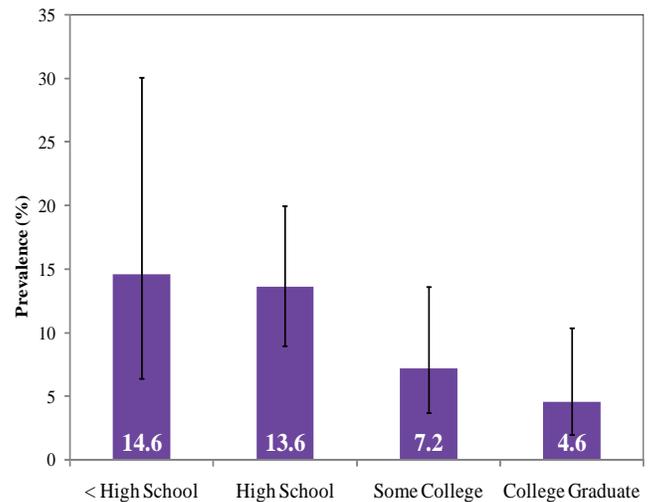
**Prematurity by Maternal Race, Kauai County, 2004-2008**



**Prematurity by Maternal Age, Kauai County, 2004-2008**



**Prematurity by Maternal Education, Kauai 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 Kauai County had a higher estimate of 29.5%. Maui and Hawai‘i 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 Kauai County with 35.3% in 2008 having a cesarean delivery, compared to 15.1% in 2000.

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

“All Others,” Filipino, and Japanese mothers had the highest estimates of cesarean delivery. Hawaiian and White 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, while those 25-34 years of age had an intermediate estimate. Those under 20 years of age and 20-24 years of age had lower estimates of cesarean delivery.

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

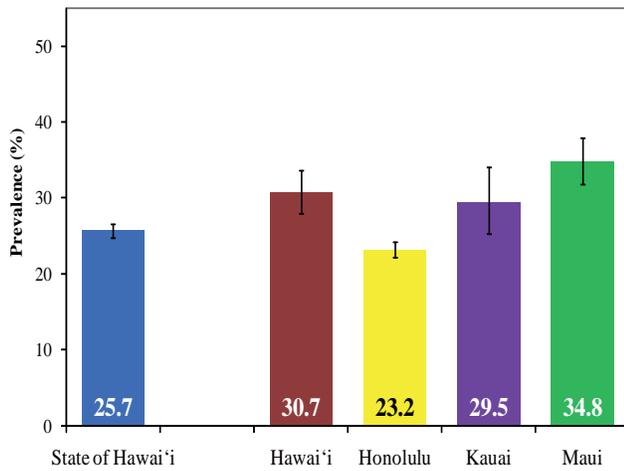
Mothers with less than a high school education, a high school education, and were college graduates had the highest estimates of cesarean delivery. Mothers with some college education had the lowest estimate of cesarean delivery.

## **Recommendations/Implications:**

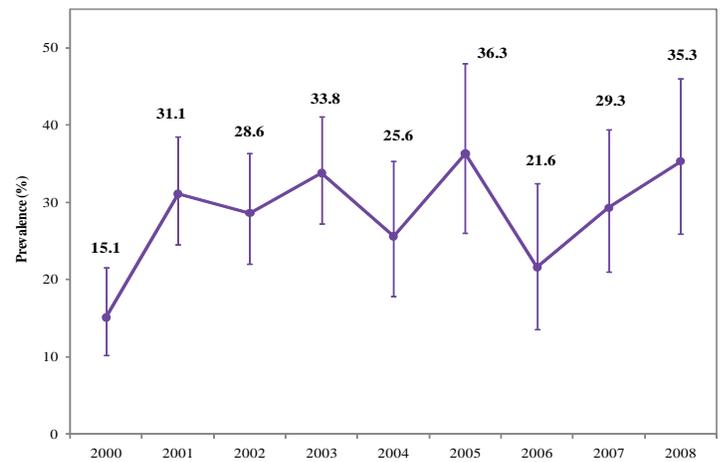
An estimated 29.5% of mothers in Kauai County who had a live birth had a cesarean delivery which is higher than the overall State estimate. There were some disparities by geography, maternal race, age, and education. The emphasis of healthy lifestyle choices before, during, and after pregnancy and ensuring 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 Kauai County may include specific attention to: those of Filipino and Japanese race; those 25 years of age and older; those with a high school or less education; and those who are college graduates. 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

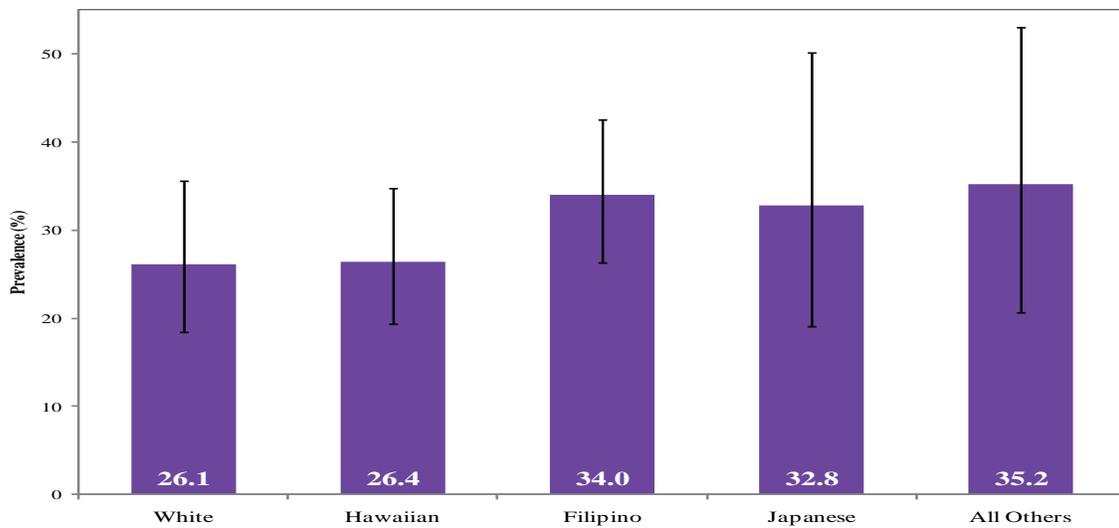
**Cesarean Deliveries by State and County, 2004-2008**



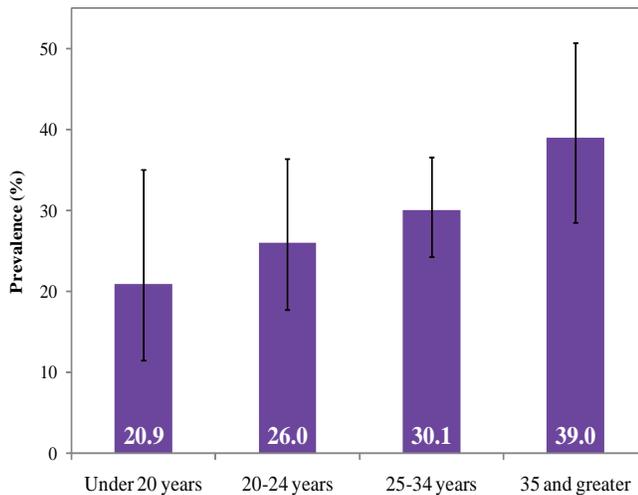
**Cesarean Deliveries over time, Kauai County, 2000-2008**



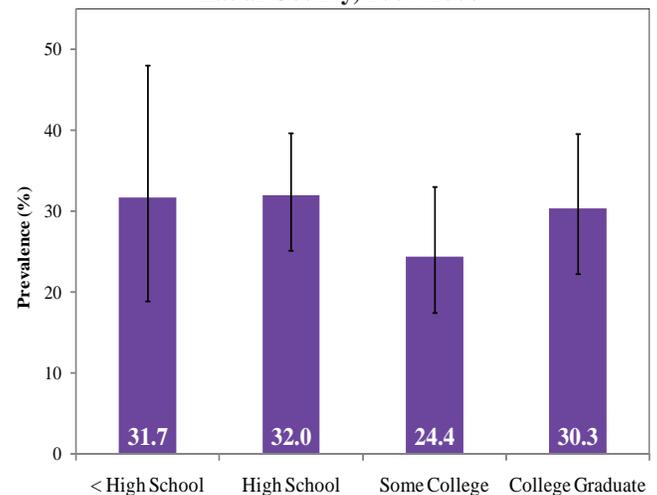
**Cesarean Deliveries by Maternal Race, Kauai County, 2004-2008**



**Cesarean Deliveries by Maternal Age, Kauai County, 2004-2008**



**Cesarean Deliveries by Maternal Education, Kauai 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 Kauai County had a higher estimate of 8.4%. Maui and Hawai‘i 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 Kauai County with 6.2% in 2008 reporting intimate partner violence, compared to 9.0% in 2000.

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

Hawaiian and “All Others” mothers reported the highest estimates of intimate partner violence. Filipino, White, and Japanese reported lower estimates. There were no individual estimates for race groups within “All Others” that were reportable.

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

Mothers under 20 and 20-24 years of age had similar and the highest estimates of intimate partner violence. Mothers 25-34 years of age had intermediate estimates, while those 35 years and greater reported the lowest estimate.

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

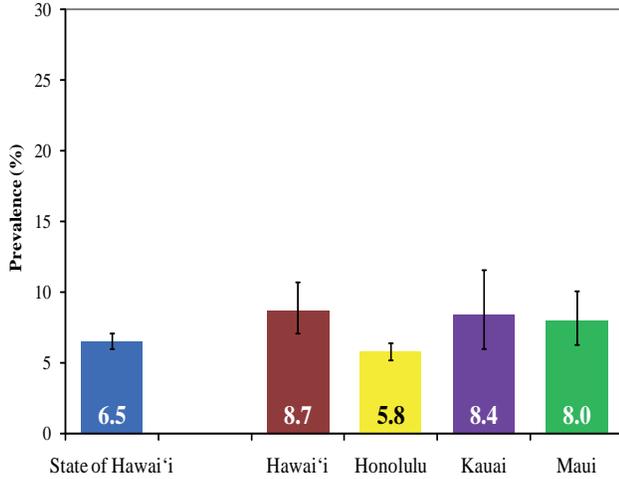
The highest estimates of intimate partner violence was similar among those with less than a high school education, a high school education, and some college education. Those that were college graduates had the lowest estimates of intimate partner violence.

## **Recommendations/Implications:**

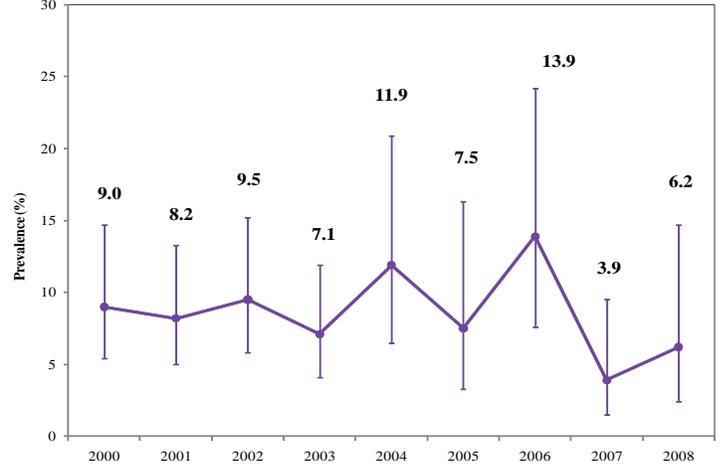
An estimated 8.4% of mothers in Kauai County who recently had a live birth reported intimate partner violence in the year before and during the most recent pregnancy, which is above the overall State estimate. There were significant differences by geography, maternal race, age, and education. The questions 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 probably 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 Kauai County may include specific attention to: those of Hawaiian race; those under 25 years of age; and those with some college 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 to be associated with intimate partner violence.

# Intimate Partner Violence

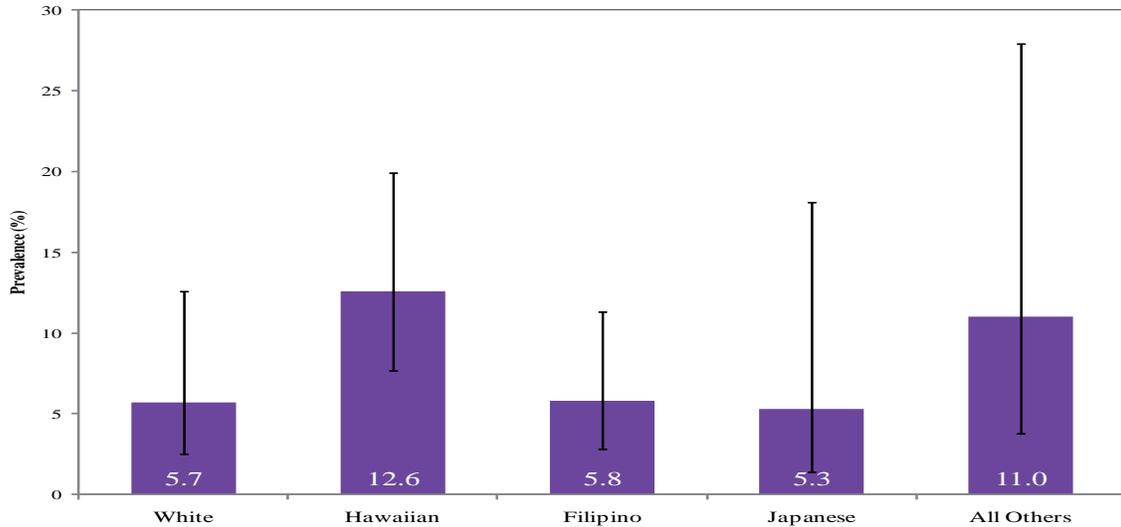
**Intimate Partner Violence by State and County, 2004-2008**



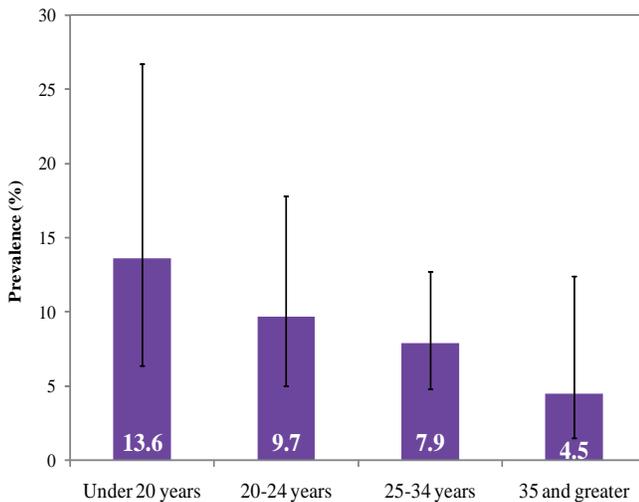
**Intimate Partner Violence over time, Kauai County, 2000-2008**



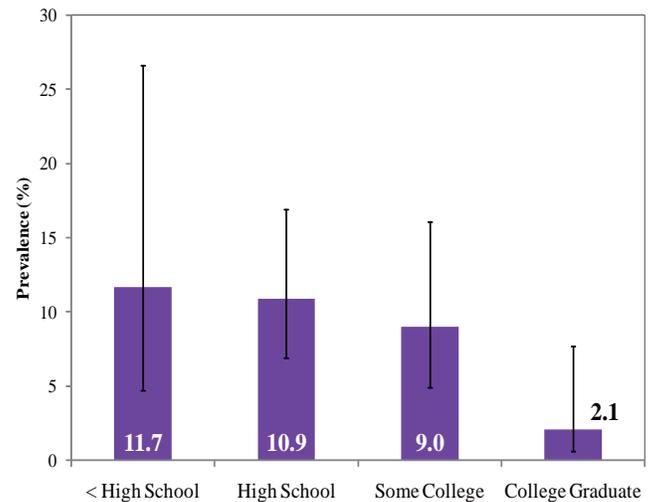
**Intimate Partner Violence by Maternal Race, Kauai County, 2004-2008**



**Intimate Partner Violence by Maternal Age, Kauai County, 2004-2008**



**Intimate Partner Violence by Maternal Education, Kauai 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 Kauai County had a lower estimate of 35.5%. Hawai‘i 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 little change in Kauai County with 52.7% in 2008 having a dental visit during pregnancy, compared to 45.9% in 2000. However, there has been improvement since 2005 when an estimated 19.3% had a dental visit during pregnancy.

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

Japanese, Filipino, and White mothers had similar and the lowest estimates of a dental visit during pregnancy. “All Others” and Hawaiian mothers reported the highest estimates of dental visits during pregnancy. The only individual race group within “All Others” that could be reported was Chinese (79.8%; 95% CI = 57.3-92.1) mothers.

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

Mothers under 20 and those 20-24 years of age had similar and the lowest estimates of dental visits. Higher and similar estimates of a dental visit during pregnancy were seen in mothers that were 25-34 and those 35 years of age and greater.

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

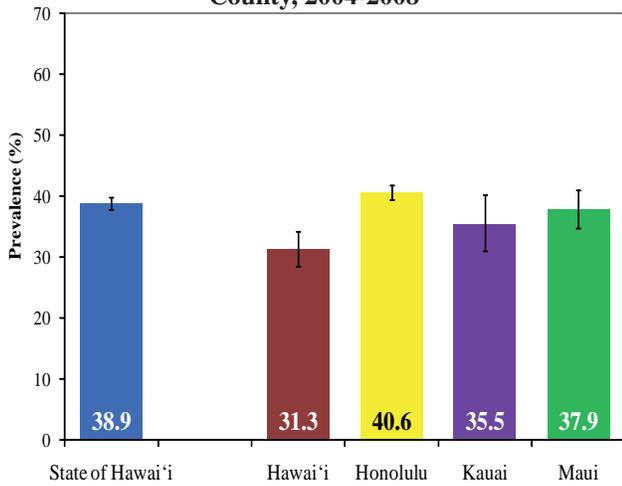
The lowest estimates of a dental visit during pregnancy was among those with less than a high school or a high school level of education. Those with some college had higher estimates of a dental visit during pregnancy, while those that were college graduates had the highest estimate.

## **Recommendations/Implications:**

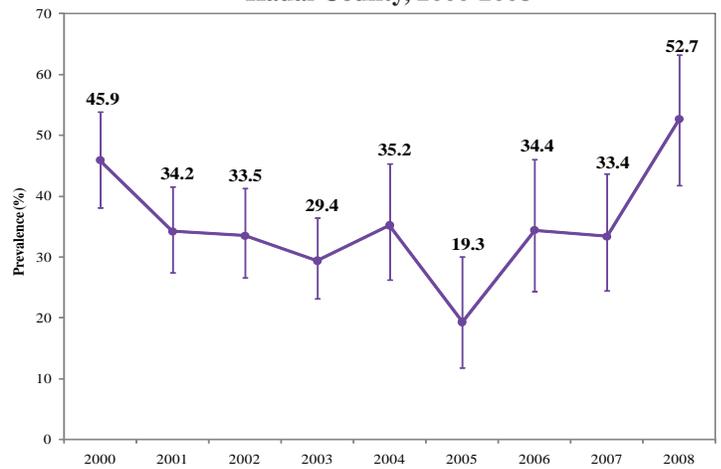
An estimated 35.5% of mothers in Kauai County who had a live birth reported a dental visit during their most recent pregnancy which is similar to the overall State estimate. There are significant differences by geography, maternal race, age, and education. Of particular concern is that even in the best 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 Kauai County may include specific attention to: those of Japanese, Filipino, and White 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, insurance status, and the availability of providers as they are likely to be associated with accessing a dentist during pregnancy.

# Dental Visit During Pregnancy

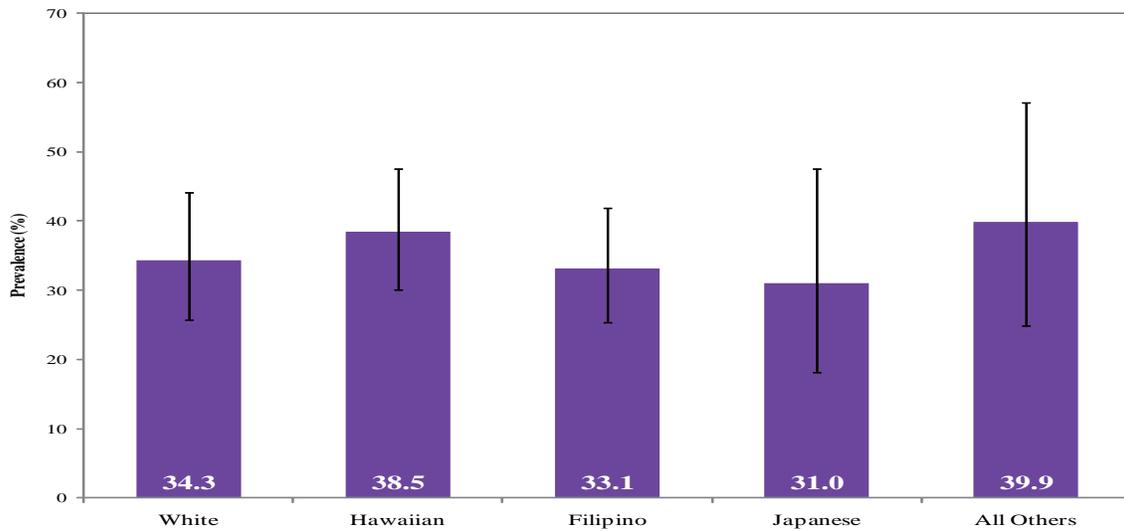
**Dental Visit During Pregnancy by State and County, 2004-2008**



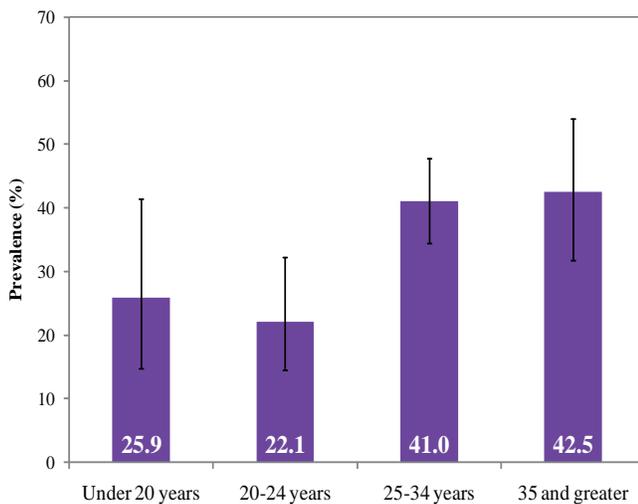
**Dental Visit During Pregnancy over time, Kauai County, 2000-2008**



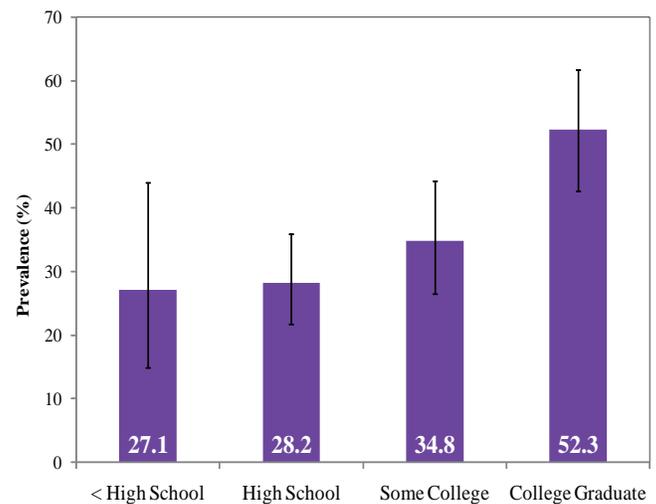
**Dental Visit During Pregnancy by Maternal Race, Kauai County, 2004-2008**



**Dental Visit During Pregnancy by Maternal Age, Kauai County, 2004-2008**



**Dental Visit During Pregnancy by Maternal Education, Kauai 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 Kauai County had the highest estimate of all counties at 76.1%. Honolulu, Maui, and Hawai‘i County residents all had slightly lower estimates of breastfeeding at least eight weeks.

## **Trends Over Time:**

Although some fluctuation over time, there has been a steady improvement in Kauai County with 76.6% in 2008 reporting breastfeeding at least eight weeks, compared to 74.4% in 2000.

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

Japanese mothers had the lowest estimates of breastfeeding at least 8 weeks. Hawaiian, Filipino, and “All Others” mothers reported intermediate estimates, while 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 mothers 20-24 years of age. There were higher estimates of breastfeeding at least 8 weeks in those younger and those with increasing age. Mothers 25-34 years of age had the highest estimate of breastfeeding at least 8 weeks.

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

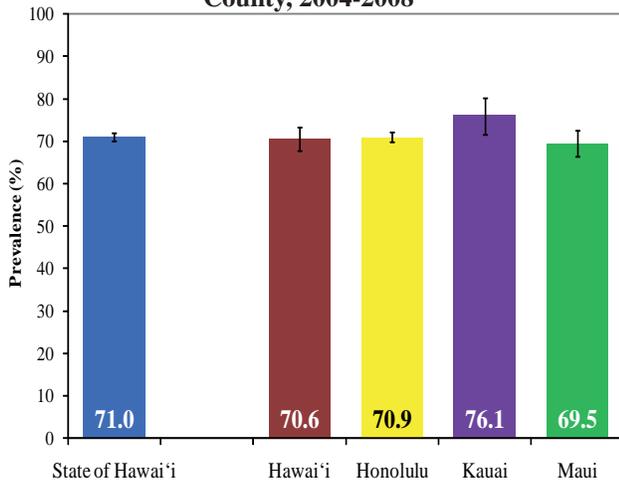
The lowest estimate of breastfeeding at least 8 weeks was among those with less than a high school education. There was a steady increase in the estimates with increasing education, with college graduates having the highest estimate.

## **Recommendations/Implications:**

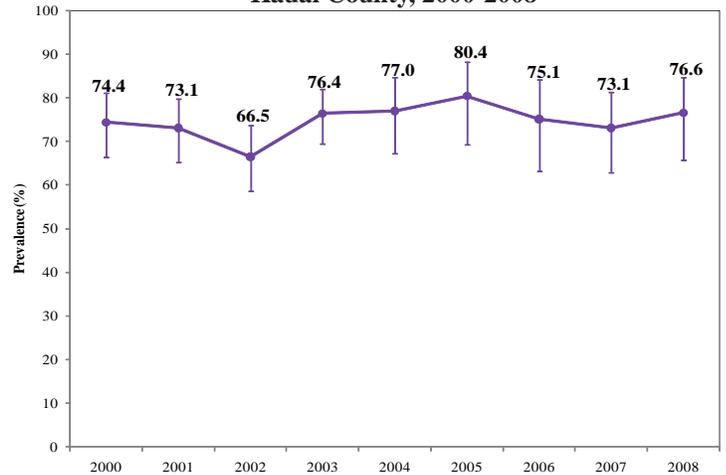
An estimated 76.1% of mothers in Kauai County who had a live birth reported breastfeeding at least 8 weeks which is higher than the overall State estimate. There were significant differences by geography, maternal race, age, and education. Emphasizing appropriate support and education on the benefits of sustained 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 Kauai County may include specific attention to: those of Japanese, Hawaiian, and Filipino race; those 20-24 years of age; and those with some college 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

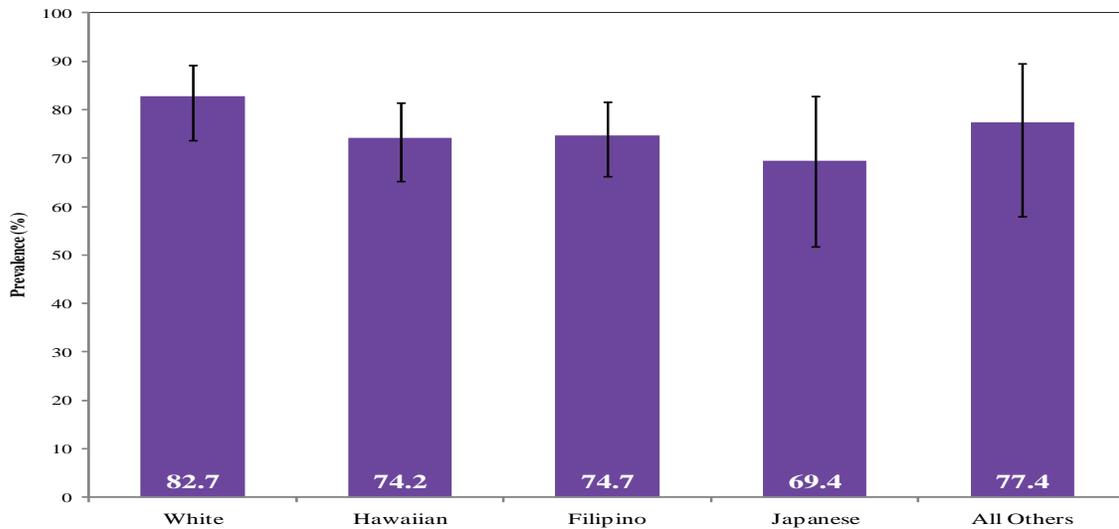
**Breastfeeding Eight Weeks by State and County, 2004-2008**



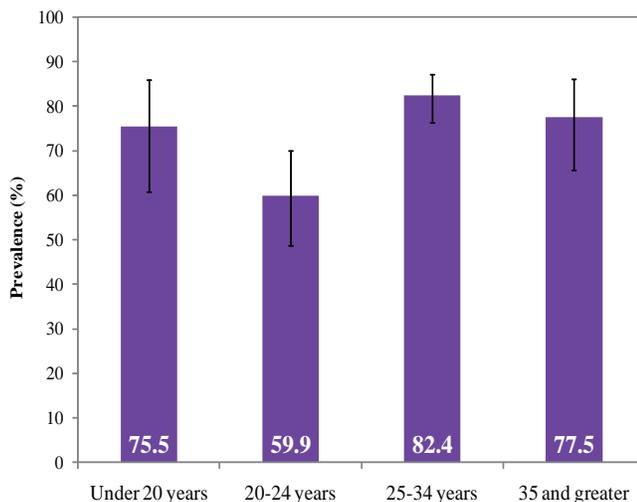
**Breastfeeding Eight Weeks over time, Kauai County, 2000-2008**



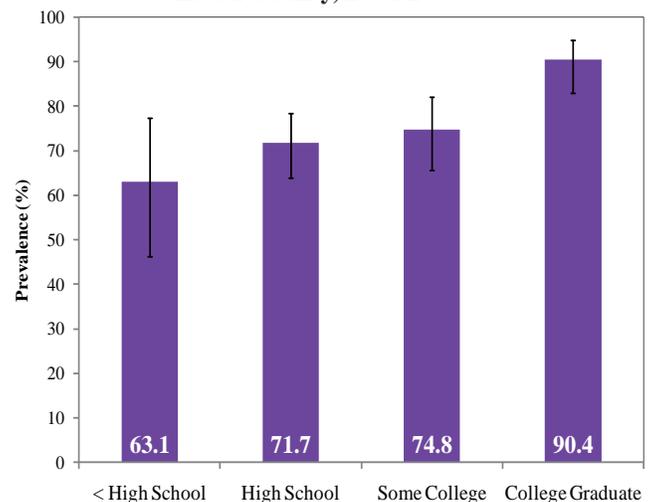
**Breastfeeding Eight Weeks by Maternal Race, Kauai County, 2004-2008**



**Breastfeeding Eight Weeks by Maternal Age, Kauai County, 2004-2008**



**Breastfeeding Eight Weeks by Maternal Education, Kauai 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 Kauai County had a lower estimate of 61.2%. Maui and Hawai‘i County residents also had lower estimates, while those living Honolulu County had higher estimates of a back sleep position.

## **Trends Over Time:**

Although some fluctuation over time, there has been steady improvement in Kauai County with 68.4% in 2008 reporting a back sleeping position for infants, compared to 46.2% in 2000.

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

Hawaiian mothers reported the lowest estimates of back sleep position. Filipino and “All Others” mothers reported intermediate estimates. Japanese and White mothers reported the highest estimates of back sleep position. The only individual race group within “All Others” that could be reported was Chinese (85.4%; 95% CI = 61.4-95.6) mothers.

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

The lowest estimates of back sleep position was among those 20-24 years of age. There were higher estimates of back sleep position in those younger and those with increasing age. Mothers 35 years and greater had the highest estimate.

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

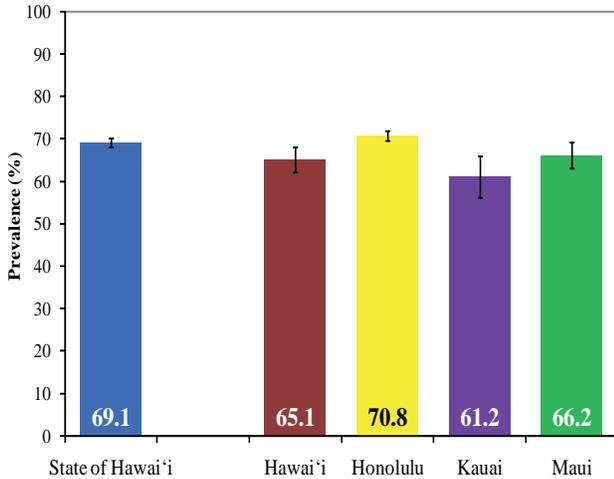
The lowest estimates of back sleep position was among those with less than a high school or a high school level of education. There was a steady increase in estimates of back sleep position with increasing education, with college graduates having the highest estimate.

## **Recommendations/Implications:**

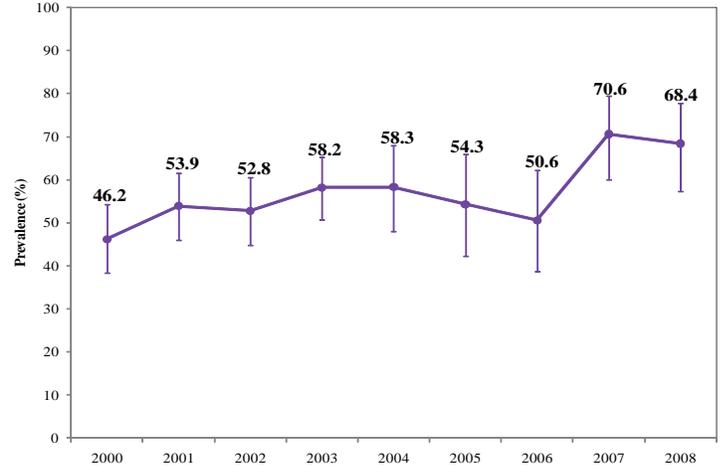
An estimated 61.2% of mothers in Kauai County who had a live birth reported placing their infants down to sleep in a back sleeping position which is slightly lower than the overall State estimate. There were significant differences by geography, maternal race, age, and education. In addition to a back 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 Kauai County may include specific attention to: those of Hawaiian 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, socio-economic conditions, and cultural issues as they are likely to be associated with safe sleep environments.

# Infant Sleep Position

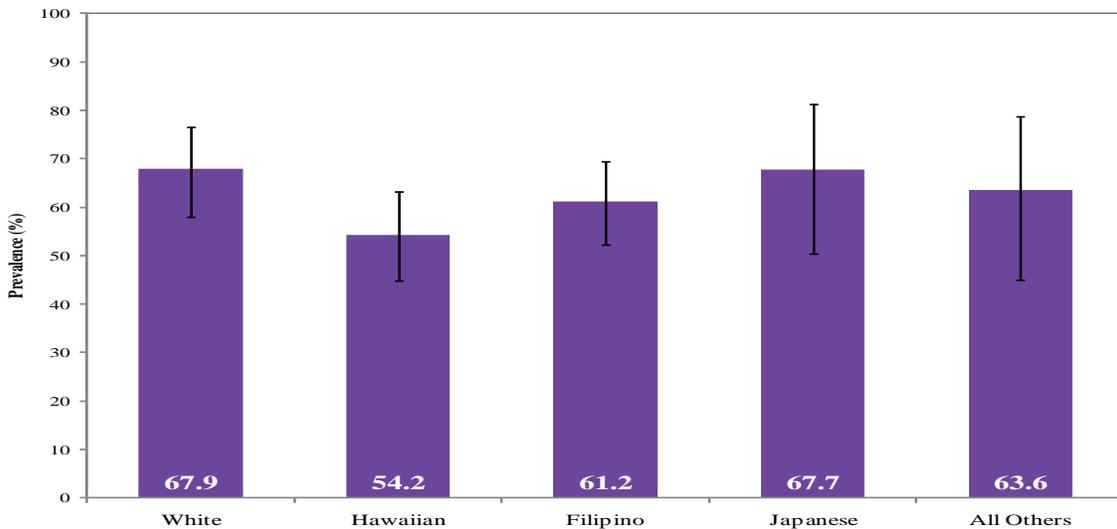
**Infant Back Sleep Position by State and County, 2004-2008**



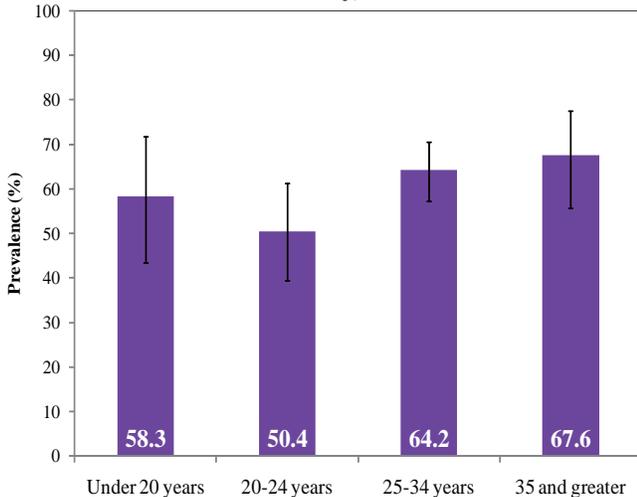
**Infant Back Sleep Position over time, Kauai County, 2000-2008**



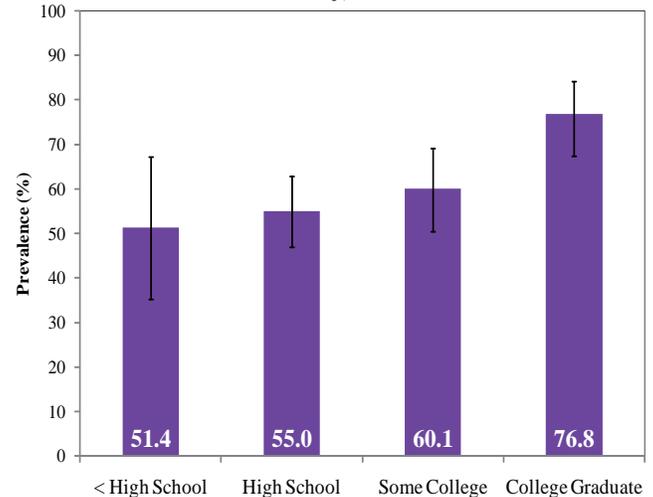
**Infant Back Sleep Position by Maternal Race, Kauai County, 2004-2008**



**Infant Back Sleep Position by Maternal Age, Kauai County, 2004-2008**



**Infant Back Sleep Position by Maternal Education, Kauai 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 Kauai County had the lowest estimate of all counties at 12.4%. Honolulu County residents had slightly higher estimates, while those living in Hawai‘i and Maui had lower estimates of self-reported postpartum depressive symptoms.

## **Trends Over Time:**

Although some fluctuation over time, there appears to be some improvement in Kauai County with 8.7% in 2008 reporting self-reported postpartum depressive symptoms, compared to 12.5% in 2004.

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

Filipino and “All Others” 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. 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 and similar and the highest estimates of self-reported postpartum depressive symptoms. Mothers 25-34 years of age had lower estimates, while those 35 years and greater had the lowest estimates.

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

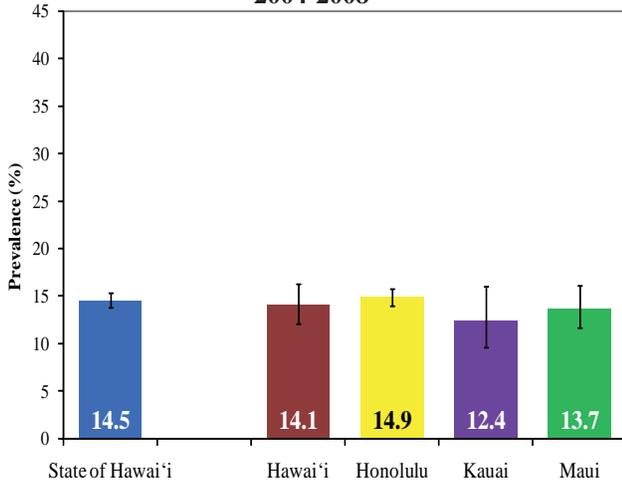
The highest estimates of self-reported postpartum depressive symptoms was among those with less than a high school education. There was some fluctuation in the estimates of self-reported postpartum depressive symptoms with increasing education, with those with a high school education having lower estimates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

## **Recommendations/Implications:**

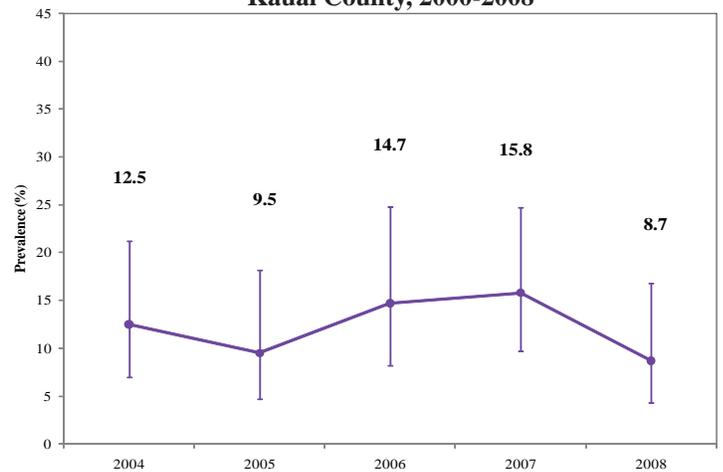
An estimated 12.4% of mothers in Kauai County who had a live birth had self-reported postpartum depressive symptoms which is lower than the overall State estimate. There were significant differences by geography, maternal race, age, and education. Those that work with women during and after their pregnancy should be aware of postpartum depression, be able to do a brief assessment, and be aware of appropriate resources for mothers 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 Kauai County may include specific attention to: those of Filipino and Hawaiian race; 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, socio-economic conditions, substance abuse, and intimate partner violence as they are likely to be associated with postpartum depression.

# Postpartum Depression

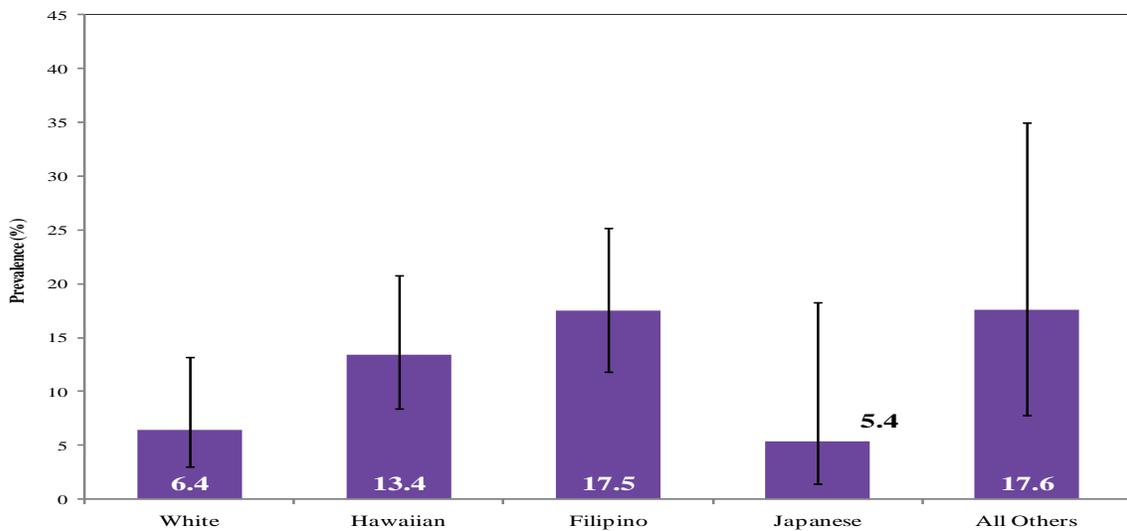
**Postpartum Depression by State and County, 2004-2008**



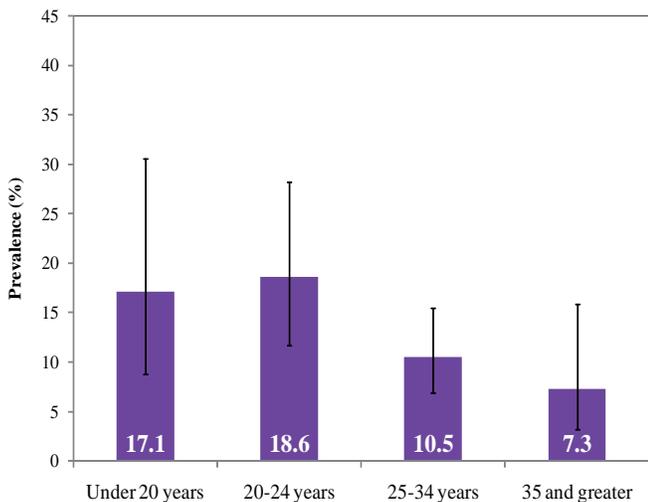
**Postpartum Depression over time, Kauai County, 2000-2008**



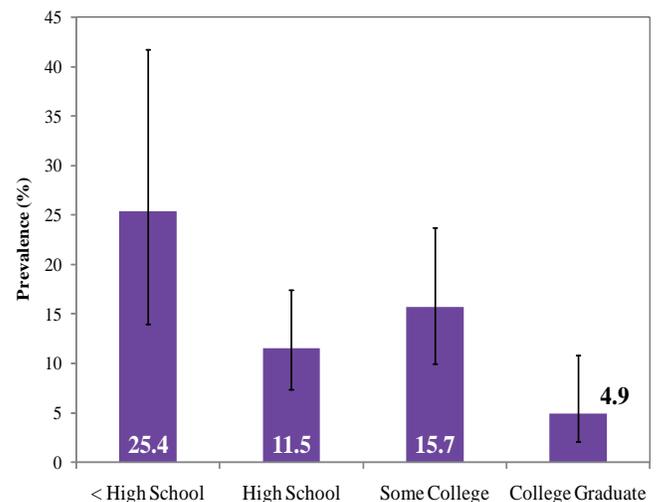
**Postpartum Depression by Maternal Race, Kauai County, 2004-2008**



**Postpartum Depression by Maternal Age, Kauai County, 2004-2008**



**Postpartum Depression by Maternal Education, Kauai 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 Kauai County had the highest estimate of all counties at 83.0%. Maui and Hawai‘i 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 some improvement in Kauai County with 80.9% in 2008 reporting use of postpartum contraception, compared to 74.6% in 2000.

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

White mothers reported the lowest estimates of postpartum contraception. Filipino mothers also reported low estimates. “All Others,” Hawaiian, and Japanese 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:**

There were no differences in estimates of postpartum contraception by maternal age.

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

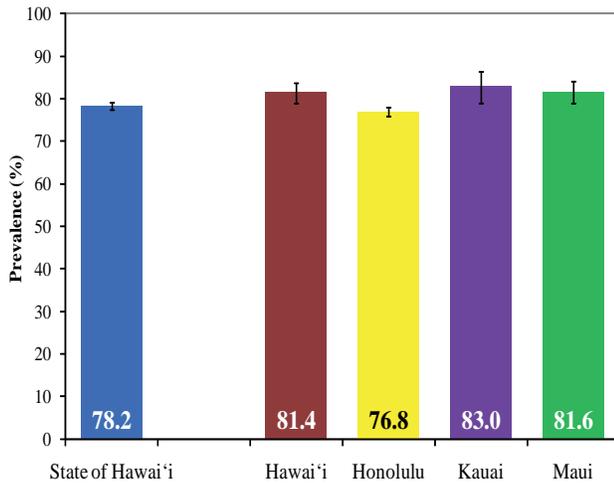
There were no differences in estimates of postpartum contraception by maternal education.

## **Recommendations/Implications:**

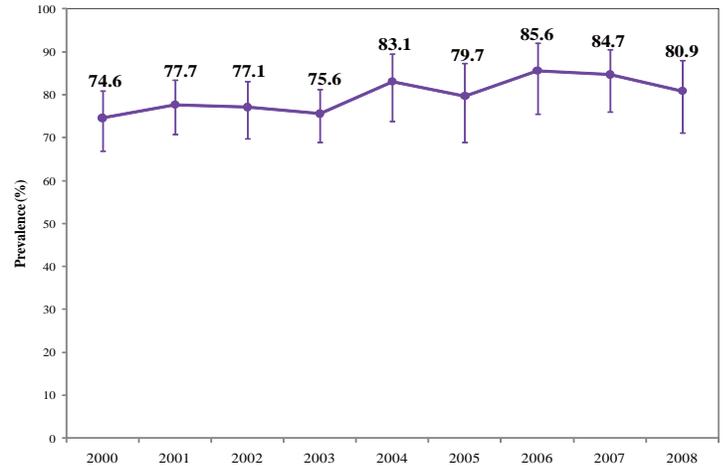
An estimated 83.0% of mothers in Kauai County who had a live birth reported use of postpartum contraception which is higher than the overall State estimate. There were significant differences by geography and maternal race. Emphasizing the use of postpartum contraception can help improve birth spacing, decrease unintended pregnancies, and promote healthier outcomes across the life course. In order to decrease disparities, particular focus among those living in Kauai County may include specific attention to: those of White and Filipino race. 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

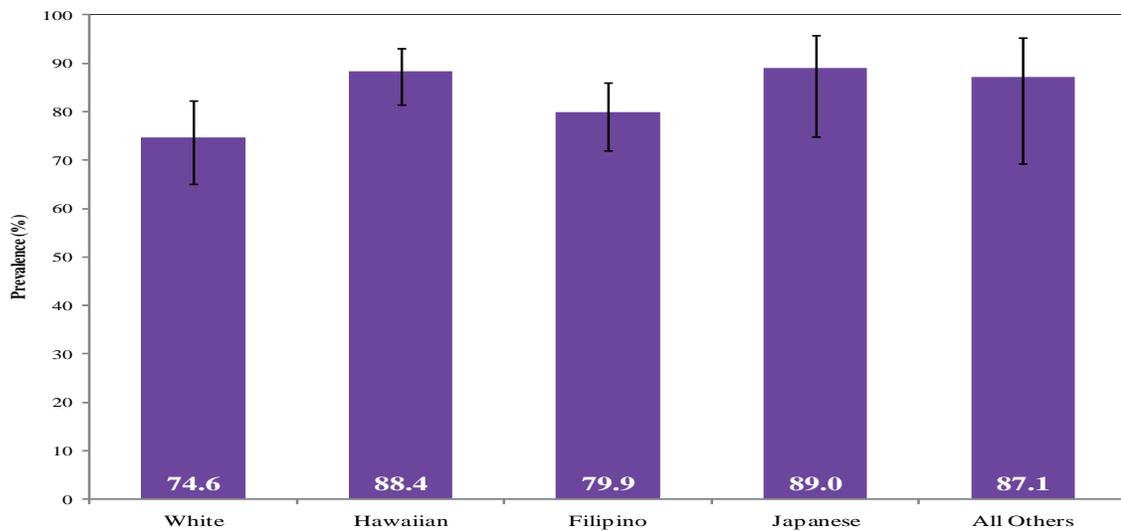
**Postpartum Contraception by State and County, 2004-2008**



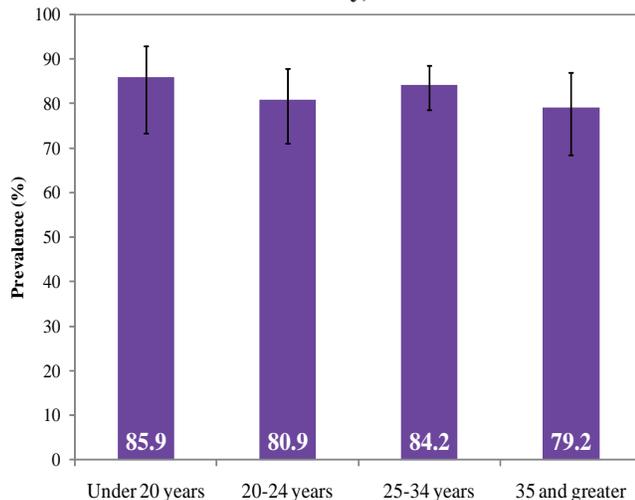
**Postpartum Contraception over time, Kauai County, 2000-2008**



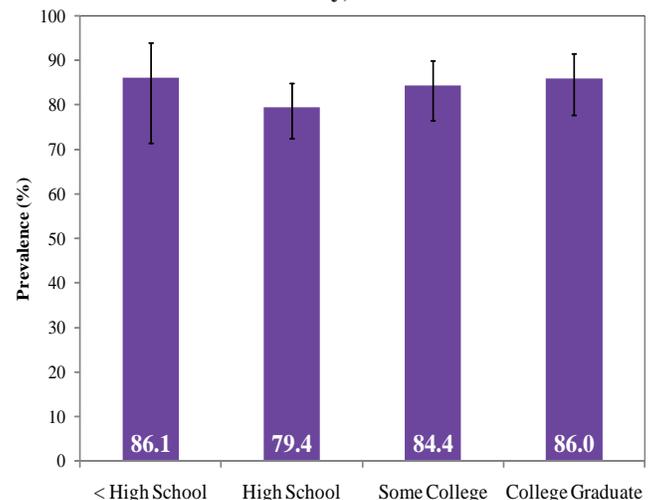
**Postpartum Contraception by Maternal Race, Kauai County, 2004-2008**



**Postpartum Contraception by Maternal Age, Kauai County, 2004-2008**



**Postpartum Contraception by Maternal Education, Kauai 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 second hand 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 Kauai County had a slightly higher estimate of 4.1%. Hawai'i County residents had higher 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 Kauai County with 2.9% in 2008 reporting infant exposure to second hand smoke compared to 5.0% in 2000.

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

Hawaiian and Filipino mothers reported the highest estimates of infant exposure to second hand smoke. The lowest estimates were seen in White and Japanese mothers. There were no individual estimates for race groups within "All Others" that were reportable. The asterisk denotes that the estimates for "All Others" mothers was not reportable.

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

Mothers under 20 years of age reported the highest estimates of infant exposure to second hand smoke. There was declines with increasing age with those 35 years of age and greater reporting the lowest estimates of infant exposure to second hand smoke.

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

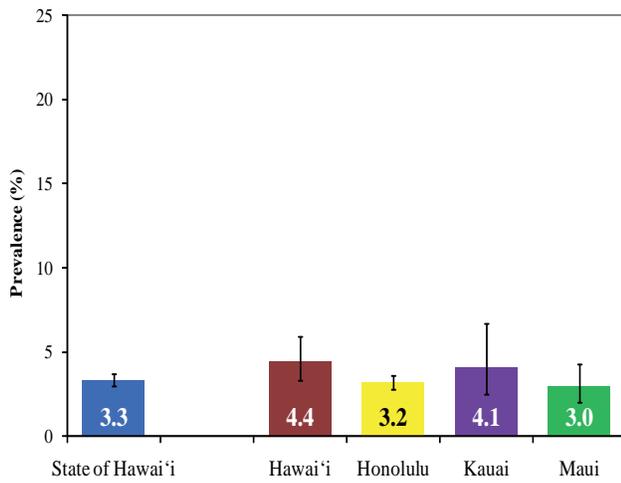
Mothers with less than a high school education appears to have the lowest estimate of infant exposure to second hand smoke. Estimates in those with a high school education or some college were higher and similar to each other, while those that were college graduates had the lowest estimate of infant exposure to second hand smoke.

## **Recommendations/Implications:**

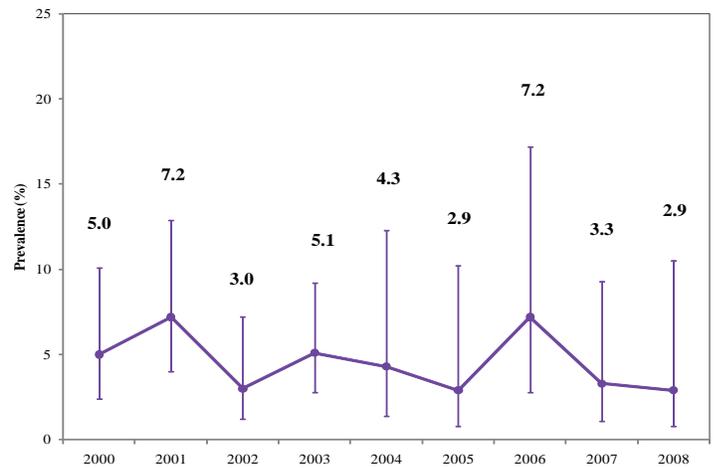
An estimated 4.1% of mothers in Kauai County who had a live birth reported infant exposure to second hand smoke averaging at least 1 hour daily which is slightly higher than the overall State estimate. There were some differences by geography, maternal race, age, and education. The overall improvement 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 Kauai County may include specific attention to: those of Hawaiian and Filipino 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 and socio-economic conditions as they are likely to be associated with infant exposure to second hand smoke.

# Infant Exposure to Second Hand Smoke

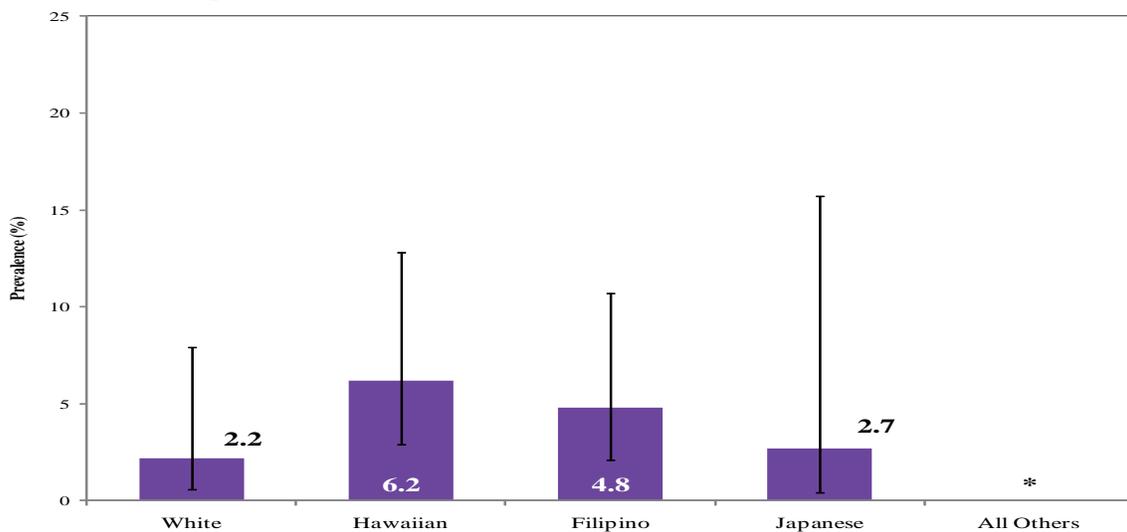
**Infant Exposure to Second Hand Smoke by State and County, 2004-2008**



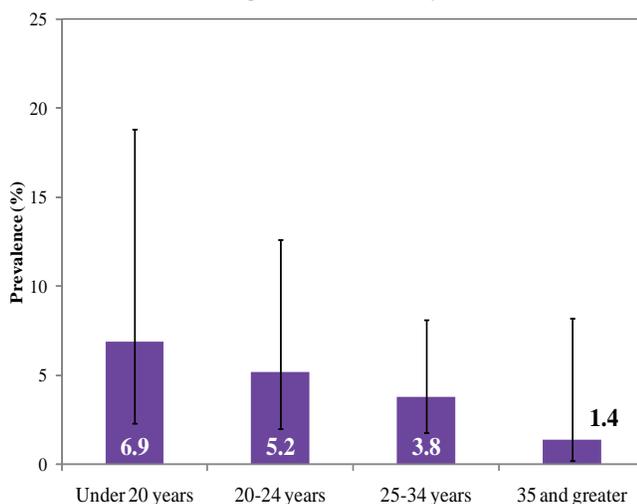
**Infant Exposure to Second Hand Smoke over time, Kauai County, 2000-2008**



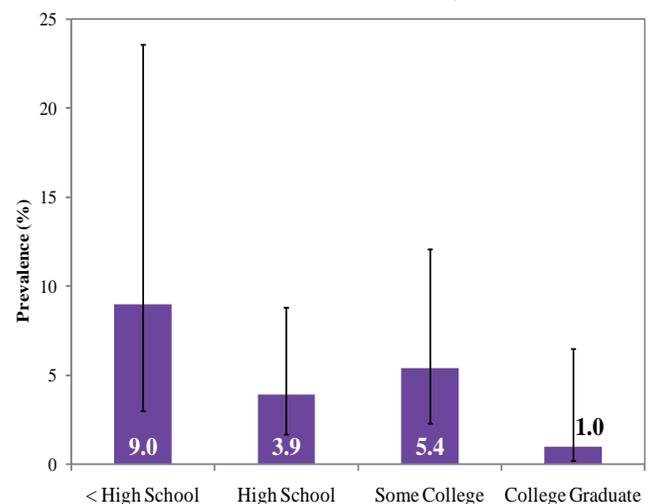
**Infant Exposure to Second Hand Smoke by Maternal Race, Kauai County, 2004-2008**



**Infant Exposure to Second Hand Smoke by Maternal Age, Kauai County, 2004-2008**



**Infant Exposure to Second Hand Smoke by Maternal Education, Kauai County, 2004-2008**



# Comments from PRAMS Mothers

*I had a midwife on Kauai.. She was the best. She delivered both of my children. They have done away with the mid-wives @ KMC on Kauai. Its really too bad. They really meet the needs of women more than the Drs. The only reason my healthcare providers didn't discuss smoking, drinking, and drugs is because I've been in recovery for 12 years and they know . More help is needed for using mothers. We only have "baby safe" to assist pregnant moms. its not enough. Ice is deadly!!!*

*Have prenatal care as soon as you find out you're pregnant at the clinic or hospital.*

*Have free dental care for people 21 and older.*

*My baby is where I can find some kind of joy in my life after the death of my daughter in a car accident. The lord & church members help me & continue to help me on a daily that gets me through the day.*

*One of the most important things to do while you are pregnant is to eat right. Fast food should be totally avoid, since it has hardly any vitamins or minerals. Also exercise is very important before, during and after pregnancy.*

*I was under a lot of stress during the whole pregnancy & I believe this is why my baby didn't drop. My baby being very late lost weight inside me & that's why he had dangerous low glucose level.*

*Most company has 6 weeks of maternity leave. I think it should be at least 8 weeks.*

*It's important for mothers to take their prenatal vitamins and exercise during pregnancy. You should include questions about a mother's amount of exercise before, during , and after pregnancy to see its effect.*

*Always praying for good health and always thinking positive.*

*I think the doctors who help mothers should really talk to them about how badly their teeth can deteriorate during pregnancy if they're not taken care of properly.*

*One of the most important issues right now is getting more dentist visits for other dental work besides check ups.*

*I had a beautiful and safe home birth for all of my 4 children. I went to the hospital for my prenatals and was treated well, but I must say my prenatals that I had with my midwife at home were much more nurturing, informative, and focused on pregnancy in a holistic manner.*

*I was surprised at the amount of resources and information that was available to me as a pregnant woman in Hawaii.*

*I think that after baby is born the parents should have a few hours alone with their child so the bond is established between both parents. That way the child will have a special bond between both of his/her parents.*

*Both my baby and I are doing very well. She is growing very fast and very healthy.*

# Comments from PRAMS Mothers

*I think all the mothers in Hawaii should take advantage of all the things we have around us to keep us healthy, especially while we're pregnant. Like eating lots of fruits and vegetables grown on our beautiful land and going to the beach and walking on the sand to exercise or just to relax your mind. All of these things will result to more healthy babies and mothers.*

*I had a very good labor and delivery despite an emergency c-section. I had excellent care and support in the hospital and continue to feel supported by my family as well as many organizations designed to help moms... WIC, Healthy Start, etc.*

*Good! For Hawaii I think, because if you need help in anyway, there is so much programs I get assistance from!! Also, having a survey like this...is just one of the ways of saying Health of mothers and babies in Hawaii does make a difference! Thank you.*

*I wish all mothers would understand the importance of taking care of themselves for the sake of their baby (not smoking, drinking, etc.)*

*I feel we need more OB doctors. I was seeing a doctor at Kauai Medical Clinic and it was very hard to get early appointments and if something came up and you had to reschedule you'd have to wait weeks to get a new appointment.*

*Diet is a big factor in mothers health water, fruits, veggies. I have seen a lot of mothers (pregnant) sit down to eat with a plate full of meat and white rice-no nutrients and they wash it down with a soda-this is their everyday diet and it is not beneficial.*

*Since giving birth, I have been cut off of Quest because of my tax returns. I currently have NO MEDICAL and cannot get /afford to get medical. I think Quest is very hard to get and should be easier for single mothers, especially ones like me that only make \$700.00 month*

*Kauai Veterans Memorial Clinic was where we had our son. The doctor and all the nurses were professional, informative, and kind. They helped us have a great start as new parents.*

*I'm very pleased with the service what I got in Hawaii.*

*Everyone should breastfeed their babies. I love the special bond I have with my little girl. This bond carries on till they're adults. Mothers and babies would be more healthy (physically, emotionally and mentally) if they only breastfeed. Thanks for doing this survey.*

*Thank you for working to improve lots of the above. It is so important we were pleased and grateful for our care. KUMH in Waimea is awesome . Aloha*

*My daughter is the best thing that ever happened to me and I'm very proud to be her mother and her daddy feels the same.*

# 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 Kauai 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 Kauai 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 Kauai County had worse estimates for 10 of the 17 indicators. Conversely, for five indicators (preconception obesity, smoking during pregnancy, breastfeeding at least eight weeks, postpartum depression, and postpartum contraception) were among the best of all counties. These issues are very complex, but some of the differences may be related to demographic differences in the population of Kauai County. For example, based on comparison of the population characteristics to the State: Kauai County residents had higher proportions of Hawaiian and Filipino race mothers; lower proportions of Japanese, Chinese, Black, Korean, and Samoan race mothers; a lower proportion of mothers who were married; and similar estimates related to federal poverty level.

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 Kauai 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.



# Kauai County PRAMS Report

**Family Health Services Division  
Maternal and Child Health Branch  
Pregnancy Risk Assessment Monitoring System  
3652 Kilauea Avenue  
Honolulu, Hawai'i 96816**

Oahu: (808) 733-4060  
Hawai'i: (808) 974-4000 ext. 34060#  
Maui: (808) 984-2400 ext. 34060#  
**Kauai: (808) 274-3141 ext. 34060#**  
Lanai & Molokai: 1-800-468-4644 ext. 34060#

This document is also available online at:  
**[http://hawaii.gov/health/doc/Kauai County PramsReport2011.pdf](http://hawaii.gov/health/doc/Kauai_County_PramsReport2011.pdf)**

We value your feedback, please complete the evaluation form online at:  
**<http://hawaii.gov/health/doc/eval.pdf>**

We provide access to our activities without regard to race, color, national origin, language, age, sex, gender identity or expression, sexual orientation, religion, or disability. For help with a problem, please contact the Hawai'i State Department of Health, 1250 Punchbowl Street, Room 216, Honolulu, HI 96813 or at (808) 586-4122 within 180 days. You may also contact our departmental Affirmative Action Officer at Box 3378, Honolulu, HI 96801-3378 or at (808) 586-4616 (voice/tty)

The Hawai'i PRAMS project is funded through the Centers for Disease Control & Prevention (CDC), Division of Reproductive Health through grant number 5UR6DP000490. The publication of this report was made possible by grant numbers H18MC00012 and U68HP11443 from the U.S. Department of Health and Human Services (HHS). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of HHS.