

# PRAMS

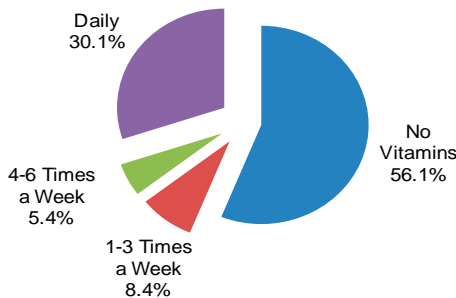
# Preconception Vitamin Fact Sheet

## Pregnancy Risk Assessment Monitoring System

### Importance of Preconception Vitamins

Multivitamins or prenatal vitamins typically contain folic acid and can help 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 50%.<sup>1</sup> The average lifetime cost of caring for an infant with a NTD is estimated at \$635,763 (\$279,210 direct cost) per year.<sup>2</sup> The national rate of spina bifida and anencephaly were 1.8 and 1.1 (per 10,000 live births) in 2005.<sup>3</sup> The National Healthy People 2010 objective was to increase to 80% the proportion of women 15-44 years of age with a daily intake of at least 400 micrograms of folic acid from fortified foods or dietary supplements.

**Preconception Vitamin Intake, Hawaii PRAMS 2004-2008**



### Preconception Vitamin Intake

The majority (64.5%) of women took an inadequate amount of multivitamins or prenatal vitamins (defined as less than 4 days per week) in the month before pregnancy. Of particular concern was that 56.1% reported no vitamin intake. Additionally, 30.1% reported daily intake, and 5.4% reported 4-6 times a week in the month before pregnancy.

### Data Highlights

- 56.1% of mothers reported no intake of vitamins in the month before getting pregnant
- Overall, 64.5% of mothers took an inadequate amount of preconception vitamins
- Inadequate intake of preconception vitamins was more likely among Black, Samoan, and Hawaiian women
- Younger mothers, those with a high school or lower education, unmarried mothers, and those living in Hawai'i County were more likely to take an inadequate amount of preconception vitamins
- 74.2% of mothers with unintended pregnancy report taking an inadequate amount of preconception vitamins
- Mothers who report no preconception vitamins are more likely to receive late or no prenatal care, smoke during pregnancy, and never initiate breastfeeding

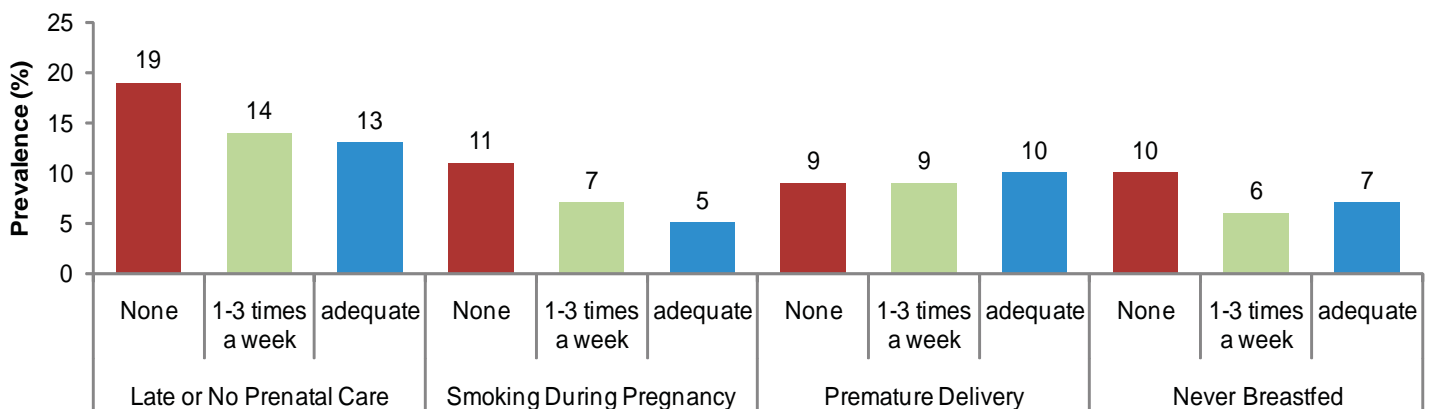
***“Prescription prenatal vitamins should be included in healthcare coverage. Taking care of fetus is very important & can only ensure a healthier citizen.”***

***–Hawai'i PRAMS Participant***

### Perinatal Risks and Outcomes Related to Preconception Vitamin Intake

Women who reported less than adequate intake of preconception vitamins were more likely to smoke during pregnancy. Compared to those with adequate vitamin intake, those with none were more likely to receive late or no prenatal care, and less likely to initiate breastfeeding. There was no significant difference in premature delivery (defined as <37 weeks gestation) estimates between those who reported none or 1-3 times a week compared to those with an adequate intake of preconception vitamins.

**Perinatal Risks and Outcomes Related to Preconception Vitamin Intake, Hawaii PRAMS 2004-2008**



## Maternal Characteristics Related to Inadequate Preconception Vitamin Intake

Black, Samoan, and Hawaiian women reported higher estimates of inadequate intake compared to other racial/ethnic groups. Women less than 20 years of age, a high school or lower education, unmarried, and an unintended pregnancy were at greater risk of inadequate multivitamin intake. Women who lived in Hawai'i County had the highest level of inadequate intake, compared to other counties in the State.

The most common groups reporting no vitamins were those under 20 and 20-24 years of age. Blacks and Hispanic mothers were the groups most common to report an intake of 1-3 vitamins per week.

### Discussion

Nearly two-thirds of all women did not take preconception vitamins at least 4 times/week in the month before pregnancy. Particularly, concerning is that more than half of all women who had a live birth reported taking no vitamins in preparation for pregnancy. Lack of appropriate intake is associated with adverse outcomes, and a large proportion of the population may not be realizing the benefits of preconception vitamins. Approximately half of all pregnancies are unintended in the US and in Hawai'i, and the critical time for prevention of NTD is in the first month after conception so the Centers for Disease Control & Prevention (CDC) advises all women of childbearing age (15 to 45) to consume at least 400 micrograms daily through adequate dietary sources or with supplemental folic acid.<sup>1</sup>

In 2002, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) branch in the Family Health Services Division developed a brochure in an effort to increase awareness about the importance of folic acid for a healthy pregnancy. It has been printed in five different languages: English, Ilocano, Chinese, Vietnamese, and Spanish to help reach women from these racial/ethnic groups. Other brochures from the March of Dimes are also distributed by WIC to increase awareness of folic acid. Dietary sources of folic acid include dark green and leafy vegetables, nuts and seeds, fortified cereals, and enriched grain products.<sup>1,2</sup>

It is important to continue to monitor trends in both neural tube defects and folic acid levels in Hawai'i to ensure that women and their children are not suffering due to lack of folic acid intake in their diet. Increase awareness of the importance of ensuring adequate intake of folic acid through dietary sources and preconception vitamins may be needed.

### References

- Centers for Disease Control and Prevention. Recommendations for the use of folic acid to reduce the number of spina bifida and other neural tube defects. MMWR Morb Wkly Rep. 1992; 41(RR-14):1-7
- Centers for Disease Control and Prevention. Folic Acid FAQ. Accessed Sept 2010: <http://www.cdc.gov/ncbddd/folicacid/>
- Martin JA, Hamilton BE, Sutton PD, Ventura SJ, et al. Births: Final data for 2005. National vital statistics reports. 2007; 56(6).

### Suggested Citation

Balihe P, Hayes D, Miyashiro L, Fuddy L. "Preconception Vitamin Fact Sheet." Honolulu, HI: Hawai'i Department of Health, Family Health Service Division; December 2010.

## Inadequate Preconception Vitamin Intake By Maternal Characteristics; Hawai'i PRAMS 2004-2008

	None % (95% CI)*	1-3 Times % (95% CI)
<b>Race/Ethnicity</b>		
White	47.1 (44.8-49.3)	9.5 (8.3-11.0)
Black	64.1 (56.9-70.7)	13.1 (8.9-18.9)
Hispanic	53.0 (45.0-60.9)	10.9 (6.8-17.1)
Hawaiian	65.4 (63.3-67.4)	8.0 (6.9-9.2)
Samoan	68.0 (61.7-73.7)	8.9 (5.7-13.5)
Other Pacific Islander	57.7 (52.5-62.6)	8.1 (5.6-11.5)
Filipino	51.0 (48.7-53.2)	7.9 (6.8-9.2)
Japanese	47.8 (44.9-50.8)	7.3 (5.9-9.0)
Chinese	41.0 (38.3-43.8)	9.2 (7.7-10.9)
Korean	54.7 (50.5-58.8)	9.6 (7.4-12.4)
Other Asian	51.8 (44.1-59.4)	10.4 (6.7-15.9)
<b>Maternal Age</b>		
Under 20 years	74.1 (71.6-76.4)	6.7 (5.4-8.2)
20-24 years	69.4 (67.9-70.9)	8.1 (7.3-9.1)
25-34 years	52.6 (51.5-53.7)	8.7 (8.1-9.4)
35 or more years	38.5 (36.6-40.3)	8.6 (7.6-9.7)
<b>Maternal Education</b>		
< High School	67.8 (65.1-70.4)	7.1 (5.7-8.7)
High School	64.5 (63.3-65.8)	7.8 (7.1-8.5)
Some College	55.6 (54.0-57.2)	8.9 (8.0-9.9)
College Graduate	38.9 (37.4-40.5)	9.3 (8.4-10.2)
<b>Marital Status</b>		
Married	49.5 (48.6-50.5)	9.0 (8.5-9.6)
Unmarried	68.6 (67.3-69.9)	7.1 (6.5-7.9)
<b>Intention of Pregnancy</b>		
Intended	47.7 (46.6-48.8)	8.8 (8.2-9.4)
Unintended	66.3 (65.1-67.4)	7.9 (7.3-8.6)
<b>Health Insurance Prior to Pregnancy</b>		
Private Insurance	51.4 (50.4-52.4)	8.7 (8.2-9.3)
Medicaid/QUEST	68.1 (66.6-69.5)	7.3 (6.5-8.2)
None	52.3 (46.9-57.6)	10.0 (7.3-13.6)
<b>County of Residence</b>		
Honolulu	55.1 (54.2-56.1)	8.6 (8.1-9.2)
Hawai'i	61.6 (59.6-63.5)	8.3 (7.2-9.5)
Maui	55.7 (53.5-57.8)	6.7 (5.7-7.9)
Kauai	58.2 (55.0-61.4)	7.8 (6.3-9.8)
<b>Overall</b>	<b>56.1 (55.3-56.9)</b>	<b>8.4 (7.9-8.8)</b>

\*note 95% CI refer to the 95% confidence interval around estimate.

### About the Data

The Hawai'i Pregnancy Risk Assessment Monitoring System (PRAMS) is a self-reported survey of recent mothers conducted by mail with telephone follow-up. It is designed to monitor the health and experiences of women before, during, and just after pregnancy. Every year, about 2,000 women who deliver a live infant are randomly selected to participate.

### For More Information Contact:

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