

Pregnancy Risk Assessment Monitoring System: Pierce County 2000-2003



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Pregnancy Risk Assessment Monitoring System: Pierce County 2000-2003

**A Report of Data Collected During 2000-2003 for
the Pregnancy Risk Assessment Monitoring System**

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INTRODUCTION

Pregnancy Risk Assessment Monitoring System (PRAMS) is an ongoing, population-based risk factor surveillance system sponsored by the Centers for Disease Control and Prevention (CDC)¹. It is designed to identify and monitor maternal behaviors and experiences that occur before and during pregnancy and during the child's early infancy that may affect pregnancy outcomes and maternal and infant health. Data are collected by a combination of mail and telephone surveys from a representative sample of women. Surveys are collected from 4 to 6 months after delivery.

The overall goal of PRAMS is to reduce infant morbidity and mortality by impacting maternal and child health programs, policies, and maternal behaviors during pregnancy and early infancy.

PRAMS provides important base data such as: pregnancy intention, use of alcohol and tobacco, baby's sleeping position, percent of women breastfeeding, social support for pregnant women, access to prenatal and children's health care, and intimate partner violence during pregnancy. PRAMS data helps to develop prevention and control measures, plan research; and plan policies to improve the health of women, infants and families. It also helps in evaluating existing programs designed to improve the health of mothers and children in Pierce County. PRAMS was also designed to supplement vital records data and to generate data for developing and assessing Public Health programs on a state/county level. PRAMS data can be used to:

- Increase understanding of maternal behaviors and experiences and their relationship to adverse pregnancy outcomes;
- Identify groups of women and infants at high risk for health problems;
- Monitor changes in health status indicators such as unintended pregnancy, prenatal care, breastfeeding, smoking, drinking, and infant health;
- Measure progress towards local, state, and national goals for improving the health of mothers and infants;
- Develop new, or modify existing maternal and child health programs;
- Help health professionals incorporate new research findings into standards of practice;
- Influence public health policy.

A collection of PRAMS findings on various indicators describing the pregnancy and early postpartum experience of women in Pierce County who had live births is presented in this report. Calculation of these indicators was based on the responses of 718 women who had live births during the period of 2000 – 2003.

Percentages and 95% confidence intervals were calculated using weighted² PRAMS data to adjust for differences between the sample population and the general female population. The 95% confidence intervals are presented in the column **95%CI** in the tables of this report. Observations identified in the dataset as “Missing” or “Don't know” were excluded from the analysis.

Elsewhere in this report the notations for education groups “<12”, “12”, and “>12” mean “*Less than high school*”, “*High school*”, and “*Some college or college degree*”, respectively. In the tables of this report, the columns **Resp.** (stands for *Respondents*) and **Yes** identify the total number of mothers who responded to the corresponding PRAMS question, and the number of those who answered “Yes” to this question, respectively. Estimates of mean values are designated as **%Yes** in the tables of this report. Mean values were considered as being unreliable if the number of Yes-answers (or No-answers) was fewer than 5.

This report can serve as a source of information for public health professionals and policy makers in developing and monitoring programs and policies designed to improve the health of mothers and children in Pierce County.

¹ More about PRAMS can be found at <http://www.cdc.gov/PRAMS/index.htm>

² The weight is equivalent to the number of mothers that each respondent represents in the population of Pierce County women who had a live birth in 2000 - 2003. The weights computed for Washington State PRAMS dataset were used for the calculations presented in this report. See more in: http://www.doh.wa.gov/cfh/PRAMS/PRAMS_Reports.htm

EXECUTIVE SUMMARY

The *Pregnancy Risk Assessment Monitoring System: Pierce County 2000-2003* data report reflects the experiences of women before, during, and after pregnancy. These data, combined with birth certificate data, describe the outcomes of pregnancies and also provide a picture of how women are experiencing contraception, maternity and infant care. Additional factors such as relationships, employment, and living circumstances, which may influence birth outcomes, are reported through the Pregnancy Risk Assessment Monitoring System (PRAMS). These data provide important information that can guide policy, future planning, and evaluation of existing services for mothers and infants in Pierce County.

Healthy People 2010, which establishes a benchmark for national health outcomes, set the goal at 70% of all pregnancies regardless of outcome, as intended. The Pierce County PRAMS indicates that among pregnancies resulting in a live birth, 60% are the result of an intended pregnancy. Therefore, 40% of all live births among Pierce County respondents were the result of an unintended pregnancy. Women experiencing an unintended birth are less likely to seek early prenatal care and their unborn baby may be exposed to toxic substances such as alcohol and tobacco.

Although 95% of mothers confirmed their pregnancy in the first trimester, only 77% had a recommended initial prenatal care visit in the first trimester, falling short of the Healthy People 2010 goal of 90%. Additionally, among women whose pregnancy was unintended, 67% reported receiving prenatal care as early as they wanted, compared to 83% of women whose pregnancies were intended. Early prenatal care in the first trimester occurring before the 13th week of pregnancy is associated with positive birth outcomes and lowered health costs by reducing complications during pregnancy and childbirth. Medicaid paid for 27% of all respondents' prenatal care.

Researchers have reported that women are at a higher risk of domestic violence during pregnancy. More than half (55%) of Pierce County mothers report that their prenatal health care provider did not discuss physical abuse by a husband or partner.

Smoking during pregnancy has been associated with a higher risk of premature birth, low birth weight and Sudden Infant Death Syndrome. The Healthy People 2010 goal for smoking cessation during pregnancy is 30%. The Pierce County cessation rate during pregnancy was 49%, which exceeded the national goal.

The American Academy of Pediatrics (AAP) recommends that infants be placed on their back to sleep to reduce the risk of Sudden Infant Death Syndrome (SIDS). In Pierce County 69% of PRAMS respondents reported placing their infants to sleep on their backs, approaching the Healthy People 2010 goal of 70%. Interestingly, 83% of mothers reported that they always or sometimes have their baby sleep with them or someone else in the same bed. The AAP has recently identified bed-sharing as an additional risk factor for SIDS. Due to the health benefits to both mothers and infants, the AAP also recommends that all infants be breastfed until one year of age. The Healthy People 2010 goal is for 75% of mothers to breastfeed in the early postpartum period. Pierce County mothers exceeded that goal with 85% initiating breastfeeding by hospital discharge.

PIERCE COUNTY PRAMS HIGHLIGHTS 2000 - 2003

Preconception factors

- ❖ 23.9% of mothers had neither Medicaid nor other health insurance before pregnancy.
- ❖ 5.4% of mothers had Medicaid only before pregnancy.
- ❖ 39.6% of all live births in Pierce County are the result of an unintended pregnancy. This means that the mothers reported that they either wanted to be pregnant later or didn't want to be pregnant then or at any time in the future.
- ❖ 51.9% of women became pregnant because they were trying to conceive.
- ❖ 9.6% of women indicated that they didn't want to be pregnant then or at any time in the future.
- ❖ 8.6% of women said their husband or partner did not want the pregnancy at all.
- ❖ 41.6% of women who were not trying to conceive but became pregnant, reported that they or their partner/husband were utilizing contraception, which failed.
- ❖ The percentage of unintended pregnancies was 61.5% among women with less than a high school education whereas for women with at least a college degree it was 29.4%.
- ❖ 56.8% of women didn't take multivitamins in the month before they got pregnant.

Receiving prenatal care

- ❖ 94.8% of women confirmed their pregnancy status by a test or doctor or nurse in the first trimester.
- ❖ 77.2% of women had their first visit for prenatal care within first trimester, 21.4% - after first trimester, and 1.5% didn't go for prenatal care.
- ❖ 76.7% of women got prenatal care as early in their pregnancy as they wanted, 22.6% got prenatal care later than wanted, and 0.7% did not want prenatal care.
- ❖ Health insurance or an HMO paid for prenatal care for over half (57.7%) of women while Medicaid paid for 27.3% of women's prenatal care.

Prenatal care recommendations

- ❖ The three most common topics discussed by prenatal health care providers were:
 - Testing for birth defects or genetic diseases (89.6%);
 - HIV testing (86.7%);
 - Early labor (85.4%).
- ❖ The least common topics discussed by prenatal health care providers were:
 - Physical abuse by husband or partner (45.4%);
 - Seat belt use during pregnancy (54.8%);
 - Fetal effects of illegal drug use (60.7%).

Cigarette smoking and alcohol use before, during, and after pregnancy

- ❖ 30.4% of women reported smoking at least 100 cigarettes in the past 2 years, 27.3% reported smoking in the 3 months before pregnancy, 13.9% reported smoking in the last 3 months of the pregnancy, and 20.7% of women reported smoking at postpartum.
- ❖ 71.2% of women reported drinking in the past 2 years, 54.2% reported any alcohol use in the 3 months before pregnancy, 5.8% reported any alcohol use in the last 3 months of their pregnancy.
- ❖ 22.2% of women reported binge drinking (drinking five or more drinks in one sitting) in the 3 months before pregnancy. 0.3% of women reported binge drinking in the last 3 months of their pregnancy.

Physical abuse before and during pregnancy

- ❖ 8.6% of women reported that someone including their husband or partner physically abused them during the 12 months before they got pregnant.
- ❖ 3.1% of women were reported that their husband or partner physically abused them during their most recent pregnancy.

Pregnancy complications and maternal health

- ❖ 62.4% of mothers reported one or more medical complications during pregnancy. 15.6% of these women were hospitalized for one or more days and another 26.6% stayed in bed at home more than 2 days.
- ❖ 25.2% of women reported that they needed to see a dentist for a problem during their pregnancy.
- ❖ The five most common complications reported by respondents were:
 - Preterm or early labor (27.5%),
 - Severe nausea, vomiting, or dehydration (22.5%),
 - High blood pressure (18.0%),
 - Vaginal bleeding (14.9%),
 - Kidney or bladder infection (13.4%).

Stressful events during pregnancy

- ❖ Only 22.3% women did not experience any stressful events during their pregnancy. 77.7% experienced one or more stressful events, and there were almost one out of ten women who experienced six or more stressful events during their pregnancy.
- ❖ The five most common stressful events reported by respondents were:
 - Moved to a new address (45.5%),
 - Family member was very sick (28.3%),
 - Argued with husband or partner more than usual (26.8%),
 - Had a lot of bills they couldn't pay (24.7%),
 - Someone very close died (19.8%).

Well-Baby Care and participation in Women, Infant & Children Supplemental Nutrition Program

- ❖ An estimated 9.3% of infants received an insufficient number of routine WBC visits.
- ❖ A majority of women (70.8%) reported that they usually take their baby for WBC checkups to a private doctor's office or HMO clinic. Second highest percentage was related to a military facility (10.3%).
- ❖ 42.9% of women reported that they were enrolled in WIC during their pregnancy.

Postpartum factors

- ❖ 69.4% of women reported that they usually place their babies on their backs to sleep.
- ❖ 15.1% of women did not initiate breastfeeding.
- ❖ 60.8% of Pierce County mothers stated that they experienced depression in the months after delivery.
- ❖ 5.2% of women reported that their baby was exposed to tobacco smoke, on average, for at least one hour a day.
- ❖ 12.1% of women reported that they live in crowded housing conditions.
- ❖ 14.0% of women reported not using birth control at postpartum. The main reason stated for not using birth control in postpartum was not having sex.

PIERCE COUNTY PRAMS AND HEALTHY PEOPLE 2010 OBJECTIVES

Healthy People 2010 presents a comprehensive, nationwide health promotion and disease prevention agenda. It is designed by the Centers for Disease Control and Prevention (CDC) to serve as a roadmap for improving the health of all people in the United States during the first decade of the 21st century. Healthy People 2010 objectives pertaining to pregnancy risks and corresponding Pierce County PRAMS estimates are shown in Table 1.

Table 1 Pierce County PRAMS estimates and related Healthy People 2010 objectives

Healthy People 2010 Objectives		Healthy People 2010 target	Pierce County PRAMS 2000-2003 data ³
Preconception factors	Increase the proportion of all pregnancies that are intended.	70.0%	60.0%
	Increase the proportion of females at risk of unintended pregnancy who use contraception.	100%	52.4%
Prenatal care	Increase the proportion of all pregnant women who receive prenatal care in the first trimester of pregnancy.	90.0%	77.2%
Maternal risk factors	Reduce low birth weight ⁴ .	5.0%	6.1%
	Reduce preterm births ⁵ .	7.6%	20.3%
	Reduce cigarette smoking among pregnant women ⁶ .	2.0%	13.9%
	Increase smoking cessation during pregnancy.	10.0%	13.5%
	Increase abstinence from alcohol	94.0%	94.2%
	Increase abstinence from binge drinking by pregnant women.	100%	99.7%
Postpartum maternal and infant health	Increase the percentage of mothers who initiate breastfeeding at hospital discharge.	75.0%	84.9%

³ PRAMS data includes only information on those pregnancies that end in live birth.

⁴ Low birth weight - a term applied to babies that weigh 5 1/2 pounds (2,500 grams) or less at birth.

⁵ Preterm infant is a baby delivered between 24-37 weeks.

⁶ Cigarette smoking among pregnant women refers to smoking one or more cigarettes a day during the last three months of pregnancy.

CHARACTERISTICS OF MATERNAL POPULATION

Information regarding demographic characteristics of Pierce County maternal population obtained from both birth certificate information and the PRAMS questionnaire is presented in Table 2 and on Figures 1 to 6. Three ethnic minorities African American, Native American, Asian/Pacific Islander were oversampled, to increase their numbers for analysis. For example, proportion of Native American birth mothers among all of Pierce County resident birth mothers was 2.1 percent. This proportion was noticeably higher in the sampled population: 13.8 percent.

Table 2 Demographic characteristics of Pierce County resident birth mothers and the sampled population from Pierce County PRAMS 2000-2003⁷.

Maternal characteristics	PC total		PC PRAMS	
	PC total	% PC total	total	% total ⁸
Total	40,342	100	718	100
Maternal age				
<20	4,309	10.7	100	13.9
20-24	11,271	27.9	217	30.2
25-34	20,087	49.8	324	45.1
35+	4,660	11.6	77	10.7
Marital status				
Married	27,381	68.0	422	58.9
Other	12,875	32.0	294	41.1
Education (years)				
<12	6,383	16.6	123	17.8
12	13,272	34.4	266	38.6
>12	18,908	49.0	301	43.6
Race ⁹				
White	27,434	68.0	190	26.5
African American	3,375	8.4	228	31.8
Native American	864	2.1	99	13.8
Asian/Pacific Islander	3,457	8.6	143	19.9
Hispanic (race)	3,963	9.8	58	8.1
Refused, Unknown	1,249	3.1	-	-

As it is shown on Figures 1, 2, 4, and 5, in Pierce County 10.7% of women who delivered their babies in 2000-2003 were teenagers. About one-third of women were identified as being not married. 16.6% of women had less than a high school education. Almost one-third women were of racial/ethnic minorities (including Hispanic by race), and almost one out of ten moms was Hispanic (race).

PRAMS respondents reported their family's total monthly income before taxes along with the sources of the household's income during the past 12 months. All income sources that apply were checked; this is why the total percentage exceeds 100%. Results are presented in Figure 3 and Figure 6.

⁷ PC PRAMS 2000-2003 dataset is a section of Washington State PRAMS dataset containing the records collected within the period 2000 – 2003 and pertaining to the Pierce County resident birth mothers only.

⁸ Percentage not weighted.

⁹ Variable *stratumc* from the PRAMS dataset was used for calculating proportions of the race groups in the sample.

Figure 1 Pierce County resident birth mothers: Maternal age

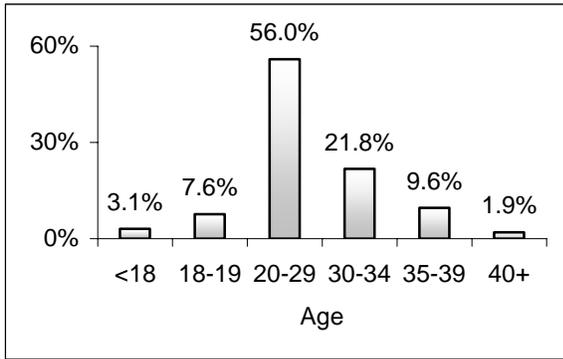


Figure 2 Pierce County resident birth mothers: Maternal race

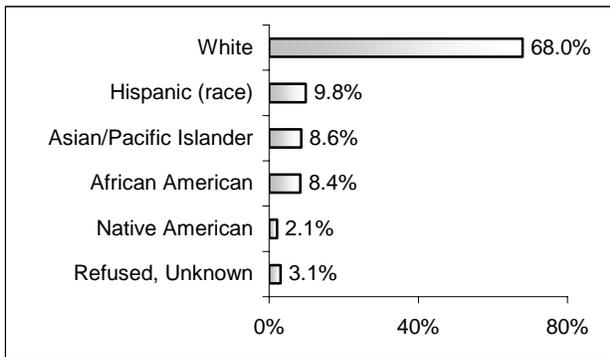


Figure 3 Family's total monthly income before taxes, as reported by Pierce County resident birth mothers (PRAMS data)

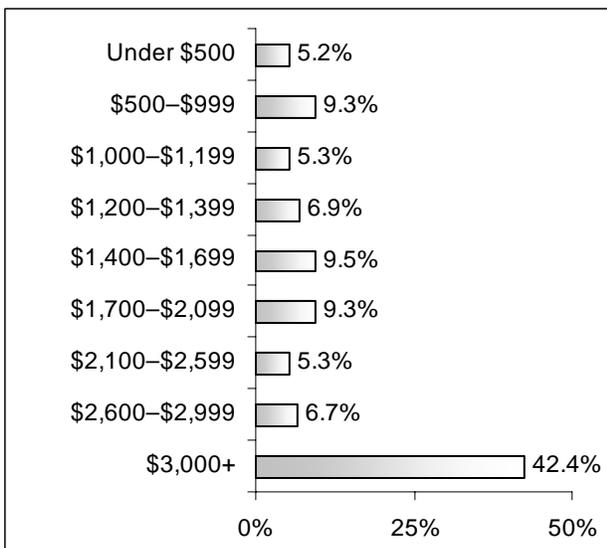


Figure 4 Pierce County resident birth mothers: Marital status

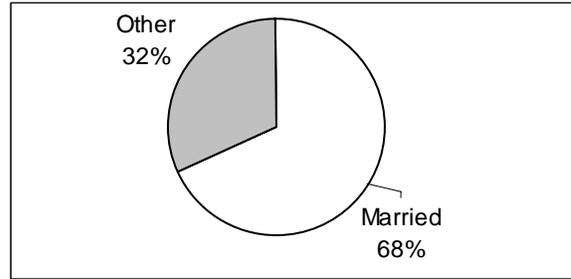


Figure 5 Pierce County resident birth mothers: Maternal educational level

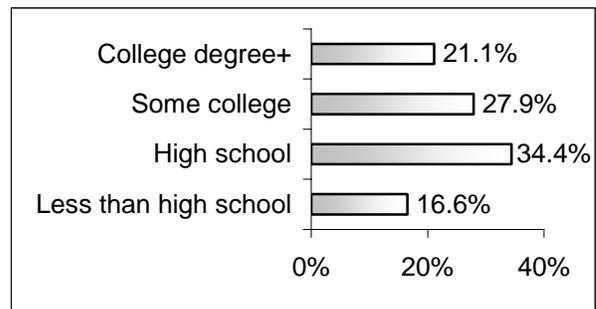
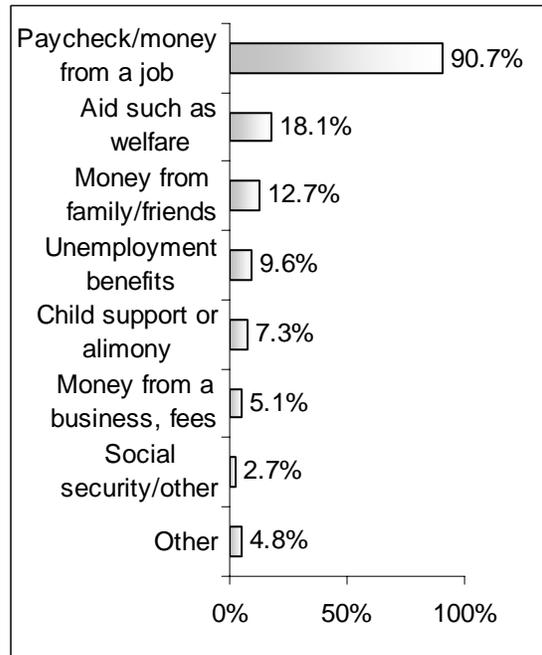


Figure 6 Percent of women reporting each source of household income during the past 12 months, as reported by Pierce County resident birth mothers (PRAMS data)



PRE-PREGNANCY

Because healthy women are more likely to have healthy babies, assuring good health prior to conception simply makes good sense and should be standard care. Diagnosis and interventions to treat medical illness and psychosocial risks prior to conception will eliminate or reduce hazards to the mother and baby. Care is also likely to be more effective prior to conception because evaluation and treatment can be initiated without harm to the fetus.¹⁰

¹⁰ From [CDC90]

PRE-PREGNANCY HEALTH INSURANCE STATUS

Providing insurance is one of the best ways to increase access to health services and to have healthy babies. Without coverage, many pregnant women will wait to obtain care, often resulting in more costly care through the emergency room. Women without health insurance have great difficulty accessing the health care system and frequently do not participate in preventive care programs.

Survey question #1:

Just before you got pregnant, did you have health insurance?

- a. No
- b. Yes

Survey question #2:

Just before you got pregnant, were you on Medicaid¹¹?

- a. No
- b. Yes

Summary of results

- ❖ 70.6% had health insurance including those who indicated that in addition to health insurance they were on Medicaid.
- ❖ 8.4% of respondents answered that before they got pregnant they were on Medicaid;
- ❖ 67.6% had health insurance, no Medicaid.
- ❖ 5.4% were on Medicaid only, no other insurance¹².
- ❖ 3.0% had both Medicaid and health insurance.
- ❖ 24.0% had neither Medicaid nor health insurance.
- ❖ Significantly more unmarried (46.3%) than married (14.2%) women did not have any insurance.
- ❖ 19.4% of white women reported that they did not have any insurance. The percentage was 1.9 times higher among Native American women, and it was 2.3 times higher among Hispanic.
- ❖ Women younger than 25 years old were almost four times more likely not to have any insurance than those 35+ years old.

The percentages along with the corresponding CI's are presented in Table 3.

Table 3 Pre-pregnancy health insurance status

	Resp.	Yes	% Yes	95% CI
Had health insurance	714	442	70.6	(66.0 -75.2)
Were on Medicaid	712	92	8.4	(5.8 -11.0)
Had health insurance or Medicaid	714	507	76.0	(71.7 -80.4)
Had health insurance, no Medicaid	714	415	67.6	(62.9 -72.3)
Were on Medicaid only, no other insurance	712	65	5.4	(3.4 -7.5)
Had both Medicaid and health insurance	713	27	3.0	(1.3 -4.6)
Had neither Medicaid nor health insurance	714	206	23.9	(19.6 -28.3)

Figure 7 represents the proportions of insured/uninsured women in Pierce County just before they became pregnant. The proportions of uninsured women by demographic groups are presented in Table 4.

¹¹ Medicaid is a health insurance program for qualified individuals that is funded and administered through a State-Federal partnership. The Medicaid objectives include reducing rates of low birth weight, prematurity, and ultimately infant mortality. Services provided by Medicaid include prenatal care coordination, case management, risk assessment, health education, counseling, and home visits.

¹² Percentage of Medicaid recipients is likely to be underestimated because the respondents were not always able to correlate their insurance plan with Medicaid.

Figure 7 Insured/uninsured women in Pierce County just before they became pregnant

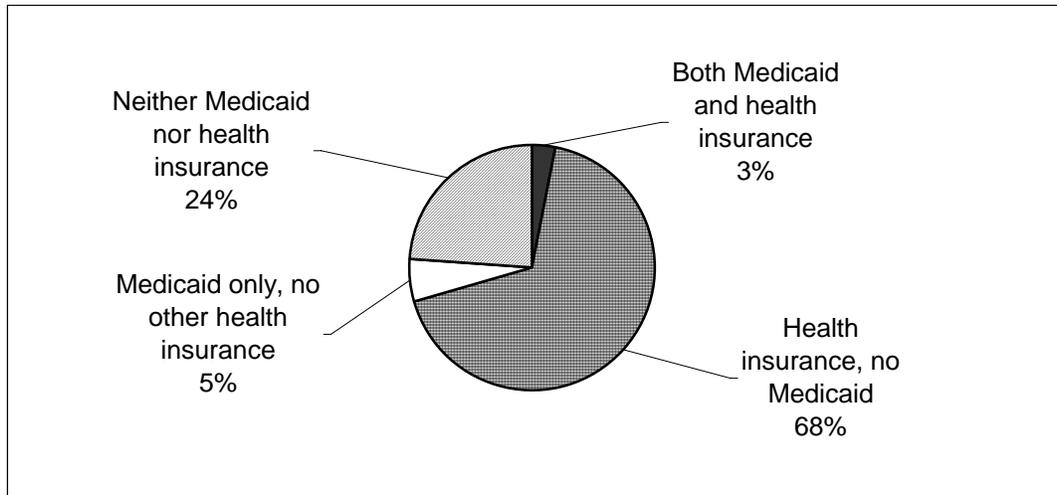


Table 4 Mothers who reported not having any insurance just before pregnancy¹³

Maternal characteristics	Resp	Count	% Count	95% CI
	714	206	23.9	(19.6-28.3)
Maternal age				
<20	100	35	35.1	(19.8-50.3)
20-24	214	80	37.7	(27.7-47.7)
25-34	323	78	18.3	(12.9-23.6)
35+	77	13	9.4	(2.2-16.5)
Marital status				
Married	419	78	14.2	(10-18.4)
Other	293	127	46.3	(37-55.5)
Education (years)				
<12	121	58	50.6	(36.2-65.1)
12	265	82	27.3	(19.5-35.0)
>12	301	58	14.8	(9.6-19.9)
Race				
Hispanic (race)	58	27	44.6	(31.9-57.2)
African American	227	64	28.7	(22.9-34.5)
Native American	99	35	36.1	(27.1-45)
Asian	143	46	32.0	(24.4-39.6)
White	187	34	19.4	(13.5-25.3)

¹³ In this table and elsewhere in this report the educational groups “<12”, “12”, and “>12” mean “Less than high school”, “High school”, and “Some college or college degree”, respectively.

MULTIVITAMIN USE

Studies have shown that pre-conception multivitamin intake decreases risk of genitourinary malformations, neural tube defects, cleft lip and cleft palate in offspring [La04].

Survey question #3:

In the month before you got pregnant with your new baby, how many times a week did you take a multivitamin?

- a. I didn't take a multivitamin at all
- b. 1 to 3 times a week
- c. 4 to 6 times a week
- d. Every day of the week

Summary of results

- ❖ 56.8% of women didn't take multivitamins in the month before they got pregnant. These women were more likely to be:
 - Teenagers (80.5%);
 - Unmarried (75.0%);
 - Women with less than 12 years of education (75.6%);
 - African American women (75.2%).
- ❖ The lowest percentage (of those who didn't take multivitamins) was reported by White mothers (52.9%).

Table 5 Women who reported not taking multivitamin before their pregnancy

Maternal characteristics	Resp. Count	Count	%Yes	95% CI
	715	455	56.8	(51.6-62.1)
Maternal age				
<20	100	77	80.5	(69.1-91.9)
20-24	217	166	74.8	(66.0-83.7)
25-34	322	178	47.5	(40.1-54.9)
35+	76	34	37.8	(23.0-52.6)
Marital status				
Married	419	229	48.9	(42.5-55.3)
Other	294	224	75.0	(67.1-83.0)
Education (years)				
<12	123	89	75.6	(64.1-87.0)
12	265	198	71.9	(63.9-79.9)
>12	299	148	40.2	(32.8-47.6)
Race				
Hispanic (race)	58	36	62.5	(49.6-75.4)
African American	227	170	75.2	(69.8-80.7)
Native American	98	67	69.0	(60.2-77.7)
Asian	143	86	60.5	(52.5-68.5)
White	189	96	52.9	(45.7-60.1)

Figure 8 Women who didn't take multivitamin before their pregnancy, by age

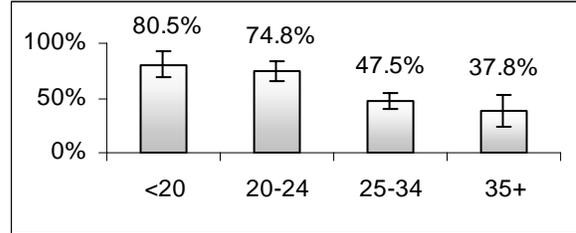


Figure 9 Women who didn't take multivitamin before their pregnancy, by marital status

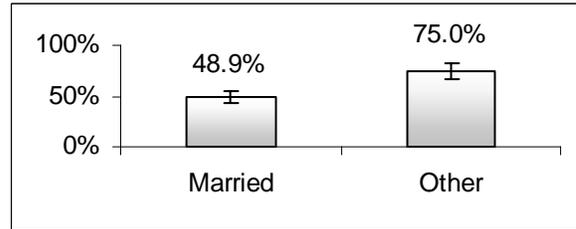


Figure 10 Women who didn't take multivitamin before their pregnancy, by education level

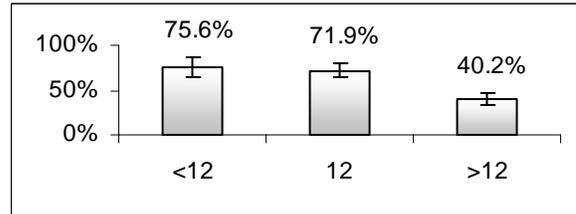
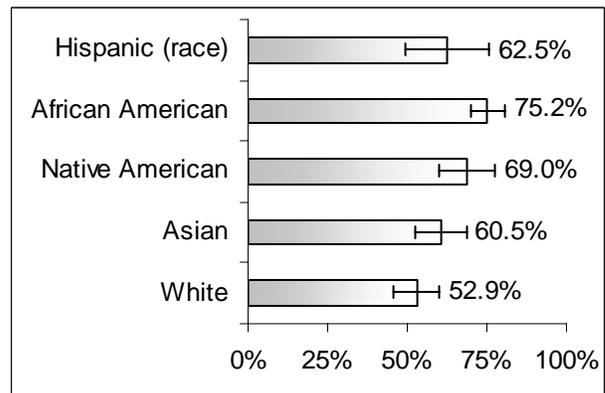


Figure 11 Women who didn't take multivitamin before their pregnancy, by race



PREGNANCY INTENTION AND BIRTH CONTROL USE

Unintended pregnancy is associated with adverse maternal behaviors, such as cigarette smoking or alcohol use. Women with unintended pregnancies resulting in a live birth are less likely to obtain early prenatal care because they may not realize that they are pregnant during the first trimester. Unintended pregnancies are defined as pregnancies for which, at the time of conception, a woman either wanted to be pregnant later (mistimed) or did not want to be pregnant at any time (unwanted).

Survey question #10:

Thinking back to just before you got pregnant, how did you feel about becoming pregnant?

- a I wanted to be pregnant sooner
- b I wanted to be pregnant later
- c I wanted to be pregnant then
- d I didn't want to be pregnant then or at any time in the future

Summary of results

Nearly 40 percent of all live births in Pierce County are the result of an unintended (i.e. mistimed or unwanted) pregnancy. These women were more likely to be:

- Teenagers (67.2%);
- Unmarried (68.1%);
- With less than 12 years of education (61.5%);
- African American women (65.6%).

Table 6 Prevalence of unintended pregnancy

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	709	355	39.6	(34.5-44.6)
Maternal age				
<20	99	81	67.2	(51.0-83.4)
20-24	217	123	51.5	(41.4-61.6)
25-34	316	127	31.2	(24.5-38.0)
35+	77	24	27.4	(14.2-40.7)
Marital status				
Married	418	149	27.5	(22.0-33.0)
Other	289	204	68.1	(59.4-76.8)
Education (years)				
<12	123	83	61.5	(47.5-75.6)
12	261	144	44.1	(35.3-53.0)
>12	297	109	29.4	(22.5-36.2)
Race				
Hispanic (race)	58	31	53.9	(41.2-66.5)
African American	226	147	65.6	(59.6-71.7)
Native American	98	54	55.4	(46.0-64.8)
Asian	139	63	45.7	(37.5-54.0)
White	188	60	33.2	(26.3-40.0)

Figure 12 Prevalence of unintended pregnancy, by age

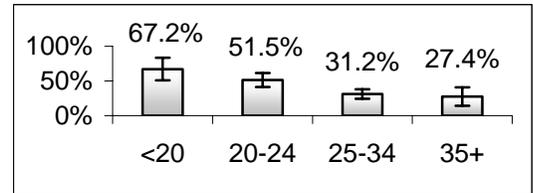


Figure 13 Prevalence of unintended pregnancy, by marital status



Figure 14 Prevalence of unintended pregnancy, by education level

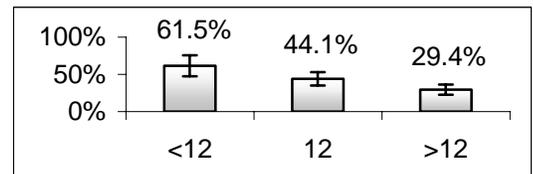
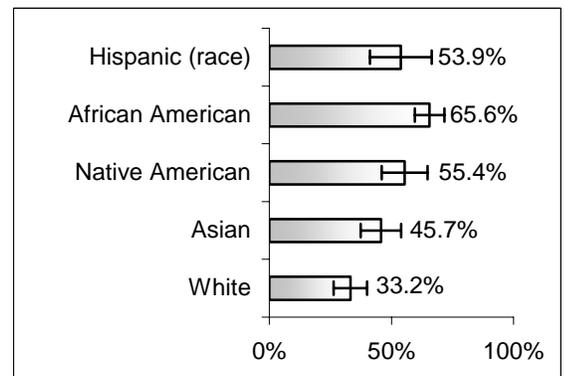


Figure 15 Prevalence of unintended pregnancy, by race



Survey question #64:

Thinking back to just before you got pregnant, how did your husband or partner feel about your becoming pregnant?

- a My husband or partner wanted me to be pregnant sooner
- b My husband or partner wanted me to be pregnant later
- c My husband or partner wanted me to be pregnant then
- d My husband or partner didn't want me to be pregnant then or at any time in the future
- e It didn't matter to my husband or partner when I became pregnant
- f I don't know
- g I didn't have a husband or partner

Summary of results

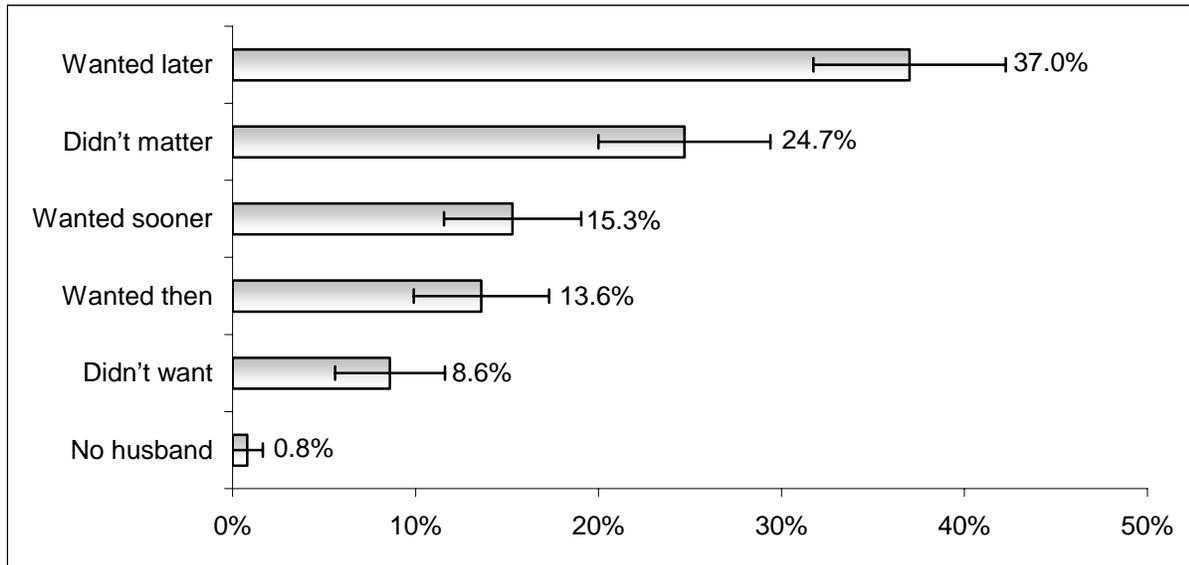
- ❖ 8.6% of women said their husband or partner did not want the pregnancy at all.
- ❖ 37.0% of husbands or partners wanted pregnancy later.
- ❖ 0.8% women indicated that they did not have a husband or partner.
- ❖ 53.6% of women indicated that their husbands or partners wanted their pregnancy (wanted sooner, or wanted then, or didn't matter).
- ❖ 45.6% of women indicated that their husbands or partners considered their pregnancy as not intended (wanted later, or didn't want).

The percentages of women who characterized attitude of their husband or partner toward their pregnancy are presented in Table 7 and Figure 16.

Table 7 Father's feeling about pregnancy just prior to conception

	Resp	Yes	% Yes	95% CI
Wanted later	666	212	37.0	(31.8- 42.3)
Didn't matter	666	161	24.7	(20.0- 29.4)
Wanted sooner	666	125	15.3	(11.5- 19.0)
Wanted then	666	95	13.6	(9.9- 17.3)
Didn't want	666	66	8.6	(5.6- 11.6)
No husband	666	7	0.8	(0.0- 1.7)

Figure 16 Attitude of husband or partner toward pregnancy



Survey question #11

When got pregnant with your new baby, were you trying to become pregnant?

- a No
- b Yes

Summary of results

- ❖ Almost 52% of women became pregnant because they were trying to conceive. These women were more likely to be:
 - Women 35 years old and older (61.6%);
 - Married (65.8%);
 - Women with more than 12 years of education (63.1%);
 - The percentage varies widely by race/ethnicity. White mothers reported the highest percentage (58.5%) followed by Asian (49.0%). Hispanic mothers reported the lowest percentage (27.2%).
- ❖ Of those women who wanted to get pregnant later or never, 5.6% indicated they became pregnant because they were trying to conceive.
- ❖ Out of those women whose husbands or partners wanted them to get pregnant later or never, 70.4% indicated that they became pregnant because they were trying to conceive.

Table 8 Women who became pregnant because they were trying to conceive

Maternal characteristics	Resp	Yes	% Yes	95% CI
Maternal age	716	301	51.9	(46.7- 57.1)
<20	100	17	26.9	(11.7- 42.0)
20-24	217	78	41.1	(31.1- 51.1)
25-34	323	166	59.8	(52.6- 67.0)
35+	76	40	61.6	(47.1- 76.1)
Marital status				
Married	420	239	65.8	(59.9- 71.7)
Other	294	62	19.6	(12.5- 26.7)
Education (years)				
<12	123	30	29.0	(15.8- 42.1)
12	266	99	45.2	(36.3- 54.2)
>12	299	163	63.1	(55.9- 70.3)
Race				
Hispanic (race)	58	16	27.2	(16.2- 38.1)
African American	227	70	30.1	(24.3- 35.9)
Native American	99	32	31.4	(22.9- 39.9)
Asian	142	70	49.0	(40.8- 57.1)
White	190	113	58.5	(51.4- 65.7)

Figure 17 Women who became pregnant because they were trying to conceive, by age

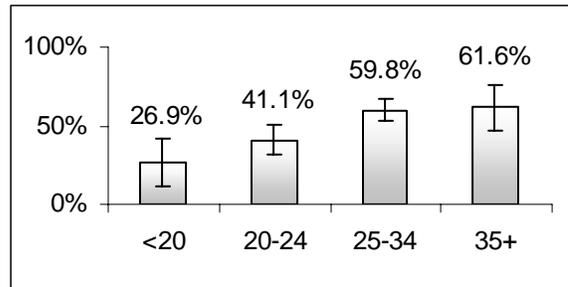


Figure 18 Women who became pregnant because they were trying to conceive, by marital status

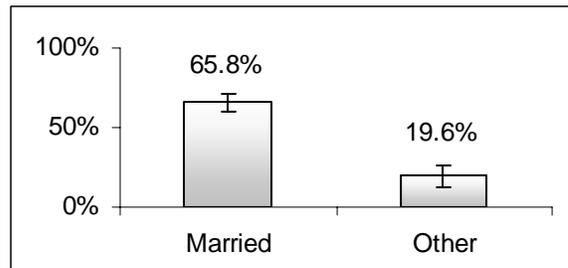


Figure 19 Women who became pregnant because they were trying to conceive, by education level

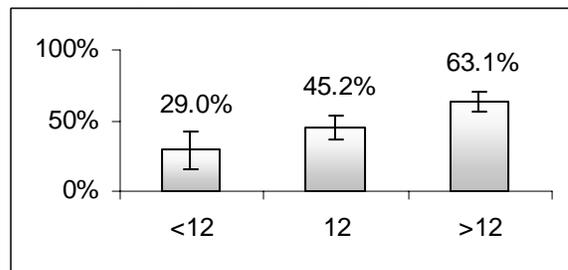
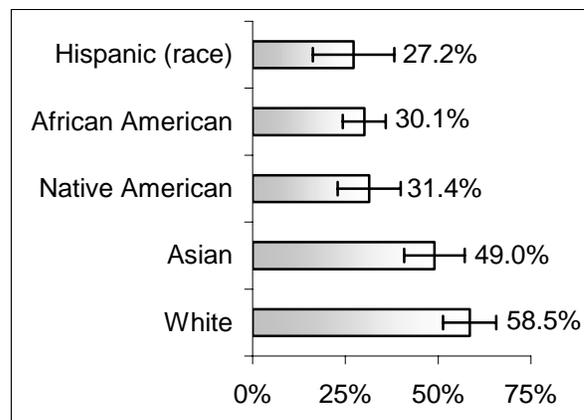


Figure 20 Women who became pregnant because they were trying to conceive, by race



Survey question #12:

When you got pregnant with your new baby, were you or your husband or partner doing anything to keep from getting pregnant? (Only those were asked this question who indicated they were not trying to conceive when answering Question #11.)

- a No
- b Yes

Contraception suggested in the survey question #12 is defined as: “Some things people do to keep from getting pregnant including not having sex at certain times, and using birth control methods”.

Summary of results

- ❖ 41.6% of women who became pregnant reported that they or their partner/husband were utilizing contraception, which failed. These women were more likely to be:
 - 35 years old and older (50.5);
 - With 12 years of education (43.9%);
 - African American (56.3%).
- ❖ Of those who were not trying to conceive and who did not have intention to get pregnant, 47.6% indicated they were using birth control.
- ❖ Of those who were not trying to conceive and reported that their husbands or partners didn't mind if they got pregnant, 38.5% indicated they were using birth control.

Table 9 Women who became pregnant when utilizing contraception

Maternal characteristics	Resp	Yes	% Yes	95% CI
	414	187	41.6	(34.3-48.8)
Maternal age				
<20	83	34	33.5	(18.2-48.8)
20-24	139	62	43.0	(30.1-56.0)
25-34	156	74	41.2	(30.2-52.3)
35+	36	17	50.5	(27.6-73.3)
Marital status				
Married	180	84	43.8	(33.5-54.1)
Other	232	101	39.0	(28.9-49.0)
Education (years)				
<12	93	35	28.7	(14.7-42.6)
12	167	77	43.9	(32.3-55.4)
>12	135	61	39.6	(27.6-51.7)
Race				
Hispanic (race)	42	23	53.9	(38.3-69.5)
African American	158	88	56.3	(48.7-63.8)
Native American	67	23	34.3	(23.2-45.3)
Asian	70	24	33.8	(22.7-44.9)
White	77	29	37.7	(26.5-48.8)

Figure 21 Women who became pregnant when utilizing contraception, by age

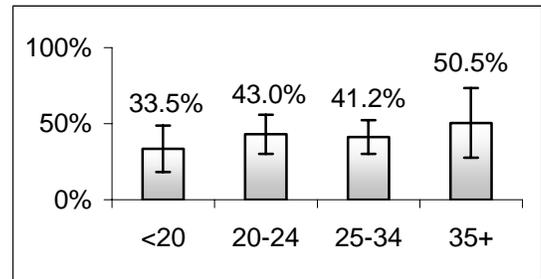


Figure 22 Women who became pregnant when utilizing contraception, by marital status

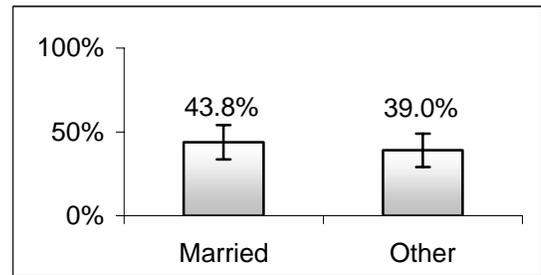


Figure 23 Women who became pregnant when utilizing contraception, by education level

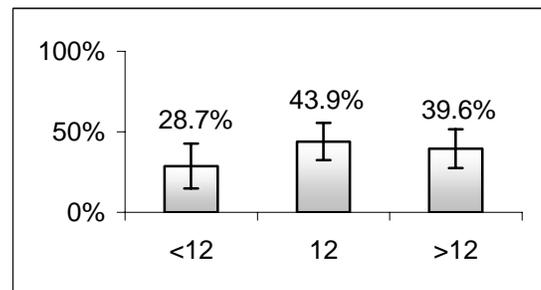
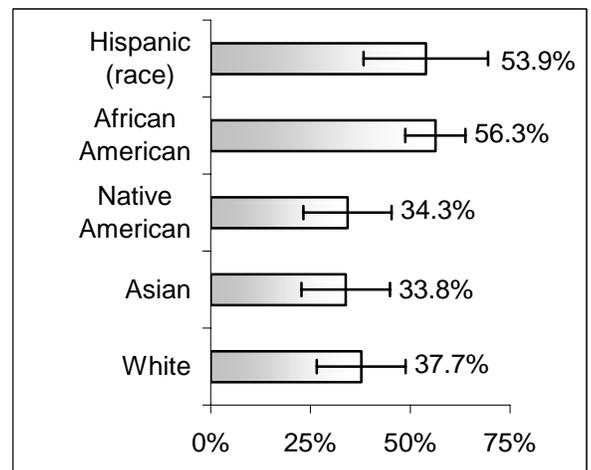


Figure 24 Women who became pregnant when utilizing contraception, by race



Survey question #13

(Only those mothers were asked this question who reported that they did not try to become pregnant and who were not utilizing contraception before pregnancy, i.e. those who answered “No” to the Question #12.)

What were you or your husband or partner’s reasons for not doing anything to keep from getting pregnant?

- a I didn’t mind if I got pregnant
- b I thought I could not get pregnant at that time
- c I had side effects from the birth control method I was using
- d My husband or partner did not want to use anything
- e I thought my partner or I was sterile
- f I had problems getting birth control when I needed it
- g Other

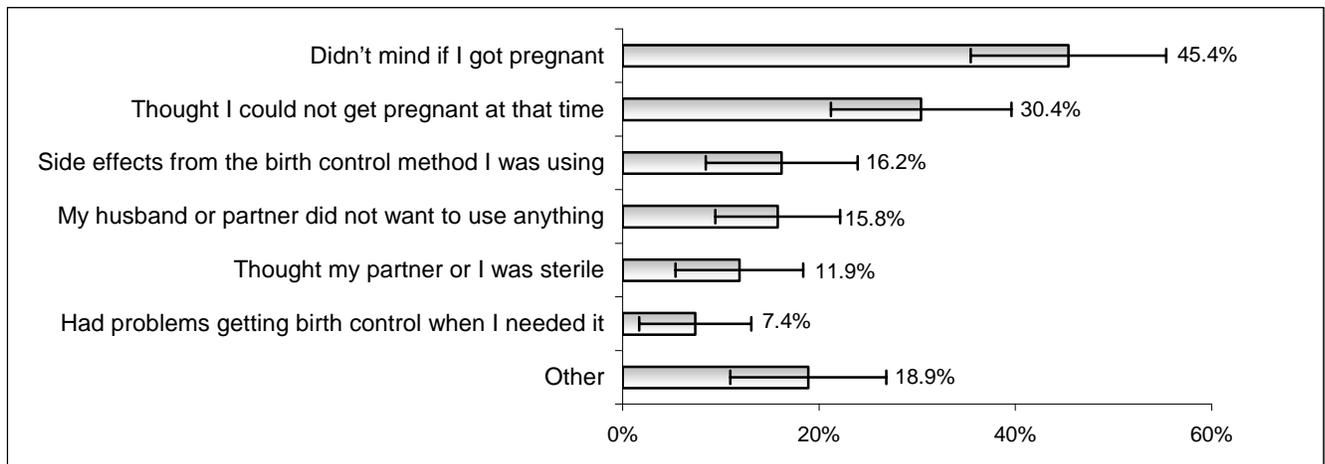
Summary of results

- ❖ The main reason stated for not using birth control was that the mother did not mind if she became pregnant (45.4%).
- ❖ Almost one third (30.4%) of the mothers thought they could not get pregnant.
- ❖ Almost one in six mothers were not using birth control because they had side effects from the birth control method they used.
- ❖ 15.8% of mothers indicated that they did not use birth control because their husband or partner did not want to use anything.
- ❖ 11.9% of mothers stated that they did not use birth control because they thought that they or their partner was sterile.
- ❖ 7.4% had trouble obtaining birth control.

Table 10 Reasons for not using contraception before pregnancy

	Resp	Yes	%Yes	95% CI
Didn’t mind if I got pregnant	226	82	45.4	(35.4-55.3)
Thought I could not get pregnant at that time	228	71	30.4	(21.2-39.6)
Other	229	40	18.9	(11.0-26.9)
Had side effects from the birth control method I was using	228	34	16.2	(8.5-24.0)
My husband or partner did not want to use anything	227	48	15.8	(9.4-22.1)
Thought my partner or I was sterile	228	25	11.9	(5.4-18.4)
Had problems getting birth control when I needed it	228	15	7.4	(1.7-13.1)

Figure 25 Why not using contraception before pregnancy



Public Health Implications

Almost one in four women who delivered a live birth in Pierce County during 2000-2003 did not have health insurance prior to becoming pregnant. Access to health care remains a challenging issue, and methods need to be developed to identify and refer women as soon as possible in their pregnancies. Special attention should be paid to the women from the following demographic groups:

- Hispanic (44.6% did not have any insurance);
- Women with less than 12 years of education (50.6% did not have any insurance);
- Unmarried (46.3% did not have any insurance).

Unintended pregnancy is of particular concern to public health professionals because studies show that women who give birth from an unintended pregnancy have an increased chance of alcohol, tobacco, and other substance use during pregnancy, intimate partner violence, maternal depression, and economical hardship. Infants and children born from an unintended pregnancy have an increased risk of low birth weight, dying in their first year, and child abuse and neglect.

Unintended pregnancies are highest among socio-economically vulnerable groups: women under the age of 20, unmarried, and women with low educational level. 41.6% of Pierce County women who became pregnant were utilizing contraception, which failed. This suggests that women are not informed or misunderstand information regarding the proper use of effective methods to prevent pregnancy; and that contraceptive services may not be available to the women who need them most.

Increasing education of and access to birth control would decrease incidence of abortion as well decrease unintended pregnancy. Pierce County PRAMS estimates related to intended pregnancy are presented in Table 11 displaying the prevalence of pregnancies that are intended in Pierce County which are reasonably close to the corresponding Healthy People 2010 objective: 60% vs. 70%. However, the proportion of women at risk of unintended pregnancy who use contraception in Pierce County is significantly lower than recommended: 52.4% vs. 100%.

Table 11 Healthy People 2010 objectives and Pierce County PRAMS estimates related to intended pregnancy

Healthy People 2010 Objectives	Healthy People 2010 target	Pierce County PRAMS 2000-2003 data
Increase the proportion of pregnancies that are intended.	70%	60%
Increase the proportion of females at risk of unintended pregnancy who use contraception.	100%	52.4%

Pierce County PRAMS data can be used to monitor trends in improved access to family planning services, women's knowledge about their reproductive health, and proper and consistent use of effective birth control methods.

The following strategies to increase the proportion of pregnancies that are intended are of interest to public health professionals:

- Development of community-based initiatives, which provide education on the early signs and symptoms of pregnancy and the benefits of early prenatal care targeted to groups least likely to report receiving early prenatal care, particularly teenagers and women with less than a high school education.
- Development of collaboration between public health professionals and medical providers to further explore and improve access to care in the first trimester when pregnant women may be educated and counseled by their prenatal care providers about risk behaviors that can affect birth outcomes.

PRENATAL CARE

Prenatal risk factors include food deprivation, stress, alcohol intake, smoking and drugs use during pregnancy. These factors may result in adverse birth outcome. Proper prenatal care can reduce potential adverse birth outcome associated with prenatal risk factors.

Prenatal care is medical attention given to the expectant mother and her developing baby. It also involves the mother's caring for herself by following her health care provider's advice. Prenatal care is more than just health care; it often includes education and counseling about how to handle different aspects of pregnancy, such as nutrition and physical activity, what to expect from the birth itself, and basic skills for caring for the baby.

PRENATAL CARE INITIATION

Prenatal care includes risk assessment, treatment for medical conditions, risk reduction, and education. Adequate prenatal care should begin in the first trimester and include an adequate number of visits at appropriate times. Prenatal care is recommended for all pregnant women because of its potential to improve the long-term health of the mother and infant, as well as prevent adverse birth outcomes.

Survey question #14:

How many weeks pregnant were you when you were sure you were pregnant?

Summary of results

- ❖ 94.8% women confirmed their pregnancy status by a test or doctor or nurse in the first trimester (first 12 weeks).
- ❖ There were no statistically significant differences in observed percentages with regards to different age, marital status, educational level, or race.

Survey question #15:

How many weeks pregnant were you when you had your first visit for prenatal care?

Summary of results

- ❖ 77.2% had their first visit for prenatal care within first trimester (first 12 weeks), 21.4% - after first trimester, 1.5% – didn't go for prenatal care.
- ❖ Relatively lower percentages of prenatal care in 1st trimester were observed among unmarried, teenagers, and those with education less than 12 years. However, the differences in observed percentages with regards to different age, marital status, educational level, or race were not statistically significant.

Table 12 Pregnancy confirmation and initiation of prenatal care

Maternal characteristics	Women who confirmed their pregnancy status by a test in the first trimester				Women who had their first visit for prenatal care within the first trimester			
	Resp	Yes	%Yes	95% CI	Resp	Yes	%Yes	95% CI
	683	626	94.8	(92.7-96.8)	708	540	77.2	(72.8-81.5)
Maternal age								
<20	97	83	88.8	(80.2-97.4)	99	62	59.0	(43.2-74.7)
20-24	202	186	95.1	(91.8-98.5)	213	161	71.6	(62.4-80.8)
25-34	310	289	95.9	(93.1-98.7)	320	258	82.9	(77.3-88.5)
35+	74	68	93.7	(87.3-100.0)	76	59	79.1	(67.1-91.2)
Marital status								
Married	404	377	95.8	(93.6-98.0)	417	333	80.6	(75.5-85.7)
Other	277	247	92.2	(87.8-96.6)	289	206	69.4	(60.9-77.9)
Education (years)								
<12	115	98	92.8	(88.7-96.8)	121	78	69.6	(56.9-82.2)
12	257	233	93.5	(89.7-97.3)	261	201	76.7	(69.0-84.5)
>12	288	274	96.0	(93.0-99.0)	298	240	80.0	(73.8-86.1)
Race								
Hispanic (race)	52	48	91.9	(84.7-99.2)	54	43	78.4	(66.9-89.9)
African American	217	194	89.1	(85.1-93.2)	226	170	74.7	(69.2-80.3)
Native American	96	87	90.1	(84.2-96.0)	98	76	76.3	(68.1-84.5)
Asian	132	117	88.4	(82.9-93.9)	141	102	72.5	(65.3-79.8)
White	186	180	96.7	(94.2-99.3)	189	149	78.0	(72.1-83.9)

Survey question #16:

Did you get prenatal care as early in your pregnancy as you wanted?

- a No
- b Yes
- c I did not want prenatal care

Summary of results

- ❖ 22.6% of women got prenatal care later than wanted and 0.7% did not want prenatal care.
- ❖ 76.7% of women got prenatal care as early in their pregnancy as they wanted. Women with the following age, marital status, educational level, and race were least likely to respond “Yes” to this question:
 - Teenagers (59.1);
 - Unmarried (68.6);
 - Women with education <12 years (73.5%);
 - Native American women (75.7%).
- ❖ Differences in percentages between different demographic groups were not statistically significant.
- ❖ Among those whose pregnancy was intended, 82.5% of women got prenatal care as early in their pregnancy as they wanted. The percentage was lower (67.4%) among women whose pregnancy was unintended.

Table 13 Women who got prenatal care as early in their pregnancy as they wanted

Maternal characteristics	Resp	Yes	% Yes	95% CI
	717	554	76.7	(72.3-81.2)
Maternal age				
<20	100	67	59.1	(43.2-75.0)
20-24	216	156	69.1	(59.5-78.6)
25-34	324	266	82.7	(77.1-88.3)
35+	77	65	82.0	(69.8-94.3)
Marital status				
Married	422	344	80.2	(74.9-85.4)
Other	239	208	68.6	(60.0-77.1)
Education (years)				
<12	123	89	73.6	(61.0-86.2)
12	265	200	73.5	(65.5-81.5)
>12	301	240	78.7	(72.3-85.1)
Race				
Hispanic (race)	58	48	83.3	(73.6-92.9)
African American	227	174	76.5	(71.1-81.9)
Native American	99	75	75.7	(68.0-83.4)
Asian	143	112	78.2	(71.4-85.0)
White	190	145	75.9	(69.8-82.0)

Figure 26 Women who got prenatal care as early in their pregnancy as they wanted, by age

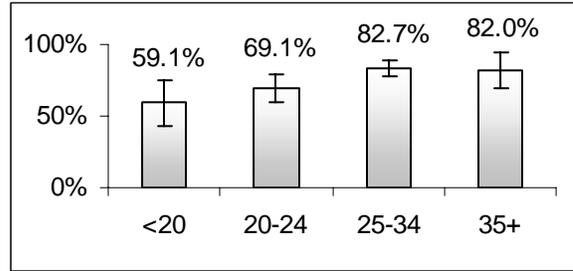


Figure 27 Women who got prenatal care as early in their pregnancy as they wanted, by marital status

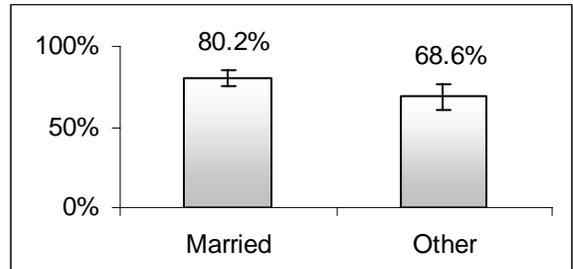


Figure 28 Women who got prenatal care as early in their pregnancy as they wanted, by education level

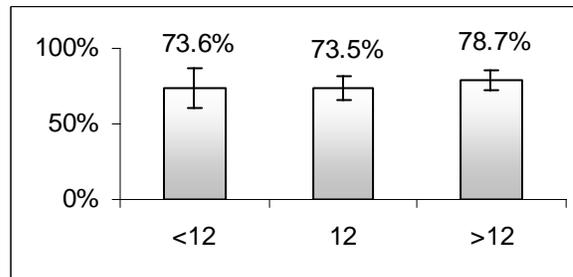
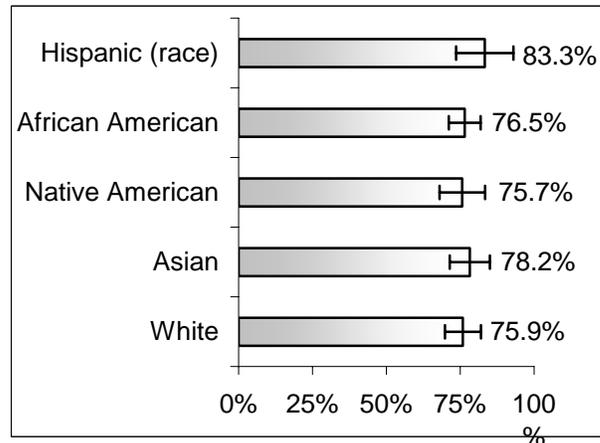


Figure 29 Women who got prenatal care as early in their pregnancy as they wanted, by race



Survey question #17:

Did any of these things keep you from getting prenatal care as early as you wanted? Choose all that apply. (Only those women who entered prenatal care after their first trimester [Question #15] and also those who entered later than they desired [Question #16], were asked to identify barriers they felt prevented them from obtaining care when they desired.)

- a I couldn't get an appointment earlier in my pregnancy.
- b I didn't know that I was pregnant.
- c I didn't have enough money or insurance to pay for my visits.
- d The doctor or my health plan would not start care earlier.
- e I had too many other things going on.
- f I did not have my Medicaid card.
- g I had no way to get to the clinic or doctor's office.
- h I had no one to take care of my children.
- i Other reason.

Summary of results

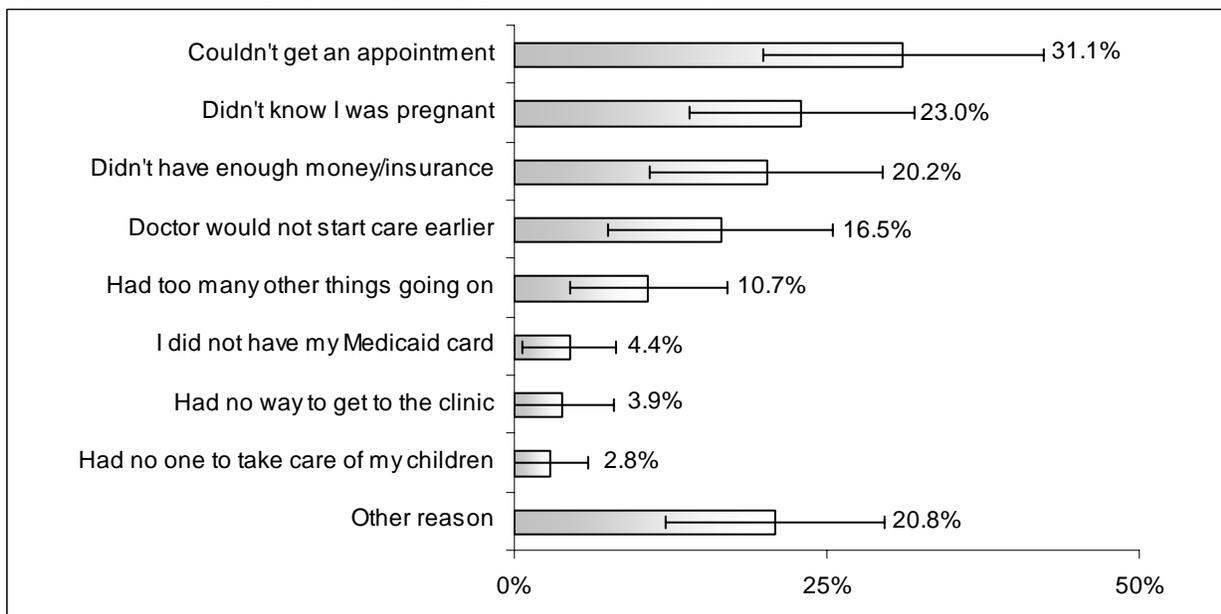
- ❖ The most common barrier to receiving early prenatal care, as reported by the mother, was not being able to obtain an earlier appointment (31.1%).

- ❖ The second leading reason for not receiving early prenatal care was that the respondent didn't know that she was pregnant (23.0%).
- ❖ Out of those women who either entered prenatal care after first trimester or entered prenatal care later than desired, 78.7% indicated at least one reason for not receiving early prenatal care.

Table 14 Barriers to early prenatal care

	Resp	Yes	%Yes	95% CI
Couldn't get an appointment	156	40	31.1	(19.9- 42.4)
Didn't know I was pregnant	156	50	23.0	(14.0- 32.0)
Didn't have enough money or insurance to pay for my visits	156	37	20.2	(10.9- 29.5)
The doctor or my health plan would not start care earlier	156	18	16.5	(7.5- 25.5)
I had too many other things going on	156	27	10.7	(4.4- 17.0)
I did not have my Medicaid card	156	11	4.4	(0.6- 8.2)
I had no way to get to the clinic or doctor's office	156	10	3.9	(0.0- 8.1)
I had no one to take care of my children	156	7	2.8	(0.0- 6.3)
Other reason	156	37	20.8	(12.1- 29.6)
Women who indicated at least one barrier for not receiving early prenatal care	156	133	78.7	(68.6- 88.8)

Figure 30 Barriers keeping from getting prenatal care as early as wanted



PRENATAL CARE DELIVERY AND PAYMENT FOR PRENATAL CARE

Survey question #18:

Where did you go most of the time for your prenatal care visits?

- a Private doctor’s office or HMO clinic
- b Hospital clinic
- c Military facility
- d Health department clinic
- e Community health center
- f Other

- ❖ About one in ten women (9.6%) received their prenatal care services at a military facility.
- ❖ 2.6% of women went to a Health department clinic for their prenatal care visits. (Notice: In Pierce County the Health Department does not conduct prenatal clinics.)
- ❖ Community health center provided prenatal care services to 2.3% of women.

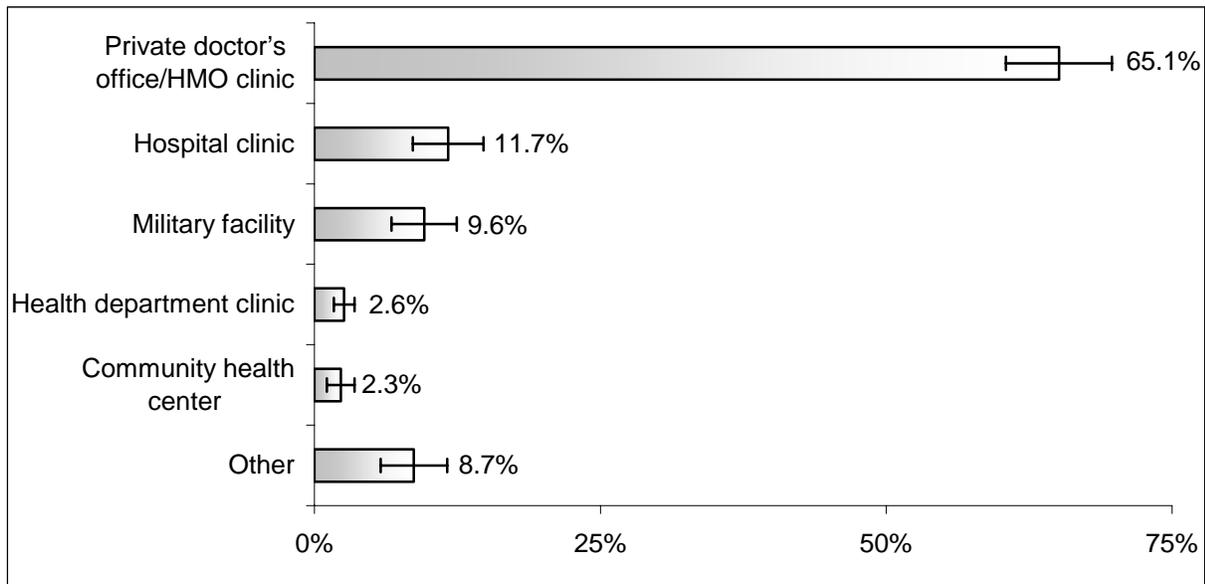
Summary of results

- ❖ Almost two in three (65.1%) women who delivered a live birth in 2000-2003 received their prenatal care services in a private doctor’s office or HMO clinic.
- ❖ About one in ten women (11.7%) received their prenatal care services in a hospital clinic.

Table 15 Site of prenatal care visits

	Resp.	Yes	%Yes	95% CI
Private doctor’s office/HMO clinic	707	363	65.1	(60.4-69.7)
Hospital clinic	707	122	11.7	(8.6-14.8)
Military facility	707	90	9.6	(6.7-12.4)
Health department clinic	707	41	2.6	(1.7-3.5)
Community health center	707	27	2.3	(1.1-3.5)
Other	707	64	8.7	(5.8-11.6)

Figure 31 Site of prenatal care visits



Survey question #19:

How was your prenatal care paid for?

Check all that apply.

- a Health insurance/HMO
- b Medicaid
- c Income
- d Military
- e Still owe
- f Other

Summary of results

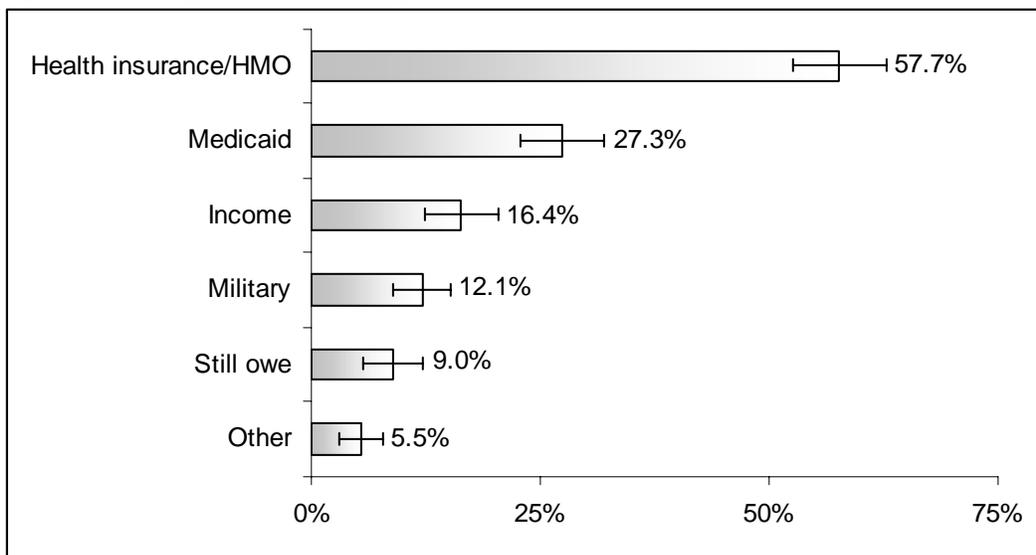
- ❖ Health insurance or HMO paid prenatal care for over half (57.7%) of women. These women were more likely to be:
 - Women 35 years old and older (79.9%);
 - Married (68.5%);
 - Women with more than 12 years of education (76.3%).
- ❖ The percentage varies widely by race/ethnicity. White mothers reported the highest percentage (66.3%) followed by Native American (47.9%) and Asian (47.9%). Hispanic mothers reported the lowest percentage (27.5%).

- ❖ 27.3% of women indicated that Medicaid paid for their prenatal care. These women were more likely to be:
 - Teenagers (56.9%);
 - Unmarried (57.6%);
 - Women with less than 12 years of education (68.9%);
 - Hispanic (race) mothers reported the highest percentage (55.6%) followed by African American (41.6%). White mothers reported the lowest percentage (21.4%).
- ❖ 16.4% of women paid for their prenatal care from their income.
- ❖ Military paid for prenatal care of 12.1% of women.

Table 16 How prenatal care was paid for

	Resp.	Yes	%Yes	95% CI
Health insurance/HMO	710	332	57.7	(52.6-62.7)
Medicaid	710	238	27.3	(22.8-31.9)
Income	710	80	16.4	(12.3-20.5)
Military	710	113	12.1	(8.9-15.2)
Still owe	708	52	9.0	(5.7-12.2)
Other	710	59	5.5	(3.2-7.9)

Figure 32 How prenatal care was paid for



Public Health Implications

22.8% of Pierce County mothers who entered prenatal care after their first trimester¹⁴ are of particular concern to Public Health professionals. This is because a late start leads to an inadequate number of prenatal care visits and an increased chance of late identification of high risk conditions. Early and consistent prenatal care allows for the diagnosis and management of medical and behavioral conditions that may affect the health of the mother and infant. However, researchers have recently reported that disparities in perinatal outcomes persist even when access is available and initiated early in the pregnancy [He06].

Among the leading reasons for entering prenatal care late related to health care access were:

- Could not get an earlier appointment,
- Could not afford an appointment,
- Doctor or health plan would not start care earlier.

The following strategies to increase prenatal care initiation in the first trimester of pregnancy are of interest for the Public Health professionals:

- Identification of barriers to access of care, such as ethnic practices, transportation obstacles, lack of knowledge, and or a shortage of providers for a needed service in a community.
- Development of community-based educational initiatives which provide education on the early signs and symptoms of pregnancy and the benefits of early prenatal care targeted to groups least likely to report receiving early prenatal care, particularly teens and women with less than a high school education.
- Collaboration between public health professionals and medical providers to further explore and improve access to care in the first trimester when pregnant women may be educated and counseled by their prenatal care providers about risk behaviors that can affect birth outcomes.

¹⁴ The related Healthy People 2010 objective is for 10% or fewer women to begin prenatal care after the first trimester.

**SELECTED MATERNAL RISK FACTORS DISCUSSED
BY PRENATAL HEALTH CARE PROVIDERS**

Prenatal care recommendations include education for patients regarding a wide range of topics. Many providers talk to patients directly about the different subjects and/or use educational pamphlets and videos. It is important for pregnant women to be educated on all of these topics and to receive the messages directly from the health care provider.

Survey question #20:

During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about any of the things listed below?

- a How smoking during pregnancy could affect your baby
- b Breastfeeding your baby
- c How drinking alcohol during pregnancy could affect your baby
- d Using a seatbelt during your pregnancy
- e Birth control methods to use after your pregnancy
- f Medicines that are safe to take during your pregnancy
- g How using illegal drugs could affect your baby
- h Doing tests to screen for birth defects or diseases that run in your family
- i What to do if your labor starts early
- j Getting your blood tested for HIV (the virus that causes AIDS)
- k Physical abuse to women by their husbands or partners

Survey question #66:

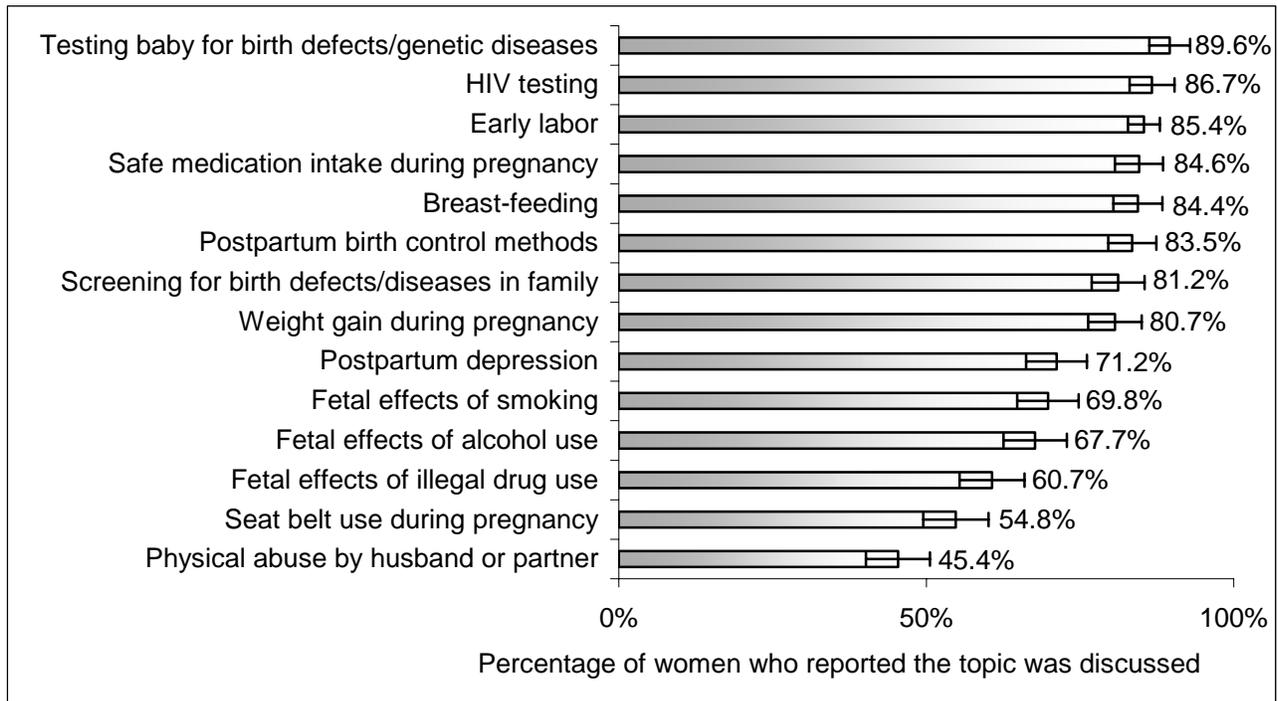
At any time during your pregnancy, did a doctor, nurse or other health care worker talk to you about the following things?

- a “Baby blues” or postpartum depression
- b How much weight you should gain during your pregnancy
- c Diseases or birth defects that could run in your family or your partner’s family
- d Tests that could be done during your pregnancy to see if your baby had a birth defect or genetic disease

Summary of results

- ❖ The three most common topics discussed by prenatal health care providers were:
 - Testing for birth defects or genetic diseases (89.6%);
 - HIV testing (86.7%);
 - Early labor (85.4%).
- ❖ The least common topics discussed by prenatal health care providers were:
 - Physical abuse by husband or partner (45.4%);
 - Seat belt use during pregnancy (54.8%);
 - Fetal effects of illegal drug use (60.7%).

Figure 33 Maternal risk factors discussed by prenatal health care providers



Survey question #20a:

During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about:

How smoking during pregnancy could affect your baby.

Summary of results

- ❖ 69.8% of women said that a prenatal health care provider talked with them about fetal effects of smoking. These women were more likely to be:
 - Teenagers (86.3%);
 - Unmarried (86.0%);
 - Women with less than 12 years of education (91.1%);
 - African American women (86.8%).
- ❖ 82.7% of women enrolled in WIC program said that a prenatal health care provider talked with them about fetal effects of smoking. The percentage was noticeably lower among women not enrolled in WIC (60.3%). The difference was statistically significant.

Table 17 Women who reported a health care provider discussed how smoking during pregnancy could affect the baby

Maternal characteristics	Resp.	Yes	% Yes	95% CI
	707	559	69.8	(64.8-74.8)
Maternal age				
<20	99	93	86.3	(73.8-98.9)
20-24	214	184	83.0	(75.2-90.9)
25-34	320	230	63.1	(55.7-70.5)
35+	74	52	56.6	(41.2-72.1)
Marital status				
Married	417	303	63.3	(56.9-69.7)
Other	288	255	86.0	(79.2-92.8)
Education (years)				
<12	121	115	91.1	(82.2-100.0)
12	262	206	67.2	(58.3-76.0)
>12	298	217	64.8	(57.4-72.2)
Race				
Hispanic (race)	58	48	82.7	(73.4-91.9)
African American	225	195	86.8	(82.5-91.1)
Native American	99	84	84.9	(78.1-91.7)
Asian	138	113	81.9	(75.5-88.3)
White	187	119	64.0	(57.0-70.9)

Figure 34 Women who reported a health care provider discussed how smoking during pregnancy could affect the baby, by age

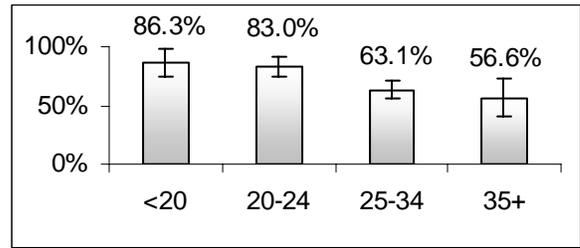


Figure 35 Women who reported a health care provider discussed how smoking during pregnancy could affect the baby, by marital status

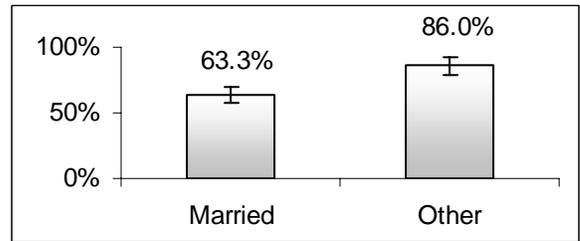


Figure 36 Women who reported a health care provider discussed how smoking during pregnancy could affect the baby, by education level

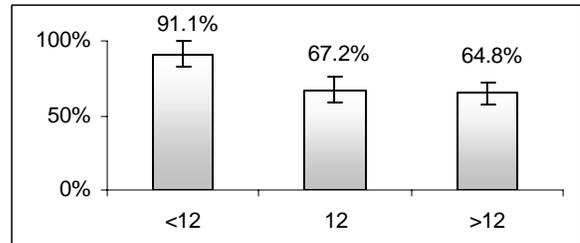
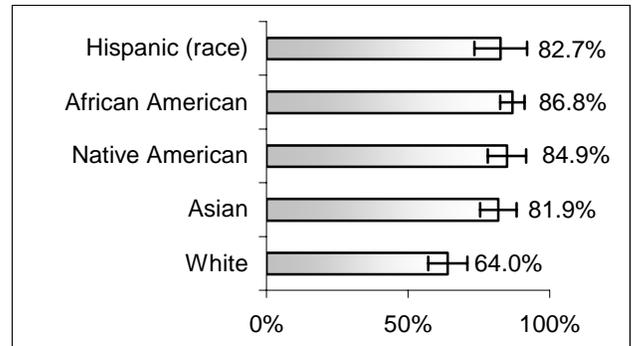


Figure 37 Women who reported a health care provider discussed how smoking during pregnancy could affect the baby, by race



Survey question #20b:

During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about:

Breastfeeding your baby.

Summary of results

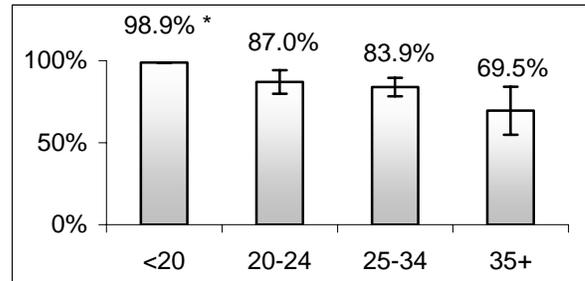
- ❖ 84.4% of women said that a prenatal health care provider talked with them about breastfeeding. These women were more likely to be:
 - 20-24 years old (87.0%);
 - Unmarried (91.3%);
 - Women with less than 12 years of education (94.9%);
 - African American women (93.8%).
- ❖ 94.9% of women enrolled in WIC program said that a prenatal health care provider talked with them about breastfeeding. The percentage was noticeably lower among women not enrolled in WIC (77.0%). The difference was statistically significant.

Table 18 Women who reported a health care provider discussed breastfeeding could affect the baby

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	708	630	84.4	(80.4- 88.4)
Maternal age				
<20	99	97	98.9*	
20-24	213	193	87.0	(79.8- 94.1)
25-34	322	281	83.9	(78.2- 89.6)
35+	74	59	69.5	(54.9- 84.1)
Marital status				
Married	416	358	81.5	(76.3- 86.7)
Other	290	270	91.3	(85.8- 96.9)
Education (years)				
<12	120	115	97.5	(94.9- 100.0)
12	264	236	84.8	(78.1- 91.6)
>12	298	257	80.8	(74.5- 87.1)
Race				
Hispanic (race)	57	52	91.2	(83.7- 98.6)
African American	225	211	93.8	(90.8- 96.9)
Native American	99	90	91.1	(85.6- 96.5)
Asian	140	125	89.1	(83.9- 94.3)
White	187	152	81.5	(76.0- 87.1)

* This estimate cannot be considered as reliable.

Figure 38 Women who reported a health care provider discussed breastfeeding, by age



* Estimate for age <20 cannot be considered as reliable.

Figure 39 Women who reported a health care provider discussed breastfeeding, by marital status

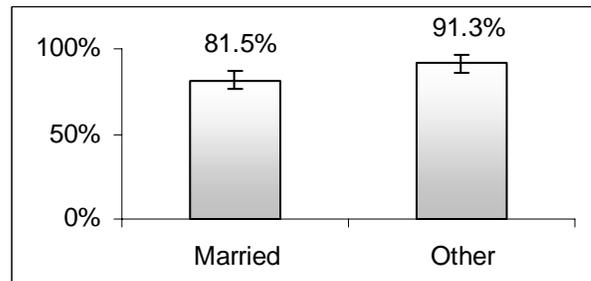


Figure 40 Women who reported a health care provider discussed breastfeeding, by education level

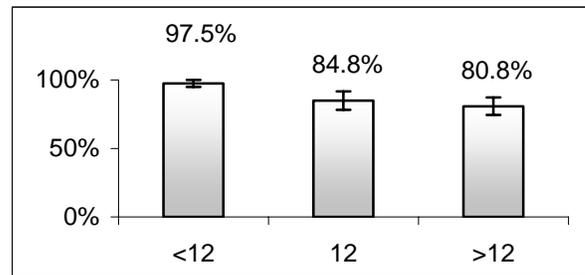
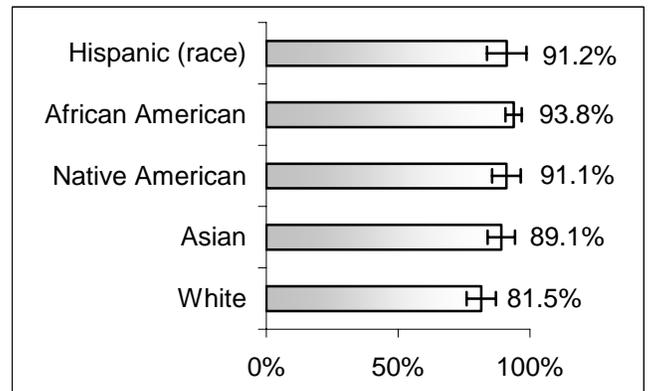


Figure 41 Women who reported a health care provider discussed breastfeeding, by race



Survey question #20c:

During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about:

How drinking alcohol during pregnancy could affect your baby.

Summary of results

- ❖ 67.7% of women said that a prenatal health care provider talked with them about fetal effects of alcohol use. These women were more likely to be:
 - Teenagers (83.1%);
 - Unmarried (83.2%);
 - Women with less than 12 years of education (81.9%);
 - African American women (85.8%).
- ❖ 78.5% of women enrolled in WIC said that their prenatal health care provider discussed with them how drinking alcohol during pregnancy could affect their baby. The percentage was noticeably lower among women not enrolled in WIC (59.8%). The difference was statistically significant.

Table 19 Women who reported a health care provider discussed how drinking alcohol during pregnancy could affect the baby

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	706	550	67.7	(62.6-72.9)
Maternal age				
<20	98	86	83.1	(70.3-96.0)
20-24	214	174	75.9	(66.9-85.0)
25-34	320	240	64.1	(56.8-71.5)
35+	74	50	53.4	(37.8-68.9)
Marital status				
Married	417	302	61.6	(55.1-68.0)
Other	287	247	83.2	(75.7-90.6)
Education (years)				
<12	121	105	81.9	(70.1-93.7)
12	262	200	61.3	(52.2-70.4)
>12	298	223	67.0	(59.6-74.3)
Race				
Hispanic (race)	57	48	84.2	(75.2-93.2)
African American	224	192	85.8	(81.4-90.2)
Native American	99	80	81.1	(73.7-88.5)
Asian	139	116	83.0	(76.7-89.3)
White	187	114	61.0	(53.9-68.1)

Figure 42 Women who reported a health care provider discussed how drinking alcohol during pregnancy could affect the baby, by age

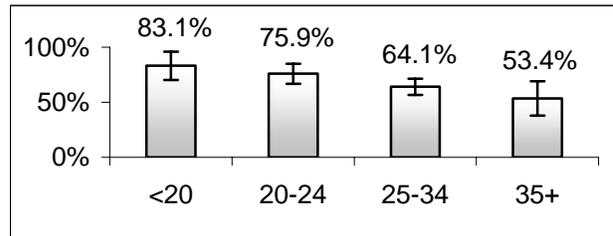


Figure 43 Women who reported a health care provider discussed how drinking alcohol during pregnancy could affect the baby, by marital status

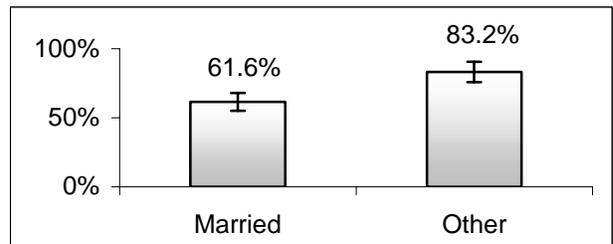


Figure 44 Women who reported a health care provider discussed how drinking alcohol during pregnancy could affect the baby, by education level

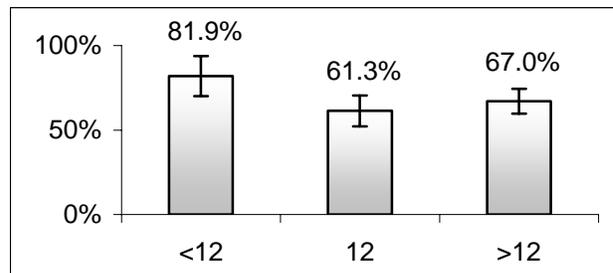
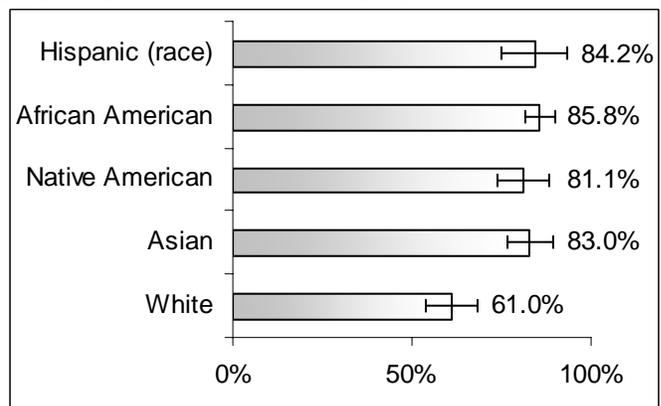


Figure 45 Women who reported a health care provider discussed how drinking alcohol during pregnancy could affect the baby, by race



Survey question #20d:

During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about:

Using a seat belt during pregnancy.

Summary of results

- ❖ 54.8% of women said that a prenatal health care provider talked with them about seat belt use during pregnancy. These women were more likely to be:
 - Teenagers (65.6%);
 - Unmarried (56.4%);
 - Women with less than 12 years of education (65.3%);
 - Hispanic women (73.4%).
- ❖ 66.2% of women enrolled in WIC program said that their prenatal health care provider talked with them about seat belt use during pregnancy. The percentage was noticeably lower among women not enrolled in WIC (46.2%). The difference was statistically significant.

Table 20 Women who reported a health care provider discussed use of a seat belt during pregnancy

Maternal characteristics	Resp	Yes	%Yes	95% CI
	705	435	54.8	(49.5- 60.1)
Maternal age				
<20	97	62	65.6	(50.6- 80.6)
20-24	214	137	57.8	(47.6- 68.1)
25-34	320	194	53.1	(45.6- 60.6)
35+	74	42	47.3	(32.0- 62.5)
Marital status				
Married	417	253	54.2	(47.8- 60.6)
Other	286	181	56.4	(47.1- 65.8)
Education (years)				
<12	120	83	65.3	(51.3- 79.3)
12	262	159	52.7	(43.8- 61.7)
>12	298	176	53.0	(45.4- 60.7)
Race				
Hispanic (race)	57	42	73.4	(62.1- 84.7)
African American	225	152	67.5	(61.5- 73.5)
Native American	97	52	53.9	(44.4- 63.3)
Asian	139	97	69.4	(61.7- 77.1)
White	187	92	49.1	(41.9- 56.4)

Figure 46 Women who reported a health care provider discussed use of a seat belt during pregnancy, by age

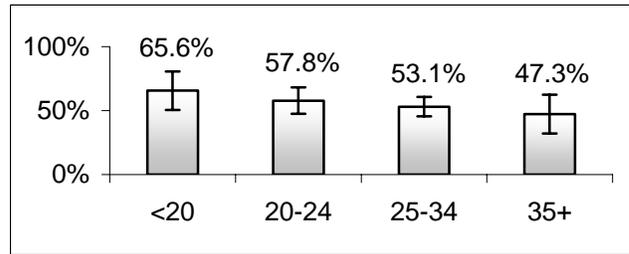


Figure 47 Women who reported a health care provider discussed use of a seat belt during pregnancy, by marital status

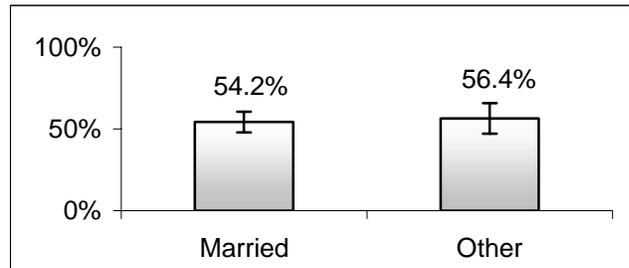


Figure 48 Women who reported a health care provider discussed use of a seat belt during pregnancy, by education level

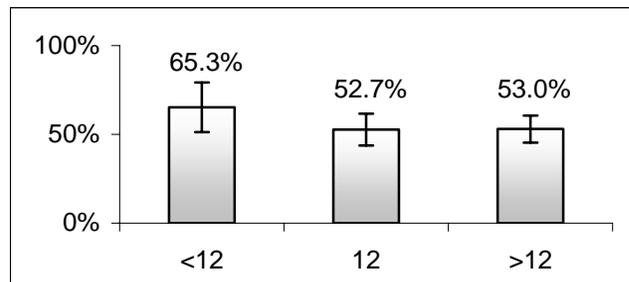
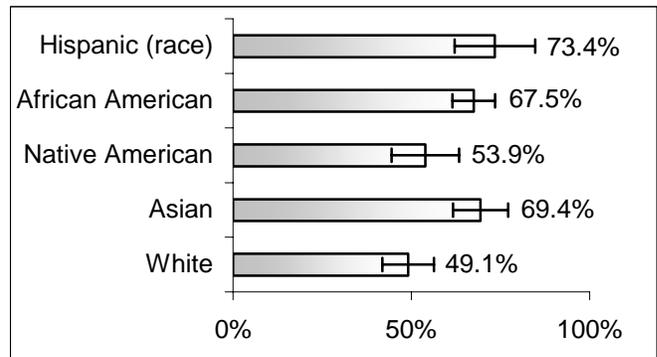


Figure 49 Women who reported a health care provider discussed use of a seat belt during pregnancy, by race



Survey question #20e:

During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about:

Birth control methods to use after your pregnancy.

Summary of results

- ❖ 83.5% of women said that a prenatal health care provider talked with them about use of birth control methods after pregnancy. These women were more likely to be:
 - Teenagers (88.0%);
 - Unmarried (89.1%);
 - Women with less than 12 years of education (91.2%);
 - Native American women (89.1%).
- ❖ 91.0% of women enrolled in WIC program said that their prenatal health care provider discussed use of birth control methods after pregnancy. The percentage was noticeably lower among women not enrolled in WIC (77.5%). The difference was statistically significant.

Table 21 Women who reported a health care provider discussed use of birth control methods after pregnancy

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	704	604	83.5	(79.6- 87.4)
Maternal age				
<20	99	91	88.0	(77.1- 98.9)
20-24	212	185	85.2	(77.9- 92.5)
25-34	319	269	83.3	(77.7- 88.9)
35+	74	59	77.2	(64.5- 89.9)
Marital status				
Married	413	342	81.2	(76.2- 86.2)
Other	289	260	89.1	(83.4- 94.7)
Education (years)				
<12	120	108	91.2	(84.6- 97.8)
12	262	225	80.5	(73.1- 88.0)
>12	296	246	82.7	(77.0- 88.5)
Race				
Hispanic (race)	56	45	80.3	(69.6- 91.1)
African American	225	200	89.1	(85.2- 93.1)
Native American	99	92	93.0	(88.2- 97.8)
Asian	138	114	83.4	(77.3- 89.5)
White	186	153	82.8	(77.4- 88.1)

Figure 50 Women who reported a health care provider discussed use of birth control methods after pregnancy, by age

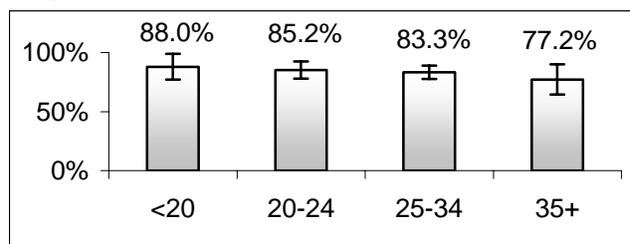


Figure 51 Women who reported a health care provider discussed use of birth control methods after pregnancy, by marital status

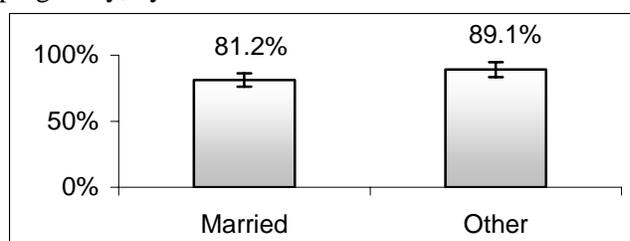


Figure 52 Women who reported a health care provider discussed use of birth control methods after pregnancy, by education level

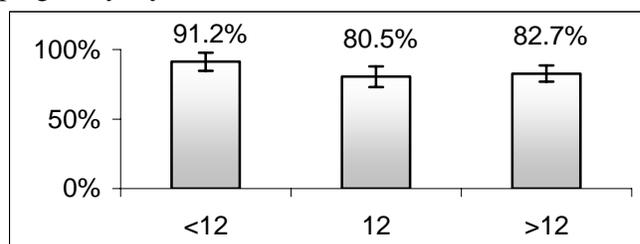
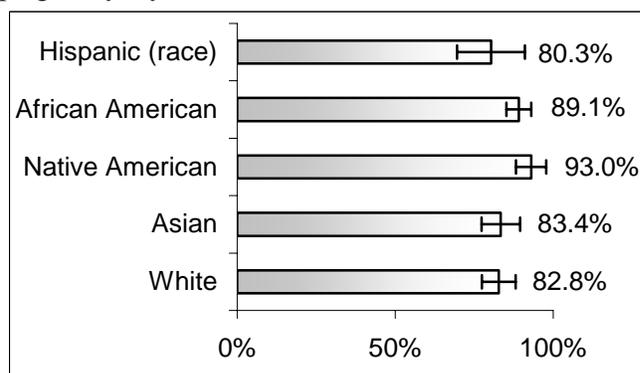


Figure 53 Women who reported a health care provider discussed use of birth control methods after pregnancy, by race



Survey question #20f:

During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about:

Medicines that are safe to take during your pregnancy.

Summary of results

- ❖ 84.6% of women said that a prenatal health care provider discussed with them the kinds of medicines that were safe to take during pregnancy. These women were more likely to be:
 - 25-34 years old (86.5%);
 - Married (86.3%);
 - Women with 12 years of education (85.2%);
 - African American women (91.5%).
- ❖ 83.2% of women enrolled in WIC program said that their prenatal health care provider discussed with them the kinds of medicines that were safe to take during pregnancy. The percentage was higher (86.0%) among women not enrolled in WIC. The difference was not statistically significant.

Table 22 Women who reported a health care provider discussed the kinds of medicines that were safe to take during pregnancy

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	704	607	84.6	(80.7- 88.5)
Maternal age				
<20	98	86	78.9	(64.5- 93.4)
20-24	214	182	84.0	(76.4- 91.7)
25-34	317	276	86.5	(81.4- 91.7)
35+	75	63	82.3	(71.0- 93.6)
Marital status				
Married	416	359	86.3	(81.9- 90.7)
Other	286	246	80.4	(72.6- 88.2)
Education (years)				
<12	119	103	81.5	(69.5- 93.4)
12	264	230	85.2	(78.7- 91.7)
>12	295	249	84.1	(78.4- 89.7)
Race				
Hispanic (race)	57	47	82.4	(72.5- 92.3)
African American	224	205	91.5	(87.9- 95.1)
Native American	98	84	86.0	(79.6- 92.4)
Asian	138	113	81.8	(75.3- 88.2)
White	187	158	84.3	(79.0- 89.6)

Figure 54 Women who reported a health care provider discussed the kinds of medicines that were safe to take during pregnancy, by age

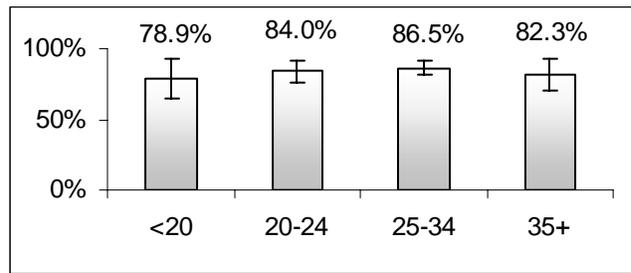


Figure 55 Women who reported a health care provider discussed the kinds of medicines that were safe to take during pregnancy, by marital status

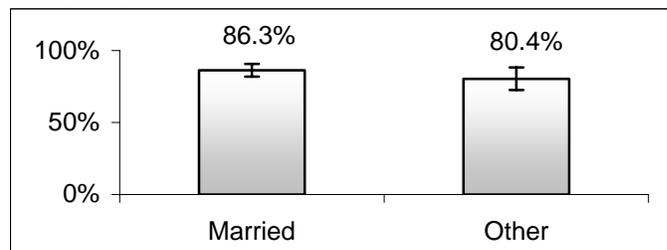


Figure 56 Women who reported a health care provider discussed the kinds of medicines that were safe to take during pregnancy, by education level

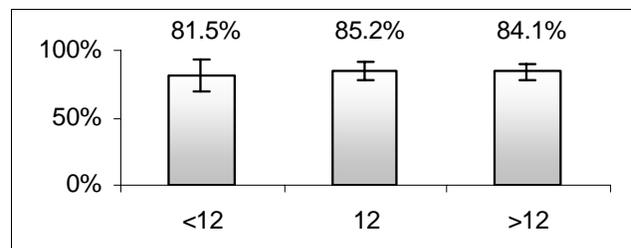
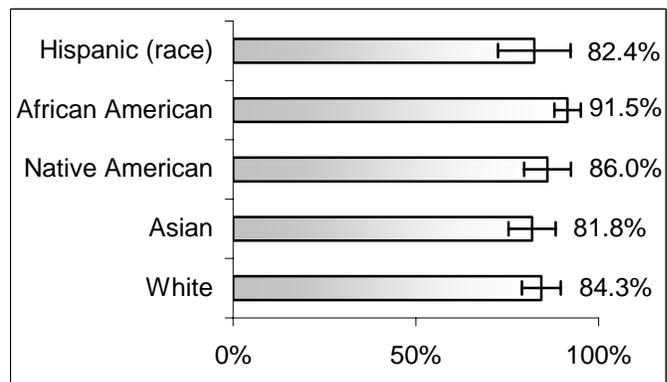


Figure 57 Women who reported a health care provider discussed the kinds of medicines that were safe to take during pregnancy, by race



Survey question #20g:

During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about:

How using illegal drugs could affect your baby.

Summary of results

- ❖ 60.7% of women said that a prenatal health care provider discussed with them fetal effects of illegal drug use. These women were more likely to be:
 - Teenagers (83.2%);
 - Unmarried (76.5%);
 - Women with 12 years of education (73.8%);
 - African American women (80.7%).
- ❖ 73.8% of women enrolled in WIC program said that their prenatal health care provider discussed with them how using illegal drugs during pregnancy could affect their baby. The percentage was noticeably lower (50.6%) among women not enrolled in WIC. The difference was statistically significant.

Table 23 Women who reported a health care provider discussed how using illegal drugs could effect their baby

Maternal characteristics	Resp	Yes	%Yes	95% CI
	705	501	60.7	(55.4- 66.0)
Maternal age				
<20	99	90	83.2	(69.5- 96.9)
20-24	214	155	63.6	(53.5- 73.8)
25-34	318	209	57.8	(50.2- 65.3)
35+	74	47	49.0	(33.5- 64.4)
Marital status				
Married	415	246	54.4	(47.9- 60.9)
Other	288	236	76.5	(68.1- 84.9)
Education (years)				
<12	120	104	73.8	(59.6- 88.0)
12	263	190	60.9	(51.9- 69.9)
>12	296	184	55.2	(47.6- 62.9)
Race				
Hispanic (race)	58	44	75.6	(64.6- 86.6)
African American	225	181	80.7	(75.6- 85.7)
Native American	99	74	75.4	(67.3- 83.4)
Asian	139	102	73.3	(66.0- 80.6)
White	184	100	54.1	(46.8- 61.4)

Figure 58 Women who reported a health care provider discussed with them fetal effects of illegal drug use, by age

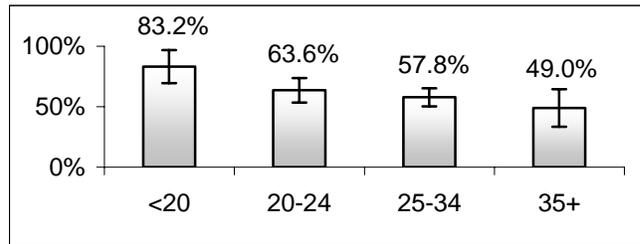


Figure 59 Women who reported a health care provider discussed with them fetal effects of illegal drug use, by marital status

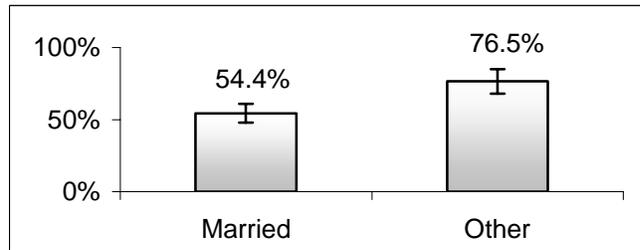


Figure 60 Women who reported a health care provider discussed with them fetal effects of illegal drug use, by education level

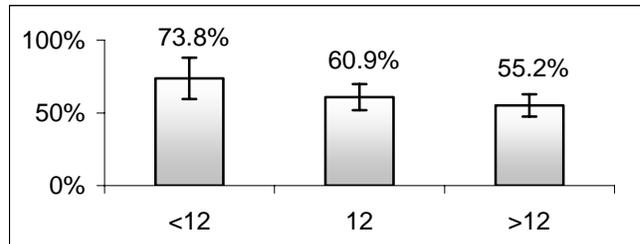
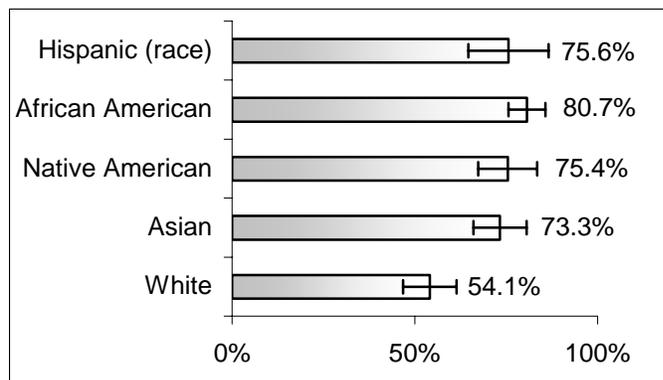


Figure 61 Women who reported a health care provider discussed with them fetal effects of illegal drug use, by race



Survey question #20h:

At any time during your pregnancy, did a doctor, nurse or other health care worker talk to you about:

Doing tests to screen for birth defects or diseases that could run in your family or your partner's family.

Summary of results

- ❖ 85.3% of women said that a prenatal health care provider talked with them about tests to screen for diseases or birth defects that could run in their family. These women were more likely to be:
 - 35 years old and older (88.7%);
 - Married (86.3%);
 - Women with less than 12 years of education (86.6%);
 - Native American women (90.0%).
- ❖ 81.6% of women enrolled in WIC program said that their prenatal health care provider talked with them about tests to screen for diseases or birth defects that could run in their family. The percentage was higher (88.5%) among women not enrolled in WIC. The difference was not statistically significant.

Table 24 Women who reported a health care provider discussed screening for birth defects or diseases that run in their family

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	707	611	85.3	(81.5-89.2)
Maternal age				
<20	98	84	84.6	(72.3-96.8)
20-24	214	191	87.5	(80.5-94.5)
25-34	320	272	83.5	(77.8-89.2)
35+	75	64	88.7	(80.0-97.5)
Marital status				
Married	417	366	86.3	(81.7-90.8)
Other	288	243	82.8	(75.7-90.0)
Education (years)				
<12	121	104	86.6	(76.4-96.9)
12	263	225	84.8	(78.4-91.1)
>12	298	261	85.7	(80.2-91.1)
Race				
Hispanic (race)	57	47	82.6	(72.9-92.3)
African American	226	200	88.0	(83.8-92.2)
Native American	99	89	90.0	(84.3-95.6)
Asian	138	114	82.6	(76.3-88.9)
White	187	161	85.5	(80.2-90.7)

Figure 62 Women who reported a health care provider discussed screening for birth defects or diseases that run in the family, by age

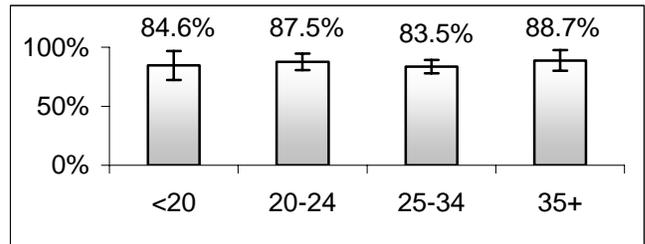


Figure 63 Women who reported a health care provider discussed screening for birth defects or diseases that run in the family, by marital status

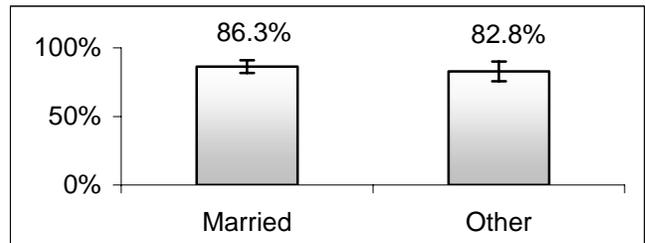


Figure 64 Women who reported a health care provider discussed screening for birth defects or diseases that run in the family, by education level

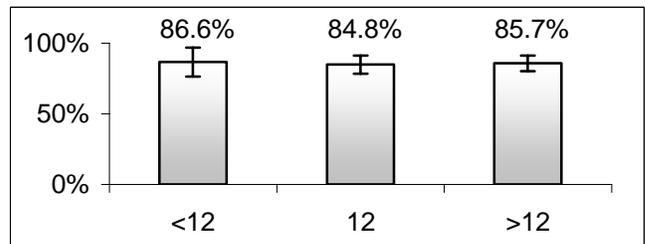
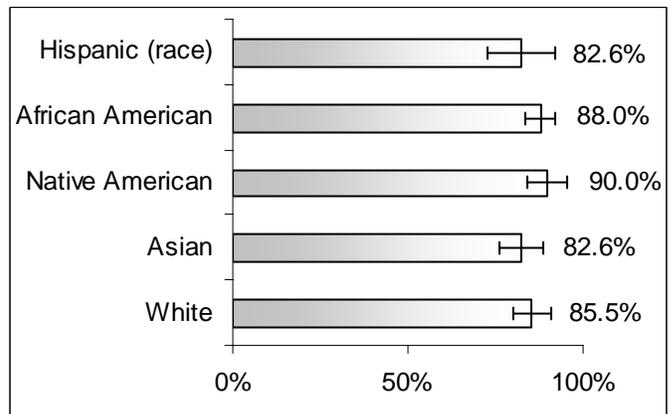


Figure 65 Women who reported a health care provider discussed screening for birth defects or diseases that run in the family, by race



Survey question #20i:

During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about:

What to do if your labor starts early.

Summary of results

- ❖ 85.4% of women said that a prenatal health care provider talked with them about early labor. These women were more likely to be:
 - Teenagers (90.4%);
 - Unmarried (89.6%);
 - Women with more than 12 years of education (85.9%);
 - African American women (90.1%).
- ❖ 88.4% of women enrolled in WIC program said that their prenatal health care provider talked with them about early labor. The percentage was lower (83.6%) among women not enrolled in WIC. The difference was not statistically significant.

Table 25 Women who reported a health care provider discussed screening what to do if labor starts early

Maternal characteristics	Resp	Yes	%Yes	95% CI
	705	606	85.4	(82.8-88.0)
Maternal age				
<20	99	88	90.4	(84.5-96.3)
20-24	212	187	86.2	(81.6-90.9)
25-34	319	267	85.0	(81.0-88.9)
35+	75	64	81.7	(72.8-90.7)
Marital status				
Married	417	353	83.7	(80.1-87.3)
Other	286	251	89.6	(86.0-93.1)
Education (years)				
<12	120	104	84.1	(77.4-90.7)
12	262	225	83.9	(79.5-88.4)
>12	297	253	85.9	(81.9-89.9)
Race				
Hispanic (race)	58	50	86.2	(77.1-95.4)
African American	224	202	90.1	(86.1-94.0)
Native American	99	85	85.3	(78.2-92.4)
Asian	137	109	79.8	(73.0-86.6)
White	187	160	85.5	(80.4-90.6)

Figure 66 Women who reported a health care provider talked with them about early labor, by age

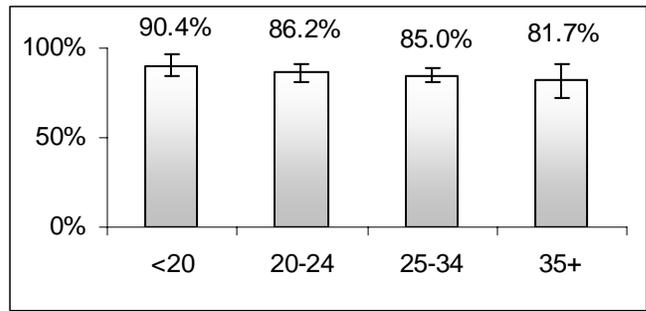


Figure 67 Women who reported a health care provider talked with them about early labor, by marital status

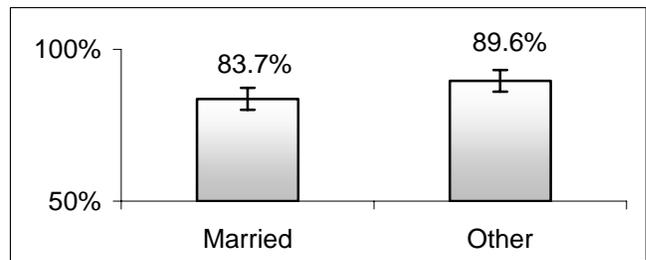


Figure 68 Women who reported a health care provider talked with them about early labor, by education level

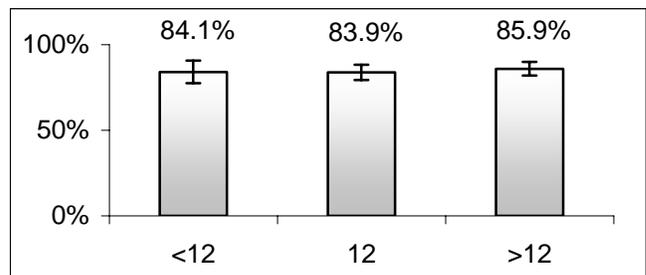
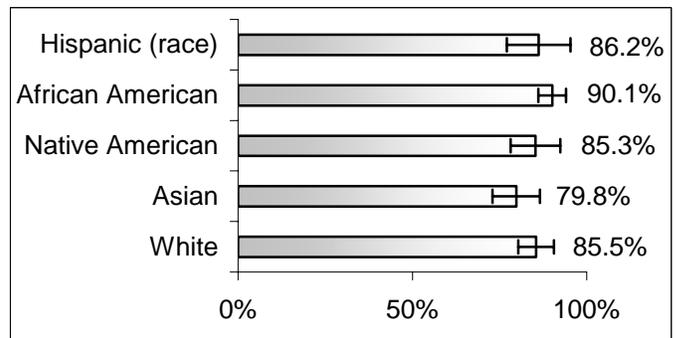


Figure 69 Women who reported a health care provider talked with them about early labor, by race



Survey question #20j:

During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about: Getting your blood tested for HIV

Summary of results

- ❖ 86.7% of women said that a prenatal health care provider talked with them about getting a blood test for HIV. These women were more likely to be:
 - 20-24 years old (92.6%);
 - Unmarried (88.1%);
 - Women with less than 12 years of education (92.3%);
 - African American women (90.5%).
- ❖ The observed rates were relatively higher in the younger age groups and among those with lower education. However, the differences in the observed percentages with regards to age, marital status, educational level or race were not significant.
- ❖ 92.1% of women enrolled in WIC program said that their prenatal health care provider talked with them about getting a blood test for HIV. The percentage was lower (82.4%) among women not enrolled in WIC. The difference was statistically significant.

Table 26 Women who reported a health care provider talked with them about getting a blood test for HIV

Maternal characteristics	Resp.	Yes	%Yes	95% CI
Maternal age				
<20	99	90	91.0	(82.7-99.3)
20-24	214	198	92.6	(87.4-97.8)
25-34	319	273	84.6	(79.1-90.0)
35+	75	63	79.9	(67.5-92.3)
Marital status				
Married	418	369	86.1	(81.6-90.7)
Other	287	253	88.1	(82.4-93.9)
Education (years)				
<12	121	110	92.3	(86.0-98.6)
12	262	235	88.4	(82.5-94.2)
>12	298	257	84.6	(79.0-90.2)
Race				
Hispanic (race)	58	49	84.2	(74.4-93.9)
African American	225	204	90.5	(86.7-94.2)
Native American	98	87	89.0	(83.3-94.8)
Asian	139	124	89.6	(84.7-94.4)
White	187	160	86.1	(81.1-91.0)

Figure 70 Women who reported a health care provider talked with them about getting a blood test for HIV, by age

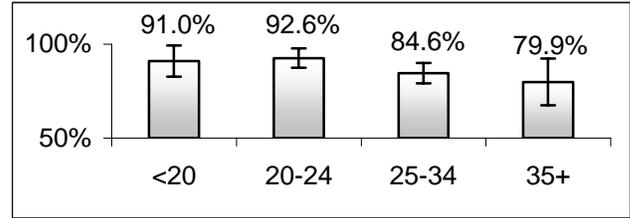


Figure 71 Women who reported a health care provider talked with them about getting a blood test for HIV, by marital status

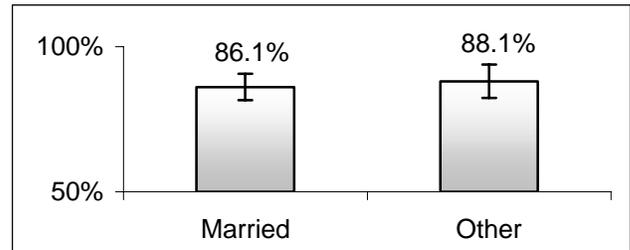


Figure 72 Women who reported a health care provider talked with them about getting a blood test for HIV, by education level

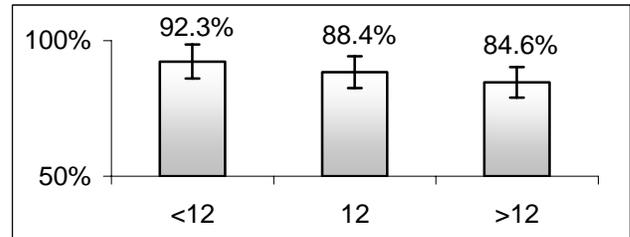
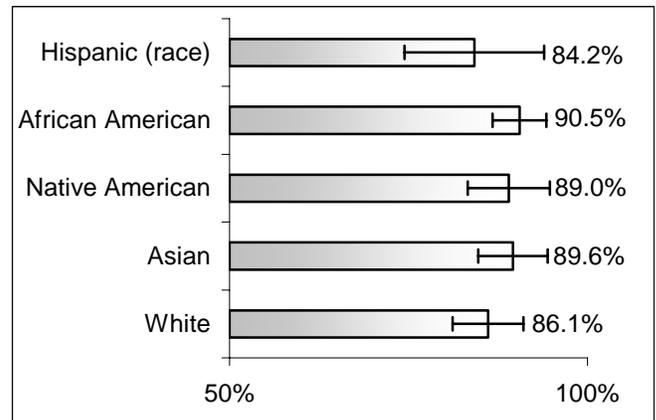


Figure 73 Women who reported a health care provider talked with them about getting a blood test for HIV, by race



Survey question #20k:

During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about: Physical abuse to women by their husbands or partners.

Summary of results

- ❖ 45.4% of women said that a prenatal health care provider talked with them about physical abuse. These women were more likely to be:
 - Teenagers (61.7%);
 - Unmarried (55.9%);
 - Women with less than 12 years of education (63.5%);
 - Hispanic women (62.1%).
- ❖ The rates were relatively higher in the younger age groups and among those with the lower education. However, the differences in percentages between different age groups and between education groups were not statistically significant
- ❖ 57.1% of women enrolled in WIC program said that their prenatal health care provider talked with them about physical abuse. The percentage was lower (36.7%) among women not enrolled in WIC. The difference was statistically significant.

Table 27 Women who reported a health care provider discussed physical abuse to women by their husbands or partners

Maternal characteristics	Resp	Yes	%Yes	95% CI
	705	376	45.4	(40.2-50.6)
Maternal age				
<20	98	64	61.7	(45.7-77.6)
20-24	214	125	50.6	(40.5-60.6)
25-34	318	149	41.1	(33.8-48.4)
35+	75	38	39.9	(25.3-54.4)
Marital status				
Married	416	194	41.2	(35.0-47.4)
Other	287	181	55.9	(46.6-65.3)
Education (years)				
<12	121	80	63.5	(49.4-77.6)
12	263	143	44.7	(36.0-53.4)
>12	297	138	39.7	(32.4-47.0)
Race				
Hispanic (race)	57	36	62.1	(49.6-74.6)
African American	225	134	59.7	(53.5-66.0)
Native American	99	54	54.9	(45.6-64.2)
Asian	138	78	56.4	(48.3-64.6)
White	186	74	39.8	(32.7-46.9)

Figure 74 Women who reported a health care provider talked with them about physical abuse, by age

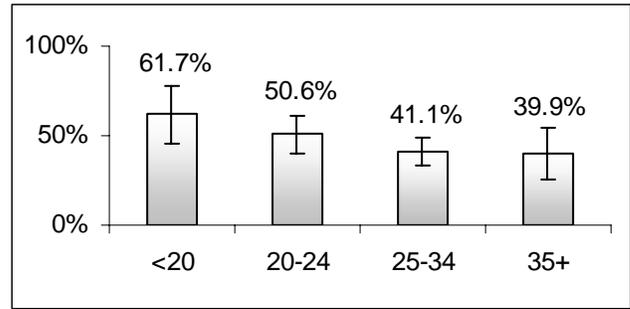


Figure 75 Women who reported a health care provider talked with them about physical abuse, by marital status

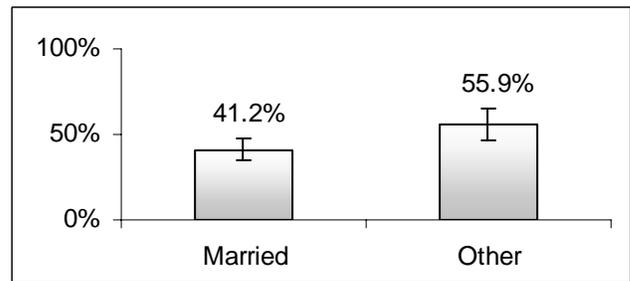


Figure 76 Women who reported a health care provider talked with them about physical abuse, by education level

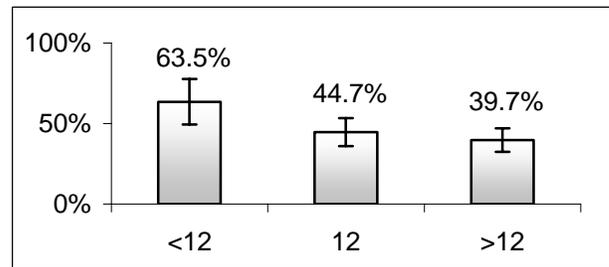
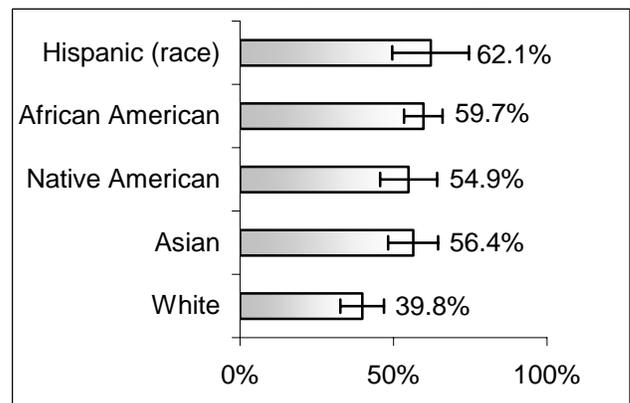


Figure 77 Women who reported a health care provider talked with them about physical abuse, by race



Survey question #66a:

At any time during your pregnancy, did a doctor, nurse or other health care worker talk to you about:

"Baby blues" or postpartum depression

- ❖ 71.2% of women said that a prenatal health care provider talked with them about postpartum depression. These women were more likely to be:
 - Teenagers (90.7%);
 - Unmarried (78.5%);
 - Women with less than 12 years of education (88.7%);
 - Native American women (84.9%).
- ❖ The rates were relatively lower among Asian women (64.2%) than among Native American (84.9%) women. The difference in percentages between these demographic groups was statistically significant.
- ❖ 81.2% of women enrolled in WIC program said that their prenatal health care provider talked with them about postpartum depression. The percentage was lower (64.0%) among women not enrolled in WIC. The difference was statistically significant.

Table 28 Women who reported a health care provider discussed postpartum depression

Maternal characteristics	Resp	Yes	%Yes	95% CI
	671	504	71.2	(66.2-76.1)
Maternal age				
<20	96	87	90.7	(82.0-99.5)
20-24	205	157	75.0	(66.1-84.0)
25-34	299	210	66.2	(58.9-73.5)
35+	71	50	68.1	(53.5-82.7)
Marital status				
Married	391	272	68.0	(61.8-74.2)
Other	278	230	78.5	(70.7-86.4)
Education (years)				
<12	111	97	88.7	(81.2-96.2)
12	255	188	69.4	(60.8-78.0)
>12	279	197	66.5	(59.0-73.9)
Race				
Hispanic (race)	56	44	78.4	(67.5-89.3)
African American	214	175	81.8	(76.7-86.9)
Native American	95	80	84.9	(78.2-91.7)
Asian	125	81	64.2	(55.8-72.7)
White	181	124	69.4	(62.7-76.1)

Figure 78 Women who reported a health care provider talked with them about postpartum depression, by age

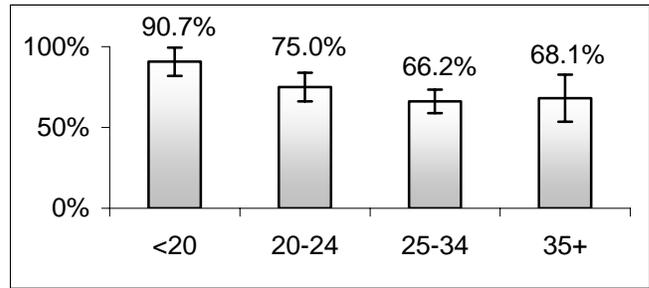


Figure 79 Women who reported a health care provider talked with them about postpartum depression, by marital status

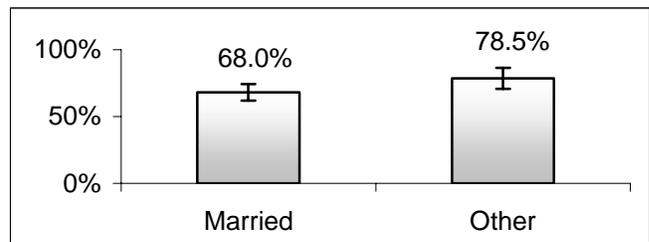


Figure 80 Women who reported a health care provider talked with them about postpartum depression, by education level

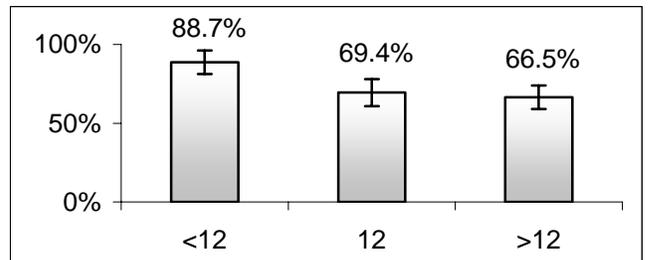
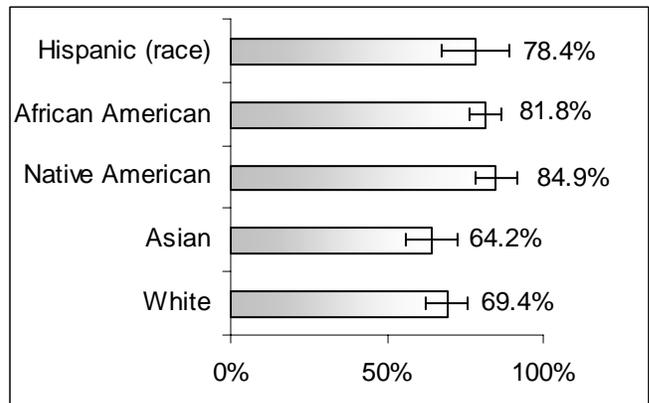


Figure 81 Women who reported a health care provider talked with them about postpartum depression, by race



Survey question #66b:

At any time during your pregnancy, did a doctor, nurse or other health care worker talk to you about:

How much weight you should gain during your pregnancy

- ❖ 80.7% of women said that a prenatal health care provider talked with them about weight gain. These women were more likely to be:
 - Teenagers (88.0%);
 - Unmarried (82.9%);
 - Women with less than 12 years of education (89.8%);
 - African American women (88.8%).
- ❖ The rate was relatively lower among White women (78.3%) than among African American women (88.8%). The difference in percentages between these demographic groups was statistically significant.
- ❖ 87.9% of women enrolled in WIC program said that their prenatal health care provider talked with them about weight gain. The percentage was lower (75.8%) among women not enrolled in WIC. The difference was statistically significant.

Table 29 Women who reported a health care provider discussed weight gain during pregnancy

Maternal characteristics	Resp	Yes	%Yes	95% CI
	702	595	80.7	(76.4- 85.1)
Maternal age				
<20	100	91	88.0	(77.1- 99.0)
20-24	211	185	87.9	(81.2- 94.6)
25-34	316	257	76.3	(69.6- 83.0)
35+	75	62	78.0	(65.0- 91.0)
Marital status				
Married	410	341	79.8	(74.4- 85.2)
Other	290	252	82.9	(75.8- 90.0)
Education (years)				
<12	118	107	89.8	(80.6- 98.9)
12	261	218	79.6	(72.1- 87.1)
>12	296	247	80.2	(73.8- 86.5)
Race				
Hispanic (race)	57	49	85.8	(76.9- 94.7)
African American	224	199	88.8	(84.8- 92.8)
Native American	98	84	86.0	(79.6- 92.5)
Asian	136	116	85.3	(79.3- 91.2)
White	187	147	78.3	(72.3- 84.3)

Figure 82 Women who reported a health care provider discussed weight gain during pregnancy, by age

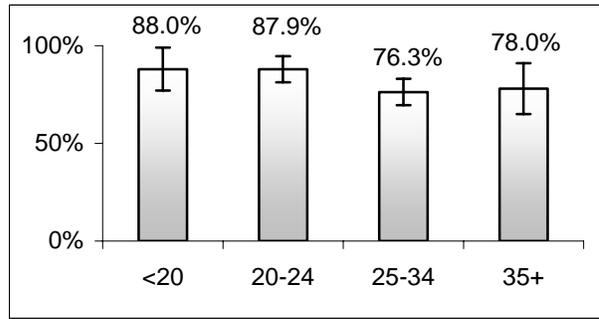


Figure 83 Women who reported a health care provider discussed weight gain during pregnancy, by marital status

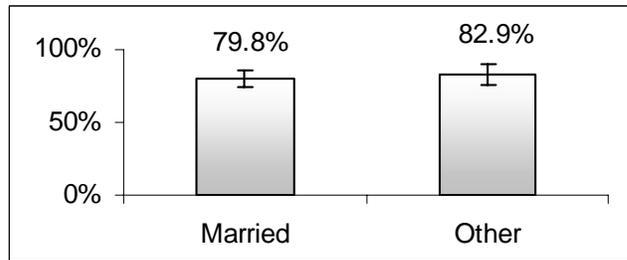


Figure 84 Women who reported a health care provider discussed weight gain during pregnancy, by education level

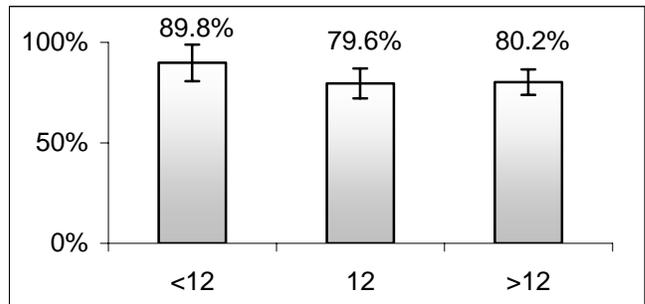
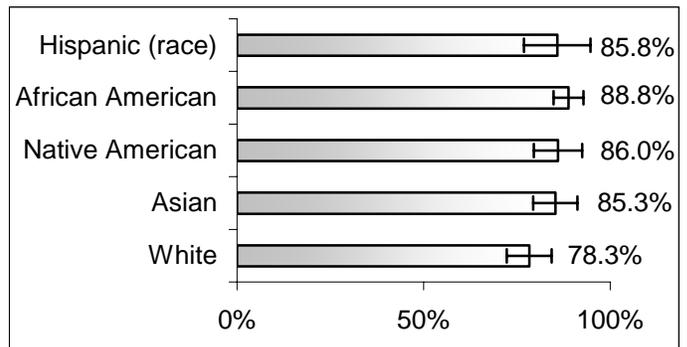


Figure 85 Women who reported a health care provider discussed weight gain during pregnancy, by race



Survey question #66d:

At any time during your pregnancy, did a doctor, nurse or other health care worker talk to you about: Tests that could be done during your pregnancy to see if your baby had a birth defect or genetic disease.

Summary of results

- ❖ 89.6% of women said that a prenatal health care provider talked with them about tests to screen for birth defects. These women were more likely to be:
 - 25 years old and older (91.1%);
 - Married (92.0%);
 - Women with more than 12 years of education (90.2%);
 - Hispanic (race) women (91.4%).
- ❖ The differences in percentages within demographic groups were not statistically significant.
- ❖ 87.4% of women enrolled in WIC program said that their prenatal health care provider discussed tests that could be done during pregnancy to see if their baby had a birth defect or genetic disease. The percentage was higher (90.9%) among women not enrolled in WIC. The difference was not statistically significant.

Table 30 Women who reported a prenatal health care provider talked with them about tests to screen for birth defects.

Maternal characteristics	Resp	Yes	%Yes	95% CI
	703	633	89.6	(86.3-92.9)
Maternal age				
<20	97	83	83.0	(70.1-95.9)
20-24	213	190	88.4	(81.4-95.3)
25+	493	360	91.1	(87.2-94.9)
Marital status				
Married	415	382	92.0	(88.5-95.5)
Other	286	249	83.8	(76.4-91.3)
Education (years)				
<12	118	101	89.8	(81.8-97.7)
12	262	238	88.9	(83.0-94.8)
>12	297	270	90.2	(85.5-94.9)
Race				
Hispanic (race)	56	51	91.4	(83.9-98.8)
African American	224	200	88.9	(84.9-93.0)
Native American	98	89	90.5	(84.9-96.2)
Asian	139	126	90.6	(85.7-95.4)
White	186	167	89.3	(84.8-93.9)

Figure 86 Women who reported a prenatal health care provider talked with them about tests to screen for birth defects, by age

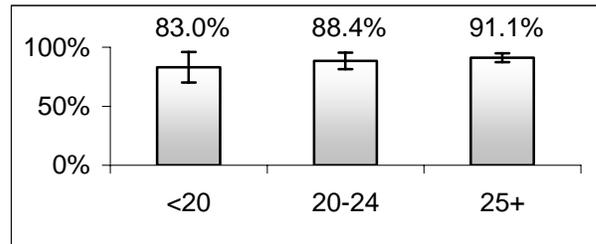


Figure 87 Women who reported a prenatal health care provider talked with them about tests to screen for birth defects, by marital status

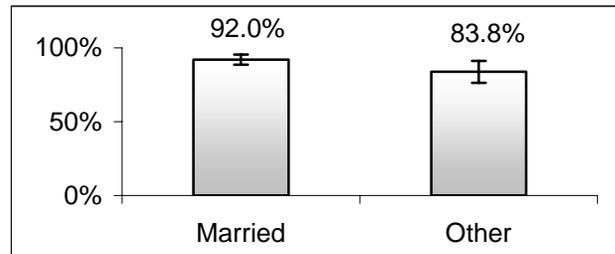


Figure 88 Women who reported a prenatal health care provider talked with them about tests to screen for birth defects, by education level

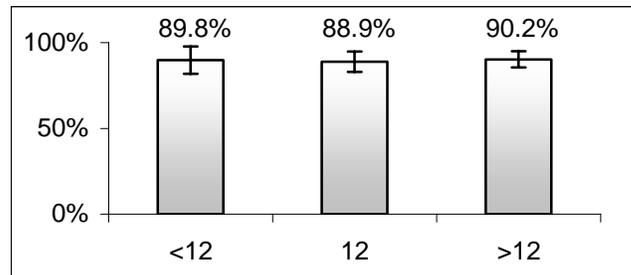
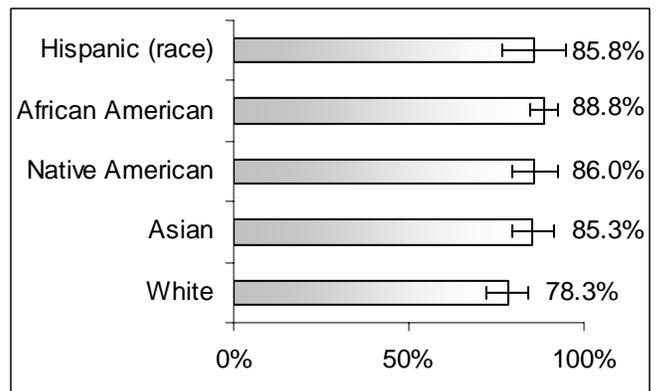


Figure 89 Women who reported a prenatal health care provider talked with them about tests to screen for birth defects, by race



Survey question #21

At any time during your prenatal care, did a doctor, nurse, or other health care worker ask you questions about any of the things listed below?

- a If you were smoking cigarettes
- b How much alcohol you were drinking
- c If you were using illegal drugs (marijuana or hash, cocaine, crack, etc.)
- d If someone was hurting you emotionally or physically
- e If you wanted to be tested for HIV

Responses to this question are analyzed below.

Survey question #21a:

At any time during your prenatal care, did a doctor, nurse, or other health care worker ask you: If you were smoking cigarettes?

Summary of results

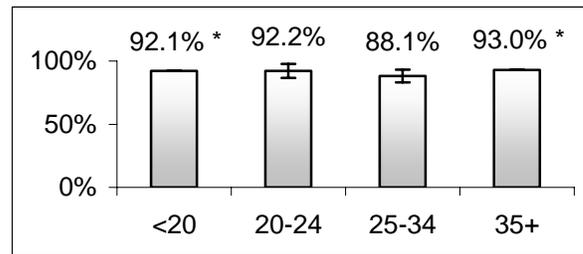
- ❖ 90.2% of women said that a prenatal health care provider asked them about smoking cigarettes. These women were more likely to be:
 - Unmarried (93.9%);
 - Women with less than 12 years of education (92.9%);
 - African American women (94.7%).

Table 31 Women who reported a health care provider asked if they smoke cigarettes

Maternal characteristics	Resp	Yes	%Yes	95% CI
	707	655	90.2	(86.9-93.5)
Maternal age				
<20	99	95	92.1 *	
20-24	214	200	92.2	(86.7-97.7)
25-34	321	290	88.1	(83.1-93.1)
35+	73	70	93.0 *	
Marital status				
Married	416	379	88.6	(84.4-92.9)
Other	289	274	93.9	(89.4-98.3)
Education (years)				
<12	121	114	92.9	(85.3-100.0)
12	265	248	90.1	(84.3-95.9)
>12	295	271	90.4	(85.8-95.0)
Race				
Hispanic (race)	58	51	87.5	(78.7-96.3)
African American	226	214	94.7	(91.8-97.5)
Native American	98	95	97.0 *	
Asian	139	129	92.9	(88.8-97.1)
White	186	166	89.3	(84.7-93.8)

* This estimate cannot be considered as reliable.

Figure 90 Women who reported a health care provider asked if they smoke cigarettes, by age



* Estimates for groups <20 and 35+ are not reliable.

Figure 91 Women who reported a health care provider asked if they smoke cigarettes, by marital status

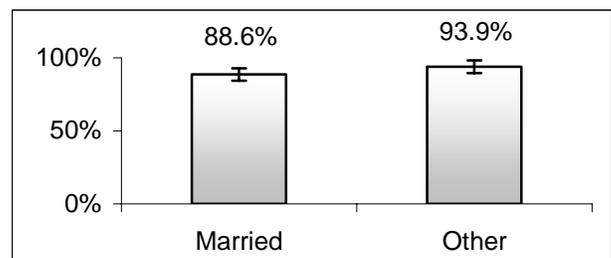


Figure 92 Women who reported a health care provider asked if they smoke cigarettes, by education level

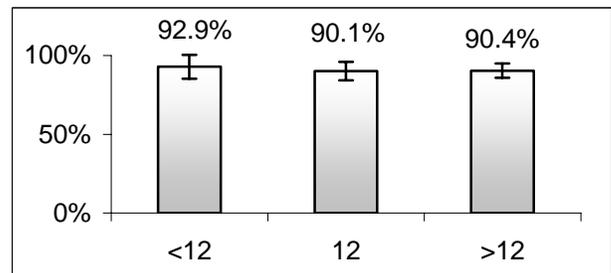
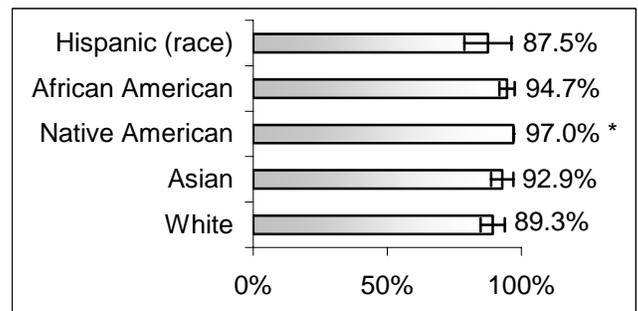


Figure 93 Women who reported a health care provider asked if they smoke cigarettes, by race



* Estimate for Native American is not reliable.

Survey question #21b:

At any time during your prenatal care, did a doctor, nurse, or other health care worker ask you: How much alcohol you were drinking?

Summary of results

- ❖ 80.0% of women said that a prenatal health care provider asked how much alcohol they were drinking. These women were more likely to be:
 - 25-34 years old (93.9%);
 - Married (81.8%);
 - Women with more than 12 years of education (81.7%);
 - Native American women (96.0%).
- ❖ There were no statistically significant differences in observed percentages with regards to different age, marital status, educational level, or race.

Table 32 Women who reported a health care provider asked how much alcohol they were drinking

Maternal characteristics	Resp	Yes	%Yes	95% CI
	707	593	80.0	(75.7-84.4)
Maternal age				
<20	99	83	80.9	(68.3-93.4)
20-24	214	178	76.6	(67.6-85.7)
25-34	321	266	81.7	(75.8-87.5)
35+	73	66	79.8	(66.2-93.4)
Marital status				
Married	416	347	81.8	(76.7-86.8)
Other	289	244	75.7	(67.1-84.3)
Education (years)				
<12	121	97	71.5	(57.6-85.4)
12	265	224	80.5	(73.2-87.8)
>12	295	250	81.7	(75.6-87.8)
Race				
Hispanic (race)	58	45	77.1	(66.4-87.8)
African American	226	188	83.1	(78.3-87.9)
Native American	98	94	96.0	(92.3-99.6)
Asian	139	119	85.7	(80.0-91.5)
White	186	147	78.6	(72.6-84.6)

Figure 94 Women who reported a health care provider asked how much alcohol they were drinking, by age

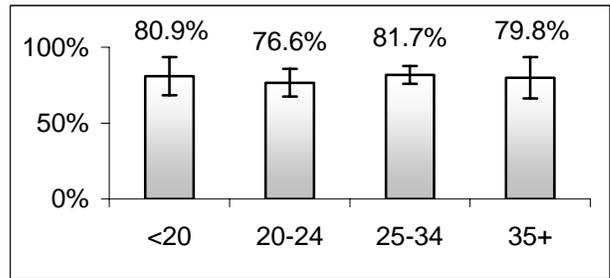


Figure 95 Women who reported a health care provider asked how much alcohol they were drinking, by marital status

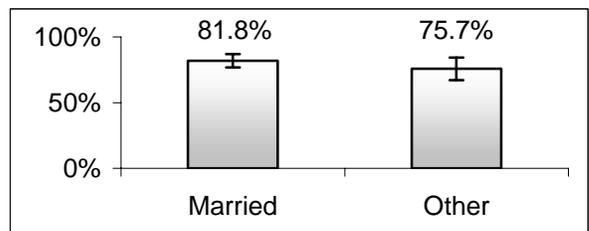


Figure 96 Women who reported a health care provider asked how much alcohol they were drinking, by education level

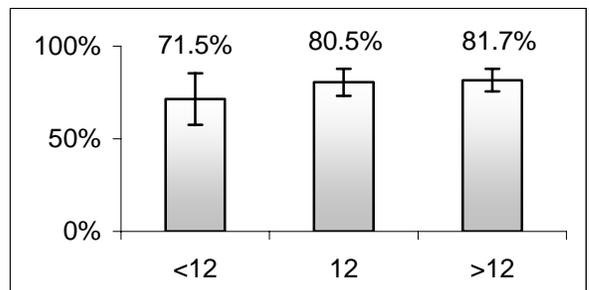
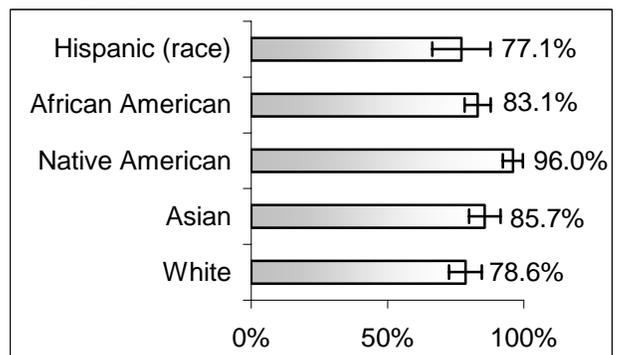


Figure 97 Women who reported a health care provider asked how much alcohol they were drinking, by race



Survey question #21c:

At any time during your prenatal care, did a doctor, nurse, or other health care worker ask you: If someone was hurting you emotionally or physically?

Summary of results

- ❖ 54.4% of women said that a prenatal health care provider asked them if someone was hurting them emotionally or physically. These women were more likely to be:
 - Teenagers (66.1%);
 - Unmarried (62.4%);
 - Women with less than 12 years of education (68.5%);
 - Native American women (72.7%).
- ❖ There were no statistically significant differences in observed percentages with regards to different age, marital status, or educational level.
- ❖ The percentage of White women (49.3%) was significantly lower than the percentage of Native American (72.7%), or Hispanic (race) (70.1%), or African American (66.0%).

Table 33 Women who reported a health care provider asked if someone was hurting them emotionally or physically

Maternal characteristics	Resp	Yes	%Yes	95% CI
	703	435	54.4	(49.1-59.6)
Maternal age				
<20	99	73	66.1	(50.4-81.8)
20-24	213	138	49.1	(39.1-59.0)
25-34	318	185	55.9	(48.3-63.4)
35+	73	39	50.3	(34.7-65.9)
Marital status				
Married	414	227	51.0	(44.6-57.5)
Other	287	206	62.4	(53.1-71.7)
Education (years)				
<12	120	91	68.5	(54.6-82.4)
12	263	162	51.3	(42.4-60.2)
>12	294	166	50.6	(42.9-58.4)
Race				
Hispanic (race)	58	41	70.1	(58.3-82.0)
African American	226	149	66.0	(60.0-72.0)
Native American	97	70	72.7	(64.6-80.7)
Asian	140	86	61.4	(53.4-69.4)
White	182	89	49.3	(42.1-56.6)

Figure 98 Women who reported a health care provider asked if someone was hurting them emotionally or physically, by age

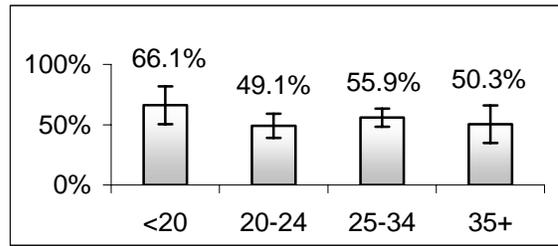


Figure 99 Women who reported a health care provider asked if someone was hurting them emotionally or physically, by marital status

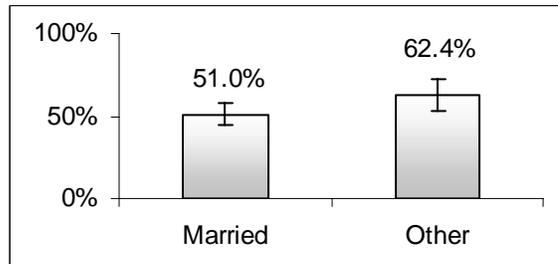


Figure 100 Women who reported a health care provider asked if someone was hurting them emotionally or physically, by education level

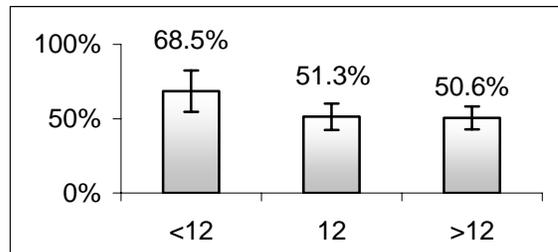
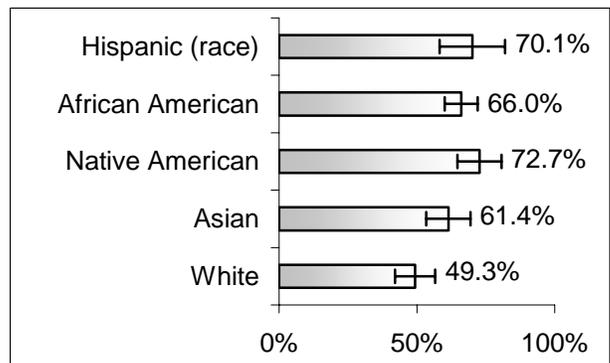


Figure 101 Women who reported a health care provider asked if someone was hurting them emotionally or physically, by race



Survey question #21d:

At any time during your prenatal care, did a doctor, nurse, or other health care worker ask you: If you were using illegal drugs (marijuana or hash, cocaine, crack, etc.)?

Summary of results

- ❖ 68.6% of women said that a prenatal health care provider asked them if they were using illegal drugs. These women were more likely to be:
 - Teenagers (83.0%);
 - Unmarried (70.7%);
 - Women with less than 12 years of education (70.3%);
 - Native American women (85.9%).
- ❖ There were no statistically significant differences in observed percentages with regards to different age, marital status, and education level.
- ❖ The percentage of White women (64.7%) was significantly lower than the percentage of Native American (85.9%), or African American (78.2%) women.

Table 34 Women who reported a health care provider asked if they were using illegal drugs

Maternal characteristics	Resp	Yes	%Yes	95% CI
	706	532	68.6	(63.5- 73.6)
Maternal age				
<20	99	85	83.0	(70.8- 95.3)
20-24	213	168	66.7	(56.5- 76.8)
25-34	320	227	67.5	(60.4- 74.6)
35+	74	52	65.8	(51.2- 80.5)
Marital status				
Married	415	269	67.6	(61.5- 73.8)
Other	289	234	70.7	(61.7- 79.7)
Education (years)				
<12	121	98	70.3	(56.5- 84.1)
12	263	199	68.3	(59.7- 76.9)
>12	296	215	67.4	(60.0- 74.7)
Race				
Hispanic (race)	58	43	73.8	(62.4- 85.2)
African American	226	177	78.2	(72.9- 83.5)
Native American	97	83	85.9	(79.5- 92.3)
Asian	140	110	78.3	(71.5- 85.1)
White	185	119	64.7	(57.8- 71.7)

Figure 102 Women who reported a health care provider asked if they were using illegal drugs, by age

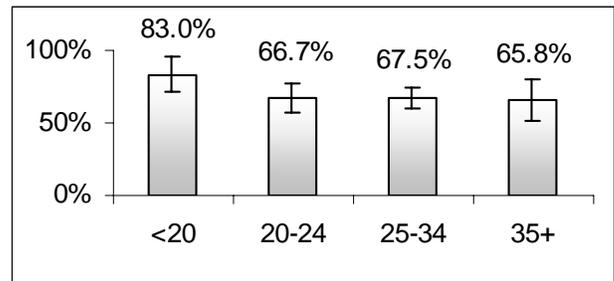


Figure 103 Women who reported a health care provider asked if they were using illegal drugs, by marital status

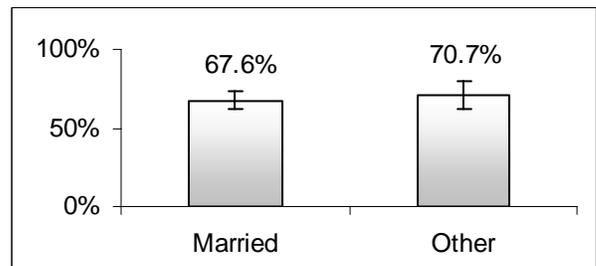


Figure 104 Women who reported a health care provider asked if they were using illegal drugs, by education level

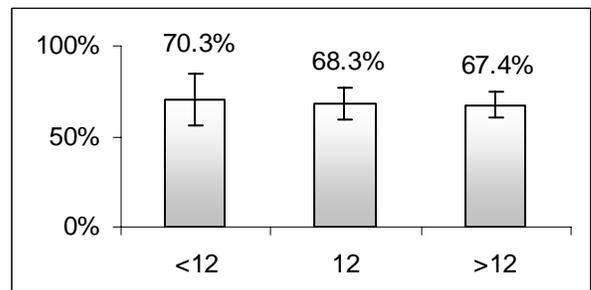
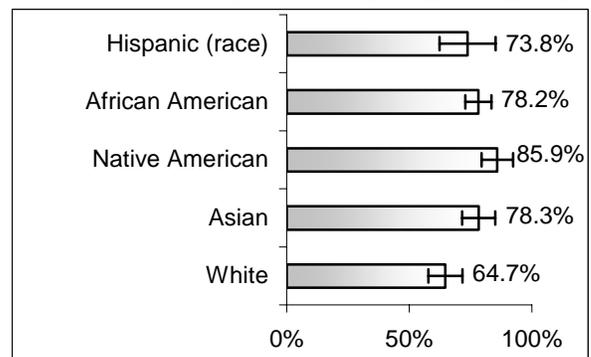


Figure 105 Women who reported a health care provider asked if they were using illegal drugs, by race



Survey question #21e:

At any time during your prenatal care, did a doctor, nurse, or other health care worker ask you: If you wanted to be tested for HIV?

Summary of results

- ❖ 81.6% of women said that a prenatal health care provider asked them if they wanted to be tested for HIV. These women were more likely to be:
 - Teenagers (86.8%);
 - Married (82.0%);
 - Women with less than 12 years of education (90.3%);
 - Native American women (85.9%).
- ❖ There were no statistically significant differences in observed percentages with regards to different age, marital status, educational level, and race.

Table 35 Women who reported a health care provider asked them if they wanted to be tested for HIV

Maternal characteristics	Resp	Yes	%Yes	95% CI
	699	577	81.6	(77.5- 85.8)
Maternal age				
<20	99	84	86.8	(76.8- 96.7)
20-24	212	182	85.1	(77.9- 92.3)
25-34	315	253	79.8	(73.6- 86.0)
35+	73	58	77.6	(64.8- 90.5)
Marital status				
Married	410	333	82.0	(77.0- 87.0)
Other	287	242	80.7	(73.2- 88.3)
Education (years)				
<12	120	103	90.3	(84.9- 95.7)
12	261	216	80.1	(72.7- 87.6)
>12	293	239	81.2	(75.1- 87.3)
Race				
Hispanic (race)	58	47	79.9	(69.5- 90.4)
African American	224	188	83.9	(79.1- 88.6)
Native American	96	82	85.9	(79.4- 92.4)
Asian	139	111	80.4	(74.0- 86.8)
White	182	149	81.6	(75.9- 87.2)

Figure 106 Women who reported a health care provider asked them if they wanted to be tested for HIV, by age

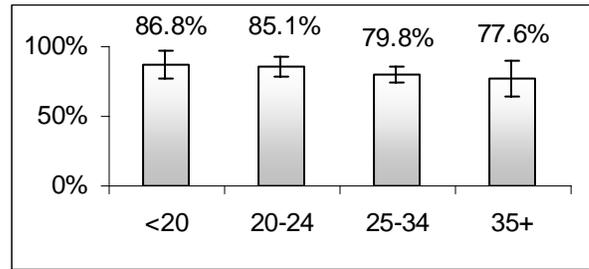


Figure 107 Women who reported a health care provider asked them if they wanted to be tested for HIV, by marital status

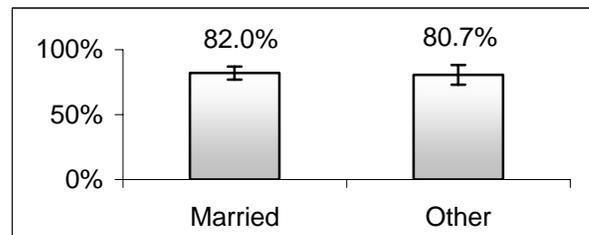


Figure 108 Women who reported a health care provider asked them if they wanted to be tested for HIV, by education level

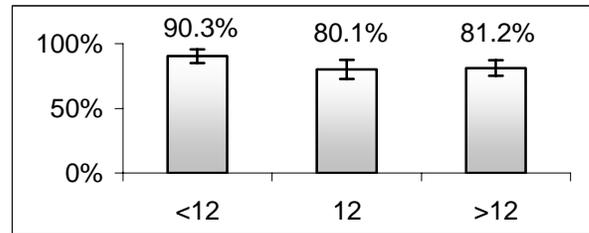
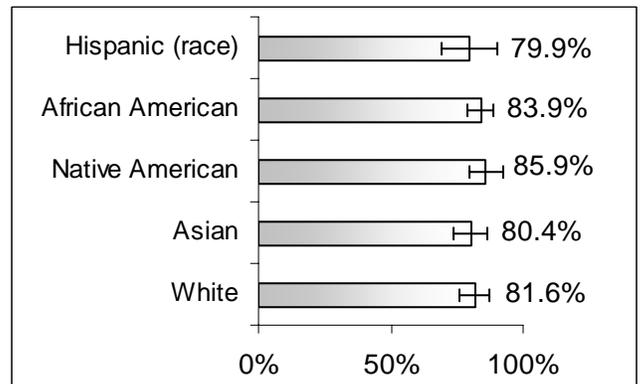


Figure 109 Women who reported a health care provider asked them if they wanted to be tested for HIV, by race



Public Health Implications

Researchers have reported that motor vehicle crashes are the leading cause of traumatic fetal mortality [Hy03]. Studies have shown that proper seat belt use is an effective means of preventing morbidity and mortality for pregnant women and their unborn infants. The American College of Obstetricians and Gynecologists has recommended that prenatal care providers counsel their patients to wear seat belts during pregnancy. There is evidence that counseling does increase the rate of seat belt use among pregnant women. The strategies pertaining to proper seat belt use are focused on:

- Developing community-based initiatives, which provide education on the proper use and importance of wearing a seat belt during pregnancy to the broad population.
- Collaboration between public health professionals and medical providers to increase awareness that all women should be counseled to wear seat belts regardless of age, education, or socio-economic status.
- Providing education to public health professionals and medical providers that proper use of the seat belt during pregnancy requires that the lap belt be placed across the upper thighs and under the abdomen. The shoulder belt should be placed to the side of the uterus, between the breasts, and over the mid-portion of the clavicle.

Smoking during pregnancy leads to adverse health outcomes for both mothers and infants, like low birth weight, preterm labor, and infant mortality. The role of smoking as a risk factor for low birth weight and other poor outcomes is important because it is also a modifiable behavior. As a result, the American College of Obstetricians and Gynecologists (ACOG) recommends that providers screen all women at the first prenatal care visit for smoking and counsel all smokers about the impact of smoking during pregnancy.

Prenatal care providers are recommended to counsel their patients early in the last trimester about the benefits of breastfeeding their infants. Benefits for the infant include reduced risk of infectious illness and increased cognitive function. Benefits for the mother include a reduced risk of ovarian cancer and premenopausal breast cancer. Successful implementation of the counseling programs may help to increase the initiation and duration of breastfeeding.

Drinking alcohol during pregnancy can cause permanent harm to the central nervous system of fetuses, affecting both physical and mental functioning of children. A safe level of alcohol consumption has not been established. Because the effects of alcohol use during pregnancy are so detrimental, the American College of Obstetricians and Gynecologists has recommended that women who are pregnant drink no alcohol at all. Prenatal care providers are recommended to counsel their patients to avoid alcohol completely during pregnancy because of possible detrimental effects on the unborn baby.

The healthcare professionals should be recommended to pay more attention on educating women about reproductive health and family planning options. Standard provider practice should include age appropriate discussion of all forms of contraception, along with availability, effectiveness, risks of use, and discussion of the importance of planning for pregnancy for optimal health outcomes with their patients on a routine basis.

Over 15% of women in Pierce County reported that their prenatal care provider did not discuss with them issues pertaining to taking safe medicines during their pregnancy. The healthcare professionals should be recommended to pay more attention to educate pregnant women about safe medicines during their prenatal care visits.

Consumption of illegal drugs is not safe for the unborn baby or for the mother. Studies have shown that consumption of illegal drugs during pregnancy can result in miscarriage, low birth-weight, premature labor, fetal death and even maternal death. Prenatal care providers are recommended to counsel their patients to avoid illegal drugs completely because of highly possible detrimental effects on both pregnant woman and the unborn baby.

Preterm labor is labor that occurs before 37th week of pregnancy. Preterm birth occurs in about 12 percent of all pregnancies in the United States. There are numerous factors, which may place a pregnant woman at

a high risk of going into pre-term labor. These include smoking, drug abuse, poor nutrition, infection, etc., however most causes of pre-term labor remain unknown. Prenatal care providers should include education about prematurity in all of their encounters with preconceptional and prenatal patients.

Infection with human immunodeficiency virus (HIV), the virus that causes AIDS, remains a major cause of illness and death among women and children. Transmission of the HIV virus from an infected woman to her fetus or newborn can occur during pregnancy, delivery, or after delivery through breastfeeding. All health care providers are recommended to offer HIV counseling and voluntary testing to women during routine prenatal care.

Physical violence during pregnancy is associated with almost every reproductive health problem; significant associations have been found between violence and health problems during pregnancy, birth outcomes, infant health, gynecological symptoms and diagnoses, unintended pregnancy, adolescent pregnancy, and sexually transmitted diseases. Violence may also be related to inconsistent contraceptive use. Given the high likelihood that women will access health care services during pregnancy, physicians providing prenatal care are in a strategic position to screen for physical violence. Each prenatal visit is an opportunity for providers to identify, refer, and consequently help abused women obtain intervention services.

In the pregnancy and postpartum period, between 10 - 20% of women experience a major depression or anxiety disorder that can have negative, long lasting consequences for both the mother and baby. Prenatal visit is an opportunity for providers to educate a patient about postpartum depression and, if necessary to refer her to a specialist or to encourage her to join a support group. Social isolation often contributes to postpartum depression.

Weight gain during pregnancy needs to be controlled to ensure that the best conditions are available to the baby. Prenatal care providers should include education about determining the weight gain that is right for a patient.

Most women give birth to healthy babies. However, some babies are born with genetic or chromosomal disorders. Prenatal screening tests can identify women who have a high risk of delivering a baby with a birth defect. Defects detected through screening generally require confirmation by more invasive diagnostic tests.

SELECTED RISK FACTORS: CIGARRETE SMOKING AND ALCOHOL USE

Women's behavior before and during pregnancy is related to infant mortality and low birth weight. Of all known behavioral risk factors, smoking and alcohol use have received the most attention because of their recognized associations with pregnancy and availability of data.

Smoking during pregnancy is associated with increased risk for premature rupture of membranes, separation of the placenta from the uterus, and abnormal location of the placenta, which can cause massive hemorrhaging during delivery. Women who quit smoking before or during pregnancy reduce the risk of such adverse reproductive outcomes.

Prenatal exposure to alcohol use is one of the common causes of mental retardation and neurodevelopment disorders, and is the only cause that is entirely preventable. Alcohol exposure is also associated with miscarriages and low birth weight. There is no known safe level of prenatal alcohol consumption or safe time to drink during pregnancy.

TOBACCO USE

Women who smoke have increased risks for delay in conceiving, infertility, pregnancy complications, premature birth, spontaneous abortion and stillbirth. Infants born to women who smoke during pregnancy have a lower average birth weight than infants born to women who do not smoke. The risks for sudden infant death syndrome (SIDS) are increased among the infants of women who smoke during pregnancy.

Survey question #25:

Have you smoked at least 100 cigarettes in the past 2 years?

- a No
- b Yes

Summary of results

- ❖ The proportion of women who reported smoking at least 100 cigarettes in the past 2 years was 30.4%.
- ❖ These women were more likely to be:
 - Teenagers (46.8%);
 - Unmarried (51.7%);
 - Women with less than 12 years of education (52.3%);
 - Native American women (56.2%).
- ❖ Married women were noticeably less likely to report smoking at least 100 cigarettes in the past 2 years than unmarried women (21.3% vs. 51.7%).

Table 36 Women who reported smoking at least 100 cigarettes in the past 2 years

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	716	208	30.4	(25.3- 35.4)
Maternal age				
<20	100	43	46.8	(30.9- 62.7)
20-24	217	80	44.4	(34.2- 54.5)
25-34	322	72	22.6	(16.1- 29.1)
35+	77	13	19.6	(7.2- 31.9)
Marital status				
Married	421	86	21.3	(15.9- 26.8)
Other	293	122	51.7	(42.6- 60.7)
Education (years)				
<12	123	55	52.3	(38.4- 66.3)
12	264	93	38.9	(30.0- 47.8)
>12	301	53	17.8	(11.8- 23.7)
Race				
Hispanic (race)	58	10	17.4	(7.5- 27.4)
African American	227	59	26.3	(20.8- 31.9)
Native American	99	55	56.2	(46.9- 65.6)
Asian	142	25	18.2	(11.8- 24.5)
White	190	59	33.1	(26.2- 40.0)

Figure 110 Women who reported smoking at least 100 cigarettes in the past 2 years, by age

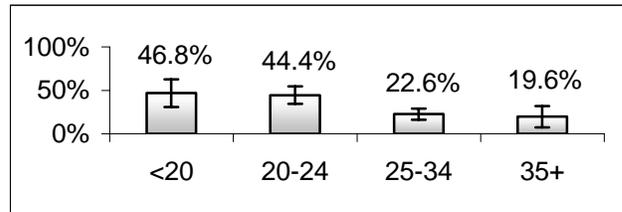


Figure 111 Women who reported smoking at least 100 cigarettes in the past 2 years, by marital status



Figure 112 Women who reported smoking at least 100 cigarettes in the past 2 years, by education level

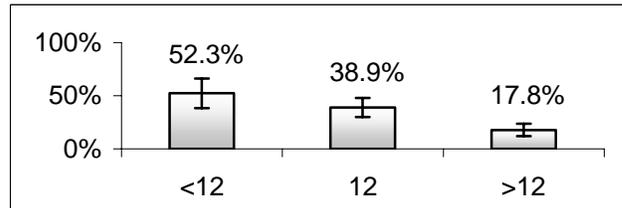
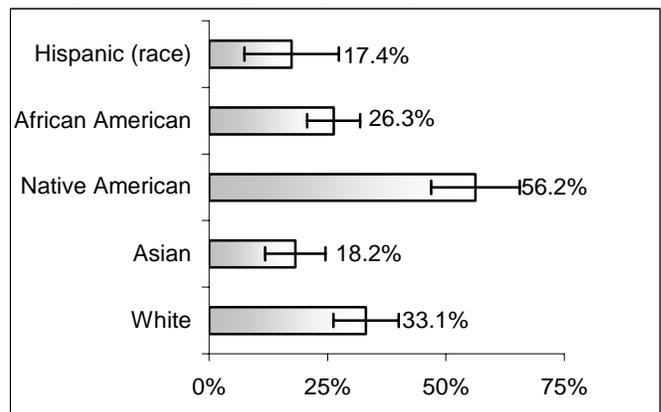


Figure 113 Women who reported smoking at least 100 cigarettes in the past 2 years, by race



Survey question #26:

In the 3 months before you got pregnant, how many cigarettes did you smoke on an average day?

Summary of results

- ❖ 27.3% of women reported smoking cigarettes in the 3 months before pregnancy. These women were more likely to be:
 - Teenagers (44.9%);
 - Unmarried (49.0%);
 - Women with less than 12 years of education (49.1%);
 - Native American women (52.8%).
- ❖ The percentage among women with less than a high school education was almost three times higher than among others: 49.1% vs. 15.2%.
- ❖ The percentage of married women was significantly lower than the percentage of unmarried: 18.3% vs. 49.0%.

Table 37 Number of cigarettes per day smoked in the 3 months before their pregnancy

Cigs/day	Resp.	Yes	% Yes	95% CI
None	705	521	72.7	(67.8-77.7)
1-9/dy	705	72	9.0	(5.8-12.1)
10-19/dy	705	54	6.9	(4.1-9.7)
20-29/dy	705	45	9.2	(5.9-12.6)
30-39/dy	705	8	1.4	(0.0-2.8)
≥ 40/dy	705	5	0.7	(0.0-1.8)

Table 38 Women who reported smoking cigarettes in the 3 months before pregnancy

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	705	184	27.3	(22.3-32.2)
Maternal age				
<20	99	40	44.9	(28.9-60.9)
20-24	208	67	37.2	(26.9-47.6)
25-34	321	65	21.2	(14.8-27.6)
35+	77	12	18.9	(6.6-31.3)
Marital status				
Married	418	74	18.3	(13.1-23.5)
Other	285	110	49.0	(39.7-58.3)
Education (years)				
<12	121	51	49.1	(34.8-63.4)
12	257	80	35.1	(26.2-44.0)
>12	299	46	15.2	(9.5-20.8)
Race				
Hispanic (race)	58	9	15.7	(6.1-25.4)
African American	222	53	24.1	(18.6-29.6)
Native American	98	51	52.8	(43.3-62.2)
Asian	141	19	13.9	(8.1-19.7)
White	186	52	30.0	(23.2-36.8)

Figure 114 Women who reported smoking cigarettes in the 3 months before pregnancy, by age

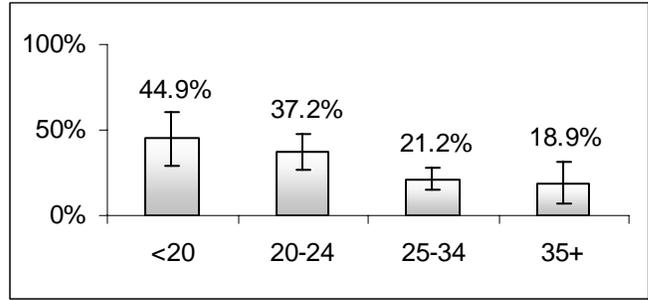


Figure 115 Women who reported smoking cigarettes in the 3 months before pregnancy, by marital status

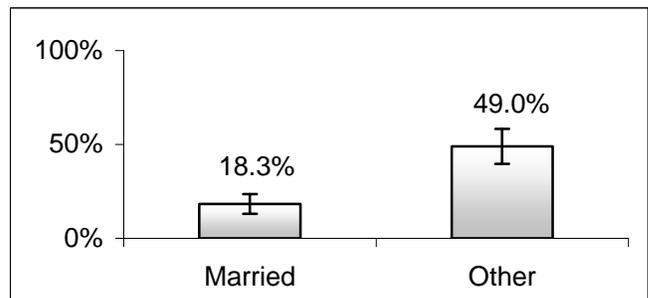


Figure 116 Women who reported smoking cigarettes in the 3 months before pregnancy, by education level

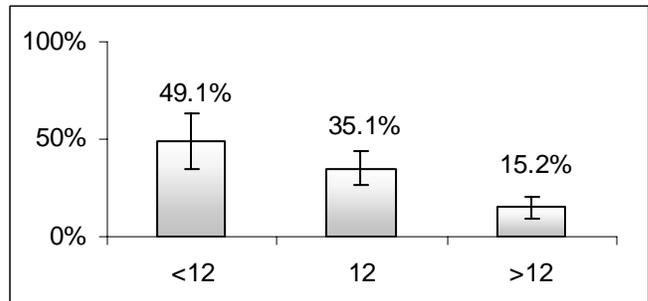
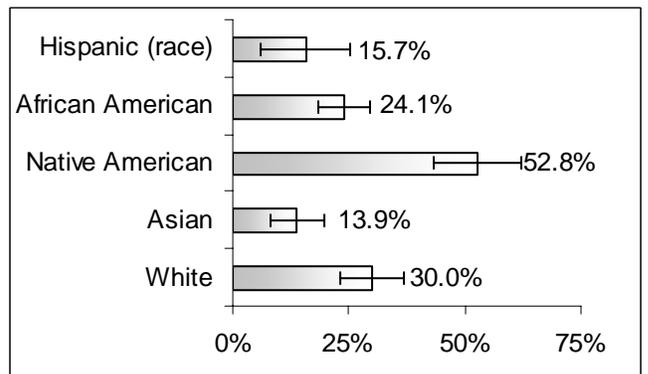


Figure 117 Women who reported smoking cigarettes in the 3 months before pregnancy, by race



Survey question #27:

In the last 3 months of your pregnancy, how many cigarettes did you smoke on an average day?

Summary of results

- ❖ 13.9% of women reported smoking cigarettes in the last 3 months of their pregnancy. These women were more likely to be:
 - Unmarried (29.0 %);
 - Women with less than 12 years of education (35.4%);
 - Native American women (28.8%).
- ❖ Women with less than a high school education were almost six times more likely to report smoking cigarettes in the last 3 months of their pregnancy compared to those who were educated beyond high school: 35.4% vs. 6.0%.

Table 39 Number of cigarettes per day smoked in the last 3 months of their pregnancy

Cigs/day	Resp.	Yes	%Yes	95% CI
None	707	606	86.1	(82.2-89.9)
1-9/dy	707	71	8.1	(5.2-11.0)
10-19/dy	707	18	2.3	(0.6-4.0)
20-29/dy	707	9	3.0	(0.8-5.1)
30-39/dy	707	2	0.6 *	
>= 40/dy	707	1	0.0 *	

* This estimate cannot be considered as reliable.

Table 40 Women who reported smoking cigarettes in the last 3 months of their pregnancy

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	707	101	13.9	(10.1-17.8)
Maternal age				
<20	99	24	24.2	(9.8-38.6)
20-24	211	38	20.2	(11.6-28.8)
25-34	320	32	10.3	(5.4-15.3)
35+	77	7	7.7	(0.0-16.0)
Marital status				
Married	419	34	7.7	(4.2-11.2)
Other	286	67	29.0	(19.9-38.0)
Education (years)				
<12	119	30	35.4	(20.7-50.2)
12	261	49	16.5	(9.8-23.2)
>12	299	18	6.0	(2.2-9.7)
Race				
Hispanic (race)	58	3	5.3 *	
African American	222	35	15.9	(11.2-20.5)
Native American	97	28	28.8	(20.1-37.5)
Asian	141	9	6.6	(2.5-10.7)
White	189	26	15.2	(9.8-20.5)

* This estimate cannot be considered as reliable.

Figure 118 Women who reported smoking cigarettes in the last 3 months of their pregnancy, by age

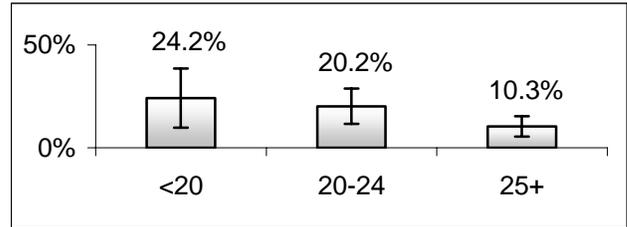


Figure 119 Women who reported smoking cigarettes in the last 3 months of their pregnancy, by marital status

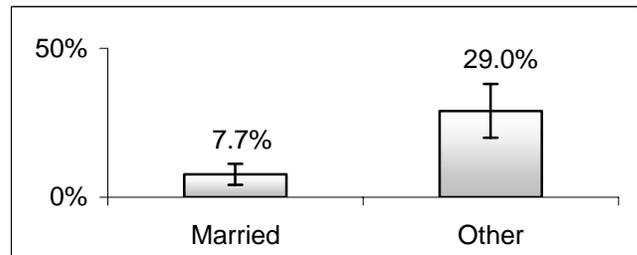


Figure 120 Women who reported smoking cigarettes in the last 3 months of their pregnancy, by education level

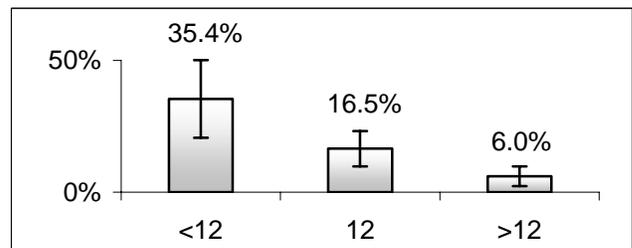
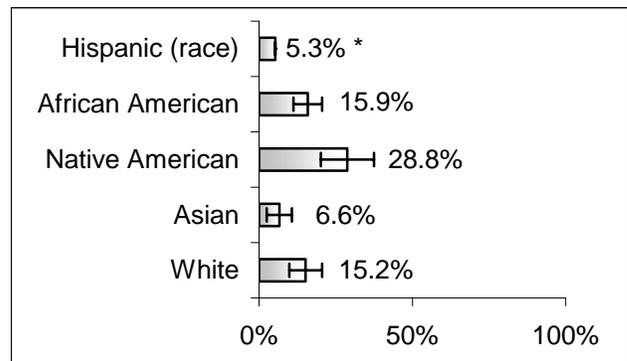


Figure 121 Women who reported smoking cigarettes in the last 3 months of their pregnancy, by race



* This estimate cannot be considered as reliable.

Survey question #28:

How many cigarettes do you smoke on an average day now?

Summary of results

- ❖ 20.7% of women reported smoking cigarettes at postpartum. These women were more likely to be:
 - Teenagers (34.6%);
 - Unmarried (40.8%);
 - Women with less than 12 years of education (45.4%);
 - Native American women (36.6%).
- ❖ Women who had less than a high school education were more than five times more likely to report they had smoked cigarettes at postpartum compared to those who were educated beyond high school: 45.4% vs. 8.9 %.

Table 41 Number of cigarettes per day smoked in postpartum

Cigs/day	Resp.	Yes	% Yes	95% CI
None	714	570	79.3	(74.8-83.8)
1-9/dy	714	72	8.5	(5.6-11.5)
10-19/dy	714	44	5.5	(3.0-8.0)
20-29/dy	714	23	5.6	(2.9-8.3)
30-39/dy	714	4	1.1 *	
>= 40/dy	714	1	0.0 *	

* This estimate cannot be considered as reliable.

Table 42 Women who reported smoking cigarettes at postpartum

Maternal characteristics	Resp.	Yes	% Yes	95% CI
	714	144	20.7	(16.2-25.2)
Maternal age				
<20	100	34	34.6	(19.1-50.2)
20-24	216	57	32.8	(22.9-42.8)
25-34	321	44	13.9	(8.4-19.5)
35+	77	9	12.0	(1.8-22.2)
Marital status				
Married	420	51	12.2	(7.9-16.6)
Other	292	93	40.8	(31.6-50.1)
Education (years)				
<12	123	44	45.4	(31.0-59.9)
12	264	66	27.2	(18.9-35.5)
>12	299	28	8.9	(4.5-13.2)
Race				
Hispanic (race)	58	6	10.5	(2.4-18.7)
African American	225	49	22.1	(16.8-27.4)
Native American	99	36	36.6	(27.5-45.7)
Asian	142	13	9.5	(4.6-14.3)
White	190	40	22.7	(16.5-28.9)

Figure 122 Women who reported smoking cigarettes at postpartum, by age

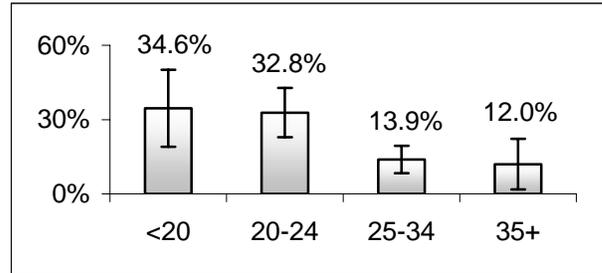


Figure 123 Women who reported smoking cigarettes at postpartum, by marital status

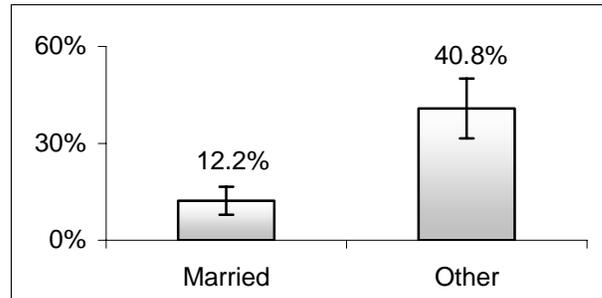


Figure 124 Women who reported smoking cigarettes at postpartum, by education level

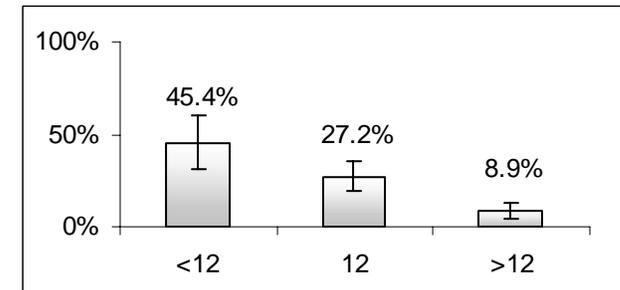
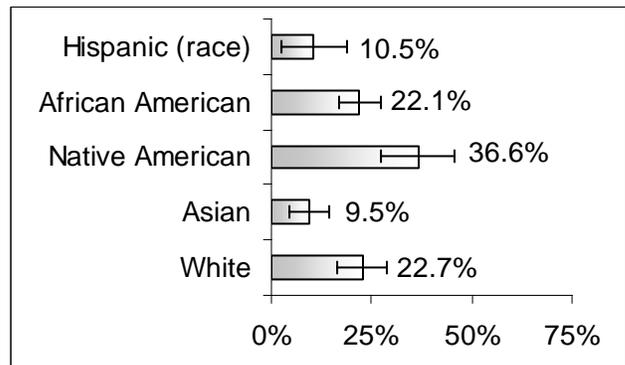


Figure 125 Women who reported smoking cigarettes at postpartum, by race

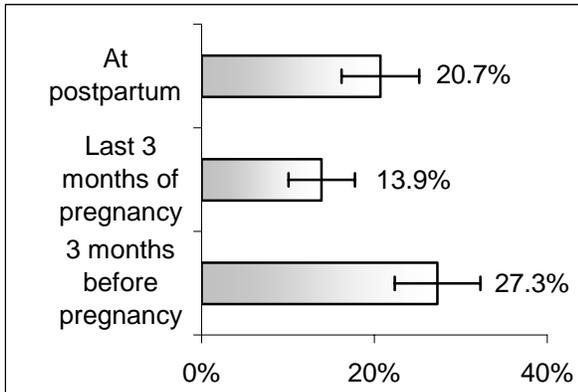


Calculated variable:
Smoking rates before, during, and after pregnancy

Summary of results

- ❖ 27.3% of women who delivered a live birth in Pierce County in 2000-2003 smoked prior to their pregnancy. The percentage dropped down to 13.9% when they were in the last 3 months of their pregnancy.
- ❖ The percentage increased up to 20.7% in postpartum.

Figure 126 Women who reported smoking before, during and after pregnancy



Calculated variable:
Change smoking during pregnancy

Summary of results

When comparing smoking behavior during pregnancy with the pre-pregnancy period, a majority of women were found to be nonsmokers* (72.9%). The next most prevalent group were smokers who quit (13.5%) followed by smokers who reduced their number of cigarettes (9.4%), and smokers who either did not change or increased the number of cigarettes they smoked (4.2%).

Table 43 Women who reported change of smoking status during pregnancy

	Resp.	Yes	%Yes	95%CI
Nonsmoker*	698	520	72.9	(68.0-77.9)
Smoker who quit	698	82	13.5	(9.7-17.4)
#cigarettes reduced	698	69	9.4	(6.1-12.7)
# cigarettes same/more	698	27	4.2	(1.9-6.5)

* A nonsmoker is defined as a woman who was not smoking before, during and after pregnancy including women who answered “No” to question #25.

ALCOHOL USE

Prenatal exposure to alcohol use is one of the common causes of mental retardation and neurodevelopment disorders, and is the only cause that is entirely preventable. Alcohol exposure is also associated with miscarriages and low birth weight. There is no known safe level of prenatal alcohol consumption or safe time to drink during pregnancy.

Survey question #29:

Have you had any alcoholic drinks in the past 2 years? (A drink is 1 glass of wine, wine cooler, can or bottle of beer, shot of liquor, or mixed drink.)

- a No (Go to Question 32)
- b Yes

Summary of results

- ❖ 71.2% of women in Pierce County reported drinking in the past 2 years. These women were more likely to be:
 - 25-34 years old (75.3%);
 - Women with more than 12 years of education (75.6%);
 - White (not Hispanic) women (80.1%).
- ❖ The percentage of White (not Hispanic) women was significantly higher than the percentage of Asian women: 80.1% vs. 39.2%.

Table 44 Women who reported drinking in the past two years

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	715	441	71.2	(66.9-75.6)
Maternal age				
<20	99	48	61.0	(46.6-75.5)
20-24	217	140	69.4	(60.5-78.4)
25-34	322	212	75.3	(69.4-81.1)
35+	77	141	65.9	(52.0-79.8)
Marital status				
Married	420	253	71.6	(66.2-77.0)
Other	293	187	70.3	(62.6-78.0)
Education (years)				
<12	122	60	50.6	(36.5-64.6)
12	266	162	73.8	(67.0-80.6)
>12	299	206	75.6	(69.3-81.9)
Race				
Hispanic (race)	57	25	45.7	(32.6-58.9)
African American	227	128	55.9	(49.7-62.1)
Native American	99	79	79.6	(72.0-87.3)
Asian	142	56	39.2	(31.2-47.2)
White	190	153	80.1	(74.3-85.9)

Figure 127 Women who reported drinking in the past two years, by age

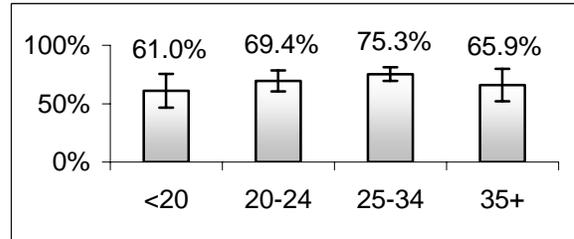


Figure 128 Women who reported drinking in the past two years, by marital status

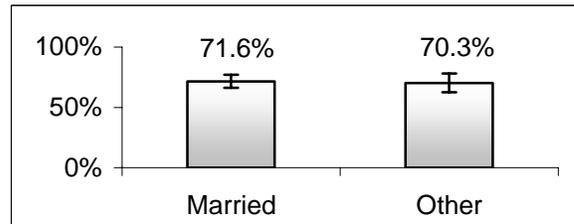


Figure 129 Women who reported drinking in the past two years, by education level

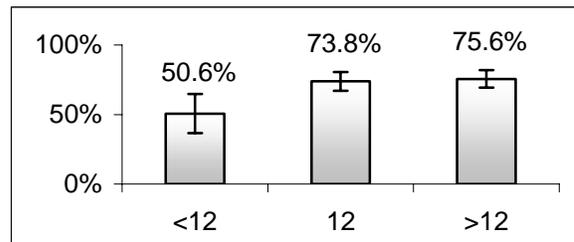
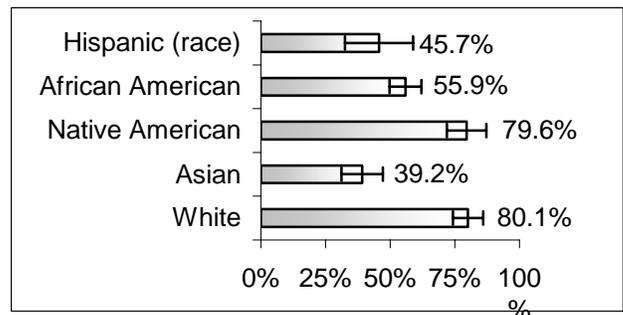


Figure 130 Women who reported drinking in the past two years, by race



Survey question #30a:

During the 3 months before you got pregnant, how many alcoholic drinks did you have in an average week?

- a Didn't drink then
- b Less than 1 drink a week
- c 1 to 3 drinks a week
- d 4 to 6 drinks a week
- e 7 to 13 drinks a week
- f 14 drinks or more a week
- g I don't know

Summary of results

- ❖ 45.8% of women reported they did not consume alcohol during the 3 months before pregnancy.
- ❖ Another 46.4% of women said they had 3 drinks or less in a week.
- ❖ Almost 8% of women said they had 4 or more drinks a week.

Table 45 Drinks per week in the 3 months before pregnancy

Drinks/wk	Yes	% Yes	95% CI
None	377	45.8	(40.6-50.9)
<1-3/wk	281	46.6	(41.3-51.8)
4-6/wk	29	5.0	(2.6-7.4)
7-13/wk	9	1.3	(0.0-2.6)
>= 14/wk	9	1.4	(0.1-2.8)

Table 46 Women who reported any alcohol use in the 3 months before pregnancy

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	705	328	54.2	(49.1-59.4)
Maternal age				
<20	98	30	34.0	(18.1-49.8)
20-24	209	94	45.3	(34.9-55.6)
25-34	322	173	62.2	(55.1-69.2)
35+	76	31	55.3	(40.5-70.1)
Marital status				
Married	417	182	54.1	(47.8-60.5)
Other	286	145	54.3	(45.2-63.4)
Education (years)				
<12	119	43	43.7	(29.2-58.1)
12	261	116	52.1	(43.1-61.0)
>12	297	162	59.7	(52.2-67.2)
Race				
Hispanic (race)	56	15	27.7	(15.8-39.6)
African American	225	99	43.5	(37.3-49.7)
Native American	95	58	61.5	(52.1-71.0)
Asian	141	39	27.5	(20.2-34.9)
White	188	117	61.9	(54.9-68.9)

Figure 131 Women who reported any alcohol use in the 3 months before pregnancy, by age

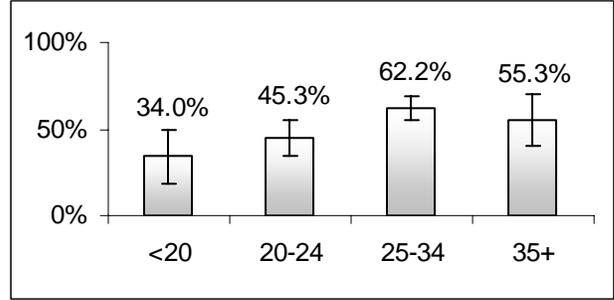


Figure 132 Women who reported any alcohol use in the 3 months before pregnancy, by marital status

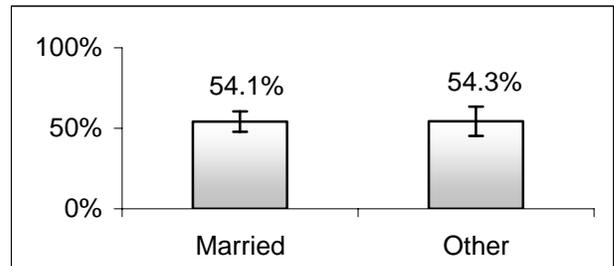


Figure 133 Women who reported any alcohol use in the 3 months before pregnancy, by education level

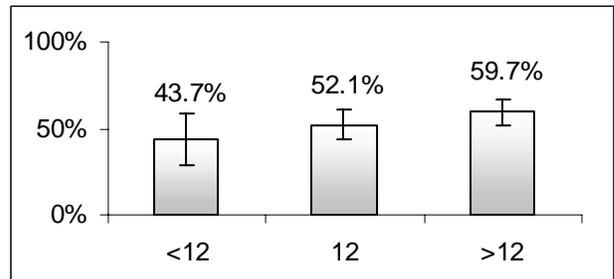
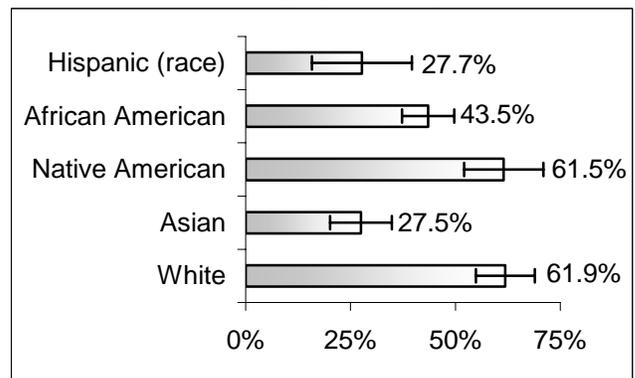


Figure 134 Women who reported any alcohol use in the 3 months before pregnancy, by race



Survey question #31.a:

During the last 3 months of your pregnancy, how many alcoholic drinks did you have in an average week?

- a Didn't drink then
- b Less than 1 drink a week
- c 1 to 3 drinks a week
- d 4 to 6 drinks a week
- e 7 to 13 drinks a week
- f 14 drinks or more a week
- g I don't know

Summary of results

- ❖ 94.2% of women reported they did not drink alcohol during the last 3 months of their pregnancy.
- ❖ About 6% of women reported any alcohol use in the last 3 months of their pregnancy. These women were more likely to be:
 - Women 35 years old and older (18.0%);
 - Women with 12+ years of education (9.2%);
 - White (not Hispanic) women (7.4%).

Table 47 Drinks per week drunk by women in the last 3 months of the pregnancy

Drinks/wk	Resp.	Yes	% Yes	95% CI
None	708	679	94.2	(91.5-96.8)
<1-3/wk	708	29	5.8	(3.2-8.5)
≥ 4/wk	708	0		

Table 48 Mothers who reported any alcohol use in the last 3 months of their pregnancy

Maternal characteristics	Resp.	Yes	% Yes	95% CI
	708	29	5.8	(3.2-8.5)
Maternal age				
<20	99	3	1.5 *	
20-24	214	4	1.8 *	
25-34	319	14	5.9	(2.0-9.7)
35+	76	8	18.0	(5.5-30.5)
Marital status				
Married	416	16	6.4	(3.0-9.8)
Other	290	13	4.7	(0.4-8.9)
Education (years)				
<12	122	5	5.1	(0.0-12.4)
12	263	7	1.9	(0.0-4.3)
>12	295	17	9.2	(4.5-14.0)
Race				
Hispanic (race)	57	0	0.0 *	
African American	224	11	4.7	(2.1-7.3)
Native American	98	2	2.4 *	
Asian	141	2	1.3 *	
White	188	14	7.4	(3.6-11.1)

* Estimates marked with "*" cannot be considered as reliable.

Figure 135 Women who reported any alcohol use in the last 3 months of their pregnancy, by age

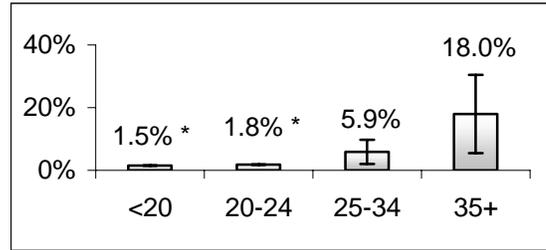


Figure 136 Women who reported any alcohol use in the last 3 months of their pregnancy, by marital status

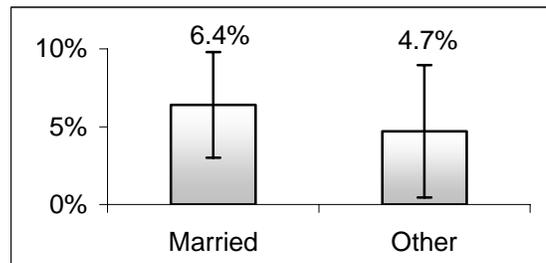


Figure 137 Women who reported any alcohol use in the last 3 months of their pregnancy, by education level

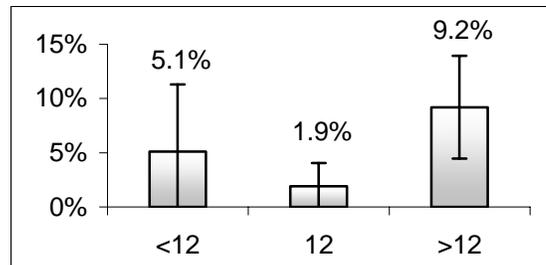
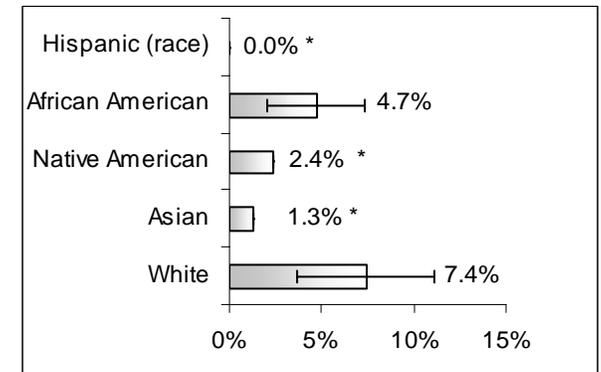


Figure 138 Women who reported any alcohol use in the last 3 months of their pregnancy, by race



* Estimates marked with "*" on the graphs cannot be considered as reliable.

Only those women were asked the following questions about binge drinking (#30.b and #31.b) who answered YES to the Survey question #29: **“Have you had any alcoholic drinks in the last two years?”**

Survey question #30.b:
During the 3 months before you got pregnant, how many times did you drink 5 alcoholic drinks or more in one sitting?

Survey question #31.b:
During the last 3 months of your pregnancy, how many times did you drink 5 alcoholic drinks or more in one sitting?

Summary of results

- ❖ 22.2% of women reported drinking five or more drinks in one sitting in the 3 months before pregnancy
- ❖ 0.3% of women reported drinking five or more drinks in one sitting in the last 3 months of their pregnancy

Table 49 Binge drinking during the 3 months before and in the last 3 months of the pregnancy

	Resp.	Yes	%Yes	95% CI
3 months before pregnancy	387	94	22.2	16.4 28.0
Last 3 months of the pregnancy	386	5	0.3	0.0 0.6

Public Health Implications

Although the majority of women in Pierce County reported not smoking in the third trimester, an unacceptably high percentage of women continued to smoke during the last trimester (13.9%) and at postpartum (20.7%). A larger proportion of respondents who reported smoking at least 100 cigarettes in the last 2 years, during pregnancy, and postpartum were teenagers, unmarried women, women with less than 12 years of education, and Native American women.

Smoking remains one of the few potentially preventable factors associated with pregnancy complications, premature birth, spontaneous abortion and stillbirth. This is why smoking cessation among pregnant and parenting women is a top public health priority.

Smoking cessation programs could be offered as components of the prenatal visits targeting women less than 20 years of age, Native and African American women, non-Hispanic Whites, unmarried women, and women with less than 12 years of education. One of the main messages of these programs to the women could be: *“Quitting smoking lessens your risk for miscarriage, preterm delivery and stillbirth. Your baby starts getting more oxygen after just one day of not smoking.”*

Pierce County PRAMS indicates that 71.2% of the women drank prior to their pregnancy and almost 2% percent of women continued drinking at least the same amount during pregnancy. A larger proportion of

Calculated variable:
Change drinking during pregnancy.

Summary of results

- ❖ When comparing drinking behavior during pregnancy with the pre-pregnancy period, almost one-half of women were found to be nondrinkers (45.9%) (Table 50).
- ❖ The most prevalent group were drinkers who quit (48.2%) followed by the drinkers who reduced their number of drinks (4.0%), and drinkers who either did not change or increased the number of drinks they drank (1.8%).
- ❖ Due to the small number of respondents who drank alcoholic beverages during pregnancy, stratification by demographic characteristics did not produce statistically meaningful results and is not presented in this report.

Table 50 Change drinking behavior during pregnancy

	Resp.	Yes	%Yes	95% CI
Nondrinker	702	376	45.9	40.8-51.1
Drinker who quit	702	297	48.2	42.9-53.5
# drinks reduced	702	15	4.0	1.7-6.3
# drinks same or more	702	13	1.8	0.4-3.3
Nondrinker resumed	702	1	0.0*	

* This estimate cannot be considered as reliable.

respondents who reported drinking in the past 2 years, during pregnancy, and postpartum were 25-34 years olds, women with more than 12 years of education, and white women.

Prenatal exposure to alcohol is of concern to public health professionals because it is a preventable cause of mental retardation and neurodevelopment disorders in children. Additionally, miscarriage and low birth weight are perinatal outcomes associated with alcohol intake during pregnancy. Because there is no known safe level of prenatal alcohol consumption or safe time to drink during pregnancy, increasing education of abstaining from drinking may decrease poor outcomes for the mother and child. Preconceptual and prenatal education should continue to focus on the risks of Fetal Alcohol Syndrome, and prenatal providers can use available assessment tools to identify risk drinking among pregnant women in clinical settings.

Healthy People 2010 objectives and Pierce County PRAMS estimates related to tobacco smoking and alcohol consumption during pregnancy are presented on Table 51. These data can be useful for formulating Public Health priorities pertaining tobacco smoking and alcohol consumption during pregnancy in Pierce County.

Table 51 Healthy People 2010 objectives and Pierce County PRAMS estimates related to tobacco smoking and alcohol consumption during pregnancy

Healthy People 2010 Objectives	Healthy People 2010 target	Pierce County PRAMS 2000-2003 data
Reduce cigarette smoking among pregnant women.	10.0%	13.5%
Increase smoking cessation during pregnancy.	94.0%	94.2%
Increase abstinence from binge drinking by pregnant women.	100%	99.7%

The following strategies to reduce tobacco smoking and alcohol consumption during pregnancy are of interest for the Public Health professionals:

- Identification of barriers to risk reduction educational resources within populations at risk.
- Screening of all women for smoking and alcohol intake at their first prenatal care visit.
- Development of community-based initiatives to target high-risk populations for education on potential outcomes of smoking on pregnancy and infants.

PHYSICAL ABUSE AROUND THE TIME OF PREGNANCY

Although pregnancy is generally considered to be a happy time for couples, about three out of hundred women in Pierce County experienced physical abuse while pregnant. Not only do abusive men often become more abusive when their partners are pregnant, but a pregnancy can be the first time a woman experiences abuse from her partner.

Physical abuse of a woman is defined as non-accidental injury to a woman that may include severe beatings, burns, strangulation, or human bites, whether occurring in public or in private life. Physical abuse of women cuts across race, religion, income, class and culture. It is deeply embedded in all cultures, so much so that millions of women consider it a way of life.

Prenatal physical abuse of mothers can result in fetal death, early labor, preterm birth, and low birth weight of the infant or maternal medical problems. Children exposed to domestic violence are at higher risk for behavioral difficulties, poor academic performance, and delinquency.

Survey question #33a:

During the 12 months before you got pregnant, did your husband or partner push, hit, slap, kick, choke, or physically hurt you in any other way?

- a No
- b Yes

Summary of results

- ❖ 6.3% of women reported that their husband or partner physically abused them during the 12 months before they got pregnant. These women were more likely to be:
 - Teenagers (9.0%);
 - Unmarried (11.8%);
 - Women with less than 12 years of education (9.7%);
 - Native American women (14.8%).
 - Asian (3.7%) women reported significantly lower percentage than Native American (14.8%) women.

Table 52 Women who reported that their husband or partner physically abused them during the 12 months before they got pregnant

Maternal characteristics	Resp	Yes	%Yes	95% CI
	716	55	6.3	(3.8-8.9)
Maternal age				
<20	100	13	9.0	(1.5-16.5)
20-24	216	20	7.9	(2.7-13.1)
25-34	323	19	5.5	(1.9-9.0)
35+	77	3	4.6 *	
Marital status				
Married	422	20	4.0	(1.5-6.5)
Other	292	35	11.8	(5.8-17.8)
Education (years)				
<12	122	16	9.7	(1.7-17.6)
12	265	21	5.1	(1.6-8.6)
>12	301	17	6.0	(2.3-9.6)
Race				
Hispanic (race)	57	4	6.9 *	
African American	228	21	9.6	(5.8-13.3)
Native American	99	14	14.8	(7.9-21.6)
Asian	142	5	3.7	(0.6-6.9)
White	190	11	5.9	(2.5-9.4)

* This estimate cannot be considered as reliable.

Figure 139 Women physically abused by their husband or partner during the 12 months before they got pregnant, by age

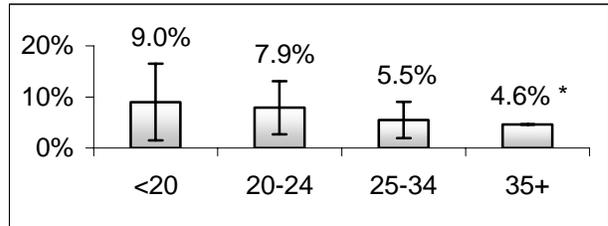


Figure 140 Women physically abused by their husband or partner during the 12 months before they got pregnant, by marital status

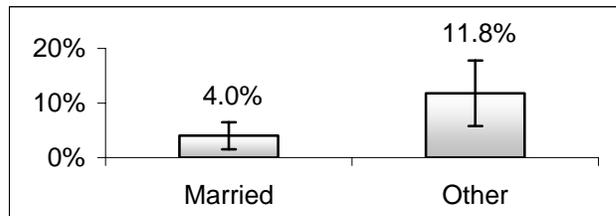


Figure 141 Women physically abused by their husband or partner during the 12 months before they got pregnant, by education level

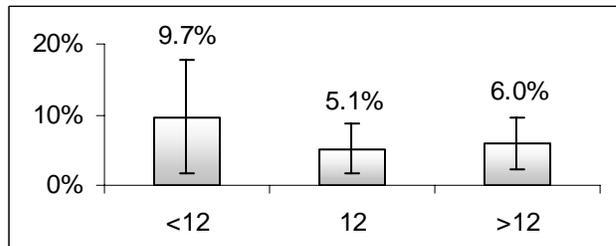
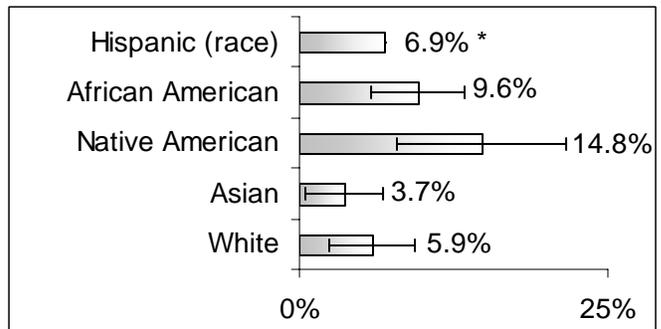


Figure 142 Women physically abused by their husband or partner during the 12 months before they got pregnant, by race



* Estimates marked with “*” on the graph cannot be considered as reliable.

Calculated variable:

During the 12 months before you got pregnant, did your husband, partner, or anyone else physically hurt you in any way?

- a No
- b Yes

Summary of results

- ❖ 8.6% of women reported that someone including their husband or partner physically abused them during the 12 months before they got pregnant. These women were more likely to be:
 - Teenagers (12.4%);
 - Unmarried (17.1%);
 - Women with less than 12 years of education (19.9%);
 - Native American women (18.6%).
- ❖ Asian (5.3.7%) women reported significantly lower percentage than Native American (18.6%) women.

Table 53 Women physically abused during the 12 months before they got pregnant

Maternal characteristics	Resp	Yes	%Yes	95% CI
	716	76	8.6	(5.8-11.5)
Maternal age				
<20	100	17	12.4	(4.1-20.8)
20-24	216	33	12.2	(5.8-18.6)
25-34	323	23	7.0	(3.1-10.9)
35+	77	3	4.6 *	
Marital status				
Married	422	27	5.1	(2.4-7.8)
Other	292	49	17.1	(10.0-24.1)
Education (years)				
<12	122	25	19.9	(8.6-31.2)
12	265	26	5.8	(2.3-9.3)
>12	301	24	7.4	(3.4-11.3)
Race				
Hispanic (race)	57	8	13.5	(4.8-22.2)
African American	228	28	12.7	(8.5-17.0)
Native American	99	18	18.6	(11.2-26.1)
Asian	142	8	5.7	(2.0-9.5)
White	190	14	7.6	(3.8-11.5)

* This estimate cannot be considered as reliable.

Figure 143 Women physically abused during the 12 months before they got pregnant, by age

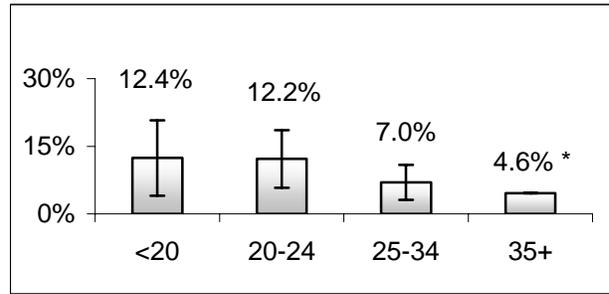


Figure 144 Women physically abused during the 12 months before they got pregnant, by marital status

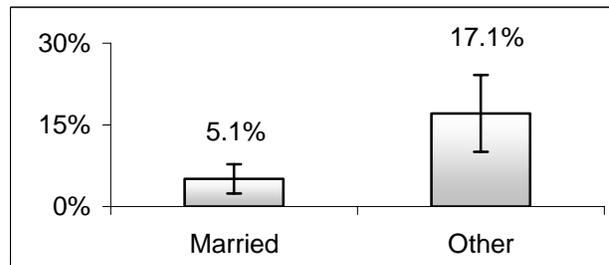


Figure 145 Women physically abused during the 12 months before they got pregnant, by education level

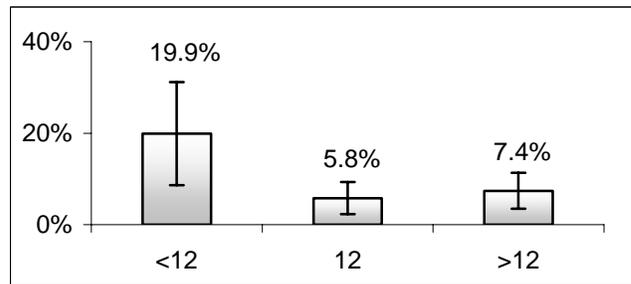
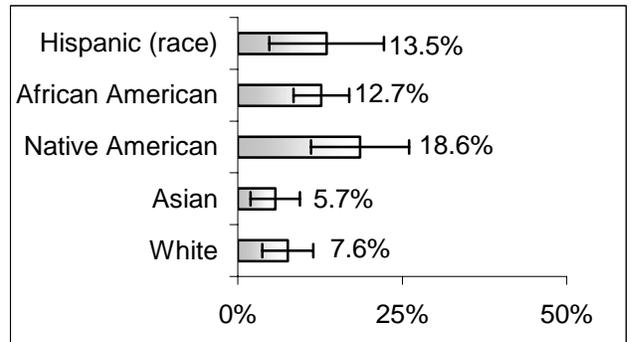


Figure 146 Women physically abused during the 12 months before they got pregnant, by race



* Estimates marked with “*” on the graph cannot be considered as reliable.

Survey question #34a:

During your most recent pregnancy, did your husband or partner push, hit, slap, kicks, choke, or physically hurt you in any other way?

- a No
- b Yes

Calculated variable:

During your most recent pregnancy, did your husband or partner or anyone else physically hurt you in any way?

- a No
- b Yes

Summary of results

- ❖ During their most recent pregnancy, 3.1% of Pierce County women were physically abused by their husband or partner. 3.9% of women reported that someone including their husband or partner physically abused them at that time.
- ❖ Due to the small number of respondents who indicated that someone physically abused them during their most recent pregnancy, stratification by demographic characteristics did not produce statistically meaningful results and is not presented in this report.

Table 54 Women who reported physical abuse during their most recent pregnancy

	Resp	Yes	% Yes	95% CI
Women abused by their husband/partner	717	34	3.1	(1.5-4.8)
Women abused by their husband/partner or someone else	716	42	3.9	(2.1-5.7)

Public Health Implications

Pregnancy offers an opportunity for health care providers to ask women about their relationships and if they have experienced any violence in those relationships. 8.6% of women in Pierce County experienced physical abuse during the 12 months before they got pregnant. The percentage dropped down to 3.9% after women got pregnant. Among women who indicated that they were abused during the 12 months before they got pregnant the perpetrator was most often (in about 80% cases) their husband or partner. This was also true among the women who indicated that they were abused during their pregnancy.

The following strategies to reduce domestic violence during pregnancy are of interest for the Public Health professionals:

- Utilize standardized screening tools at every trimester and postpartum visit.
- Increase awareness and referral to community-based groups for support of pregnant women who are exposed to physical abuse.
- Develop collaboration among law enforcement, judicial and social service agencies to provide services that include shelters and programs, transitional housing and vocational preparation for women.
- Develop a batterer’s treatment programs that also address alcohol, substance abuse, and parenting issues; and children’s counseling services.

MATERNAL HEALTH AND COMPLICATIONS DURING PREGNANCY

Pregnancy complications are defined as conditions or pathological processes associated with pregnancy. They can occur during or after pregnancy, and range from minor discomforts to serious diseases that require medical interventions. They include diseases in pregnant females, and pregnancies in females with diseases.

Maternal illness during pregnancy may not be associated with pregnancy. Maternal illnesses like diabetes, rubella, oral disease, thyroid disease, or toxoplasmosis are associated with pre-term and/or low birth-weight delivery. After delivery, infants or young children may develop cavities from maternal oral bacteria.

However, both maternal illness and pregnancy complications can contribute to perinatal mortality, chronic health problems for mothers and infants, increased health care expenditures and decreased quality of life.

Survey question #23:

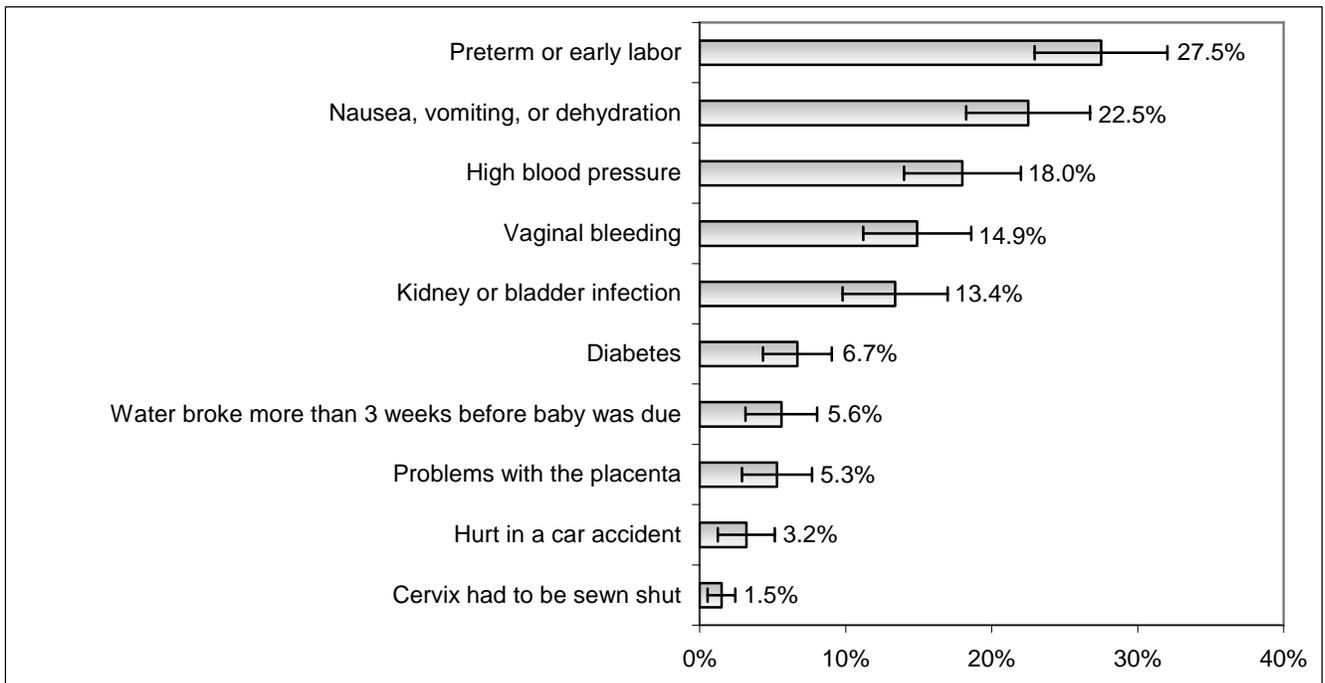
Did you have any of these problems during your pregnancy?

- a Labor pains more than 3 weeks before your baby was due
- b High blood pressure
- c Vaginal bleeding
- d Problems with the placenta
- e Severe nausea, vomiting, or dehydration
- f High blood sugar (diabetes)
- g Kidney or bladder (urinary tract) infection
- h Water broke more than 3 weeks before your baby was due
- i Cervix had to be sewn shut
- j You were hurt in a car accident

Summary of results

- ❖ 62.4% of mothers reported one or more of these maternal illnesses and/or medical complications during pregnancy
- ❖ 27.5% of women reported preterm or early labor
- ❖ 18.0% reported high blood pressure
- ❖ 14.9% reported vaginal bleeding
- ❖ 5.3% reported that they had problems with the placenta
- ❖ 22.5% reported severe nausea, vomiting, or dehydration
- ❖ 6.7% reported diabetes
- ❖ 13.4% reported kidney or bladder infection
- ❖ 5.6% reported water broke more than 3 weeks before their baby was due
- ❖ 1.5% reported that their cervix had to be sewn shut
- ❖ 3.2% reported that they were hurt in a car accident

Table 55 Maternal illness and complications due to pregnancy



Survey question #23a:

Did you have this problem during your pregnancy?

Labor pains more than 3 weeks before your baby was due

Summary of results

- ❖ 27.5% of women reported preterm or early labor. These women were more likely to be:
 - 20-24 years old (35.9%);
 - Women with 12 years of education (34.8%);
 - Unmarried (31.2%);
 - African American women (42.5%).
- ❖ African American women had significantly higher risk of preterm or early labor (42.5%) than Asian (23.9%), Hispanic (race) (24.4%), or White (26.1%) women.
- ❖ 35.5% of women enrolled in WIC program reported preterm or early labor. The percentage was noticeably lower among women not enrolled in WIC (20.7%). The difference was statistically significant.

Table 56 Women who reported preterm or early labor

Maternal characteristics	Resp	Yes	%Yes	95% CI
	714	225	27.5	(23.0-32.1)
Maternal age				
<20	100	38	29.9	(16.0-43.8)
20-24	215	73	35.9	(26.2-45.5)
25-34	322	97	24.9	(18.6-31.2)
35+	77	17	18.5	(7.0-29.9)
Marital status				
Married	420	121	25.9	(20.3-31.4)
Other	292	103	31.2	(22.7-39.7)
Education (years)				
<12	123	47	33.7	(20.0-47.4)
12	263	90	34.8	(26.3-43.2)
>12	300	76	19.6	(13.7-25.5)
Race				
Hispanic (race)	58	14	24.4	(13.1-35.8)
African American	226	95	42.5	(36.2-48.8)
Native American	99	35	36.1	(26.9-45.4)
Asian	142	33	23.9	(16.8-31.0)
White	189	48	26.1	(19.9-32.4)

Figure 147 Women who reported preterm or early labor, by age

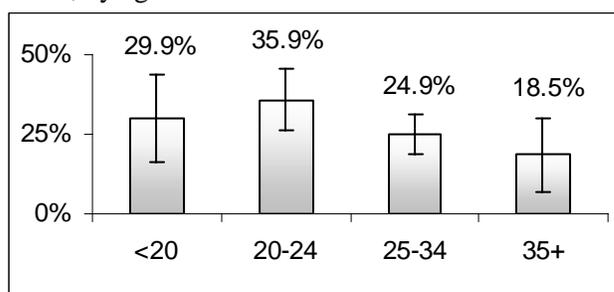


Figure 148 Women who reported preterm or early labor, by marital status

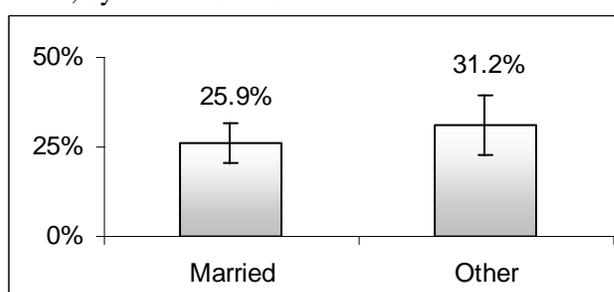


Figure 149 Women who reported preterm or early labor, by education level

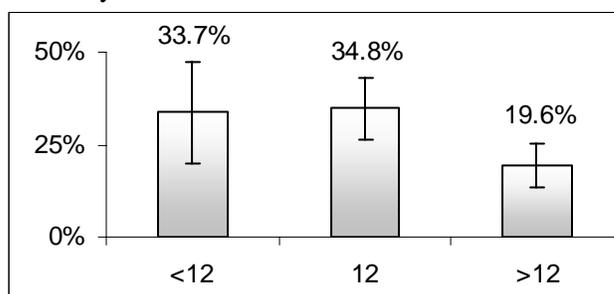
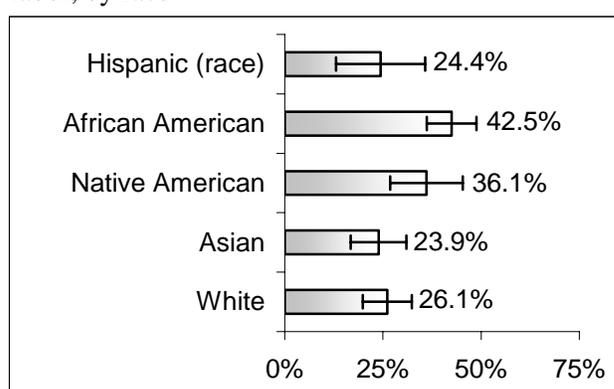


Figure 150 Women who reported preterm or early labor, by race



Survey question #23c:
Did you have this problem during your pregnancy?
Vaginal bleeding.

Summary of results

- ❖ 14.9% of women reported vaginal bleeding. These women were more likely to be:
 - 20-24 years old (23.6%);
 - Unmarried (20.3%);
 - Women with 12 years of education (21.2%);
 - Native American women (19.4%).
- ❖ Women from the youngest (8.0%) and from the oldest (7.2%) age groups reported significantly lower percentages than 20-24 years old women (23.6%).
- ❖ Native American women reported relatively higher prevalence of vaginal bleeding (19.4%) than White (14.0%) or Asian (14.9%) women.
- ❖ 18.9% of women enrolled in WIC program reported vaginal bleeding. The percentage was noticeably lower among women not enrolled in WIC (12.0%).

Table 57 Women who reported vaginal bleeding

Maternal characteristics	Resp. Yes	Yes	%Yes	95% CI
	715	116	14.9	(11.2- 18.6)
Maternal age				
<20	100	15	8.0	(3.1- 12.8)
20-24	216	41	23.6	(14.7- 32.5)
25-34	323	51	13.4	(8.5- 18.3)
35+	76	9	7.2	(0.0- 14.5)
Marital status				
Married	419	57	12.4	(8.2- 16.7)
Other	294	58	20.3	(13.0- 27.6)
Education (years)				
<12	123	20	11.3	(3.8- 18.8)
12	264	48	21.2	(13.7- 28.6)
>12	300	43	10.8	(6.2- 15.3)
Race				
Hispanic (race)	57	10	17.7	(7.9- 27.5)
African American	227	40	18.1	(13.1- 23.0)
Native American	99	19	19.4	(12.0- 26.9)
Asian	143	21	14.9	(9.1- 20.7)
White	189	26	14.0	(9.0- 19.1)

Figure 151 Women who reported vaginal bleeding, by age

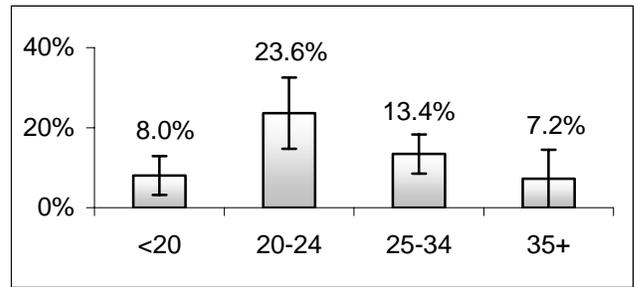


Figure 152 Women who reported vaginal bleeding, by marital status

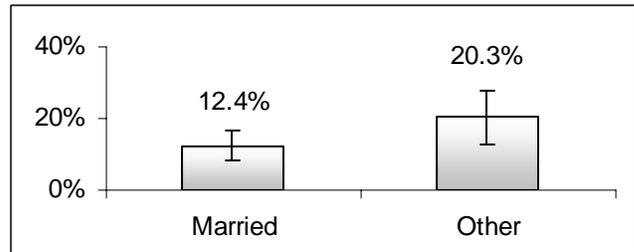


Figure 153 Women who reported vaginal bleeding, by education level

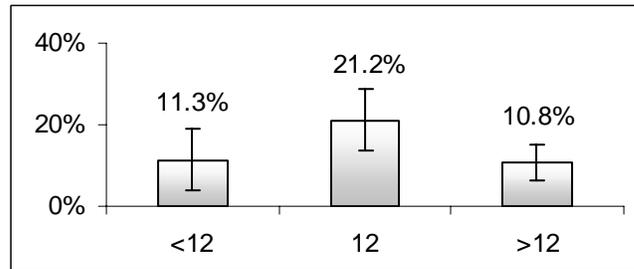
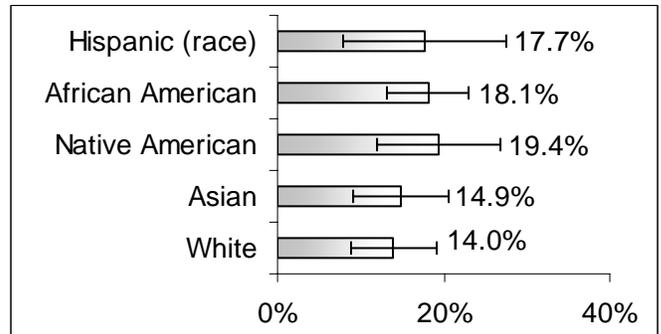


Figure 154 Women who reported vaginal bleeding, by race



Survey question #23e:
Did you have this problem during your pregnancy?
Severe nausea, vomiting, or dehydration.

Summary of results

22.5% of women reported severe nausea, vomiting, or dehydration. These women were more likely to be:

- Teenagers (35.5%);
- Unmarried (25.1%);
- Women with 12 years of education (26.2%);
- Native American (35.5%) and African American (35.9%) women;
- ❖ Women from the youngest age group reported noticeably higher percentage (35.5%) than 35+ years old women (15.3%).
- ❖ African American women reported significantly higher prevalence of severe nausea, vomiting, or dehydration (35.9%) during their pregnancy than Hispanic (race) (16.0%), White (21.0%) or Asian (22.9%) women.
- ❖ 29.3% of women enrolled in WIC program reported severe nausea, vomiting, or dehydration during their pregnancy. The percentage was noticeably lower among women not enrolled in WIC (17.7%).

Table 58 Women who reported severe nausea, vomiting, or dehydration

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	717	199	22.5	(18.3-26.8)
Maternal age				
<20	100	41	35.5	(20.4-50.5)
20-24	217	57	22.5	(14.3-30.7)
25-34	323	83	21.9	(15.9-27.9)
35+	77	18	15.3	(5.6-25.0)
Marital status				
Married	421	104	21.5	(16.3-26.7)
Other	294	95	25.1	(17.6-32.7)
Education (years)				
<12	123	43	21.1	(10.8-31.5)
12	266	80	26.2	(18.6-33.8)
>12	300	68	19.2	(13.2-25.1)
Race				
Hispanic (race)	58	10	16.0	(6.4-25.7)
African American	228	82	35.9	(29.8-41.9)
Native American	99	35	35.5	(26.5-44.5)
Asian	143	33	22.9	(16.2-29.6)
White	189	39	21.0	(15.2-26.8)

Figure 155 Women who reported severe nausea, vomiting, or dehydration, by age

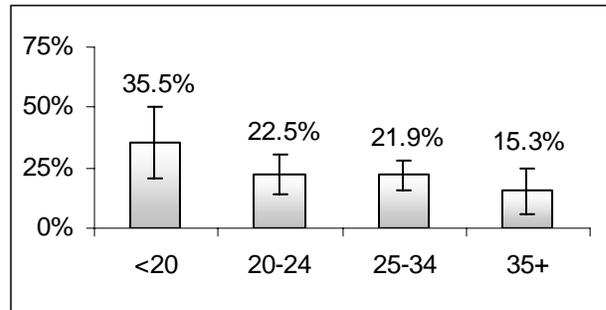


Figure 156 Women who reported severe nausea, vomiting, or dehydration, by marital status

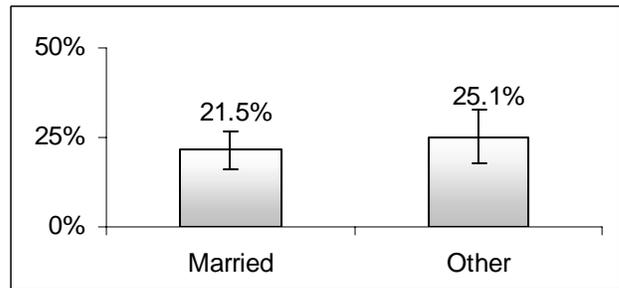


Figure 157 Women who reported severe nausea, vomiting, or dehydration, by education level

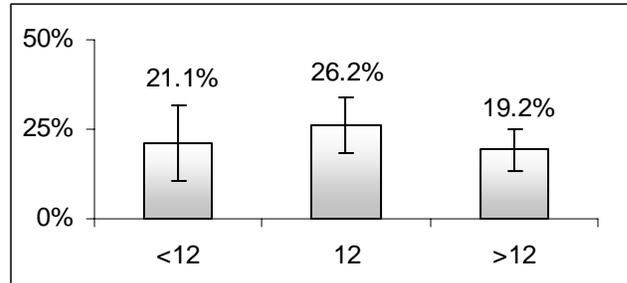
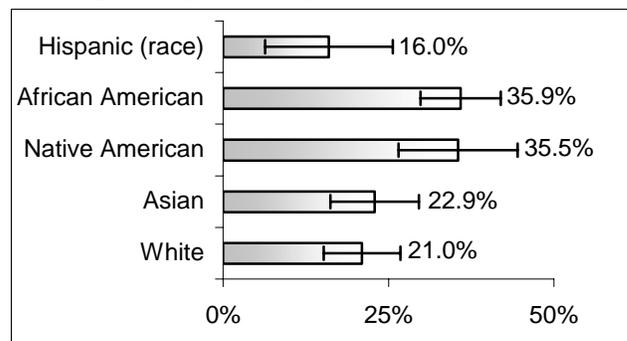


Figure 158 Women who reported severe nausea, vomiting, or dehydration, by race



Survey question #23f:

Did you have this problem during your pregnancy?

High blood sugar (diabetes).

Summary of results

- ❖ 6.7% of women reported diabetes. These women were more likely to be:
 - 35 years old and older (19.0%);
 - Unmarried (8.2%);
 - Women with 12 years of education (8.6%);
 - Hispanic (race) women (17.6%).
- ❖ 20-24 years old women reported significantly lower prevalence of diabetes during their pregnancy (3.2%) than 35+ years old women (19.0%).
- ❖ White (4.7%) and African American (6.1%) women reported noticeably lower prevalence of diabetes during their pregnancy than Hispanic (race) women (17.6%).
- ❖ 9.8% of women enrolled in WIC program reported diabetes during their pregnancy. The percentage was noticeably lower among women not enrolled in WIC (4.4%).

Table 59 Women who reported diabetes

Maternal characteristics	Resp	Yes	%Yes	95% CI
	713	60	6.7	(4.4-9.1)
Maternal age				
<20	100	7	8.6	(0.0-17.1)
20-24	217	13	3.2	(1.2-5.1)
25-34	320	24	5.3	(2.4-8.3)
35+	76	16	19.0	(7.4-30.5)
Marital status				
Married	419	34	5.9	(3.2-8.6)
Other	292	25	8.2	(3.5-12.8)
Education (years)				
<12	123	6	2.1	(0.3-3.9)
12	264	24	8.6	(4.2-13.0)
>12	299	26	6.6	(3.0-10.2)
Race				
Hispanic (race)	57	10	17.6	(7.5-27.7)
African American	226	14	6.1	(3.1-9.1)
Native American	99	9	9.2	(3.7-14.7)
Asian	142	18	12.9	(7.4-18.4)
White	189	9	4.7	(1.7-7.7)

Figure 159 Women who reported diabetes, by age

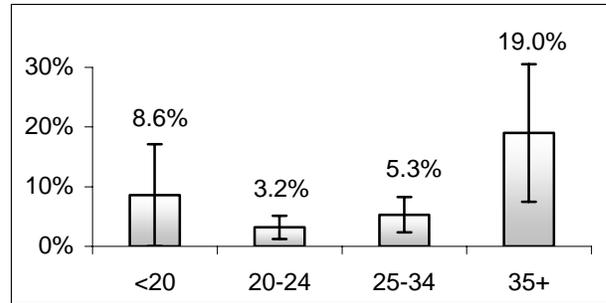


Figure 160 Women who reported diabetes, by marital status

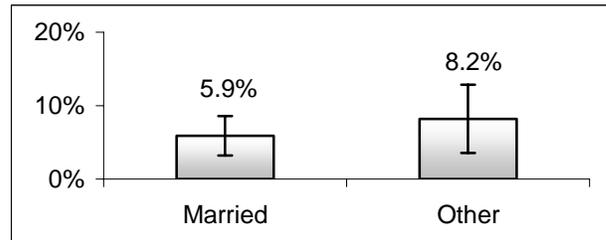


Figure 161 Women who reported diabetes, by education level

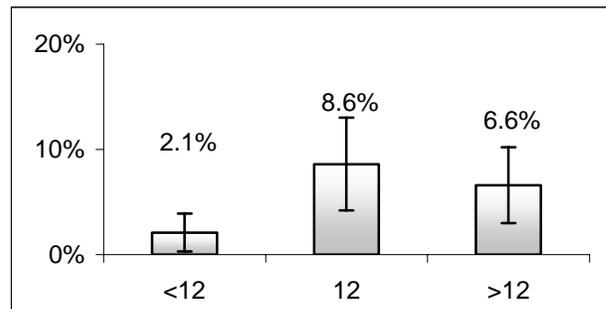
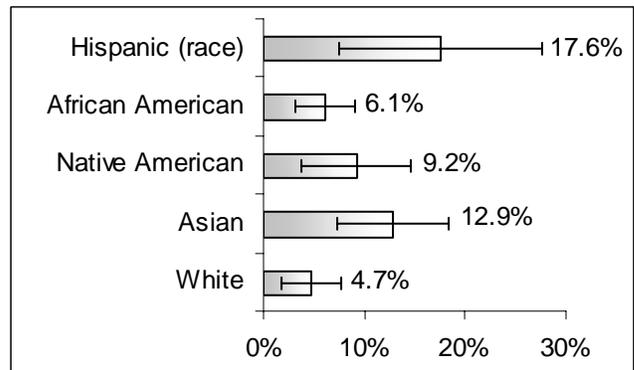


Figure 162 Women who reported diabetes, by race



Survey question #23g:
Did you have this problem during your pregnancy?
Kidney or bladder (urinary tract) infection

Summary of results

- ❖ 13.4% of women reported kidney or bladder infection. These women were more likely to be:
 - Teenagers (22.0%);
 - Unmarried (16.2%);
 - Women with 12 or less years of education (16.2%);
 - Hispanic (race) (17.2%) and African American (16.8%) women.
- ❖ 25+ years old women reported almost twice lower prevalence of kidney or bladder infection during their pregnancy (3.2%) than teenagers (22.0%).
- ❖ Hispanic (race) (17.2%) and African American (16.8%) women reported noticeably higher prevalence of kidney or bladder infection during their pregnancy than Asian women (7.4%).
- ❖ 13.9% of women enrolled in WIC program reported kidney or bladder infection during their pregnancy. The percentage was similar among women not enrolled in WIC (13.2%).

Table 60 Women who reported kidney or bladder infection

Maternal characteristics	Resp. Yes	%Yes	95% CI
	713	94	13.4 (9.8-17.0)
Maternal age			
<20	100	23	22.0 (9.2-34.9)
20-24	216	31	16.3 (8.8-23.8)
25-34	321	33	10.6 (5.9-15.2)
35+	76	7	11.9 (1.5-22.3)
Marital status			
Married	418	44	12.2 (7.8-16.5)
Other	293	50	16.2 (9.6-22.8)
Education (years)			
<12	123	24	16.2 (6.7-25.8)
12	263	37	16.2 (9.4-23.0)
>12	299	27	10.6 (5.7-15.5)
Race			
Hispanic (race)	58	10	17.2 (7.6-26.9)
African American	225	38	16.8 (12.1-21.6)
Native American	99	11	11.2 (5.2-17.2)
Asian	142	10	7.4 (3.0-11.8)
White	189	25	13.4 (8.5-18.3)

Figure 163 Women who reported kidney or bladder infection, by age

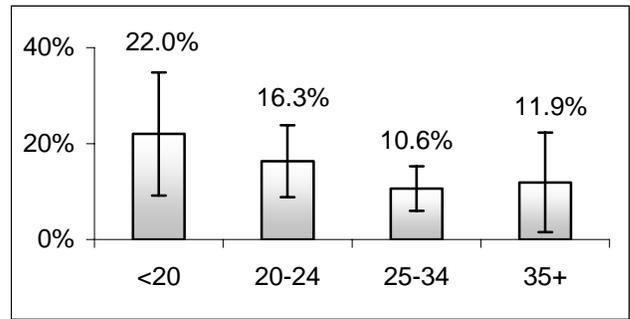


Figure 164 Women who reported kidney or bladder infection, by marital status

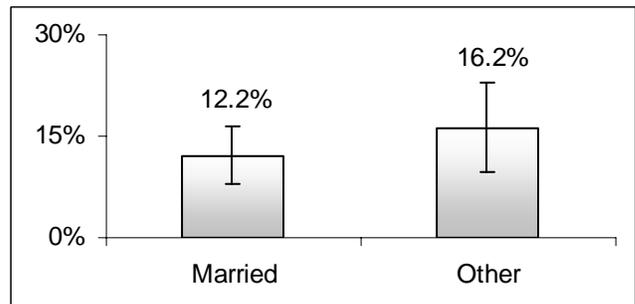


Figure 165 Women who reported kidney or bladder infection, by education level

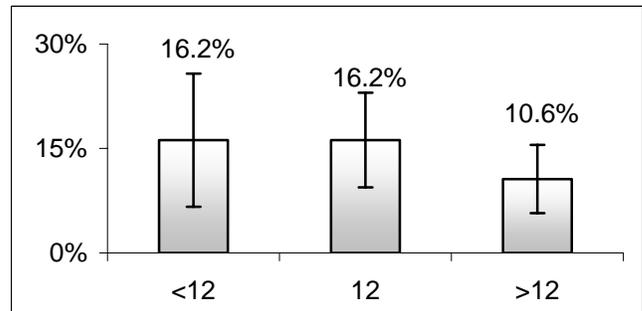
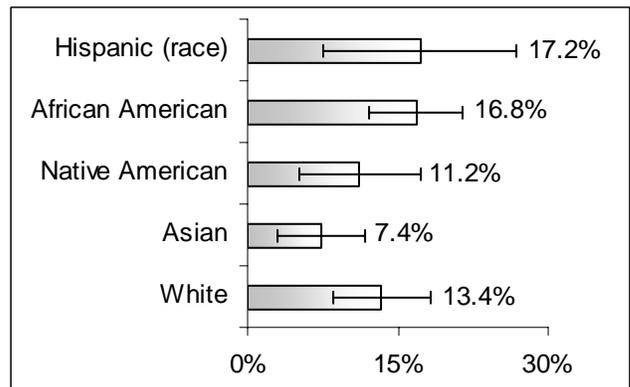


Figure 166 Women who reported kidney or bladder infection, by race



Survey question #23 options d, h, i, j:
Did you have any of these problems during your pregnancy?

- d Problems with the placenta*
- h Water broke more than 3 weeks before your baby was due*
- i Cervix had to be sewn shut*
- j You were hurt in a car accident*

Due to the small number of responses to the options d, h, i, j of the survey question #23, stratification by demographic characteristics did not produce meaningful results for these options and not represented in this report.

Summary of results

- ❖ 5.6% of women reported water broke more than 3 weeks before their baby was due.
- ❖ 5.3% of women reported problems with the placenta.
- ❖ 3.2% of women reported that they were hurt in a car accident during their pregnancy.
- ❖ 1.5% of women reported that their cervix had to be sewn shut.

Table 61 Women who reported selected problems during their pregnancy

	Resp.	Yes	%Yes	95% CI
Water broke more than 3 weeks before their baby was due	714	44	5.6	(3.2- 8.1)
Problems with the placenta	714	37	5.3	(2.9- 7.7)
Cervix had to be sewn shut	708	16	1.5	(0.5- 2.4)
Were hurt in a car accident	715	23	3.2	(1.3- 5.2)

Survey question #24:
Did you do any of the following things because of these problem(s)?

Only those women were asked this question who had any of the medical problems during their pregnancy asked in the Survey question #23.

Check all that apply

- a I went to the hospital or emergency room and stayed less than 1 day
- b I went to the hospital and stayed 1 to 7 days
- c I went to the hospital and stayed more than 7 days
- d I stayed in bed at home more than 2 days because of my doctor’s or nurse’s advice

Summary of results

- ❖ Out of those women who had medical problems during their pregnancy, 78.8% reported that they either went to the hospital or stayed in bed at home due to the medical problems.
- ❖ The percentage of those who went to the hospital or emergency room and stayed less than 1 day was 36.6%.
- ❖ The percentages of those who stayed in the hospital 1 to 7 days and more than 7 days were 13.6% and 2.0%, respectively.
- ❖ The percentage of those who stayed in bed at home more than 2 days was 26.6%.

Table 62 Women who went to the hospital or stayed in bed at home due to the medical problems

	Resp	Yes	%Yes	95% CI
Went to the hospital or emergency room and stayed less than 1 day	472	205	36.6	(30.3- 42.9)
Went to the hospital and stayed 1 to 7 days	472	69	13.6	(9.1- 18.1)
Went to the hospital and stayed more than 7 days	472	12	2.0	(0.5- 3.4)
Stayed in bed at home more than 2 days because of the doctor’s or nurse’s advice	472	150	26.6	(20.9- 32.2)

Survey question #23b:

Did you have this problem during your pregnancy?

High blood pressure (including preeclampsia or toxemia) or retained water (edema)

Summary of results

- ❖ 18.0% of women reported high blood pressure. These women were more likely to be:
 - 20-24 years old (23.3%);
 - Unmarried (19.9%);
 - Women with 12 years of education (26.7%);
 - Native American women (24.5%).
- ❖ Native American women reported relatively higher prevalence of high blood pressure (24.5%) than Hispanic (race) (16.6.4%) or Asian (17.3%) women.
- ❖ 21.2% of women enrolled in WIC program reported high blood pressure. The percentage was noticeably lower among women not enrolled in WIC (15.4%).

Table 63 Women who reported high blood pressure

Maternal characteristics	Resp.	Yes	%Yes	95% CI
	715	133	18.0	(14.0- 22.0)
Maternal age				
<20	100	23	23.0	(9.0- 37.0)
20-24	216	44	23.3	(14.6- 32.1)
25-34	322	56	15.9	(10.6- 21.3)
35+	77	10	10.8	(1.9- 19.6)
Marital status				
Married	420	75	17.2	(12.4- 22.1)
Other	293	58	19.9	(12.5- 27.2)
Education (years)				
<12	123	27	16.3	(6.3- 26.3)
12	265	58	26.7	(18.6- 34.8)
>12	299	43	13.1	(7.9- 18.2)
Race				
Hispanic (race)	58	9	16.6	(6.8- 26.3)
African American	227	43	19.1	(14.1- 24.0)
Native American	99	24	24.5	(16.4- 32.6)
Asian	143	24	17.3	(11.0- 23.5)
White	188	33	17.9	(12.4- 23.3)

Survey question #67:

This question is about the care of your teeth during your most recent pregnancy

- a I needed to see a dentist for a problem
- b I went to a dentist or dental clinic
- c A dental or other health care worker talked with me about how to care for my teeth and gums

Summary of results

- ❖ 25.2% of women reported that they needed to see a dentist for a problem during their pregnancy;
- ❖ 47.4% saw a dentist during their pregnancy;
- ❖ 47.1 talked with a dental/health care worker about caring for their teeth.

Table 64 Women reported dental care needs and services

	Resp.	Yes	%Yes	95% CI
Needed to see dentist for a problem	696	209	25.2	(20.7- 29.8)
Went to dentist or dental clinic	698	298	47.4	(42.0- 52.7)
Dental worker told about tooth care	695	306	47.1	(41.7- 52.5)

Comment:

All health care providers can promote oral health through oral examinations, advising patients about oral hygiene, and by making referrals to oral health practitioners. However, access to oral health services during pregnancy may be constrained by the American Dental Association recommendations to avoid elective dental care during the first trimester and last half of the third trimester.

Survey question #39:

After your baby was born, was he or she put in an intensive care unit?

- a No
- b Yes

Survey question #40:

After your baby was born, how long did he or she stay in the hospital?

- a Less than 24 hours (Less than 1 day)
- b 24–48 hours (1–2 days)
- c 3 days
- d 4 days
- e 5 days
- f 6 days or more
- g My baby was not born in a hospital
- h My baby is still in the hospital

Survey question #41:

How was your delivery paid for? Check all that apply

- a Insurance or HMO
- b Medicare
- c Personal income
- d Military
- e Still owe
- f Other

Calculated variable:

Number of payment sources for delivery.

Summary of results

- ❖ 11.7% mothers reported that their baby was put in an intensive care unit after delivery.
- ❖ 1.1% of newborns did not stay in the hospital following delivery, 21.3% of newborns stayed one night, 29.0% stayed two nights, 26.0% stayed three nights, and 22.6% stayed four or more nights.
- ❖ Leading three sources of payment for delivery were: 56.1% - health insurance or HMO, 27.6% - Medicaid, and 17.4% - personal income. 24.1% reported that they had two or more payment sources for delivery.
- ❖ 75.5% mothers reported that they had only one payment source for their delivery, 17.6% - two sources, and 6.5% - three sources.

Table 65 Women who reported their baby was put in an intensive care unit after delivery

	Resp.	Yes	%Yes	95% CI
Was baby put in an intensive care unit?	706	103	11.7	(8.5- 14.8)

Table 66 Reported number of days in the hospital after delivery

Nights in hospital	Resp.	Yes	%Yes	95% CI
Did not stay	718	7	1.1	(0.0-2.3)
1	718	130	21.3	(16.8-25.8)
2	718	220	29.0	(24.3-33.7)
3	718	182	26.0	(21.3-30.6)
4	718	79	9.1	(6.2-11.9)
5	718	34	5.2	(2.7-7.6)
6+	718	66	8.4	(5.6-11.3)

Table 67 Sources of payment for delivery

	Resp.	Yes	%Yes	95% CI
Insurance/HMO	717	331	56.1	(51.0-61.2)
Medicaid	717	248	27.6	(23.1-32.1)
Personal income	717	86	17.4	(13.2-21.6)
Military	717	112	11.8	(8.6-14.9)
Still owe	717	67	11.2	(7.7-14.6)
Other	717	53	6.3	(3.7-8.8)

Table 68 Number of payment sources for delivery

Number of sources	Resp.	Yes	%Yes	95% CI
One	716	571	75.5	(70.9-80.2)
Two	716	109	17.6	(13.5-21.7)
Three	716	36	6.5	(3.8-9.2)

Public Health Implications

The most commonly reported complication during pregnancy was preterm labor. Babies born premature are at risk of serious medical complication due to underdeveloped of organs. Additionally, very premature infants also have the highest risk of death and long-term disabilities such as cerebral palsy, lung and gastrointestinal problems, and vision and hearing loss.

Although the mechanism or causes of preterm labor are not clearly understood, mothers are at a higher risk of preterm birth if they had a previous preterm birth, pregnant with twins or more, or have certain uterine or cervical abnormalities. Medical conditions such as diabetes, high blood pressure, and obesity are also associated with a higher risk of preterm birth.

In Pierce County, African American mothers reported a statistically significant higher rate of preterm labor than Asian, White, and Hispanic mothers.

The following strategies to reduce preterm labor are of interest for the Public Health professionals:

- Provide Pierce County women better access to early and adequate prenatal care, paying special attention to women from high-risk groups for preterm births.
- Monitor pregnancy and identify underlying medical conditions.
- Educate on abstinence from alcohol and illegal drug use during pregnancy.
- Educate on not smoking and access to cessation programs for pregnant women.

Pierce County PRAMS data can be used to monitor trends in preterm labor and in women's knowledge about their healthy behavior to reduce chances of preterm labor. In addition, this information can be used to monitor progress towards reduction of preterm births percentage from 20.3% (Pierce County 2003 estimate) to 7.6% (Healthy People 2010 target).

Data to Action

The March of Dimes¹⁵ Prematurity Campaign is a multimillion-dollar research, awareness and education campaign to help families have healthier babies. The campaign includes:

- Funding research to find the causes of premature birth.
- Educating women about the risk reduction strategies, including the signs and symptoms of premature labor.
- Providing support to families affected by prematurity.
- Expanding access to health care coverage so that more women can get prenatal care.
- Helping health care providers learn ways to help reduce the risk of early delivery.
- Advocating for access to insurance to improve maternity care and infant health outcomes.

¹⁵ For details see website: http://www.marchofdimes.com/prematurity/5408_5576.asp

PREGNANCY SERVICES

Social support (help and support from friends, family members, or her partner) may be a very important factor in helping a pregnant woman cope with stress. It is evident that Pierce County women experience a multitude of stressful events during pregnancy. Although many of these stressful life events are beyond human control, it may be possible to reduce the negative effects that stress may have on the body and mind by getting help and support from others. It is also apparent that many women do not have help available during pregnancy.

Well-Baby Care (WBC) refers to non-illness-related visits to a health-care professional during infancy. WBC provides important opportunities to promote health in infants through timely receipt of recommended vaccinations, detection and treatment of diseases, and identification of potential developmental or psychosocial disorders. This is also a time for parents to ask the health professional about normal issues of infancy.

The Women, Infant and Children Supplemental Nutrition Program (WIC) is a short-term intervention food and nutrition assistance program that serves low-income pregnant, postpartum and breastfeeding women, and infants and children up to age 5 who are at nutrition risk. The major goal of the WIC program is to improve maternal and infant health through improved nutrition and education.

Survey question #69:

During your most recent pregnancy, did you feel you needed any of the following services?

Survey question #70:

During your most recent pregnancy, did you receive any of the following services?

- a Food, including money or coupons to buy food, food stamps, WIC
- b Help with an alcohol or drug problem
- c Help to reduce violence in your home
- d Counseling information for family and personal problems
- e Help to quit smoking
- f Help with or information about breastfeeding
- g Other

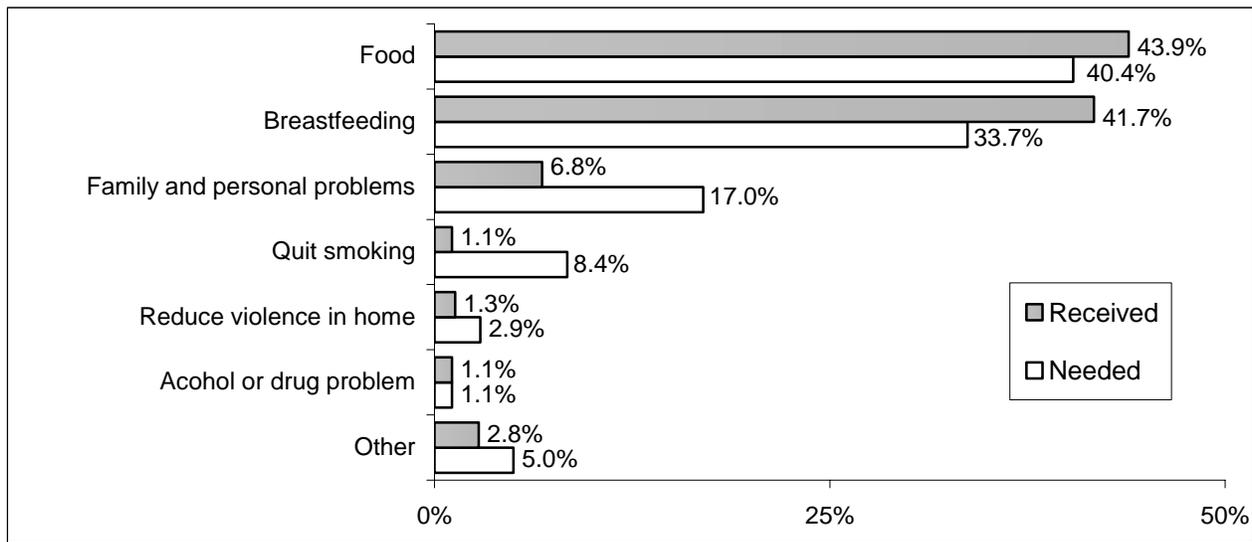
Summary of results

- ❖ The three most needed services were:
 - Food, including money or coupons to buy food, food stamps, WIC (40.4%);
 - Help with or information about breastfeeding (33.7%); and
 - Counseling information for family and personal problems (17.0%).
- ❖ The first two out three most needed services were completely covered.
- ❖ The third most needed service was available for only one out two women in need.
- ❖ (Counseling information for family and personal problems)
- ❖ 8.4% women reported need in help to quit smoking, and only 1.1% women received this kind of help.

Table 69 Women who reported need in different services and services they received

	Women who reported need in different services				Women who reported services they received			
	Resp.	Yes	%Yes	95% CI	Resp.	Yes	%Yes	95% CI
Food	712	383	40.4	(35.4- 45.4)	713	402	43.9	(38.8-49.0)
Help with/information about breastfeeding	713	245	33.7	(28.8- 38.7)	708	313	41.7	(36.5-47.0)
Counseling information for family and personal problems	713	121	17.0	(12.9- 21.0)	711	53	6.8	(4.2-9.5)
Help to quit smoking	712	67	8.4	(5.3- 11.5)	711	24	1.1	(0.2-2.0)
Help to reduce violence in your home	713	18	2.9	(0.4- 5.5)	712	7	1.3	(0.0-2.9)
Help with an alcohol or drug problem	713	10	1.1	(0.0- 2.2)	713	9	1.1	(0.0-2.2)
Other	680	50	5.0	(2.8- 7.2)	679	28	2.8	(1.1-4.4)

Figure 167 Women who reported need in different services and services they received



WELL BABY CARE

Calculated variable:

Women who reported insufficient number of routine Well-Baby Care visits

Insufficient number of well-baby care visits is defined in this report as having completed less than two visits by the time that the mother was surveyed by PRAMS two to six months postpartum. Calculated from Questions 55 and 56.

Summary of results

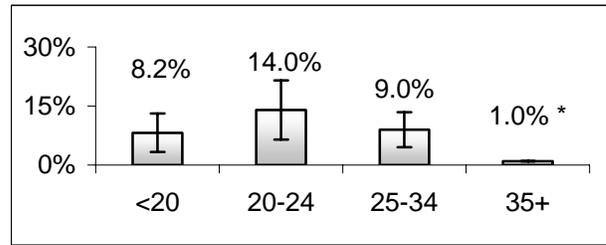
- ❖ 9.3% of women received an insufficient number of routine well-baby care visits. These women were more likely to be:
 - Women who were 20 to 24 years old (14.0%);
 - Unmarried (19.0%);
 - Women with 12 years of education (11.8%);
 - Native American women (11.9%).
- ❖ Married women (5.2%) reported significantly lower percentage than unmarried (19.0%).

Table 70 Women who received insufficient number of routine well-baby care visits

Maternal characteristics	Resp	Yes	%Yes	95% CI
	718	69	9.3	(6.2- 12.4)
Maternal age				
<20	100	15	8.2	(3.3- 13.1)
20-24	217	22	14.0	(6.5- 21.5)
25-34	324	30	9.0	(4.6- 13.5)
35+	77	2	1.0 *	
Marital status				
Married	422	27	5.2	(2.5- 7.9)
Other	294	42	19.0	(11.3- 26.7)
Education (years)				
<12	123	14	8.3	(2.1- 14.5)
12	266	30	11.8	(5.8- 17.8)
>12	301	21	6.7	(2.8- 10.6)
Race				
Hispanic (race)	58	5	8.0	(0.9- 15.0)
African American	228	23	10.1	(6.3- 14.0)
Native American	99	12	11.9	(5.8- 17.9)
Asian	143	12	8.2	(3.9- 12.5)
White	190	17	9.4	(5.2- 13.7)

* This estimate cannot be considered as reliable.

Figure 168 Women who received insufficient number of routine well-baby care visits, by age



* Estimate for 35+ cannot be considered as reliable.

Figure 169 Women who received insufficient number of routine well-baby care visits, by marital status

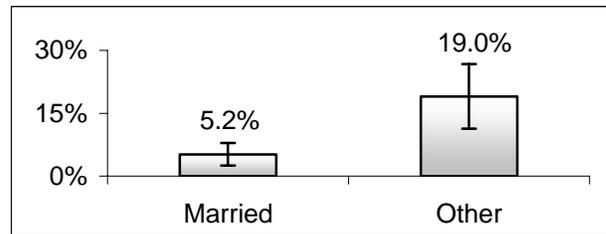


Figure 170 Women who received insufficient number of routine well-baby care visits, by education level

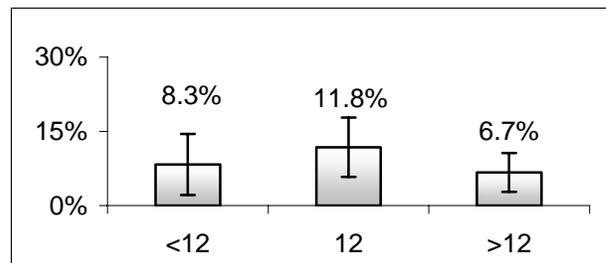
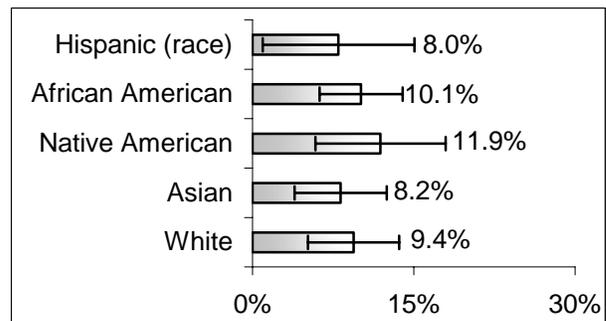


Figure 171 Women who received insufficient number of routine well-baby care visits, by race



Survey question #57:

Where do you usually take your baby for Well-Baby checkups?

Only those were asked this question who answered “Yes” to question #55:

Has your baby had a well-baby checkup?

- a Hospital clinic
- b Health department clinic
- c Private doctor’s office or HMO clinic
- d Community or migrant health center
- e Military facility
- f Other

Summary of results

- ❖ Majority of women (70.8%) reported that they usually take their baby for well-baby checkups to a private doctor’s office or HMO clinic;
- ❖ Second highest percentage was related to a military facility (10.3%);
- ❖ Hospital clinic was in the third place with 7.8%.

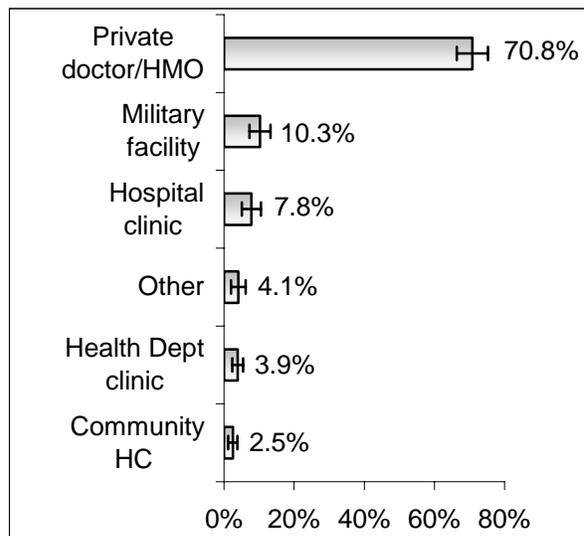
Table 71 and Figure 172 show the percentages of women who indicated different types of sites where they usually took their babies for routine well-baby checkups.

Learning where most of the well baby checkups occur demonstrates which providers are the most utilized in delivery of well baby care.

Table 71 Sites where the baby was taken for well-baby checkups

	Resp.	Yes	%Yes	95% CI
Hospital clinic	674	72	7.8	(5.1- 10.5)
Health Dept clinic	674	51	3.9	(2.4- 5.5)
Private doctor/HMO	674	390	70.8	(66.4- 75.3)
Other	674	37	4.1	(2.0- 6.2)
Military facility	674	95	10.3	(7.3- 13.3)
Community HC	674	29	2.5	(1.2- 3.8)

Figure 172 Sites where the baby was taken for well-baby checkups



Public Health Implications

In Public Health outreach activities it is important to reach the most at risk populations and educate about the benefits of the Well-Baby Care programs enrollment. In Pierce County these programs are coordinated by different organizations including Tacoma-Pierce County Health Department (Maternity Support Services and Infant Case Management). It should be noticed, however, that in Pierce County the Health Department does not conduct Well-Baby Care clinics. Home visiting nurses work with parents and health care providers in Pierce County to promote timely well child visits for immunizations, and growth and development monitoring.

WIC PARTICIPATION DURING PREGNANCY

Survey question #22

During your pregnancy, were you on WIC ?

- a No
- b Yes

Summary of results

- ❖ Almost 43% of women reported that they were enrolled in WIC. These women were more likely to be:
 - Teenagers (84.2%);
 - Unmarried (71.2%);
 - Women with less than 12 years of education (89.0%);
 - Hispanic women (82.9%).
- ❖ Hispanic (82.9%) and African American (46.0%) women were significantly more likely to be enrolled in WIC than White (32.2%) women.

Table 72 Women who were on WIC

Maternal characteristics	Resp	Yes	%Yes	95% CI
	709	405	42.9	(37.9-47.9)
Maternal age				
<20	100	89	84.2	(71.3-97.2)
20-24	215	157	60.4	(50.3-70.6)
25-34	320	131	30.9	(24.2-37.6)
35+	74	28	22.7	(11.6-33.9)
Marital status				
Married	416	173	30.7	(25.0-36.4)
Other	291	230	71.2	(62.4-80.1)
Education (years)				
<12	121	106	89.0	(79.7-98.3)
12	263	165	51.2	(42.2-60.2)
>12	297	111	22.7	(17.0-28.5)
Race				
Hispanic (race)	57	47	82.9	(72.9-92.9)
African American	226	168	74.4	(68.8-79.9)
Native American	98	59	60.7	(51.5-70.0)
Asian	140	74	54.0	(45.9-62.1)
White	188	57	32.2	(25.3-39.1)

Figure 173 Women who were on WIC, by age

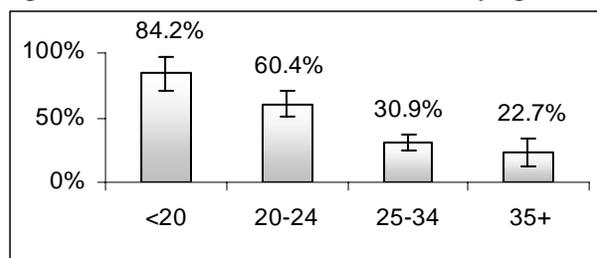


Figure 174 Women who were on WIC, by marital status

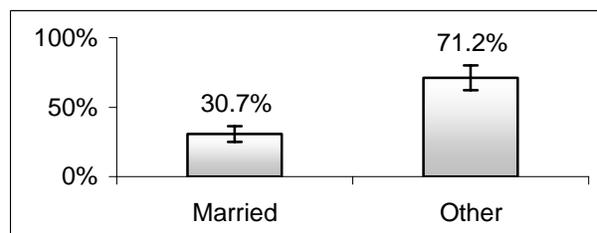


Figure 175 Women who were on WIC, by education level

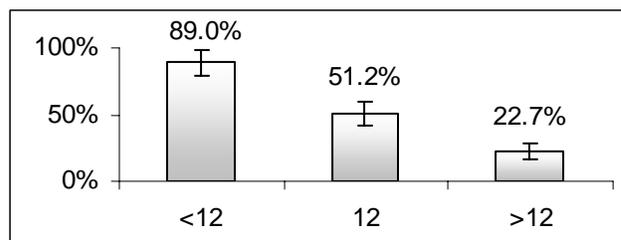
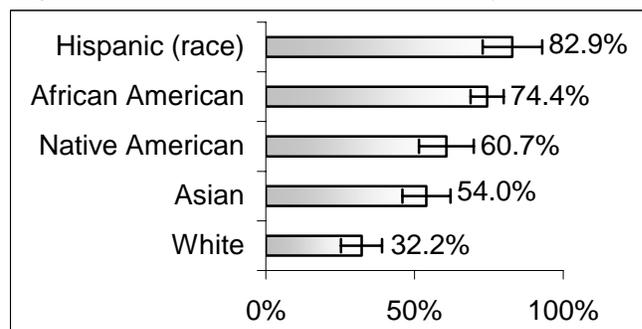


Figure 176 Women who were on WIC, by race



Public Health Implications

In Public Health outreach activities it is important to reach the most at risk populations

- To educate about the benefits of WIC enrollment on birth outcomes, and
- To assist eligible women, infants and children to achieve improved nutrition and health status by providing nutrition education, selected supplemental foods, and health referrals in a caring, supportive environment.

POSTPARTUM

Low-birth weight babies have a higher risk of developing serious health problems as newborns, and they are at increased risk of long-term disabilities and infant deaths. More than 60 percent of low-birth weight babies are preterm. The earlier a baby is born, the less developed its organs will be, the less it is likely to weigh, and the greater its risk for many health problems.

Postpartum factors that negatively influence maternal or infant health include postpartum depression, infant sleep position, reduction in the length of breastfeeding, irregular use of birth control, and exposure to secondhand smoke. Assessment of postpartum factors is needed to identify women at risk for early referral and treatment.

PRE-TERM AND LOW-BIRTH WEIGHT BABIES

Prematurity, also known as pre-term, refers to infants born before completing 37 weeks of gestation. Newborn birth weight less than 2,500 grams (5 lbs. 8 oz.) is considered as low birth weight (LBW). LBW infants are either preterm (born at less than 37 weeks' gestation) or full-term (born at 37 or more weeks' gestation). A fetus with inadequate fetal growth for gestational age results in a newborn who is small for gestational age.

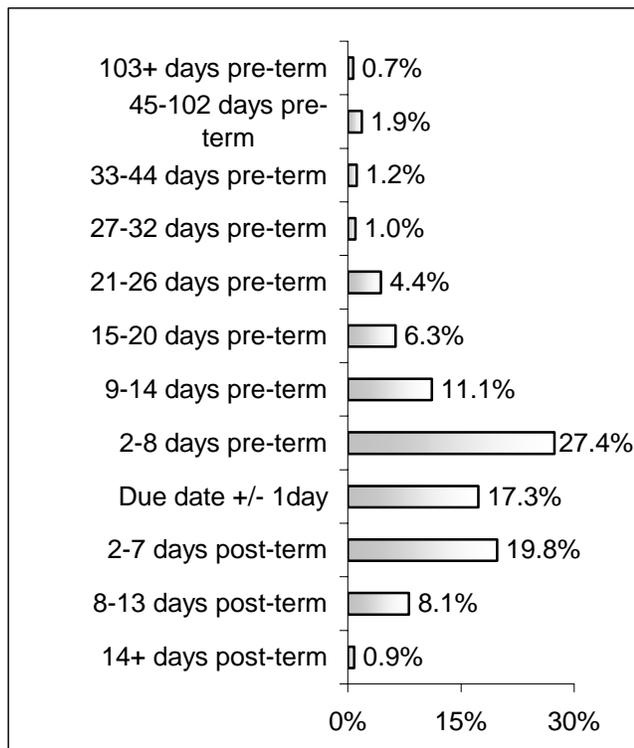
Calculated variable:

Number of days between due date and date of birth.

Summary of results

- ❖ 83.7% women gave birth within the “normal” gestation period (due date – 14 days; due date + 13 days).
- ❖ 0.9% women gave birth 14 or more days later than the due date.
- ❖ 0.7% women gave birth 103 or more days earlier than their due date.
- ❖ Percentage of pre-term births occurred between 24th and 37th week of pregnancy was 14.7%.

Figure 177 Number of days between due date and birth



Calculated variable:

Low birth weight

Summary of results

- ❖ The percentage of babies who were born with low-birth weight was 6.1%. These babies were more likely to be born from:
 - 25-34 years old women (7.4%);
 - Unmarried (6.8%);
 - Women with less than 12 years of education (9.4%);
 - Asian women (12.4%).
- ❖ The lowest percentage (4.8%) was among White women.

Table 73 Women who gave birth to a low-birth weight baby

Maternal characteristics	Resp	Yes	%Yes	95% CI
	718	59	6.1	(3.8-8.5)
Maternal age				
<20	100	7	5.1	(0.8-9.3)
20-24	217	16	5.8	(1.4-10.2)
25-34	324	32	7.4	(3.6-11.2)
35+	77	4	2.5*	
Marital status				
Married	422	35	5.9	(3.0-8.8)
Other	294	24	6.8	(2.6-10.9)
Education (years)				
<12	123	13	9.4	(1.4-17.4)
12	266	15	5.7	(1.7-9.8)
>12	301	26	4.8	(2.0-7.6)
Race				
Hispanic (race)	58	4	7.0*	
African American	228	20	8.8	(5.3-12.4)
Native American	99	8	7.9	(2.8-13.0)
Asian	143	18	12.4	(7.0-17.7)
White	190	9	4.8	(1.6-7.9)

* This estimate cannot be considered as reliable.

INFANT SLEEP POSITION

Sudden Infant Death Syndrome (SIDS) is a diagnosis for the sudden death of an infant less than 1 year of age that remains unexplained after a complete investigation, which includes an autopsy; examination of the death scene; and a review of the baby's and/or family's medical history, including an assessment of symptoms or illness prior to the infant's death. Placing infants to sleep on their backs is a modifiable behavior that has been shown to reduce the risk of SIDS – one of the leading causes of death to infants. Some studies also suggest that the risk for SIDS increases when an infant co-sleeps, especially when the other party is an impaired individual. Co-sleeping refers to the practice of infants sharing the same bed with parents or other children or adults.

Calculated variable:

Women who usually place their babies on stomach to sleep

Summary of results

- ❖ 11.9% of women reported that they usually place their babies on stomach to sleep. These women were more likely to be:
 - Women 35 years old and older (15.4%);
 - Married (14.0%);
 - Women with 12 years of education (14.4%);
 - African American women (18.3%).

Table 74 Women who reported that they usually place their babies on stomach to sleep

Maternal characteristics	Resp	Yes	%Yes	95% CI
	695	85	11.9	(8.4-15.4)
Maternal age				
<20	98	10	7.0	(1.9-12.1)
20-24	209	28	10.7	(4.6-16.9)
25-34	312	39	12.4	(7.3-17.5)
35+	76	8	15.4	(3.2-27.7)
Marital status				
Married	411	49	14.0	(9.3-18.8)
Other	282	36	6.6	(3.5-9.7)
Education (years)				
<12	120	13	7.4	(0.0-15.2)
12	258	29	14.4	(7.7-21.1)
>12	291	39	10.4	(5.9-14.9)
Race				
Hispanic (race)	58	2	3.8 *	
African American	218	40	18.3	(13.4-23.3)
Native American	97	8	8.0	(2.9-13.1)
Asian	139	13	9.3	(4.5-14.2)
White	183	22	12.4	(7.6-17.3)

* This estimate cannot be considered as reliable.

Figure 178 Women who usually place their babies on stomach to sleep, by age

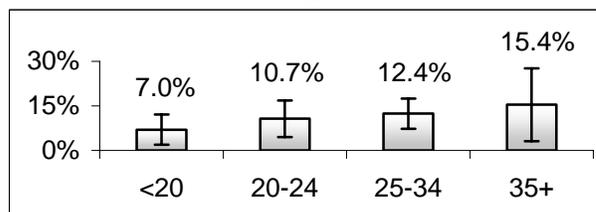


Figure 179 Women who usually place their babies on stomach to sleep, by marital status

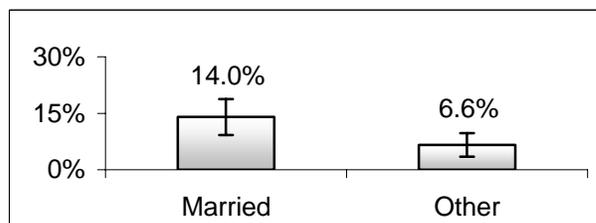


Figure 180 Women who usually place their babies on stomach to sleep, by education level

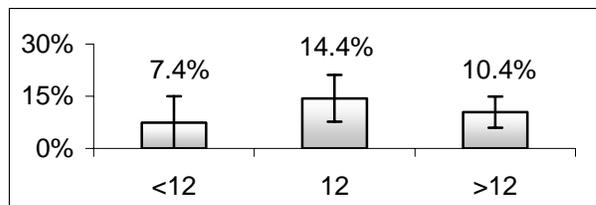
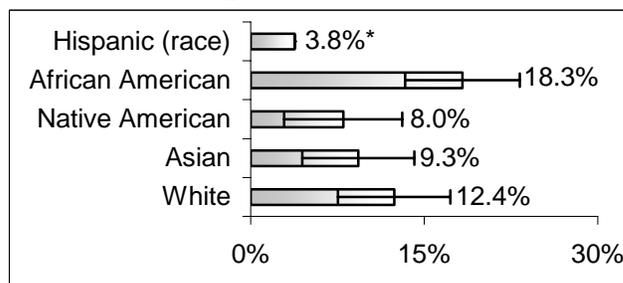


Figure 181 Women who usually place their babies on stomach to sleep, by race



* Estimate for Hispanic cannot be considered as reliable.

Survey question #51:

How do you most often lay your baby down to sleep now?

- a Side
- b Back
- c Stomach
- d Side/back
- e Side/stomach
- f Back/stomach
- g All 3 positions

Summary of results

- ❖ 69.4% of women reported that they usually place their babies on back to sleep.
- ❖ There were 13.0% of women who reported that they usually place their babies on back to sleep and 11.9% usually place their babies on stomach.

Table 75 Distribution of infants by sleep position

Position	Resp.	Yes	%Yes	95% CI
Side	695	100	13.0	(9.6-16.5)
Back	695	451	69.4	(64.6-74.3)
Stomach	695	85	11.9	(8.4-15.4)
Side/back	695	46	3.7	(2.2-5.2)
Side/stomach	695	6	0.7	(0.0-1.8)
Back/stomach	695	4	0.7 *	
All 3 positions	695	3	0.5 *	

* This estimate cannot be considered as reliable.

Public Health Implications

Since the Public Health Campaign “Back to Sleep” was initiated in 1993 the rate of SIDS has fallen dramatically in the United States as well as in Pierce County. Although the term SIDS is used to describe an infant death due to an unknown cause [WJK91] several additional risk factors, besides tummy sleeping have been associated with SIDS. Factors such as maternal smoking, soft sleep surface, bed sharing, and overheating also place an infant at higher risk for SIDS. However, with improved death scene investigations and shifts in death classifications, infant deaths that previously would have been classified as SIDS are being attributable to other causes such as suffocation or simply deaths due to an unknown cause. This classification shift has also contributed to the reduction in the SIDS rates. Starting in 2003 the Pierce County Medical Examiner no longer enters “SIDS” as a cause of death for death certificate purposes.

In Pierce County, 69.4% of mothers reported that they place their babies to sleep on their backs - the percentage is nearly reaching the Healthy People 2010 target¹⁶. However, more than a third of Pierce County mothers report sleeping with their baby always or almost always. This is of interest due to the identified increased risk for SIDS when infants bed share.

The following strategies to reduce risk of SIDS are of interest for the Public Health professionals:

- Identify barriers to SIDS risk reduction practices within targeted populations with higher rates of SIDS.
- Develop community-based initiatives, which promote culturally relevant SIDS risk reduction messages that include the back to sleep messages along with the safe sleep environment recommendations.
- Develop collaboration between Public Health professionals and medical providers to increase the awareness of the American Academy of Pediatrics recommendations pertaining to SIDS [AAP05].

Survey question #52:

How often does your new baby sleep in the same bed with you or anyone else?

- a Always
- b Almost always
- c Sometimes
- d Rarely
- e Never

Summary of results

- ❖ 35.7% of Pierce County mothers stated that their babies always or almost always sleep in the same bed with the mother or someone else, and another 24.1% sometimes allow their baby to co-sleep.
- ❖ Only 17.5% of women never allow their baby to sleep with someone.

Table 76 Women who reported that their new baby sleeps with someone

	Resp.	Yes	%Yes	95% CI
Always	698	188	18.0	(14.5-21.6)
Almost always	698	122	17.7	(13.7-21.8)
Sometimes	698	174	24.1	(19.5-28.7)
Rarely	698	123	22.6	(18.0-27.2)
Never	698	91	17.5	(13.3-21.8)

¹⁶ The Healthy People 2010 target is: “Increase the percentage of infants to be placed to sleep on their backs to 70%”.

BREASTFEEDING

Researchers have identified compelling advantages for infants, mothers, families, and society from breastfeeding and use of human milk for infant feeding. These advantages include health, nutritional, immunological, developmental, social and economic benefits.¹

Survey question #48:

How many weeks or months did you breastfeed or pump milk to feed your baby?

Summary of results

- ❖ 84.9% of Pierce County mothers reported initiation of breastfeeding.
- ❖ 15.1% of women did not initiate breastfeeding. These women were more likely to be:
 - Women younger than 25 years old (20.6%);
 - Unmarried (23.9%);
 - Women with less than 12 years of education (29.3%);
 - African American women (23.4%).
- ❖ The percentage of new mothers who did not initiate breastfeeding was significantly lower among married (11.6%) than among unmarried (23.9%).
- ❖ Women who had more than a high school education were almost four times less likely to report they didn't initiate breastfeeding compared to those who were educated beyond high school: 7.6% vs. 29.3%.
- ❖ There were no statistically significant differences in observed percentages with regards to different age, marital status, education level, and race of surveyed mothers.

Table 77 Breastfeeding initiation and duration

	Resp	Yes	%Yes	95% CI
Initiation	695	571	84.9	(81.0- 88.7)
4 weeks or less	695	412	64.7	(59.6- 69.8)
8 weeks or less	695	374	60.3	(55.1- 65.5)

Figure 182 Women who reported that they did not initiate breastfeeding, by age

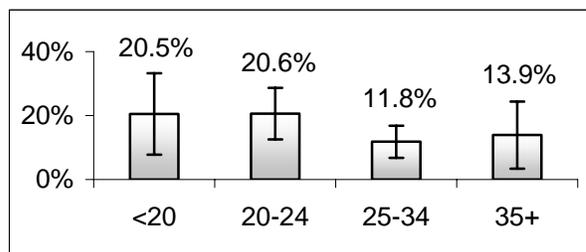


Figure 183 Women who reported that they did not initiate breastfeeding, by marital status

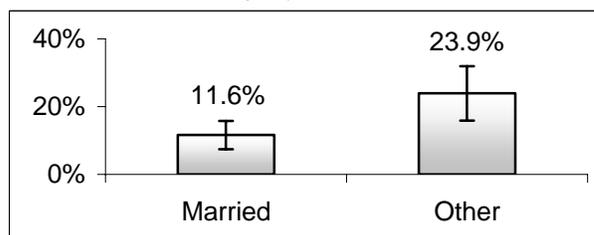


Figure 184 Women who reported that they did not initiate breastfeeding, by education level

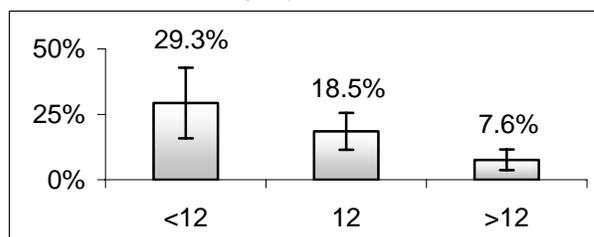
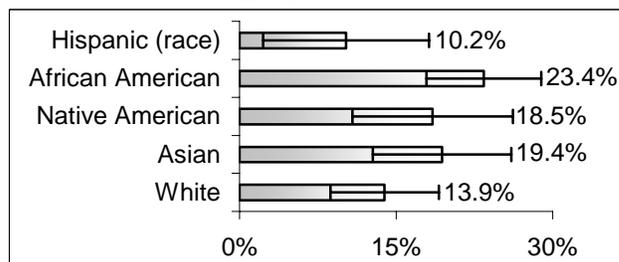


Figure 185 Women who reported that they did not initiate breastfeeding, by race



Public Health Implications

Breastfeeding offers many health benefits for infants including reduced risk of infectious illness and increased cognitive function. Additionally, benefits for the mother include a reduced risk of ovarian cancer and pre-menopausal breast cancer. Education about the benefits of breastfeeding during pregnancy increases the likelihood mothers will initiate and maintain breastfeeding.

In Pierce County the rate of initiation of breastfeeding exceeded the Healthy People 2010 objective: 84.9% reported in Pierce County PRAMS vs. 75.0% - Healthy People 2010 target. However, the American Academy of Pediatrics recommends that infants be breastfed at least up to 1 year of age. Challenges remain in supporting the choice to breastfeed beyond the initial newborn period [AAP05a].

The following strategies to increase initiation of breastfeeding are of interest for the Public Health professionals:

- Develop collaboration between public health professionals and medical providers to identify and work out solutions to alleviate common barriers to supporting mothers' choice to exclusively breastfeed.
- Motivate prenatal care providers to engage all pregnant women in a discussion of the benefits of breastfeeding.
- Expand availability of lactation consultants for all new mothers in the early postpartum period to give assistance and information to help them through the first crucial days.
- Develop community-based initiatives to promote breastfeeding-friendly workplaces, parks, day-care centers, and other facilities to promote the practice beyond the newborn period.

POSTPARTUM DEPRESSION

Postpartum depression is an illness that can be treated with therapy, support networks and medicines such as antidepressants. Although many women get depressed right after childbirth, some women don't feel "down" until several weeks or months later. Depression that occurs within 6 months of childbirth may be postpartum depression.

Survey question #60:

In the months after your delivery, would you say that you were—

- a Not depressed at all
- b A little depressed
- c Moderately depressed
- d Very depressed
- e Very depressed and had to get help

Summary of results

- ❖ 60.8% of Pierce County mothers stated that they were at least slightly depressed in the months after delivery.
- ❖ There were no significant differences in observed percentages with regards to different age, marital status, educational level, or race.

Table 78 Distribution of mothers by level of postpartum depression

	Resp.	Yes	%Yes	95% CI
Not depressed	713	274	39.2	(34.0-44.4)
Slightly depressed	713	263	38.9	(33.7-44.1)
Moderately depressed	713	108	15.2	(11.3-19.0)
Very depressed	713	49	5.1	(3.1-7.1)
Needed help	713	19	1.7	(0.5-3.0)

Public Health Implications

Because more than half of new mothers reported being depressed, health care providers should discuss with their patients signs and symptoms of depression during prenatal care, post-partum, and well-baby visits. Post-partum depression can have a negative effect on the emotional wellbeing of mothers, relationships, mother–infant bonding, and infant behavior.

ENVIRONMENTAL TOBACCO SMOKE

Secondhand smoke, also called *environmental tobacco smoke*, hangs in the air for hours and days. The smoke particles are too small to see, but even if the air seems perfectly clear, it isn't. Secondhand smoke greatly increases the risk that a child will develop asthma. Secondhand smoke also increases the risk of infections anywhere from the child's nose down to his lungs: sinus infections, ear infections, pneumonia, and bronchitis.

Survey question #50:

About how many hours a day, on average, is your new baby in the same room with someone who is smoking?

Summary of results

- ❖ 5.2% of women reported that their baby was exposed to tobacco smoke, on average, for at least one hour a day.
- ❖ 1.9% of women reported that their baby was exposed to tobacco smoke, on average, for two or more hours a day.

Table 79 Infant exposure to tobacco smoke

	Resp.	Yes	%Yes	95% CI
Never	698	659	94.8	(92.4- 97.3)
1 hour	698	30	3.3	(1.4- 5.1)
2+ hours	698	9	1.9	(0.1- 3.7)

Public Health Implications

Exposure to secondhand smoke puts children at an increased risk of respiratory diseases and associated illnesses. The more the exposure, the greater the risks are.

During prenatal care visits, healthcare providers should inform and educate pregnant women about the dangers of secondhand smoke and assist parents in smoking cessation. A woman should be also educated about products and programs designed to make quitting easier and final.

TESTED SMOKE ALARM AT HOME

The purpose of the smoke alarm is to alert residents of a potential fire. Most people are aware of the danger of fire but are unaware of the fatality of smoke. More people die from breathing smoke than by burns. A smoke alarm is a powerful and effective fire safety measure providing an early warning alerting individuals of a fire, allowing them precious time to escape.

Survey statement #73a:

My home has a working smoke alarm that has been tested in the past year (Agree/Not agree)

Summary of results

- ❖ 97.0% of women reported that their home had a working smoke alarm that has been tested in the past year.
- ❖ Women with the following age, marital status, educational level, and race characteristics were least likely to respond "I agree" to this survey statement:
 - 25 - 34 years old (94.2%);
 - Unmarried (92.3%);
 - Women with less than 12 years of education (91.9%);
 - Hispanic women (89.6%).
- ❖ The differences in observed percentages with regards to different age, marital status, educational level, or race were not statistically significant.

Public Health Implications

Conduct public education campaign on the importance of having a family fire plan, checking smoke alarm monthly, replacing smoke alarm every 10 years.

The main barrier to smoke alarm use is the distress caused by false alarms [Ro04]. The effectiveness of smoke alarm installation could be improved if alarm manufacturers and those responsible for implementation programs reduced rate of false alarms.

BABY IN A CAR SEAT

Child safety seats are up to 71 percent effective in reducing death and serious injury. Washington State has laws mandating that children be restrained while riding in a vehicle (RCW 46.37510). The law requires that a child less than one year of age or weighing less than twenty pounds must be properly restrained in a rear-facing infant car seat.

Survey statement #73b:

The last time my baby rode in a car he or she was in a car seat (Agree/Not agree).

Summary of results

- ❖ 99.8% of women reported that last time their baby rode in a car he or she was in a car seat.
- ❖ There were no significant differences in observed percentages with regards to different age, marital status, educational level, or race.

Public Health Implications

Even though most parents understand the need for using a car seat in their younger children, many children are still unnecessarily injured in car accidents. Among the factors that contribute to these preventable injuries are car seats used incorrectly.

To ensure that a child is in the right size seat and is secured correctly, free car-seat inspections by certified technicians are available in Pierce County. More information at: 253-403-1417 or at http://depts.washington.edu/booster/seat_checks

CROWDED LIVING CONDITIONS

Women and children living in the crowded conditions are at the greater risk for respiratory problems and other infectious diseases. They are also exposed to the greater psychological stress.

Calculated variable:

Mothers and infants who are living in crowded housing conditions

(Crowded housing refers to residences with more than one person per room.)

Summary of results

- ❖ 12.1% of women reported that they live in crowded housing conditions. These women were more likely to be:
 - Teenagers (21.6%);
 - Unmarried (17.7%);
 - Women with less than 12 years of education (31.0%);
 - Asian women (26.5%).
- ❖ African American women reported the lowest (8.0%) percentage. It was significantly lower than in any race group except for White women (9.2%).

Table 80 Women who reported that they live in crowded housing conditions

Maternal characteristics	Resp	Yes	%Yes	95% CI
	690	103	12.1	(8.8- 15.3)
Maternal age				
<20	97	20	21.6	(8.9- 34.4)
20-24	209	22	11.6	(4.6- 18.6)
25-34	308	49	10.9	(6.5- 15.3)
35+	76	12	10.4	(2.9- 17.9)
Marital status				
Married	408	57	9.8	(6.3- 13.3)
Other	280	46	17.7	(10.5- 25.0)
Education (years)				
<12	118	32	31.0	(17.3- 44.7)
12	255	31	13.5	(7.2- 19.8)
>12	291	29	4.5	(2.3- 6.7)
Race				
Hispanic (race)	54	13	23.5	(12.0- 35.1)
African American	222	18	8.0	(4.5- 11.5)
Native American	98	21	22.4	(14.2- 30.6)
Asian	130	35	26.5	(19.1- 34.0)
White	186	16	9.2	(4.9- 13.5)

Figure 186 Women who reported that they live in crowded housing conditions, by age

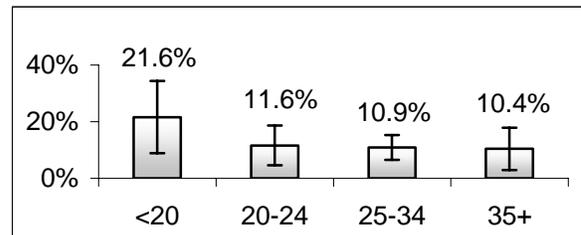


Figure 187 Women who reported that they live in crowded housing conditions, by marital status

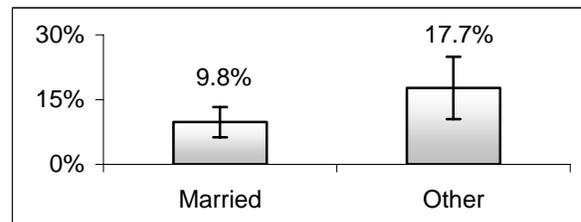


Figure 188 Women who reported that they live in crowded housing conditions, by education level

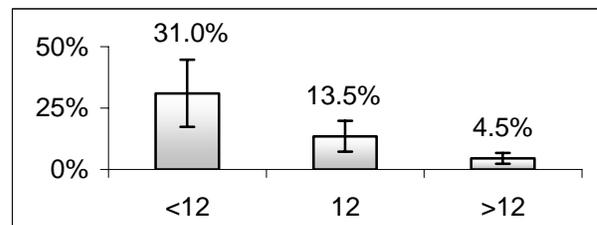
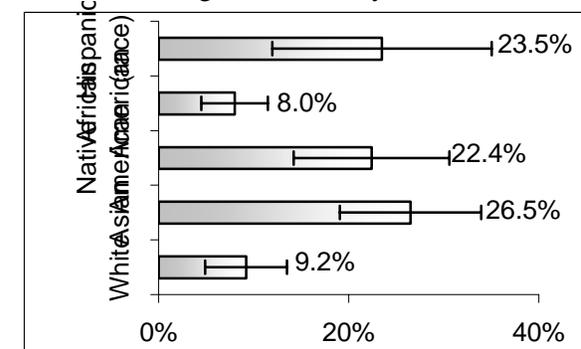


Figure 189 Women who reported that they live in crowded housing conditions, by race



IRREGULAR USE OF BIRTH CONTROL

Birth control is a voluntary limitation/control of the number of children conceived. Regular postpartum birth control can prevent unintended pregnancies, as well as adverse pregnancy outcomes associated with becoming pregnant too soon after giving birth.

Survey question #58

Are you or your husband or partner doing anything now to keep from getting pregnant?

- a No
- b Yes

Summary of results

- ❖ 86.0% of women reported using birth control at postpartum. These women were most likely to be
 - Women 35 years old and older (92.4);
 - Married (89.2%);
- ❖ There were no significant differences in observed percentages with regards to age, marital status, education level, or race.

Table 81 Women who reported birth control at postpartum

Maternal characteristics	Resp	Yes	%Yes	95% CI
Maternal age				
<20	99	89	78.3	(63.0-93.5)
20-24	215	185	83.8	(76.4-91.2)
25-34	322	278	87.2	(82.3-92.1)
35+	75	67	92.4	(85.2-99.7)
Marital status				
Married	419	362	84.7	(80.0-89.4)
Other	290	255	89.2	(83.6-94.7)
Education (years)				
<12	121	107	84.4	(73.4-95.3)
12	264	226	86.4	(80.5-92.3)
>12	298	261	86.4	(81.2-91.6)
Race				
Hispanic (race)	57	48	83.3	(73.6-92.9)
African American	225	199	88.5	(84.5-92.6)
Native American	99	88	88.3	(82.0-94.6)
Asian	142	123	86.3	(80.6-92.0)
White	188	161	85.9	(81.0-90.8)

Figure 190 Women who reported birth control at postpartum, by age

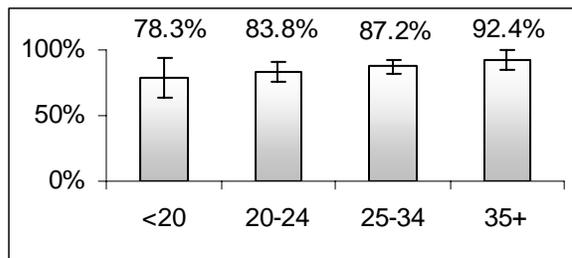


Figure 191 Women who reported birth control at postpartum, by marital status

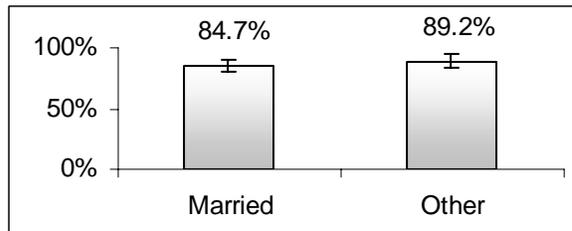


Figure 192 Women who reported birth control at postpartum, by education level

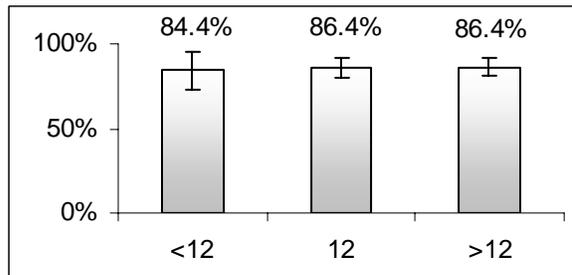
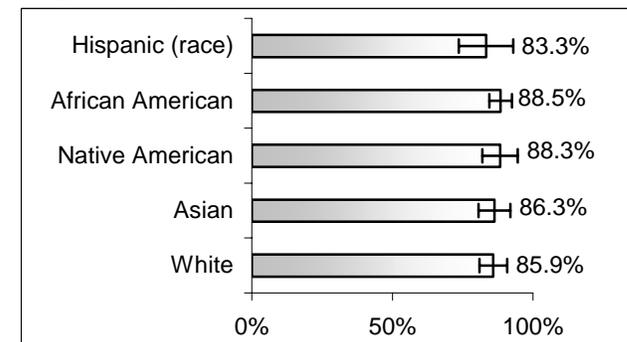


Figure 193 Women who reported birth control at postpartum, by race



Survey question #59

What are you or your husband or partner's reasons for not doing anything to keep from getting pregnant now? Check all that apply.

(Only those were asked this question who answered "No" to the survey question #58)

- a I am not having sex
- b I don't want to use birth control
- c I want to get pregnant
- d My husband or partner doesn't want to use anything
- e I can't pay for birth control
- f I don't think I can get pregnant (sterile)
- g I am pregnant now
- h Other

Summary of results

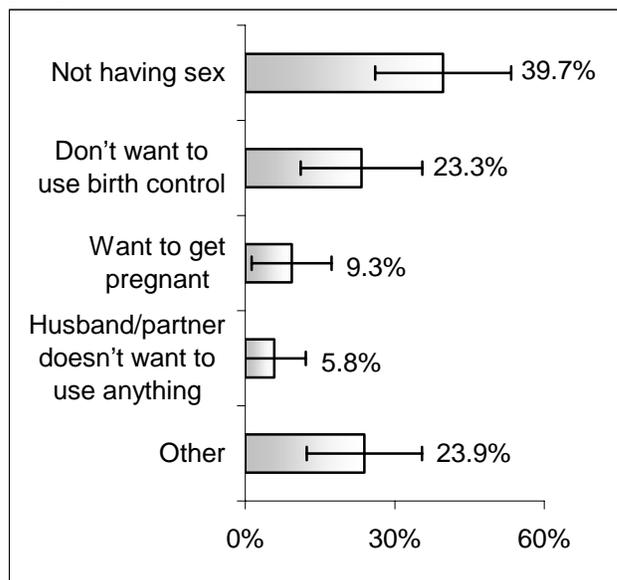
- ❖ The main reason stated for not using birth control in postpartum was not having sex (39.7%).
- ❖ Almost every fourth (23.3%) mother did not want to use birth control.
- ❖ Almost one in ten mothers (9.3%) wanted to be pregnant again.
- ❖ 5.8% mothers reported that their husband or partner did not want to use anything

Table 82 Reasons for not using contraception in postpartum

	Resp.	Yes	%Yes	95% CI
Not having sex	98	41	39.7	(26.0- 53.3)
Other	97	26	23.9	(12.3- 35.4)
Don't want to use birth control	97	20	23.3	(11.1- 35.5)
Want to get pregnant	97	9	9.3	(1.3- 17.3)
Husband/partner doesn't want to use anything	98	7	5.8	(0.0- 12.7)
Can't pay for birth control	98	3	3.6 *	
Don't think I can get pregnant (sterile)	98	2	3.4 *	
Pregnant now	98	1	0.5 *	

* This estimate cannot be considered as reliable.

Figure 194 Reasons for not using contraception in postpartum



The categories

- "Can't pay for birth control",
- "Don't think I can get pregnant (sterile)",
- "Pregnant now"

are not represented in the Figure 194 because the estimates of corresponding proportions are not reliable.

Public Health implications

Almost 14% of Pierce County mothers in 2000-2003 stated they were not using any form of contraception in postpartum. Postpartum family planning counseling on the choice of a method is very important. This prevents very short inter-pregnancy intervals that are associated with various adverse maternal and infant health outcomes. Health care workers should address contraceptive counseling during the prenatal period to prepare for use in the postpartum period.

DATA TO ACTION: USING PRAMS TO PROMOTE PUBLIC HEALTH

One of the primary objectives of PRAMS is to provide data that can be used for planning, modifying, and evaluating public health programs and policies to benefit pregnant women, their infants, and their families. PRAMS surveillance data can be incorporated into public health decision-making in a variety of ways, like the following:

Setting priorities

When the Public Health resources are limited, it is crucial to establish priorities for Public Health programs or services requiring these resources. PRAMS data can be used for this type of prioritization.

Changing policies

When decisions are required to modify existing health policies, PRAMS data can be used for informing Public Health managers to justify these decisions.

Developing new or modifying existing programs

PRAMS data can also be used for modification existing Public Health programs, or developing new programs, or to adjust the content of programs.

Appropriation new resources

PRAMS data can support the appropriation of new resources for Public Health programs and services pertaining to maternal and child health.

Public Health managers use PRAMS data to focus on a variety of special maternal and child health issues. There are several typical cases of PRAMS data utilization in Public Health. The following are the examples of successful experience of PRAMS data utilization as reported by various Public Health agencies.

South Carolina Department of Health and Environmental Control: Evaluating performance measure regarding unintended pregnancy

The Family Planning Program at the South Carolina Department of Health and Environmental Control used PRAMS data to evaluate its state-specific performance measure regarding unintended pregnancy for the Title V Block Grant and to make the prevention of unintended pregnancy a priority in South Carolina. As of 2001, health districts across the state were using a variety of approaches to address unintended pregnancy. These include:

- Increasing access to family planning clinics and appropriate methods of birth control.
- Integrating family planning services with other services at the health department, for example, offering counseling and birth control methods to clients seeking women's health, family support, and services for sexually transmitted diseases (STDs).
- Developing partnerships with private physicians to provide family planning services.
- Implementing educational interventions within communities.

For example, in the Catawba Health District, the family planning staff participate in workshops at Clinton Junior College and offer "Laundromat Lunch and Learn Classes" focusing on attitudes, knowledge, and behaviors related to family planning and STD/HIV prevention. In Jasper County, the district social worker provides family planning education and counseling to teens at the Family Life Center at Jasper County High School 2 days per week. In the Trident Health District, family planning education is provided at health fairs, in classes in the community, and on the campus of the College of Charleston.

Washington State Department of Health: Helping women to access early contraception within the necessary 72 hours

Washington State is participating in a Pharmacist Pilot Project, which allows pharmacists to dispense early contraception pills. This project makes it easier for women to access early contraception within the necessary 72 hours. The project was developed in response to the 1993-1996 PRAMS data indicating that Washington State was above the national average of unintended pregnancies.

Washington State Department of Health: Monitoring prenatal care provider discussion about maternal risk behaviors

Washington State Department of Health (DOH) used PRAMS data to monitor prenatal care provider discussion about maternal risk behaviors. Findings from PRAMS data suggested that providers do not always provide all pregnant women with information about important prenatal care procedures, such as genetic testing; maternal risk factors, such as family history of birth defects or genetic diseases; and alcohol-related birth defects. Based on these data, Washington State DOH took several actions:

- Informed perinatal health care providers statewide and nationally about these issues through publications and presentations.
- Developed a "Genetics and Your Practice" CD-ROM and distributed it to health care providers. The CD addresses the issue of providing differential counseling to clients based on race, ethnicity, or other demographic factors.
- Used PRAMS data to increase the visibility of these issues through development of new maternal and child health performance measures focused on provider education.

In addition, using PRAMS data on prenatal care provider discussion, the Washington State Chapter of the March of Dimes collaborated with the Swedish Medical Center on a successful grant application. They were awarded \$100,000 per year for 3 years from the National March of Dimes Foundation to develop and

implement a statewide project to improve preconception and prenatal health education offered to women by their health care providers.

Utah State Department of Health: Encouraging women to start prenatal care before the 13th week of pregnancy

The Utah State Department of Health in 2003 launched a public service campaign to encourage women to start prenatal care before the 13th week of pregnancy and to see their health care provider 13 times during pregnancy. The “Lucky 13” message was developed in response to PRAMS data indicating the Utah ranked 49th in the United States in terms of receiving adequate prenatal care. Highlighting the importance of seeing a health care provider in the first trimester Utah jumped to 24th place in the nation for adequate prenatal care in 2005.

Alaska Family Violence Prevention Project: Planning for a comprehensive health care system response to domestic violence

Alaska PRAMS data indicated that women in Alaska enrolled in WIC program were four times more likely to report physical abuse during the 12 months before pregnancy or during pregnancy than non-program participants. These findings were used to raise awareness about physical violence among WIC recipients. As a result, a WIC team focusing on domestic violence was formed. This team participated in the “10 State” domestic violence health initiative sponsored by the Alaska Family Violence Prevention Project. The purpose of the project was to develop and implement a statewide plan for a comprehensive health care system response to domestic violence. The following are three key accomplishments from this project:

- Community assessment of local resources for victims of domestic violence and an effort to strengthen resources for victims, as well as work toward domestic violence prevention.
- Revision of questions on the statewide WIC application, including the addition of a code to collect data on the prevalence of domestic violence in the WIC population.
- Increased domestic violence screening and the active referral of WIC participants. Screening is done at each 6-month certification of all 25,000 WIC participants in the Alaska WIC program.

Alabama Department of Public Health: Program designed to stop or reduce smoking among pregnant women

The Alabama Department of Public Health, in collaboration with the University of Alabama, Birmingham, used PRAMS data to win \$2.5 million as part of a grant from the National Heart, Lung, and Blood Institute in 1996. This money was used for a program designed to stop or reduce smoking among pregnant women who receive prenatal care in county health department clinics in eight counties. The intervention, SCRIPT (Smoking Cessation Reduction in Pregnancy Trial), was a 5-year project consisting of a patient education program using a self-help guide and video, with assistance provided by trained staff members. SCRIPT participants were more than twice as likely to quit smoking as members of the control group. Because SCRIPT has been shown to be effective, prenatal care and maternity care staff in the Alabama Department of Public Health are being trained using SCRIPT methods as part of a “best practice” for caring for pregnant smokers in Alabama.

The Alabama Department of Public Health and the University of Alabama, Birmingham, received \$4.4 million from the National Cancer Institute to further reduce smoking in the eight SCRIPT counties by expanding the focus to include all women of childbearing age and their male partners. The intervention is aimed at increasing public awareness and knowledge of tobacco risks to the mother, fetus, and infant by targeting messages through community organizations (schools, churches, and work sites), professional organizations (health care organizations and providers), and mass media outlets. PRAMS data are being used to monitor smoking rates among pregnant women in the state.

North Carolina Back to Sleep Campaign: SIDS risk reduction campaign

The North Carolina Back to Sleep (BTS) Campaign for SIDS Risk Reduction is a statewide education and awareness campaign aimed at increasing the public's understanding about SIDS and ways to reduce the risks for SIDS. The North Carolina BTS Campaign has used PRAMS data to provide a measure of the statewide prevalence of placing infants to sleep on their backs and to identify characteristics of families and babies at increased risk for SIDS. This information has assisted in the targeting of media messages. PRAMS data are also being used to track trends in infant sleep position over time in the state.

The North Carolina BTS Campaign was awarded \$40,000 in fiscal year 1999–2000 to use a multifaceted approach to increase awareness of infant sleep position and to lower SIDS risks. The campaign focused on women and their families as well as on the health care community. In 2000, more than 800 health professionals and lay health advisors participated in training or presentations that included PRAMS data; participants included SIDS counselors, perinatal educators, health educators, parenting educators, and members of the SIDS Alliance of the Carolinas. The campaign also targeted licensed childcare providers and dispensed educational messages to over 9,000 caregivers. More than 300,000 posters, information sheets, etc., were distributed, along with news releases in newspapers and on radio and television.

The SIDS Community Education Outreach and Training Demonstration Project used PRAMS data in a grant application to demonstrate level of need and to identify specific populations at increased risk for SIDS. The project received \$16,130 for fiscal year 2000–2001 for SIDS to maximize the educational outreach of the existing network of SIDS counselors, to strengthen the effectiveness of the North Carolina BTS Campaign, and to focus on populations most at risk for SIDS such as African Americans and Native Americans.

One of the components of the education outreach strategy of the BTS Campaign was to enhance local SIDS awareness and risk-reduction community education programs that are managed by SIDS counselors at county health departments throughout the state. The project entailed developing training materials, media packets, and community contact forms for use in SIDS community outreach training. Materials and a toolkit to assist SIDS counselors in educational outreach and audience targeting were developed.

Georgia Department of Human Resources: Coordinating and promoting SIDS risk-reduction and education activities

The Georgia Department of Human Resources Sudden Infant Death Syndrome and Other Infant Death (SIDS and OID) Work Group routinely utilizes PRAMS data. The working group has received \$100,000 in state funds to coordinate and promote SIDS risk-reduction and education activities throughout Georgia using an interagency work plan. Using PRAMS and additional data sources, successful initiation and adoption of a revised position statement on supine sleep position was achieved. This position statement fully supports “back sleeping” as the safest sleep position for healthy, full-term infants. It was distributed to all birthing and pediatric hospitals in the state and is available on the Georgia Public Health Web site.

Maine Medical Center: Initiating stronger breast-feeding support in the Neonatal Intensive Care Unit

The Maine Medical Center (MMC, the state's largest hospital, accounting for 18 percent of all births) after analysis of PRAMS data on statewide breastfeeding initiation and duration re-evaluated the breast-feeding practices in their hospital. Results led the MMC to become more “baby friendly” and to initiate stronger breast-feeding support in the Neonatal Intensive Care Unit (NICU) of the hospital. The breast-feeding education program was expanded, and support for lactation consultants and their programs was strengthened. Additionally, the hospital requires all new nurses to spend time with a lactation consultant one-on-one to get a good understanding of the referral process as well as updating family practice residents, pediatric residents, and obstetric practitioners regularly on breast-feeding issues [AAP05a].

METHODOLOGY

Every month, a stratified random sample of new mothers (who are two to six months postpartum) is selected from a frame of eligible Washington State birth certificates to be used for the PRAMS survey. As multiple contacts have been demonstrated to increase response rates, this methodology is employed in PRAMS. Below is the sequence of contacts for Washington State PRAMS surveillance.

- a. Preletter.** The preletter is mailed to all sampled mothers. The preletter introduces the mother to PRAMS and informs her that she will be receiving a PRAMS questionnaire packet in the mail.
- b. Initial PRAMS Questionnaire Packet.** The initial mail questionnaire packet is sent to all sampled mothers 7 days after the preletter. The packet contains the following items: a personalized letter explaining PRAMS; the 14-page questionnaire booklet containing a self-addressed return envelope with postage provided; a question-and-answer brochure that contains additional information and answers to questions frequently asked about PRAMS; a calendar, as a memory aid; and a participation incentive.
- c. Tickler.** The tickler serves as a thank you/reminder letter and is sent to all sampled mothers 10 days after the initial mailing, except for those who have responded, refused, or whose mail has been returned undelivered.
- d. Second Mail Questionnaire Packet.** The second mail questionnaire packet is sent 14 days after the tickler to all sampled mothers who have not responded or refused.
- e. Telephone Follow-up.** Washington State PRAMS staff telephone mothers who do not respond 14 days after the second mailing of the questionnaire. Interviewers call women to encourage completion of an interviewer-administered survey over the telephone.

Weighting

Statistics in this report are based on weighted data. The weights were developed by CDC to adjust for nonresponse and noncoverage to give unbiased estimates of population parameters. Weighting allows public health professionals and researchers to estimate the statistics for the entire population of women who delivered a live born infant from data gathered from a sample of mothers in that population.

Confidence intervals

As with all surveys, PRAMS is not free of sampling error. The standard error is a measure of the average deviation of summary statistics (means, proportions, rates) around their mean. Standard errors (SE) are used to calculate 95% confidence intervals (CI's). The 95% confidence intervals are included in order to quantify this error and to clarify the degree of certainty in the estimates present. CI estimates the range of values, which includes the true population estimate for that indicator.

Confidence intervals that overlap indicate that the sampling values of the strata being compared are not statistically different from each other, and are unable to support inference that the population estimates of those strata are in fact different. However, confidence intervals cannot be used to determine other possible sources of bias in an estimate, such as non-response bias, recall bias, failure to understand questions, and socially approved response bias.

Limitations

Because the mother is first contacted two to four months after giving birth, her responses may be subject to recall bias. She may have forgotten certain dates or what was discussed during pregnancy. Some questions ask the mother to remember up to 12 months before she became pregnant. The mother may also not respond truthfully if the question is asking about events that may not be socially acceptable; i.e. smoking, drinking, use of birth control.

Detailed explanation of the PRAMS methodology is presented in:

<http://www.doh.wa.gov/cfh/prams>

REFERENCES

- AAP05 American Academy of Pediatrics Task Force on Sudden Infant Death Syndrome. *The changing concept of sudden infant death syndrome: diagnostic coding shifts, controversies regarding the sleeping environment, and new variables to consider in reducing risk.* Pediatrics. Nov;116(5):1245-55, 2005.
- AAP05a American Academy of Pediatrics. Policy Statement. *Breastfeeding and the use of human milk.* Pediatrics; 115:496-506, 2005.
- BJM03 Beck LF, et.al. *PRAMS 1999 Surveillance Report.* Atlanta, GA: Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, 2003.
- CDC90 Centers for Disease Control and Prevention (CDC). United States Department of Health and Human Services. *Alcohol, Tobacco, and other Drugs May Harm the Unborn.* DHHS Publication No. (ADM) 90-1711, 1990, reprinted 1994.
- CDC99 Centers for Disease Control and Prevention (CDC). *Knowledge and Use of Folic Acid by Women of Childbearing Age – United States, 1995 and 1998.* MMWR;48:325-327, 1999.
- CDC02 D'Angelo D, Colley Gilbert B, eds. *From Data to Action: Using Surveillance To Promote Public Health, Examples from the Pregnancy Risk Assessment Monitoring System (PRAMS), Executive Summary.* Atlanta, GA: Division of Reproductive Health, National Centers for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, 2002.
- ERVB01 Eaglin, ME, Robbins, JM, VanBuren J, Bell, TM. *1996-1998 Washington State PRAMS Surveillance Report -Volume I.* Olympia, WA: Maternal and Child Health Assessment Section, Community and Family Health, Washington State Department of Health, 2001.
- ERZ01 Eaglin, ME, et.al. *1996-1998 Washington State PRAMS Surveillance Report -Volume II.* Olympia, WA: Maternal and Child Health -Assessment Section, Community and Family Health, Washington State Department of Health, 2002.
- ERT2 Eaglin, ME, et.al. *1996-1998 Washington State PRAMS Surveillance Report -Volume III.* Olympia, WA: Maternal and Child Health Assessment Section, Community and Family Health, Washington State Department of Health, 2002.
- ERL02 Eaglin, ME, et.al. *1996-1998 Washington State PRAMS Surveillance Report -Volume IV.* Olympia, WA: Maternal and Child Health Assessment Section, Community and Family Health, Washington State Department of Health, 2002.
- He06 Hyde LK, et.al. *Early Access to Prenatal Care: Implications for Racial Disparity in Perinatal Mortality.* Obstet Gynecol: 107(3):625-631, Mar, 2006.
- Hy03 Healy AJ, et.al. *Effect of motor vehicle crashes on adverse fetal outcomes..* Obstet Gynecol;102(2): 279-86, Aug, 2003.
- La04 Lammer EJ, et.al., *Periconceptional multivitamin intake during early pregnancy, genetic variation of acetyl-N-transferase 1 (NAT1), and risk for orofacial clefts.* Birth Defects Res A Clin Mol Teratol. Nov;70(11):846-52, 2004

- Ro04 Roberts H., et.al. *Putting public health evidence into practice: increasing the prevalence of working smoke alarms in disadvantaged inner city housing*. *Jorn. Epidemiol. Community Health*;58(4):280-5, 2004.
- WJK91 Willinger M, James LS, Catz C. *Defining the sudden infant death syndrome (SIDS): deliberations of an expert panel convened by the National Institute of Child Health and Human Development*. *Pediatric Pathology*, 11(5):677-684, 1991

PRAMS SURVEY QUESTIONS

First, we would like to ask a few questions about you and the time before you became pregnant with your new baby. Please check the box next to your answer.

1. Just before you got pregnant, did you have health insurance? (Do not count Medicaid.)

- . No
- . Yes

2. Just before you got pregnant, were you on Medicaid?

- . No
- . Yes

3. In the month before you got pregnant with your new baby, how many times a week did you take a multivitamin (a pill that contains many different vitamins and minerals)?

- . I didn't take a multivitamin at all
- . 1 to 3 times a week
- . 4 to 6 times a week
- . Every day of the week

4. What is your date of birth?

5. Just before you got pregnant, how much did you weigh?

6. How tall are you without shoes?

7. Before your new baby, did you ever have any other babies who were born alive?

- . No
- . Yes

Go to Question 10

8. Did the baby born just before your new one weigh 5 pounds, 8 ounces (2.5 kilos)

- . No
- . Yes

9. Was the baby just before your new one born more than 3 weeks before its due date?

- . No
- . Yes

10. Thinking back to just before you got pregnant, how did you feel about becoming pregnant?

Check one answer

- I wanted to be pregnant sooner
- I wanted to be pregnant later
- I wanted to be pregnant then
- I didn't want to be pregnant then or at any time in the future

11. When you got pregnant with your new baby, were you trying to become pregnant?

- . No
- . Yes

12. When you got pregnant with your new baby, were you or your husband or partner doing anything to keep from getting pregnant?

- . No
- . Yes

13. What were your or your husband's or partner's reasons for not doing anything to keep from getting pregnant?

- I didn't mind if I got pregnant
- I thought I could not get pregnant at that time
- I had side effects from the birth control method I was using I had problems getting birth control when I needed it
- I thought my husband or partner or I was sterile (could not get pregnant at all)
- My husband or partner didn't want to use anything
- Other

The next questions are about the prenatal care you received during your most recent pregnancy. Prenatal care includes visits to a doctor, nurse, or other health care worker before your baby was born to get checkups and advice about pregnancy.

14. How many weeks or months pregnant were you when you were sure you were pregnant?

15. How many weeks or months pregnant were you when you had your first visit for prenatal care?

16. Did you get prenatal care as early in your pregnancy as you wanted?

- No
- Yes
- I didn't want prenatal care

17. Did any of these things keep you from getting prenatal care as early as you wanted? Check all that apply

- I couldn't get an appointment earlier in my pregnancy
- I didn't have enough money or insurance to pay for my visits
- I didn't know that I was pregnant
- I had no way to get to the clinic or doctor's office
- The doctor or my health plan would not start care earlier
- I didn't have my Medicaid card.
- I had no one to take care of my children
- I had too many other things going on
- Other

18. Where did you go most of the time for your prenatal visits? (Do not include visits for WIC.) Check one answer

- Hospital clinic

- Health department clinic
- Private doctor's office or HMO clinic
- Community or migrant health center
- Military facility
- Other

19. How was your prenatal care paid for? Check all that apply

- Medicaid or Medicaid HMO
- Personal income (cash, check, or credit card)
- Health insurance or HMO
- Military or TRICARE-Standard (formerly CHAMPUS)
- I still owe
- Other

20. During any of your prenatal care visits, did a doctor, nurse, or other health care worker talk with you about any of the things listed below?

- a. How smoking during pregnancy could affect your baby
- b. Breastfeeding your baby
- c. How drinking alcohol during pregnancy could affect your baby
- d. Using a seat belt during your pregnancy
- e. Birth control methods to use after your pregnancy
- f. Medicines that are safe to take during your pregnancy
- g. How using illegal drugs could affect your baby
- h. Doing tests to screen for birth defects or diseases that run in your family
- i. What to do if your labor starts early
- j. Getting your blood tested for HIV
- k. Physical abuse to women by their husbands or partners

The next questions are about smoking cigarettes and drinking alcohol.

21. During any of your prenatal care visits, did a doctor, nurse, or other health care worker ask you questions about any of the things listed below?

- a. If you were smoking cigarettes
- b. How much alcohol you were drinking
- c. If someone was hurting you emotionally or physically
- d. If you were using illegal drugs
- e. If you wanted to be tested for HIV
- f. If you planned to use birth control after your baby was born

The next questions are about your most recent pregnancy and things that might have happened during your pregnancy.

22. During your pregnancy, were you on WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children)?

- . No
- . Yes

23. Did you have any of these problems during your pregnancy?

- a. Labor pains more than 3 weeks before your baby was due
- b. High blood pressure
- c. Vaginal bleeding
- d. Problems with the placenta
- e. Severe nausea, vomiting, or dehydration
- f. High blood sugar (diabetes)
- g. Kidney or bladder (urinary tract) infection
- h. Water broke more than 3 weeks before your baby was due
- i. Cervix had to be sewn shut
- j. You were hurt in a car accident

24. Did you do any of the following things because of these problem(s)?

Check all that apply

- I went to the hospital or emergency room and stayed less than 1 day
- I went to the hospital and stayed 1 to 7 days
- I went to the hospital and stayed more than 7 days
- I stayed in bed at home more than 2 days because of my doctor's or nurse's advice

. Have you had any alcoholic drinks in the past 2 years? (A drink is 1 glass of wine, wine cooler, can or bottle of beer, shot of liquor, or mixed drink.)

. No (Go to Question 32)

. Yes

.a. During the 3 months before you got pregnant, how many alcoholic drinks did you have in an average week?

- I didn't drink then
- Less than 1 drink a week
- 1 to 3 drinks a week
- 4 to 6 drinks a week
- 7 to 13 drinks a week
- 14 drinks or more a week
- I don't know

30.b. During the 3 months before you got pregnant, how many times did you drink 5 alcoholic drinks or more in one sitting?

25. Have you smoked at least 100 cigarettes in the past 2 years?

. No

. Yes

26. In the 3 months before you got pregnant, how many cigarettes or packs of cigarettes did you smoke on an average day?

27. In the last 3 months of your pregnancy, how many cigarettes or packs of cigarettes did you smoke on an average day?

28. How many cigarettes or packs of cigarettes do you smoke on an average day now?

29. Have you had any alcoholic drinks in the past 2 years? (A drink is 1 glass of wine, wine cooler, can or bottle of beer, shot of liquor, or mixed drink.)

- . No
- . Yes

30.a. During the 3 months before you got pregnant, how many alcoholic drinks did you have in an average week?

- I didn't drink then
- Less than 1 drink a week
- 1 to 3 drinks a week
- 4 to 6 drinks a week
- 7 to 13 drinks a week
- 14 drinks or more a week
- I don't know

30.b. During the 3 months before you got pregnant, how many times did you drink 5 alcoholic drinks or more in one sitting?

Times

31.a. During the last 3 months of your pregnancy, how many alcoholic drinks did you have in an average week? .

- I didn't drink then
- Less than 1 drink a week
- 1 to 3 drinks a week
- 4 to 6 drinks a week
- 7 to 13 drinks a week
- 14 drinks or more a week
- I don't know

31.b. During the last 3 months of your pregnancy, how many times did you drink 5 alcoholic drinks or more in one sitting?

Pregnancy can be a difficult time for some women. These next questions are about things that may have happened before and during your most recent pregnancy.

32. This question is about things that may have happened during the 12 months before your new baby was born. For each item, circle Y (Yes) if it happened to you or circle N (No) if it did not. (It may help to use the calendar.)

No Yes

- a. A close family member was very sick and had to go into the hospital
- b. You got separated or divorced from your husband or partner
- c. You moved to a new address
- d. You were homeless
- e. Your husband or partner lost his job
- f. You lost your job even though you wanted to go on working
- g. You argued with your husband or partner more than usual
- h. Your husband or partner said he didn't want you to be pregnant

i. You had a lot of bills you couldn't pay

j. You were in a physical fight

k. You or your husband or partner went to jail

l. Someone very close to you had a bad problem with drinking or drugs

m. Someone very close to you died

33.a. During the 12 months before you got pregnant, did your husband or partner push, hit, slap, kick, choke, or physically hurt you in any other way?

- . No
- . Yes

33.b. During the 12 months before you got pregnant, did anyone else physically hurt you in any way?

- . No
- . Yes

34.a. During your most recent pregnancy, did your husband or partner push, hit, slap, kick, choke, or physically hurt you in any other way?

- . No
- . Yes

34.b. During your most recent pregnancy, did anyone else physically hurt you in any way?

- . No
- . Yes

The next questions are about your labor and delivery. (It may help to look at the calendar when you answer these questions.)

35. When was your baby due?

36. When did you go into the hospital to have your baby?

37. When was your baby born?

38. When were you discharged from the hospital after your baby was born?

39. After your baby was born, was he or she put in an intensive care unit?

- . No
- . Yes

40. After your baby was born, how long did he or she stay in the hospital?

- . Less than 24 hours (Less than 1 day)
- . 24–48 hours (1–2 days)
- . 3 days
- . 4 days
- . 5 days
- . 6 days or more
- . My baby was not born in a hospital
- . My baby is still in the hospital

41. How was your delivery paid for? Check all that apply

- Medicaid or Medicaid HMO
- Personal income (cash, check, or credit card)
- Health insurance or HMO
- Other

The next questions are about the time since your new baby was born.

42. What is today's date?

43. Is your baby alive now?

- . No
- . Yes

44. When did your baby die?

45. Is your baby living with you now?

- . No
- . Yes

46. Did you ever breastfeed or pump breast milk to feed your new baby after delivery?

- . No
- . Yes

47. Are you still breastfeeding or feeding pumped milk to your new baby?

- . No
- . Yes

48. How many weeks or months did you breastfeed or pump milk to feed your baby?

49. How old was your baby the first time you fed him or her anything besides breast milk?

50. About how many hours a day, on average, is your new baby in the same room with someone who is smoking?

51. How do you most often lay your baby down to sleep now? Check one answer

- On his or her side
- On his or her back
- On his or her stomach

52. How often does your new baby sleep in the same bed with you or anyone else?

- Always
- Almost always
- Sometimes
- Rarely
- Never

53. Was your baby seen by a doctor, nurse, or other health care provider in the first week after he or she left the hospital?

- . No
- . Yes

54. Was your new baby seen at home or at a health care facility?

- At home
- At a doctor's office, clinic, or other health care facility

55. Has your baby had a well-baby checkup?

- . No
- . Yes

56. How many times has your baby been to a doctor or nurse for a well-baby checkup?

57. Where do you usually take your baby for well-baby checkups? Check one answer

- Hospital clinic
- Health department clinic
- Private doctor's office or HMO clinic
- Community or migrant health center
- Military facility
- Other

58. Are you or your husband or partner doing anything now to keep from getting pregnant?

- . No
- . Yes

59. What are your or your husband's or partner's reasons for not doing anything to keep from getting pregnant now? Check all that apply

- I am not having sex
- I want to get pregnant
- I don't want to use birth control
- My husband or partner doesn't want to use anything
- I don't think I can get pregnant (sterile)
- I can't pay for birth control
- I am pregnant now
- Other

60. In the months after your delivery, would you say that you were— Check one answer

- Not depressed at all
- A little depressed
- Moderately depressed
- Very depressed
- Very depressed and had to get help

The next questions are about your family and the place where you live

61. Which rooms are in the house, apartment, or trailer where you live? Check all that apply

- Living room
- Separate dining room
- Kitchen
- Bathroom(s)
- Recreation room, den, or family room
- Finished basement
- Bedrooms (How many?)

62. Counting yourself, how many people live in your house, apartment, or trailer?

63. What were the sources of your household's income during the past 12 months? Check all that apply

- Paycheck or money from a job
- Aid such as Temporary Assistance for Needy Families (TANF), welfare, public assistance, general assistance, food stamps, or Supplemental Security Income

- Unemployment benefits
- Child support or alimony
- Social security, workers' compensation, veteran benefits, or pensions
- Money from a business, fees, dividends, or rental income
- Money from family or friends
- Other

64. Thinking back to just before you got pregnant, how did your husband or partner feel about your becoming pregnant? Please check the best answer

- My husband or partner wanted me to be pregnant sooner
- My husband or partner wanted me to be pregnant later
- My husband or partner wanted me to be pregnant then
- My husband or partner didn't want me to be pregnant then or at any time in the future
- It didn't matter to my husband or partner when I became pregnant
- I don't know
- I didn't have a husband or partner

65. When you found out that you were pregnant, what was your family's total monthly income before taxes? Please count wages, child support, unemployment or welfare checks, and money support from relatives or friends.

- Under \$500
- \$500–\$999
- \$1,000–\$1,199
- \$1,200–\$1,399
- \$1,400–\$1,699
- \$1,700–\$2,099
- \$2,100–\$2,599
- \$2,600–\$2,999
- \$3,000 or more

66. At any time during your pregnancy, did a doctor, nurse or other health care worker talk to you about the following things?

- a. "Baby blues" or postpartum depression
- b. How much weight you should gain during your pregnancy
- c. Diseases or birth defects that could run in your family or your partner's family
- d. Tests that could be done during your pregnancy to see if your baby had a birth defect or genetic disease

67. This question is about the care of your teeth during your most recent pregnancy

- a. I needed to see a dentist for a problem

b. I went to a dentist or dental clinic.

c. A dental or other health care worker talked with me about how to care for my teeth and gums

68. How long has it been since you had your teeth cleaned by a dentist or a dental hygienist?

69. During your most recent pregnancy, did you feel you needed any of the following services? Did you need:

- a. Food, including money or coupons to buy food, food stamps, WIC
- b. Help with an alcohol or drug problem
- c. Help to reduce violence in your home
- d. Counseling information for family and personal problems
- e. Help to quit smoking
- f. Help with or information about breastfeeding
- g. Other

70. During your most recent pregnancy, did you receive any of the following services?

Did you receive:

- a. Food, including money or coupons to buy food, food stamps, WIC
- b. Help with an alcohol or drug problem
- c. Help to reduce violence in your home
- d. Counseling information for family and personal problems
- e. Help to quit smoking
- f. Help with or information about breastfeeding.
- g. Other

71. During your most recent pregnancy, would you have had the kinds of help listed below if you had needed them?

- a. Someone to loan me \$50
- b. Someone to help me if I were sick and needed to be in bed
- c. Someone to take me to the clinic or doctor's office if I needed a ride
- d. Someone to talk with about my problems

72.a. After your baby was born, did your husband or partner push, hit, slap, kick, choke, or physically hurt you?

. No

. Yes

72.b. After your baby was born, did your husband or partner limit your activities, threaten you, or make you feel unsafe in any other way?

. No

. Yes

73. Listed below are some statements about safety.

- a. My home has a working smoke alarm that has been tested in the past year
- b. The last time my baby rode in a car he or she was in a car seat.