

# Missouri Pregnancy Risk Assessment Monitoring System (PRAMS)

2007-2008 Data Report





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# Introduction

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a collaborative project between the Centers for Disease Control and Prevention (CDC) and state health departments. PRAMS is an ongoing, population-based survey designed to identify and monitor select maternal experiences, attitudes and behaviors that occur before, during and shortly after pregnancy among women delivering a live-born infant. The PRAMS survey provides unique information that may be combined with data from other sources, such as the birth certificate, to obtain a more complete picture of the health and well-being of Missouri infants and mothers. Findings from PRAMS are meant to be used to enhance the understanding of maternal behaviors and their relationship with adverse pregnancy outcomes. PRAMS data may be used to identify high risk groups, monitor trends in health indicators, assist in program planning and assessment, aid in policy development, monitor progress toward state and national goals, and provide information for research of emerging maternal and infant health issues.

PRAMS was initiated in 1987 as part of the CDC effort to reduce infant mortality and low birth weight. In recent years, the program has been expanded in support of CDC's Safe Motherhood Initiative to promote healthy pregnancies and the delivery of healthy infants. Currently, 37 states, New York City and South Dakota (Yankton Sioux tribe) participate in PRAMS. Missouri became a CDC PRAMS state in 2006 and began data collection in 2007. States participating in PRAMS now comprise 75 percent of all U.S. births.

This is the first comprehensive report of results from the 2007-2008 Missouri PRAMS project. This report addresses a variety of topics including, but not limited to pregnancy intention, folic acid consumption and awareness, health insurance, prenatal care, alcohol and tobacco use, violence against women, breastfeeding, postpartum depression, and participation in the Women, Infants and Children Food Supplementation Program (WIC). Healthy People (HP) 2020 is a list of health objectives for the nation that will guide prevention efforts for the next 10 years.<sup>1</sup> A number of PRAMS indicators are consistent with HP 2020 objectives and this allows the comparison of maternal and infant health indicators for Missouri with national objectives.

# Methods

Missouri PRAMS collects information on Missouri resident mothers who have recently given birth to a live-born infant. Each month, a stratified random sample of approximately 200 live births is sampled from Missouri's birth certificate files. Women delivering a low birth weight infant (<2500 grams) and those living in rural areas are oversampled to ensure that adequate information is collected on these high-risk subgroups. PRAMS combines two modes of data collection where selected mothers are mailed a PRAMS survey up to three times, and telephone interviewers attempt to reach the mothers who do not respond by mail.

Of the 2,151 women sampled in 2007 for Missouri PRAMS, 1,390 responded for a weighted response rate of 65 percent. However, in 2008, of the 2,145 women sampled for Missouri PRAMS, only 1,351 responded to the survey for a weighted response rate of 63 percent. CDC recommends that states obtain a response rate of at least 65 percent for analysis of PRAMS data. The weighted response rate for 2007 and 2008 combined was 64 percent, slightly below the CDC recommended response rate of 65 percent. This could introduce bias into some estimates for the PRAMS data and caution should be used in the interpretation of results presented in this report.

The survey data are weighted to adjust for the sampling design, nonresponse, and noncoverage so that they are representative of Missouri women with a live birth in 2007-2008. Further information on PRAMS methodology, including weighting procedures, may be found on the CDC website at: [www.cdc.gov/PRAMS/methodology.htm](http://www.cdc.gov/PRAMS/methodology.htm).

# Highlights

Findings presented below represent combined data from Missouri PRAMS 2007 and 2008.

- Just before pregnancy, nearly one in six Missouri women (15.4 percent) reported Medicaid health coverage, and nearly one-third (30.7 percent) had no health insurance.
- Nearly half (45.2 percent) of live births in Missouri during 2007-2008 were from unintended pregnancy.
- More than half of women (58.4 percent) did not take a multivitamin or prenatal vitamin before pregnancy.
- Approximately one in five women was obese (22 percent) just before pregnancy.
- Nearly one in seven women (13.2 percent) did not receive prenatal care during the first trimester.
- Five percent of women were physically abused during pregnancy.
- Seven percent of women reported having a sexually transmitted infection (STI). The most commonly reported STI was Chlamydia (2.9 percent).
- About one in four women (27.7 percent) did not initiate breastfeeding, and nearly 40 percent of women who initiated breastfeeding stopped before two months.
- Nearly one-third of women (30.7 percent) placed their infants to sleep on their side or stomach and almost one in four (22.5 percent) reported co-sleeping with their infants.
- Twenty percent of women smoked during the last three months of pregnancy.
- Nearly 6 percent (5.8 percent) of women consumed alcohol during the last three months of pregnancy.
- Approximately one in seven women (14 percent) had symptoms of postpartum depression.
- Nearly two-thirds (63.9 percent) of women did not receive dental care during pregnancy and nearly one-third (29.5 percent) reported needing to see a dentist during pregnancy.

## References

1. U.S. Department of Health and Human Services. Healthy People 2020. 2010; <http://www.healthypeople.gov/2020/>. Accessed December 7, 2010.



## Section 1. Socio-demographic Characteristics



## Distribution of Select Maternal Characteristics

Maternal Characteristics	Percent	95% Confidence Interval (CI)	
<b>Age (Years)</b>			
<20	12.1	10.4	13.7
20-29	57.8	55.5	60.1
30+	30.1	28.0	32.2
<b>Education Level</b>			
Less than High School	18.9	16.8	20.9
High School or Higher	81.1	79.1	83.2
<b>Race/Ethnicity</b>			
Non-Hispanic White	79.3	77.2	81.3
Non-Hispanic Black	14.2	12.3	16.0
Hispanic	3.9	2.8	4.9
Other	2.7	2.0	3.4
<b>Marital Status</b>			
Married	59.7	57.4	62.1
Unmarried	40.3	37.9	42.6
<b>Residence</b>			
Urban	73.7	73.4	74.1
Rural	26.3	25.9	26.6
<b>Prepregnancy Health Insurance Status*</b>			
Private Insurance	53.8	51.5	56.2
Medicaid	15.4	13.6	17.3
No Insurance	30.7	28.6	32.9
<b>Prenatal Care Payer**</b>			
Private Insurance	47.9	45.6	50.3
Medicaid	49.4	47.0	51.7
Self Pay or Other	2.7	2.0	3.4
<b>Delivery Payer**</b>			
Private Insurance	46.5	44.2	48.8
Medicaid	50.8	48.5	53.1
Self Pay or Other	2.7	2.0	3.4

\* *DEFINITION* for prepregnancy health insurance: Women who answered "Yes" to Question 2: "Just before you got pregnant, were you on Medicaid?" were classified as having Medicaid; the rest of women who answered "Yes" to Question 1: "Just before you got pregnant, did you have health insurance? Do not count Medicaid." were classified as having private insurance; then the rest who answered "No" to Question 1 were classified as having no health insurance.

\*\* *DEFINITION* for prenatal care payer (Question 23)/delivery payer (Question 48): Women who checked "Medicaid" were classified as having Medicaid; the rest of women who checked "Health insurance or HMO" were classified as having private

insurance; those who checked either "Personal income" or "Other" were classified as self-pay or other.

*NOTE.* Questions 23 and 48 allow the respondent to choose multiple answers. Therefore the category "Medicaid" may include Medicaid only or Medicaid plus other payment sources. Similarly the category "Private Insurance" may include private insurance only or private insurance plus self-pay or other.

The majority of infants born in Missouri during 2007 and 2008 were to women who were aged 20-29 years, at least high school educated, Non-Hispanic White, married and living in urban areas. Only 15.4 percent of women had Medicaid before pregnancy, but approximately 50 percent reported Medicaid as the payer for their prenatal care or delivery. Nearly one-third of women (30.7 percent) had no health insurance before pregnancy.



## Section 2. Prepregnancy



## Unintended Pregnancy

### Survey Question 11

#### Percent of women with unintended pregnancy

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	45.2	42.9	47.6
<b>Age (Years)</b>			
<20	78.8	73.6	84.0
20-29	46.1	43.1	49.2
30+	29.9	25.9	33.9
<b>Education Level</b>			
Less than High School	60.4	54.2	66.6
High School or Higher	41.7	39.2	44.2
<b>Race/Ethnicity</b>			
Non-Hispanic White	41.3	38.8	43.8
Non-Hispanic Black	67.5	60.6	74.4
Hispanic	46.2	32.3	60.1
Other	41.2	28.1	54.4
<b>Marital Status</b>			
Married	29.0	26.3	31.6
Unmarried	69.5	65.9	73.2
<b>Residence</b>			
Urban	45.0	42.1	48.0
Rural	45.8	42.2	49.3
<b>Prepregnancy Health Insurance Status</b>			
Private Insurance	32.5	29.6	35.4
Medicaid	62.6	56.2	68.9
No Insurance	58.8	54.7	63.0

*DEFINITION.* Unintended pregnancy is defined as either response "I wanted to be pregnant later" or response "I didn't want to be pregnant then or at any time in the future" to Question 11: "Thinking back to *just before* you got pregnant with your *new* baby, how did you feel about becoming pregnant?"

Decreasing the proportion of unintended pregnancies to 44 percent is one of the Healthy People (HP) 2020 objectives.<sup>1</sup> The proportion of unintended pregnancies in Missouri for 2007-2008 was 45.2 percent, close to the HP 2020 objective. The percentages of unintended pregnancies were higher among women who were aged <20 years, less than high school educated, Non-Hispanic Black, unmarried and covered by Medicaid before pregnancy.

## No Birth Control Use among Women with Unintended Pregnancy

Survey Questions 11 & 14

**Percent of women with an unintended pregnancy who reported not using birth control at the time of conception**

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	49.3	45.5	53.1
<b>Age (Years)</b>			
<20	47.4	38.5	56.4
20-29	50.2	45.4	55
30+	48.6	40.1	57.2
<b>Education Level</b>			
Less than High School	62.1	53.6	69.9
High School or Higher	44.5	40.4	48.7
<b>Race/Ethnicity</b>			
Non-Hispanic White	49.3	45.5	53.1
Non-Hispanic Black	52.5	43.2	61.6
Hispanic	-	-	-
Other	-	-	-
<b>Marital Status</b>			
Married	43.6	37.9	49.5
Unmarried	52.5	47.5	57.4
<b>Residence</b>			
Urban	50.8	46	55.5
Rural	45.4	39.9	50.9
<b>Prepregnancy Health Insurance Status</b>			
Private Insurance	43.6	37.8	49.6
Medicaid	53.4	44.4	62.1
No Insurance	52.4	46.6	58.2

*DEFINITION.* Not using birth control at the time of conception is defined as response "No" to Question 14: "When you got pregnant with your new baby, were you or your husband or partner doing anything to keep from getting pregnant?" Unintended pregnancy is defined as response "I wanted to be pregnant later" or "I didn't want to be pregnant then or at any time in the future" to Question 11: "Thinking back to *just before* you got pregnant with your *new* baby, how did you feel about becoming pregnant?" and response "No" to Question 13: "When you got pregnant with your new baby, were you trying to get pregnant?"

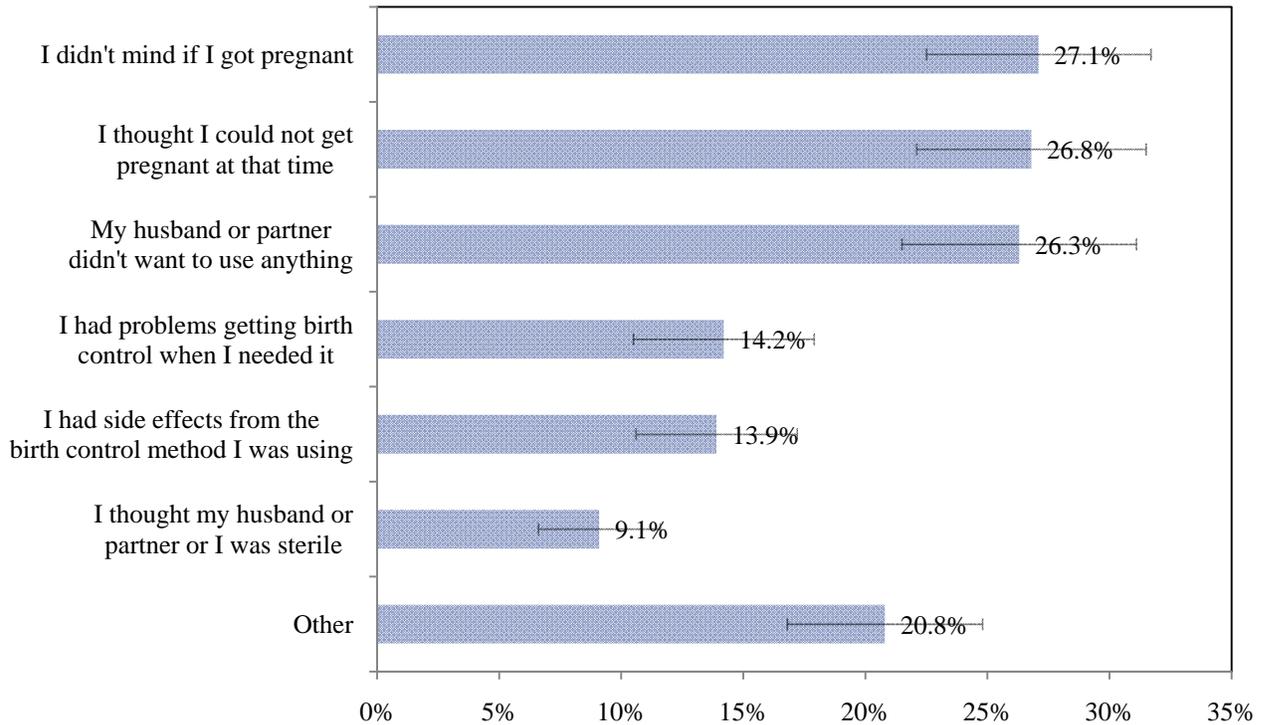
*NOTE.* "-" not reported for unweighted sample size of denominator less than 42.

Among women reporting an unintended pregnancy, 49.3 percent were not using any type of contraception. Women who were unmarried, had less than a high school education and those with Medicaid or no insurance before pregnancy were less likely to use contraception than their counterparts.

## Reasons for No Birth Control Use Among Unintended Pregnancies

Survey Question 15

**Percent of women with an unintended pregnancy who gave the following reasons for not using birth control**



*NOTE.* Unintended pregnancy is defined as response "I wanted to be pregnant later" or "I didn't want to be pregnant then or at any time in the future" to Question 11: "Thinking back to *just before* you got pregnant with your *new* baby, how did you feel about becoming pregnant?" and response "No" to Question 13: "When you got pregnant with your new baby, were you trying to get pregnant?"

*NOTE.* Women were able to choose more than one response to this question.

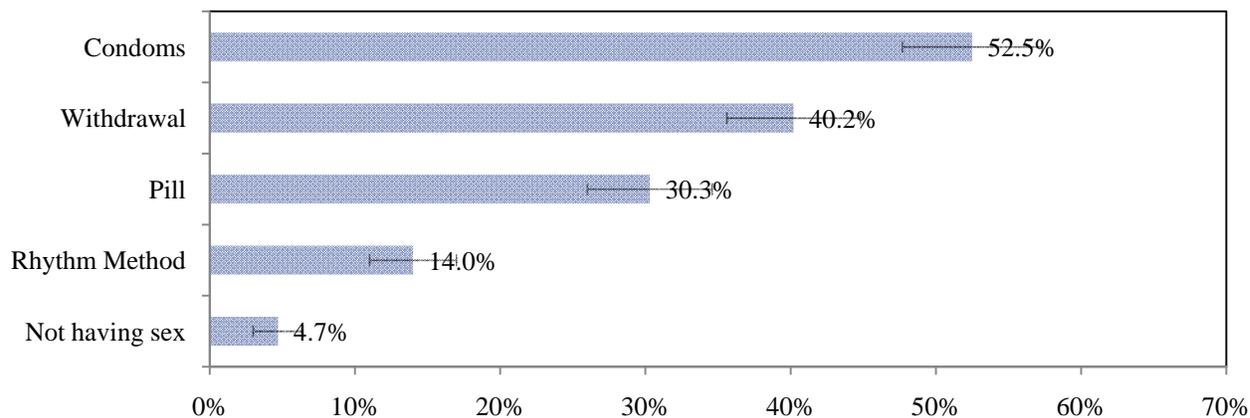
### **Missouri Mothers Say:**

*"[I] did not have health insurance and could not afford birth control pills."*

## Type of Birth Control Used Before Pregnancy

Survey Question 16

### Percent of women who reported using the following types of birth control before pregnancy



*NOTE.* Only the five methods with the highest percentages are depicted here.

*NOTE.* Women were able to choose more than one response to this question.



## Treatment to Assist With Conception

### Survey Question 17

#### Percent of women trying to get pregnant who reported receiving treatment to assist with conception

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	9.3	7.4	11.2
<b>Age (Years)</b>			
<20	4.7	0.0	13.6
20-29	5.6	3.7	7.5
30+	15.1	11.3	18.9
<b>Education Level</b>			
Less than High School	4.5	1.0	8.0
High School or Higher	9.8	7.8	11.9
<b>Race/Ethnicity</b>			
Non-Hispanic White	9.1	7.1	11.1
Non-Hispanic Black	12.3	1.5	23.2
Hispanic	5.2	0.0	11.2
Other	13.8	1.1	26.6
<b>Marital Status</b>			
Married	10.0	7.8	12.2
Unmarried	6.2	2.2	10.2
<b>Residence</b>			
Urban	9.1	6.8	11.4
Rural	10.0	6.8	13.1
<b>Prepregnancy Health Insurance Status</b>			
Private Insurance	10.7	8.3	13.1
Medicaid	10.9	3.2	18.7
No Insurance	3.9	1.4	6.4

*DEFINITION.* Receiving treatment to assist with conception is defined as response "Yes" to Question 17: "Did you receive treatment from a doctor, nurse or other health care worker to help you get pregnant with your new baby?"

The percentage of women who received treatment to assist with conception was 9.3 percent. Compared to younger women, those aged  $\geq 30$  years were three times more likely to receive treatment. Married women, those with at least a high school education, Non-Hispanics and women with private insurance or Medicaid were more likely to receive treatment to assist with conception compared to their counterparts.

## Multivitamin Use Before Pregnancy

### Survey Question 3

#### Percent of women not taking a multivitamin before pregnancy

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	58.4	56.1	60.7
<b>Age (Years)</b>			
<20	78.0	71.9	84.1
20-29	63.2	60.3	66.1
30+	41.3	37.1	45.5
<b>Education Level</b>			
Less than High School	74.4	68.8	80.0
High School or Higher	54.7	52.3	57.2
<b>Race/Ethnicity</b>			
Non-Hispanic White	56.7	54.2	59.1
Non-Hispanic Black	72.0	65.4	78.6
Hispanic	55.4	41.9	69.0
Other	43.8	30.6	56.9
<b>Marital Status</b>			
Married	45.5	42.7	48.4
Unmarried	77.4	74.2	80.7
<b>Residence</b>			
Urban	57.3	54.5	60.2
Rural	61.4	58.0	64.8
<b>Prepregnancy Health Insurance Status</b>			
Private Insurance	46.1	43.0	49.1
Medicaid	69.1	63.0	75.3
No Insurance	74.8	71.2	78.4

*DEFINITION.* No multivitamin use before pregnancy is defined as response "I didn't take a multivitamin or prenatal vitamin at all" to Question 3: "During the *month before* you got pregnant with your new baby, how many times a week did you take a multivitamin or a prenatal vitamin?"

Reducing the proportion of women who do not take daily multivitamins/folic acid before pregnancy to 66.9 percent is a HP 2020 objective.<sup>1</sup> Recommended folic acid consumption can prevent 50-70 percent of neural tube defects.<sup>2-3</sup> Over half of Missouri women (58.4 percent) did not take a multivitamin or prenatal vitamin at all before pregnancy. Folic acid consumption rates were lower among women who were aged <20 years, less than high school educated, Non-Hispanic Black, unmarried, living in rural areas and covered by Medicaid or without insurance.

#### **Missouri Mothers Say:**

*“My baby has spina bifida 1 + hydrocephalus. I wish I would have taken folic acid before I got pregnant. It may have helped her.”*

## Prepregnancy Underweight

Survey Questions 5 and 6

### Percent of women underweight before pregnancy

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	4.5	3.5	5.6
<b>Age (Years)</b>			
<20	7.9	3.9	11.9
20-29	5.0	3.6	6.5
30+	2.2	1.1	3.4
<b>Education Level</b>			
Less than High School	8.3	4.6	11.9
High School or Higher	3.7	2.7	4.6
<b>Race/Ethnicity</b>			
Non-Hispanic White	4.6	3.5	5.7
Non-Hispanic Black	4.4	1.3	7.5
Hispanic	3.6	0.0	9.0
Other	5.1	0.0	10.8
<b>Marital Status</b>			
Married	4.1	2.9	5.2
Unmarried	5.2	3.4	7.1
<b>Residence</b>			
Urban	4.2	3.0	5.5
Rural	5.4	3.8	7.1
<b>Prepregnancy Health Insurance Status</b>			
Private Insurance	3.4	2.3	4.5
Medicaid	7.0	3.5	10.4
No Insurance	5.4	3.3	7.5

*DEFINITION.* Underweight - Body Mass Index (BMI) less than 18.5  
 $BMI = \text{Weight (kg)}/\text{height (m)}^2$  or  $BMI = [\text{weight (lb)}/\text{height (in)}^2] \times 703$ .

The information to calculate BMI was obtained from Question 5: “*Just before you got pregnant with your new baby, how much did you weigh?*” and Question 6: “*How tall are you without shoes?*”

Prepregnancy weight is an important predictor of adverse pregnancy outcomes. A low body weight before pregnancy is associated with intrauterine growth restriction, low birth weight, preterm labor, spontaneous abortion and delivery of a small for gestational age infant.<sup>4-6</sup> Only 4.5 percent of women in Missouri were underweight before pregnancy with higher percentages among women with less than a high school education and those without private insurance before pregnancy. The percentage of underweight women tended to be higher with decreasing maternal age.

## Pregpregnancy Obesity

### Survey Questions 5 and 6

#### Percent of women obese before pregnancy

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	22.0	20.0	23.9
<b>Age (Years)</b>			
<20	11.1	6.2	16.1
20-29	23.1	20.5	25.7
30+	24.2	20.5	27.9
<b>Education Level</b>			
Less than High School	21.4	15.9	26.8
High School or Higher	22.2	20.1	24.3
<b>Race/Ethnicity</b>			
Non-Hispanic White	20.3	18.3	22.3
Non-Hispanic Black	30.7	23.6	37.8
Hispanic	26.7	13.9	39.4
Other	19.8	9.2	30.4
<b>Marital Status</b>			
Married	22.3	19.9	24.7
Unmarried	21.5	18.2	24.8
<b>Residence</b>			
Urban	21.9	19.5	24.4
Rural	22.0	19.1	24.9
<b>Prepregnancy Health Insurance Status</b>			
Private Insurance	20.8	18.3	23.4
Medicaid	20.5	15.0	25.9
No Insurance	24.7	21.0	28.3

*DEFINITION.* Obesity - BMI 30 or more

Having a BMI  $\geq 30$  before pregnancy is associated with hypertensive disorders, diabetes, delivery of a macrosomic infant, cesarean section, infection, birth defects, fetal mortality, failure to initiate breastfeeding and shorter durations of breastfeeding.<sup>7-11</sup> There is also evidence that children of obese mothers are at an increased risk for childhood obesity.<sup>12</sup> Overall, 22 percent of Missouri women were obese before pregnancy with higher percentages among Non-Hispanic Black and Hispanic women compared to their counterparts. The prevalence of obesity was almost over two times higher among women aged  $\geq 20$  years than among those aged  $< 20$  years.

#### **Missouri Mothers Say:**

*“I am overweight but lost 20 pounds before I became pregnant and worked with my doctor to eat healthy.”*

## References

1. U.S. Department of Health and Human Services. Healthy People 2020. 2010; <http://www.healthypeople.gov/2020/>. Accessed December 7, 2010.
2. Centers for Disease Control and Prevention. Recommendations for the Use of Folic Acid to Reduce the Number of Cases of Spina Bifida and Other Neural Tube Defects *MMWR* 1992;41(RR-14):001.
3. Prevention of neural tube defects: results of the Medical Research Council Vitamin Study. MRC Vitamin Study Research Group. *Lancet*. Jul 20 1991;338(8760):131-137.
4. Ehrenberg HM, Dierker L, Milluzzi C, Mercer BM. Low maternal weight, failure to thrive in pregnancy, and adverse pregnancy outcomes. *Am J Obstet Gynecol*. Dec 2003;189(6):1726-1730.
5. Helgstrand S, Andersen AM. Maternal underweight and the risk of spontaneous abortion. *Acta Obstet Gynecol Scand*. Dec 2005;84(12):1197-1201.
6. Sekiya N, Anai T, Matsubara M, Miyazaki F. Maternal weight gain rate in the second trimester are associated with birth weight and length of gestation. *Gynecol Obstet Invest*. 2007;63(1):45-48.
7. Castro LC, Avina RL. Maternal obesity and pregnancy outcomes. *Curr Opin Obstet Gynecol*. Dec 2002;14(6):601-606.
8. Sebire NJ, Jolly M, Harris JP, et al. Maternal obesity and pregnancy outcome: a study of 287,213 pregnancies in London. *Int J Obes Relat Metab Disord*. Aug 2001;25(8):1175-1182.
9. Amir LH, Donath S. A systematic review of maternal obesity and breastfeeding intention, initiation and duration. *BMC Pregnancy Childbirth*. 2007;7:9.
10. Li R, Jewell S, Grummer-Strawn L. Maternal obesity and breast-feeding practices. *Am J Clin Nutr*. Apr 2003;77(4):931-936.
11. Donath SM, Amir LH. Does maternal obesity adversely affect breastfeeding initiation and duration? *Breastfeed Rev*. Nov 2000;8(3):29-33.
12. Whitaker RC. Predicting preschooler obesity at birth: the role of maternal obesity in early pregnancy. *Pediatrics*. Jul 2004;114(1):e29-36.



## Section 3. Pregnancy



## Late or No Prenatal Care

### Survey Question 19

#### Percent of women with late or no prenatal care

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	13.2	11.4	14.9
<b>Age (Years)</b>			
<20	21.7	15.5	27.9
20-29	13.4	11.1	15.7
30+	9.4	6.5	12.3
<b>Education Level</b>			
Less than High School	24.3	18.5	30.0
High School or Higher	10.6	8.9	12.3
<b>Race/Ethnicity</b>			
Non-Hispanic White	10.4	8.7	12.1
Non-Hispanic Black	26.4	19.6	33.3
Hispanic	19.7	8.9	30.5
Other	17.4	6.3	28.5
<b>Marital Status</b>			
Married	7.7	6.1	9.3
Unmarried	21.5	18.0	25.0
<b>Residence</b>			
Urban	14.0	11.8	16.3
Rural	10.7	8.5	13.0
<b>Prenatal Care Payer</b>			
Private Insurance	4.2	2.8	5.6
Medicaid	18.2	15.3	21.1
Self Pay or Other	16.1	6.2	26.0

*DEFINITION.* Women who reported their first prenatal care visit after the first trimester (>3 months or >13 weeks) were classified as having late prenatal care. Women who answered "I didn't go for prenatal care" were classified as having no prenatal care.

Early prenatal care is important because it provides opportunities for education, risk assessment, and early intervention, if necessary. In Missouri, 13.5 percent of women received late or no prenatal care with higher proportions among women who were aged <20 years, less than high school educated, Non-Hispanic Black, unmarried and covered by Medicaid or self pay or other for prenatal care.

## Prenatal Care Not as Early as Wanted among Women with Late or No Prenatal Care

Survey Questions 19 & 20

**Percent of women with late or no prenatal care who  
reported not getting prenatal care as early as they  
wanted**

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	61.2	53.9	68.0
<b>Age (Years)</b>			
<20	48.8	33.3	64.6
20-29	69.0	60.3	76.6
30+	51.1	35.3	66.7
<b>Education Level</b>			
Less than High School	60.2	46.2	72.7
High School or Higher	61.9	53.4	69.7
<b>Race/Ethnicity</b>			
Non-Hispanic White	61.4	52.6	69.5
Non-Hispanic Black	63.9	48.7	76.8
Hispanic	-	-	-
Other	-	-	-
<b>Marital Status</b>			
Married	61.1	50.1	71.1
Unmarried	61.2	51.7	69.9
<b>Residence</b>			
Urban	62.8	54.1	70.8
Rural	55.0	43.7	65.8
<b>Prenatal Care Payer</b>			
Private Insurance	50.8	33.8	67.6
Medicaid	64.3	55.1	72.6
Self Pay or Other	-	-	-

*DEFINITION.* Not getting prenatal care as early as wanted is defined as response "No" to Question 20: "Did you get prenatal care as early in your pregnancy as you wanted?"

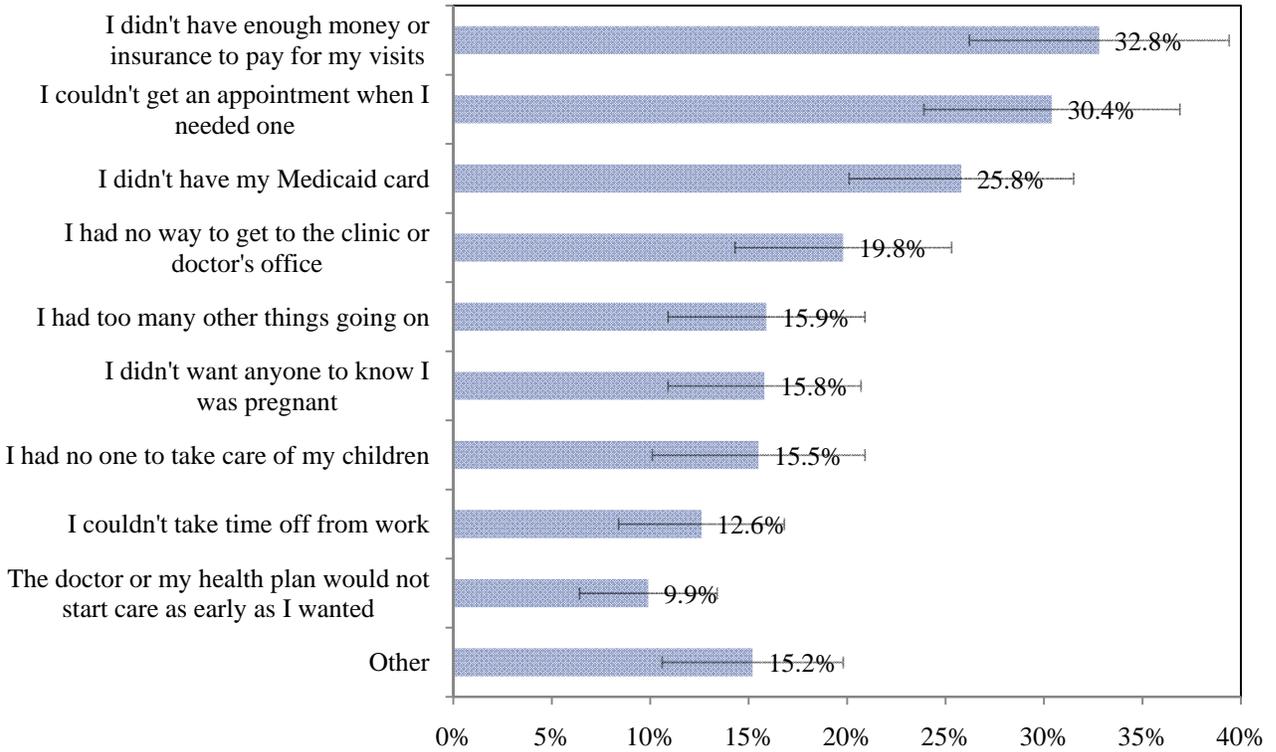
*NOTE.* "-" not reported for unweighted sample size of denominator less than 42.

More than half (61.2 percent) of women with late or no prenatal care wanted care earlier than it was received with higher proportions among women who were aged 20-29 years, living in urban areas and covered by Medicaid for prenatal care.

## Barriers for Getting Prenatal Care

Survey Question 21

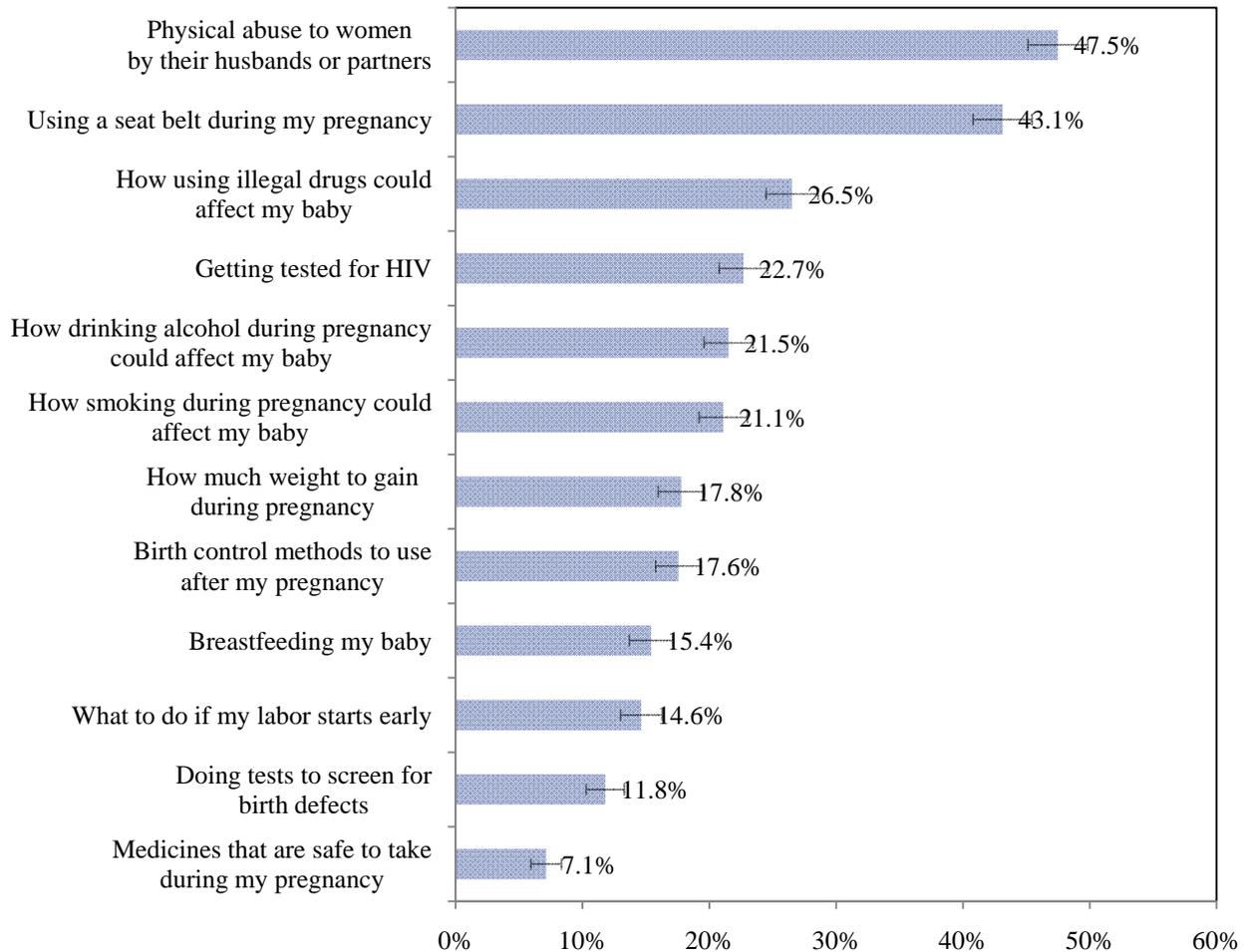
**Percent of women with late or no prenatal care who reported the following problems getting prenatal care**



## Prenatal Care Content

Survey Questions 24 & 26

### Percent of women who indicated that their health care provider did *not* discuss the following topics during prenatal care visits



Recommended content for prenatal care has been established and includes health promotion and counseling in addition to medical practices.<sup>2,3</sup> The bar chart above shows the percentage of women who indicated that their provider did not discuss each specified content area. High proportions of women reported not having a discussion about physical abuse (47.5 percent) or seat belt use (43.1 percent) with their provider, and these indicators will be illustrated with stratified results for socio-demographic factors in the tables that follow.

## No Physical Abuse Discussion with Health Care Provider

Survey Question 23k

**Percent of women who reported not having a  
discussion about physical abuse with their health  
care provider**

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	47.5	45.1	49.8
<b>Age (Years)</b>			
<20	43.1	35.7	50.5
20-29	44.6	41.5	47.6
30+	54.8	50.6	59.0
<b>Education Level</b>			
Less than High School	36.2	30.0	42.3
High School or Higher	50.1	47.6	52.6
<b>Race/Ethnicity</b>			
Non-Hispanic White	50.1	47.6	52.7
Non-Hispanic Black	33.7	26.5	40.9
Hispanic	40.5	27.1	53.8
Other	49.2	35.7	62.7
<b>Marital Status</b>			
Married	52.4	49.5	55.3
Unmarried	40.0	36.1	43.9
<b>Residence</b>			
Urban	46.3	43.3	49.2
Rural	50.9	47.3	54.4
<b>Prenatal Care Payer</b>			
Private Insurance	55.4	52.1	58.7
Medicaid	38.8	35.4	42.1
Self Pay or Other	50.7	37.5	64.0

*DEFINITION.* No discussion about physical abuse is defined as response "No" to Question 24: "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?" item k: "Physical abuse to women by their husbands or partners."

In Missouri, 47.5 percent of women reported not having a discussion about physical abuse with their health care provider with higher proportions among women who were aged  $\geq 30$  years, at least high school educated, married, living in rural areas, Non-Hispanic White and not covered by Medicaid for prenatal care.

## No Seat Belt Use Discussion with Health Care Provider

Survey Question 23d

### Percent of women who reported not having a discussion about seat belt use with their health care provider

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	43.1	40.8	45.5
<b>Age (Years)</b>			
<20	37.6	30.5	44.6
20-29	41.7	38.7	44.7
30+	48.0	43.8	52.2
<b>Education Level</b>			
Less than High School	39.1	32.9	45.3
High School or Higher	44.0	41.5	46.4
<b>Race/Ethnicity</b>			
Non-Hispanic White	44.3	41.7	46.8
Non-Hispanic Black	38.5	31.2	45.9
Hispanic	30.2	17.9	42.5
Other	52.6	39.1	66.0
<b>Marital Status</b>			
Married	45.3	42.4	48.2
Unmarried	39.8	36.0	43.6
<b>Residence</b>			
Urban	41.3	38.4	44.3
Rural	48.0	44.5	51.6
<b>Prenatal Care Payer</b>			
Private Insurance	44.5	41.2	47.8
Medicaid	41.6	38.1	45.0
Self Pay or Other	28.7	18.4	39.1

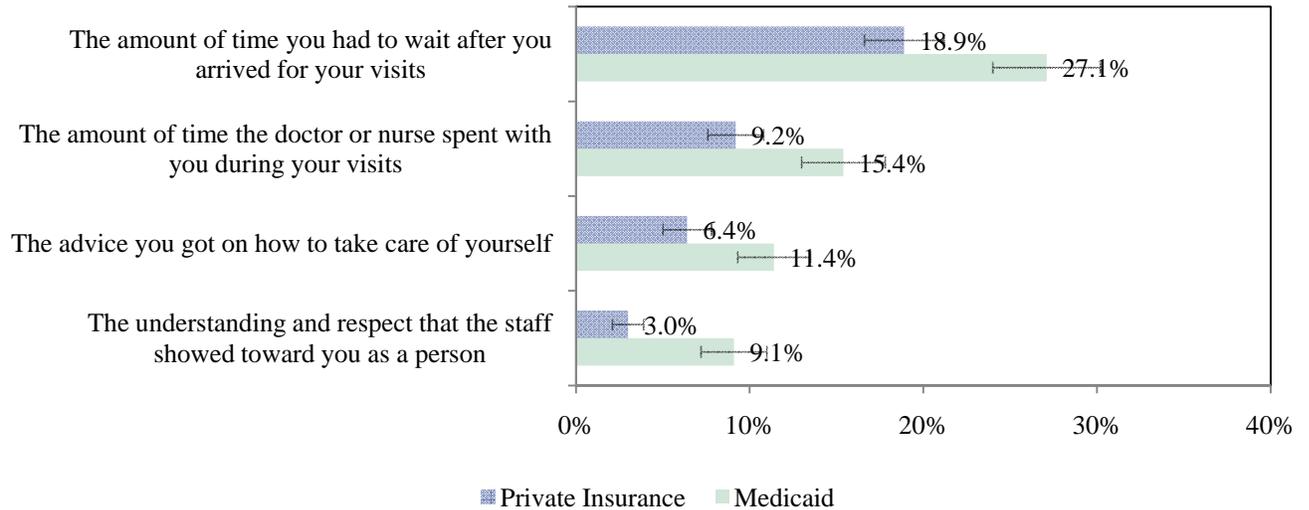
*DEFINITION.* No discussion about seat belt use is defined as response "No" to Question 24: "During any of your prenatal care visits, did a doctor, nurse or other health care worker talk with you about any of the things listed below?" item d: "Using a seat belt during my pregnancy."

In Missouri, 43.1 percent of women did not have a discussion about seat belt use during pregnancy with their health care provider. Higher proportions of women reported not having this discussion with their health care provider among those who were aged  $\geq 30$  years, at least a high school educated, married, living in rural areas, Non-Hispanic White or "other" race/ethnicity and covered by private insurance or Medicaid.

## Prenatal Care Satisfaction

Survey Question 25

### Percent of women who reported being dissatisfied with the following aspects of their prenatal care



The chart above illustrates dissatisfaction with several aspects of prenatal care among women with private insurance and among women with Medicaid. Women with Medicaid were more likely to report dissatisfaction with substantial differences for each item.

#### Missouri Mothers Say:

*“My child pediatrician felt that if the doctor had listened to me during prenatal care, a lot of problems my baby has would not exist.”*



## Awareness of Folic Acid Benefit for Birth Defects Prevention

### Survey Question 28

**Percent of women who reported not having heard or read that taking folic acid can help prevent some birth defects**

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	23.7	21.7	25.8
<b>Age (Years)</b>			
<20	41.8	34.4	49.2
20-29	25.8	23.1	28.6
30+	12.5	9.5	15.5
<b>Education Level</b>			
Less than High School	36.2	30.1	42.4
High School or Higher	21.1	18.9	23.2
<b>Race/Ethnicity</b>			
Non-Hispanic White	20.9	18.7	23.0
Non-Hispanic Black	36.0	28.8	43.1
Hispanic	33.5	20.5	46.5
Other	30.8	18.1	43.5
<b>Marital Status</b>			
Married	13.7	11.7	15.8
Unmarried	38.5	34.6	42.3
<b>Residence</b>			
Urban	23.8	21.2	26.4
Rural	23.5	20.4	26.5
<b>Prenatal Care Payer</b>			
Private Insurance	12.6	10.3	14.9
Medicaid	33.7	30.3	37.1
Self Pay or Other	16.3	7.6	25.0

*DEFINITION.* Not having heard or read that taking folic acid can help prevent some birth defects is defined as response "No" to Question 28: "Have you ever heard or read that taking the vitamin folic acid can help prevent some birth defects?"

Almost one in four Missouri women (23.7 percent) had not heard that folic acid can help to prevent birth defects. Women who were aged <20 years, unmarried, less than high school educated and covered by Medicaid were much more likely to be unaware of the benefits of folic acid. With the exception of Non-Hispanic White women, almost one-third of women in other race/ethnicity groups were unaware of the benefits of folic acid for the prevention of birth defects.

## HIV Testing During Prenatal Care

### Survey Question 27

#### Percent of women who reported not having an HIV test during pregnancy or delivery

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	23.2	21.1	25.3
<b>Age (Years)</b>			
<20	17.5	11.3	23.7
20-29	22.2	19.5	25.0
30+	27.2	23.2	31.2
<b>Education Level</b>			
Less than High School	18.7	13.0	24.3
High School or Higher	24.6	22.2	26.9
<b>Race/Ethnicity</b>			
Non-Hispanic White	25.6	23.2	28.0
Non-Hispanic Black	11.3	6.6	15.9
Hispanic	25.3	10.9	39.7
Other	20.0	7.9	32.2
<b>Marital Status</b>			
Married	30.2	27.2	33.1
Unmarried	13.2	10.5	15.9
<b>Residence</b>			
Urban	23.0	20.4	25.6
Rural	23.8	20.4	27.1
<b>Prenatal Care Payer</b>			
Private Insurance	29.2	26.0	32.5
Medicaid	16.2	13.3	19.0
Self Pay or Other	43.8	30.0	57.5

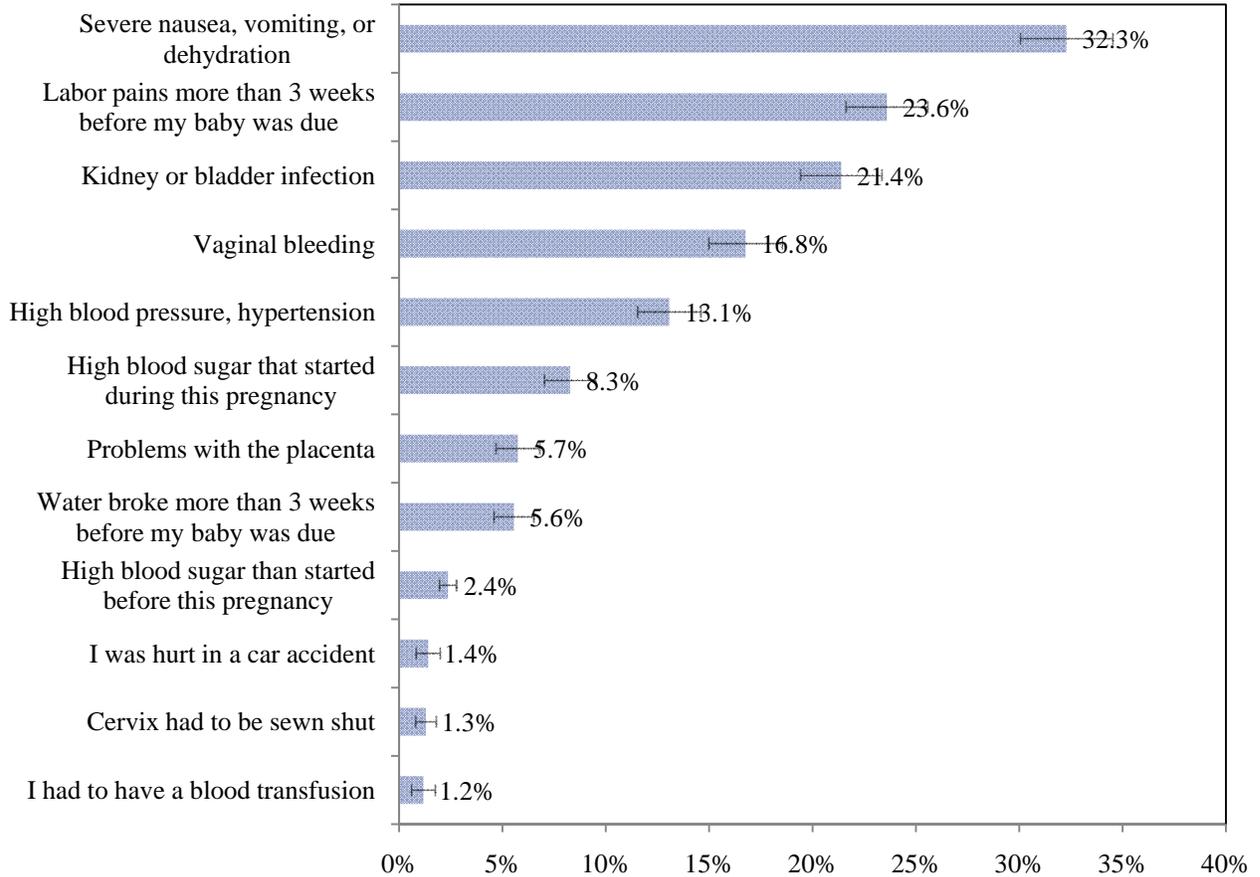
*DEFINITION.* No HIV test during pregnancy or delivery is defined as response "No" to Question 27: "At any time during your most recent pregnancy or delivery, did you have a test for HIV (the virus that causes AIDS)?"

Reducing the number of cases of perinatally acquired HIV infection is a HP 2020 objective.<sup>1</sup> With HIV screening early in pregnancy, HIV-infected women and their infants are able to receive appropriate and timely interventions (e.g., antiretroviral medications, scheduled cesarean delivery and avoidance of breastfeeding) to reduce mother-to-child transmission of HIV. CDC guidelines emphasize universal HIV screening as early as possible during pregnancy but recommend an opt-out testing approach to maximize opportunities for women to know their HIV status during pregnancy.<sup>4</sup> Approximately one in four Missouri women (23.2 percent) reported not having an HIV test during pregnancy or delivery with higher percentages among women aged  $\geq 30$  years and those with at least a high school education. The percentages of not having an HIV test during pregnancy were much lower among Non-Hispanic Black women and women with Medicaid.

## Maternal Health Problems During Pregnancy

Survey Question 31

**Percent of women who reported having one of the following problems during pregnancy**



The chart above illustrates the prevalence of many problems that may occur during pregnancy. The most prevalent were severe nausea/vomiting/dehydration, labor pains more than three weeks before the due date and kidney or bladder infections.

## Sexually Transmitted Infections During Pregnancy

Survey Question 78

### Percent of women who reported having a sexually transmitted infection during pregnancy

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	7.5	6.2	8.8
<b>Age (Years)</b>			
<20	13.7	8.8	18.6
20-29	8.5	6.7	10.2
30+	3.1	1.5	4.7
<b>Education Level</b>			
Less than High School	10.6	6.6	14.5
High School or Higher	6.7	5.4	7.9
<b>Race/Ethnicity</b>			
Non-Hispanic White	6.0	4.9	7.2
Non-Hispanic Black	15.8	10.3	21.2
Hispanic	9.3	1.2	17.4
Other	3.6	0.0	8.6
<b>Marital Status</b>			
Married	3.6	2.6	4.6
Unmarried	13.2	10.4	15.9
<b>Residence</b>			
Urban	7.3	5.7	8.9
Rural	8.0	6.1	10.0
<b>Prenatal Care Payer</b>			
Private Insurance	2.7	1.7	3.7
Medicaid	12.4	10.0	14.8
Self Pay or Other	3.1	0.0	7.4

*DEFINITION.* A sexually transmitted infection is defined as response "Yes" to Genital Warts (HPV), Herpes, Chlamydia, Gonorrhea, Syphilis, or Trichomoniasis for Question 78: "What disease or infection were you told you had" for those with response "Yes" to Question 77: "During your most recent pregnancy, did a doctor, nurse or other health care worker tell you that you had a urinary tract infection (UTI), a sexually transmitted infection (STD), or any vaginal infection, including bacterial vaginosis or Group B Strep (Beta Strep)?"

*NOTE.* Women were able to choose more than one response to this question.

Sexually transmitted infections (STIs) during pregnancy may result in pregnancy complications or infection of the fetus. Just over 7 percent of Missouri women reported having a STI during pregnancy. The percentages of STIs were higher among women who were aged <20 years, less than high school educated, Non-Hispanic Black, unmarried and covered by Medicaid for prenatal care.

## References

1. U.S. Department of Health and Human Services. Healthy People 2020. 2010; <http://www.healthypeople.gov/2020/>. Accessed December 7, 2010.
2. Kirkham C, Harris S, Grzybowski S. Evidence-based prenatal care: Part I. General prenatal care and counseling issues. *Am Fam Physician*. Apr 1 2005;71(7):1307-1316.
3. National Institutes of Health. Caring for Our Future: The Content of Prenatal Care. A Report of the Public Health Service Expert Panel on the Content of Prenatal Care. Bethesda, MD1989.
4. Centers for Disease Control and Prevention. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *MMWR*. 2006;55(RR-14):1-17.



## Section 4. Postpartum



## Infants with Early Hospital Discharge

### Survey Question 50

#### Percent of infants with early hospital discharge less than 24 hours after birth

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	1.9	1.2	2.6
<b>Age (Years)</b>			
<20	1.6	0.3	3.0
20-29	2.1	1.1	3.1
30+	1.6	0.5	2.7
<b>Education Level</b>			
Less than High School	2.8	0.6	5.1
High School or Higher	1.6	1.0	2.3
<b>Race/Ethnicity</b>			
Non-Hispanic White	1.8	1.1	2.5
Non-Hispanic Black	2.7	0.3	5.0
Hispanic	1.8	0.0	4.9
Other	0.8	0.0	2.3
<b>Marital Status</b>			
Married	1.7	0.9	2.6
Unmarried	2.1	1.0	3.2
<b>Residence</b>			
Urban	1.7	0.9	2.5
Rural	2.4	1.3	3.5
<b>Delivery Payer</b>			
Private Insurance	0.7	0.2	1.2
Medicaid	2.8	1.6	4.0
Self Pay or Other	2.0	0.0	5.2

*DEFINITION.* Early hospital discharge for infants is defined as response "Less than 24 hours" to Question 50: "After your baby was born, how long did he or she stay in the hospital?"

A small percentage of infants (1.9 percent) were discharged less than 24 hours following birth. Slightly higher percentages of infants were discharged less than 24 hours after delivery among those born to women who were aged 20-29 years, less than high school educated, Non-Hispanic Black, unmarried, living in rural areas and without private insurance.

## No Follow-Up for Infants Within the First Week after Hospital Discharge

Survey Question 63

### Percent of infants not seen by a health care provider within the first week after leaving the hospital

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	11.6	10.0	13.1
<b>Age (Years)</b>			
<20	12.2	6.7	17.7
20-29	11.4	9.4	13.3
30+	11.7	8.8	14.6
<b>Education Level</b>			
Less than High School	14.4	9.9	18.9
High School or Higher	10.9	9.3	12.5
<b>Race/Ethnicity</b>			
Non-Hispanic White	11.9	10.2	13.6
Non-Hispanic Black	8.6	4.3	12.9
Hispanic	19.2	7.5	30.9
Other	6.1	0.3	11.9
<b>Marital Status</b>			
Married	11.6	9.7	13.5
Unmarried	11.5	8.9	14.2
<b>Residence</b>			
Urban	10.4	8.5	12.3
Rural	14.9	12.3	17.5
<b>Delivery Payer</b>			
Private Insurance	8.6	6.6	10.6
Medicaid	13.8	11.4	16.3
Self Pay or Other	23.2	10.9	35.5

*DEFINITION.* No follow-up within one week after hospital discharge for infants is defined as response "No" to Question 63: "Was your new baby seen by a doctor, nurse or other health care worker during the first week after he or she left the hospital?"

The American Academy of Pediatrics (AAP) recommends that every infant have a check-up three to five days after leaving the hospital.<sup>1</sup> In Missouri, 11.6 percent of infants were not seen one week after discharge with higher percentages among those born to mothers who were less than high school educated, Hispanic, living in rural areas and without private insurance for prenatal care.

## Non-Back Sleep Position for Infants

### Survey Question 61

#### Percent of women who reported placing their infant in a non-back position to sleep

Maternal Characteristics	Non-Back (stomach or side)			Side			Stomach		
	Percent	95% CI		Percent	95% CI		Percent	95% CI	
<b>Overall</b>	30.7	28.5	32.9	14.7	13.1	16.4	15.9	14.1	17.7
<b>Age (Years)</b>									
<20	41.6	34.1	49.1	19.6	14.1	25.1	22.0	15.4	28.6
20-29	33.4	30.5	36.3	16.3	14.0	18.6	17.1	14.7	19.5
30+	21.3	17.8	24.7	9.9	7.5	12.3	11.4	8.6	14.1
<b>Education Level</b>									
Less than High School	35.4	29.2	41.6	19.4	14.6	24.1	16.0	11.1	21.0
High School or Higher	29.5	27.2	31.8	13.8	12.0	15.5	15.8	13.9	17.7
<b>Race/Ethnicity</b>									
Non-Hispanic White	28.0	25.7	30.2	13.9	12.2	15.6	14.1	12.3	15.9
Non-Hispanic Black	53.1	45.4	60.7	20.4	14.3	26.6	32.6	25.3	39.9
Hispanic	19.2	9.8	28.5	14.4	5.9	22.9	4.8	0.7	8.9
Other	14.9	5.6	24.2	11.3	3.0	19.5	3.6	0.0	8.4
<b>Marital Status</b>									
Married	25.4	22.9	27.8	12.5	10.6	14.3	12.9	11.0	14.8
Unmarried	38.7	34.7	42.7	18.1	15.1	21.2	20.6	17.2	24.0
<b>Residence</b>									
Urban	29.5	26.8	32.3	13.3	11.3	15.3	16.2	13.9	18.4
Rural	33.9	30.5	37.3	18.6	15.8	21.4	15.3	12.7	17.9
<b>Delivery Payer</b>									
Private Insurance	23.9	21.1	26.8	10.6	8.6	12.5	13.4	11.0	15.7
Medicaid	37.1	33.7	40.5	18.6	15.9	21.3	18.5	15.7	21.3
Self Pay or Other	33.0	20.3	45.7	19.3	9.6	28.9	13.7	3.7	23.8

*DEFINITION.* Non-back sleep position is defined as response "On his or her side" or "On his or her stomach" to Question 61: "How do you *most often* lay your baby down to sleep now?"

*NOTE.* Infants who were still in the hospital or who had passed away at the time of the survey were excluded.

The AAP recommends that infants be placed exclusively on their backs for sleep.<sup>2</sup> Decreasing the percentage of infants who are put down to sleep in an unsafe sleep position to 24.1 percent is a Healthy People (HP) 2020 objective.<sup>3</sup> In Missouri, the overall percentage of women who placed their infants in a non-back sleep position was 30.7 percent. Women who were younger, Non-Hispanic Black, unmarried and without private insurance were more likely to place their infants in a non-back sleep position.

## Infant Co-Sleeping

### Survey Question 62

#### Percent of infants often or always sleeping in the same bed with someone else

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	22.5	20.4	24.5
<b>Age (Years)</b>			
<20	29.9	22.8	36.9
20-29	21.3	18.7	23.9
30+	21.8	18.1	25.5
<b>Education Level</b>			
Less than High School	23.5	18.0	29.0
High School or Higher	22.1	19.9	24.3
<b>Race/Ethnicity</b>			
Non-Hispanic White	18.1	16.1	20.1
Non-Hispanic Black	46.3	38.7	54.0
Hispanic	25.3	14.0	36.7
Other	27.9	15.7	40.0
<b>Marital Status</b>			
Married	19.0	16.6	21.3
Unmarried	27.7	24.1	31.4
<b>Residence</b>			
Urban	23.7	21.1	26.2
Rural	19.2	16.3	22.0
<b>Delivery Payer</b>			
Private Insurance	18.6	15.9	21.3
Medicaid	25.5	22.4	28.6
Self Pay or Other	29.8	17.1	42.6

*DEFINITION.* Infant co-sleeping is defined as response "Often" or "Always" to Question 62: "How often does your new baby sleep in the same bed with you or anyone else?"

Co-sleeping is a very controversial topic with proponents suggesting that the practice increases bonding, facilitates breastfeeding, and is natural and instinctive.<sup>4</sup> However, research suggests that this practice is potentially dangerous for the infant.<sup>5-10</sup> The AAP recommends that infants be placed to sleep in a crib, bassinet, or cradle that meets safety standards placed in close proximity to the mother instead of co-sleeping.<sup>2</sup> Nearly one in four Missouri women (22.5 percent) reported often or always placing their infants to sleep in a bed with someone else. Non-Hispanic Black women, unmarried women and those without private insurance were more likely to report co-sleeping.

## Infant Exposure to Secondhand Smoke

### Survey Question 60

#### Percent of infants who spend time in the same room as someone smoking

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	10.9	9.4	12.4
<b>Age (Years)</b>			
<20	19.4	13.6	25.3
20-29	11.0	9.1	13.0
30+	7.5	5.1	9.8
<b>Education Level</b>			
Less than High School	18.0	13.1	22.9
High School or Higher	9.5	8.0	10.9
<b>Race/Ethnicity</b>			
Non-Hispanic White	10.9	9.3	12.5
Non-Hispanic Black	12.5	7.2	17.7
Hispanic	9.3	0.0	19.1
Other	6.0	0.7	11.3
<b>Marital Status</b>			
Married	7.0	5.6	8.5
Unmarried	16.8	13.8	19.8
<b>Residence</b>			
Urban	9.5	7.7	11.3
Rural	14.9	12.3	17.4
<b>Delivery Payer</b>			
Private Insurance	6.1	4.5	7.7
Medicaid	15.9	13.3	18.5
Self Pay or Other	4.8	0.0	9.6

*DEFINITION.* Exposure to secondhand smoke is defined as a response other than "My baby is never in the same room with someone who is smoking" to Question 60: "About how many hours a day, on average, is your new baby in the same room with someone who is smoking?"

Secondhand smoke has been associated with Sudden Infant Death Syndrome (SIDS), weaker lungs, acute lower respiratory infections, and exacerbation of asthma symptoms.<sup>11</sup> Approximately one in ten women (10.9 percent) reported that their infants spend time in the same room with someone who is smoking. The proportions of women indicating their infant was exposed to secondhand smoke were much higher among women who were aged <20 years, less than high school educated, unmarried, living in rural areas and covered by Medicaid at the time of delivery.

## No Breastfeeding Initiation

Survey Question 53

### Percent of women who reported never breastfeeding

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	27.7	25.5	29.9
<b>Age (Years)</b>			
<20	43.5	36.0	51.1
20-29	28.0	25.2	30.9
30+	20.9	17.3	24.5
<b>Education Level</b>			
Less than High School	49.8	43.3	56.3
High School or Higher	22.4	20.3	24.5
<b>Race/Ethnicity</b>			
Non-Hispanic White	27.6	25.2	29.9
Non-Hispanic Black	34.2	26.9	41.5
Hispanic	19.5	9.1	29.8
Other	9.3	3.2	15.4
<b>Marital Status</b>			
Married	18.7	16.4	20.9
Unmarried	41.3	37.2	45.3
<b>Residence</b>			
Urban	25.5	22.8	28.2
Rural	33.9	30.5	37.3
<b>Delivery Payer</b>			
Private Insurance	16.7	14.2	19.2
Medicaid	38.5	35.0	41.9
Self Pay or Other	11.7	4.2	19.3

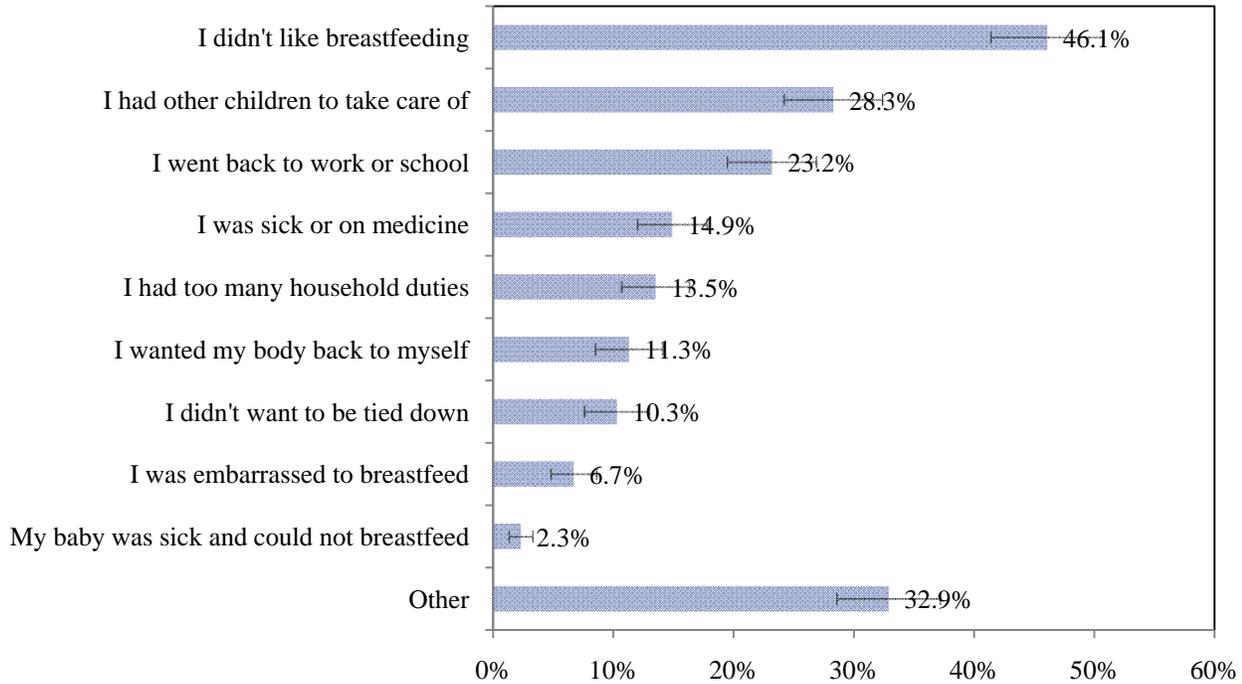
*DEFINITION.* Never breastfeeding is defined as response "No" to Question 53: "Did you ever breastfeed or pump breast milk to feed your new baby after delivery?"

Infants who receive breast milk are less likely to have respiratory infections, ear infections, gastrointestinal illness, dermatitis, diabetes, SIDS, obesity and childhood leukemia.<sup>12</sup> For the mother, breastfeeding is associated with a reduced risk for type II diabetes, breast cancer, ovarian cancer, postpartum depression and postpartum weight retention.<sup>12,13</sup> Reducing the proportion of infants who are never breastfed to 18.1 percent is a HP 2020 objective.<sup>3</sup> The percentage of women who never initiated breastfeeding in Missouri was 27.7 percent. Women who were aged <20 years, less than high school educated, Non-Hispanic Black, unmarried and covered by Medicaid were less likely to initiate breastfeeding, compared with their counterparts.

## Reasons for Not Initiating Breastfeeding

Survey Question 54

**Percent of women who reported one of the following reasons for not breastfeeding their new baby**



*NOTE.* Women were able to choose more than one response to this question.



## Stopping Breastfeeding

Survey Questions 53, 55, & 56

### Percent of women ever breastfeeding who had stopped breastfeeding before two months

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	37.7	35.0	40.4
<b>Age (Years)</b>			
<20	70.0	60.6	78.0
20-29	39.0	35.5	42.6
30+	26.5	22.5	30.9
<b>Education Level</b>			
Less than High School	62.3	53.6	70.3
High School or Higher	34.3	31.6	37.0
<b>Race/Ethnicity</b>			
Non-Hispanic White	37.2	34.4	40.1
Non-Hispanic Black	46.4	37.1	55.9
Hispanic	37.9	23.2	55.3
Other	17.6	9.9	29.5
<b>Marital Status</b>			
Married	29.4	26.5	32.5
Unmarried	55.2	50.0	60.3
<b>Residence</b>			
Urban	35.8	32.5	39.1
Rural	43.8	39.4	48.2
<b>Delivery Payer</b>			
Private Insurance	30.5	27.3	34.0
Medicaid	48.0	43.5	52.4
Self Pay or Other	25.7	14.2	42.0

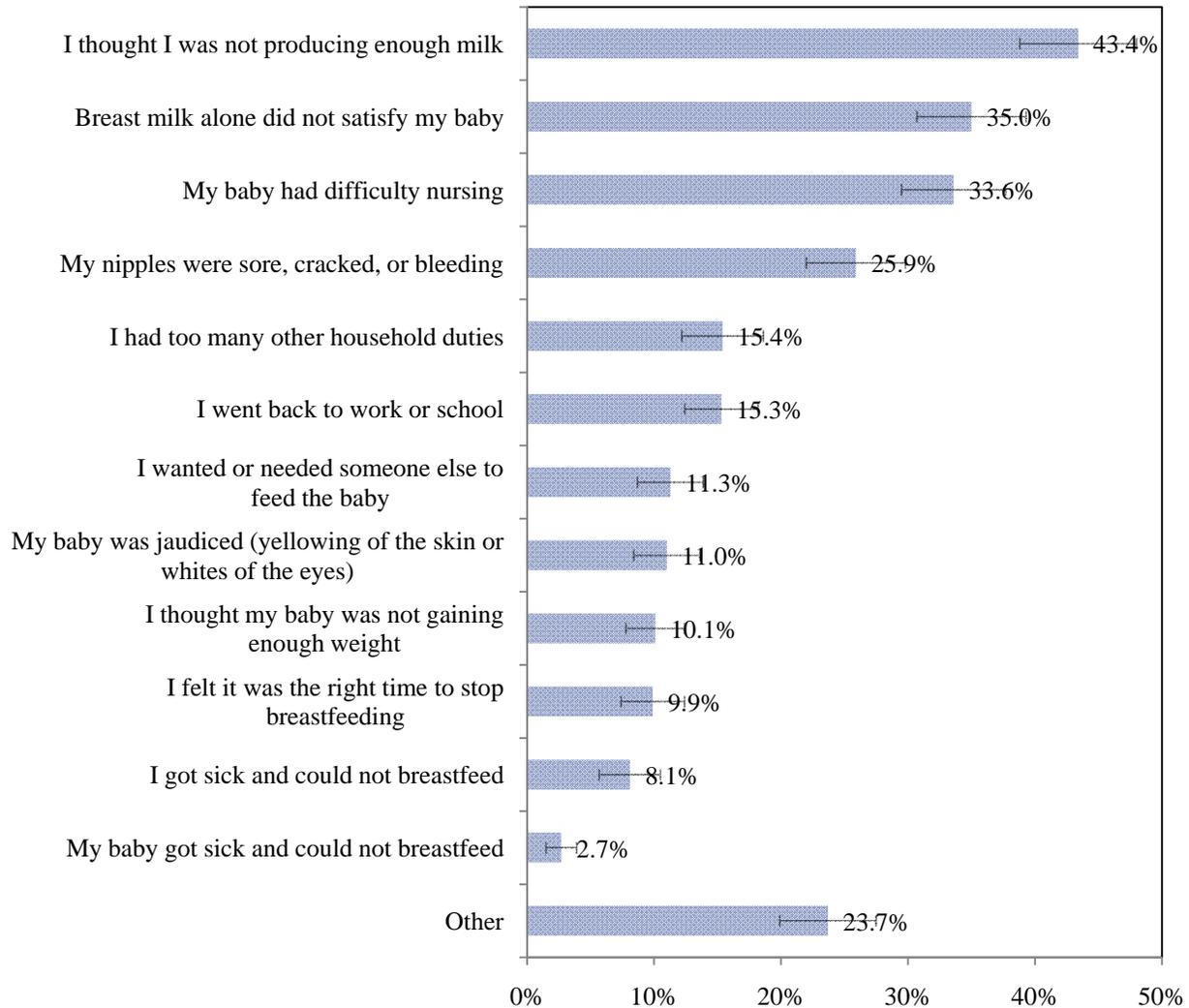
*DEFINITION.* Among women who answered "Yes" to Question 53, "Did you ever breastfeed or pump breast milk to feed your new baby after delivery?", those who stopped breastfeeding before two months included women who responded "No" to Question 55, "Are you still breastfeeding or feeding pumped milk to your new baby?", and reported breastfeeding duration less than two months or eight weeks to Question 56, "How many weeks or months did you breastfeed or pump milk to feed your baby?"

More than one-third (37.7 percent) of Missouri women who initiated breastfeeding stopped before two months. A substantially larger percentage of women aged <20 years stopped breastfeeding early. In addition, higher percentages of women stopped before two months among those who were less than high school educated, Non-Hispanic Black, unmarried, living in rural areas and covered by Medicaid.

## Reasons for Stopping Breastfeeding

Survey Question 57

### Percent of women who ever breastfeed who reported the following reasons for stopping before two months



*NOTE.* Women were able to choose more than one response to this question.

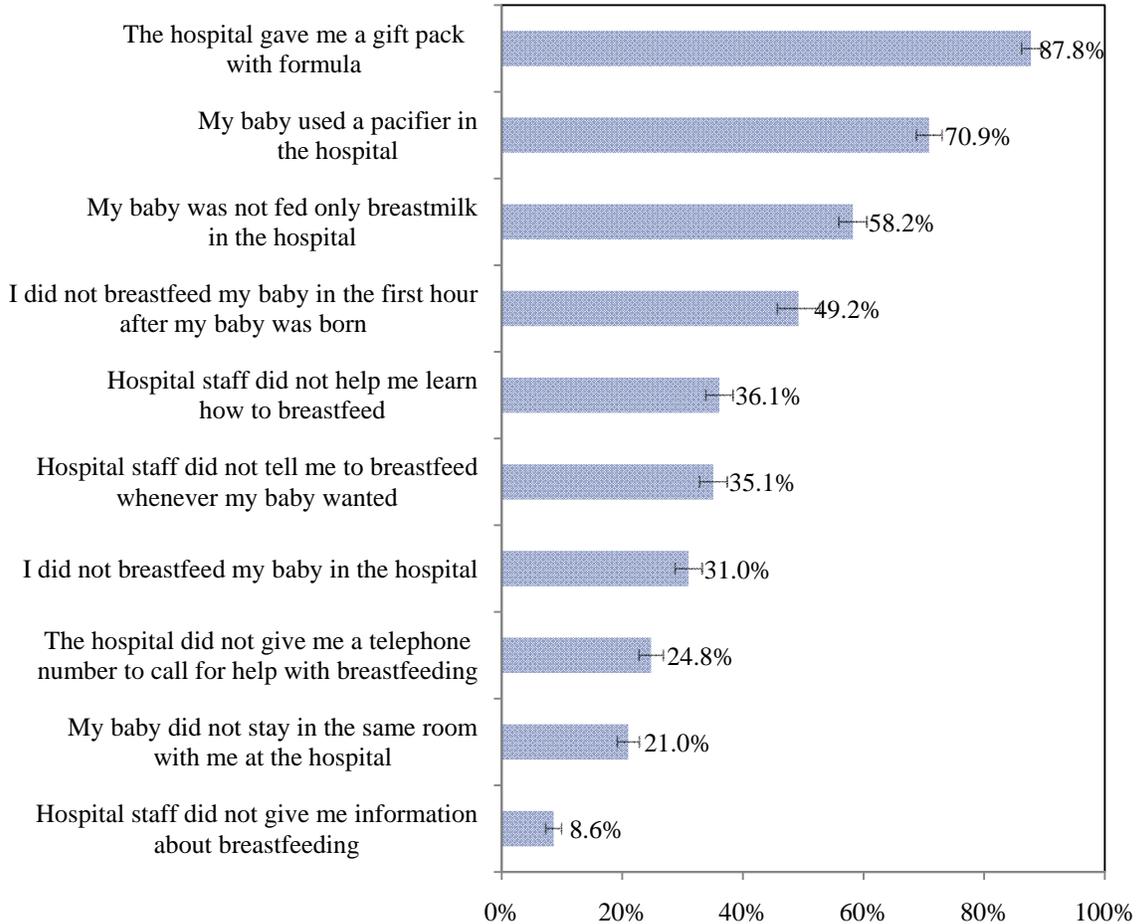
#### Missouri Mothers Say:

*“[My] baby was premature and not taking to my breast. After several times trying, [I] gave up and went to formula. Also pumping was painful.”*

## Breastfeeding Experiences in the Hospital

### Survey Question 59

#### Percent of women with the following breastfeeding experiences in the hospital



The baby-friendly hospitals initiative is an effort to promote breastfeeding during the hospital stay following delivery.<sup>14</sup> Implementing the steps recommended by the baby-friendly hospitals initiative, including many items above in addition to having a written breastfeeding policy and training all health care staff to implement the policy, has been associated with increased breastfeeding rates.<sup>15</sup> The initiative does not recommend providing formula gift packs or using a pacifier, which do not support breastfeeding initiation and continuation. However, 87.8 percent of mothers received a gift pack with formula from the hospital, and 70.9 percent of mothers indicated that their baby used a pacifier during the hospital stay.

#### Missouri Mothers Say:

*“When they give breastfeeding diaper bags to breastfeeding moms, ditch the formula and replace it with a hand pump to express milk and if possible, breast milk storage bags.”*

## No Postpartum Birth Control Use

Survey Question 69

### Percent of women not using birth control during the postpartum period

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	13.2	11.5	14.8
<b>Age (Years)</b>			
<20	11.5	7.4	15.7
20-29	13.4	11.2	15.6
30+	13.4	10.5	16.3
<b>Education Level</b>			
Less than High School	18.8	13.5	24.0
High School or Higher	12.0	10.4	13.7
<b>Race/Ethnicity</b>			
Non-Hispanic White	12.7	11.0	14.4
Non-Hispanic Black	12.9	8.2	17.6
Hispanic	24.3	11.2	37.4
Other	13.5	5.1	21.9
<b>Marital Status</b>			
Married	13.4	11.4	15.5
Unmarried	12.8	10.1	15.5
<b>Residence</b>			
Urban	14.1	12.0	16.1
Rural	10.7	8.5	12.9
<b>Delivery Payer</b>			
Private Insurance	11.5	9.4	13.6
Medicaid	14.0	11.4	16.5
Self Pay or Other	22.3	12.0	32.7

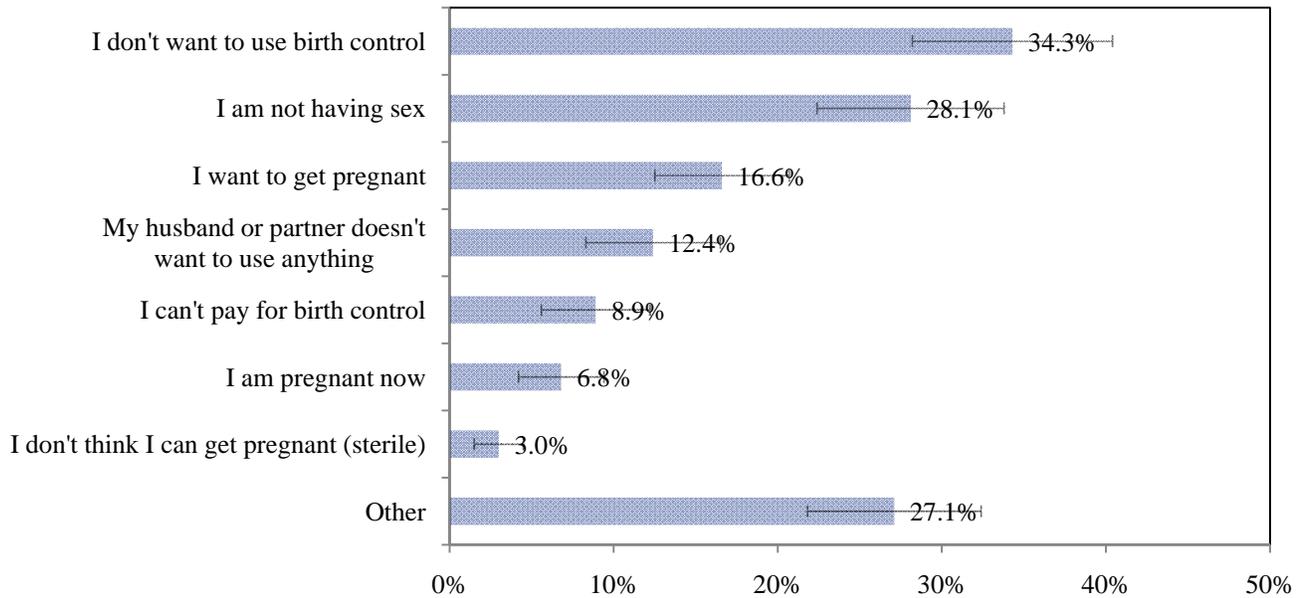
*DEFINITION.* Not using birth control during the postpartum period is defined as response "No" to Question 69: "Are you or your husband or partner doing anything to keep from getting pregnant *now*?"

Postpartum birth control use is important to ensuring an appropriate time span between pregnancies. Short interpregnancy intervals have been associated with low birth weight, preterm birth, delivery of a small for gestational age infant, early neonatal death and congenital malformations.<sup>16-23</sup> In Missouri, 13.2 percent of women reported not using postpartum birth control with higher percentages among women with less than a high school education, Hispanics, women living in urban areas and those whose delivery payer was self or other.

## Reasons for No Postpartum Birth Control Use

Survey Question 70

**Percentage of women who reported the following reasons for not using birth control in the postpartum period**

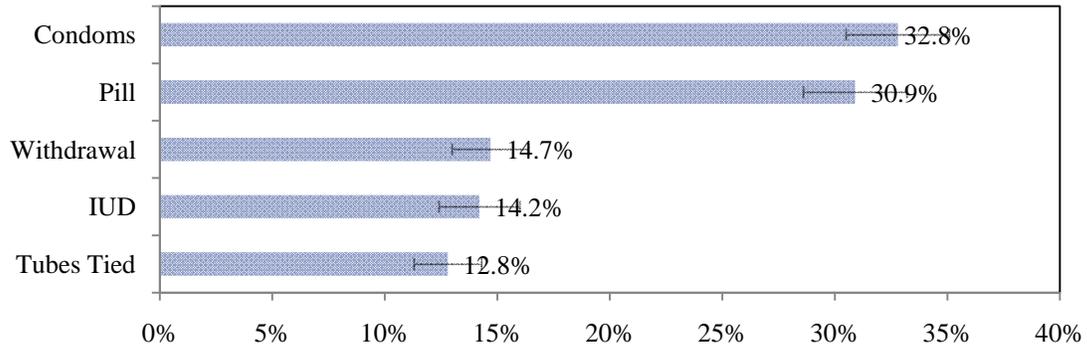


*NOTE.* Women were able to choose more than one response to this question.

## Types of Birth Control Used Postpartum

Survey Question 71

Percentage of women who reported using the following types of birth control in the postpartum period



*NOTE.* Only the five methods with the highest percentages are depicted here.

*NOTE.* Women were able to choose more than one response to this question.



## No Discussion About Postpartum Birth Control With Health Care Provider After Delivery

Survey Question 72

**Percent of women who reported not having a discussion about postpartum birth control with their health care provider after delivery**

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	13.0	11.4	14.5
<b>Age (Years)</b>			
<20	10.6	5.8	15.4
20-29	12.2	10.2	14.2
30+	15.3	12.4	18.3
<b>Education Level</b>			
Less than High School	14.5	10.0	18.9
High School or Higher	12.7	11.0	14.4
<b>Race/Ethnicity</b>			
Non-Hispanic White	13.9	12.2	15.7
Non-Hispanic Black	8.5	4.3	12.7
Hispanic	13.7	3.6	23.8
Other	6.3	0.7	11.9
<b>Marital Status</b>			
Married	13.3	11.4	15.3
Unmarried	12.4	9.8	15.0
<b>Residence</b>			
Urban	12.8	10.9	14.8
Rural	13.3	10.9	15.8
<b>Delivery Payer</b>			
Private Insurance	11.8	9.6	14.0
Medicaid	13.4	11.1	15.7
Self Pay or Other	19.4	9.7	29.1

*DEFINITION.* No discussion about postpartum birth control after delivery is defined as response "No" to Question 72: "After your new baby was born, did a doctor, nurse or other health care worker talk with you about using birth control?"

Thirteen percent of Missouri women reported not having a conversation about postpartum birth control with their health care provider after delivery. The percentages were higher among women aged  $\geq 30$  years, Non-Hispanic Whites and Hispanics and women who indicated self pay or other as their delivery payer.

## Postpartum Checkup

### Survey Question 73

#### Percent of women who reported not having had a postpartum checkup

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	10.9	9.3	12.6
<b>Age (Years)</b>			
<20	14.9	9.1	20.8
20-29	11.3	9.2	13.4
30+	8.8	6.1	11.5
<b>Education Level</b>			
Less than High School	25.9	19.8	32.0
High School or Higher	7.7	6.3	9.0
<b>Race/Ethnicity</b>			
Non-Hispanic White	10.0	8.4	11.7
Non-Hispanic Black	12.1	6.8	17.4
Hispanic	29.9	16.1	43.7
Other	5.8	0.0	12.6
<b>Marital Status</b>			
Married	8.3	6.6	10.1
Unmarried	14.9	11.8	18.0
<b>Residence</b>			
Urban	11.4	9.3	13.5
Rural	9.7	7.6	11.9
<b>Delivery Payer</b>			
Private Insurance	4.9	3.3	6.6
Medicaid	15.8	13.1	18.5
Self Pay or Other	17.5	6.4	28.6

*DEFINITION.* Not having a postpartum checkup is defined as response "No" to Question 73: "Since your new baby was born, have you had a postpartum check up for yourself?"

Postpartum checkups are important to assess the mother post delivery and begin talking about interconception care. Approximately one in ten women (10.9 percent) reported not having a postpartum check up with much higher percentages among women who were aged <30 years, less than high school educated, Hispanic, unmarried, living in rural areas and without private insurance.

## Postpartum Depression Symptoms

Survey Questions 79a & 79b

**Percent of women who reported often or always feeling down, depressed, or hopeless or having little interest or pleasure in doing things**

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	14.0	12.4	15.6
<b>Age (Years)</b>			
<20	15.4	10.9	19.9
20-29	16.7	14.3	19.0
30+	8.4	6.1	10.6
<b>Education Level</b>			
Less than High School	18.8	14.3	23.3
High School or Higher	12.8	11.1	14.5
<b>Race/Ethnicity</b>			
Non-Hispanic White	12.9	11.2	14.5
Non-Hispanic Black	22.0	15.9	28.0
Hispanic	9.3	2.7	15.9
Other	12.9	3.6	22.3
<b>Marital Status</b>			
Married	11.3	9.5	13.2
Unmarried	18.0	15.1	20.9
<b>Residence</b>			
Urban	13.7	11.8	15.7
Rural	14.7	12.2	17.3
<b>Delivery Payer</b>			
Private Insurance	6.7	5.1	8.4
Medicaid	20.8	18.1	23.6
Self Pay or Other	5.1	0.3	9.9

*DEFINITION.* Often or always feeling down, depressed, or hopeless or having little interest or pleasure in doing things is defined as response "Often" or "Always" to either Question 79a: "Since your new baby was born, how often have you felt down, depressed, or hopeless?" or Question 79b: "Since your new baby was born, how often have you had little interest or little pleasure in doing things?"

Postpartum depression (PPD) may affect maternal-infant relationships and infant behaviors.<sup>24-26</sup> Fourteen percent of women in Missouri reported having PPD symptoms with higher prevalences among women who were aged <30 years, less than high school educated, Non-Hispanic Black, unmarried and covered by Medicaid at delivery.

## Help for Postpartum Depression

### Survey Question 80

#### Percent of women who reported seeking help for postpartum depression

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	13.0	11.5	14.6
<b>Age (Years)</b>			
<20	11.6	7.0	16.3
20-29	13.2	11.1	15.2
30+	13.3	10.5	16.1
<b>Education Level</b>			
Less than High School	16.3	11.8	20.8
High School or Higher	12.1	10.5	13.7
<b>Race/Ethnicity</b>			
Non-Hispanic White	13.5	11.8	15.2
Non-Hispanic Black	10.7	6.1	15.4
Hispanic	12.2	1.9	22.5
Other	11.9	1.9	21.8
<b>Marital Status</b>			
Married	12.9	10.9	14.9
Unmarried	13.2	10.7	15.7
<b>Residence</b>			
Urban	12.2	10.3	14.0
Rural	15.5	12.9	18.1
<b>Delivery Payer</b>			
Private Insurance	9.6	7.8	11.5
Medicaid	16.3	13.8	18.8
Self Pay or Other	10.7	1.5	19.9

*DEFINITION.* Seeking help for postpartum depression is defined as response "Yes" to Question 80: "Since your new baby was born, did you seek help for depression from a doctor, nurse, or other health care worker?"

Thirteen percent of women reported seeking help for PPD after their baby was born. Although PPD symptoms were more prevalent among certain groups of women, the percentage who sought help for depression was not necessarily distributed in the same way. For example, Non-Hispanic Black women were more likely to report having PPD symptoms compared to other groups, but this group had the lowest percentage seeking help.

#### **Missouri Mothers Say:**

*"I honestly believe that all mothers should have some type of help after pregnancy because of depression. I needed help and did not know how or where to seek help. I think this is very vital to the well-being of the mother and child."*

## References

1. American Academy of Pediatrics. *Recommendations for Preventive Pediatric Health Care*. 2008.
2. American Academy of Pediatrics. 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 2005;116(5):1245-1255.
3. U.S. Department of Health and Human Services. Healthy People 2020. 2010; <http://www.healthypeople.gov/2020/>. Accessed December 7, 2010.
4. Mesich HM. Mother-infant co-sleeping: understanding the debate and maximizing infant safety. *MCN Am J Matern Child Nurs*. Jan-Feb 2005;30(1):30-37; quiz 38-39.
5. Nakamura S, Wind M, Danello MA. Review of hazards associated with children placed in adult beds. *Arch Pediatr Adolesc Med*. Oct 1999;153(10):1019-1023.
6. Collins KA. Death by overlaying and wedging: a 15-year retrospective study. *Am J Forensic Med Pathol*. Jun 2001;22(2):155-159.
7. Drago DA, Dannenberg AL. Infant mechanical suffocation deaths in the United States, 1980-1997. *Pediatrics*. May 1999;103(5):e59.
8. Kemp JS, Unger B, Wilkins D, et al. Unsafe sleep practices and an analysis of bedsharing among infants dying suddenly and unexpectedly: results of a four-year, population-based, death-scene investigation study of sudden infant death syndrome and related deaths. *Pediatrics*. Sep 2000;106(3):E41.
9. Person TL, Lavezzi WA, Wolf BC. Cosleeping and sudden unexpected death in infancy. *Arch Pathol Lab Med*. Mar 2002;126(3):343-345.
10. Thogmartin JR, Siebert CF, Jr., Pellam WA. Sleep position and bed-sharing in sudden infant deaths: an examination of autopsy findings. *J Pediatr*. Feb 2001;138(2):212-217.
11. Moritsugu KP. The 2006 Report of the Surgeon General: the health consequences of involuntary exposure to tobacco smoke. *Am J Prev Med*. Jun 2007;32(6):542-543.
12. Ip S, Chung M, Raman G, et al. Breastfeeding and maternal and infant health outcomes in developed countries. *Evid Rep Technol Assess (Full Rep)*. Apr 2007(153):1-186.
13. Dewey KG, Heinig MJ, Nommsen LA. Maternal weight-loss patterns during prolonged lactation. *Am J Clin Nutr*. Aug 1993;58(2):162-166.
14. Baby Friendly Hospital Initiative. About the BFHI. <http://www.babyfriendlyusa.org/eng/01.html>. Accessed October 15, 2010.
15. Philipp BL, Merewood A, Miller LW, et al. Baby-friendly hospital initiative improves breastfeeding initiation rates in a US hospital setting. *Pediatrics*. Sep 2001;108(3):677-681.
16. Grisar-Granovsky S, Gordon ES, Haklai Z, Samueloff A, Schimmel MM. Effect of interpregnancy interval on adverse perinatal outcomes--a national study. *Contraception*. Dec 2009;80(6):512-518.
17. Zhu BP. Effect of interpregnancy interval on birth outcomes: findings from three recent US studies. *Int J Gynaecol Obstet*. Apr 2005;89 Suppl 1:S25-33.
18. Adams MM, Delaney KM, Stupp PW, McCarthy BJ, Rawlings JS. The relationship of interpregnancy interval to infant birthweight and length of gestation among low-risk women, Georgia. *Paediatr Perinat Epidemiol*. Jan 1997;11 Suppl 1:48-62.
19. Fuentes-Afflick E, Hessol NA. Interpregnancy interval and the risk of premature infants. *Obstet Gynecol*. Mar 2000;95(3):383-390.

20. Basso O, Olsen J, Knudsen LB, Christensen K. Low birth weight and preterm birth after short interpregnancy intervals. *Am J Obstet Gynecol*. Feb 1998;178(2):259-263.
21. Khoshnood B, Lee KS, Wall S, Hsieh HL, Mittendorf R. Short interpregnancy intervals and the risk of adverse birth outcomes among five racial/ethnic groups in the United States. *Am J Epidemiol*. Oct 15 1998;148(8):798-805.
22. Shults RA, Arndt V, Olshan AF, Martin CF, Royce RA. Effects of short interpregnancy intervals on small-for-gestational age and preterm births. *Epidemiology*. May 1999;10(3):250-254.
23. Klerman LV, Cliver SP, Goldenberg RL. The impact of short interpregnancy intervals on pregnancy outcomes in a low-income population. *Am J Public Health*. Aug 1998;88(8):1182-1185.
24. Kumar R, Robson KM. A prospective study of emotional disorders in childbearing women. *Br J Psychiatry*. Jan 1984;144:35-47.
25. Murray L, Fiori-Cowley A, Hooper R, Cooper P. The impact of postnatal depression and associated adversity on early mother-infant interactions and later infant outcome. *Child Dev*. Oct 1996;67(5):2512-2526.
26. Field T. Maternal depression effects on infants and early interventions. *Prev Med*. Mar-Apr 1998;27(2):200-203.



## **Section 5. Health Care Coverage and WIC Participation**



## Prenatal Health Insurance

### Survey Questions 1 and 2

#### Percent of women with other insurance, Medicaid, or no health insurance before pregnancy

Maternal Characteristics	Other Insurance			Medicaid			No Insurance		
	Percent	95% CI		Percent	95% CI		Percent	95% CI	
<b>Overall</b>	53.8	51.5	56.2	15.4	13.6	17.3	30.7	28.6	32.9
<b>Age (Years)</b>									
<20	21.2	15.3	27.0	43.1	35.7	50.5	35.7	28.8	42.6
20-29	48.6	45.6	51.6	13.5	11.3	15.8	37.8	34.9	40.8
30+	76.9	73.3	80.6	8.0	5.4	10.6	15.0	12.1	18.0
<b>Education Level</b>									
Less than High School	18.7	13.6	23.8	35.9	29.7	42.1	45.4	39.1	51.7
High School or Higher	62.5	60.1	64.9	10.3	8.7	12.0	27.2	25.0	29.4
<b>Race/Ethnicity</b>									
Non-Hispanic White	58.6	56.1	61.1	11.6	9.9	13.2	29.8	27.5	32.2
Non-Hispanic Black	32.3	25.4	39.2	35.0	27.9	42.2	32.6	25.9	39.3
Hispanic	27.0	15.0	39.0	28.0	14.8	41.2	45.0	31.7	58.2
Other	65.5	52.4	78.6	8.5	0.4	16.7	26.0	13.9	38.1
<b>Marital Status</b>									
Married	71.9	69.3	74.5	6.9	5.3	8.4	21.2	18.9	23.6
Unmarried	27.1	23.6	30.5	28.1	24.4	31.9	44.8	40.9	48.7
<b>Residence</b>									
Urban	56.8	53.8	59.7	15.2	12.8	17.5	28.1	25.4	30.7
Rural	45.6	42.1	49.1	16.2	13.6	18.9	38.2	34.7	41.6

\* *DEFINITION* for prenatal health insurance: Women who answered "Yes" to Question 2: "Just before you got pregnant, were you on Medicaid?" were classified as having Medicaid; the rest of women who answered "Yes" to Question 1: "Just before you got pregnant, did you have health insurance? Do not count Medicaid." were classified as having other insurance; then the rest who answered "No" to Question 1 were classified as having no health insurance.

In 2006 the CDC provided recommendations for improving preconception health and health care in the United States.<sup>1</sup> Among the 10 recommendations are preventive visits, interventions for identified risks, interconception care, prenatal checkups and health insurance coverage for women with low incomes. Meeting these recommendations is influenced by a woman's health insurance status, which greatly impacts access to care. Over 30 percent of Missouri women had no health insurance before pregnancy and 15.4 percent reported having Medicaid. Women who were aged <30 years, less than high school educated, Hispanic, unmarried and living in rural areas were more likely to have no insurance before pregnancy, compared to their counterparts.

#### Missouri Mothers Say:

*"I am really struggling with being able to afford medical care. I do have a job and am trying to support my family but I do not make enough to afford private insurance but make barely enough to not get Medicaid."*

## Prenatal Care Health Insurance

### Survey Question 23

#### Percent of women with private insurance, Medicaid, or self-pay/other for prenatal care

Maternal Characteristics	Private Insurance			Medicaid			Self-pay or Other		
	Percent	95% CI		Percent	95% CI		Percent	95% CI	
<b>Overall</b>	47.9	45.6	50.3	49.4	47.0	51.7	2.7	2.0	3.4
<b>Age (Years)</b>									
<20	10.3	5.7	15.0	87.6	82.6	92.6	2.1	0.0	4.1
20-29	42.7	39.7	45.7	54.8	51.7	57.8	2.5	1.7	3.4
30+	72.9	69.0	76.8	23.7	20.0	27.5	3.4	1.9	4.8
<b>Education Level</b>									
Less than High School	12.7	8.1	17.3	84.5	79.8	89.2	2.8	1.4	4.3
High School or Higher	56.0	53.5	58.5	41.2	38.8	43.7	2.7	1.9	3.5
<b>Race/Ethnicity</b>									
Non-Hispanic White	52.2	49.7	54.7	45.0	42.5	47.5	2.8	2.0	3.6
Non-Hispanic Black	25.6	18.9	32.3	72.2	65.3	79.0	2.3	0.1	4.4
Hispanic	24.0	12.0	36.0	71.8	59.6	84.0	4.2	0.4	8.0
Other	72.4	60.0	84.7	27.6	15.3	40.0			
<b>Marital Status</b>									
Married	68.0	65.3	70.7	28.4	25.7	31.0	3.6	2.6	4.6
Unmarried	17.1	14.1	20.1	81.5	78.4	84.6	1.4	0.6	2.2
<b>Residence</b>									
Urban	52.0	49.0	55.0	45.6	42.7	48.6	2.3	1.5	3.2
Rural	36.7	33.3	40.0	59.6	56.1	63.0	3.8	2.4	5.1

\**DEFINITION* for prenatal care payer: Women who checked "Medicaid" were classified as having Medicaid; the rest of women who checked "Health insurance or HMO" were classified as having private insurance; those who only checked either "Personal income" or "Other" were classified as self-pay or other.

*NOTE.* Question 23 allows the respondent to choose multiple answers. Therefore the category "Medicaid" may include Medicaid only or Medicaid plus other payment sources. Similarly the category "Private Insurance" may include private insurance only or private insurance plus self-pay or other.

Lack of health insurance during the prenatal period could adversely impact a woman's ability to seek early prenatal care, quality of care and access to needed services. Although only 15.4 percent of women reported having Medicaid before pregnancy, nearly half of the women (49.4 percent) reported Medicaid as their prenatal care payer. The percentages of having Medicaid for prenatal care were higher among women who were aged <30 years, less than high school educated, Non-Hispanic Black, unmarried and living in rural areas.

#### Missouri Mothers Say:

*"Medicaid is very helpful to pregnant women so they can get appropriate care for themselves and their unborn babies. If it had not been for Medicaid, I would not have received any prenatal care."*

## Delivery Health Insurance

### Survey Question 48

#### Percent of women with private insurance, Medicaid, or self-pay/other for delivery

Maternal Characteristics	Private Insurance			Medicaid			Self-pay or Other		
	Percent	95% CI		Percent	95% CI		Percent	95% CI	
<b>Overall</b>	46.5	44.2	48.8	50.8	48.5	53.1	2.7	2.0	3.4
<b>Age (Years)</b>									
<20	10.7	6.0	15.4	86.2	81.0	91.5	3.1	0.4	5.7
20-29	40.5	37.5	43.4	57.2	54.2	60.2	2.3	1.5	3.1
30+	71.8	67.9	75.7	25.0	21.2	28.8	3.2	1.7	4.7
<b>Education Level</b>									
Less than High School	11.6	7.3	15.9	84.9	80.3	89.4	3.5	1.7	5.4
High School or Higher	54.9	52.4	57.3	42.7	40.2	45.1	2.5	1.7	3.3
<b>Race/Ethnicity</b>									
Non-Hispanic White	50.6	48.1	53.1	46.8	44.3	49.3	2.6	1.8	3.4
Non-Hispanic Black	25.0	18.4	31.7	72.9	66.1	79.7	2.0	0.0	4.1
Hispanic	25.1	12.9	37.4	70.1	57.5	82.7	4.8	0.5	9.0
Other	64.3	51.2	77.4	30.7	18.2	43.1	5.0	0.0	12.2
<b>Marital Status</b>									
Married	67.2	64.5	69.9	29.3	26.6	31.9	3.5	2.4	4.6
Unmarried	15.2	12.4	18.0	83.4	80.5	86.3	1.4	0.6	2.3
<b>Residence</b>									
Urban	50.6	47.6	53.5	47.0	44.0	49.9	2.4	1.6	3.3
Rural	35.1	31.8	38.4	61.5	58.1	64.9	3.4	2.1	4.7

\* *DEFINITION* of delivery payer: Women who checked "Medicaid" were classified as having Medicaid; the rest of women who checked "Health insurance or HMO" were classified as having private insurance; those who only checked either "Personal income" or "Other" were classified as self-pay or other.

*NOTE.* Question 48 allows the respondent to choose multiple answers. Therefore the category "Medicaid" may include Medicaid only or Medicaid plus other payment sources. Similarly the category "Private Insurance" may include private insurance only or private insurance plus self-pay or other.

Most women reported having either private insurance (46.5 percent) or Medicaid (50.8 percent) for delivery with relatively few women indicating self-pay or other (2.7 percent) as their delivery payment source. The socio-demographic distributions were very similar to those described above for prenatal care health insurance.

#### **Missouri Mothers Say:**

*"We would like to have other children but now carry private insurance that does not cover pregnancy. We would like to see hospitals with reasonable 'Private pay' options."*

## WIC Participation

### Survey Question 29

#### Percent of women who participated in WIC during pregnancy

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	46.4	44.1	48.8
<b>Age (Years)</b>			
<20	83.3	77.5	89.2
20-29	50.9	47.9	53.9
30+	23.0	19.3	26.6
<b>Education Level</b>			
Less than High School	76.3	70.7	81.9
High School or Higher	39.4	37.0	41.8
<b>Race/Ethnicity</b>			
Non-Hispanic White	42.7	40.3	45.2
Non-Hispanic Black	66.1	59.0	73.2
Hispanic	62.3	48.3	76.3
Other	29.7	17.6	41.9
<b>Marital Status</b>			
Married	29.3	26.7	31.8
Unmarried	71.8	68.2	75.4
<b>Residence</b>			
Urban	40.8	37.9	43.7
Rural	62.2	58.8	65.5
<b>Prenatal Care Payer</b>			
Private Insurance	12.3	10.1	14.5
Medicaid	81.7	78.9	84.5
Self Pay or Other	22.2	12.5	31.9

*DEFINITION.* WIC Participation during pregnancy is defined as response "Yes" to Question 29: "During your most recent pregnancy, were you on WIC (the special supplemental nutrition program for women, infants, and children)?"

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides supplemental foods, health care referrals, and nutrition education for low-income pregnant women, postpartum women and to infants and children up to their fifth birthday.<sup>2</sup> Almost half of Missouri women (46.4 percent) reported WIC participation during pregnancy with substantial differences based on socio-demographic factors. Women who were aged <20 years, less than high school educated, Non-Hispanic Black or Hispanic, unmarried, living in rural areas and covered by Medicaid were more likely to participate in WIC than their counterparts.

#### **Missouri Mothers Say:**

*"WIC is also a helpful program for mothers and babies. They have helped me with breastfeeding both of my babies."*

## References

1. Centers for Disease Control and Prevention. Recommendations to Improve Preconception Health and Health Care --- United States Vol 55:1-23.
2. USDA Food and Nutrition Service. WIC At A Glance. 2010; <http://www.commodityfood.usda.gov/wic/aboutwic/wicataglace.htm>. Accessed October 14, 2010.



## **Section 6. Select Maternal Risk Factors**



## Smoking During the Three Months Before Pregnancy

Survey Question 34

**Percent of women who reported smoking in the three months before pregnancy**

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	33.2	31.0	35.5
<b>Age (Years)</b>			
<20	39.4	32.0	46.7
20-29	37.7	34.7	40.7
30+	22.4	18.8	26.0
<b>Education Level</b>			
Less than High School	52.8	46.4	59.3
High School or Higher	28.9	26.6	31.1
<b>Race/Ethnicity</b>			
Non-Hispanic White	36.1	33.7	38.6
Non-Hispanic Black	23.0	16.6	29.4
Hispanic	21.2	10.4	31.9
Other	15.3	6.8	23.7
<b>Marital Status</b>			
Married	23.3	20.9	25.8
Unmarried	48.2	44.2	52.2
<b>Residence</b>			
Urban	31.4	28.6	34.2
Rural	38.3	34.8	41.7
<b>Prepregnancy Health Insurance Status</b>			
Private Insurance	23.1	20.4	25.8
Medicaid	42.4	35.7	49.1
No Insurance	46.8	42.5	51.0

*DEFINITION.* Smoking during the three months before pregnancy is defined as response of smoking less than one cigarette or more per day to Question 34: "In the 3 months before you got pregnant, how many cigarettes did you smoke on an average day?"

Smoking before pregnancy is associated with delayed conception, infertility, ectopic pregnancy and spontaneous abortion.<sup>1</sup> Reducing the proportion of women who smoke before pregnancy to 14.6 percent is a Healthy People 2020 objective.<sup>3</sup> One-third of Missouri women (33.2 percent) reported smoking in the three months before pregnancy, far from the HP 2020 objective. Higher percentages of women smoked before pregnancy among those who were aged <30 years, less than high school educated, Non-Hispanic White, unmarried, living in rural areas and without private insurance.

## Smoking During the Last Three Months of Pregnancy

Survey Question 35

### Percent of women who reported smoking in the last three months of pregnancy

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	20.1	18.2	22.0
<b>Age (Years)</b>			
<20	25.0	18.4	31.5
20-29	21.9	19.3	24.4
30+	14.8	11.7	17.9
<b>Education Level</b>			
Less than High School	40.4	34.1	46.7
High School or Higher	15.4	13.6	17.2
<b>Race/Ethnicity</b>			
Non-Hispanic White	22.0	19.9	24.2
Non-Hispanic Black	13.4	8.0	18.7
Hispanic	11.2	3.5	19.0
Other	8.6	2.5	14.6
<b>Marital Status</b>			
Married	12.4	10.4	14.3
Unmarried	31.6	27.9	35.3
<b>Residence</b>			
Urban	18.2	15.9	20.6
Rural	25.2	22.1	28.3
<b>Prenatal Care Payer</b>			
Private Insurance	7.9	6.1	9.7
Medicaid	31.7	28.4	34.9
Self Pay or Other	16.1	6.3	26.0

*DEFINITION.* Smoking during the last three months of pregnancy is defined as response of smoking less than one cigarette or more per day to Question 35: "In the *last 3 months* of your pregnancy, how many cigarettes did you smoke on an average day?"

Maternal smoking during pregnancy is associated with placental problems, preterm birth, perinatal mortality, low birth weight, Sudden Infant Death Syndrome (SIDS) and delivery of a small for gestational age infant.<sup>1,2</sup> Decreasing the proportion of women who smoke during pregnancy is a HP 2020 objective with a target of 1.4 percent.<sup>3</sup> Missouri is far from reaching the HP 2020 objective with 20.1 percent of women smoking during the last three months of pregnancy. Maternal smoking decreased approximately 13 percent between prepregnancy and the last three months of pregnancy. The prevalence rates of smoking were higher among women who were aged <30 years, less than high school educated, Non-Hispanic White, unmarried and living in rural areas. A much higher percentage of women with Medicaid reported smoking during the last three months of pregnancy compared to women with private insurance, self pay or other as their prenatal care payer.

## Smoking During the Postpartum Period

Survey Question 36

### Percent of women who reported smoking during the postpartum period

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	26.7	24.6	28.8
<b>Age (Years)</b>			
<20	33.9	26.8	41.0
20-29	30.4	27.5	33.2
30+	16.9	13.6	20.2
<b>Education Level</b>			
Less than High School	47.2	40.8	53.6
High School or Higher	22.0	19.9	24.0
<b>Race/Ethnicity</b>			
Non-Hispanic White	29.0	26.7	31.4
Non-Hispanic Black	18.8	12.8	24.8
Hispanic	17.1	7.6	26.5
Other	11.0	4.1	18.0
<b>Marital Status</b>			
Married	17.3	15.1	19.5
Unmarried	40.8	36.9	44.8
<b>Residence</b>			
Urban	24.6	22.0	27.2
Rural	32.4	29.0	35.7
<b>Delivery Payer</b>			
Private Insurance	12.3	10.1	14.5
Medicaid	40.8	37.4	44.3
Self Pay or Other	11.1	2.5	19.8

*DEFINITION.* Smoking during the postpartum period is defined as response of smoking less than one cigarette or more per day to Question 36: "How many cigarettes do you smoke on an average day *now*?"

The percentage of women who reported smoking in the postpartum period was slightly higher than during the prenatal period but not as high as prepregnancy. The distribution of socio-demographic variables was similar to those described for smoking in the three months before pregnancy and in the last three months of pregnancy.

#### **Missouri Mothers Say:**

*"I would like for you to really urge mothers not to smoke unless they would like to see their child fighting for life...Because deep down in my heart, I know it was because of my smoking that my son was born premature."*

## Husband or Partner Smoking in the House

### Survey Question 37

#### Percent of women who reported that their husband or partner smokes inside the house

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	9.4	7.9	10.9
<b>Age (Years)</b>			
<20	14.1	8.5	19.8
20-29	10.7	8.7	12.8
30+	5.0	3.0	7.0
<b>Education Level</b>			
Less than High School	19.7	14.5	25.0
High School or Higher	6.9	5.6	8.2
<b>Race/Ethnicity</b>			
Non-Hispanic White	8.6	7.1	10.1
Non-Hispanic Black	15.5	9.9	21.2
Hispanic	7.2	0.0	15.9
Other	4.7	0.0	11.6
<b>Marital Status</b>			
Married	6.0	4.5	7.5
Unmarried	14.5	11.6	17.5
<b>Residence</b>			
Urban	9.4	7.6	11.3
Rural	9.3	7.3	11.4
<b>Prepregnancy Health Insurance Status</b>			
Private Insurance	4.1	2.8	5.3
Medicaid	20.4	14.5	26.2
No Insurance	13.5	10.5	16.5
<b>Prenatal Care Payer</b>			
Private Insurance	3.3	2.0	4.6
Medicaid	15.3	12.6	18.0
Self Pay or Other	6.7	0.7	12.7
<b>Delivery Payer</b>			
Private Insurance	2.7	1.6	3.7
Medicaid	15.6	12.9	18.3
Self Pay or Other	4.4	0.0	8.9

*DEFINITION.* Husband or partner smoking in the house is defined as response "Yes" to Question 37: "Does your husband or partner smoke inside your house?"

Secondhand smoke during pregnancy is potentially just as harmful to the developing fetus as the woman herself smoking.<sup>4</sup> Nearly 10 percent (9.4 percent) of women reported having a husband or partner who smokes in the house with higher proportions among those who were aged <30 years, less than high school educated, Non-Hispanic Black, unmarried and covered by Medicaid.

## Alcohol Use During the Three Months Before Pregnancy

Survey Questions 39a & 39b

**Percent of women who reported drinking alcohol in the  
three months before pregnancy**

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	59.3	57.0	61.6
<b>Age (Years)</b>			
<20	38.9	31.6	46.2
20-29	62.8	59.9	65.7
30+	60.8	56.7	64.9
<b>Education Level</b>			
Less than High School	52.1	45.6	58.5
High School or Higher	60.9	58.5	63.3
<b>Race/Ethnicity</b>			
Non-Hispanic White	63.1	60.7	65.5
Non-Hispanic Black	46.4	38.9	53.9
Hispanic	42.4	28.6	56.1
Other	36.6	23.6	49.6
<b>Marital Status</b>			
Married	58.6	55.8	61.5
Unmarried	60.3	56.4	64.3
<b>Residence</b>			
Urban	61.0	58.1	63.8
Rural	54.7	51.2	58.2
<b>Prepregnancy Health Insurance Status</b>			
Private Insurance	64.3	61.4	67.2
Medicaid	43.8	37.1	50.6
No Insurance	57.9	53.7	62.1

*DEFINITION.* Alcohol use in the three months before pregnancy is defined based on Questions 39a and 39b:  
 - response of less than one drink or one drink or more a week to Question 39a: "During the 3 months before you got pregnant, how many alcoholic drinks did you have in an average week?"  
 - or response "I didn't have 5 drinks or more in 1 sitting" or response of one time or more to Question 39b: "During the 3 months before you got pregnant, how many times did you drink 5 alcoholic drinks or more in one sitting?"

Alcohol use before pregnancy is particularly important because many fetal developmental milestones occur even before the woman is aware of the pregnancy. Reducing the percentage of women who drink alcohol before pregnancy to 43.6 percent is a HP 2020 objective.<sup>3</sup> More than half (59.3 percent) of Missouri women reported drinking in the three months before pregnancy with higher proportions among women who were aged  $\geq 20$  years, at least high school educated, Non-Hispanic White, living in urban areas and covered by private insurance or without insurance before pregnancy.

## Alcohol Use During the Last Three Months of Pregnancy

Survey Questions 40a & 40b

### Percent of women who reported drinking alcohol in the last three months of pregnancy

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	5.8	4.6	6.9
<b>Age (Years)</b>			
<20	2.4	0.4	4.4
20-29	5.6	4.1	7.1
30+	7.3	5.1	9.6
<b>Education Level</b>			
Less than High School	5.1	1.9	8.2
High School or Higher	5.8	4.6	7.1
<b>Race/Ethnicity</b>			
Non-Hispanic White	6.1	4.8	7.4
Non-Hispanic Black	5.6	1.9	9.3
Hispanic	1.7	0.0	3.7
Other	2.4	0.0	6.9
<b>Marital Status</b>			
Married	6.3	4.8	7.8
Unmarried	4.9	3.1	6.7
<b>Residence</b>			
Urban	6.7	5.2	8.2
Rural	3.0	1.8	4.2
<b>Prenatal Care Payer</b>			
Private Insurance	7.2	5.4	9.0
Medicaid	3.8	2.4	5.1
Self Pay or Other	11.3	2.9	19.7

*DEFINITION.* Alcohol use in the last three months of pregnancy is defined based on Questions 40a and 40b:

- response of less than one drink or one drink or more a week to Question 40a: "During the *last 3 months* of your pregnancy, how many alcoholic drinks did you have in an average week?"
- or response "I didn't have 5 drinks or more in 1 sitting" or response of one time or more to Question 40b: "During the *last 3 months* of your pregnancy, how many times did you drink 5 alcoholic drinks or more in one sitting?"

Alcohol use during pregnancy is associated with miscarriage, stillbirth and preterm delivery.<sup>5,6</sup> Another serious implication of alcohol use during pregnancy is the potential for fetal alcohol spectrum disorders, which last a lifetime and may cause physical and cognitive difficulties.<sup>5</sup> Decreasing the proportion of women who consume alcohol during pregnancy is a HP 2020 objective with a target of 1.7 percent.<sup>3</sup> Missouri does not meet this objective with the percent of women who used alcohol in the last three months of pregnancy at 5.8 percent. Women who were aged  $\geq 20$  years, Non-Hispanic White or Black, married, living in urban areas and covered by private insurance were more likely to consume alcohol in the last three months of pregnancy.

## Physical Abuse Before Pregnancy

Survey Questions 42a & 42b

### Percent of women who reported physical abuse before pregnancy

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	7.2	5.9	8.4
<b>Age (Years)</b>			
<20	6.0	2.2	9.8
20-29	8.9	7.1	10.7
30+	4.3	2.5	6.1
<b>Education Level</b>			
Less than High School	10.6	6.6	14.7
High School or Higher	6.0	4.8	7.2
<b>Race/Ethnicity</b>			
Non-Hispanic White	7.1	5.7	8.5
Non-Hispanic Black	8.6	4.7	12.6
Hispanic	4.5	0.3	8.7
Other	5.9	0.2	11.6
<b>Marital Status</b>			
Married	4.0	2.8	5.2
Unmarried	11.9	9.4	14.5
<b>Residence</b>			
Urban	6.7	5.2	8.3
Rural	8.4	6.3	10.4
<b>Prepregnancy Health Insurance Status</b>			
Private Insurance	3.8	2.5	5.1
Medicaid	13.0	8.7	17.2
No Insurance	10.2	7.6	12.9

*DEFINITION.* Physical abuse before pregnancy is defined as response "Yes" to either question 42a or 42b.

Question 42a: "During the 12 months before you got pregnant, did an ex-husband or ex-partner push, hit, slap, kick, choke or physically hurt you in any other way?"

Question 42b: "During the 12 months before you got pregnant, were you physically hurt in any way by your husband or partner?"

Physical abuse before pregnancy is associated with a range of negative pregnancy outcomes including hypertension, vaginal bleeding, severe nausea/vomiting/dehydration, infections, preterm birth and delivery of a low birth weight infant, among others.<sup>7</sup> Approximately 7 percent of women in Missouri reported physical abuse in the three months before pregnancy with higher percentages among women who were aged 20-29 years, less than high school educated, Non-Hispanic Black or White, unmarried, living in rural areas and without private insurance.

## Physical Abuse During Pregnancy

Survey Questions 43a & 43b

### Percent of women who reported physical abuse during pregnancy

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	4.8	3.7	5.9
<b>Age (Years)</b>			
<20	7.9	3.4	12.4
20-29	5.7	4.2	7.1
30+	2.0	0.7	3.2
<b>Education Level</b>			
Less than High School	8.5	4.8	12.1
High School or Higher	3.8	2.8	4.7
<b>Race/Ethnicity</b>			
Non-Hispanic White	4.3	3.3	5.4
Non-Hispanic Black	9.1	4.7	13.6
Hispanic	-	-	-
Other	2.8	0.0	5.7
<b>Marital Status</b>			
Married	2.4	1.4	3.4
Unmarried	8.4	6.3	10.6
<b>Residence</b>			
Urban	4.4	3.1	5.7
Rural	6.0	4.3	7.8
<b>Prenatal Care Payer</b>			
Private Insurance	1.1	0.5	1.7
Medicaid	8.6	6.5	10.6
Self Pay or Other	3.5	0.0	8.5

*DEFINITION.* Physical abuse during pregnancy is defined as response "Yes" to either question 43a or 43b asking about physical abuse by an ex-husband/partner or husband/partner during pregnancy.

*NOTE.* "-" not reported for unweighted sample size of denominator less than 42.

Physical abuse during pregnancy has serious consequences including increased risk for fetal and maternal morbidity and mortality.<sup>8</sup> Potential mechanisms include physical trauma, stress, neglect, high-risk behaviors and inadequate prenatal care.<sup>9</sup> A slightly lower percentage of women reported abuse during pregnancy (4.8 percent) compared to the three months before pregnancy (7.2 percent). The prevalence rates of physical abuse during pregnancy were higher among women who were aged <20 years, less than high school educated, Non-Hispanic Black, unmarried, living in rural areas and covered by Medicaid for prenatal care.

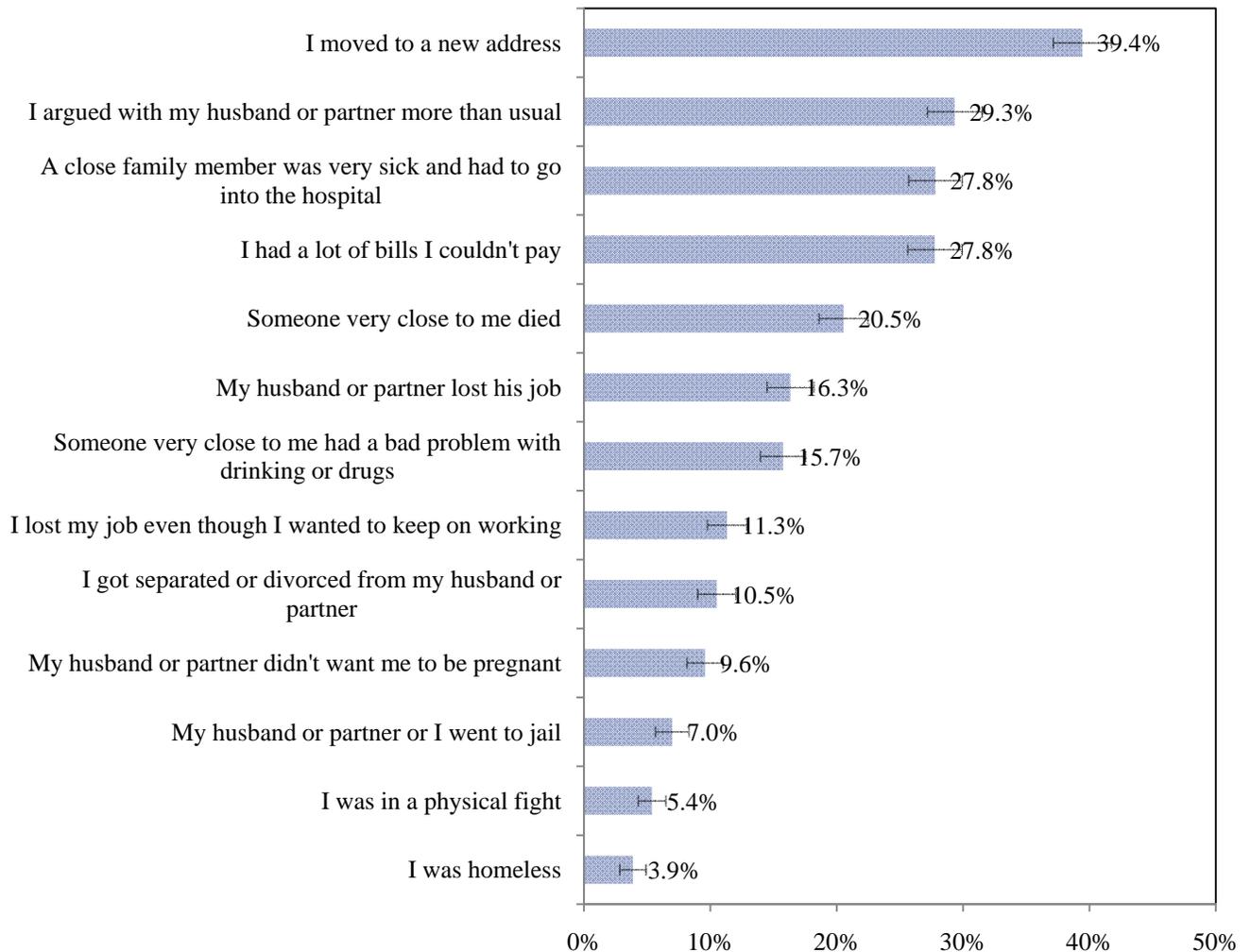
### Missouri Mothers Say:

*"Violence was a big part of my pregnancy....Violence and pregnancy do not go well together. That is why I am going to go through this one alone."*

## Maternal Stressors Before and During Pregnancy

### Survey Question 41

#### Percent of women who reported experiencing one of the following events in the 12 months before delivery



Stress has detrimental effects for the mother and the fetus during pregnancy including increased risk for preterm birth, low birth weight and postpartum depression.<sup>10-13</sup> Large percentages of women experienced at least one of the life events listed above with over 25 percent who had a close family member who was very sick, moved to a new address, argued with their husband/partner more than usual or had a lot of bills they couldn't pay.

#### Missouri Mothers Say:

*"Mental health is very important for pregnant women, also financial help and stability. Women who are pregnant lose their job and have trouble getting new jobs because they are pregnant. There should be more support groups."*

## References

1. Centers for Disease Control and Prevention. Women and Smoking: A Report of the Surgeon General *MMWR*. 2002;51(RR-12):1-30.
2. Brooke H, Gibson A, Tappin D, Brown H. Case-control study of sudden infant death syndrome in Scotland, 1992-5. *BMJ*. May 24 1997;314(7093):1516-1520.
3. U.S. Department of Health and Human Services. Healthy People 2020. 2010; <http://www.healthypeople.gov/2020/>. Accessed December 7, 2010.
4. Grant SG. Qualitatively and quantitatively similar effects of active and passive maternal tobacco smoke exposure on in utero mutagenesis at the HPRT locus. *BMC Pediatr*. 2005;5:20.
5. Centers for Disease Control and Prevention. Alcohol Use in Pregnancy. 2010; <http://www.cdc.gov/ncbddd/fasd/alcohol-use.html>. Accessed October 10, 2010.
6. Lundsberg LS, Bracken MB, Saftlas AF. Low-to-moderate gestational alcohol use and intrauterine growth retardation, low birthweight, and preterm delivery. *Ann Epidemiol*. Oct 1997;7(7):498-508.
7. Silverman JG, Decker MR, Reed E, Raj A. Intimate partner violence victimization prior to and during pregnancy among women residing in 26 U.S. states: associations with maternal and neonatal health. *Am J Obstet Gynecol*. Jul 2006;195(1):140-148.
8. Boy A, Salihu HM. Intimate partner violence and birth outcomes: a systematic review. *Int J Fertil Womens Med*. Jul-Aug 2004;49(4):159-164.
9. Shah PS, Shah J. Maternal Exposure to Domestic Violence and Pregnancy and Birth Outcomes: A Systematic Review and Meta-Analyses. *J Womens Health (Larchmt)*. Oct 4 2010.
10. American College of Obstetrics and Gynecology. ACOG Committee Opinion No. 343: psychosocial risk factors: perinatal screening and intervention. *Obstet Gynecol*. Aug 2006;108(2):469-477.
11. Wadhwa PD, Sandman CA, Porto M, Dunkel-Schetter C, Garite TJ. The association between prenatal stress and infant birth weight and gestational age at birth: a prospective investigation. *Am J Obstet Gynecol*. Oct 1993;169(4):858-865.
12. Zhu P, Tao F, Hao J, Sun Y, Jiang X. Prenatal life events stress: implications for preterm birth and infant birthweight. *Am J Obstet Gynecol*. Jul 2010;203(1):34 e31-38.
13. Copper RL, Goldenberg RL, Das A, et al. The preterm prediction study: maternal stress is associated with spontaneous preterm birth at less than thirty-five weeks' gestation. National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. *Am J Obstet Gynecol*. Nov 1996;175(5):1286-1292.

## Section 7. Oral Health



## Dental Problem During Pregnancy

### Survey Question 81a

#### Percent of women who reported needing to see a dentist during pregnancy

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	29.5	27.3	31.7
<b>Age (Years)</b>			
<20	24.5	18.1	31.0
20-29	32.8	29.9	35.7
30+	25.1	21.4	28.9
<b>Education Level</b>			
Less than High School	38.9	32.6	45.2
High School or Higher	27.5	25.3	29.8
<b>Race/Ethnicity</b>			
Non-Hispanic White	28.9	26.6	31.2
Non-Hispanic Black	35.9	28.6	43.3
Hispanic	20.0	9.5	30.5
Other	29.5	16.7	42.3
<b>Marital Status</b>			
Married	24.7	22.2	27.2
Unmarried	36.7	32.9	40.5
<b>Residence</b>			
Urban	28.2	25.5	30.9
Rural	33.2	29.8	36.5
<b>Prenatal Care Payer</b>			
Private Insurance	19.4	16.7	22.1
Medicaid	38.5	35.1	42.0
Self Pay or Other	21.4	10.6	32.2

*DEFINITION.* Having a dental problem is defined as response "Yes" to Question 81: "This question is about the care of your teeth during your most recent pregnancy:" part a. "I needed to see a dentist for a problem."

Periodontal disease is the most prevalent oral condition associated with pregnancy. An estimated 60-75 percent of pregnant women have gingivitis.<sup>1</sup> Nearly one-third of Missouri women (29.5 percent) had a dental problem during pregnancy. The percentage with a dental problem was slightly higher among women who were less than high school educated, Non-Hispanic Black and unmarried. A much higher proportion of women with Medicaid had a dental problem during pregnancy compared to women with private insurance, self-pay or other as their prenatal payer.

#### **Missouri Mothers Say:**

*"Getting in to see a dentist while I was pregnant was impossible. No one would return my calls. I am still unable to see a dentist. Some dental work has to wait until after you have the baby and in my opinion Medicaid doesn't cover you long enough after having the baby."*

## Dental Visit During Pregnancy

### Survey Question 81b

#### Percent of women who reported not receiving dental care during pregnancy

Maternal Characteristics	Percent	95% CI	
<b>Overall</b>	63.9	61.7	66.2
<b>Age (Years)</b>			
<20	79.3	73.3	85.3
20-29	66.9	64.0	69.7
30+	52.4	48.2	56.6
<b>Education Level</b>			
Less than High School	74.7	68.9	80.5
High School or Higher	61.3	58.9	63.8
<b>Race/Ethnicity</b>			
Non-Hispanic White	61.1	58.7	63.6
Non-Hispanic Black	75.7	69.3	82.0
Hispanic	79.1	67.8	90.4
Other	65.5	53.0	78.0
<b>Marital Status</b>			
Married	57.7	54.9	60.6
Unmarried	73.3	69.8	76.8
<b>Residence</b>			
Urban	61.9	59.0	64.7
Rural	69.7	66.4	72.9
<b>Prenatal Care Payer</b>			
Private Insurance	50.5	47.2	53.8
Medicaid	75.6	72.6	78.6
Self Pay or Other	78.1	67.5	88.7

*DEFINITION.* Not receiving dental care is defined as response to "No" to Question 81: "This question is about the care of your teeth during your most recent pregnancy:" part b. "I went to a dentist or dental clinic."

The American Academy of Periodontology recommends preventive dental care, periodontal examination and needed treatment be provided during pregnancy.<sup>2</sup> Nearly two-thirds of Missouri women (63.9 percent) reported not receiving dental care during pregnancy. A higher percentage of women with less than a high school education reported dental problems during pregnancy, but a higher percentage of women in this group also reported not receiving dental care. The same pattern exists for race/ethnicity, marital status, residence and prenatal care payer.

#### **Missouri Mothers Say:**

*"Getting in to see a dentist while I was pregnant was impossible. No one would return my calls. I am still unable to see a dentist. Some dental work has to wait until after you have the baby and in my opinion Medicaid doesn't cover you long enough after having the baby."*

## References

1. American Dental Association. *Women's Oral Health Issues*. 2006.
2. American Academy of Periodontology. American Academy of Periodontology statement regarding periodontal management of the pregnant patient. *J Periodontol*. Mar 2004;75(3):495.



## **Appendix. PRAMS Phase V Questionnaire**





The next questions are about the time when you got pregnant with your *new* baby.

**11. Thinking back to *just before* you got pregnant with your *new* baby, 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

If you wanted to be pregnant later, answer Question 12. Otherwise, go to Question 13.

**12. How much later did you want to become pregnant?**

- Less than 1 year
- 1 year to less than 2 years
- 2 years to less than 3 years
- 3 years to less than 4 years
- 4 years or more

**13. When you got pregnant with your new baby, were you trying to get pregnant?**

- No
- Yes → Go to Question 17

**14. When you got pregnant with your new baby, were you or your husband or partner doing anything to keep from getting pregnant?** (Some things people do to keep from getting pregnant include not having sex at certain times [rhythm] or withdrawal, and using birth control methods such as the pill, condoms, cervical ring, IUD, having their tubes tied or their partner having a vasectomy.)

- No
- Yes → Go to Question 16

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

Check all that apply

- 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 → Please tell us:

If you or your husband or partner was not doing anything to keep from getting pregnant, go to Question 18.

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

Check **all** that apply

- Tubes tied or closed (female sterilization)
- Vasectomy (male sterilization)
- Pill
- Condoms
- Shot once a month (Lunelle®)
- Shot once every 3 months (Depo-Provera®)
- Contraceptive patch (OrthoEvra®)
- Diaphragm, cervical cap, or sponge
- Cervical ring (NuvaRing® or others)
- IUD (including Mirena®)
- Rhythm method or natural family planning
- Withdrawal (pulling out)
- Not having sex (abstinence)
- Other \_\_\_\_\_ → Please tell us:

**If you were not trying to get pregnant when you got pregnant with your new baby, go to Question 18.**

**17. Did you receive treatment from a doctor, nurse, or other health care worker to help you get pregnant with your new baby?**

(This may include infertility treatments such as fertility-enhancing drugs or assisted reproductive technology.)

- No
- Yes

**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. (It may help to look at the calendar when you answer these questions.)**

**18. How many weeks or months pregnant were you when you were *sure* you were pregnant?** (For example, you had a pregnancy test or a doctor or nurse said you were pregnant.)

\_\_\_\_\_ Weeks **OR** \_\_\_\_\_ Months

- I don't remember

**19. How many weeks or months pregnant were you when you had your first visit for prenatal care?** Do not count a visit that was only for a pregnancy test or only for WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children).

\_\_\_\_\_ Weeks **OR** \_\_\_\_\_ Months

- I didn't go for prenatal care

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

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

**Go to Page 4, Question 22**

**21. Here is a list of problems some women can have getting prenatal care.** For each item, circle **Y** (Yes) if it was a problem for you during your most recent pregnancy or circle **N** (No) if it was not a problem or did not apply to you.

- |   | No | Yes |
|---|----|-----|
| a. I couldn't get an appointment when I wanted one . . . . .                    | N  | Y   |
| b. I didn't have enough money or insurance to pay for my visits . . . . .       | N  | Y   |
| c. I had no way to get to the clinic or doctor's office . . . . .               | N  | Y   |
| d. I couldn't take time off from work . . .                                     | N  | Y   |
| e. The doctor or my health plan would not start care as early as I wanted . . . | N  | Y   |
| f. I didn't have my Medicaid card . . . . .                                     | N  | Y   |
| g. I had no one to take care of my children . . . . .                           | N  | Y   |
| h. I had too many other things going on . . . . .                               | N  | Y   |
| i. I didn't want anyone to know I was pregnant . . . . .                        | N  | Y   |
| j. Other . . . . .  | N  | Y   |
- Please tell us:
- 

**If you did not go for prenatal care, go to Question 27.**

**22. 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 Clinic
- Other —————> Please tell us:

**23. How was your prenatal care paid for?**

**Check all that apply**

- Medicaid
- Personal income (cash, check, or credit card)
- Health insurance or HMO (including insurance from your work or your husband's work)
- I still owe
- Other —————> Please tell us:

**24. 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?** Please count only discussions, not reading materials or videos. For each item, circle **Y** (Yes) if someone talked with you about it or circle **N** (No) if no one talked with you about it.

- |  | No | Yes |
|--|----|-----|
| a. How smoking during pregnancy could affect my baby . . . . .                       | N  | Y   |
| b. Breastfeeding my baby . . . . .   | N  | Y   |
| c. How drinking alcohol during pregnancy could affect my baby . . . . .              | N  | Y   |
| d. Using a seat belt during my pregnancy . . . . .                                   | N  | Y   |
| e. Birth control methods to use after my pregnancy . . . . .                         | N  | Y   |
| f. Medicines that are safe to take during my pregnancy . . . . .                     | N  | Y   |
| g. How using illegal drugs could affect my baby . . . . .                            | N  | Y   |
| h. Doing tests to screen for birth defects or diseases that run in my family . . . . | N  | Y   |
| i. What to do if my labor starts early . . .   | N  | Y   |
| j. Getting tested for HIV (the virus that causes AIDS) . . . . .                     | N  | Y   |
| k. Physical abuse to women by their husbands or partners . . . . .                   | N  | Y   |

**25. We would like to know how you felt about the prenatal care you got during your most recent pregnancy.** If you went to more than one place for prenatal care, answer for the place where you got most of your care. For each item, circle **Y** (Yes) if you were satisfied or circle **N** (No) if you were not satisfied.

**Were you satisfied with:**

- |   | No | Yes |
|---|----|-----|
| a. The amount of time you had to wait after you arrived for your visits . . . . .       | N  | Y   |
| b. The amount of time the doctor or nurse spent with you during your visits . . . . .   | N  | Y   |
| c. The advice you got on how to take care of yourself . . . . .                         | N  | Y   |
| d. The understanding and respect that the staff showed toward you as a person . . . . . | N  | Y   |

**26. During any of your prenatal care visits, did a doctor, nurse, or other health care worker talk with you about how much weight you should gain during your pregnancy?**

- No  
 Yes

**27. At any time during your most recent pregnancy or delivery, did you have a test for HIV (the virus that causes AIDS)?**

- No  
 Yes  
 I don't know

**28. Have you ever heard or read that taking the vitamin folic acid can help prevent some birth defects?**

- No  
 Yes

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

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

- No → Go to Page 6, Question 31  
 Yes

**30. When you went for WIC visits during your most recent pregnancy, did you receive information on breastfeeding?**

- No  
 Yes

**31. Did you have any of these problems during your most recent pregnancy?** For each item, circle **Y** (Yes) if you had the problem or circle **N** (No) if you did not.

	No	Yes
a. High blood sugar (diabetes) that started <i>before</i> this pregnancy . . . . .	N	Y
b. High blood sugar (diabetes) that started <i>during</i> this pregnancy . . . . .	N	Y
c. Vaginal bleeding . . . . .	N	Y
d. Kidney or bladder (urinary tract) infection . . . . .	N	Y
e. Severe nausea, vomiting, or dehydration . . . . .	N	Y
f. Cervix had to be sewn shut (incompetent cervix) . . . . .	N	Y
g. High blood pressure, hypertension (including pregnancy-induced hypertension [PIH]), preeclampsia, or toxemia . . . . .	N	Y
h. Problems with the placenta (such as abruptio placentae or placenta previa) . . . . .	N	Y
i. Labor pains more than 3 weeks before my baby was due (preterm or early labor) . . . . .	N	Y
j. Water broke more than 3 weeks before my baby was due (premature rupture of membranes [PROM]) . . . . .	N	Y
k. I had to have a blood transfusion . . . . .	N	Y
l. I was hurt in a car accident . . . . .	N	Y

**If you did not have any of these problems, go to Question 33.**

**32. Did you do any of the following things because of these problems?** For each item, circle **Y** (Yes) if you did that thing or circle **N** (No) if you did not.

	No	Yes
a. I went to the hospital or emergency room and stayed less than 1 day . . . . .	N	Y
b. I went to the hospital and stayed 1 to 7 days . . . . .	N	Y
c. I went to the hospital and stayed more than 7 days . . . . .	N	Y
d. I stayed in bed at home more than 2 days because of my doctor's or nurse's advice . . . . .	N	Y

**The next questions are about smoking cigarettes and drinking alcohol.**

**33. Have you smoked at least 100 cigarettes in the *past 2 years*?** (A pack has 20 cigarettes.)

- No → Go to Question 37  
 Yes

**34. In the *3 months before* you got pregnant, how many cigarettes did you smoke on an average day?** (A pack has 20 cigarettes.)

- 41 cigarettes or more  
 21 to 40 cigarettes  
 11 to 20 cigarettes  
 6 to 10 cigarettes  
 1 to 5 cigarettes  
 Less than 1 cigarette  
 None (0 cigarettes)

**35. In the last 3 months of your pregnancy, how many cigarettes did you smoke on an average day?** (A pack has 20 cigarettes.)

- 41 cigarettes or more
- 21 to 40 cigarettes
- 11 to 20 cigarettes
- 6 to 10 cigarettes
- 1 to 5 cigarettes
- Less than 1 cigarette
- None (0 cigarettes)

**36. How many cigarettes do you smoke on an average day now?** (A pack has 20 cigarettes.)

- 41 cigarettes or more
- 21 to 40 cigarettes
- 11 to 20 cigarettes
- 6 to 10 cigarettes
- 1 to 5 cigarettes
- Less than 1 cigarette
- None (0 cigarettes)

**37. Does your husband or partner smoke inside your house?**

- No
- Yes

**38. 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 Page 8, Question 41
- Yes

**39a. During the 3 months before you got pregnant, how many alcoholic drinks did you have in an average week?**

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

**39b. During the 3 months before you got pregnant, how many times did you drink 5 alcoholic drinks or more in one sitting?**

- 6 or more times
- 4 to 5 times
- 2 to 3 times
- 1 time
- I didn't have 5 drinks or more in 1 sitting
- I didn't drink then

**40a. During the last 3 months of your pregnancy, how many alcoholic drinks did you have in an average week?**

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

**40b. During the last 3 months of your pregnancy, how many times did you drink 5 alcoholic drinks or more in one sitting?**

- 6 or more times
- 4 to 5 times
- 2 to 3 times
- 1 time
- I didn't have 5 drinks or more in 1 sitting
- I didn't drink then

**Pregnancy can be a difficult time for some women. The next question is about things that may have happened before and during your most recent pregnancy.**

**41. 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 . . . . .	N	Y
b. I got separated or divorced from my husband or partner . . . . .	N	Y
c. I moved to a new address . . . . .	N	Y
d. I was homeless . . . . .	N	Y
e. My husband or partner lost his job . . . . .	N	Y
f. I lost my job even though I wanted to go on working . . . . .	N	Y
g. I argued with my husband or partner more than usual . . . . .	N	Y
h. My husband or partner said he didn't want me to be pregnant . . . . .	N	Y
i. I had a lot of bills I couldn't pay . . . . .	N	Y
j. I was in a physical fight . . . . .	N	Y
k. My husband or partner or I went to jail . . . . .	N	Y
l. Someone very close to me had a bad problem with drinking or drugs . . . . .	N	Y
m. Someone very close to me died . . . . .	N	Y

**The next questions are about the time during the 12 months before you got pregnant with your new baby.**

**42a. During the 12 months before you got pregnant, did an ex-husband or ex-partner push, hit, slap, kick, choke, or physically hurt you in any other way?**

- No
- Yes

**42b. During the 12 months before you got pregnant, were you physically hurt in any way by your husband or partner?**

- No
- Yes

**The next questions are about the time during your most recent pregnancy.**

**43a. During your most recent pregnancy, did an ex-husband or ex-partner push, hit, slap, kick, choke, or physically hurt you in any other way?**

- No
- Yes

**43b. During your most recent pregnancy, were you physically hurt in any way by your husband or partner?**

- No
- Yes

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

**44. When was your baby due?**

<input style="width: 100%; height: 20px;" type="text"/> Month	<input style="width: 100%; height: 20px;" type="text"/> Day	<input style="width: 100%; height: 20px;" type="text"/> Year
--	--	---

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

<input style="width: 100%; height: 20px;" type="text"/> Month	<input style="width: 100%; height: 20px;" type="text"/> Day	<input style="width: 100%; height: 20px;" type="text"/> Year
--	--	---

- I didn't have my baby in a hospital

**46. When was your baby born?**

Month      Day      Year

**47. When were you discharged from the hospital after your baby was born? (It may help to use the calendar.)**

Month      Day      Year

I didn't have my baby in a hospital

**48. How was your delivery paid for?**

**Check all that apply**

- Medicaid  
 Personal income (cash, check, or credit card)  
 Health insurance or HMO (including insurance from your work or your husband's work)  
 I still owe  
 Other —————> Please tell us:

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

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

- No  
 Yes  
 I don't know

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

- Less than 24 hours (less than 1 day)  
 24 to 48 hours (1 to 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 —————> **Go to Question 53**

**51. Is your baby alive now?**

- No —————> **Go to Page 12, Question 69**  
 Yes

**52. Is your baby living with you now?**

- No —————> **Go to Page 12, Question 69**  
 Yes

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

- No  
 Yes —————> **Go to Page 10, Question 55**

**54. What were your reasons for not breastfeeding your new baby?**

**Check all that apply**

- My baby was sick and could not breastfeed  
 I was sick or on medicine  
 I had other children to take care of  
 I had too many household duties  
 I didn't like breastfeeding  
 I didn't want to be tied down  
 I was embarrassed to breastfeed  
 I went back to work or school  
 I wanted my body back to myself  
 Other —————> Please tell us:

**If you did not breastfeed your new baby, go to Question 59.**

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

- No
- Yes → **Go to Question 58**

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

- Weeks OR  Months
- Less than 1 week

**57. What were your reasons for stopping breastfeeding?**

**Check all that apply**

- My baby had difficulty nursing
- Breast milk alone did not satisfy my baby
- I thought my baby was not gaining enough weight
- My baby got sick and could not breastfeed
- My nipples were sore, cracked, or bleeding
- I thought I was not producing enough milk
- I had too many other household duties
- I felt it was the right time to stop breastfeeding
- I got sick and could not breastfeed
- I went back to work or school
- I wanted or needed someone else to feed the baby
- My baby was jaundiced (yellowing of the skin or whites of the eyes)
- Other → Please tell us:

**58. How old was your baby the first time you fed him or her anything besides breast milk? Include formula, baby food, juice, cow's milk, water, sugar water, or anything else you fed your baby.**

- Weeks OR  Months
- My baby was less than 1 week old
- I have not fed my baby anything besides breast milk

**If your baby was not born in the hospital, go to Question 60.**

**59. This question asks about things that may have happened at the hospital where your new baby was born. For each item, circle Y (Yes) if it happened or circle N (No) if it did not happen.)**

	No	Yes
a. Hospital staff gave me information about breastfeeding . . . . .	N	Y
b. My baby stayed in the same room with me at the hospital . . . . .	N	Y
c. I breastfed my baby in the hospital . . . . .	N	Y
d. Hospital staff helped me learn how to breastfeed . . . . .	N	Y
e. My baby was fed only breast milk at the hospital . . . . .	N	Y
f. Hospital staff told me to breastfeed whenever my baby wanted . . . . .	N	Y
g. The hospital gave me a gift pack with formula . . . . .	N	Y
h. The hospital gave me a telephone number to call for help with breastfeeding . . . . .	N	Y
i. My baby used a pacifier in the hospital . . . . .	N	Y

**If your baby is still in the hospital, go to Page 12, Question 69.**

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

Hours

- Less than 1 hour a day  
 My baby is never in the same room with someone who is smoking

**61. 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

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

- Always  
 Often  
 Sometimes  
 Rarely  
 Never

**63. Was your new baby seen by a doctor, nurse, or other health care worker during the first week after he or she left the hospital?**

- No  
 Yes

**64. Has your new baby had a well-baby checkup?**  
 (A well-baby checkup is a regular health visit for your baby usually at 2, 4, or 6 months of age.)

- No → **Go to Question 66**  
 Yes

**65. How many times has your new baby been to a doctor or nurse for a well-baby checkup?**  
 (It may help to use the calendar.)

Times

**66. Did any of these things keep your baby from having a well-baby checkup?**

**Check all that apply**

- I didn't have enough money or insurance to pay for it  
 I had no way to get my baby to the clinic or office  
 I didn't have anyone to take care of my other children  
 I couldn't get an appointment  
 My baby was too sick to go for routine care  
 Other → Please tell us:

**67. How many times has your new baby gone for care when he or she was sick?**

Times

- None →  
 My baby has →  
 not been sick

**Go to Page 12,  
 Question 69**

**68. Where have you taken your new baby when he or she was sick and needed care?**

**Check all that apply**

- Hospital clinic
- Health department clinic
- Hospital emergency room
- Private doctor's office
- Other —————> Please tell us:

---

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

(Some things people do to keep from getting pregnant include not having sex at certain times [rhythm] or withdrawal, and using birth control methods such as the pill, condoms, cervical ring, IUD, having their tubes tied, or their partner having a vasectomy.)

- No
- Yes —————> **Go to Question 71**

**70. 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 —————> Please tell us:

---

**If you or your husband or partner is not doing anything to keep from getting pregnant *now*, go to Question 72.**

**71. What kind of birth control are you or your husband or partner using *now* to keep from getting pregnant?**

**Check all that apply**

- Tubes tied or closed (female sterilization)
- Vasectomy (male sterilization)
- Pill
- Condoms
- Shot once a month (Lunelle®)
- Shot once every 3 months (Depo-Provera®)
- Contraceptive patch (OrthoEvra®)
- Diaphragm, cervical cap, or sponge
- Cervical ring (NuvaRing® or others)
- IUD (including Mirena®)
- Rhythm method or natural family planning
- Withdrawal (pulling out)
- Not having sex (abstinence)
- Other —————> Please tell us:

---

**72. After your new baby was born, did a doctor, nurse or other health care worker talk with you about using birth control?**

- No  
 Yes

**73. Since your new baby was born, have you had a postpartum checkup for yourself?**

(A postpartum checkup is the regular checkup a woman has after she gives birth.)

- No  
 Yes

**The next few questions are about the time during the 12 months before your new baby was born.**

**74. During the 12 months before your new baby was born, what were the sources of your household's income?**

**Check all that apply**

- Paycheck or money from a job  
 Money from family or friends  
 Money from a business, fees, dividends, or rental income  
 Aid such as Temporary Assistance for Needy Families (TANF), welfare, WIC, public assistance, general assistance, food stamps, or Supplemental Security Income  
 Unemployment benefits  
 Child support or alimony  
 Social security, workers' compensation, disability, veteran benefits, or pensions  
 Other —————> Please tell us:

---

**75. During the 12 months before your new baby was born, what was your total household income before taxes?** Include your income, your husband's or partner's income, and any other income you may have used. (All information will be kept private and will not affect any services you are now getting.)

**Check one answer**

- Less than \$10,000  
 \$10,000 to \$14,999  
 \$15,000 to \$19,999  
 \$20,000 to \$24,999  
 \$25,000 to \$34,999  
 \$35,000 to \$49,999  
 \$50,000 or more

**76. During the 12 months before your new baby was born, how many people, including yourself, depended on this income?**

People

**The next few questions are on a variety of topics.**

**77. During your most recent pregnancy, did a doctor, nurse, or other health care worker tell you that you had a urinary tract infection (UTI), a sexually transmitted disease (STD), or any vaginal infection, including bacterial vaginosis or Group B Strep (Beta Strep)?**

- No —> **Go to Page 14, Question 79a**  
 Yes

**78. What disease or infection were you told you had?**

Check all that apply

- Genital warts (HPV)
- Herpes
- Chlamydia
- Gonorrhea
- Pelvic inflammatory disease (PID)
- Syphilis
- Group B Strep (Beta Strep)
- Bacterial vaginosis
- Trichomoniasis (Trich)
- Yeast infections
- Urinary tract infection (UTI)
- Other —————> Please tell us:

**79a. Since your new baby was born, how often have you felt down, depressed, or hopeless?**

- Always
- Often
- Sometimes
- Rarely
- Never

**79b. Since your new baby was born, how often have you had little interest or little pleasure in doing things?**

- Always
- Often
- Sometimes
- Rarely
- Never

**80. Since your new baby was born, did you seek help for depression from a doctor, nurse or other health care worker?**

- No
- Yes

**81. This question is about the care of your teeth during your most recent pregnancy.** For each item, circle **Y** (Yes) if it is true or circle **N** (No) if it is not true.

- |  | No | Yes |
|--|----|-----|
| a. I needed to see a dentist for a problem . . . . .   | N  | Y   |
| b. I went to a dentist or dental clinic . . . . .  | N  | Y   |
| c. A dental or other health care worker talked with me about how to care for my teeth and gums . . . . . | N  | Y   |

**82. Have you ever had your teeth cleaned by a dentist or dental hygienist?**

- No —————> Go to Question 84
- Yes

**83. When did you have your teeth cleaned by a dentist or dental hygienist?** For each of the three time periods, circle **Y** (Yes) if you had your teeth cleaned then or circle **N** (No) if you did not have your teeth cleaned then.

- |  | No | Yes |
|--|----|-----|
| a. Before my most recent pregnancy . . . . . | N  | Y   |
| b. During my most recent pregnancy . . . . . | N  | Y   |
| c. After my most recent pregnancy . . . . .  | N  | Y   |

**84. What is today's date?**

Month	Day	Year

**Please use this space for any additional comments you would like to make  
about the health of mothers and babies in Missouri.**

***Thanks for answering our questions!***

***Your answers will help us work to make Missouri  
mothers and babies healthier.***

# Notes



**Missouri Department of Health and Senior Services  
Section of Epidemiology for Public Health Practice  
P.O. Box 570  
Jefferson City, MO 65102-0570**

