

**Wisconsin PRAMS  
Data Book 2009 - 2011**

**Key findings from the Wisconsin Pregnancy  
Risk Assessment Monitoring System**



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## Foreword

This report on mothers' behaviors and experiences before, during and shortly after pregnancy is based on data and information from the Wisconsin Pregnancy Risk Assessment Monitoring System (PRAMS) 2009 - 2011.

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Wisconsin PRAMS thanks the 3,437 mothers who responded to the survey. Without their time, this report would not be possible.

This report and related Wisconsin PRAMS materials are available on the Department of Health Services website at:

<http://www.dhs.wisconsin.gov/births/prams/>

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## Introduction

### Background

The Centers for Disease Control and Prevention (CDC) initiated the Pregnancy Risk Assessment Monitoring System (PRAMS) in 1987 with the goal of improving the health of mothers and infants by collecting and monitoring self-reported maternal behaviors, conditions, and experiences that occur shortly before, during, and after pregnancy among women who deliver a live-born infant. PRAMS is a population-based surveillance system currently conducted in 40 states and New York City. The data and information from PRAMS represent about 78 percent of live births in the United States.<sup>1</sup>

Wisconsin PRAMS began collecting data in 2007. Data were collected using the PRAMS Phase 5 survey. Descriptive analyses of Wisconsin PRAMS data from 2007 and 2008 were disseminated to partners and stakeholders through presentations and fact sheets. These presentations and fact sheets are available on the Wisconsin PRAMS website at: <http://www.dhs.wisconsin.gov/births/prams/>

In 2009, CDC revised the PRAMS survey and implemented Phase 6 data collection. Concurrently, in 2009, Wisconsin PRAMS conducted an incentive experiment to increase response rates among Black/African American mothers (Technical Notes, p. 52).<sup>2</sup> In 2010, as a result of increased response rates for Black/African American mothers, the Wisconsin Partnership Program (WPP) selected PRAMS as a tool for evaluating the impact of its Lifecourse Initiative for Healthy Families (LIHF) project across the four counties of Kenosha, Milwaukee, Racine, and Rock, where the majority of Wisconsin's Black/African American population lives. This collaboration has resulted in a more robust response rate for Black/African American mothers and larger numbers for analyses, producing more reliable estimates. This partnership is ongoing.

The goals of Wisconsin PRAMS are to better understand how maternal behaviors and risk factors relate to and influence maternal and infant health outcomes; to help us understand factors underlying Wisconsin's Black/African American infant mortality rate (one of the highest in the nation); to collect population-based data of high quality not found in other data sources on topics related to successful pregnancy and healthy infancy; and to translate results into information for planning and evaluating public health programs and policy.

Wisconsin PRAMS data are collected under a cooperative agreement between the CDC and the Wisconsin Department of Health Services (DHS). Wisconsin PRAMS is a collaborative project of the Bureau of Community Health Promotion and the Office of Health Informatics, both in the Division of Public Health (DPH) within DHS.<sup>3</sup> Wisconsin PRAMS receives additional monies from the Title V Maternal and Child Health Block Grant, administered by DPH, DHS; the University of Wisconsin School of Medicine and Public Health; and the WPP to support an increased Black/African American sample.

### Methods

PRAMS results are based on self-reports from respondents selected through a stratified random sample, and are weighted to account for non-response and sample design. Estimates in this report are based on samples of 60 cases or more. For some analysis, the sample for sub-populations or stratification of variables may be too small to provide estimates. Tables 2 through 12 show estimated percentages of Wisconsin mothers based on survey responses. These estimates should not be treated as precise results because they are derived from a sample. A 95 percent confidence interval (95% C.I.) is printed in the column next to each percentage estimate; this means that were the survey to be repeated with multiple samples, the calculated confidence interval would encompass the true population parameter 95% of the time. Tables also include estimated

numbers of Wisconsin mothers, based on the weighted sample. SAS® Survey Procedures version 9.2 were used to analyze weighted data.

The back page of the survey instrument is intentionally left blank and mothers are encouraged to write any additional comments about the health of mothers and infants. Selected comments from mothers are included in this report for each topic section. Edits to these comments have been made only to correct spelling and to eliminate information that may identify participants.

Additional information about the survey design and the results presented here can be found in the Technical Notes at the end of this document.

### **This Report**

The principal goal of this report is to synthesize the information from Wisconsin PRAMS to assist and guide public health programs working to help decrease Wisconsin's adverse birth outcomes, especially among its minority families. An understanding of maternal behaviors, attitudes, and experiences before, during and shortly after pregnancy is essential for public health program planning, policy development, and evaluation of maternal and child programs. This report supplements other data sources and presents information (including mothers' comments) on selected topics for Wisconsin mothers who had a live birth during the years 2009-2011. A total of 6,402 mothers were sampled and 3,437 responded to the survey.

The report is organized into six sections. Each section has key findings for that topic, mothers' comments regarding that topic, and a table of selected results for that topic. The results presented in this report are representative of all Wisconsin births.

## Wisconsin PRAMS Sample Characteristics

After applying sampling weights, PRAMS 2009-2011 respondents were comparable to the overall population of Wisconsin women who gave birth in those years.

**Table 1. PRAMS Sample Characteristics Compared with Total Wisconsin Births**

<b>Data Years Presented in this Report</b>	<b>Sample size</b>	<b>Number of respondents</b>	<b>Response rate</b>	<b>Total Wisconsin Births†</b>
<b>All Mothers</b>	<b>6,402</b>	<b>3,437</b>	<b>--</b>	<b>203,794</b>
2011	2,761	1,575	67.3	64,603
2010	1,778	874	60.5	68,367
2009	1,863	988	65.9	70,824
<b>Characteristic</b>	<b>Sample size</b>	<b>Estimated number</b>	<b>Percent</b>	<b>Statewide Percent</b>
<b>Race/Ethnicity</b>				
White	1,229	144,869	73.4	74.4
Black/Afr. American	1,219	20,345	10.3	10.0
Hispanic/Latina	630	20,474	10.3	9.6
Other	359	11,452	5.8	5.9
<b>Age</b>				
Under 20 years	385	13,617	6.9	7.6
20-24	808	39,686	20.1	21.9
25-34	1,840	119,005	60.3	57.8
35 and older	404	24,832	12.5	10.7
<b>Education</b>				
Less than High School	679	24,227	12.4	13.0
High School	964	52,134	26.5	26.5
Some College	923	53,115	27.1	26.9
College Graduate	846	66,335	33.8	32.8
<b>Marital Status</b>				
Married	1,742	127,044	64.4	63.0
Other	1,695	70,096	35.5	36.9
<b>Smoked During Pregnancy</b>				
Yes	428	25,345	13.0	13.2
No	2,951	169,654	87.0	86.4
<b>DHS Region</b>				
Southern	645	43,821	22.2	18.8
Southeastern	1,833	71,868	36.4	39.3
Northeastern	512	39,833	20.2	20.7
Western	267	25,988	13.1	13.4
Northern	180	15,631	7.9	7.6
<b>Prematurity</b>				
Gestation less than 37 weeks	1,040	28,138	14.2	10.8
Full Term	5,359	168,843	85.7	89.1
<b>Birthweight</b>				
Less than 2,500 grams	571	13,570	6.8	7.0
2,500 grams or more	5,830	183,535	93.1	92.9

Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.

†Statewide totals are derived from the annual birth file sent to CDC for statistical weighting for analysis; data are not directly comparable to the Wisconsin Births and Infant Deaths annual reports for each of these three years. Note: Total weighted response (n) = 197,140; estimated coverage is 97%.

## Section 1. Preconception Health

### Importance

The CDC defines preconception health as the health of women during their reproductive years, which are the years they can have a child. Preconception and maternal health care focuses on interventions and behaviors that protect the health of infants.<sup>4</sup>

In 2006, the CDC published 10 recommendations to enhance, monitor, and improve preconception health and health care for women before pregnancy and in between pregnancies.<sup>5</sup> In 2014, the CDC published a report that included 39 of the 41 core state preconception health indicators for which data are available through PRAMS or the Behavioral Risk Factor Surveillance System (BRFSS).<sup>6</sup> Wisconsin PRAMS has several indicators that measure women's maternal and preconception health. This report provides baseline information to help inform public health professionals to plan, monitor, and evaluate programs, and to assist programs to meet these recommendations and federal and state health plan objectives.

### Key Findings

- **Previous birth outcomes:** An estimated 8.1 percent of mothers had a prior low birthweight infant before their most recent birth. Black/African American mothers were twice as likely to have had a prior low birthweight infant as Hispanic/Latina or White mothers (Figures 1-3).
- **Multivitamin use:** An estimated 34.9 percent of mothers took a multivitamin, a prenatal vitamin or a folic acid vitamin daily during the month before becoming pregnant (Figure 4).
- **Body Mass Index:** A body mass index (BMI) of 25 or higher and less than 30 is considered overweight, and a BMI of 30 or greater is obese.<sup>7</sup> In 2009-2011, an estimated 48.3 percent of mothers were overweight (26.1%) or obese (22.2%) at the time they became pregnant (Figure 7).
- **Pregnancy intention:** An estimated 37.3 percent of pregnancies that resulted in live births were unintended, defined as mistimed, unplanned, or unwanted at the time of conception.<sup>8</sup> Black/African American mothers were twice as likely as White mothers to have an unintended pregnancy (64.9% vs. 32.3%, respectively; Table 2).

## What Moms Tell Us About Preconception Health

“I was very fortunate that I was taking a daily multivitamin at the time I became pregnant. We were not planning our second child.”

“Eat healthier and help control weight before birth and postpartum.”

“I would love to see more done to reach out and help women struggling with their weight. A healthy woman and mother often is the key to having a healthy family.”

“Start taking prenatal vitamins a few months before you want to get pregnant. Have a loving relationship with your partner before you think of having a child. Children have better lives with two loving parents.”

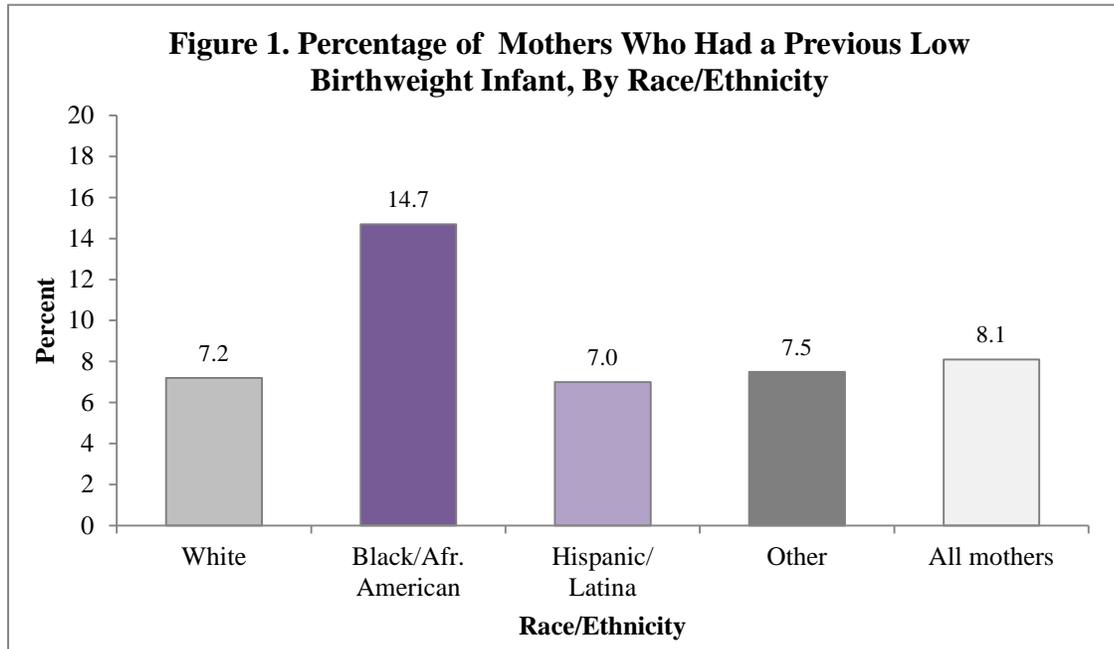
“I took prenatal vitamin three months before getting pregnant.”

“I stopped taking prenatal vitamins when my baby was almost two months because insurance would only cover the cost if I sent the prescription to their mail-to-home service.”

“Need more public health education about being on folic acid supplements or getting enough in daily diet.”

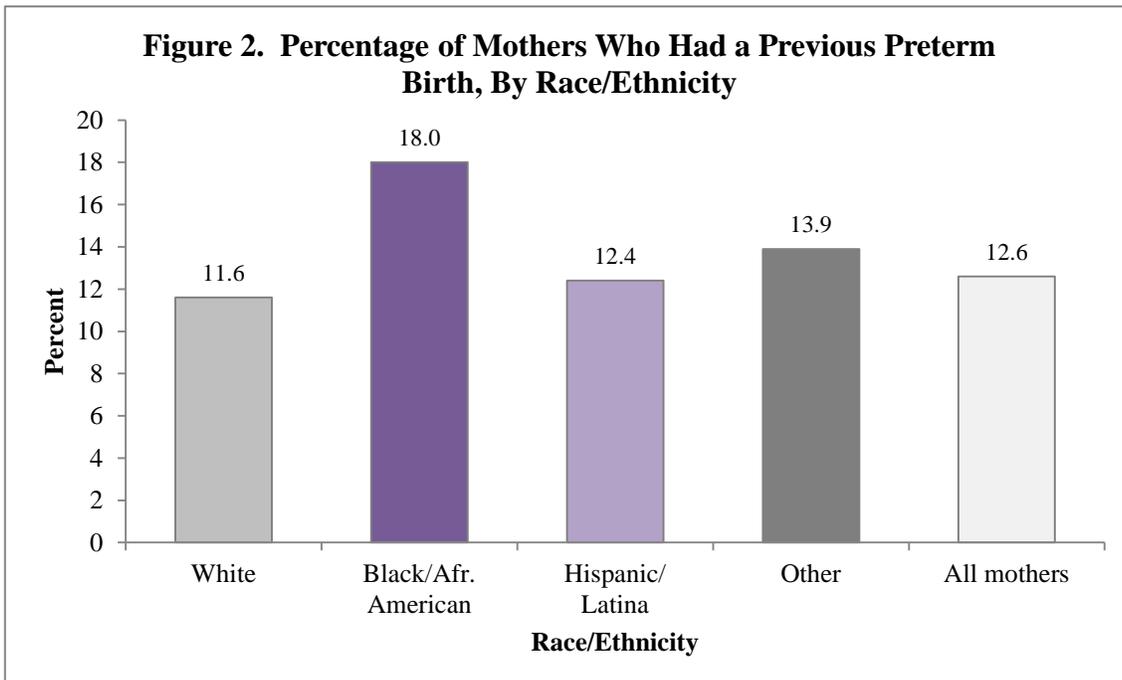
### Outcomes of Previous Pregnancies

Mothers who had a previous birth were asked if the infant weighed more than five pounds, eight ounces at birth.



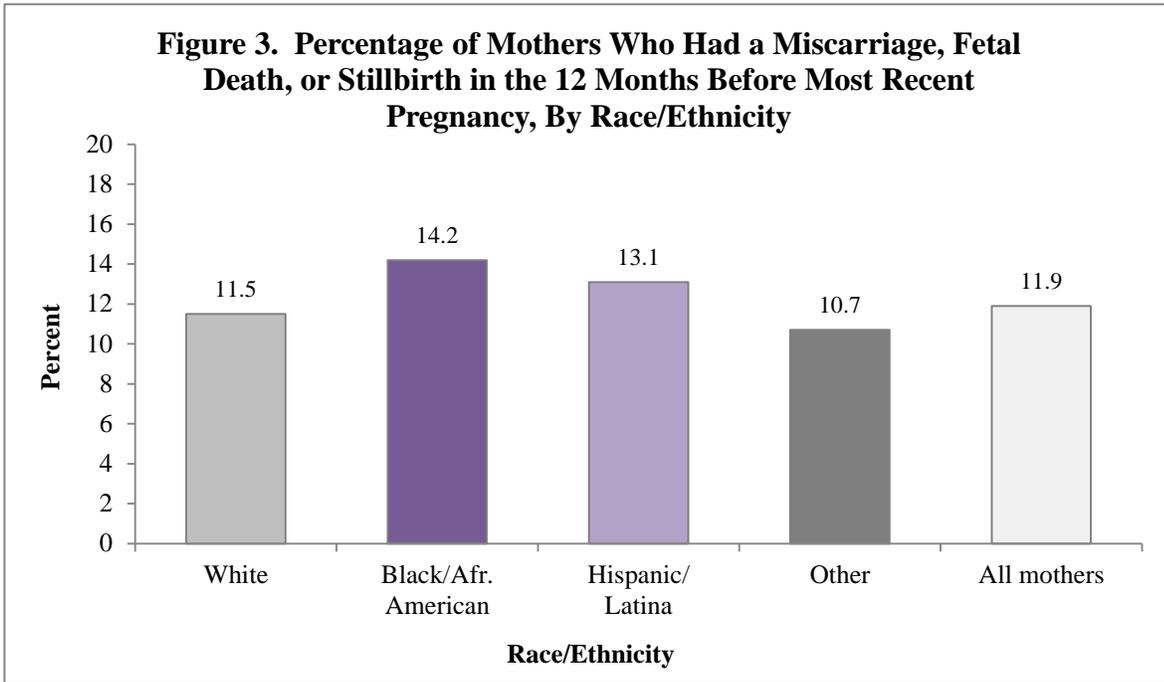
Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=2,020.

Mothers who had a previous birth were asked if that infant was born more than three weeks before the due date.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=2,018.

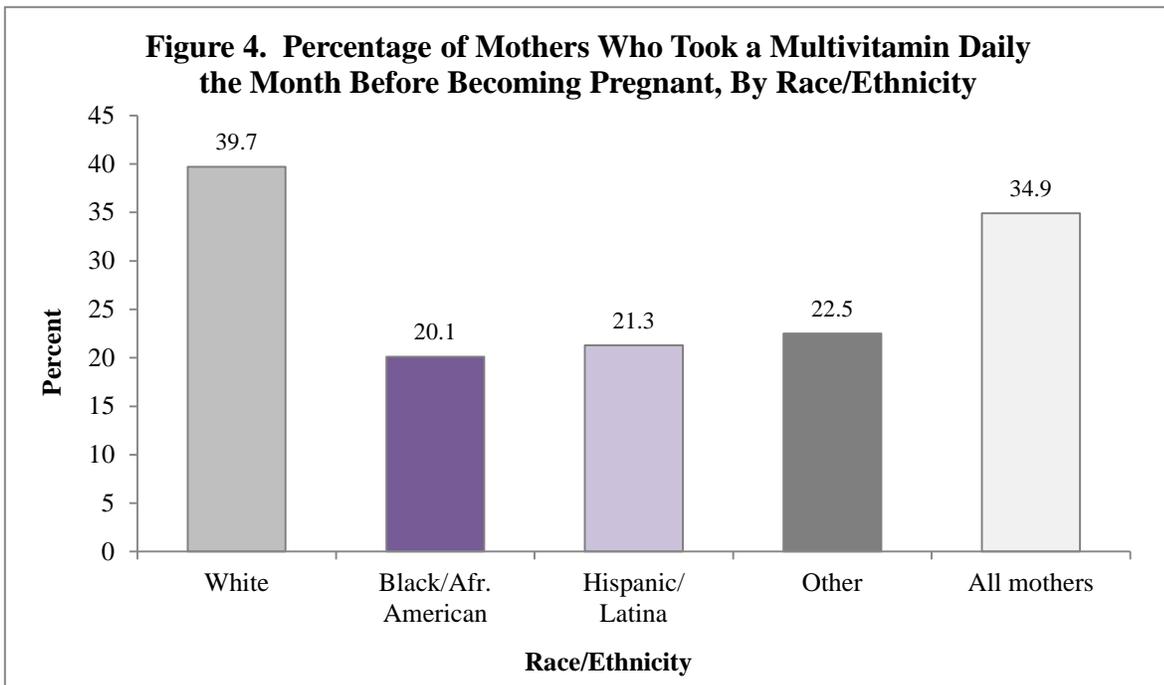
Mothers were asked if they had a miscarriage, fetal death, or stillbirth during the 12 months before becoming pregnant with their new infant.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
Note: n=3,362.

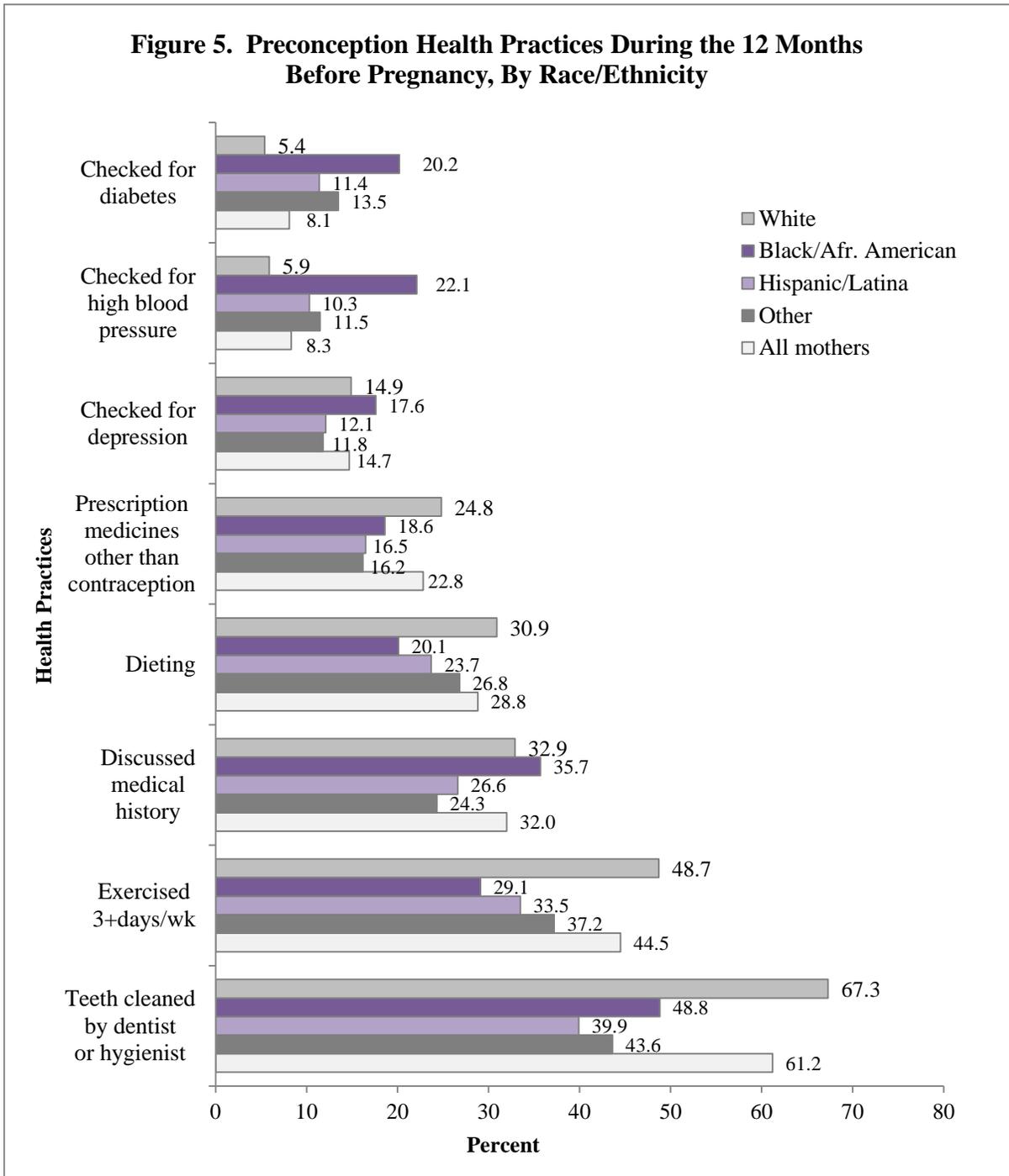
### Selected Pre-pregnancy Behaviors

Mothers were asked about multivitamin and folic acid use during the month before becoming pregnant.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
Note: n=3,402.

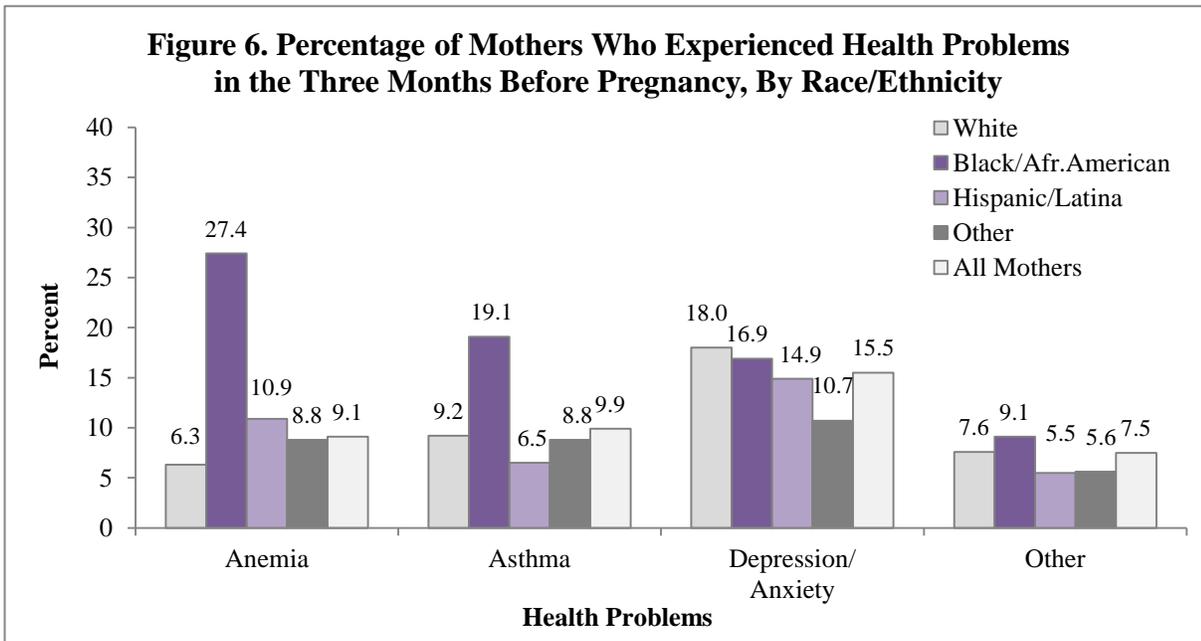
Mothers were asked about their healthy behaviors, and their visits to a health care professional to be checked or treated for illnesses.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: Percentages do not add to 100; mothers could select more than one answer; n=3,401 - 3,419.

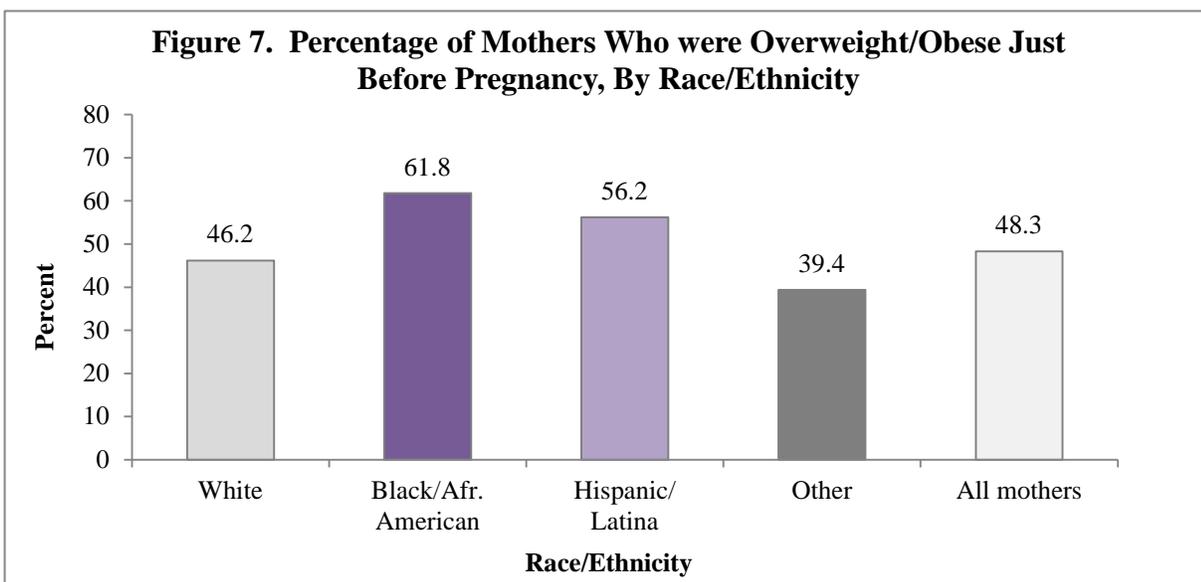
### Health Problems Before Pregnancy

These estimates were obtained by asking mothers about health problems they had during the three months before becoming pregnant. Depression and anxiety responses have been combined due to small numbers of mothers reporting these conditions. Physical health problems with fewer than 60 responses have been combined in the Other category. (Other health conditions include high blood pressure (hypertension), heart problems, epilepsy (seizures) and thyroid problems.)



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=3,385 - 3,396.

Mothers provided their height and pre-pregnancy weight from which their Body Mass Index (BMI) was calculated.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=3,395.

## Pregnancy Intention

According to the CDC, a pregnancy is unintended when it is mistimed, unplanned, or unwanted at the time of conception.<sup>8</sup> An unintended pregnancy may pose greater health risks to the mother and baby than a planned pregnancy because the woman may not be in optimal health prior to conception and may experience a delay in accessing care and adopting healthy behaviors after becoming pregnant.

During 2009-2011, 63 percent of new Wisconsin mothers had intended pregnancy at the time of conception and 37 percent did not intend to become pregnant.

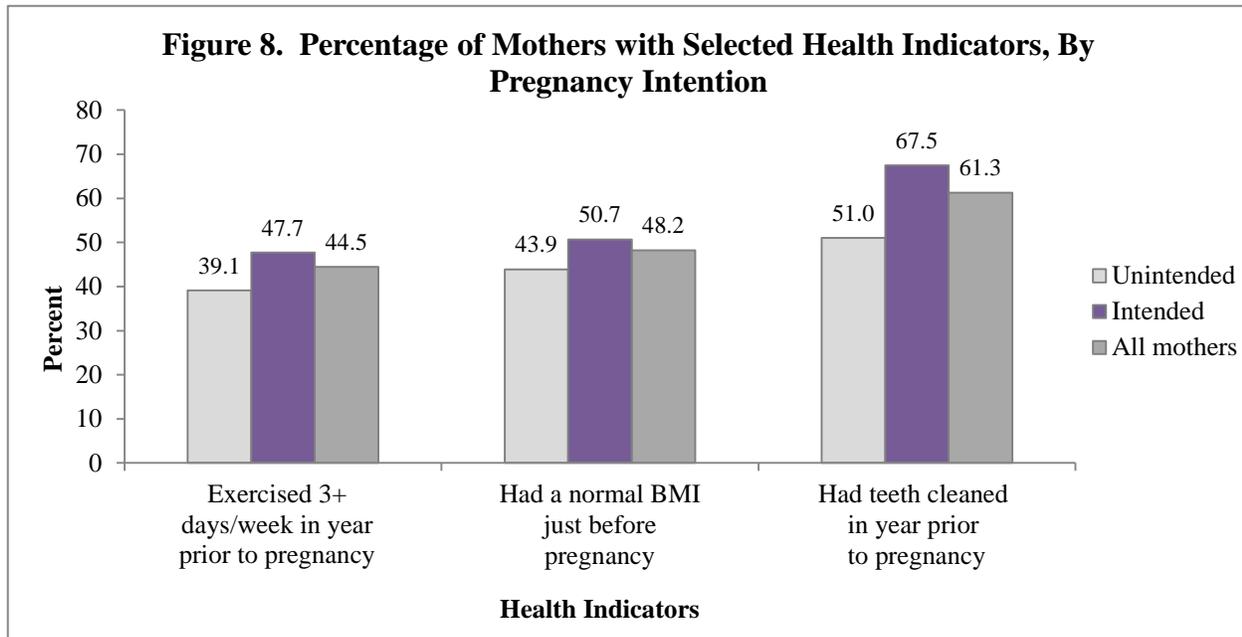
**Table 2. Estimated Percentage of Births that Were Unintended, By Selected Maternal Characteristics**

Characteristic	Number	Percent	95% C.I.
<b>All Mothers</b>	<b>72,415</b>	<b>37.3</b>	<b>35.2 - 39.4</b>
<b>Race/Ethnicity</b>			
White	46,225	32.3	29.6 - 35.0
Black/Afr. American	12,952	64.9	61.5 - 68.3
Hispanic/Latina	8,552	43.3	39.4 - 47.2
Other	4,686	41.1	36.1 - 46.2
<b>Age</b>			
Under 20 years	10,551	78.1	72.3 - 83.9
20-24	20,517	52.2	47.2 - 57.1
25-34	35,491	30.2	27.6 - 32.8
35 and older	5,856	24.3	19.2 - 29.5
<b>Education</b>			
Less than High School	12,703	53.2	47.9 - 58.6
High School	25,791	50.1	45.5 - 54.7
Some College	21,494	40.9	36.8 - 45.0
College Graduate	11,832	18.1	15.2 - 21.0
<b>Marital Status</b>			
Married	29,165	23.3	21.0 - 25.6
Other	43,250	62.6	59.2 - 66.1
<b>Health Insurance Before Pregnancy</b>			
Private or Employer Insurance	30,215	25.7	23.1 - 28.2
Medicaid	28,159	58.0	53.9 - 62.2
Uninsured	12,071	49.3	43.5 - 55.2
<b>Poverty Status</b>			
Poor	28,636	56.9	53.0 - 60.9
Near-poor	16,722	46.5	41.2 - 51.7
Not poor	21,452	22.0	19.3 - 24.6

Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.

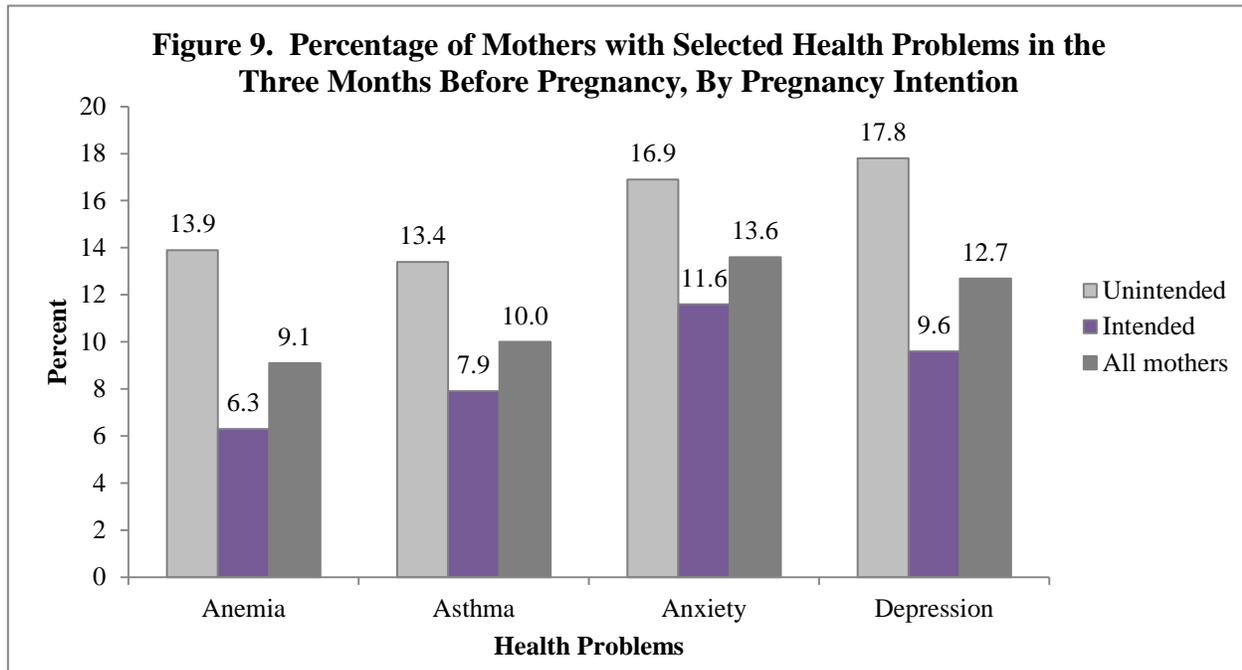
Note: The totals for some characteristics may not equal the number for "All Mothers," due to rounding and nonresponse. These totals underestimate the true percentage of pregnancies that are unintended because they do not include pregnancies ending in miscarriage, stillbirth or abortion.

Mothers were asked if they were exercising three or more days per week in the 12 months before becoming pregnant, and if they had their teeth cleaned by a dental professional during that time. Mothers provided their height and pre-pregnancy weight, from which their Body Mass Index (BMI) was calculated.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=3,131 - 3,354.

Mothers were asked about health problems they had during the three months before becoming pregnant.

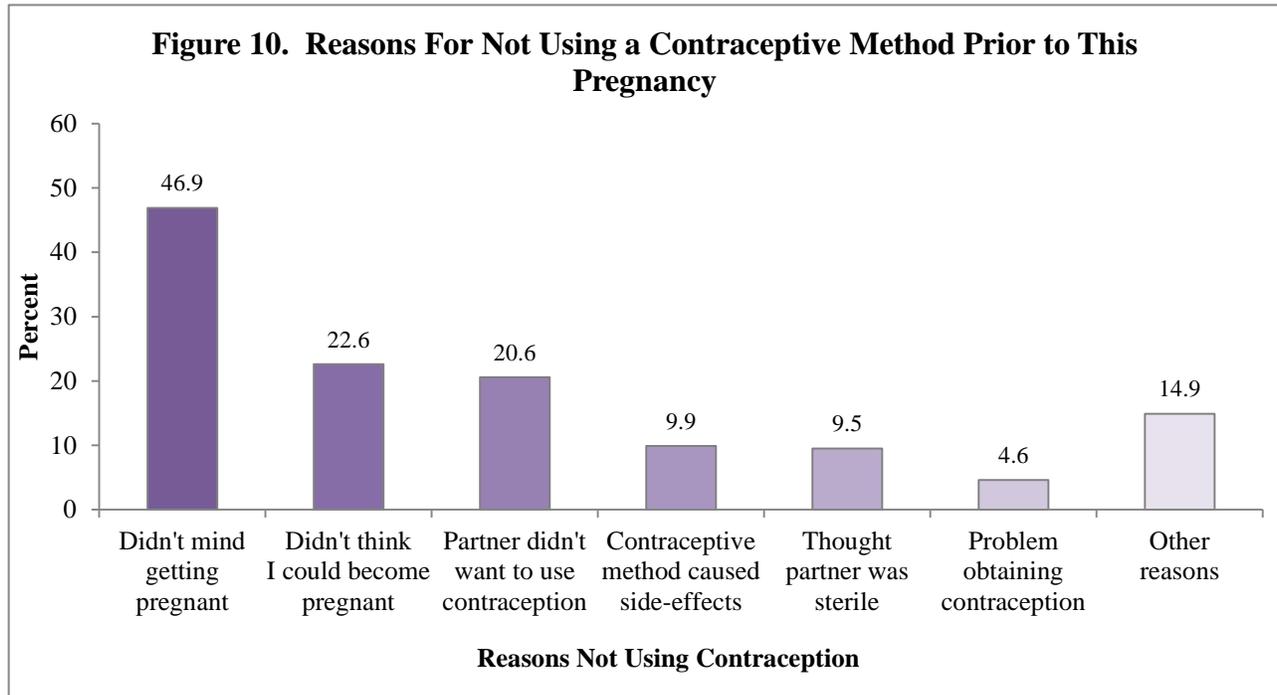


Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=3,339 - 3,350.

### Contraceptive Use

Mothers who did not intend to become pregnant were asked whether they or their partners had been doing anything to keep from getting pregnant at the time of conception.

Among mothers who did not intend to become pregnant, 51.8 percent were not using any form of contraception.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
Note: Percentages do not add to 100%; mothers could select more than one answer; n=1,020 - 1,022.

Mothers who selected “Other” as the reason were asked to write in answers. These responses are categorized below:

- Careless/forgot
- Didn't want to use contraception
- Religion/personal beliefs

## Section 2. Social Determinants

### Importance

International, national, and state policymakers are increasingly drawing attention to the importance of the social determinants of health; i.e., “the conditions in which people are born, grow, live, work, and age”.<sup>9</sup> The CDC states that addressing these determinants is a “primary approach to achieving health equity.”<sup>10</sup>

*Healthiest Wisconsin 2020* acknowledges that not all “communities in Wisconsin are as safe or as healthy as they could be,” and that to be the healthiest state, “Wisconsin must address these persistent disparities in health outcomes, and the social, economic, educational and environmental inequities that contribute to them.”<sup>11</sup> *Wisconsin’s Statewide Framework for Improving Women’s Health* has chosen social and economic determinants of health as an initial focus area for improving the health of women of childbearing age.<sup>12</sup>

Researchers and experts have found that factors such as social support, stress, insurance status, income and poverty status, and environmental conditions affect mothers and their infants, and suggest that disparities persist due to differences in these factors among racial and ethnic groups.<sup>13</sup> This is true in Wisconsin as well.

Wisconsin PRAMS data on stressful life events and experiencing racial inequity in the months prior to giving birth have not been reported by other sources. These findings on social determinants can guide public and private policymakers, communities, and families on the importance of providing social and economic support, thereby reducing stressful events, for healthier pregnancies and healthier infants.

### Key Findings

- **Poverty:** Black/African American and Hispanic/Latina mothers were 3-4 times more likely than White mothers to be “poor,” defined as having a household income below the Federal Poverty Level (Figure 11).
- **Poverty and stress:** An estimated 50.7 percent of poor mothers experienced three or more stressful events during the 12 months before they became pregnant. In contrast, an estimated 13 percent of mothers who were “not poor” experienced three or more stressful life events (Figure 12).
- **Racial inequity:** An estimated 17.9 percent of Black/African American mothers experienced racial inequity in the 12 months before giving birth (Figure 14).
- **WIC:** An estimated 37.9 percent of all mothers received services from the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) during pregnancy. Black/African American mothers and Hispanic/Latina mothers were more likely to have received WIC services than White mothers (Figure 15).

## **What Moms Tell Us about Stress, Insurance, and Social Services**

“I have been stunned by how complicated insurance paperwork has been since my baby was born. I have good insurance, I speak English, I am educated, and I know how to navigate the health care system. It has still been so difficult to figure out all the bills, etc. How would it be for someone without resources?”

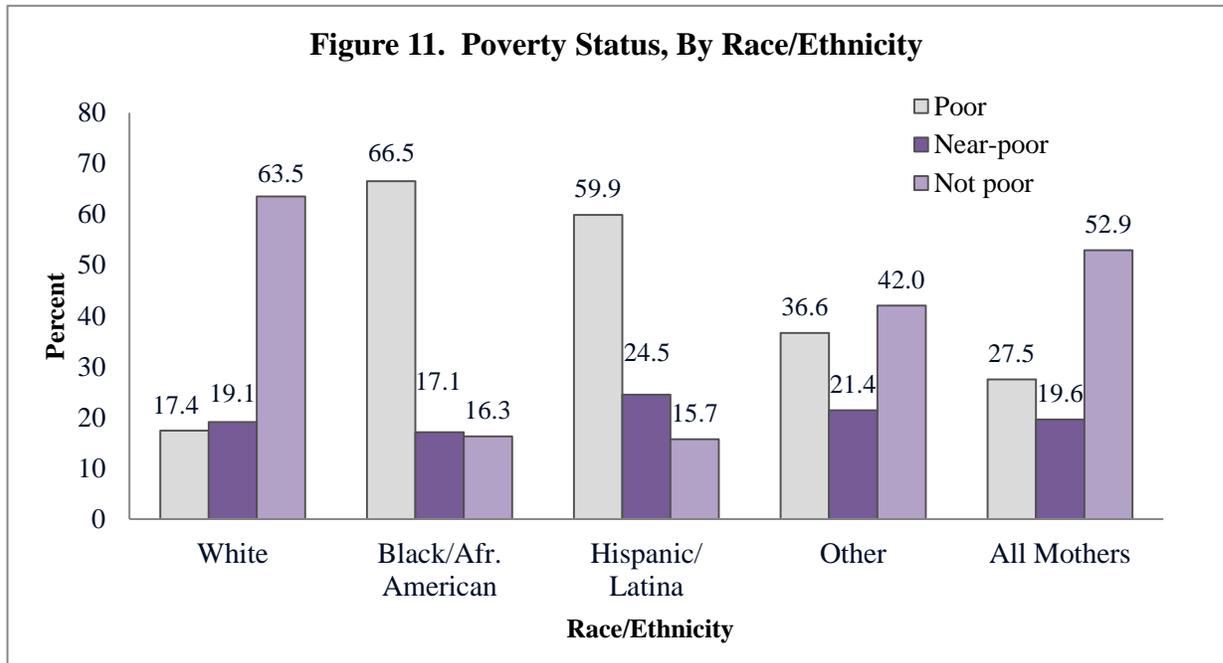
“The number ONE problem today is the stress that mothers go through whether they are single or not. Many women lose their jobs, and have to put things aside when pregnancy comes along.”

“I worked at my job for four years. When they found out I was pregnant, I was given a hard time regarding maternity leave. They couldn't guarantee I'd be compensated for maternity leave and also couldn't guarantee that I'd get my same job same hours in the same location back. I ended up resigning.”

“I'm thankful for the programs such as WIC, FoodShare, and BadgerCare. My baby and I are healthy because of all this help.”

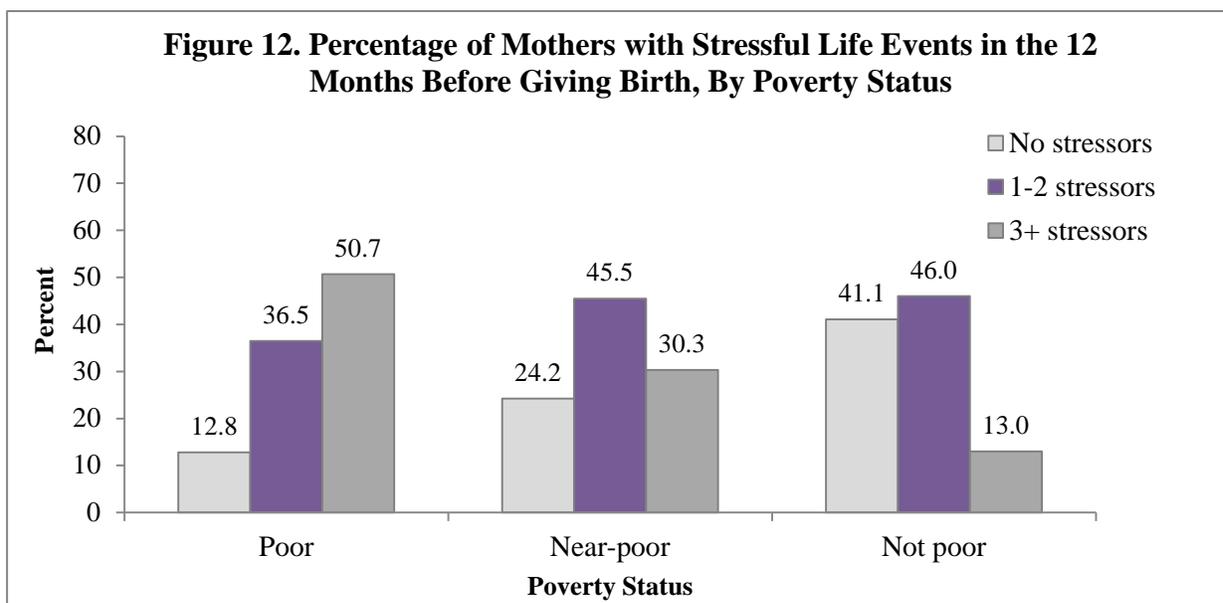
### Stressful Life Events; Poverty Status, Stress, Racial Inequity

Mothers were asked their annual household income during the year before giving birth, and the number of people who relied on that income. Poverty status was calculated from mothers' responses (see Technical Notes section of this data book).



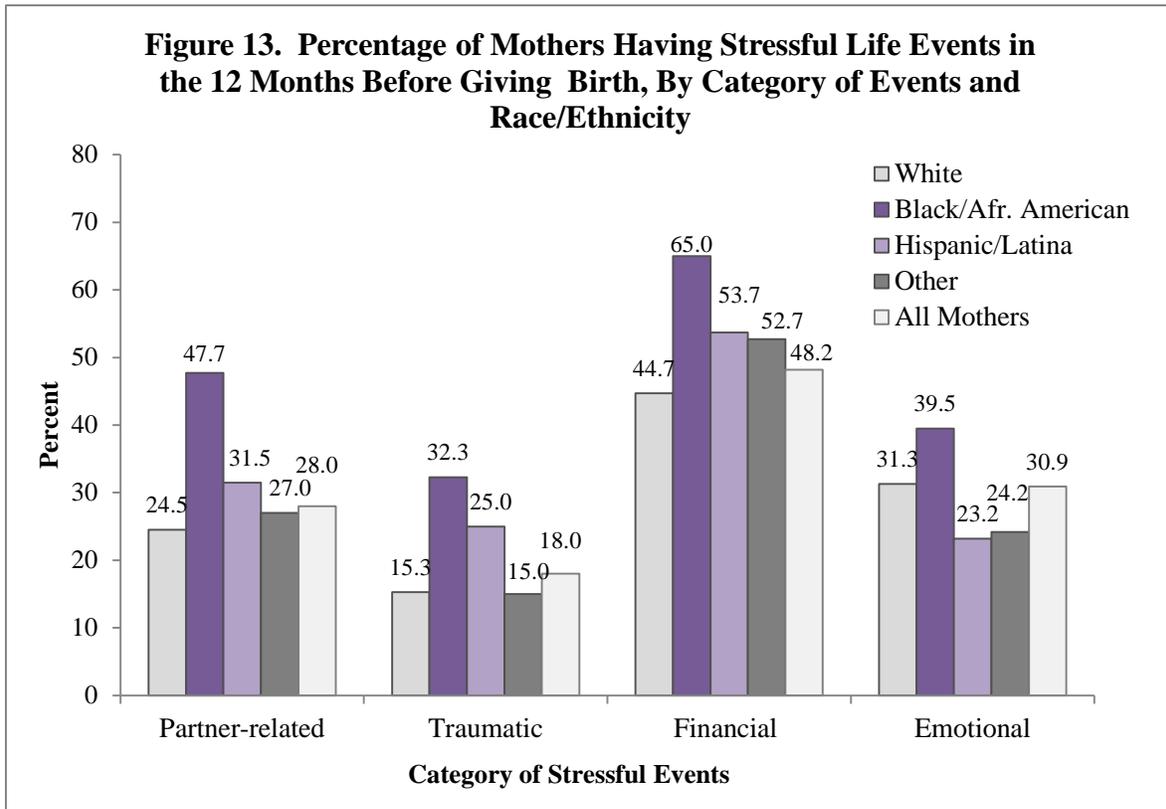
Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=1,741.

Mothers were asked about stressful events that may have happened to them during the 12 months before their new baby was born.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=1,741.

Mothers selected the number of choices appropriate to their circumstances from a list of stressful events. The various choices have been categorized into the four groups depicted in Figure 13. The results are presented by category of events, and by race/ethnicity distribution.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: Percentages do not add to 100; categories are not mutually exclusive; n=3,437.

The 13-part question on stressful life events has been categorized as follows:<sup>14</sup>

*Partner-related*—The respondent separated or divorced from her husband/partner, she argued more than usual with her husband/partner, or her husband/partner said he didn’t want her to be pregnant.

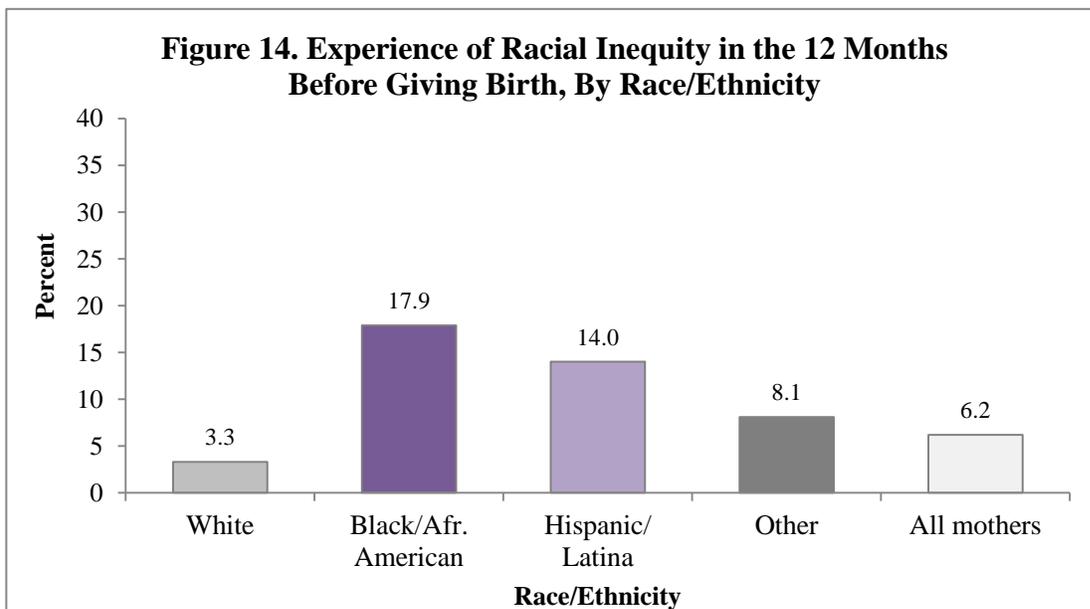
*Traumatic*—The respondent was homeless, she was involved in a physical fight, she or her husband/partner went to jail, or someone close to her had a problem with drinking/drugs.

*Financial*—The respondent moved to a new address, her husband/partner lost his job, she lost her job, or she had a lot of bills she couldn’t pay.

*Emotional*—A very sick family member had to go into the hospital or someone close to the respondent died.

### Racial Inequity

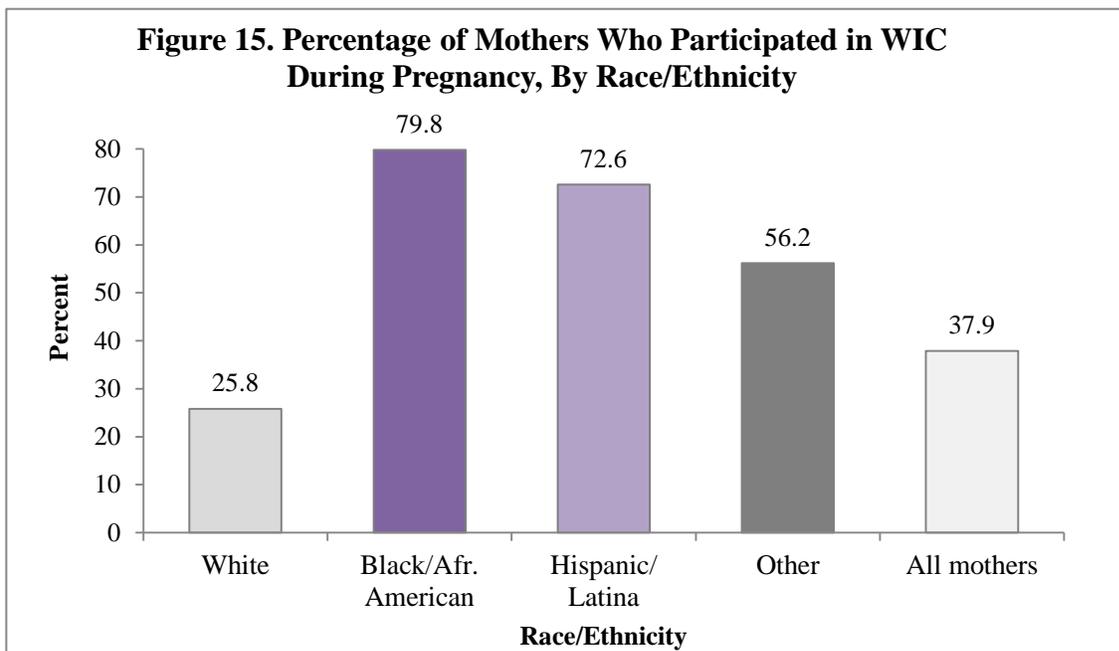
Mothers were asked whether they felt emotionally upset during the 12 months before giving birth as a result of the way they were treated based on their race.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services. Note: n=3,358.

### WIC Participation and Social Services

Mothers were asked if they were on WIC during their most recent pregnancy.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services. Note: n=3,401.

Mothers were asked if they needed services and if they received services during their most recent pregnancy.

**Table 3. Estimates of Mothers Who Needed Services and Mothers Who Received Services**

Type of Services	Number	Percent	95% C.I.	Number	Percent	95% C.I.
<b>Services Needed</b>			<b>Services Received</b>			
<b>All Mothers</b>	89,673	45.5	43.4 - 47.6	85,876	43.6	41.5 - 45.6
<b>WIC/Food</b>						
White	43,982	30.6	27.9 - 33.3	41,863	29.1	26.4 - 31.8
Black/Afr. American	14,954	76.2	73.1 - 79.3	15,913	80.8	77.9 - 83.7
Hispanic/Latina	13,253	66.6	62.9 - 70.3	14,941	75.0	71.6 - 78.4
Other	6,397	56.9	51.8 - 62.1	6,529	58.0	52.9 - 63.1
<b>Counseling</b>						
White	15,390	10.7	8.9 - 12.5	9,840	6.8	5.3 - 8.4
Black/Afr. American	4,379	22.5	19.5 - 25.6	3,077	15.8	13.1 - 18.5
Hispanic/Latina	3,137	16.2	13.3 - 19.2	2,414	12.4	9.8 - 15.1
Other	--	--	--	--	--	--
<b>Quit Smoking Assistance</b>						
White	8,579	6.0	4.5 - 7.4	--	--	--
Black/Afr. American	2,170	11.2	8.8 - 13.5	1,756	9.1	6.9 - 11.2
Hispanic/Latina	--	--	--	--	--	--
Other	--	--	--	--	--	--
<b>Other Services*</b>	6,394	3.8	3.0 - 4.6	4,211	2.4	1.8 - 3.1

Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.

-- Fewer than 60 respondents. Data not shown.

Note: The totals for some services may not equal the number for "All Mothers," due to rounding and nonresponse.

\*Mothers were asked to write in additional services they needed or received.

Other services mothers **needed** include:

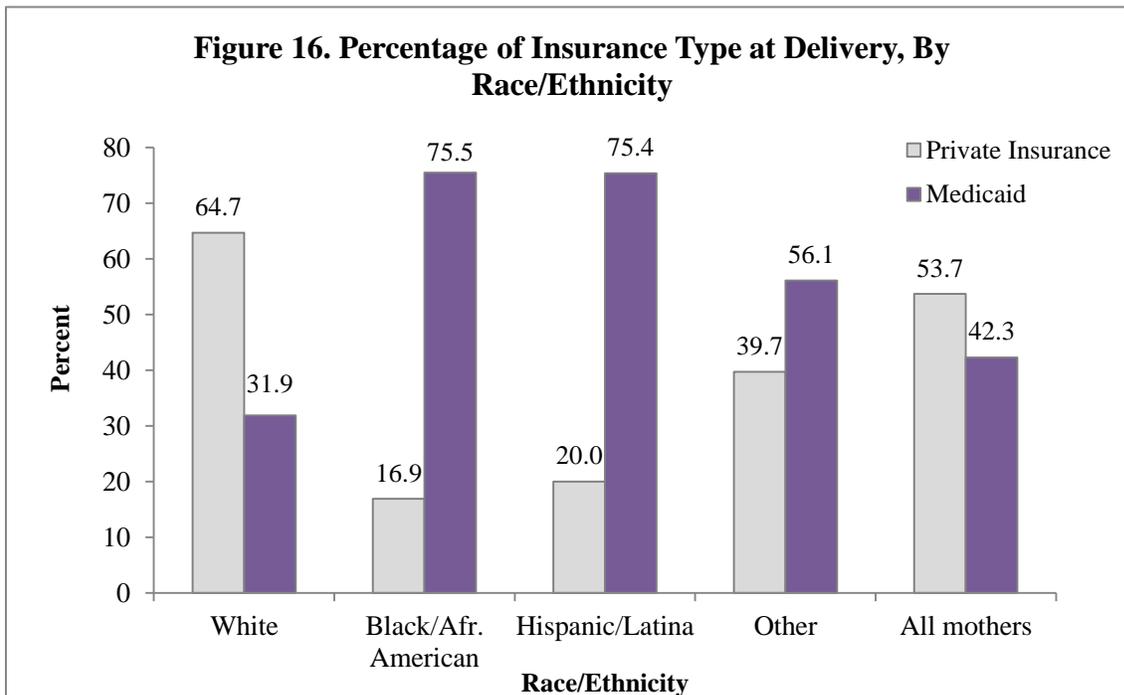
- Financial/housing
- Dental care
- Insurance/BadgerCare
- Breastfeeding help
- Child care
- Postpartum depression help

Other services mothers **received** include:

- Financial/housing
- Visiting nurse
- Insurance
- Breastfeeding support
- Child care
- Contraception

### Insurance Type at Delivery

Mothers were asked about the type of insurance that paid for the delivery of their most recent infant.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 †An estimated 2% of all Wisconsin mothers were uninsured at delivery, based on PRAMS data.  
 Note: n=3,437.

## Section 3. Risk Behaviors

### Importance

Wisconsin PRAMS has several questions that ask women about substance use before, during, and after pregnancy. The CDC recommends that all women of childbearing age be screened for alcohol and tobacco use.<sup>15</sup>

Substance abuse, including smoking and drinking alcohol, is associated with low birthweight and prematurity.<sup>16</sup> Smoking during pregnancy, as a risk factor, is the single most preventable known cause of low birthweight and prematurity. Smoke exposure is also a risk factor for sleep-related infant death. The CDC recommends that women not smoke cigarettes during pregnancy.<sup>17</sup>

Alcohol consumption during pregnancy is associated with spontaneous abortions, birth defects, and developmental disorders, many of which occur early in gestation before a woman knows she is pregnant.<sup>18</sup> Fetal alcohol spectrum disorders are completely preventable if a woman does not drink alcohol during her pregnancy.<sup>19, 20</sup>

### Key Findings

- Cigarette smoking three months before pregnancy: An estimated 25.8 percent of mothers smoked cigarettes during the three months before they became pregnant. The prevalence of cigarette smoking was highest in unmarried mothers (43.6%), mothers with a high school education (42.7%), and mothers with Medicaid (42.4%; Table 4).
- Smoking cessation during pregnancy: An estimated 13.1 percent of mothers quit smoking during pregnancy (Table 6 and Figure 17).
- Alcohol use before pregnancy: An estimated 67.8 percent of mothers drank alcohol in the three months before becoming pregnant. An estimated 52.8 percent of mothers engaged in binge drinking in the three months before pregnancy; binge drinking is defined as four or more drinks in a two-hour period (Figure 18).<sup>21</sup>

## **What Moms Tell Us about Smoking and Alcohol Consumption**

“Don’t use any type of drugs. Babies are born healthy and cute. Take care of your baby with much love and affection.”

“One of the big problems is that there are many women that at the time of pregnancy take alcoholic beverages. That is why there are some babies that are born with physical or mental problems. It is very advisable that every woman who is pregnant avoids those kinds of vices.”

“I only consumed alcohol before I got pregnant. I was in recovery before then and am currently in AA again having celebrated a year sober this month.”

“I don't mind helping out in answering questions but I think all competent people know - smoking, drinking and drugs are not healthy choices during pregnancy!”

“Don't Do Drugs. Be strong. Don't give up. Focus on you and your kids. Be safe and God bless!”

“The most important thing is to not drink; it helps with having a healthy pregnancy and baby.”

## Cigarette Smoking

Mothers were asked about cigarette smoking in the three months before becoming pregnant, during the last three months of pregnancy and 3-6 months after giving birth.

**Table 4. Estimates of Maternal Cigarette Use in the Three Months Before Pregnancy, By Selected Maternal Characteristics**

Characteristic	Number	Percent	95% C.I.
<b>All Mothers</b>	<b>50,204</b>	<b>25.8</b>	<b>23.8 - 27.8</b>
<b>Race/Ethnicity</b>			
White	38,769	27.0	24.4 - 29.7
Black/Afr. American	5,412	27.2	24.0 - 30.5
Hispanic/Latina	3,405	16.8	13.8 - 19.7
Other	2,618	23.3	18.8 - 27.8
<b>Age</b>			
Under 20 years	3,997	30.3	23.1 - 37.6
20-24	14,332	36.4	31.6 - 41.3
25-34	28,706	24.3	21.8 - 27.0
35 and older	--	--	--
<b>Education</b>			
Less than High School	7,861	33.0	27.5 - 38.5
High School	22,082	42.7	38.2 - 47.3
Some College	14,208	27.2	23.4 - 31.0
College Graduate	5,626	8.5	6.4 - 10.7
<b>Marital Status</b>			
Married	20,167	16.0	13.9 - 18.2
Other	30,036	43.6	40.0 - 47.2
<b>Health Insurance Before Pregnancy</b>			
Private or Employer Insurance	20,044	17.0	14.7 - 19.3
Medicaid	20,493	42.4	38.1 - 46.6
Uninsured	8,443	34.0	28.1 - 39.8
<b>Pregnancy Intention</b>			
Intended	25,446	21.1	18.7 - 23.5
Unintended	24,205	34.0	30.4 - 37.5
<b>Poverty Status</b>			
Poor	19,792	38.9	34.9 - 42.9
Near-poor	12,690	34.9	29.7 - 40.2
Not poor	15,172	15.5	13.1 - 17.9

Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.

-- Fewer than 60 respondents; data not shown.

Note: The totals for some characteristics may not equal the number for "All Mothers," due to rounding and nonresponse.

**Table 5. Estimates of Maternal Cigarette Use in the Last Three Months of Pregnancy, By Selected Maternal Characteristics**

<b>Characteristic</b>	<b>Number</b>	<b>Percent</b>	<b>95% C.I.</b>
<b>All Mothers</b>	<b>25,345</b>	<b>13.0</b>	<b>11.4 - 14.6</b>
<b>Race/Ethnicity</b>			
White	19,052	13.3	11.2 - 15.3
Black/Afr. American	3,481	17.5	14.7 - 20.3
Hispanic/Latina	--	--	--
Other	--	--	--
<b>Age</b>			
Under 20 years	--	--	--
20-24	8,551	21.7	17.5 - 26.0
25-34	13,261	11.3	9.3 - 13.2
35 and older	--	--	--
<b>Education</b>			
Less than High School	5,348	22.3	17.1 - 27.5
High School	12,196	23.6	20.0 - 27.6
Some College	6,740	13.0	10.0 - 15.8
College Graduate	--	--	--
<b>Marital Status</b>			
Married	7,571	6.0	4.6 - 7.5
Other	17,775	25.7	22.4 - 29.0
<b>Previous Live Birth</b>			
Yes	16,438	14.4	12.3 - 16.5
No	8,796	11.1	8.8 - 13.6
<b>Health Insurance for Prenatal Care</b>			
Private or Employer Insurance	5,128	4.7	3.4 - 6.2
Medicaid	19,501	24.4	21.4 - 27.5
Uninsured	--	--	--
<b>Pregnancy Intention</b>			
Intended	11,448	9.5	7.7 - 11.3
Unintended	13,728	19.2	16.2 - 22.2
<b>Poverty Status</b>			
Poor	13,453	26.3	22.5 - 30.1
Near-poor	6,659	18.3	13.9 - 22.9
Not poor	--	--	--

Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 -- Fewer than 60 respondents; data not shown.

Note: The totals for some characteristics may not equal the number for "All Mothers," due to rounding and nonresponse.

**Table 6. Estimates of Smoking Cessation During Pregnancy, By Selected Maternal Characteristics**

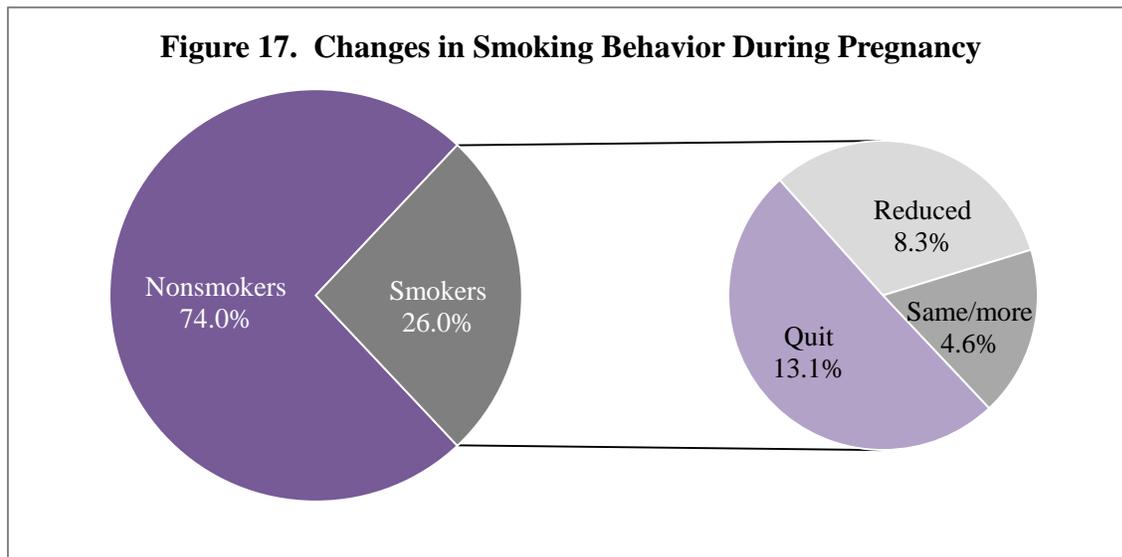
<b>Characteristic</b>	<b>Number</b>	<b>Percent</b>	<b>95% C.I.</b>
<b>All Mothers</b>	<b>25,479</b>	<b>13.1</b>	<b>11.5 - 14.6</b>
<b>Race/Ethnicity</b>			
White	20,298	14.2	12.1 - 16.2
Black/Afr. American	2,006	10.1	8.0 - 12.2
Hispanic/Latina	1,931	9.5	7.2 - 11.8
Other	--	--	--
<b>Age</b>			
Under 20 years	--	--	--
20-24	5,824	14.8	11.3 - 18.4
25-34	15,988	13.6	11.5 - 15.7
35 and older	--	--	--
<b>Education</b>			
Less than High School	2,659	11.2	7.6 - 14.8
High School	10,056	19.5	15.7 - 23.3
Some College	7,675	14.7	11.7 - 17.8
College Graduate	--	--	--
<b>Marital Status</b>			
Married	12,598	10.0	8.3 - 11.7
Other	12,881	18.7	15.7 - 21.7
<b>Health Insurance Before Pregnancy</b>			
Private or Employer Insurance	11,537	11.0	9.0 - 13.0
Medicaid	13,386	16.3	13.7 - 18.8
Uninsured	--	--	--
<b>Poverty Status</b>			
Poor	6,961	13.7	10.8 - 16.6
Near-poor	6,030	16.6	12.5 - 20.8
Not poor	11,545	11.8	9.7 - 13.9

Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.

-- Fewer than 60 respondents; data not shown.

Note: The totals for some characteristics may not equal the number for "All Mothers," due to rounding and nonresponse.

Responses to questions about smoking have been combined to show behavior changes over the course of pregnancy.

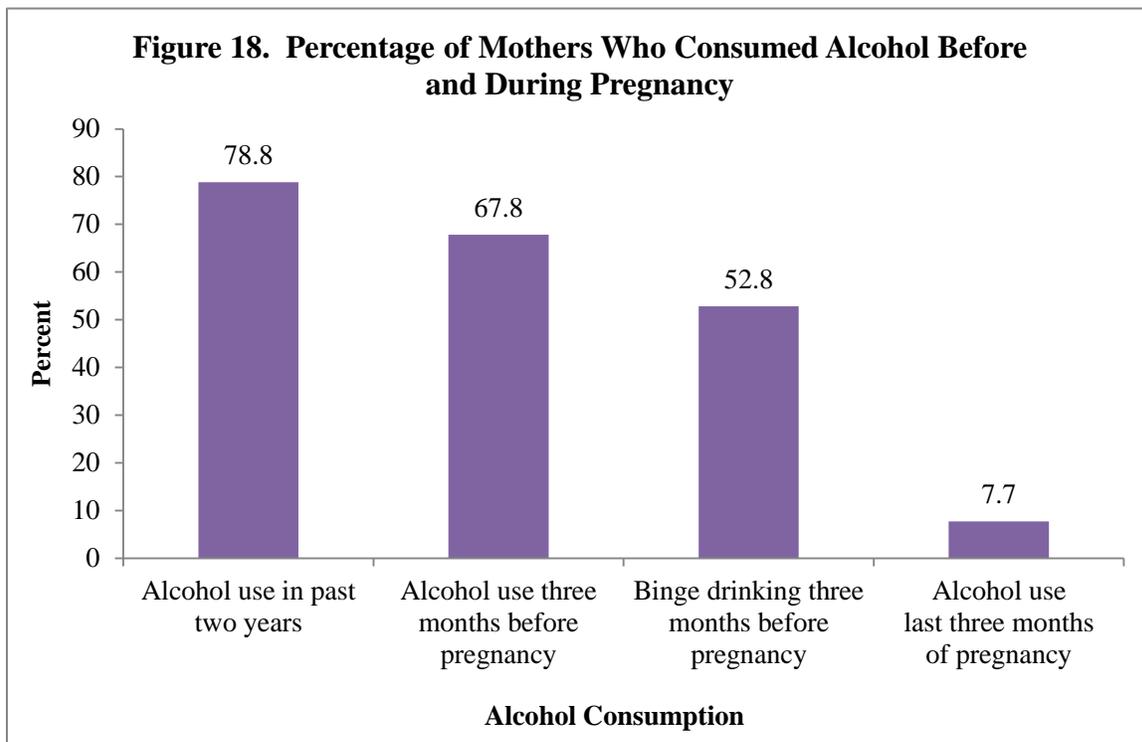


Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
Note: n=3,376.

During the three months before mothers became pregnant, 26.0 percent smoked cigarettes. During pregnancy, 13.1 percent of all mothers quit smoking, 8.3 percent reduced the number of cigarettes smoked per day, and 4.6 percent smoked the same number of cigarettes or more.

### Alcohol Consumption

Mothers were asked about their use of alcohol in the two years before completing the survey, in the three months before becoming pregnant, and during the last three months of pregnancy. They were also asked whether they engaged in binge drinking before they became pregnant.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
Note: n=3,369.

## Section 4. Prenatal Care

### Importance

Early entry into prenatal care is a standard clinical performance measure used to assess the quality of maternal health care. It is recommended that prenatal care begin during the first trimester of pregnancy to assure early identification of maternal diseases and chronic illnesses. Prenatal care provides opportunities for preventive health services, screening, monitoring, and treatment for pregnancy-related health issues.<sup>22</sup> Early prenatal care is critical to improving birth outcomes.

### Key Findings

- Prenatal care during the first trimester: An estimated 84.3 percent of mothers entered prenatal care during their first trimester of pregnancy. Prenatal care during the first trimester was lowest among mothers under 20 years old (63.8%), mothers who had less than a high school education (63.8%), and poor mothers (70.9%; Table 7).
- Barriers to early entry into prenatal care: The most common reasons for mothers not receiving prenatal care as early as they would have liked were mothers not knowing they were pregnant (38.8%), not being able to get an appointment (35.9%), and insurance not starting early enough (26.3%; Figure 19).
- Adequacy of prenatal care: Mothers least likely to receive adequate prenatal care were Black/African American mothers (69.9%), mothers with less than a high school education (68.4%), and mothers who were uninsured (48.5%; Table 9).
- Topics not discussed during prenatal care visits: An estimated 46.3 percent of mothers did not talk with their health care providers about abuse by husband/partner; 38.5 percent did not talk with their health care providers about seat belt use, and 38.2 percent did not talk with their health care providers about the effect of illegal drugs (Figure 20).

## What Moms Tell Us About Prenatal Care

“Get your prenatal check. And take your vitamins every day. I have a very healthy baby.”

“Take the prenatal vitamins, don't smoke or drink if you love your child.”

“Babies are healthy if mothers are taking prenatal vitamins two months before pregnancy every day and avoid the cigarettes and wine, and drugs. To be tranquil, eat healthy, get your prenatal check-up.”

“Take a prenatal class! Talk to friends and family about your pregnancy. Read magazines, books, and pamphlets. Listen to your doctor! Reach out for help!!!”

“During my experience as a mom to be I learned how important it is to begin prenatal care as soon as possible. I also learned that it is very important to talk to your doctor about all the medications you are on, and find out what the risk factors are and what is safe during pregnancy.”

“My doctor did not see me until 8 - 12 weeks for the first OB apt. For first pregnancies there should be an option to be seen sooner.”

## Prenatal Care During The First Trimester

Mothers were asked how many weeks or months pregnant they were when they went for their first prenatal care visit.

**Table 7. Estimates of Prenatal Care During the First Trimester, By Selected Maternal Characteristics**

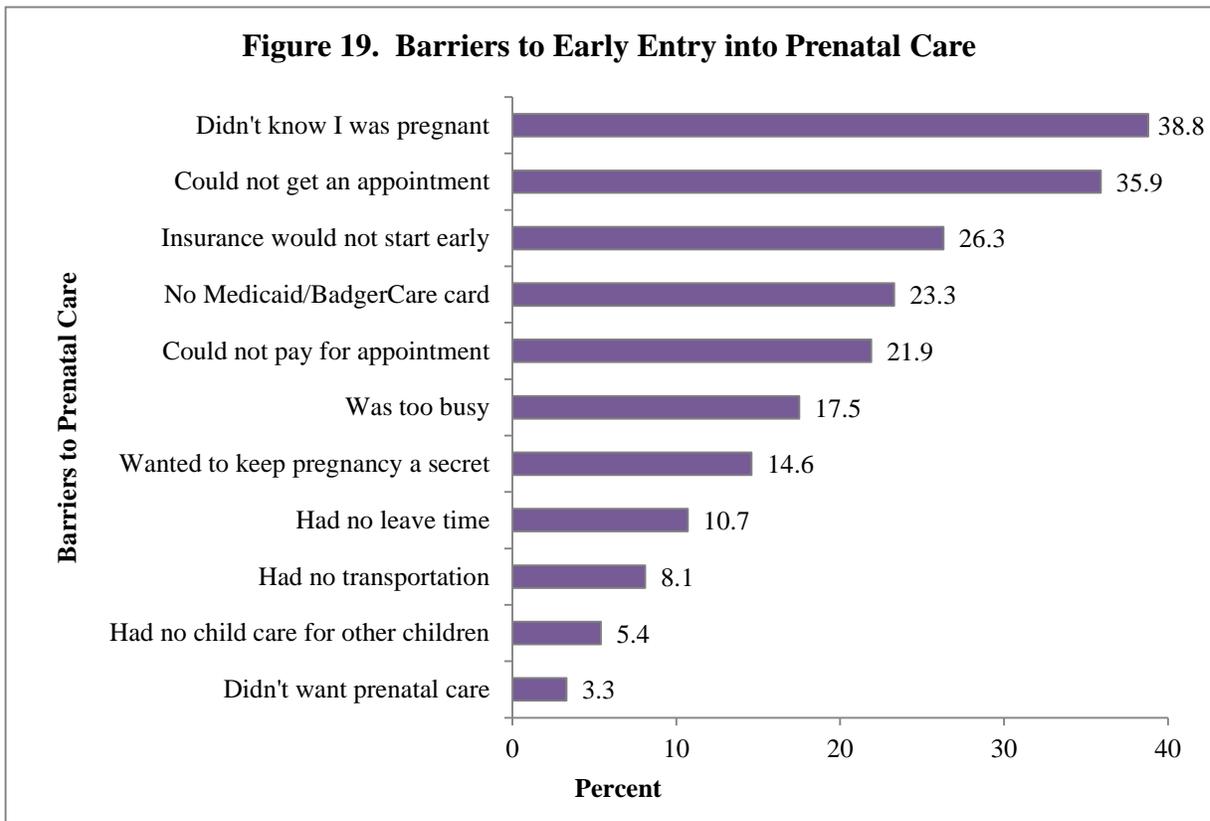
Characteristic	Number	Percent	95% C.I.
<b>All Mothers</b>	<b>161,692</b>	<b>84.3</b>	<b>82.8 - 85.8</b>
<b>Race/Ethnicity</b>			
White	125,378	88.8	86.9 - 90.3
Black/Afr. American	14,132	71.8	68.5 - 75.1
Hispanic/Latina	14,034	71.9	68.3 - 75.5
Other	8,148	72.5	67.9 - 77.2
<b>Age</b>			
Under 20 years	8,278	63.8	59.7 - 70.8
20-24	28,889	75.3	71.1 - 79.5
25-34	103,523	89.1	87.5 - 90.8
35 and older	21,003	86.7	82.6 - 90.7
<b>Education</b>			
Less than High School	14,610	63.3	58.1 - 68.4
High School	40,991	80.9	77.5 - 84.3
Some College	44,947	85.9	83.1 - 88.8
College Graduate	60,410	93.3	91.4 - 95.2
<b>Marital Status</b>			
Married	111,048	89.6	87.9 - 91.2
Other	50,644	74.8	71.8 - 77.8
<b>WIC Participation During Pregnancy</b>			
No	106,864	89.8	88.0 - 91.5
Yes	54,006	75.4	72.6 - 78.1
<b>Health Insurance for Prenatal Care</b>			
Private or Employer Insurance	98,360	92.7	91.1 - 94.2
Medicaid	59,974	77.1	74.4 - 79.8
Uninsured	--	--	--
<b>Pregnancy Intention</b>			
Intended	106,236	88.8	87.1 - 90.5
Unintended	54,328	77.2	74.4 - 80.1
<b>Poverty Status</b>			
Poor	35,092	70.9	67.4 - 74.5
Near-poor	29,689	82.9	79.1 - 86.8
Not poor	89,815	92.9	91.2 - 94.5

Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.

-- Fewer than 60 respondents; data not shown.

Note: The totals for some characteristics may not equal the number for "All Mothers," due to rounding and nonresponse.

Mothers were asked what prevented them from getting prenatal care at all, or getting prenatal care as early as they wanted.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: Percentages do not add to 100; mothers could select more than one answer; n=585 - 599.

During 2009-2011, 13 percent of mothers did not receive prenatal care as early as they wanted; however, 51 percent of those mothers received care before the end of the first trimester.

The top three barriers to mothers receiving prenatal care as early as they wanted were:

- Did not know she was pregnant (38.7%)
- No earlier appointment was available (35.9%)
- Insurance would not start early (26.3%)

Mothers were asked if they received prenatal care as early in pregnancy as they desired.

**Table 8. Estimates of Mothers Who Did Not Enter Prenatal Care as Early as They Desired, By Selected Maternal Characteristics**

<b>Characteristic</b>	<b>Number</b>	<b>Percent</b>	<b>95% C.I.</b>
<b>All Mothers</b>	<b>24,988</b>	<b>12.9</b>	<b>11.5 - 14.3</b>
<b>Race/Ethnicity</b>			
White	14,465	10.1	8.3 - 11.9
Black/Afr. American	4,490	22.8	19.7 - 25.8
Hispanic/Latina	3,683	18.6	15.5 - 21.7
Other	2,351	21.5	17.1 - 25.9
<b>Age</b>			
Under 20 years	4,366	33.8	26.3 - 41.3
20-24	7,804	19.9	16.2 - 23.7
25-34	11,524	9.8	8.2 - 11.4
35 and older	--	--	--
<b>Education</b>			
Less than High School	5,409	23.3	18.7 - 28.0
High School	7,501	14.7	11.7 - 17.7
Some College	7,399	14.0	11.2 - 16.9
College Graduate	4,495	6.9	5.0 - 8.7
<b>Marital Status</b>			
Married	9,304	7.4	6.0 - 8.8
Other	15,684	23.0	20.0 - 26.0
<b>Health Insurance for Prenatal Care</b>			
Private or Employer Insurance	7,988	7.4	5.8 - 9.0
Medicaid	15,767	19.8	17.1 - 22.3
Uninsured	--	--	--
<b>Pregnancy Intention</b>			
Intended	10,283	8.6	7.0 - 10.1
Unintended	14,383	20.3	17.5 - 23.1
<b>Poverty Status</b>			
Poor	11,526	23.1	19.8 - 26.5
Near-poor	4,570	12.6	9.3 - 15.9
Not poor	6,671	6.8	5.3 - 8.4

Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.

-- Fewer than 60 respondents; data not shown.

Note: The totals for some characteristics may not equal the number for "All Mothers," due to rounding and nonresponse.

The Adequacy of Prenatal Care Utilization (APNCU) index defines prenatal care as Inadequate, Intermediate, Adequate, or Adequate Plus. These categories are based on the month of the first prenatal care visit and the total number of prenatal care visits from prenatal care initiation until delivery.<sup>23</sup> The Adequate and Adequate Plus categories have been combined for this report. Month of first prenatal care visit is taken from question 17 of the Wisconsin PRAMS survey. Gestational age and total number of prenatal care visits were taken from the birth certificate data file.

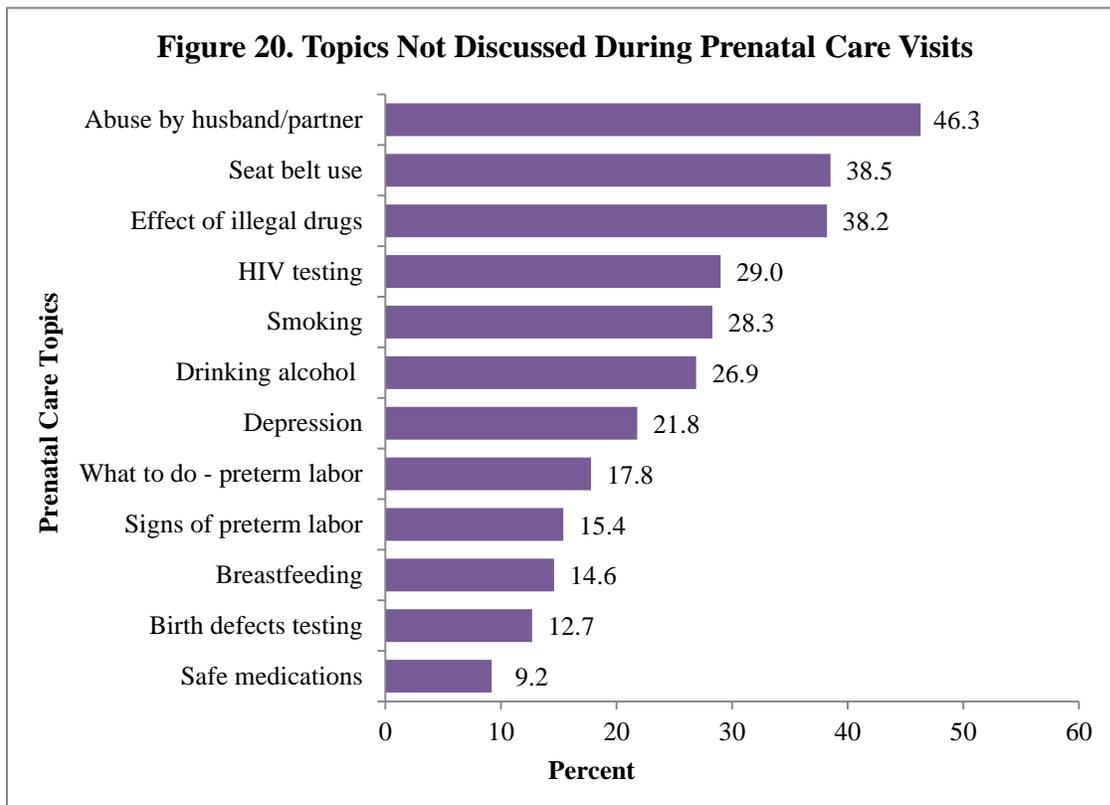
In 2009-2011, an estimated 3.3 percent of mothers who received prenatal care during the first trimester were considered to have inadequate prenatal care due to having less than 50 percent of their expected visits.

**Table 9. Estimates of Adequate Prenatal Care, By Selected Maternal Characteristics**

Characteristic	Number	Percent	95% C.I.
<b>All Mothers</b>	<b>159,017</b>	<b>83.1</b>	<b>81.6 - 84.7</b>
<b>Race/Ethnicity</b>			
White	121,422	86.4	84.4 - 88.4
Black/Afr. American	13,945	69.9	66.6 - 73.1
Hispanic/Latina	15,443	77.4	74.1 - 80.8
Other	8,206	75.5	70.9 - 80.0
<b>Age</b>			
Under 20 years	9,607	72.3	66.0 - 78.5
20 -24	30,612	78.8	75.0 - 82.7
25-34	100,021	86.6	84.7 - 88.4
35 and older	18,778	79.5	74.4 - 84.6
<b>Education</b>			
Less than High School	16,356	68.4	63.5 - 73.2
High School	42,353	83.5	80.3 - 86.6
Some College	43,931	85.6	83.-1 -88.8
College Graduate	55,506	86.2	83.5 - 88.8
<b>Marital Status</b>			
Married	106,182	86.0	84.1 - 87.9
Other	52,835	77.9	75.2 - 80.7
<b>Health Insurance for Prenatal Care</b>			
Private or Employer Insurance	91,925	87.0	85.0 - 89.0
Medicaid	62,992	81.0	78.6 - 83.4
Uninsured	1,723	48.5	31.5 - 65.5
<b>Pregnancy Intention</b>			
Intended	99,956	85.0	83.0 - 87.0
Unintended	56,986	80.3	77.7 - 82.9
<b>Poverty Status</b>			
Poor	37,868	76.3	73.2 - 79.4
Near-poor	30,757	85.8	82.3 - 89.3
Not poor	82,993	86.9	84.7 - 89.1

Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
Note: The totals for some characteristics may not equal the number for "All Mothers," due to rounding and nonresponse.

Mothers were asked if a health care professional discussed certain topics during their prenatal care visits. (Provider recommendations of reading materials or videos were not included.)

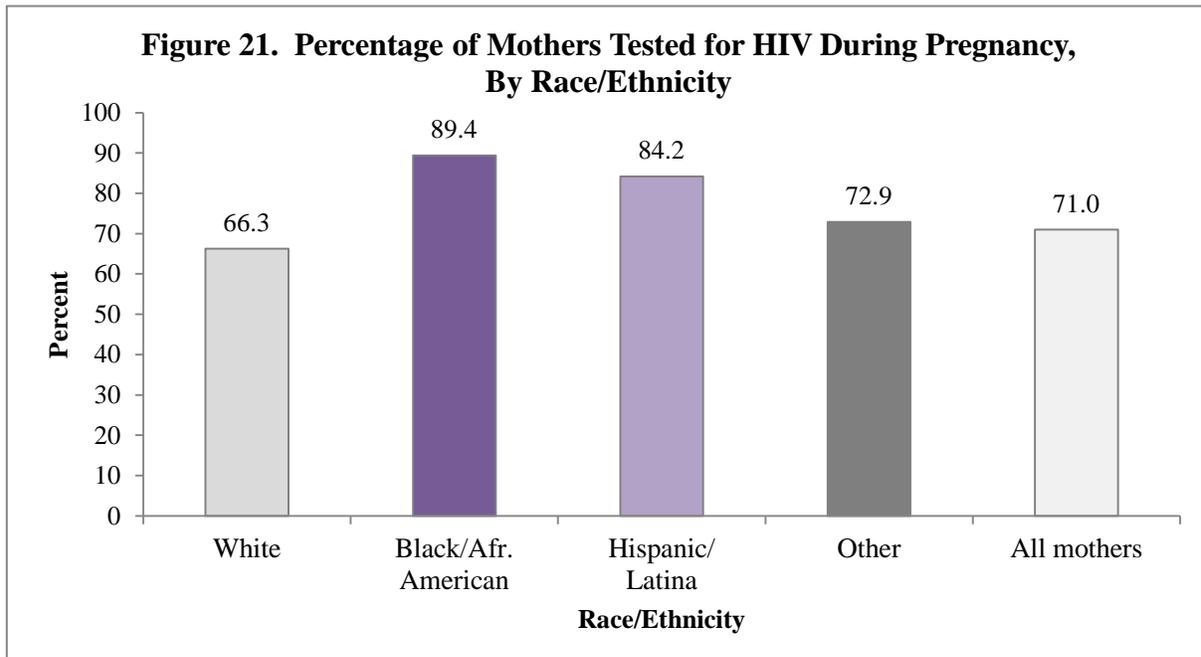


Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: Percentages do not add to 100; mothers could select more than one answer; n=2,987- 3,348.

The three topics **least** talked about during prenatal care visits were:

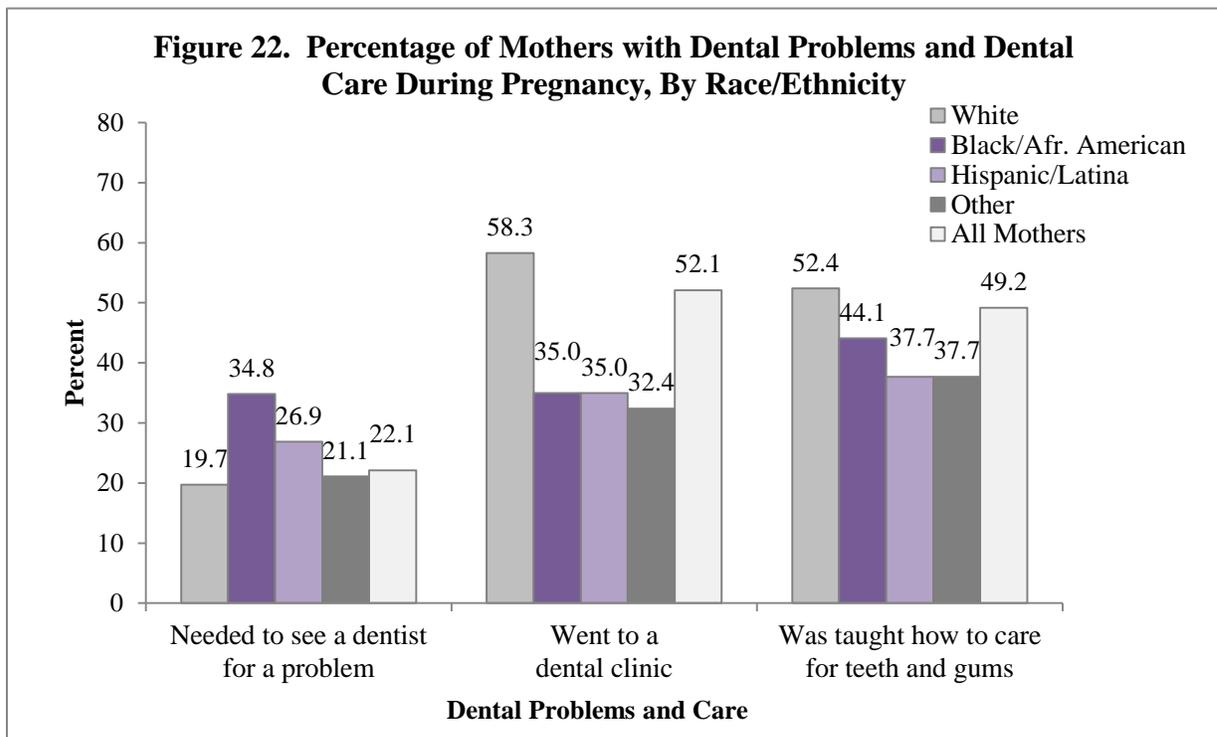
- Physical abuse by husband or partner (46.3%)
- Seat belt use (38.5%)
- Effect of illegal drugs (38.2%)

Mothers were asked if they had been tested for the Human Immunodeficiency Virus (HIV) during their most recent pregnancy or delivery.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=2,987.

Mothers were asked about the care of their teeth during their most recent pregnancy.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: Percentages do not add to 100; categories are not mutually exclusive; n=3,310 - 3,335.

## Section 5. Postpartum Health

### Importance

Wisconsin PRAMS collects data on the postpartum/interconception period (defined as 6 - 8 weeks after the birth of an infant) that can provide information about interventions for mothers who have had a previous poor pregnancy outcome and assist her with her interconception health plan. Many health conditions and risk factors may influence a mother's overall health and well-being. A postpartum visit, during this time, is an opportunity to address the development of chronic health conditions that many contribute to poor birth outcomes. Data on postpartum contraceptive use, depression symptoms, visits to a health care provider, multivitamin use, and smoking may be used by public health programs to improve the health of women of childbearing age and to improve birth outcomes.<sup>24</sup>

### Key Findings

- Postpartum checkup: An estimated 92.8 percent of all mothers received a postpartum checkup. Hispanic/Latina mothers were least likely to have received a postpartum checkup (86.7%; Figure 23).
- Postpartum contraception: An estimated 86.1 percent of all mothers used contraception postpartum (Figure 23).
- Reasons for not using contraception postpartum: Of mothers not using contraception postpartum, an estimated 31.6 percent did not want to use contraception, 29.5 percent were not having sex postpartum, and 18.6 percent wanted to be pregnant (Figure 24).
- Postpartum depression: An estimated 10.7 percent of all mothers experienced postpartum depression. Black/African American mothers experienced postpartum depression at a higher rate than mothers in other racial/ethnic groups (Figure 25).

### **What Moms Tell Us About Postpartum Health**

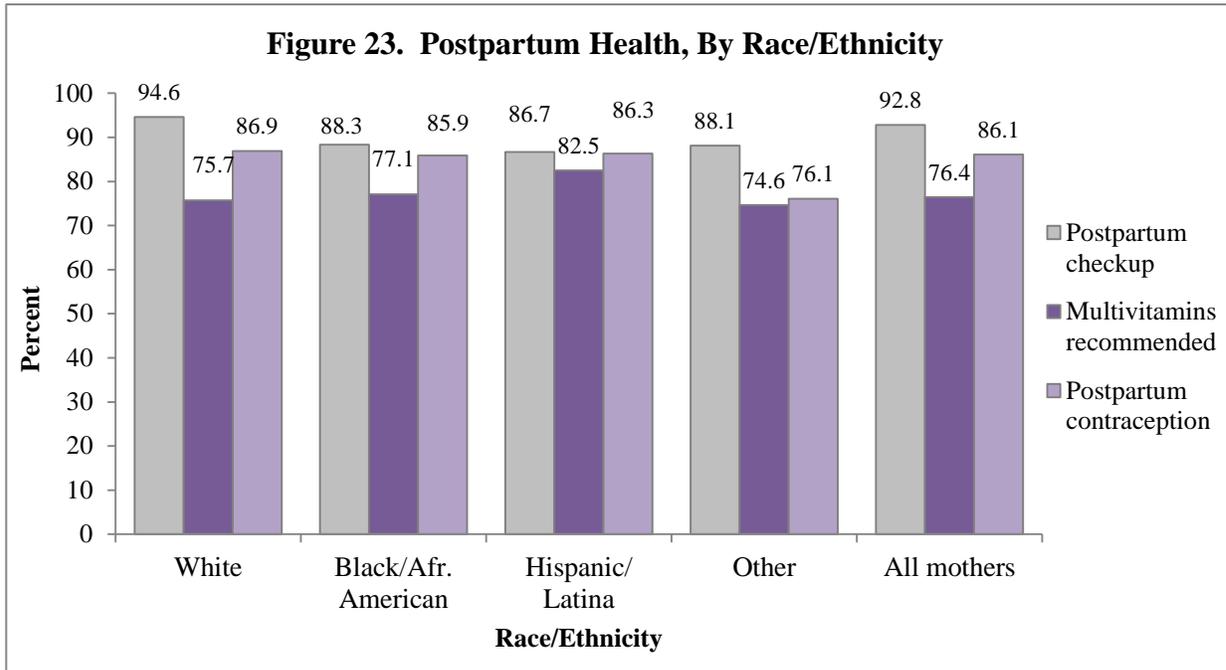
“I had feelings of helplessness, anxiety, but I think it was related to lack of sleep.”

“I thought I had done everything in my power to make him healthy but forgot some things are out of my control. The learning curve is brutal. But he had the best in-womb accommodations and his mommy doesn't cry or think she made a mistake anymore.”

“I feel blessed to have two healthy pregnancies, labor and deliveries, and healthy babies.”

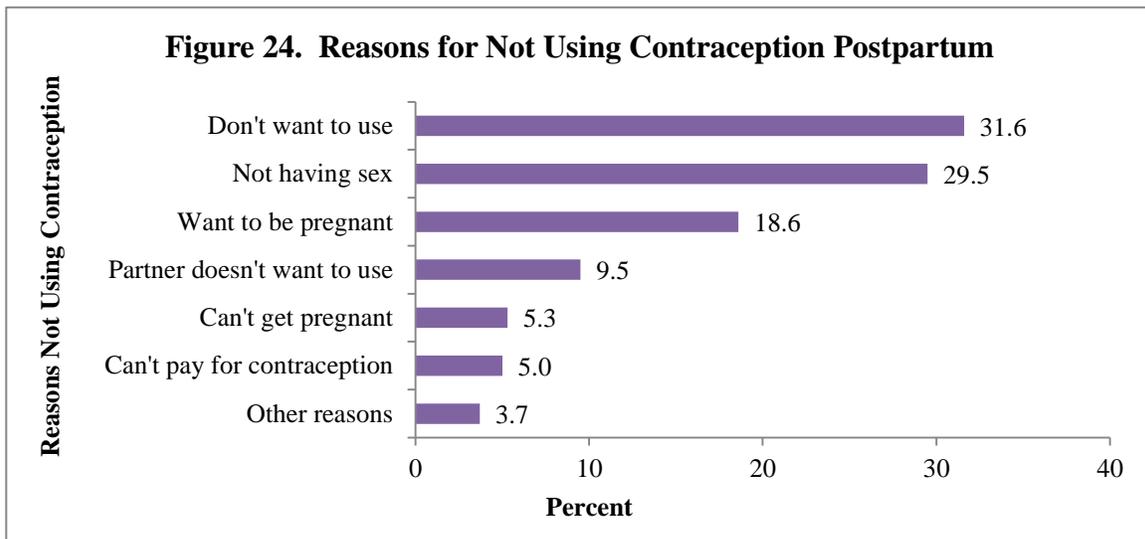
### Postpartum Health, Behaviors, Contraception and Depression

Mothers were asked if they received a postpartum checkup; whether a health care professional had advised them to take multivitamins; and whether they were using contraception.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=3,031 - 3,364.

Mothers were asked to provide their reasons for not using postpartum contraception.

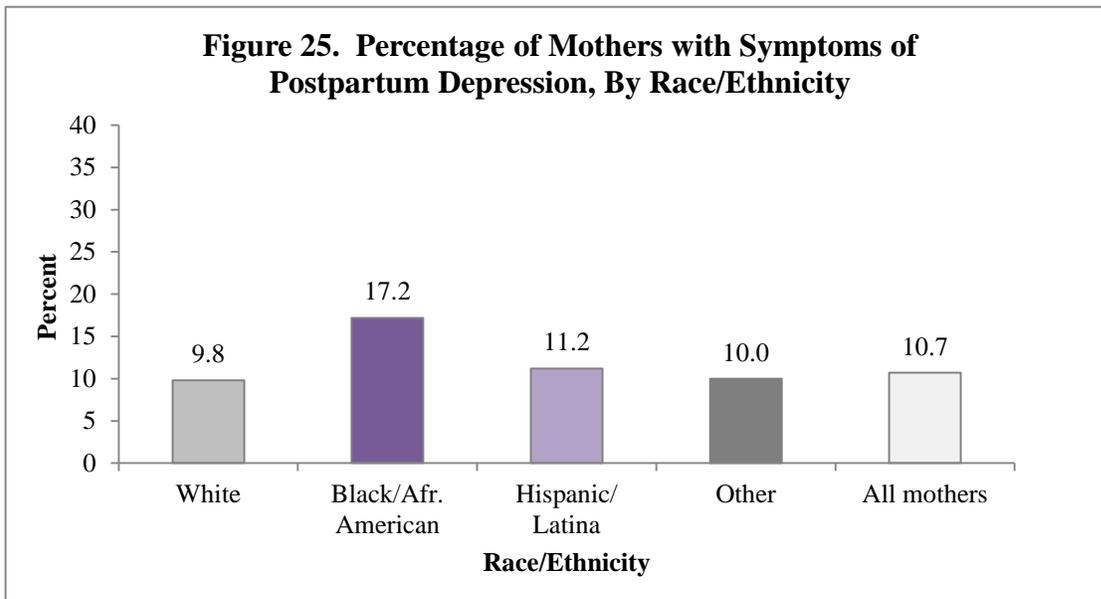


Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: Percentages do not add to 100; mothers could select more than one answer: n=553 - 554.

Other reasons for not using contraception were grouped due to small numbers of responses; these include:

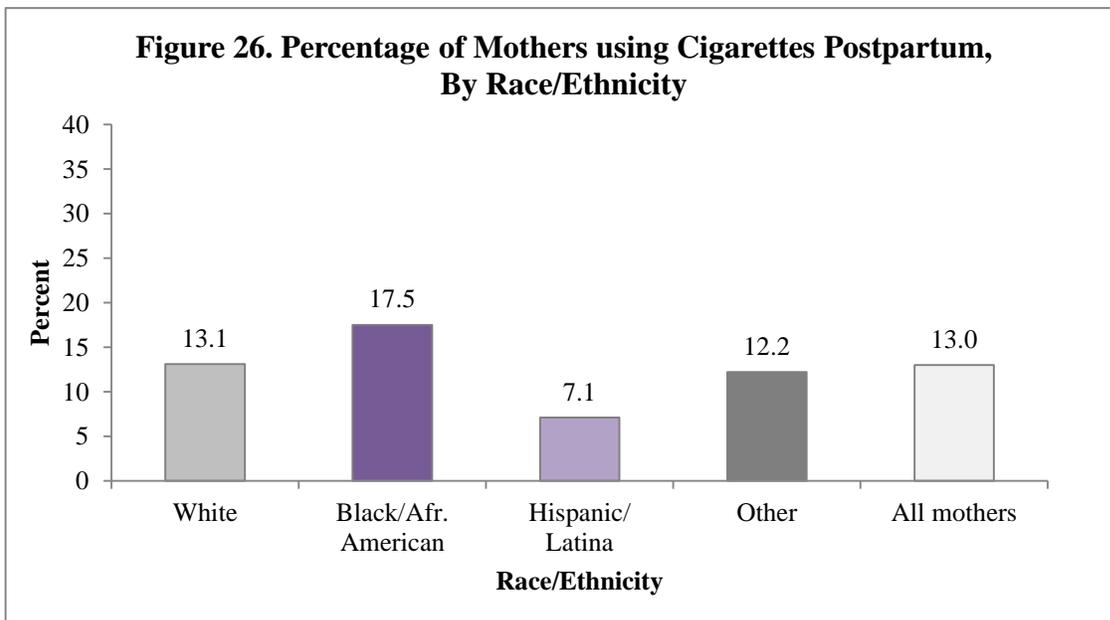
- Appointment (to get contraception) is scheduled
- Undecided/too busy
- Religion/personal beliefs

Mothers were asked about their feelings following childbirth in a three-part question: I felt down, depressed or sad; I felt hopeless; I felt slowed down. These responses were combined to classify mothers as having symptoms of depression.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services. Note: n=3,314.

Mothers were asked if they smoked cigarettes postpartum.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services. Note: n=3,378.

## Section 6. Infant Health

### Importance

Families face many challenges as well as joys when an infant is born, and must make significant adjustments. Pediatric health care professionals can use this time of adjustment to address the behaviors affecting the infant's overall health. Wisconsin PRAMS asks each sampled new mother questions regarding her infant's health; these include questions about breastfeeding, well-baby visits and safe sleep practices. PRAMS also asks about risk factors, including cigarette smoke exposure and barriers to breastfeeding.

### Key Findings

- **Sleep position:** An estimated 18.6 percent of mothers placed their infant to sleep in a position other than on the infant's back (a non-supine position). Mothers most likely to place their baby in a non-supine sleeping position were Black/African American mothers (31.1%) and mothers under 20 years old (29.2%; Table 10).
- **Bed-sharing:** An estimated 28.4 percent of infants shared a bed with the mother or someone else (Table 11).
- **Breastfeeding initiation:** An estimated 82.6 percent of mothers initiated breastfeeding. Hispanic/Latina mothers had the highest rate of breastfeeding initiation at 89.2 percent, followed by White mothers at an estimated 84.3 percent, other non-Hispanic mothers at 75.4 percent, and Black/African American mothers at an estimated 66.7 percent (Table 12).
- **Breastfeeding duration:** An estimated 61.7 percent of mothers continued breastfeeding beyond eight weeks after birth (Figure 29).
- **Infant checkup within one week of birth:** An estimated 93.7 percent of mothers had their babies seen by a health care professional for a checkup within one week of birth (Figure 31).

### **What Moms Tell Us about Infant Health**

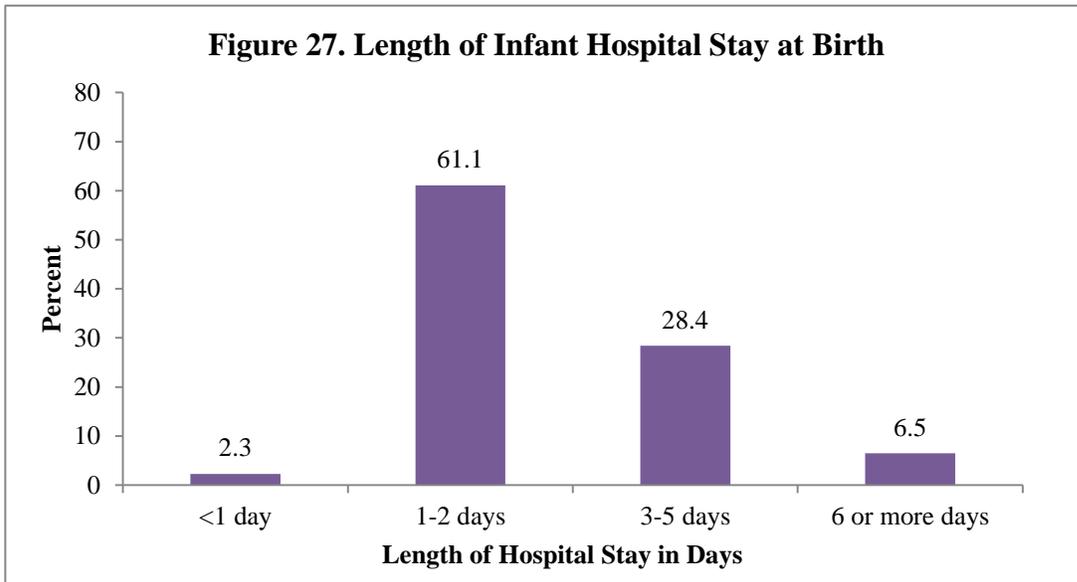
“I breastfed, but he started refusing to [take the breast] around 8 weeks but took bottles fine. I had to go back to work and could not keep up with the pump schedule.”

“We just need to learn to relax and take time. Patience is the key with a newborn.”

“Breast milk is the best for your children to become healthy and strong.”

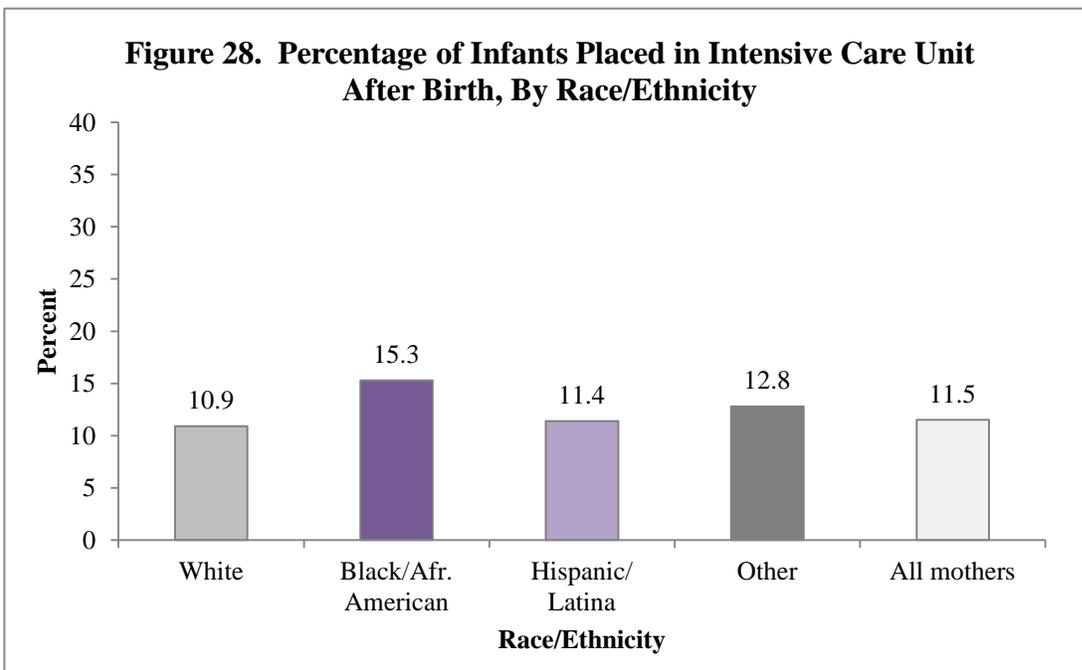
### Infant Hospital Length of Stay and Intensive Care

Mothers were asked how long their infant stayed in the hospital after birth.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=3,337.

Mothers were asked whether their infant had been placed in an intensive care unit after birth.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=3,350.

## Sleep Position and Bed-Sharing

Mothers were asked in which position they most often laid their infant to sleep. This table presents combined percentages for all non-supine sleeping positions (any infant sleeping position other than on its back).

**Table 10. Estimates of Mothers Who Placed Infant in a Non-supine Sleep Position, By Selected Maternal Characteristics**

Characteristic	Number	Percent	95% C.I.
<b>All Mothers</b>	<b>35,825</b>	<b>18.6</b>	<b>16.9 - 20.2</b>
<b>Race/Ethnicity</b>			
White	24,351	17.0	14.9 - 19.2
Black/Afr. American	5,906	31.1	27.7 - 34.5
Hispanic/Latina	3,535	17.8	14.8 - 20.8
Other	2,034	18.3	14.3 - 22.4
<b>Age</b>			
Under 20 years	3,738	29.2	22.0 - 36.4
20-24	8,609	22.2	18.2 - 26.2
25-34	18,610	15.9	13.9 - 18.0
35 and older	4,868	19.8	14.9 - 24.8
<b>Education</b>			
Less than High School	5,543	24.0	19.1 - 28.8
High School	10,527	20.6	17.0 - 24.2
Some College	10,111	19.3	16.1 - 22.6
College Graduate	9,319	14.2	11.6 - 16.8
<b>Marital Status</b>			
Married	20,132	16.0	14.0 - 18.1
Other	15,694	23.2	20.3 - 26.2
<b>Health Insurance at Delivery</b>			
Private or Employer Insurance	15,379	14.6	12.5 - 16.8
Medicaid	17,994	22.1	19.4 - 24.8
Uninsured	--	--	--
<b>Pregnancy Intention</b>			
Intended	19,405	16.2	14.2 - 18.3
Unintended	16,026	22.7	19.7 - 25.7
<b>Poverty Status</b>			
Poor	11,245	22.6	19.3 - 25.9
Near-poor	8,340	23.0	18.6 - 27.4
Not poor	13,946	14.2	12.1 - 16.4

Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.

-- Fewer than 60 respondents. Data not shown.

Note: The totals for some characteristics may not equal the number for "All Mothers," due to rounding and nonresponse.

Each mother was asked how often her infant shared a bed with her, or with anyone else. This table presents the combined percentages for responses of Always, Often, and Sometimes.

**Table 11. Estimates of Infant Bed-Sharing, By Selected Maternal Characteristics**

<b>Characteristic</b>	<b>Number</b>	<b>Percent</b>	<b>95% C.I.</b>
<b>All Mothers</b>	<b>54,642</b>	<b>28.4</b>	<b>26.5 - 30.3</b>
<b>Race/Ethnicity</b>			
White	34,047	23.9	21.5 - 26.4
Black/Afr. American	7,254	38.1	34.6 - 41.6
Hispanic/Latina	7,946	40.0	36.2 - 43.9
Other	5,396	48.7	43.5 - 54.0
<b>Age</b>			
Under 20 years	4,884	38.0	30.5 - 45.5
20-24	10,372	26.7	22.6 - 31.0
25-34	31,502	27.1	24.6 - 29.6
35 and older	7,884	32.3	26.7 - 38.1
<b>Education</b>			
Less than High School	9,087	39.3	34.1 - 44.6
High School	15,543	30.4	26.3 - 34.6
Some College	14,625	28.2	25.5 - 31.8
College Graduate	15,053	23.1	20.0 - 26.2
<b>Marital Status</b>			
Married	30,628	24.5	22.2 - 26.8
Other	24,014	35.7	32.3 - 39.2
<b>Health Insurance at Delivery</b>			
Private or Employer Insurance	24,923	23.2	20.7 - 25.7
Medicaid	27,945	34.4	31.4 - 37.5
Uninsured	--	--	--
<b>Pregnancy Intention</b>			
Intended	31,223	26.2	23.9 - 28.6
Unintended	22,670	32.1	29.8 - 35.5
<b>Poverty Status</b>			
Poor	17,009	34.3	30.6 - 38.0
Near-poor	12,703	35.1	30.1 - 40.0
Not poor	21,964	22.5	19.9 - 25.1

Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.

-- Fewer than 60 respondents. Data not shown.

Note: The totals for some characteristics may not equal the number for "All Mothers," due to rounding and nonresponse.

## Breastfeeding

Mothers were asked if they ever breastfed or fed pumped breast milk to their infant.

**Table 12. Estimates of Breastfeeding Initiation, By Selected Maternal Characteristics**

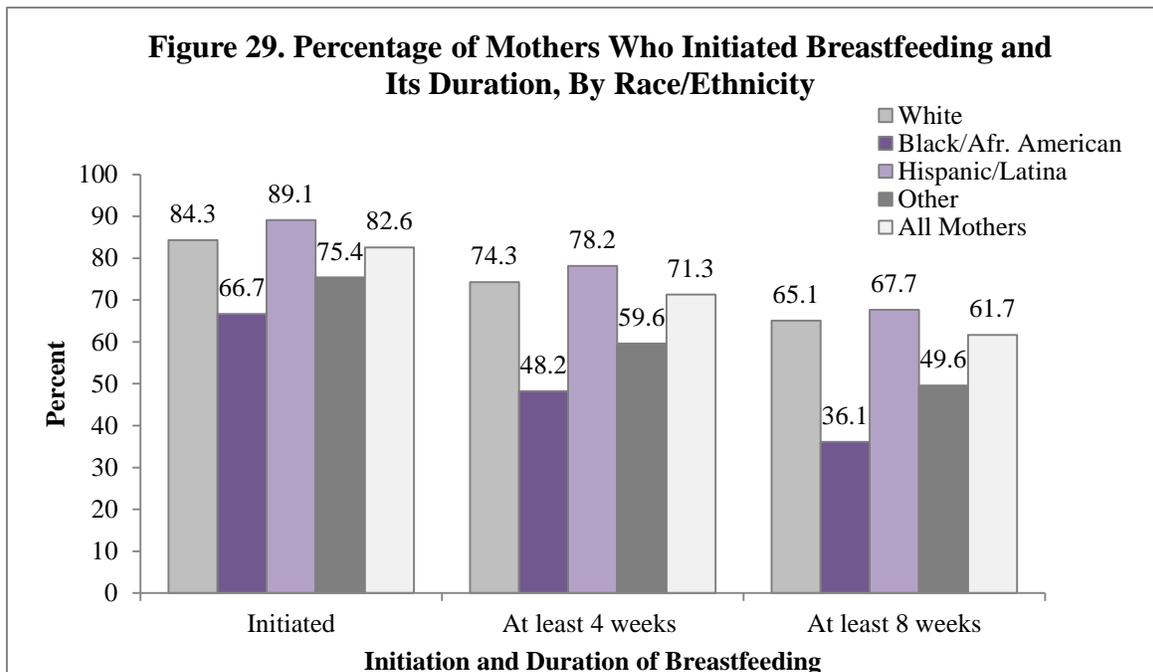
Characteristic	Number	Percent	95% C.I.
<b>All Mothers</b>	<b>159,079</b>	<b>82.6</b>	<b>80.9 - 84.2</b>
<b>Race/Ethnicity</b>			
White	120,168	84.3	82.2 - 86.5
Black/Afr. American	12,729	66.7	63.2 - 70.2
Hispanic/Latina	17,760	89.2	86.7 - 91.6
Other	8,422	75.4	70.9 - 79.9
<b>Age</b>			
Under 20 years	9,586	75.1	68.5 - 81.7
20-24	29,696	76.8	72.7 - 80.9
25-34	98,803	84.7	82.6 - 86.8
35 and older	20,993	85.5	81.0 - 90.0
<b>Education</b>			
Less than High School	17,702	76.1	71.3 - 80.8
High School	37,091	73.0	68.9 - 77.1
Some College	44,065	84.0	81.0 - 87.0
College Graduate	59,529	91.5	89.4 - 93.6
<b>Marital Status</b>			
Married	109,505	87.6	85.7 - 89.5
Other	49,574	73.3	70.2 - 76.5
<b>WIC During Pregnancy</b>			
No	104,057	87.1	85.1 - 89.1
Yes	54,373	75.1	72.2 - 78.0
<b>Health Insurance at Delivery</b>			
Private or Employer Insurance	91,822	87.6	85.5 - 89.7
Medicaid	62,058	75.8	73.0 - 78.5
Uninsured	--	--	--
<b>Pregnancy Intention</b>			
Intended	101,999	85.4	83.4 - 87.4
Unintended	54,817	77.7	74.8 - 80.7
<b>Poverty Status</b>			
Poor	37,448	74.6	71.2 - 78.1
Near-poor	30,111	83.2	79.2 - 87.2
Not poor	84,734	86.9	84.7 - 89.1

Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.

-- Fewer than 60 respondents. Data not shown.

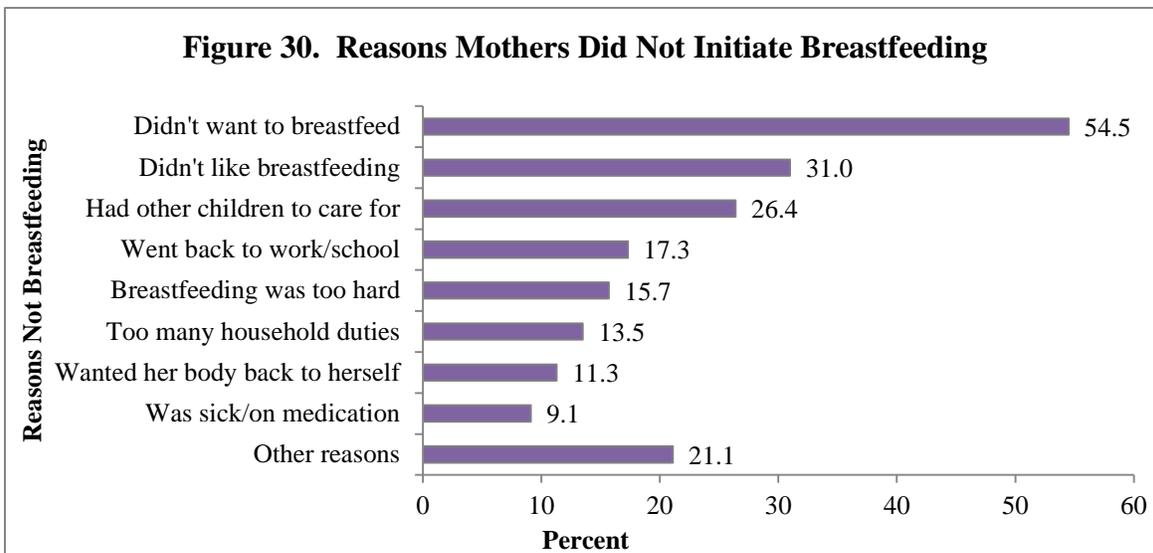
Note: The totals for some characteristics may not equal the number for "All Mothers," due to rounding and nonresponse.

Mothers who initiated breastfeeding were asked how many weeks or months they continued to breastfeed.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=3,312.

Mothers who did not initiate breastfeeding were asked to give their reasons.



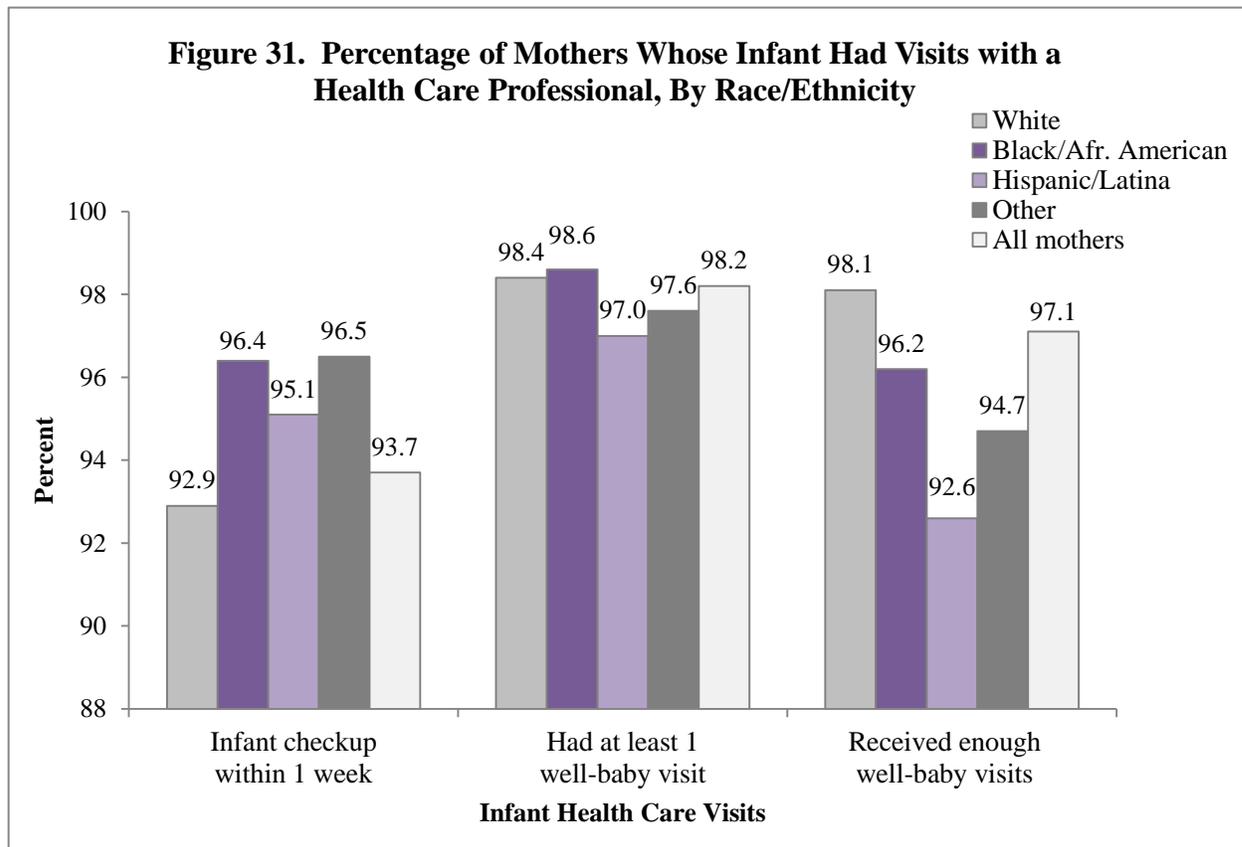
Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: Percentages do not add to 100; mothers may select more than one answer; n=728 - 729.

Other reasons mothers gave for not breastfeeding were:

- Insufficient milk production
- Baby didn't latch on
- Breast reduction/augmentation
- Painful/uncomfortable
- Was smoking, drinking, had poor diet or substance use

**Infant Health Care Visits**

Mothers were asked if their infant had been seen by a health care professional one week after birth; whether their infant had at least one well-baby visit; and if their infant had received enough well-baby visits.



Source: 2009-2011 Wisconsin PRAMS, Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.  
 Note: n=3,295 - 3,304.

## Technical Notes

### Introduction

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a surveillance project of the CDC in partnership with state health departments. PRAMS collects state-specific data on maternal attitudes and experiences before, during, and shortly after pregnancy from mothers who have recently had a live birth.

PRAMS provides statewide data on the health of mothers and babies that is not available from any other source. Some of the topics in the PRAMS survey include attitudes and feelings about pregnancy; prenatal care; smoking and alcohol use prior to and during pregnancy; pregnancy-related violence; stressful events during pregnancy; health insurance coverage; and postpartum depression.

Wisconsin PRAMS includes questions on several additional topics: emotional effects of being treated differently because of race; oral health; breastfeeding; and co-sleeping.

The results from analysis of Wisconsin PRAMS data represent all Wisconsin residents who had a live birth in Wisconsin during a specific year. Note that this is a subset of all live births in Wisconsin.

### Methods

PRAMS is a multi-mode survey, collecting information by both mail and telephone. Each month, a stratified sample is randomly selected from certificates of recent births. An introductory letter is mailed to each mother in the sample two to four months after her infant's birth. The PRAMS survey packet is mailed a few days later. A second survey packet, as well as a reminder letter, is mailed to mothers who do not respond.

Mothers who do not return the mail questionnaire within about seven weeks are contacted by trained telephone interviewers (all of whom are women). The Wisconsin birth certificate did not include telephone numbers prior to 2011; so for 2009-2010, numbers were located from a variety of sources including Medicaid records, WIC records and Internet sites. Also during 2009-2010, telephone interviews were discontinued after about four or five months due to lack of sufficient funding; telephone interviews of mothers who did not complete the mailed survey were conducted throughout the entire 2011 survey period.

Mothers who are identified as Hispanic on their infant's birth certificate are mailed PRAMS materials in both English and Spanish. Telephone interviewers assigned to Hispanic mothers are fluent in both languages.

Each initial survey packet includes a small incentive and some informational materials for new mothers. Mothers who complete either the mail or the telephone survey are mailed a CD of children's music as a reward.

The answers and unedited comments provided on completed questionnaires and during telephone interviews are keyed into PRAMS data software by Wisconsin PRAMS staff.

## **Sampling**

Each month, a random sample of mothers was selected from birth certificates of infants born 2-3 months earlier. The sample was selected independently from three strata: White non-Hispanic mothers; Black/African American non-Hispanic mothers; and all others. The category of other includes all racial and ethnic groups besides White and Black/African American mothers. Wisconsin separates data from mothers who are Hispanic/Latina for analytic purposes.

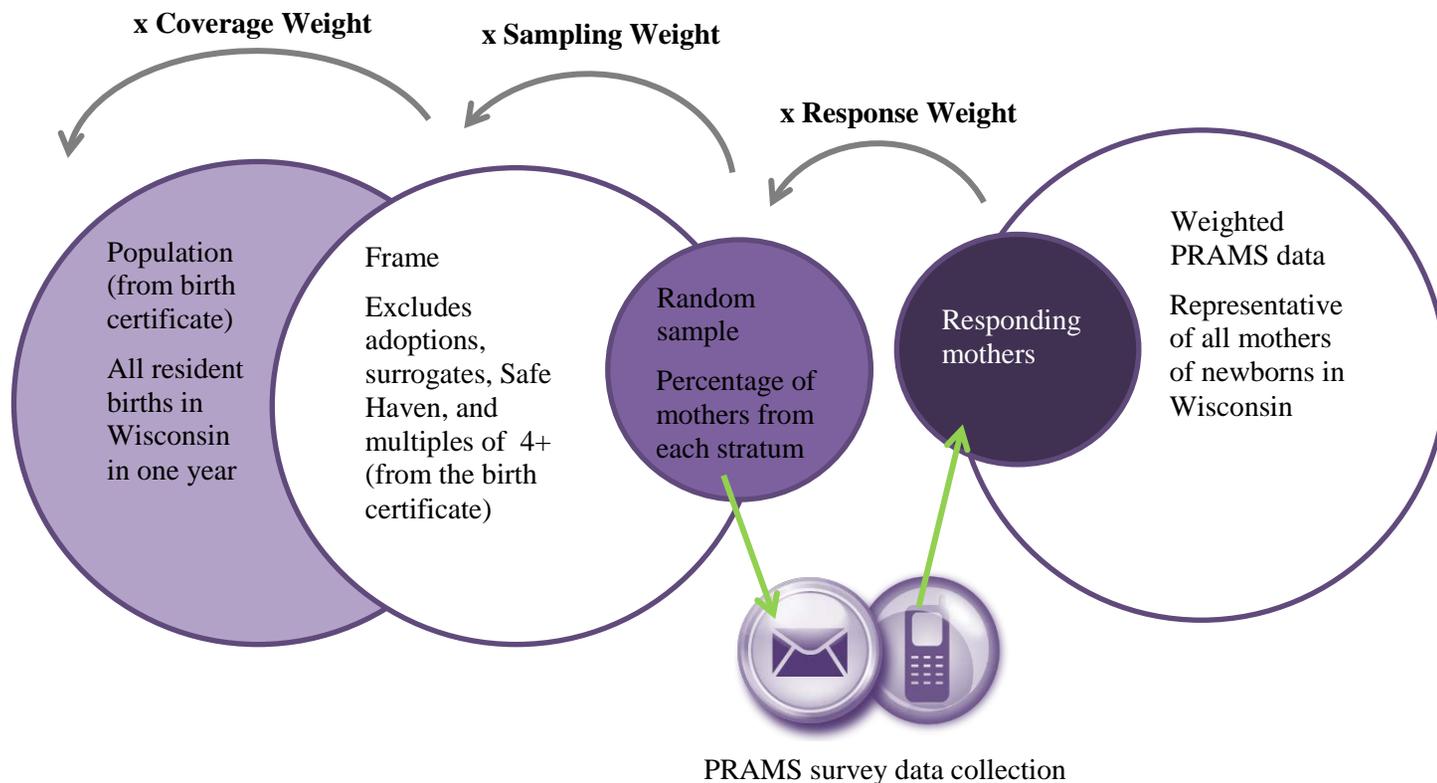
For 2009 and 2010, sampling rates differed by stratum: 1 of 83 White mothers, 1 of 11 Black/African American mothers, and 2 of 35 other mothers. About 50 to 55 mothers were selected from each stratum each month. The total annual samples for 2009 and 2010 were 1,863 and 1,778, respectively.

Additional funds in 2011 from the Wisconsin Partnership Program (WPP) made possible an oversample of Black/African American mothers in Southeastern Wisconsin (1 of 1 in the three counties of Kenosha, Racine and Rock; and 1 of 6 in Milwaukee and all other counties). The total sample for Black/African American mothers in 2011 was 1,420; the total 2011 sample was 2,761. Sampling rates remained the same as they were for 2009 and 2010 for White mothers and for mothers of all other races.

The sample excludes adoptive mothers, surrogates, Act 2 or Safe Haven infants, and multiple births of four or more. The sample also excludes out-of-state residents who gave birth in Wisconsin, as well as Wisconsin residents who gave birth in other states.

All mothers of live-born infants are eligible to be sampled. This means that a few mothers of deceased infants are included in each year's sample.

## Wisconsin PRAMS Weighting Scheme



**Population:** Total births to Wisconsin resident women.

**Frame:** Wisconsin resident women who recently gave birth to a live infant. One infant is randomly selected from births of twins or triplets. The sample excludes adoptive mothers, surrogates, Act 2 (Safe Haven) infants, and multiple births of 4 or more. The sample also excludes out-of-state residents who gave birth in Wisconsin, as well as Wisconsin residents who gave birth in other states.

**Sample:** Mothers selected randomly from the frame to participate in Wisconsin PRAMS.

**Respondents:** Mothers who completed a Wisconsin PRAMS survey by mail or by telephone.

**Final Weight:** = Response Weight \* Sampling Weight \* Coverage Weight  
= Population

## Distribution of Response Rates

The weighted response rate for each sampling stratum that the CDC considers to be the threshold for epidemiologic validity is 65%. For 2009 to 2011, the weighted response rates by sampling strata achieved by Wisconsin PRAMS were:

Stratum	2009 Response Rate	2010 Response Rate	2011 Response Rate
White	73.2%	66.6%	71.4%
Black/African American	35.1%	29.9%	51.3%
Hispanic/Latina	51.3%	53.3%	61.8%
Other	53.4%	49.3%	55.3%
All mothers	65.9%	60.5%	67.3%

## Definitions of Variables Used in This Report

### *Race/Ethnicity*

Mothers are selected by race/ethnicity as reported on the birth certificate; White, non-Hispanic mothers; Black/African American non-Hispanic mothers; and all others. The category of Other includes all racial and ethnic groups besides White and Black/African American mothers. Wisconsin separates data from mothers who are Hispanic/Latina for analytic purposes.

### *Pregnancy Intention*

This variable is derived from survey question 12, which asks new mothers “Thinking back to just before you got pregnant with your new baby, how did you feel about becoming pregnant?” According to the CDC definition of pregnancy intention, two of the possible answers to this question (“sooner” and “then”) indicate an intended pregnancy, whereas the other two possible answers (“later” and “did not want to get pregnant”) indicate an unintended pregnancy.

### *Poverty Status*

The Federal Poverty Level (FPL) is based on the number of people in a household and their annual money income in the previous year. A household is considered poor if income is less than the FPL, and “near-poor” if income is greater than the poverty level but less than twice the level. For example, a household of four was considered poor in 2010 if income for 2009 was less than \$22,050 and near-poor if income was between \$22,050 and \$44,100. Mothers reported annual household income, and the number of persons who depended on that income for the 12 months before the birth of their new infant.

### *Symptoms of Depression*

To assess postpartum depression, mothers rated three statements on a five-point scale from 1 to 5 (Never, Rarely, Sometimes, Often, Always):

- 1) I felt down, depressed or sad.
- 2) I felt hopeless.
- 3) I felt slowed-down.

A mother’s responses to these statements must sum to 10 or more in order to classify the mother as having postpartum depression symptoms. When data are available for only two of the statements, the sum of those statements must be 7 or more. When data are available for only one statement, the value must be 4 or more.

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