



# Summary Book

## 2002 – 2003



Minnesota PRAMS Project  
Center for Health Statistics  
Office of Health Policy, Statistics and Informatics

Division of Community & Family Health  
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# Introduction

## Overview of PRAMS

The **P**regnancy **R**isk **A**ssessment **M**onitoring **S**ystem (PRAMS) is a survey of mothers who have recently had a baby. It includes questions about attitudes and feelings related to pregnancy, prenatal care, and experiences before, during and after pregnancy. The information gathered from PRAMS is used to address public health issues and to develop effective programs and policies that will improve the health of mothers and babies.

Minnesota PRAMS is a cooperative project between the Minnesota Department of Health (MDH) and the national Centers for Disease Control and Prevention (CDC). Currently, 30 states have PRAMS and nine more will start in 2007. Minnesota PRAMS began collecting survey data for mothers who gave birth in May 2002 and is currently funded through 2010.

## Minnesota PRAMS Priority Areas

The PRAMS survey consists mainly of “core questions” developed by CDC and representing major areas of concern regarding pregnancy and childbearing. These core questions are asked by all PRAMS states. In addition, each state may add a limited number of its own questions, or select additional standard questions developed by CDC. The Minnesota PRAMS survey includes questions on the following topics:

- Abuse
- Alcohol Use
- Breastfeeding
- Child Care
- Contraception
- Co-sleeping/Sleep position
- Health Insurance
- HIV/AIDS
- Income
- Infant Mortality
- Labor and Delivery
- Maternal Health & Morbidity
- Mental Health
- Nutrition & Folic Acid
- Parent/Household Characteristics
- Pregnancy Intention
- Prenatal Care
- Reproductive History
- Smoking/ Smoke Exposure
- Safety / Injury Prevention
- Sick Baby Care
- Social Services
- Social Support
- Stress
- Well-baby Care / Immunizations

In 2001 when planning for the PRAMS survey began, members of the external Advisory Committee identified priority areas where information was most needed for policy and program development. This document summarizes data from the top five priority areas originally established for PRAMS in Minnesota: Prenatal Care, Maternal Health, Pregnancy Intent, Mental Health, and Breastfeeding. In addition, selected topics about infant health are included.

## **Racial and Ethnic Health Disparities in Minnesota**

An overarching priority for PRAMS in Minnesota is to learn more about health disparities that exist among the state's Populations of Color, American Indians and Whites. When establishing the framework for Minnesota PRAMS, the Advisory Committee deliberately made the decision to focus on two sub-populations which have shown pregnancy-related inequities: African Americans and American Indians. Specific concerns are low birth weight and infant mortality outcomes within these populations.

Preliminary analyses of the 2002 - 2003 data from African American and American Indian mothers did show consistent disparities when compared with the rest of the state's mothers, who were predominantly White (94.3%).<sup>1</sup> Nevertheless, CDC strongly recommends that PRAMS data not be reported unless the weighted response rate is at least 70%. In 2002 and 2003, only about half of the mothers from these two groups responded to the survey; Minnesota's weighted response rate for these two sub-populations did not reach the 70% threshold. For this reason, the data for African American mothers and American Indian mothers are not broken out separately in the charts and analyses contained in this report. However, the information obtained from these mothers was weighted and is included in the estimates for the overall population of Minnesota mothers.

When data are reported by demographic characteristics, African American and American Indian mothers are included in the "Other than White" category, along with all the other mothers of different races, including Asian mothers. With ongoing efforts to obtain higher response rates for these sub-populations, Minnesota PRAMS hopes to report the data for African American and American Indian mothers separately in the future. For more information on response rates, please see the Appendix section "Sample Size and Response Rates, 2002 and 2003."

---

<sup>1</sup> Asian/Pacific Islander mothers made up 5.2%, and the remaining 0.5% of mothers belonged to other races.

## Sample Characteristics, 2002-2003

The data in this book are based on the responses of 2,975 mothers who participated in the survey. The overall weighted response rates for 2002 and 2003 were 76.5% and 76.2%, respectively. The responses have been adjusted to represent the 110,766 Minnesota resident women who gave birth to a live born infant in Minnesota between May 2002 and December 2003. See the following sections, “Statistical Denotations” and “Demographic Categories for Maternal and Infant Characteristics” for more information about this table.

|   | %    | ( 95% CI )      | p-value | Pop. Est. | Surv. Resp. |
|---|------|-----------------|---------|-----------|-------------|
| <b>Total</b>  |      |                 |         | 110766    | 2975        |
| <b>Maternal and Infant Characteristics from Birth Certificates:</b> |      |                 |         |           |             |
| <b>Maternal Age</b>   |      |                 |         |           |             |
| < 20  | 6.5  | ( 5.4 , 7.6 )   | <.0001  | 7222      | 300         |
| 20 - 24   | 22.6 | ( 20.6 , 24.5 ) |         | 25012     | 761         |
| 25 - 29   | 26.3 | ( 24.2 , 28.3 ) |         | 29079     | 787         |
| 30 - 34   | 28.9 | ( 26.8 , 31.0 ) |         | 32004     | 715         |
| 35+   | 15.8 | ( 14.1 , 17.5 ) |         | 17449     | 412         |
| <b>Maternal Education<sup>1</sup></b>                               |      |                 |         |           |             |
| < 12 years  | 11.5 | ( 9.9 , 13.0 )  | <.0001  | 12473     | 447         |
| 12 years  | 26.6 | ( 24.6 , 28.7 ) |         | 28957     | 920         |
| 13 - 15 years   | 26.6 | ( 24.6 , 28.7 ) |         | 28959     | 753         |
| 16+ years   | 35.2 | ( 33.0 , 37.5 ) |         | 38299     | 776         |
| <b>Maternal Race</b>  |      |                 |         |           |             |
| White   | 85.2 | ( 84.1 , 86.3 ) | <.0001  | 94369     | 1390        |
| Other than White  | 14.8 | ( 13.7 , 15.9 ) |         | 16396     | 1585        |
| <b>Maternal Hispanic Ethnicity<sup>1</sup></b>                      |      |                 |         |           |             |
| Hispanic  | 6.5  | ( 5.3 , 7.8 )   | <.0001  | 7116      | 126         |
| Non-Hispanic  | 93.5 | ( 92.2 , 94.7 ) |         | 102149    | 2815        |
| <b>Marital Status</b>   |      |                 |         |           |             |
| Married   | 70.2 | ( 68.1 , 72.3 ) | <.0001  | 77768     | 1683        |
| Other   | 29.8 | ( 27.7 , 31.9 ) |         | 32997     | 1292        |
| <b>Maternal Residence</b>   |      |                 |         |           |             |
| Metro   | 57.4 | ( 55.1 , 59.7 ) | <.0001  | 63561     | 1875        |
| Non-metro   | 42.6 | ( 40.3 , 44.9 ) |         | 47205     | 1100        |
| <b>Birthweight</b>  |      |                 |         |           |             |
| < 2500 grams  | 6.3  | ( 5.1 , 7.4 )   | <.0001  | 6941      | 198         |
| 2500+ grams   | 93.7 | ( 92.6 , 94.9 ) |         | 103825    | 2777        |

<sup>1</sup> The total for these categories does not add up to 2975 because of missing information on some birth certificates.

## Statistical Denotations

The denotations for the information in the Sample Characteristics table above and used throughout this summary book are:

- **%** - Percent  
This percent is based on the weighted sample.
- **(95% CI)** – 95% Confidence Interval:  
This is the range around the percent or mean that represents the margin of error. If the confidence interval is large/wide, the percent/mean estimated by the survey may not be very accurate or useful.

The Sample Characteristics table also includes the following statistical denotations.

- **p-value:**  
The p-value is based on the Rao Scott chi square test statistic. The p-value indicates whether the difference in the percentages between the subgroups (for example, age categories) is statistically significant. For this survey, the p-value must be less than 0.05 to be considered statistically significant.
- **Pop. Est.** – Population Estimate:  
The population estimate is the approximate number of mothers that would report this event/response if the survey was administered to all Minnesota women who gave birth to a live-born infant in Minnesota between May 2002 and December 2003.
- **Surv. Resp.** – Survey Responses:  
This is the number of mothers in our sample who responded with this characteristic.

Basic data tables with this information have been created for most survey questions and are available on the MDH PRAMS website:

<http://www.health.state.mn.us/divs/chs/prams/>

## Demographic Categories for Maternal and Infant Characteristics

The standard demographic categories included in the Sample Characteristics table above and throughout this book are based on information from the babies' birth certificates. These categories are used consistently throughout this publication:

- **Maternal age**  
There are five age categories: under 20 (teen births), 20-24, 25-29, 30-34, and 35 and over.
- **Maternal education**  
The education categories roughly estimate “less than high school,” “high school,” “some college,” and “college and / or graduate/professional school.” Because maternal education is not always filled out on the birth certificate, the total responses for this category do not add up to 2975.
- **Maternal race**  
Because of low response rates and small numbers, maternal race is only broken down into two categories: “White” and “Other than White.” African American and American Indian mothers are included in the “Other than White” category, along with all the other mothers of different races, including Asian mothers.

- **Maternal Hispanic Ethnicity**  
Hispanic ethnicity can include mothers of any race. Because Hispanic ethnicity is not always filled out on the birth certificate, the total responses for this category do not add up to 2975.
- **Maternal residence**  
The “metro” category represents the 7-county metropolitan area (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington); the “non-metro” category represents all other counties. Because of sample size constraints, PRAMS data cannot be broken down further into regional areas or counties.
- **Birth Weight**  
Categories separate out low birth weight (less than 2500 grams or 5 pounds 8 ounces) infants.

## How to Read the Charts

Most of the data from the PRAMS survey are displayed graphically in this summary book in one of three types of charts.

- Pie charts
  - The pie charts show the breakdown of mothers’ responses to each question. Each piece of the pie represents a response category and is labeled with the percent of mothers who selected that response in the survey. All the pieces of the pie add up to 100%.
- Simple bar charts
  - Most of the bar charts in this summary book display the population estimate of the portion of mothers who selected a certain response.
  - Bar charts are also used to display the demographic breakdown of mothers who selected a certain response.
  - The 95% confidence interval for the population estimate is represented by a line extending from the lower confidence limit through the point estimate (where the bar ends) to the upper confidence limit. A wide confidence interval represents a less reliable estimate. As a general rule, confidence intervals can be used to compare results for different groups. If the confidence intervals do not overlap, then there is a statistically significant difference between the results.
- Stacked bar charts
  - Stacked bar charts are similar to pie charts in that they display the breakdown of mothers’ responses to each question.
  - Each section of the bar represents a response category and is labeled with the percent of mothers who selected that response. Therefore, all the sections of the bar add up to 100%.
  - Stacked bar charts are used in this book to show how the distribution of responses differs across demographic categories.

## Minnesota PRAMS Methodology

### Sampling

Each month, approximately 200 mothers are randomly selected from the Minnesota Vital Statistics file of birth certificates of babies born in Minnesota during the preceding 2-4 months. Mothers must be Minnesota residents and have delivered a live-born infant. Minnesota PRAMS **excludes**:

- Mothers who have died, and
- Mothers whose pregnancy resulted in higher order multiples of more than three babies (i.e. quadruplets, quintuplets, etc).

PRAMS uses a method for selecting mothers called “stratified random sampling.” Mothers are separated into different groups or “strata.” Each group or “stratum” is sampled at a different rate, meaning that some mothers have a greater chance of being selected to fill out a PRAMS survey. Most PRAMS states use this method to “oversample” mothers who are at increased risk for adverse pregnancy outcomes. Oversampling makes it possible to get better estimates of risk for groups that are relatively small compared to the rest of the population. Although certain groups of mothers may be sampled at different rates, the data gathered from these mothers is then adjusted (“weighted”) so that it represents their true proportion in the state’s population of mothers who had a live birth in Minnesota during that period.

In the first four years of the PRAMS survey in Minnesota (2002-2005), two populations were selected for oversampling: African American mothers and American Indian mothers. These groups were selected since Minnesota experiences some of the largest disparities in birth outcomes by race in the nation. Although Minnesota has some of the best birth outcomes as a whole, People of Color and American Indians are not faring nearly as well. Sampling a larger number of mothers from these populations may reveal possible reasons for these disparities. During 2002 and 2003, foreign-born Blacks were included in the African American group. Since 2004, only U.S.-born African American mothers are oversampled due to inherent cultural differences as well as language difficulties; foreign-born Blacks are still included in the sampling frame and are sampled at the same rate as the general population of Minnesota mothers.

### Survey Methodology

PRAMS is primarily a mail survey available in English and Spanish only. The process for the survey begins when a sample of mothers is randomly selected from the birth file, usually about 2 months after giving birth. Sampled mothers are then mailed a letter that introduces them to the project, followed by the self-administered, 14-page PRAMS survey several days later. If the survey is not returned, a reminder letter and two additional survey mailings are sent. For mothers who do not return the survey, a telephone interview is attempted.

For more details on PRAMS methodology, please go to the CDC Pregnancy Risk Assessment Monitoring System (PRAMS): Methodology website:

<http://www.cdc.gov/prams/methodology.htm> Attention: Non- MDH link

## **Confidentiality and Data Privacy**

The information mothers provide to MN PRAMS is kept private as required by law. To protect privacy, names are not listed anywhere on the survey booklet and personal identifiers are removed from the analysis dataset. Any reports using the data are presented in an aggregate manner so that individuals cannot be identified. Mothers who are selected for the PRAMS survey are informed that they are not obligated to participate and that there is no penalty or loss of benefits for declining to participate or not answering all questions.

## **Further Information on PRAMS**

The 2002-2003 Minnesota PRAMS questionnaire, the current questionnaire, as well as basic data tables for most survey questions are available on the MDH PRAMS website:

<http://www.health.state.mn.us/divs/chs/prams/>

For additional analyses, the PRAMS Analysis Request form is included in the Appendix of this document.

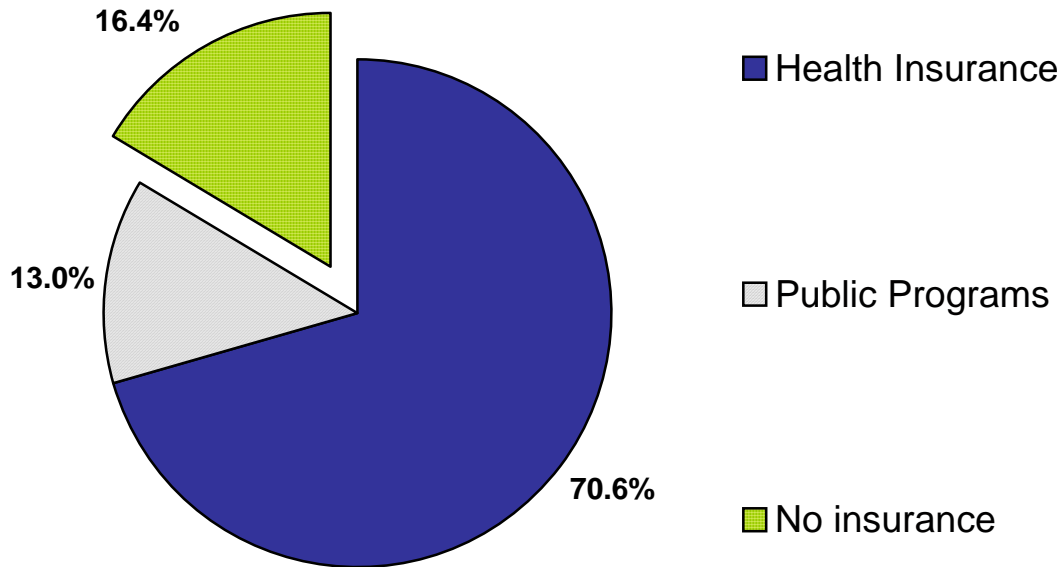
# **2002-2003 Survey Results**

# Preconception

## Maternal Health

### Insurance Status Prior to Pregnancy

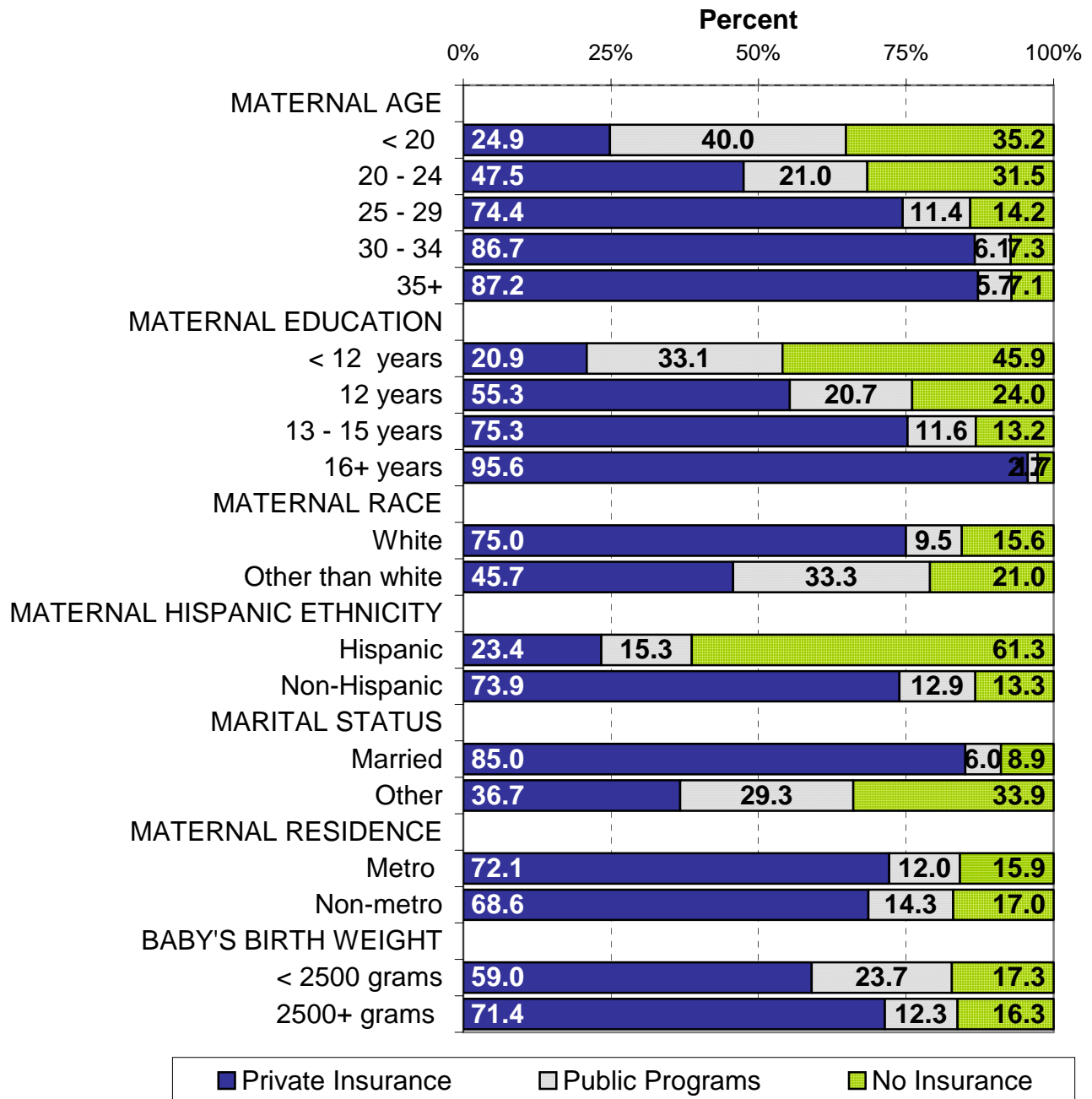
Survey Questions 1 and 2, combined  
*Just before you got pregnant, did you have health insurance?*  
*Just before you got pregnant, were you on  
Medicaid/Medical Assistance/MinnesotaCare?*



Most mothers (83.6%) reported that they had health insurance prior to becoming pregnant, with 70.6% stating they were privately insured and 13.0% reporting participation in public programs (Medicaid, Medical Assistance, or MinnesotaCare). However, it is important to note that 16.4% of mothers indicated neither private nor public insurance prior to pregnancy. This uninsured group is of consequence because early prenatal care is usually a factor in achieving positive birth outcomes for mothers and infants. Lack of insurance has been associated with lack of access to medical care in many statistical reports and demographic studies.

Insurance status varied significantly by maternal age, education, race, Hispanic ethnicity, marital status, and birth weight. Insurance did not vary significantly by metro/non-metro residency. These characteristics are broken out and displayed in the following bar chart.

*Demographics of Mothers' Insurance Status Prior to Pregnancy*



The percentage of mothers who were **uninsured** just prior to becoming pregnant was greater among:

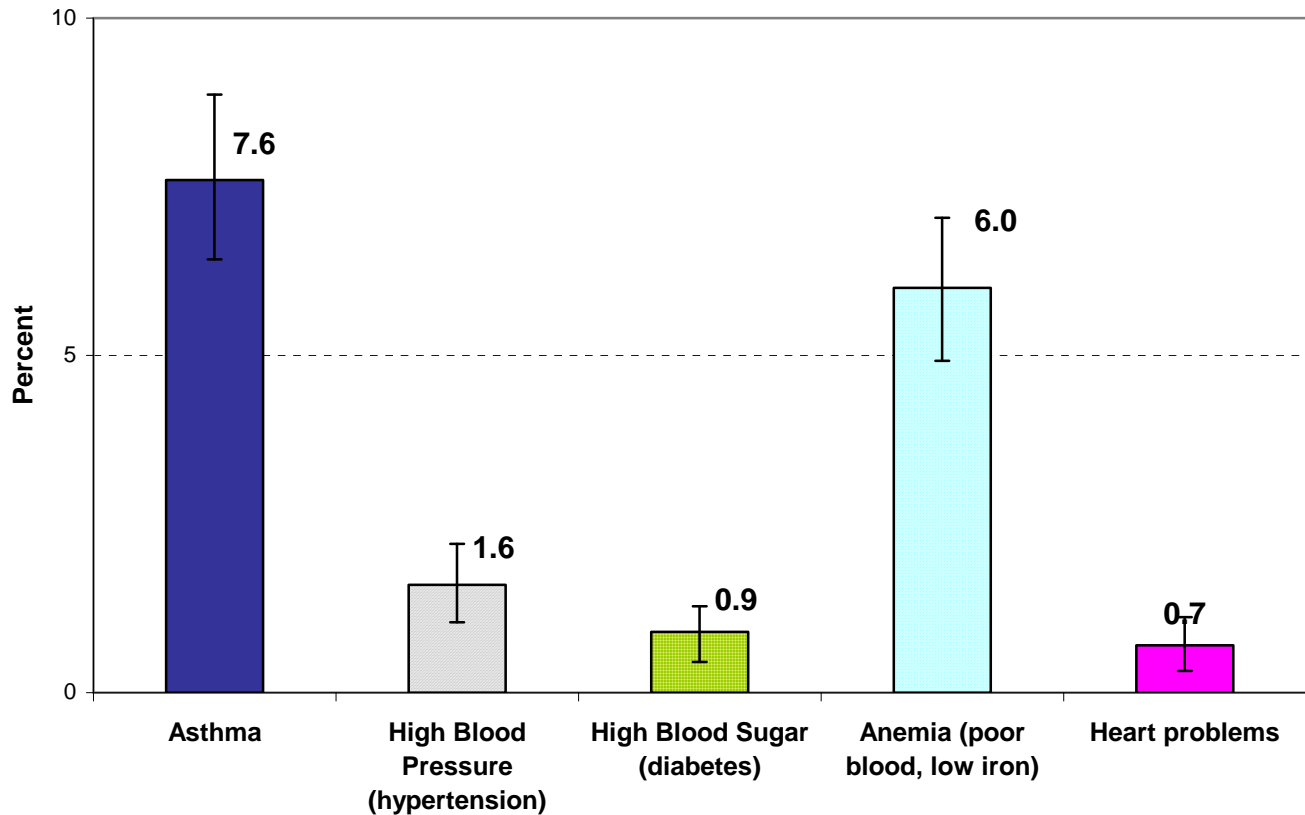
- Younger mothers
- Mothers with less education
- Mothers of another race than White
- Hispanic mothers
- Mothers who were not married.

There was a greater disparity between Hispanic and non-Hispanic mothers (61.3% uninsured vs. 13.3% uninsured, respectively), but the low number of Hispanics in the sample makes the estimate for Hispanic mothers unreliable.

## Existing Conditions Prior to Pregnancy

### Survey Question 8

In the three months before you got pregnant, did you have any of the following health problems?



Pre-existing medical conditions put both the mother and her baby at greater risk of adverse health outcomes, such as: kidney failure, pre-eclampsia, low birth weight, preterm delivery, and birth defects. Some of these pre-existing health problems include: asthma, hypertension, diabetes, anemia, and heart problems.

Asthma was the most prevalent pre-pregnancy condition reported by mothers (7.6%), followed by anemia (6.0%) and high blood pressure (1.6%). Although less than one percent of mothers reported having heart problems or diabetes prior to pregnancy, these medical issues can have a very serious impact on the health outcomes of both the mother and the baby.

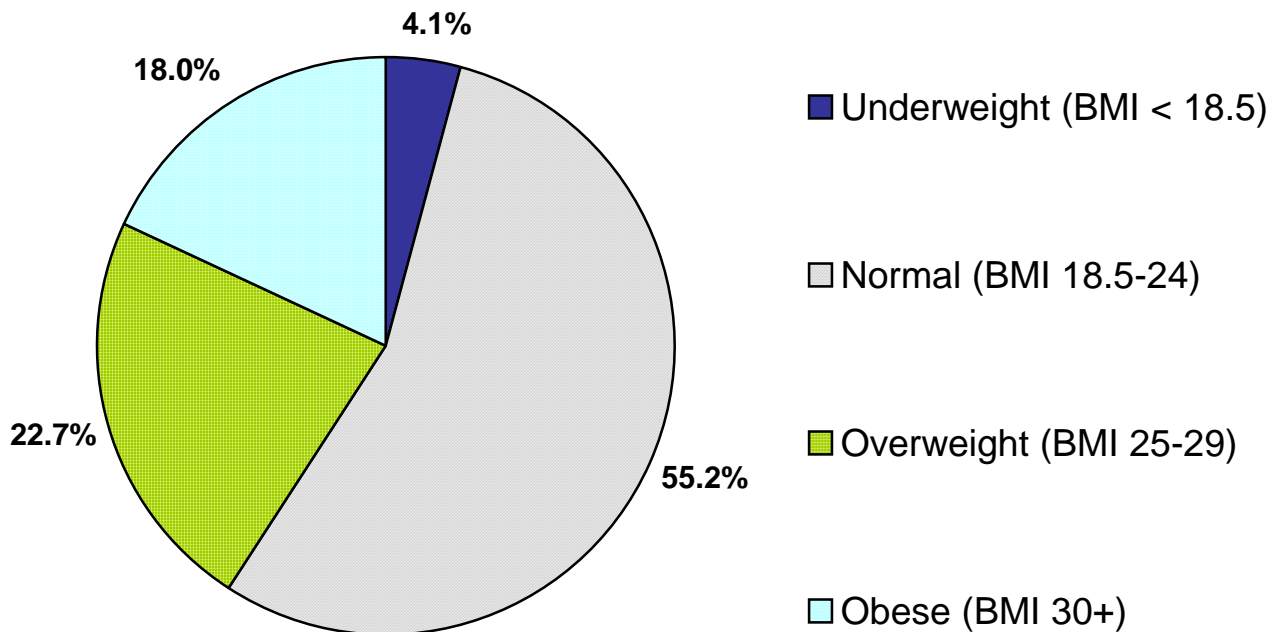
Younger mothers, mothers with lower maternal education, mothers of another race than White, and unmarried mothers reported higher proportions of anemia (data not shown).

Higher levels of asthma were seen in unmarried mothers compared to married mothers (10.2% vs. 6.6%). There was also a higher percentage of asthma among mothers who gave birth to low birth weight babies (13.2% vs. 7.3%), but the small number of low birth weight babies makes this estimate unreliable.

## Healthy Pre-Pregnancy Weight

### Pre-Pregnancy Body Mass Index (BMI)

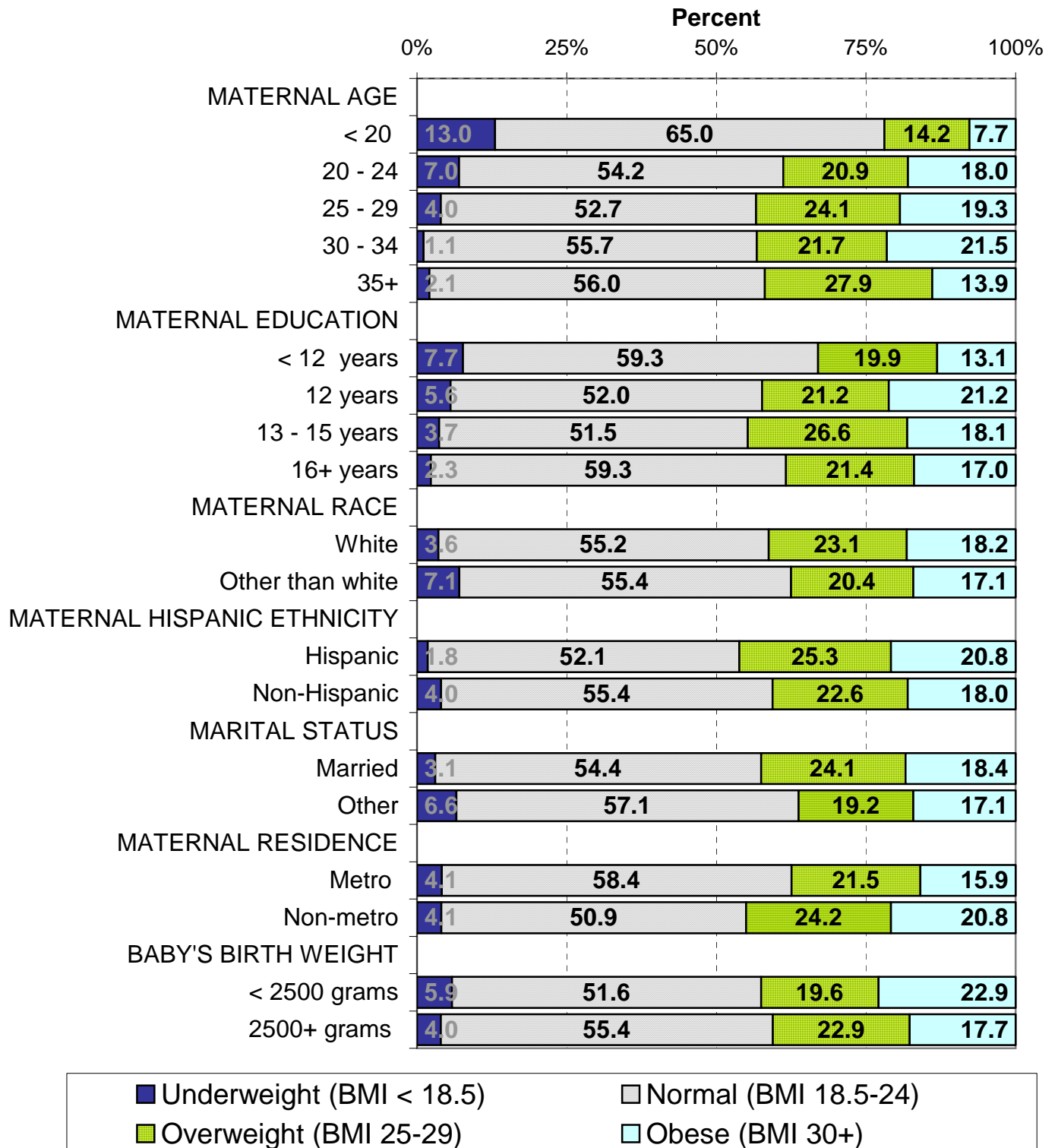
Survey Questions 5 and 6, combined  
(Pre-pregnancy weight and height combined to calculate the Body Mass Index (BMI))  
*Just before you got pregnant, how much did you weigh?*  
*How tall are you without shoes?*



Maternal obesity has been linked with birth defects, preterm birth, and other adverse pregnancy outcomes. Achieving healthy weight prior to becoming pregnant can reduce these risks.

Normal BMI for adult women is between 18.5-24. More than half of all mothers in Minnesota (55.2%) had a normal BMI before pregnancy. Prior to pregnancy 22.7% of mothers were overweight, with a BMI between 25 and 29. Eighteen percent (18.0%) of mothers were obese prior to pregnancy, with a BMI of 30 or more. The remaining 4.1% of mothers were considered underweight (BMI less than 18.5) prior to pregnancy.

*Demographics of Mothers' Pre-Pregnancy Body Mass Index (BMI)*

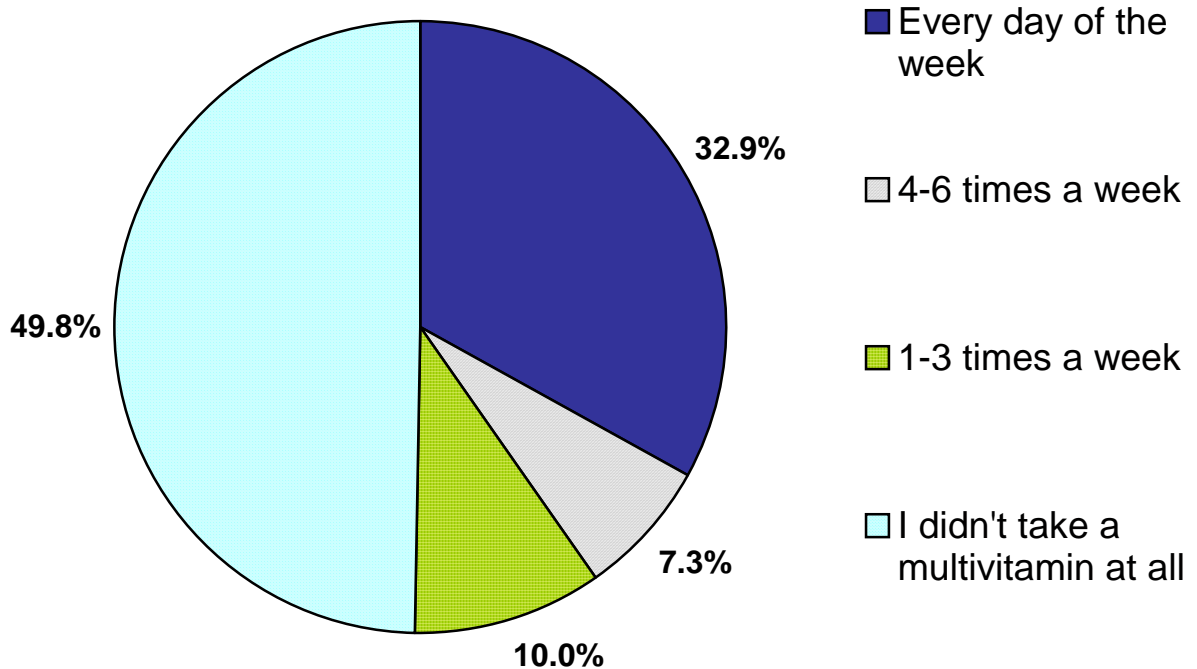


Obesity increases with increasing maternal age, except for the oldest age group. The highest levels of obesity were found with mothers age 30-34, mothers with the equivalent of a high school education, maternal residence outside the 7-county metro area, and mothers who gave birth to a low birth weight baby.

## Multivitamin Use Prior to Pregnancy

Survey Question 3

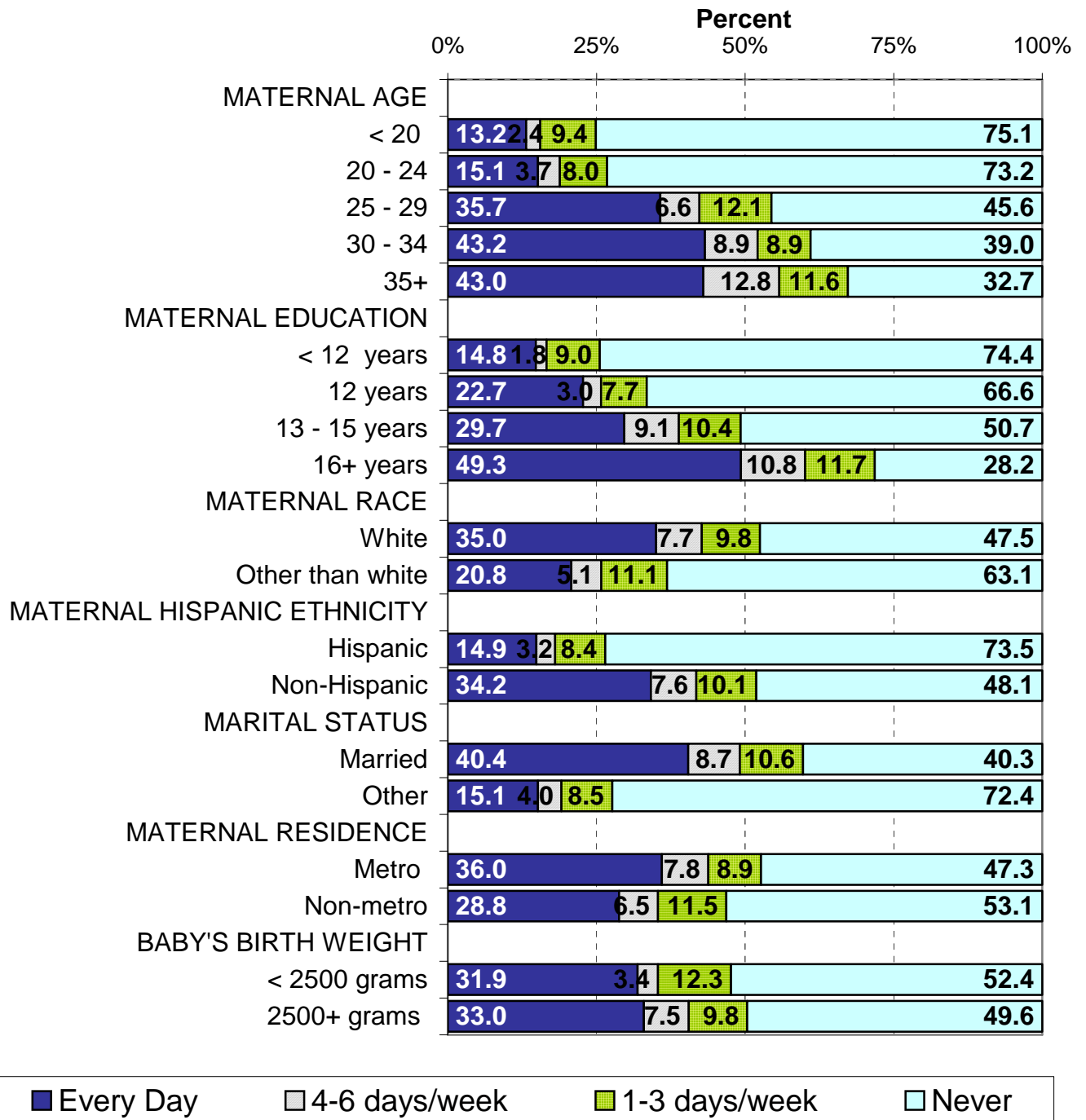
In the months *before* you got pregnant with your new baby, how many times a week did you take a multivitamin (a pill that contains many different vitamins and minerals)?



Current recommendations are that all women of childbearing age (ages 15-44) take a multivitamin containing 400 micrograms of folic acid every day, regardless of whether they are planning a pregnancy. Folic acid prevents 50-70% of neural tube defects (NTDs), but it needs to be taken *before* becoming pregnant, as well as during pregnancy. Vitamin supplements are recommended because most women do not meet the minimum daily requirement through diet alone, and folic acid from dietary supplements is more easily absorbed in the body than naturally occurring forms of this essential vitamin.

Among Minnesota mothers who gave birth during 2002-2003, only 32.9% of them reported taking a multivitamin daily before they became pregnant. Half of the mothers were not taking a multivitamin at all prior to pregnancy. Considering that two-thirds of mothers in Minnesota said they were trying to become pregnant at the time, the level of daily multivitamin use in this group of women was extremely low.

*Demographics of Multivitamin Use Prior to Pregnancy*



Daily multivitamin use is more common among older mothers, mothers with more education, White mothers, non-Hispanic mothers, married mothers and mothers who live in the 7-county metro area. Previous studies have suggested that Hispanic mothers are more likely to have a child born with a neural tube defect compared to non-Hispanic mothers. It is concerning that nearly three-quarters (73.4%) of Hispanic mothers in Minnesota reported never taking a multivitamin prior to their pregnancy.

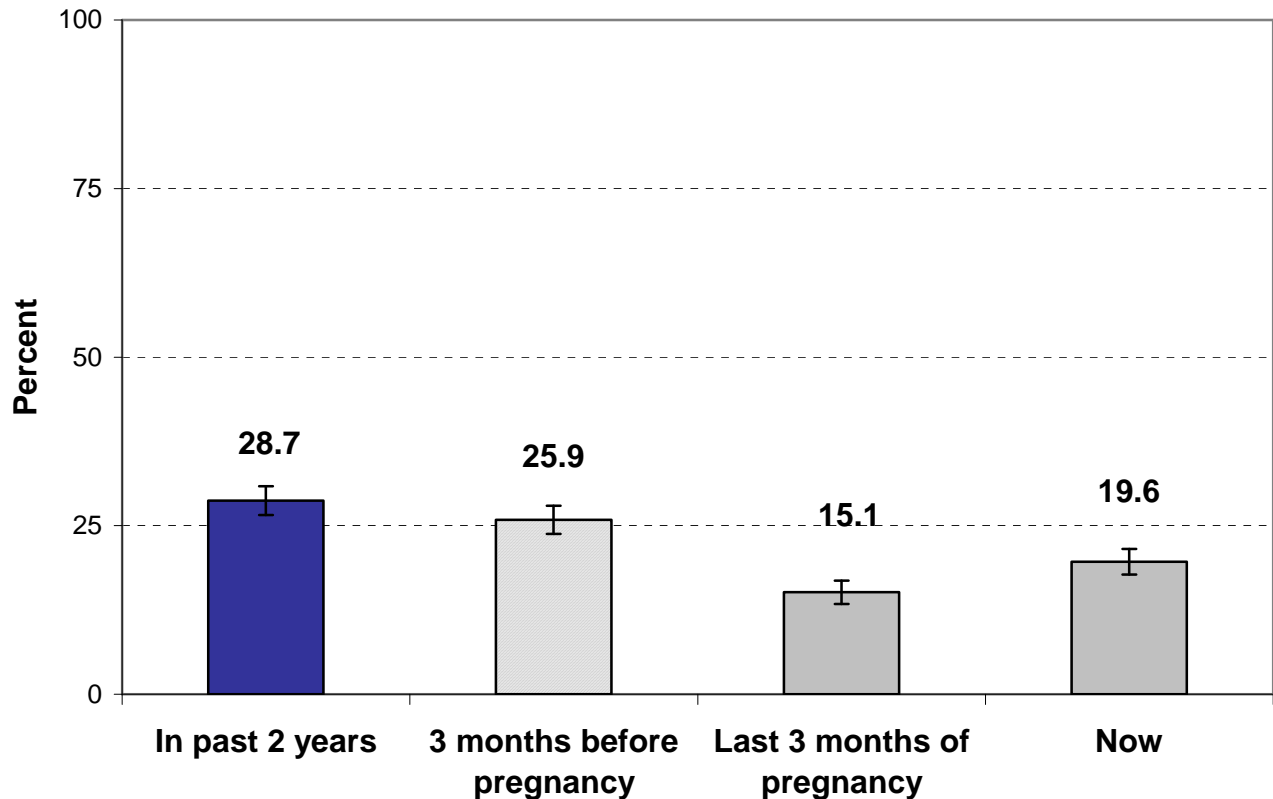
## Cigarette Smoking Prior to Pregnancy

Survey Question 29

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

Survey Question 30: Any cigarettes = Yes

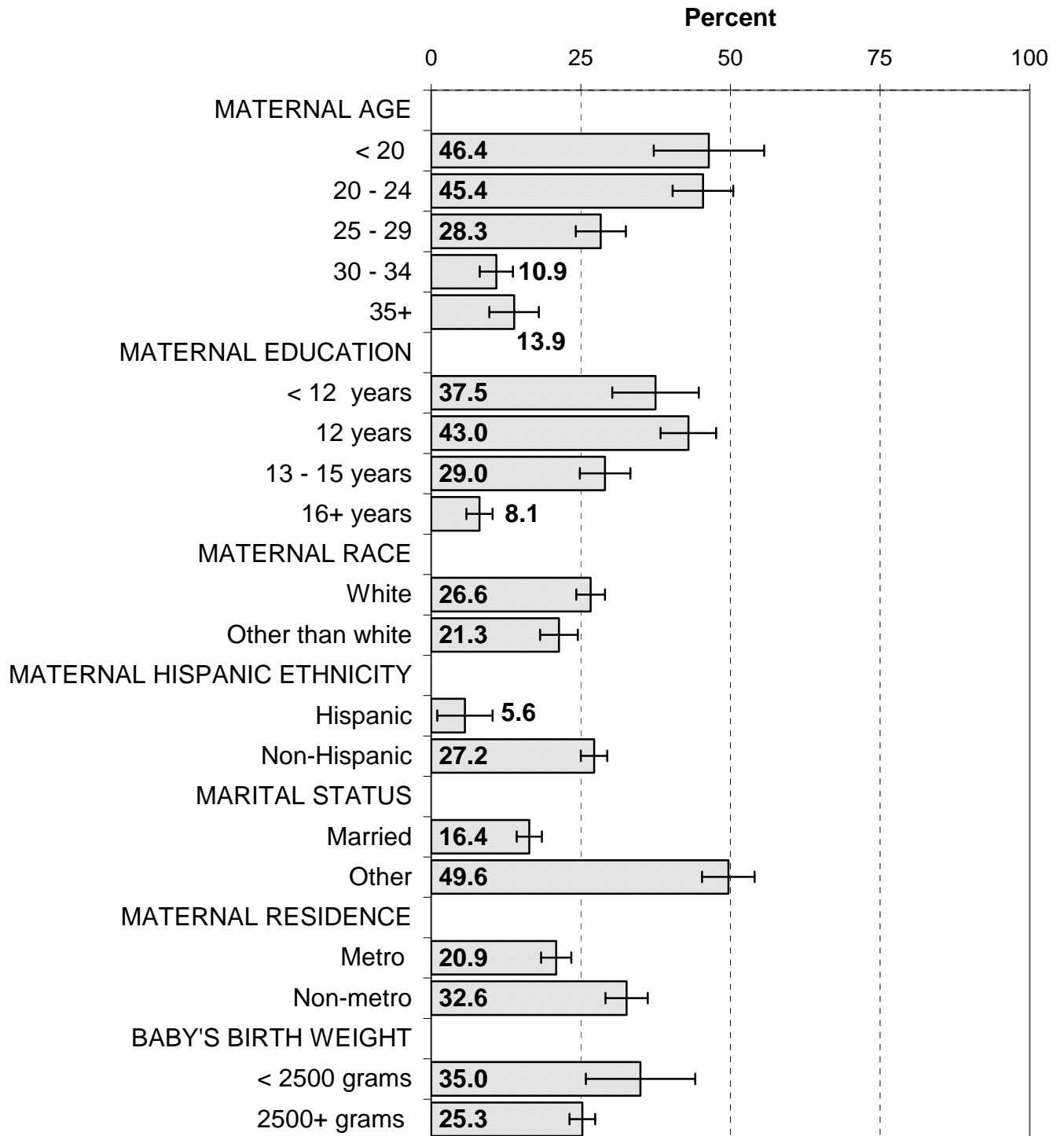
In the 3 months before you got pregnant, how many cigarettes or packs of cigarettes did you smoke on an average day?



Almost 29% of mothers reported smoking at least 100 cigarettes (i.e., more than 5 packs of cigarettes) in the past 2 years. Almost all mothers who reported smoking in the past two years also smoked in the 3 months prior to becoming pregnant; only 3.9% did not smoke at all in period just prior to becoming pregnant

Mothers who reported that they had smoked during the 3 months prior to pregnancy smoked, on average, 14.5 cigarettes per day. By contrast, mothers with a college education and those of another race than White reported smoking somewhat fewer cigarettes per day, 10.5 and 11.5 cigarettes/day during the 3 months prior to pregnancy. [Data not shown.]

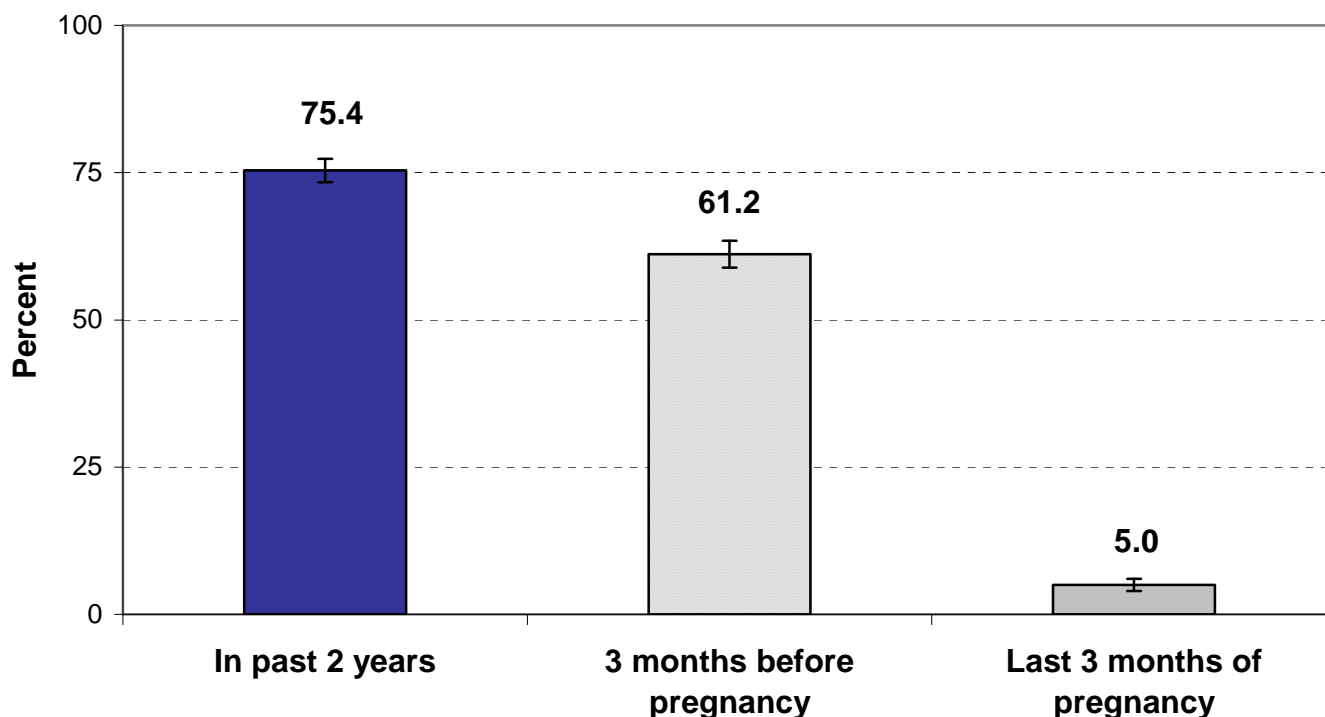
*Demographics of Mothers Who Smoked Cigarettes During the 3 Months Before Pregnancy*



About 26% of mothers reported smoking cigarettes in the 3 months prior to pregnancy. Smoking in the three months before pregnancy was greatest among younger mothers, mothers with less education, White maternal race, non-Hispanic maternal ethnicity, and unmarried mothers. It was also more frequently reported by mothers who lived outside the 7-county metro area, as well as by mothers whose babies were of low birth weight.

## Alcohol Use Prior to Pregnancy

Survey Question 33  
Have you had any alcoholic drinks in the past 2 years?  
Survey Question 34a: Any drinks = Yes  
In the 3 months before you got pregnant, how many  
alcoholic drinks did you have in an average week?



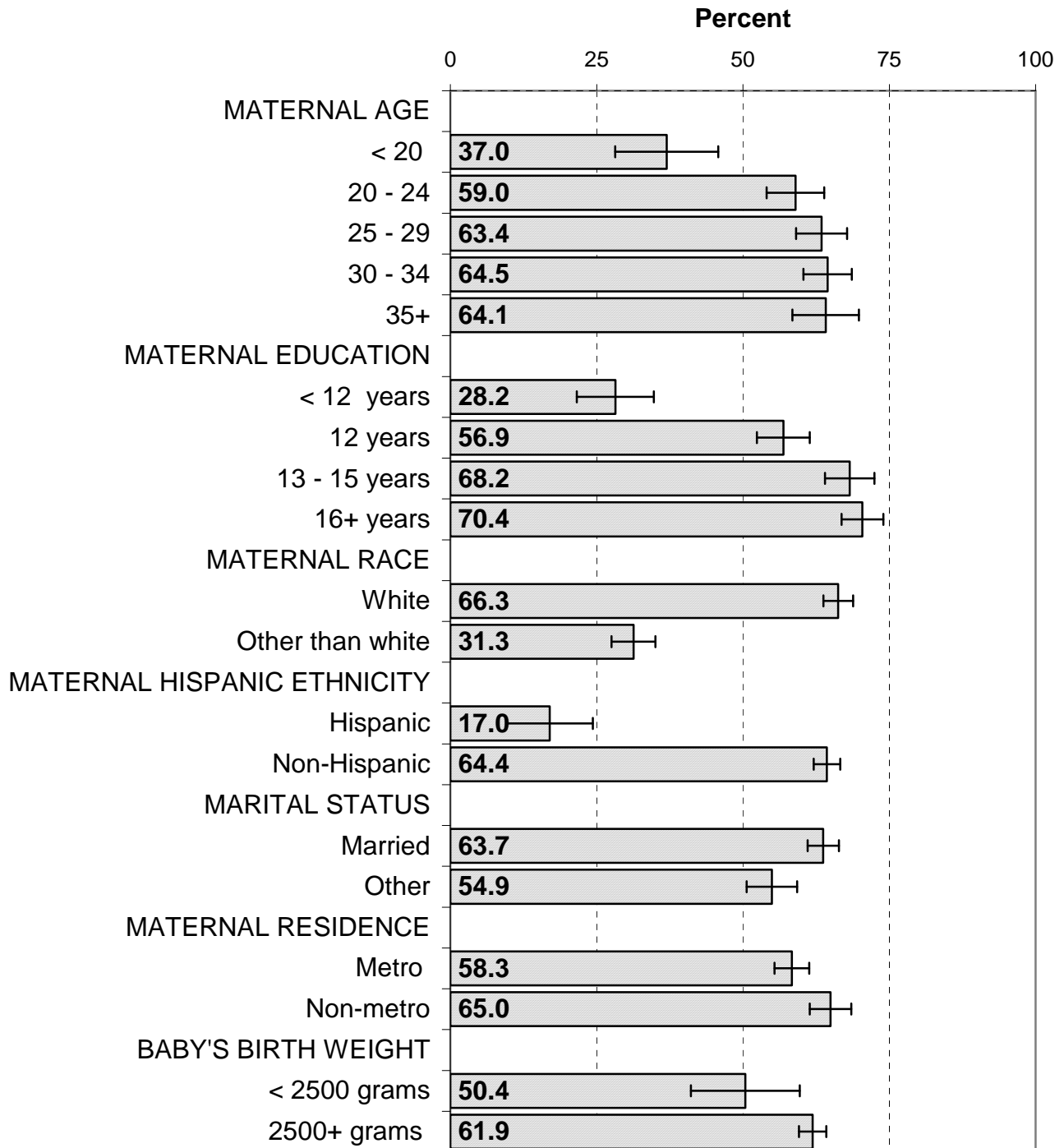
Alcohol exposure in utero has been found to cause a range of developmental problems, including Fetal Alcohol Syndrome (FAS). There is no level of alcohol that is known to be safe during pregnancy. Since many pregnancies are unintended and women do not always realize they are pregnant for several weeks or more, women may expose their baby to alcohol in utero without realizing it.

About 75% of mothers reported drinking alcohol in the past two years. Three out of five mothers (61.2%) reported drinking alcohol in the three months prior to pregnancy.

The reported quantity of alcohol consumed varied: 53% of mothers reported drinking up to three drinks per week, 6% reported drinking between 4-6 drinks/week, 2% reported drinking between 7-13 drinks/week (i.e. between 1 and 2 drinks each day). Less than 1% of mothers reported drinking 14 or more drinks per week.

Hispanic mothers reported drinking less alcohol during the three months prior to pregnancy compared to non-Hispanic mothers. Unmarried mothers reported drinking more on average than married mothers. Mothers living outside the 7-county metro area also reported drinking more alcohol in an average week in this period compared to metropolitan mothers. Mothers of a low birth weight baby reported drinking less alcohol than mothers whose babies were at least 2500 grams (5 lb. 8 oz.) at birth.

*Demographics of Mothers Who Reported Drinking Alcohol During the 3 Months Before Pregnancy*



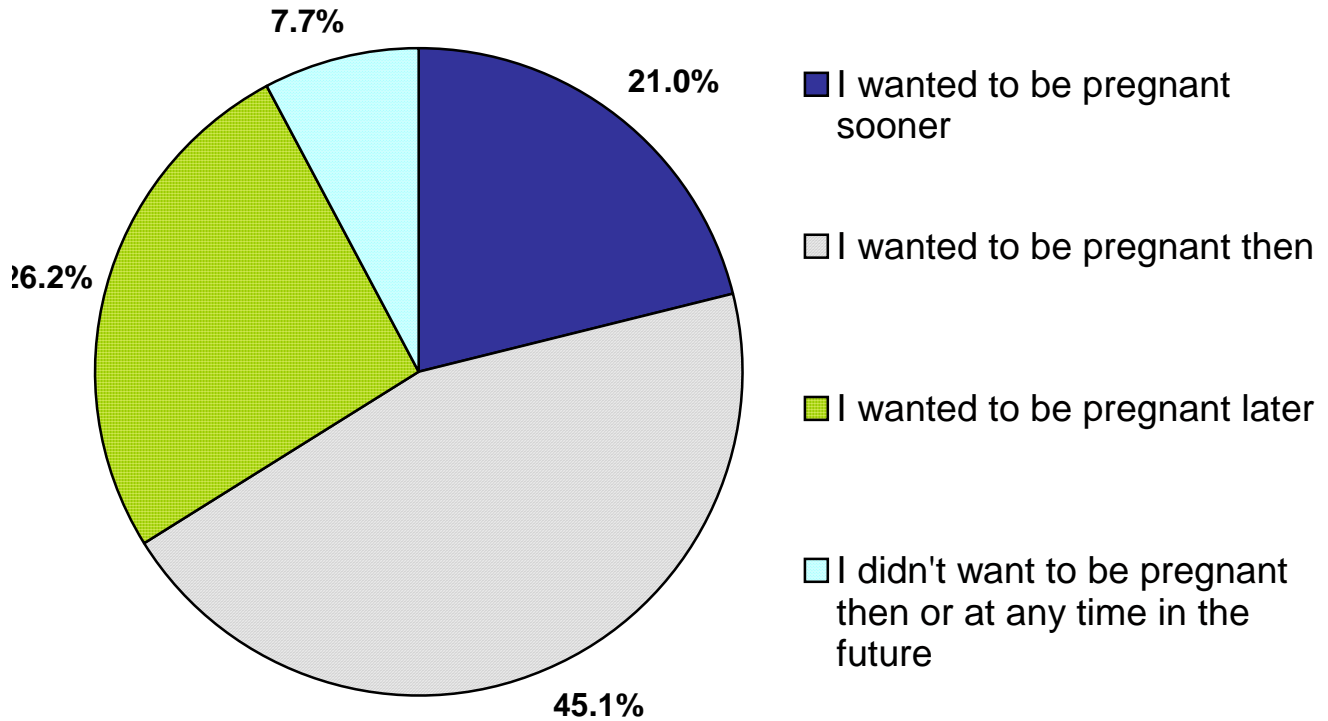
Reported alcohol use in the three months before pregnancy varied by all demographic characteristics. Mothers who were older, more highly educated, White, non-Hispanic, married, or living outside the 7-county metro area were more likely to report drinking during this period. Fewer mothers who delivered a low birth weight baby reported drinking alcohol during three months prior to pregnancy than those who delivered a baby weighing at least 2500 grams (5 lb. 8 oz.).

## Pregnancy Intent

### Mothers' Pregnancy Timing and Intention

Survey Question 12

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



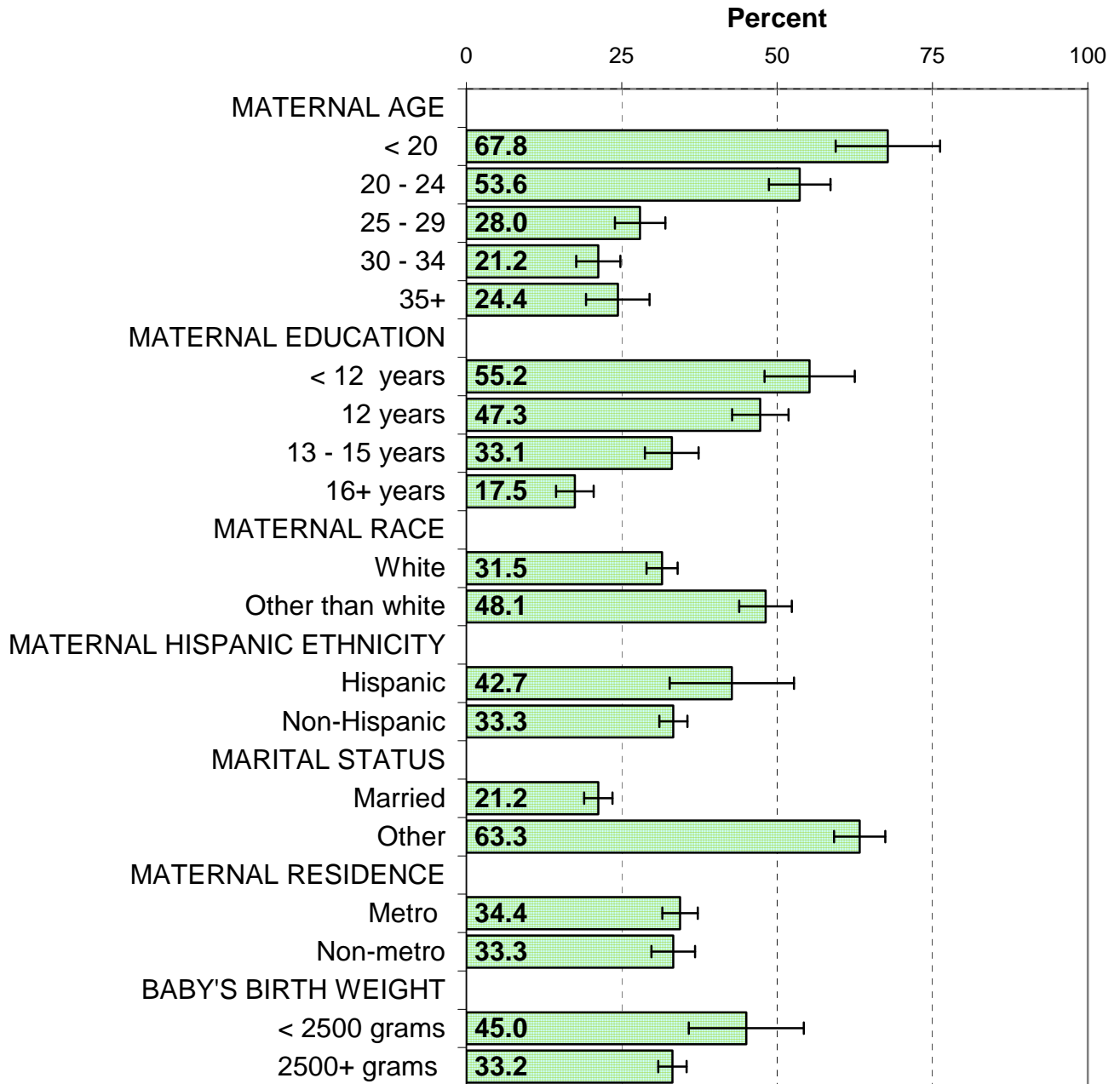
On average, mothers who are not intending to become pregnant do not realize they are pregnant in the early weeks of their pregnancy, so they might not adopt healthy behaviors such as quitting smoking, avoiding alcohol, and beginning prenatal care as early as possible to ensure the best outcome for their child. Thus, unintended pregnancy can lead to adverse birth outcomes, including low birth weight and preterm delivery. Mothers who have an unintended pregnancy are also less likely to breastfeed their babies.<sup>2</sup>

During 2002-2003, 66.1% of Minnesota mothers who gave birth to a live born baby had an intended pregnancy. The remaining 33.9% of mothers had an unintended pregnancy, i.e. mothers said they wanted to be pregnant “later” or “not then or at any time in the future.”

<sup>2</sup> CDC. PRAMS and ... Unintended Pregnancy Atlanta, GA: US Department of Health and Human Services, CDC, National Center for Chronic Disease Prevention and Health Promotion, Division of Reproductive Health, 2006. Available at: <http://www.cdc.gov/PRAMS/UP.htm>

*Demographics of Unintended Pregnancy*

Note: Unintended pregnancy is based on Survey Question 12, mothers who wanted to be pregnant “later” or “not then or at any time in the future.”



Unintended pregnancy was more common among mothers who are:

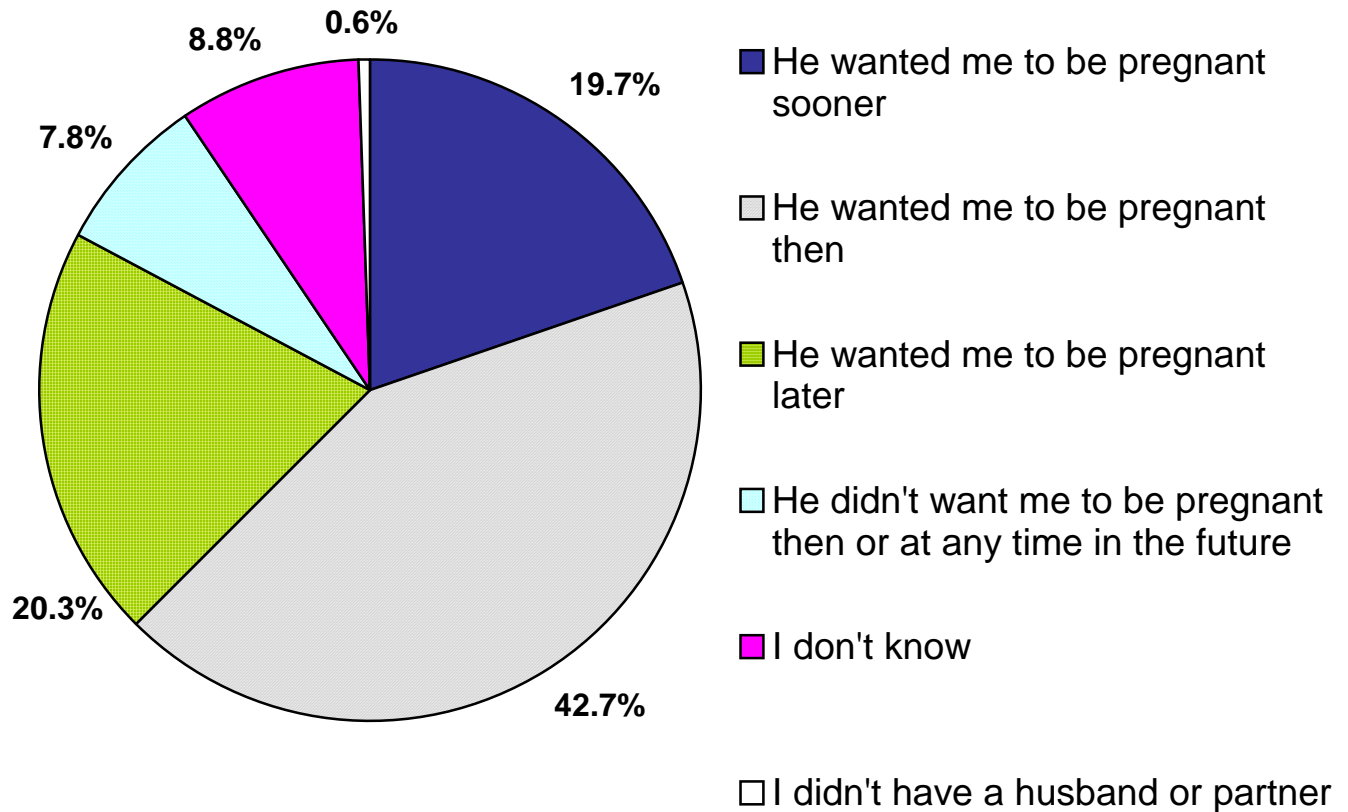
- Younger
- Have attained a lower level of education
- Of another race than White
- Unmarried

It was also more common among mothers who gave birth to a low birth weight baby.

## Fathers' Pregnancy Timing and Intention

Survey Question 75

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



Mothers felt that the pregnancy was intended by 62.4% of the fathers, and unintended for 28.1% of the fathers. For 9.4% of the pregnancies, the mother was unaware of the father's feelings because either the mother did not know how the father felt about the pregnancy or the mother did not have a husband or partner.

These data suggest that mothers and fathers generally agree about the intendedness of a pregnancy. Among mothers who indicated that the pregnancy was intended, 83.6% said the father also intended the pregnancy. About 11.1% felt the father did not intend the pregnancy, and 5.2% said they either didn't know, or did not have a husband or partner. Among mothers who felt the pregnancy was unintended, 62.3% felt the father also did not intend the pregnancy. About 21.2% felt the father did intend the pregnancy, and 16.5% said they either didn't know, or did not have a husband or partner.

## Preventing Pregnancy

Survey Question 13

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

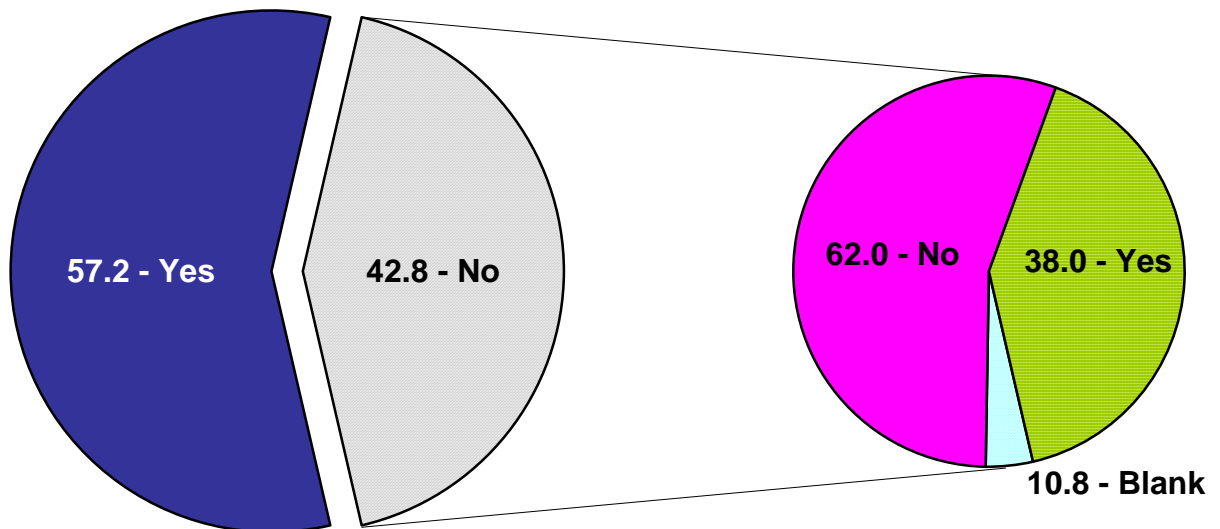
Survey Question 14

(Among mothers who responded “no” to Survey Question 13)

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

Were mothers trying to become pregnant?

If not, were they doing something to prevent pregnancy?



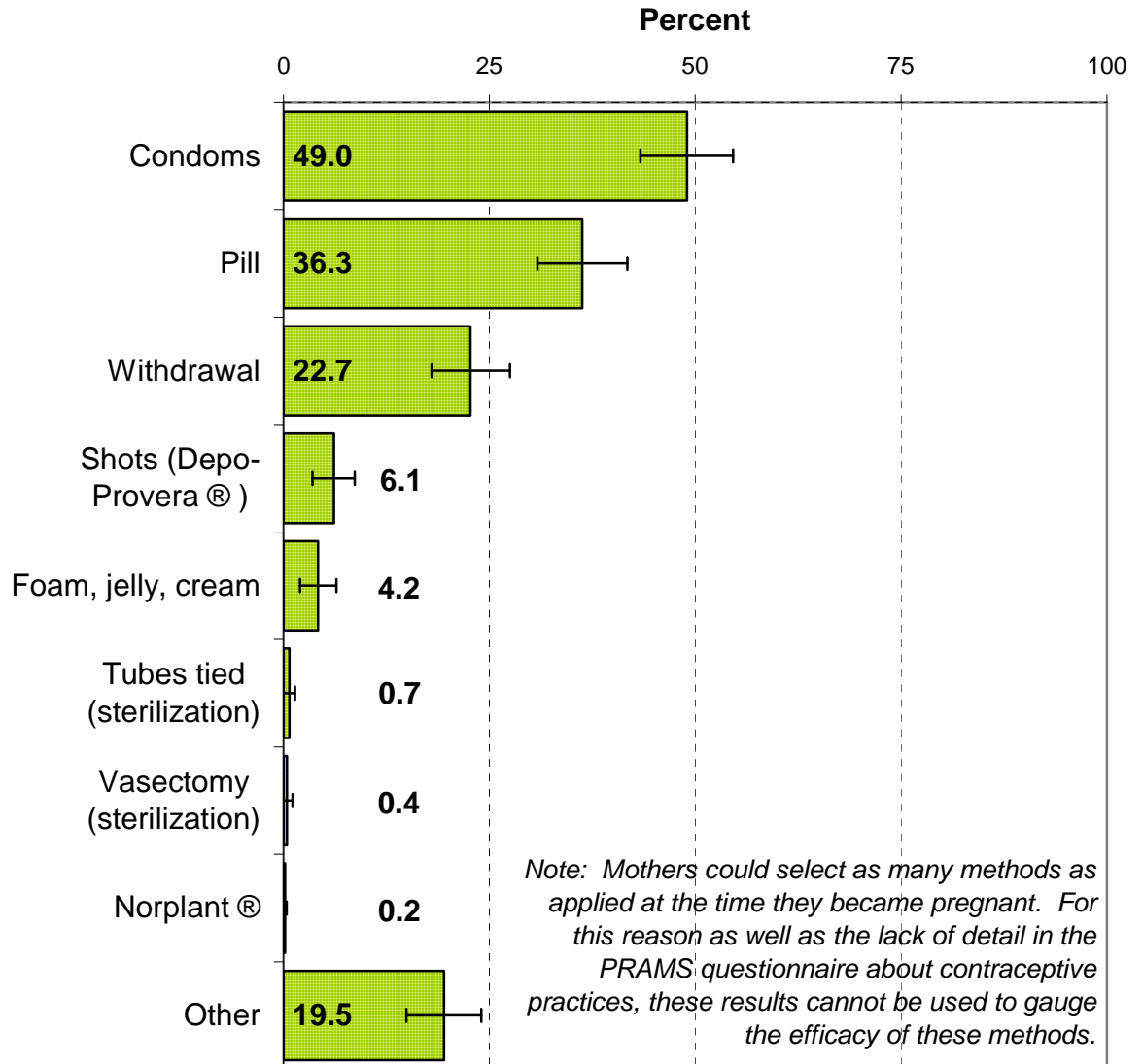
- Trying to get pregnant
- Not trying to get pregnant
- Not trying to get pregnant, but left prevention question blank
- Not trying to get pregnant and not doing anything to prevent pregnancy
- Not trying to get pregnant but doing something to prevent pregnancy

More than two out of five mothers said they were not trying to become pregnant at the time. Of these mothers, only 38.0% were doing something to prevent pregnancy. Of mothers who were not trying to get pregnant, 62.0% said neither they nor their husbands or partners were doing anything to prevent pregnancy.

## Pregnancy Prevention Practices

Survey Question 16

(Among mothers who responded “yes” to Survey Question 14)  
 When you got pregnant with your new baby, what were you or your husband or partner doing to keep from getting pregnant?



Note: Percents do not add up to 100% because respondents could choose all answers that applied.

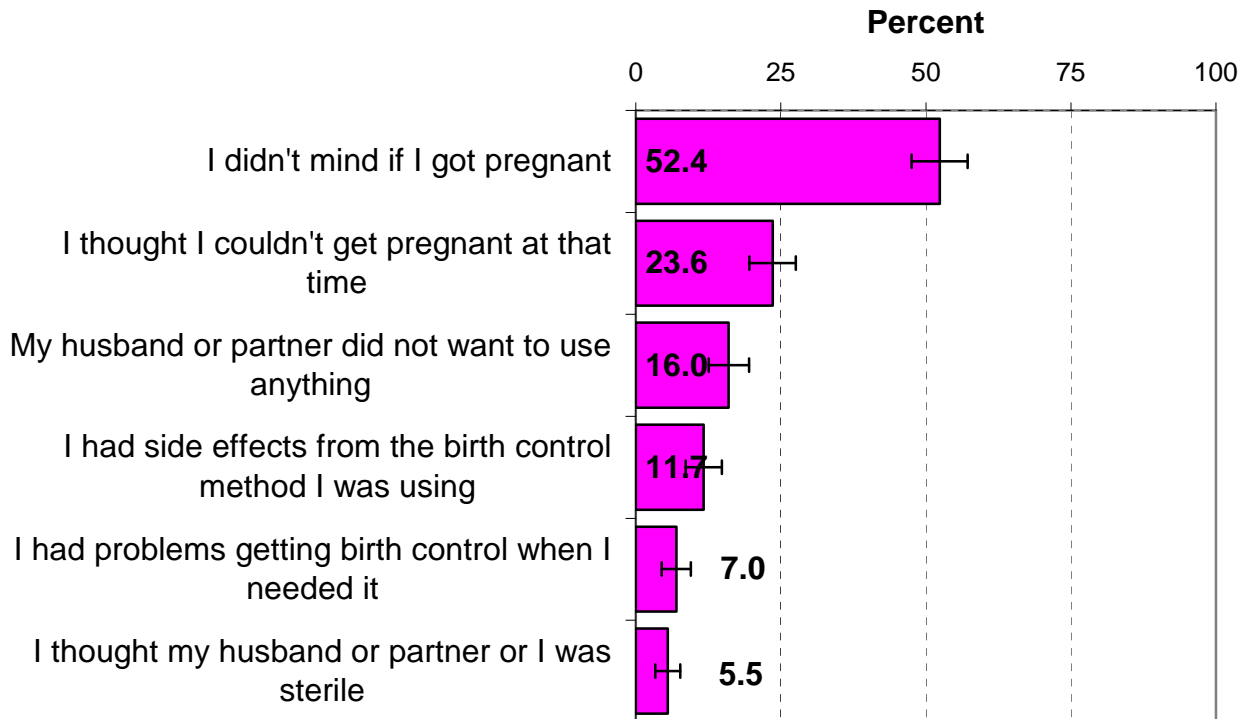
The table above displays the pregnancy prevention methods used by Minnesota mothers at the time they became pregnant. Among women who were trying to prevent pregnancy, most reported using condoms (49.0%) or the pill (36.3%). About one in five mothers said they used withdrawal to prevent pregnancy at the time that they became pregnant.

Younger mothers more frequently cited condom use as a method of preventing pregnancy, compared to older mothers. Condom use was also more frequent among mothers of another race compared to White mothers, and among unmarried mothers compared to married mothers. The pill was more commonly cited by White mothers and unmarried mothers.

## Reasons for No Prevention

Survey Question 15

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



Note: Percents do not add up to 100% because respondents could choose all answers that applied.

Over half of mothers who said they were not trying to become pregnant said the reason for not doing anything to prevent the pregnancy was that they didn't mind if they became pregnant. This reason was most common among mothers who were between the ages of 30 and 34 (72.3%) and mothers who had at least a 4 years post-secondary education (71.2%).

More than one out of five (23.6%) of mothers said that they didn't think they could get pregnant at that time. This reason was more common for younger mothers, mothers with less education, mothers of another race than White, and unmarried mothers.

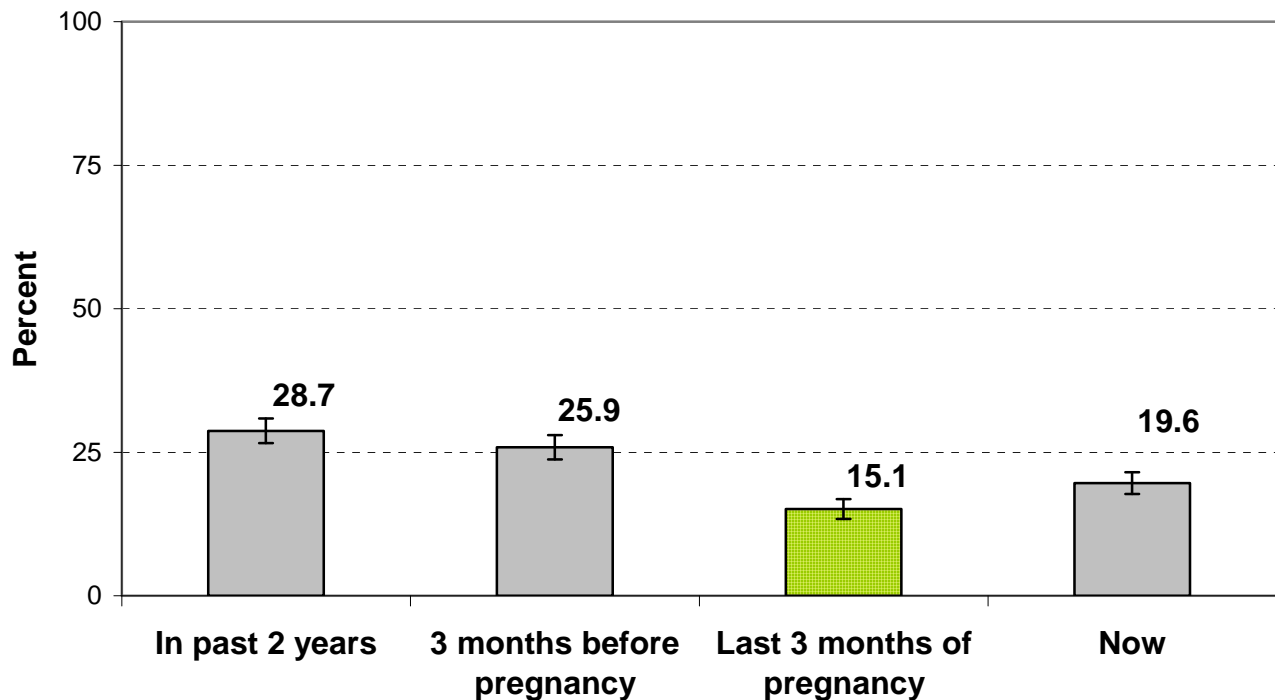
Sixteen percent of mothers (16.0%) reported that their husband or partner did not want to use birth control. This reason was more common for younger mothers, mothers with less education, mothers of another race than White, and unmarried mothers.

# Pregnancy

## Maternal Health

### Cigarette Smoking During Pregnancy

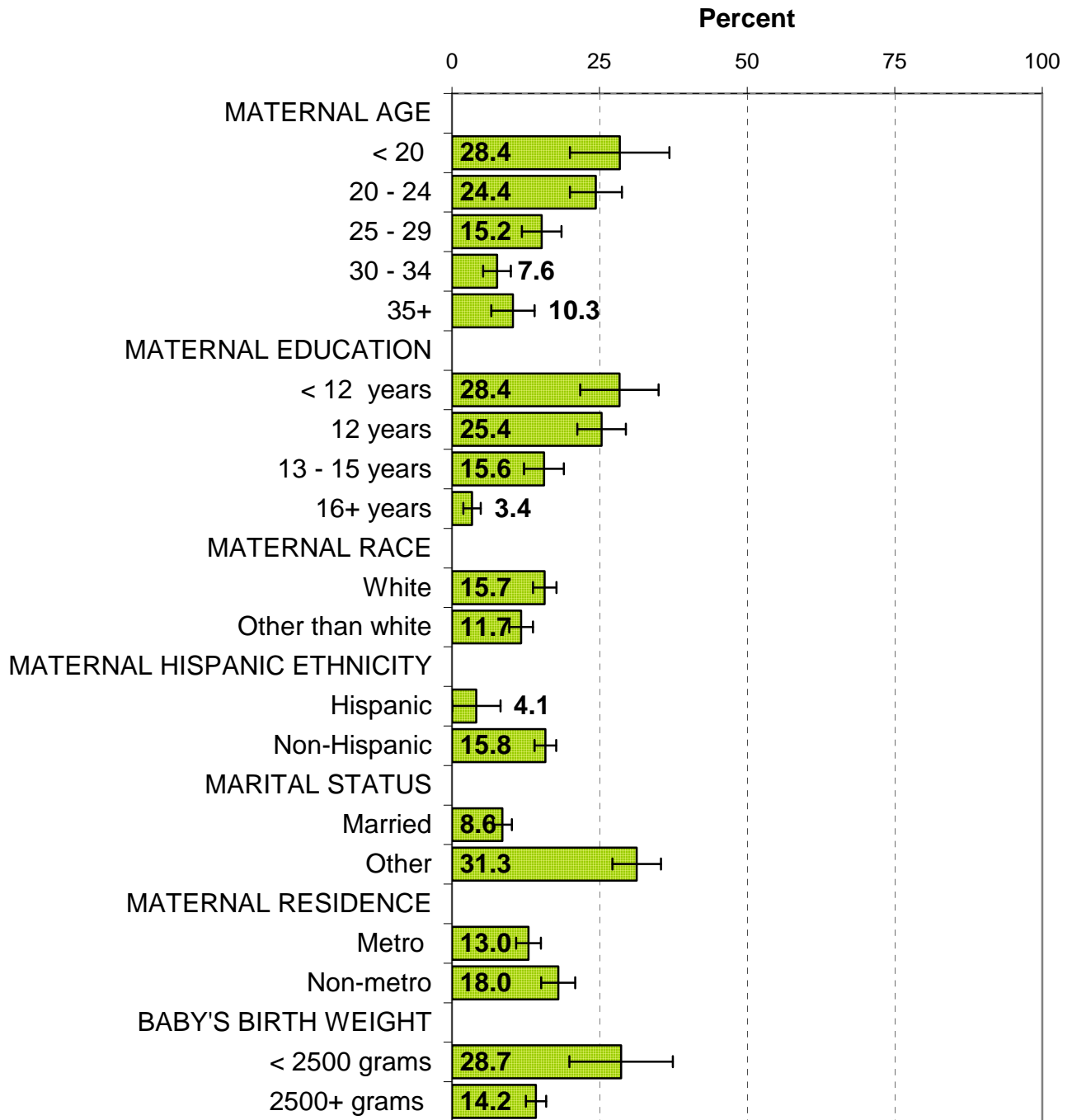
Survey Question 31: Any cigarettes = Yes  
In the *last 3 months* of your pregnancy, how many cigarettes or packs of cigarettes did you smoke on an average day?



Approximately 15.1% of mothers reported smoking cigarettes during the last three months of their most recent pregnancy.

Of mothers who reported smoking in the past two years, almost half had stopped smoking by the last three months of pregnancy. The average number of cigarettes smoked per day dropped from 14.5/day in the three months prior to pregnancy to just over 7 cigarettes/day in the last three months of pregnancy.

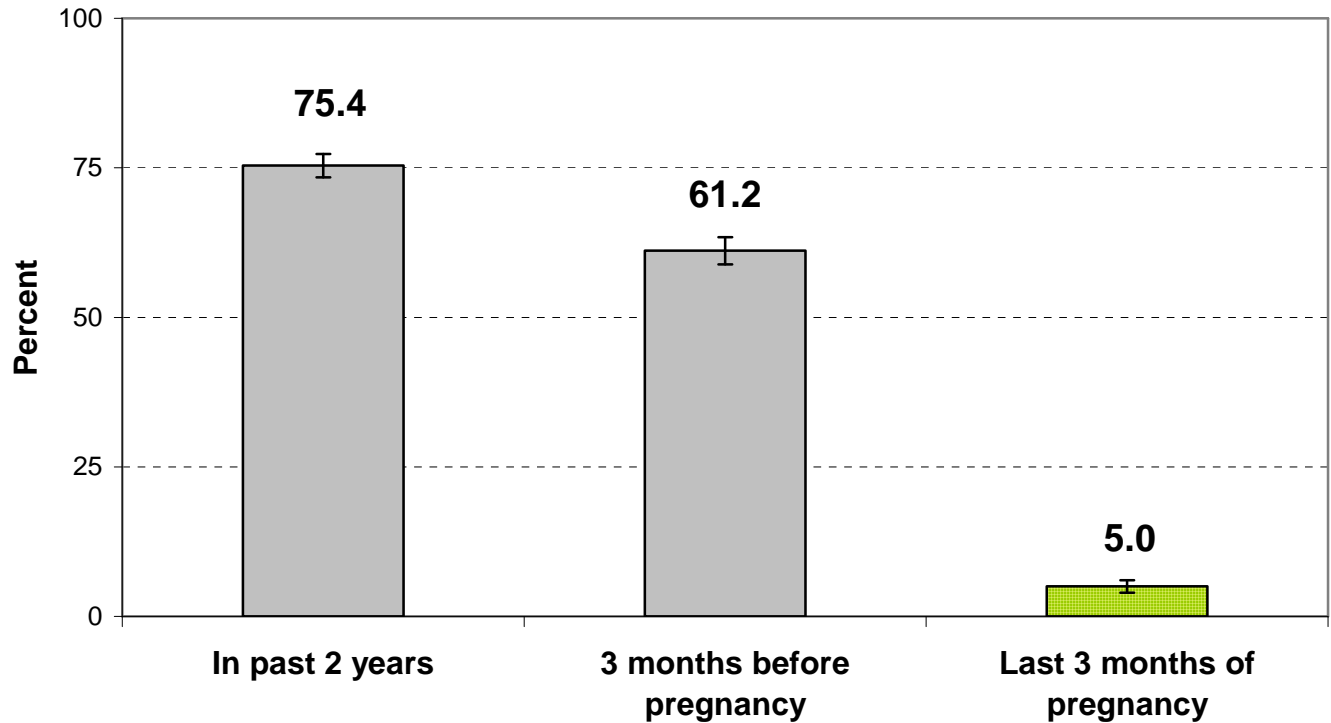
*Demographics of Mothers Cigarette Smoking During the Last 3 Months of Pregnancy*



Smoking during the last three months of pregnancy was more common among younger mothers, less educated mothers, White mothers, non-Hispanic mothers, unmarried mothers, mothers who lived outside the 7-county metro area, and mothers who gave birth to a low birth weight baby.

## Alcohol Use During Pregnancy

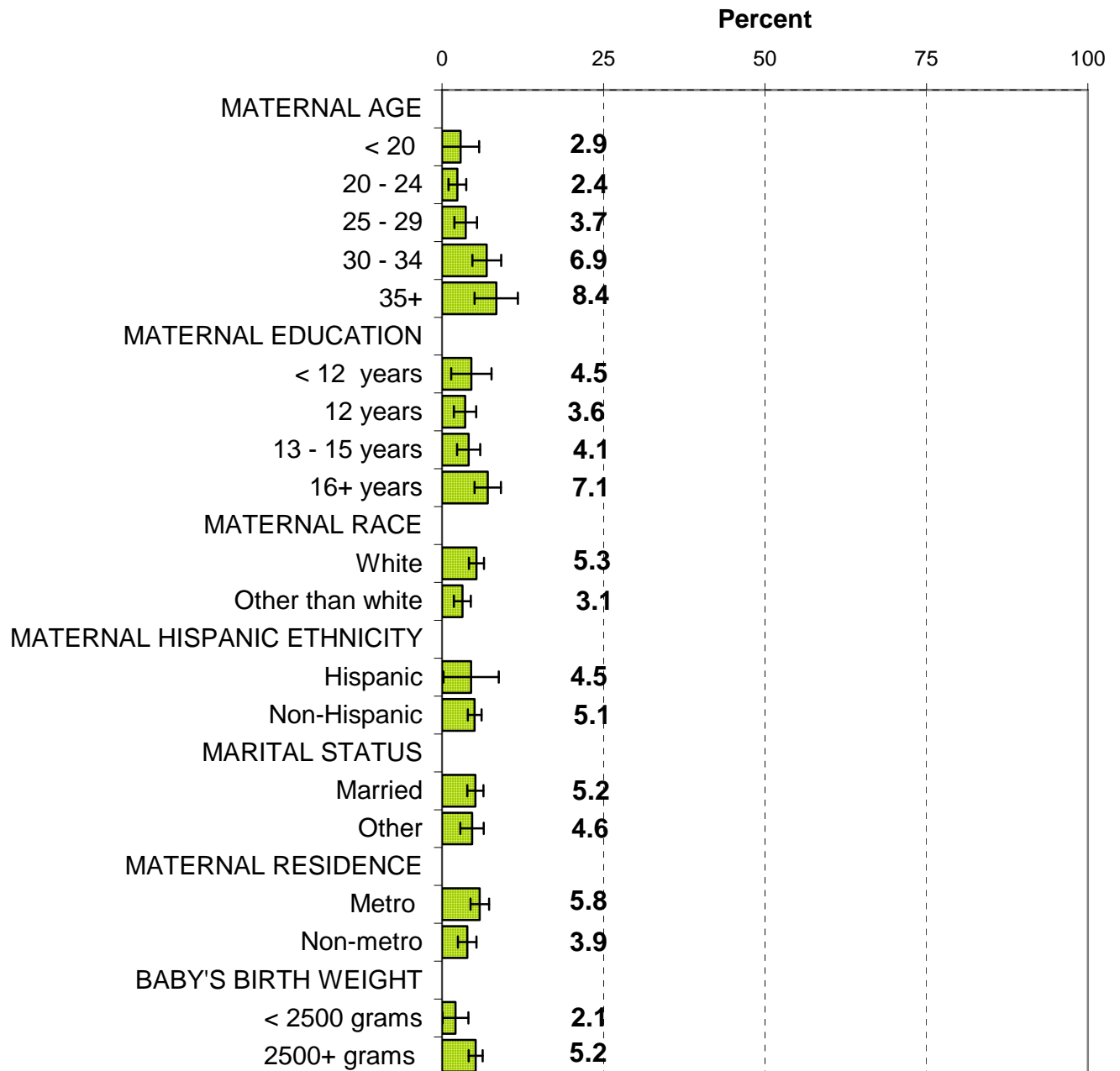
Survey Question 35a: Any drinks = Yes  
In the *last 3 months* of your pregnancy, how many alcoholic drinks did you have in an average week?



Only 5.0% of mothers reported drinking any alcohol during the last three months of pregnancy. More older and White mothers reported drinking during this period.

During the last three months of pregnancy, the reported quantity of alcohol consumed was low among mothers who drank, but no level of alcohol is considered safe during pregnancy. Most reported drinking between less than one to three drinks in an average week. While the numbers of mothers reporting drinking during this period were very small, the amount of alcohol consumed during this period appeared slightly higher for older and more highly educated mothers.

*Demographics of Mothers Who Reported Drinking Alcohol During the Last 3 Months of Pregnancy*



Although rare, alcohol use during the last three months of pregnancy was higher for older mothers. More White mothers and mothers of babies born with a birth weight of 2500 grams (5 lb. 8 oz.) or more reported drinking during this period when compared with mothers of another race than White and mothers of low birth weight babies.

## Prenatal Care

### Early Prenatal Care

#### Question 18

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

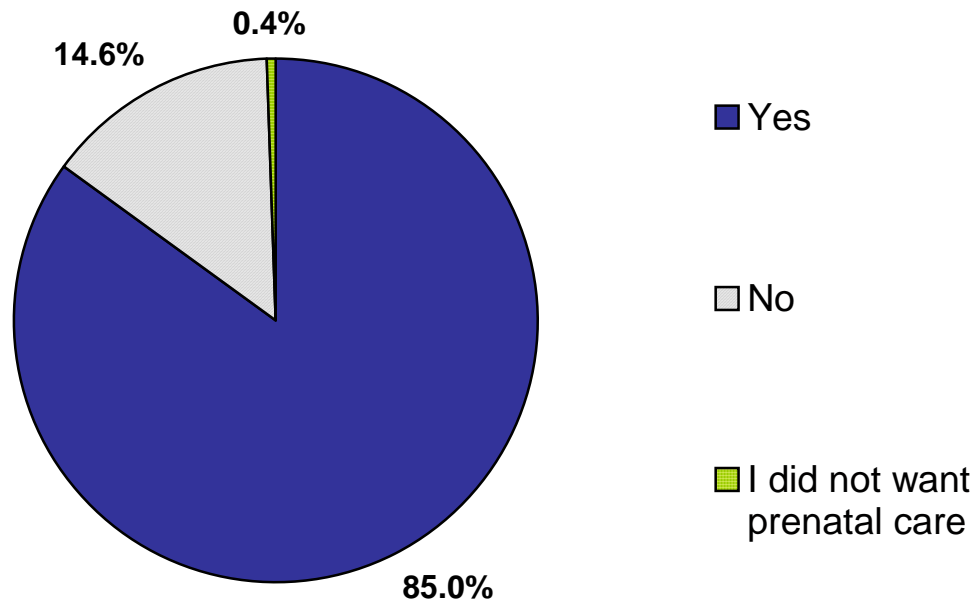
[Data not shown]

On average, Minnesota mothers had their first prenatal care visit at nine weeks into this pregnancy. Mothers who were very young (< 20 years), unmarried, of another race than White, and those with less than a high school education had their first visit at 9.6 to 10.5 weeks, which was still within the first trimester (< 13 weeks) but later than optimally desirable. There was no difference between mothers' location of residence in terms of prenatal care initiation.

### Prenatal Care as Early as Desired

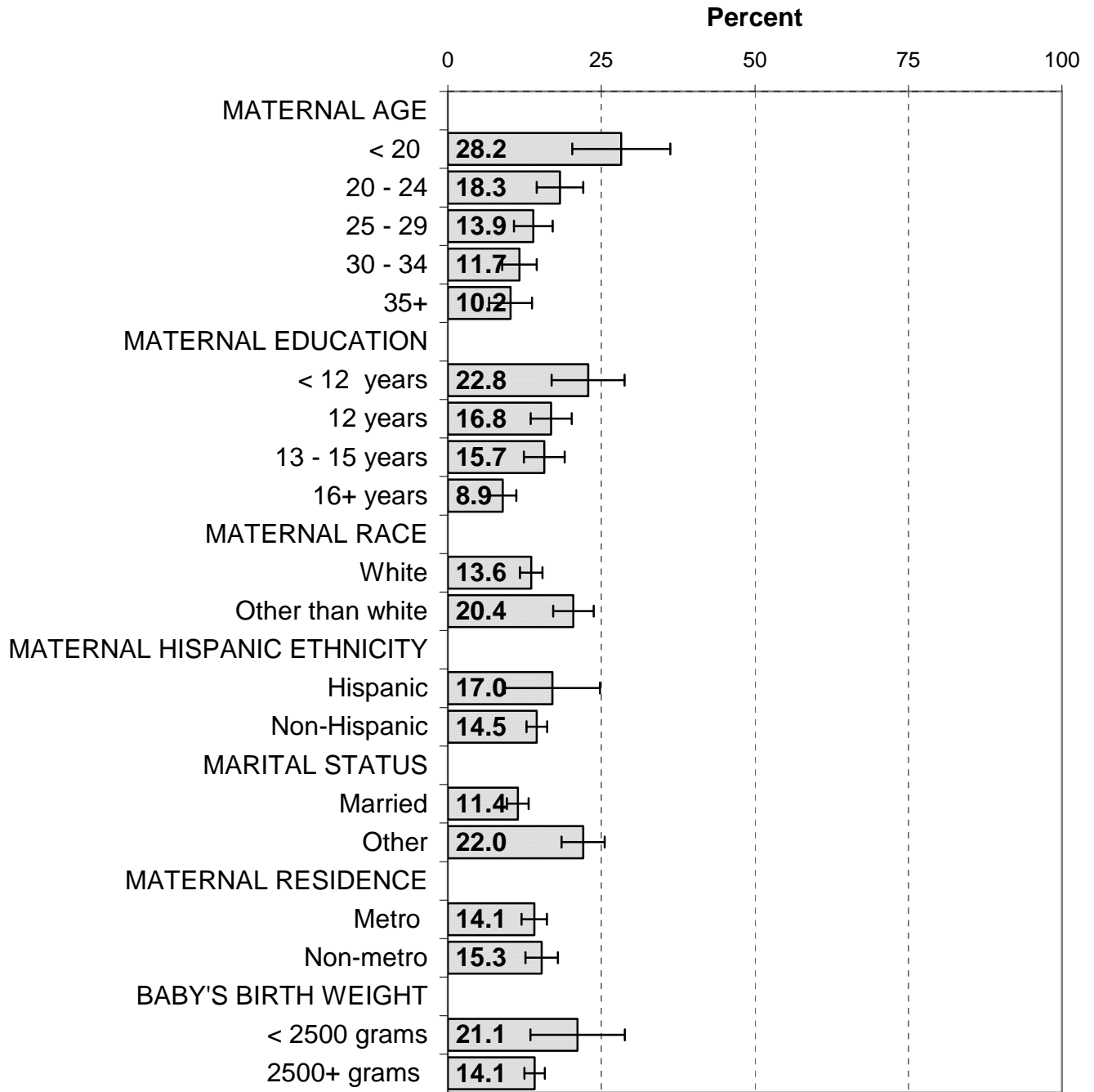
#### Question 19

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



Most mothers reported that they received prenatal care as early as they wanted, but 14.6% of mothers said that they did not receive care as early in this pregnancy as they wanted it.

*Demographics of Mothers Who Did Not Receive Prenatal Care As Early As Desired*



Age was a factor in getting prenatal care as early as desired. Older mothers were significantly more likely to receive care when they wanted it compared to younger mothers. More than one-quarter (28.2%) of mothers less than 20 years old responded “no” to this question, as well as nearly one-fifth (18.3%) of mothers under age 25. Only 10.2% of mothers over age 35 reported that they did not receive prenatal care as early as they wanted. The percentage of mothers who did not receive care as early as they wanted it *decreased* with increasing age.

Maternal education was also a significant factor in not getting prenatal care as early as desired. Nearly one-quarter (22.8%) of mothers who did not graduate from high school responded that they did not get prenatal care as early as desired, compared with only 8.9% of college graduates. The percent of mothers not receiving prenatal care as early as desired decreased with higher levels of education.

Mothers of another race than White were more likely to respond that they wanted earlier prenatal care (20.4%) when compared to White mothers (13.6%); unmarried mothers were twice as likely as married mothers, 22.0% and 11.4% respectively, to respond that they wanted earlier prenatal care.

## Barriers to Earlier Prenatal Care

Question 20  
(Among mothers who received prenatal care)

| <b>Did any of these things keep you from getting prenatal care as early as you wanted?</b> | <b>%</b>    | <b>( 95 % CI )</b> |
|--|-------------|--------------------|
| I didn't know that I was pregnant  | <b>32.7</b> | ( 26.93 , 38.49 )  |
| I couldn't get an appointment earlier in my pregnancy                                      | <b>28.0</b> | ( 22.49 , 33.41 )  |
| The doctor or health plan would not start care earlier                                     | <b>23.7</b> | ( 18.46 , 28.89 )  |
| I didn't have enough money or insurance to pay for visits                                  | <b>19.1</b> | ( 14.21 , 23.97 )  |
| I didn't have my Medicaid/Medical Assistance/MinnesotaCare card                            | <b>8.7</b>  | ( 5.276 , 12.07 )  |
| I had too many other things going on   | <b>7.0</b>  | ( 4.075 , 10 )     |
| I had no way to get to clinic or doctor's office   | <b>4.3</b>  | ( 1.931 , 6.625 )  |
| I had no one to take care of my children   | <b>1.9</b>  | ( 0.402 , 3.496 )  |
| "Other" reasons  | <b>15.1</b> | ( 10.76 , 19.34 )  |

Note: Percents do not add up to 100 because respondents could choose all answers that applied.

The number one barrier to early prenatal care was the mother not knowing she was pregnant earlier. On average, mothers said they were "sure" they were pregnant at about 5 weeks gestation. It took younger mothers, less educated mothers, mothers of another race than White, and unmarried mothers between 1-2 weeks later to be "sure" they were pregnant.

Not knowing about the pregnancy was a more common barrier to early prenatal care among mothers who were:

- Under 25 years old
- Had a high school education or less
- Hispanic
- Unmarried
- Lived outside the 7-county metro area.

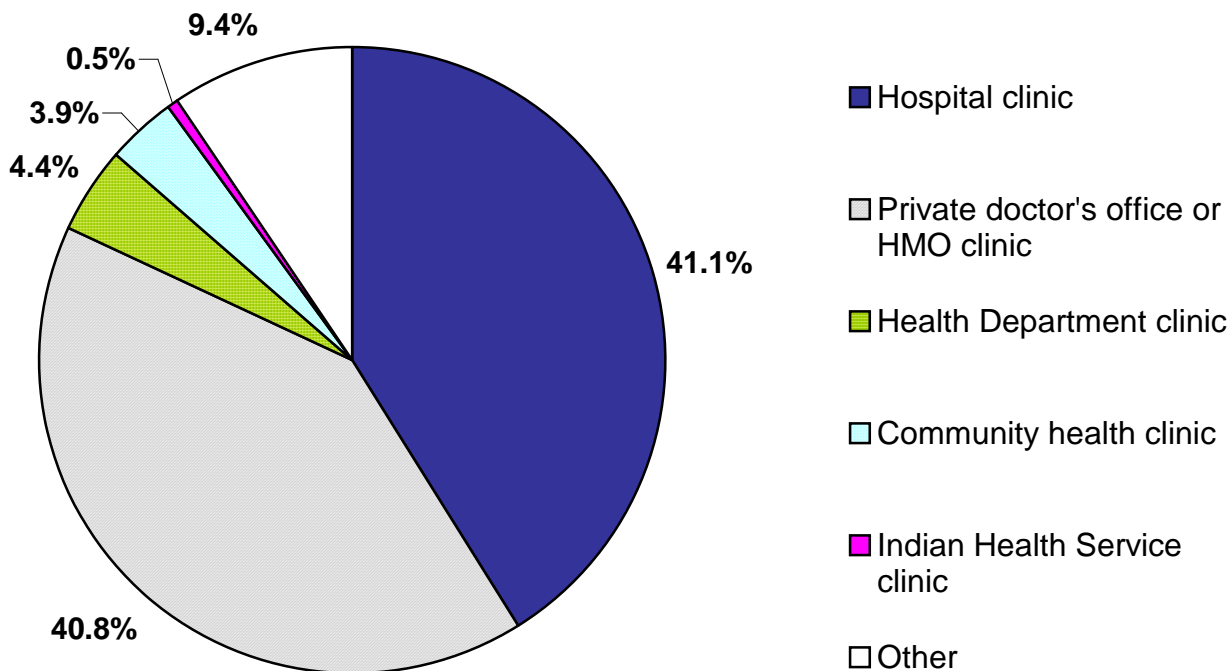
Not being able to get an appointment earlier was more common among more educated mothers and married mothers. No insurance or money to pay for visits was a more common barrier for early prenatal care for mothers who were less educated and unmarried.

Mothers who were older, more educated, White, non-Hispanic, married mothers, or residents of the 7-county metro area were more likely than other mothers to respond that their doctor or health plan would not start care earlier. Very few mothers who gave birth to a low birth weight baby said this was a barrier to getting prenatal care as early as they wanted.

## Main Source of Prenatal Care

Survey Question 21

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



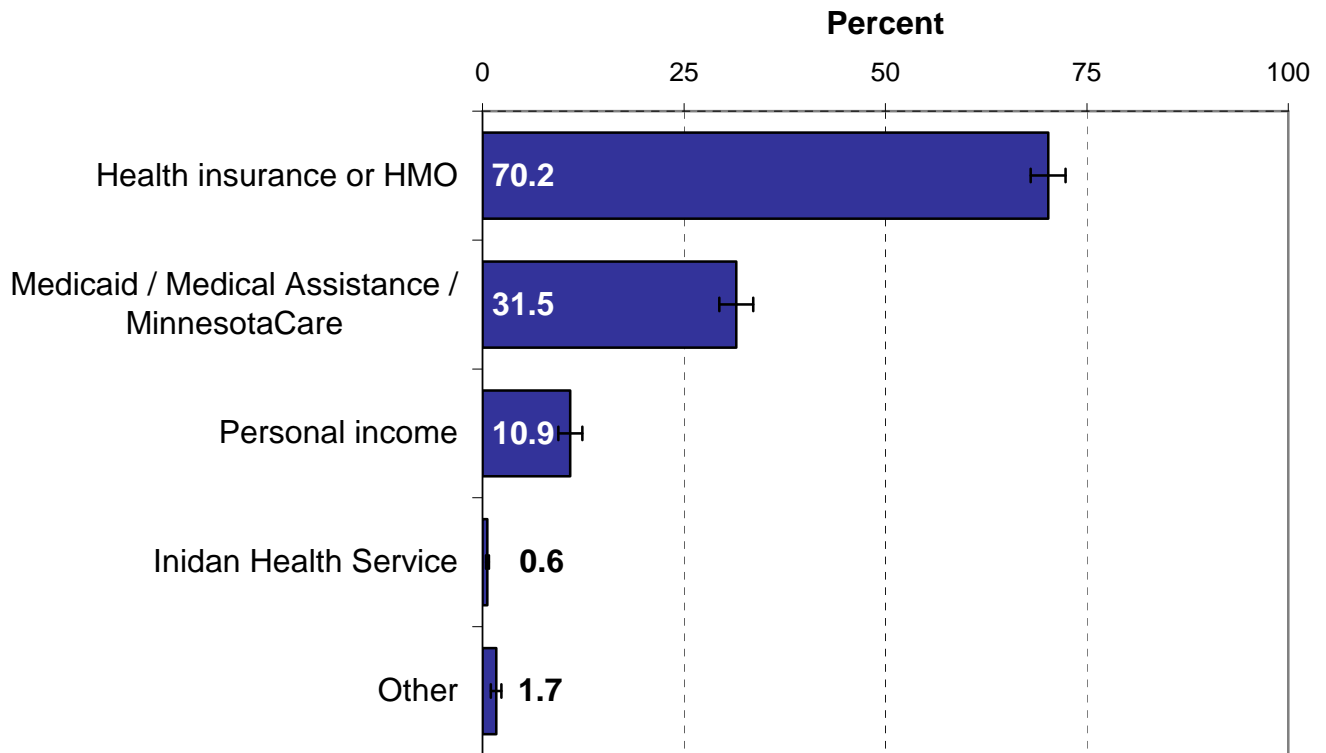
Mothers who received prenatal care at a private doctor's office or HMO clinic were more likely to be over age 30, and to have attended or graduated from college, and to be a resident of the 7-county metro area. Less than one-quarter of mothers who were younger, less educated, of another race than White, Hispanic, unmarried, or non-metro residents reported private doctor's offices as their main source of prenatal care. [Data not shown]

Those mothers who received most of their care at hospital clinics were largely under age 25, non-high school graduates, of another race than White, Hispanic, and non-metro area residents. Almost three out of five (57.4%) of Hispanic mothers reported a hospital clinic as their main source of prenatal care. Hospital clinics were also more important for mothers living outside the 7-county metro area; 58.4% of these moms reported them as their main source of prenatal care. [Data not shown]

Although a much smaller proportion of respondents received care at Health Department clinics or community clinics, the profile of both of these groups of mothers was very similar to those served at hospital clinics: under age 25, less than a high school education, unmarried, and of another race than White. The only difference: more non-Hispanic mothers were seen at community clinics than Hispanics. Community clinics were more commonly the main source of prenatal care for mothers living outside the 7-county metro area. Almost four percent (3.7%) of mothers of another race than White reported that a community clinic was their main source of prenatal care; no White mothers reported a community clinic as their main source of prenatal care. [Data not shown]

## Source of Payment for Prenatal Care

Survey Question 22  
How was your prenatal care paid for?



Note: Percents do not add up to 100% because respondents could choose all answers that applied.

Mothers who paid for their care by private health insurance or HMOs were significantly older (over age 25), better educated (high school graduates and beyond), White, non-Hispanic, and married. Paying with personal income (i.e., cash, check or credit card) was more common for married mothers and mothers who lived outside the 7-county metro area. It was less common for younger mothers, mothers with less than high school education, Hispanic mothers and unmarried mothers. There was no difference in the proportion of mothers who paid with personal income according to maternal race or Hispanic ethnicity. [Demographic data not shown]

Mothers using public sources of payment such as Medicaid, Medical Assistance, and MinnesotaCare were primarily under age 25, high school educated or less, of another race than White, Hispanic, unmarried, and living outside the 7-county metro area. They were also more likely to have given birth to a low birth weight baby. These results were all statistically significant. [Demographic data not shown]

Only a small portion (<1%) of mothers said the Indian Health Services (IHS) paid for prenatal care. IHS users were predominantly of another race than White, Non-Hispanic, and non-metro residents. Age, education, and baby's birth weight were not important factors in using IHS for prenatal care. [Demographic data not shown]

## Topics Covered during Prenatal Care

Survey Question 23  
(Among mothers who received prenatal care)

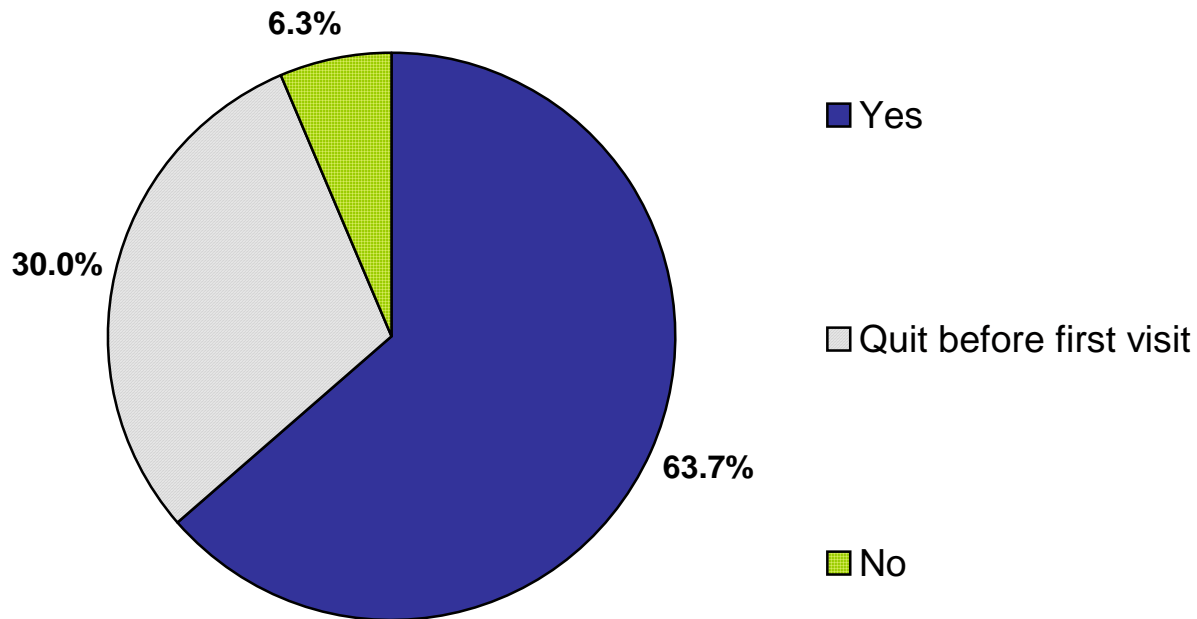
| <b>During any of your prenatal care visits, did a doctor, nurse, or other health care worker <i>talk</i> with you about...</b> | <b>%<br/>“yes” ( 95 % CI )</b> |
|--|--------------------------------|
| Medicines that are safe to take during your pregnancy  | <b>90.9</b> ( 89.6 , 92.3 )    |
| What to do if your labor starts early  | <b>87.0</b> ( 85.4 , 88.6 )    |
| Doing tests to screen for birth defects or diseases that run in your family  | <b>85.6</b> ( 83.9 , 87.2 )    |
| Breastfeeding your baby  | <b>85.0</b> ( 83.3 , 86.7 )    |
| Birth control methods to use after your pregnancy  | <b>76.2</b> ( 74.2 , 78.2 )    |
| Getting your blood tested for HIV (the virus that causes AIDS)   | <b>75.9</b> ( 73.8 , 77.9 )    |
| How drinking alcohol during pregnancy could affect your baby   | <b>74.7</b> ( 72.7 , 76.8 )    |
| How smoking during pregnancy could affect your baby  | <b>73.4</b> ( 71.4 , 75.5 )    |
| How using illegal drugs could affect your baby   | <b>63.0</b> ( 60.7 , 65.3 )    |
| Using a seat belt during your pregnancy  | <b>55.3</b> ( 52.9 , 57.6 )    |
| Physical abuse to women by their husbands or partners  | <b>55.1</b> ( 52.8 , 57.5 )    |

Survey Question 25  
(Among mothers who received prenatal care)

| <b>During any of your prenatal care visits, did a doctor, nurse, or other health care worker ask you about...</b> | <b>%<br/>“yes” ( 95 % CI )</b> |
|---|--------------------------------|
| If you planned to use birth control after your baby was born  | <b>82.8</b> ( 81.0 , 84.6 )    |
| How much alcohol you were drinking  | <b>77.7</b> ( 75.7 , 79.7 )    |
| If you were using illegal drugs (marijuana or hash, cocaine, crack, etc.)   | <b>71.1</b> ( 68.9 , 73.2 )    |
| If you wanted to be tested for HIV (the virus that causes AIDS)   | <b>67.3</b> ( 65.1 , 69.5 )    |
| If someone was hurting you emotionally or physically  | <b>63.5</b> ( 61.2 , 65.7 )    |

### Survey Question 79

(Among mothers who received prenatal care and smoked in 3 months before pregnancy)  
During any of your prenatal care visits,  
did a doctor, nurse, or other health care worker advise you to stop smoking?



### Smoking, Drinking, and Use of Illegal Drugs During Pregnancy

Approximately three-quarters of mothers said that their health care provider talked with them about the way in which smoking or drinking during pregnancy could affect their baby (73.4% and 74.7%, respectively). Among women who said they smoked in the three months before pregnancy, 63.7% were advised by their provider to stop smoking; 30.0% had already quit, and the remaining 6.3% said their provider did not specifically advise them to quit.

A lower proportion of mothers (63.0%) reported that their provider talked with them about the effects of illegal drugs on the baby. However, 71.1% of mothers who received prenatal care did say that their health care provider *asked* them if they were using illegal drugs.

### Screening for Birth Defects, Family/inheritable Diseases, and HIV

The vast majority of mothers (85.6%) reported that their health care provider talked with them about participating in screening tests for birth defects or other diseases that might run in their family. There was a noticeable pattern for younger mothers (under age 20), mothers with a high school education or less, and Hispanic mothers to report that their providers had not talked with them about screening. These differences were statistically significant. [Demographic data not shown]

More than three-fourths of mothers (75.9%) said their provider talked with them about getting their blood tested for HIV. Although not statistically significant, younger mothers and mothers with less education were more likely to receive information about getting their blood tested for HIV. With this

issue, White mothers, married mothers, and mothers living outside the 7-county metro area were more likely to report that their provider had not mentioned HIV testing. These differences were statistically significant. [Demographic data not shown]

### **Early Labor**

Eighty-seven percent of mothers (87.0%) reported that their health care provider discussed with them what to do if their labor started early. With one exception, there were no noticeable patterns in this data. Interestingly, mothers who delivered low birthweight babies (< 2500 grams or < 5 lb. 8 oz.) were almost twice as likely *not* to have talked with their provider about this issue compared to mothers who delivered babies who were at least 2500 grams (5 lb. 8 oz.) at birth - 24.1% and 12.3%, respectively. This finding was statistically significant. [Demographic data not shown]

### **Birth Control Methods**

More than three-fourths of respondents (76.2%) said that a health care provider talked with them about various methods of birth control that they might use after this pregnancy. Older mothers, mothers with at least a high school education, White mothers, and married mothers were less likely to have staff talk with them about birth control options. [Demographic data not shown]

A somewhat larger proportion of mothers (82.8%) indicated that a health care provider had asked if they planned to use birth control after their baby was born. Again, Older mothers, mothers with at least a high school education, and married mothers were the least likely to discuss birth control plans with their health care provider. [Demographic data not shown]

### **Seat Belt Use During Pregnancy**

More than half (55.3%) of respondents said that their health care provider talked with them about using a seat belt during pregnancy. White mothers were significantly more likely than mothers of another race *not* to receive this information: 46.4% and 34.6%, respectively. Mothers with higher education were less likely to receive information about seat belt use than mothers with less education: 48.8% of mothers with 16+ years of education did not receive this information from their health care providers versus 35.1% of mothers with less than 12 years of education. [Demographic data not shown]

### **Violence During Pregnancy**

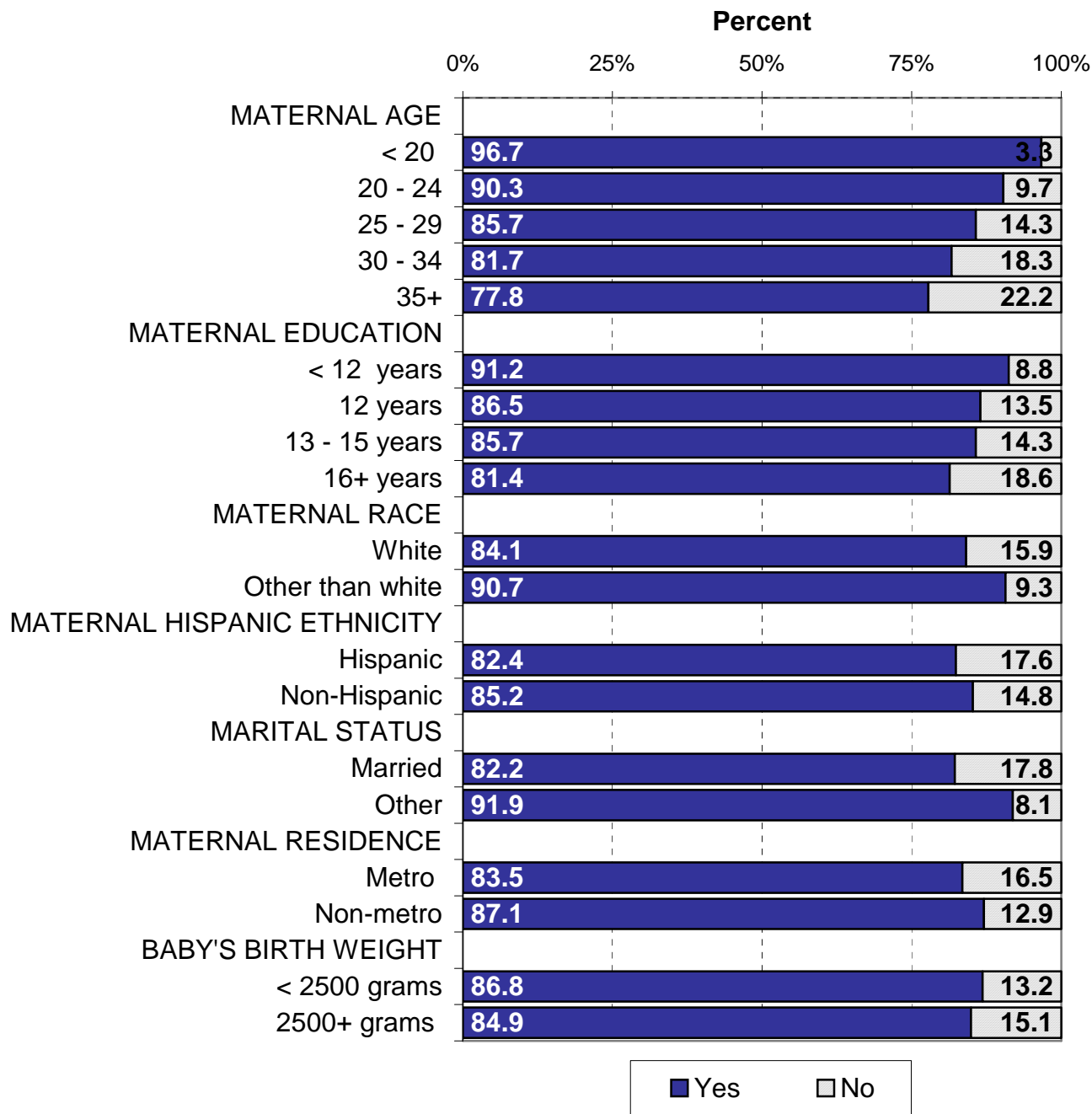
More than half of mothers (55.1%) reported that a health care provider talked with them during their prenatal visits about physical abuse by husbands or partners. White mothers and married mothers were the most likely *not* to receive this type of counseling or information.

A higher proportion of mothers, 63.5%, said that their health care provider asked them whether someone was hurting them physically or emotionally. Mothers with higher education, married mothers, and mothers living outside the 7-county metro area were less likely to be asked if someone was abusing them.

### **Breastfeeding Discussion During Prenatal Care**

Fifteen percent (15.0%) of new mothers said that their health care providers (doctors, nurses, or other health care workers) did not talk to them about breastfeeding during any of their prenatal visits. This is an important concern. Among the other 19 PRAMS states who reported on this question in 2000, the lowest—and therefore the best—percentage was 8% (Maine). Other states ranged from 8.4 to 24.4 percent.

*Demographics of Mothers Receiving/Not Receiving Breastfeeding Discussion During Prenatal Care*



Younger mothers (29 and under) are significantly more likely to receive information about breastfeeding than older mothers (30 years and over), while unmarried mothers are significantly more likely to receive breastfeeding information than mothers of all other marital categories. The data also suggest that health care providers are more likely to talk about breastfeeding with mothers who have less education (those *not* completing high school) when compared with high school or college graduates.

## Satisfaction with Prenatal Care

Survey Question 24

| Were you satisfied with --   | %<br>“yes” ( 95 % CI )      |
|--|-----------------------------|
| The amount of time you had to wait after you arrived for your visits       | <b>83.4</b> ( 81.6 , 85.2 ) |
| The amount of time the doctor or nurse spent with you during your visits   | <b>91.1</b> ( 89.7 , 92.4 ) |
| The advice you got on how to take care of yourself                         | <b>93.0</b> ( 91.8 , 94.2 ) |
| The understanding and respect that the staff showed toward you as a person | <b>96.5</b> ( 95.6 , 97.3 ) |

Wait time was less of a source of dissatisfaction for White mothers compared with mothers of another race (15.9% vs. 21.3%, respectively).

An overwhelming majority of mothers (91.1%) said they were satisfied with the amount of time spent by their health care provider during prenatal visits. More mothers with less education, mothers of another race than White, and mothers living in the 7-county metro area were dissatisfied with the time spent with a health care provider. Although there were small numbers, proportionately more Hispanics were dissatisfied with the amount of time spent by their provider when compared with non-Hispanics.

Fewer mothers with less education reported they were satisfied with the advice from health care providers compared with mothers with more education.

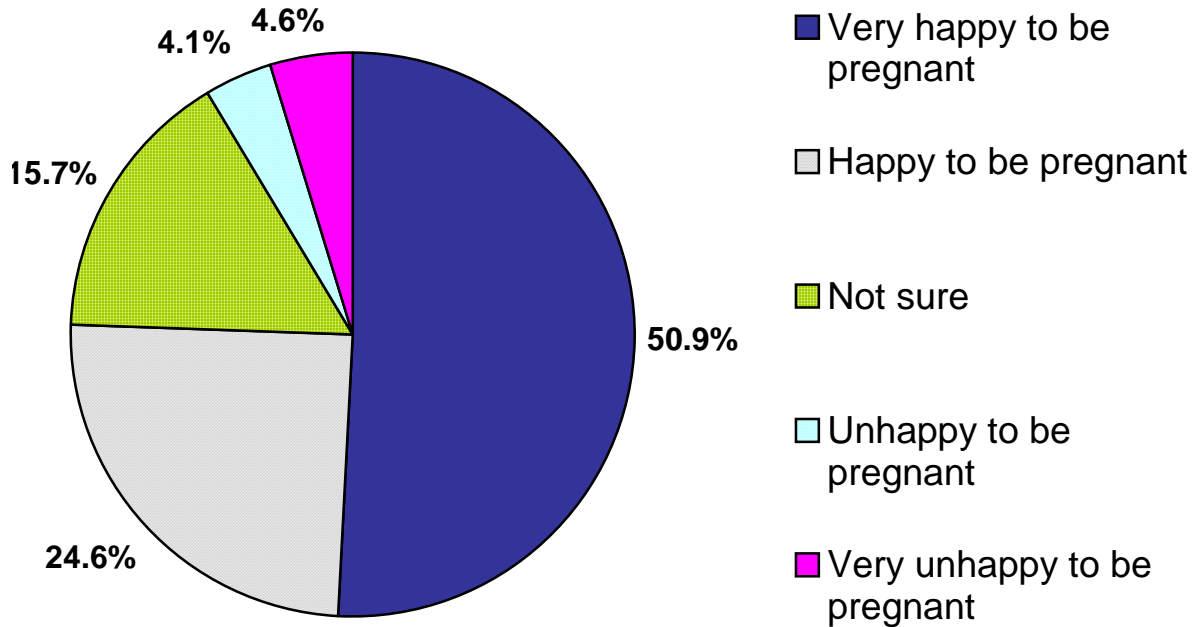
An even greater majority of mothers (96.5%) were satisfied with the understanding and respect shown to them by health care staff. Slightly more mothers who had not completed high school were dissatisfied with this issue, although the findings are not statistically significant due to very low numbers of “dissatisfied” responses.

## Mental Health During Pregnancy

### Feelings About This Pregnancy

Survey Question 76

How did you feel when you found out you were pregnant with your baby?



The great majority of mothers reported that they were happy to be pregnant (75.5%), but 15.7% were not sure how they felt and the remaining 8.7% were either unhappy or very unhappy to be pregnant.

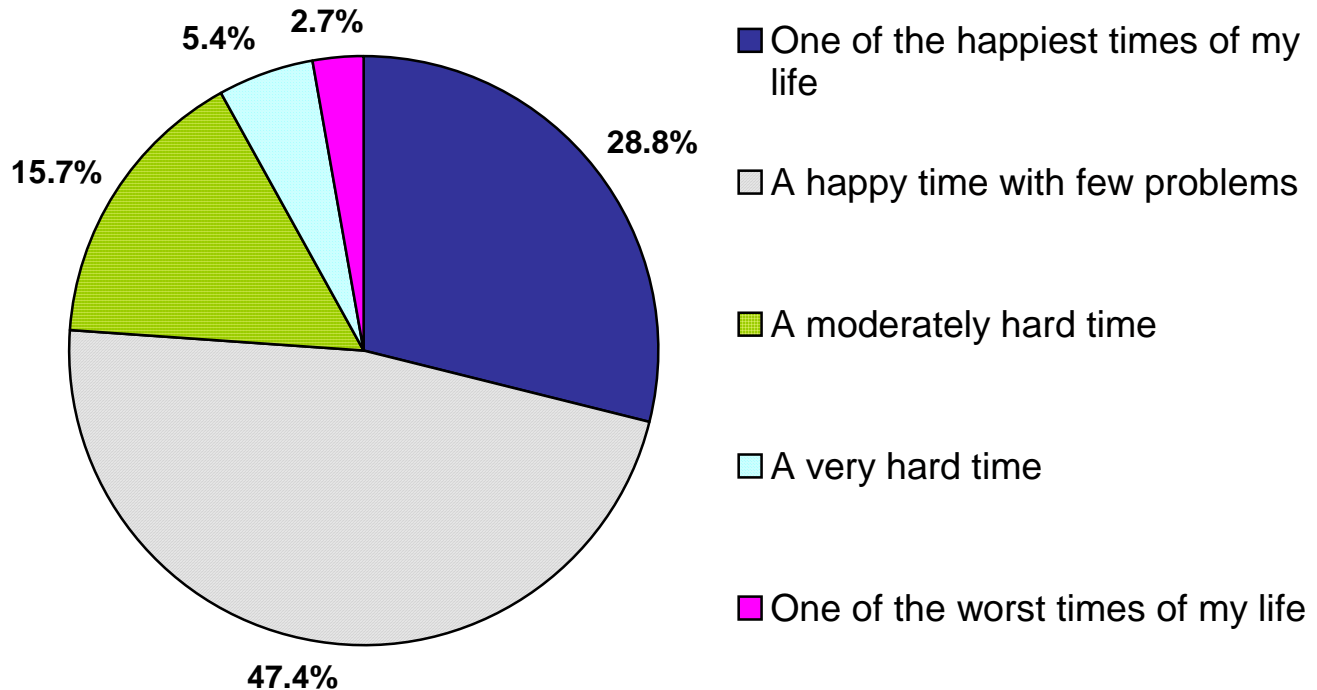
Feelings at this time were related to whether the pregnancy was intended or not.

- Among mothers with an intended pregnancy, 91.0% were happy or very happy when they found out they were pregnant
- Among mothers with an unintended pregnancy, 44.7% were happy or very happy when they found out they were pregnant. Another 38.2% percent were not sure how they felt about becoming pregnant, and 17.2% were either unhappy or very unhappy when they found out they were pregnant.

## Pregnancy Experience

Survey Question 39

How would you describe the time during your pregnancy?



Just under one quarter of mothers (23.8%) experienced hardship during their pregnancy, reporting their pregnancy was either moderately hard, very hard, or one of the worst times of their lives. The youngest mothers reported the highest proportion of hardship compared to older mothers: 32.3% of teen mothers said their pregnancy was at least moderately hard. Unmarried mothers were more likely to report hardship than married mothers: 36.1% versus 18.6%, respectively. A larger share (36.0%) of mothers who gave birth to a low birth weight babies reported that their pregnancy experience was at least moderately hard, compared to 23.0% of mothers whose babies were over 2500 grams (5 lb. 8 oz.) at birth.

Some mothers were more likely to report their pregnancies were happy including: married mothers, mothers between the ages of 30 and 34, mothers with at least a college education, and Hispanic mothers. Only 18.6% of married mothers, 19.1% of mothers between 30-34 years old, 18.5% of mothers with at least a college degree and only 12.7% of Hispanic mothers reported their pregnancies were at least moderately hard. Hardship did not differ by maternal race or maternal residence.

Hardship during pregnancy was related to pregnancy intention. Among mothers with an intended pregnancy, 82.8% said the time during this pregnancy was either “a happy time with few problems” or “one of the happiest times of their life,” compared to 63.4% of mothers with an unintended pregnancy.

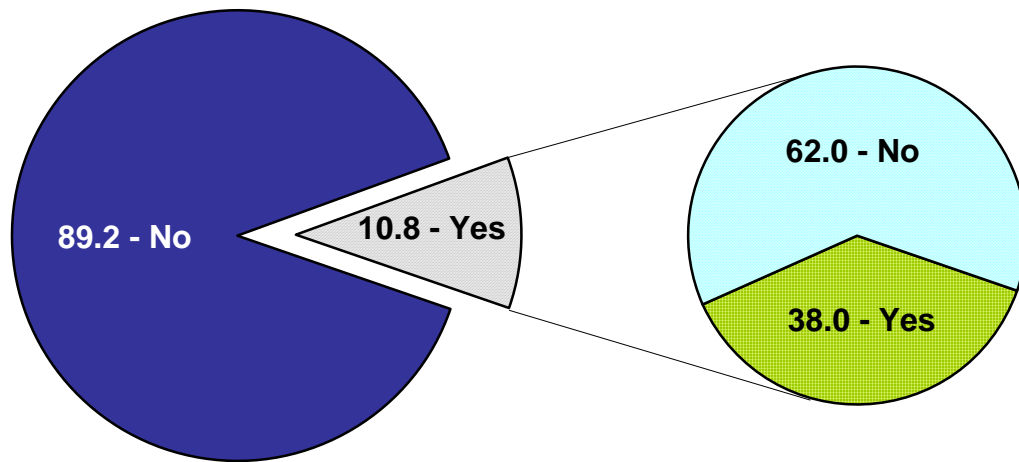
## Counseling Information for Family and Personal Problems

Survey Question 77d and Q78d

During your most recent pregnancy, did you (feel you needed/received) counseling information for family and personal problems?

Did you feel you needed counseling?

If you needed counseling, did you receive it?



- Did not need counseling info
- Needed counseling info
- Needed and received counseling info
- Needed but did not receive counseling info

One in ten mothers (10.8%) said they felt they needed counseling information for family and personal problems

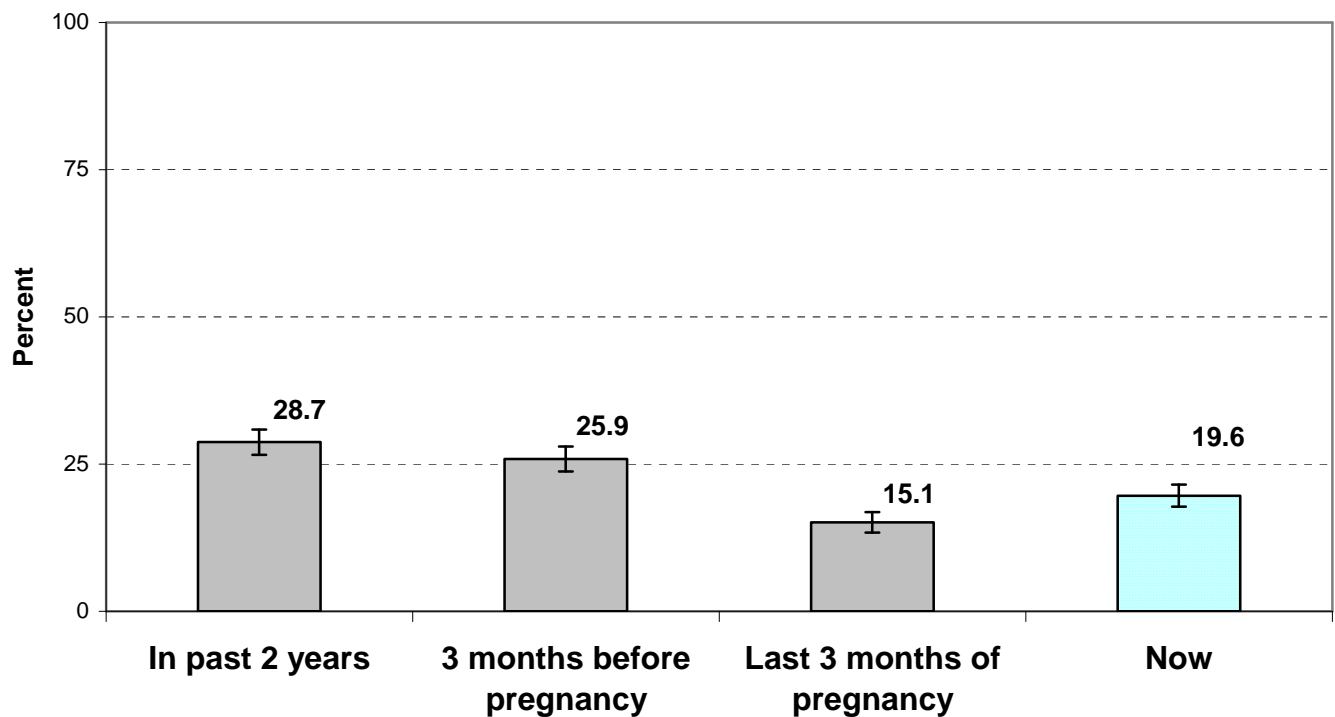
- Mothers who were unmarried were more likely to report they needed counseling information (18.0% vs. 7.8%).
- Younger mothers and mothers with less education were more likely to report they needed counseling information, but these differences were not significant possibly because of low numbers.
- Of the mothers who felt then needed this type of counseling information, only 38.0% said they received it.

## Post-Pregnancy

### Maternal Health

#### Cigarette Smoking After Pregnancy

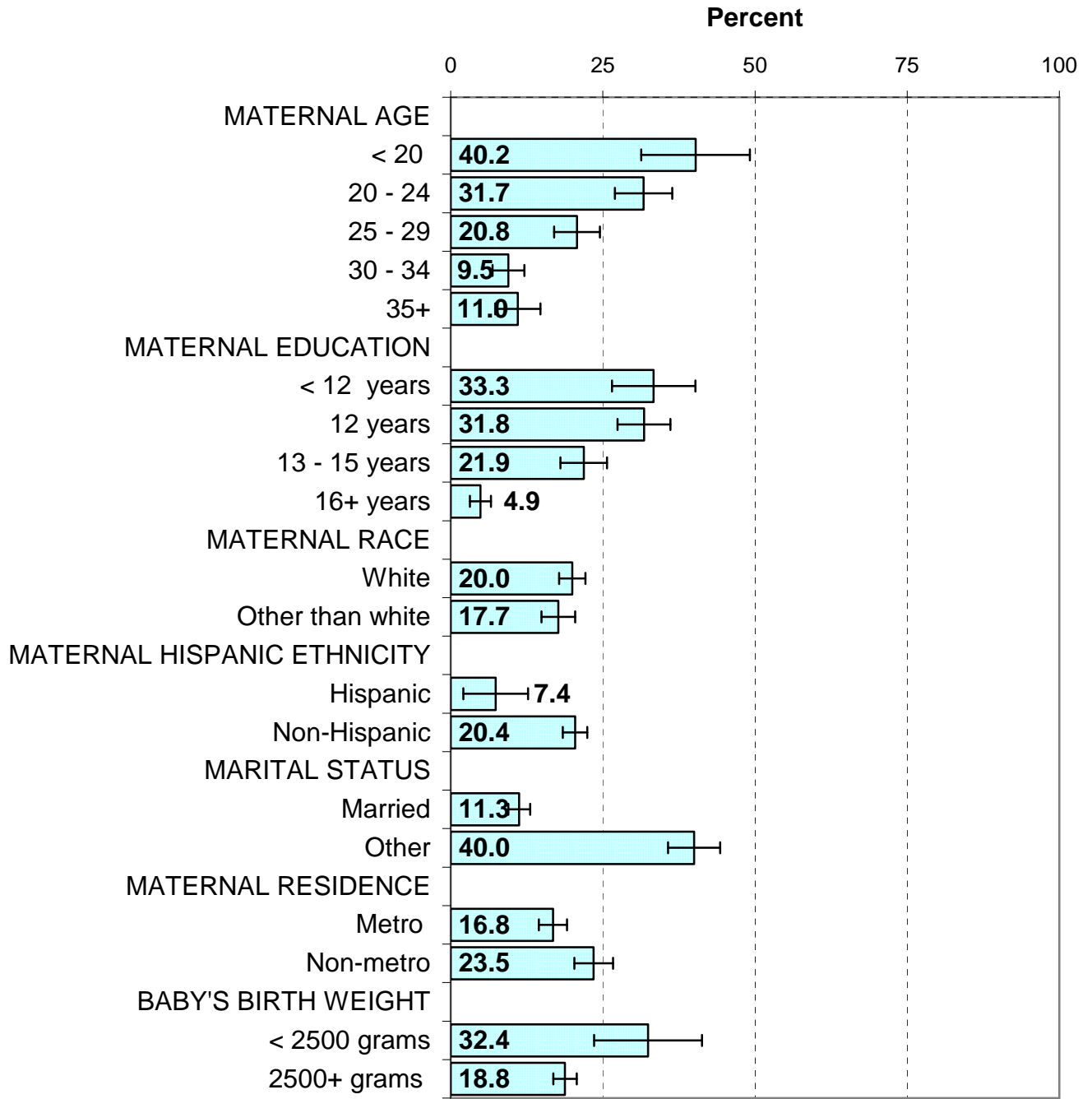
Survey Question 32: Any cigarettes = Yes  
How many cigarettes or packs of cigarettes do you smoke on an average day *now*?



Almost 26% of mothers were smoking cigarettes in the three months prior to becoming pregnant. This number dropped to 15% in the last three months of pregnancy, but rose again to just under 20% at the time of the survey, when the baby was between 3 and 6 months of age.

Of mothers who reported smoking in the past two years, 30.4% reported they were not smoking at the time of the survey, which was administered between 3-6 months after birth. Almost 15% resumed smoking after having not smoked during the last three months of pregnancy. In total, almost 70% of the mothers who reported smoking in the past two years continued to smoke after the baby was born. The average number of cigarettes smoked per day also increased from a low during pregnancy of seven cigarettes/day to about 11 cigarettes/day. However, the level of smoking had not returned to the amount smoked in the three months before pregnancy, which was about 14.5 cigarettes/day.

*Demographics of Mothers Cigarette Smoking After Pregnancy*

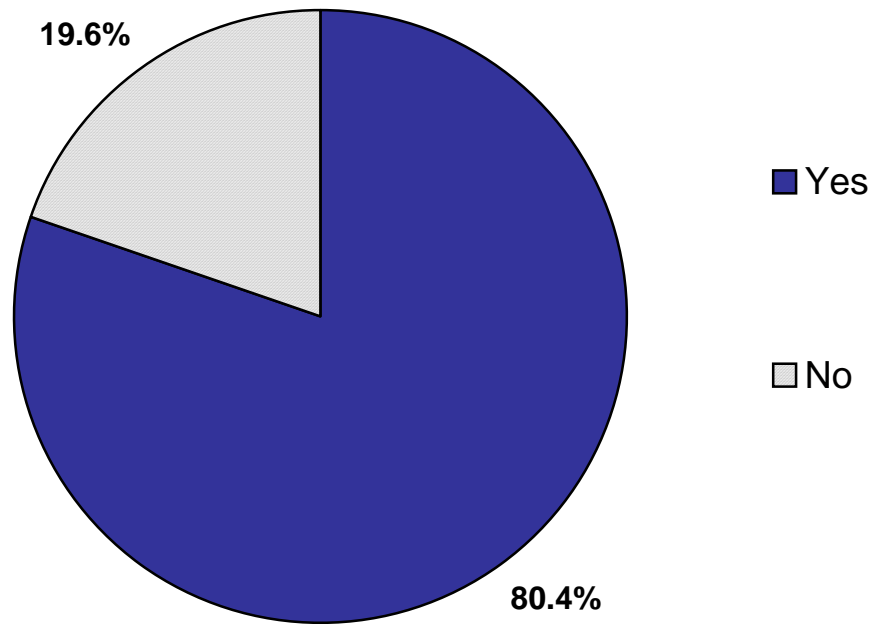


Smoking after pregnancy was significantly more common among younger, less educated, non-Hispanic, unmarried, mothers, mothers who lived outside the 7-county metro area, and mothers who gave birth to a low birth weight baby.

## Breastfeeding

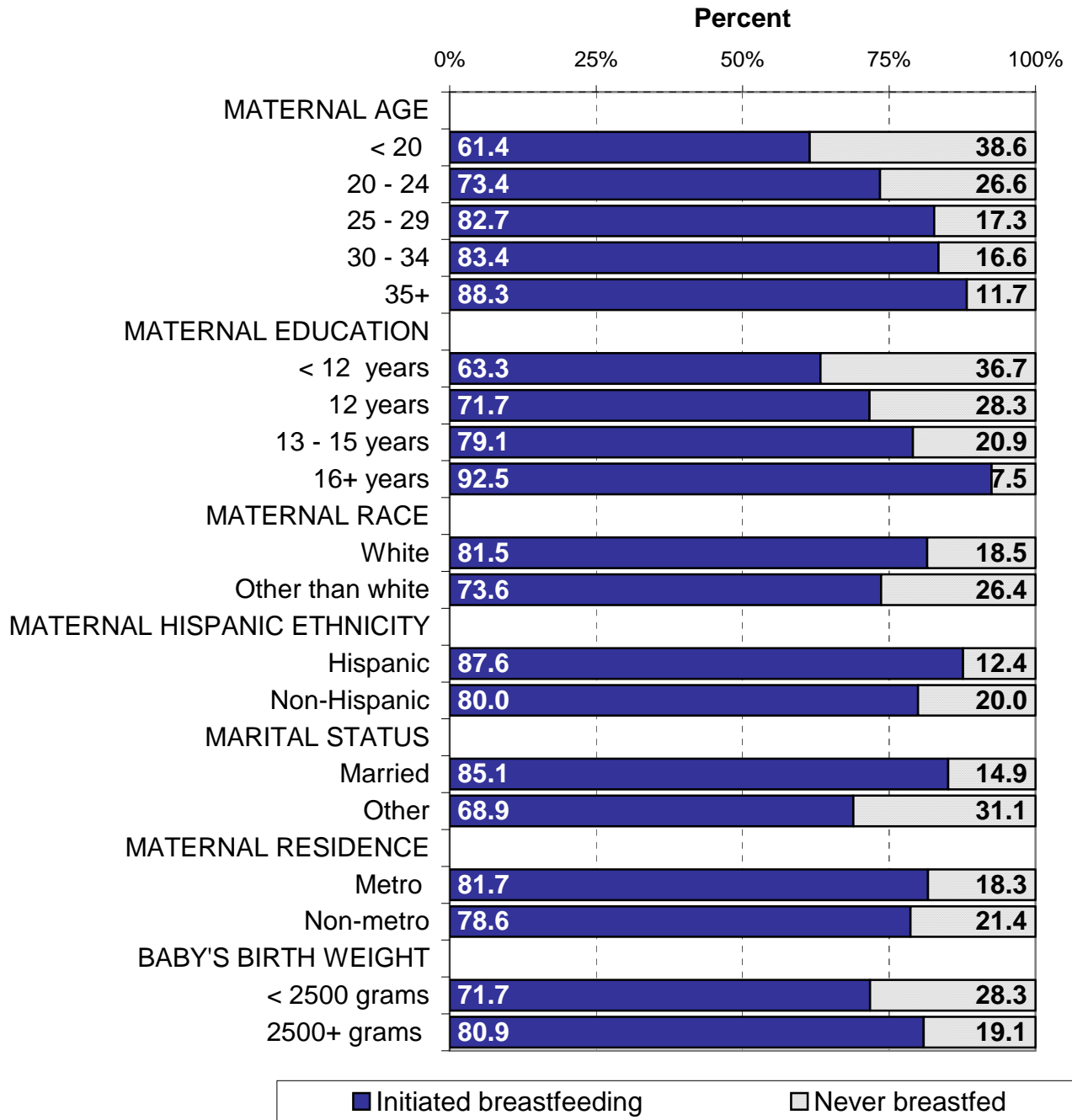
### Breastfeeding Initiation

Survey Question 51  
Did you ever breastfeed or pump breast milk  
to feed your new baby after delivery?



About four out of five (80.4%) mothers said they had breastfed or pumped milk to feed their baby. Although Minnesota has exceeded the federal goal for breastfeeding, which is 75% of all women giving birth (Healthy People, 2010), that benchmark is a minimum expectation.

*Demographics of Breastfeeding Initiation*



Minnesota mothers who were most likely to breastfeed were over age 25, and especially over age 35, while young mothers under age 25 were least likely to breastfeed. Eighty-nine percent (88.3%) of the oldest mothers (> 35 years) did breastfeed their babies at some point after delivery, whereas only 11.7% did not breastfeed at all. In contrast, 61.4% of the youngest mothers (< 20 years) ever breastfed their babies, while 38.6%, almost two out of five teen mothers, never did so. These results concur with national statistics that indicate that the older a mother is, the more likely she is to breastfeed. This is likely why health care providers talk with younger mothers about breastfeeding their babies during prenatal care visits more than they do with older mothers, as reported earlier in this book.

## Reasons for Not Breastfeeding

Survey Question 52  
(Among mothers who never initiated breastfeeding)

| <b>What were your reasons for not breastfeeding your baby?</b> | <b>%<br/>"yes" ( 95 % CI )</b> |
|--|--------------------------------|
| I didn't like breastfeeding                                    | <b>40.3</b> ( 35.1 , 45.4 )    |
| I had other children to take care of                           | <b>29.2</b> ( 24.4 , 34.0 )    |
| I went back to work or school                                  | <b>26.8</b> ( 22.1 , 31.5 )    |
| I wanted my body back to myself                                | <b>17.1</b> ( 13.3 , 21.1 )    |
| I didn't want to be tied down                                  | <b>15.2</b> ( 11.4 , 19.0 )    |
| I had too many household duties                                | <b>13.7</b> ( 10.1 , 17.3 )    |
| I was embarrassed to breastfeed                                | <b>11.6</b> ( 8.1 , 15.0 )     |
| My husband or partner didn't want me to breastfeed             | <b>3.5</b> ( 1.5 , 5.5 )       |

Note: Percents do not add up to 100% because respondents could choose all answers that applied.

Not liking breastfeeding was the most common reason mothers gave for not breastfeeding. This was consistent across all maternal demographic categories; there were no significant differences between any of the demographic categories for this response.

Having other children to take care of was a common reason for not breastfeeding for older mothers, but not for younger mothers: only 8.0% of teen mothers who did not breastfeed gave this as a reason. Thirty-four percent (34.0%) of married women said this was the reason they did not breastfeed, compared with only 23.5% of unmarried women. [Data not shown.]

Going back to school or work and having too many household duties were barriers to breastfeeding that were significantly different by maternal race. Over one third (35.5%) of mothers of another race than White said going back to school or work was a reason for not breastfeeding compared to about a quarter (24.7%) of White mothers. Household duties were a barrier to breastfeeding for 20.9% of mothers of other races, compared to 12.0% of White mothers.

## Breastfeeding Duration

Survey Question 53

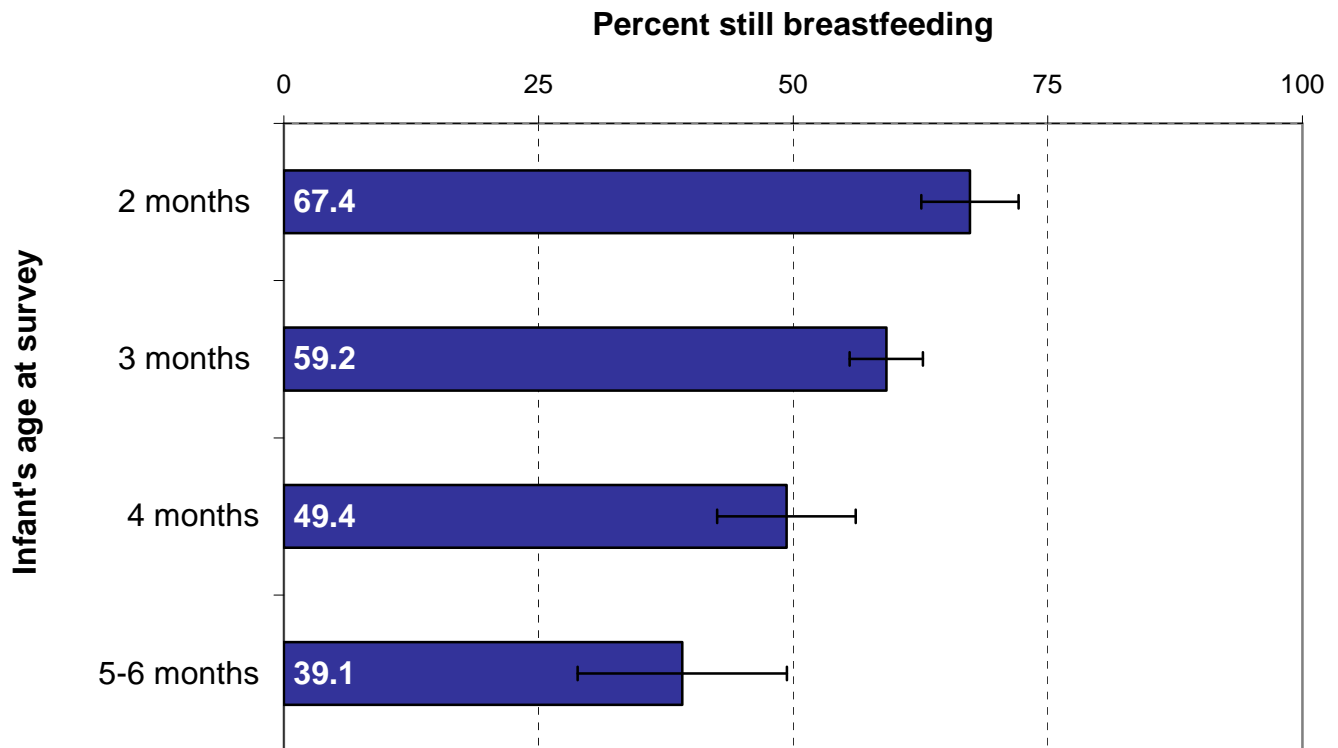
(Among women who initiated breastfeeding)

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

[Data not shown]

Over two out of five (41.1%) of mothers who had initiated breastfeeding or pumping breast milk for their baby had stopped before taking the PRAMS survey. On average, they breastfed or pumped until their baby was about 6 weeks old or 1.5 months.

The remaining 58.9% of mothers who initiated breastfeeding were still breastfeeding or pumping breastmilk for their new baby at the time they responded to this survey. The average age of the baby at the time of the survey was around 3 1/2 months, but the age range extends from 2-6 months. Since mothers respond to the survey at different times, it is important to look at breastfeeding duration by the age of the child. The bar chart below shows the proportion of mothers who continued to breastfeed by age of the baby at the time of the survey.



Breastfeeding duration dropped as the babies' ages increased. For babies who hadn't yet reached 3 months of age, 67.4% of mothers who initiated breastfeeding were continuing to breastfeed. At the time the baby was three months old, 59.2% of mothers who ever breastfed their new baby were still breastfeeding; however, that number dropped to just under 40% for mothers whose babies were 5-6 months old.

## Reasons for Stopping Breastfeeding

Survey Question 55

(Among mothers who initiated breastfeeding, but had stopped by the time of the survey)

| <b>What were your reasons for stopping breastfeeding?</b> | <b>%<br/>"yes"</b> | <b>( 95 % , CI )</b> |
|---|--------------------|----------------------|
| I thought I was not producing enough milk.                | <b>36.7</b>        | ( 32.8 , 40.6 )      |
| Breast milk alone did not satisfy my baby.                | <b>34.8</b>        | ( 30.9 , 38.7 )      |
| My baby had difficulty nursing.                           | <b>24.8</b>        | ( 21.3 , 28.3 )      |
| I went back to work or school.                            | <b>23.6</b>        | ( 20.1 , 27.0 )      |
| My nipples were sore, cracked, or bleeding.               | <b>21.4</b>        | ( 18.1 , 24.7 )      |
| I felt it was the right time to stop breastfeeding.       | <b>16.2</b>        | ( 13.3 , 19.2 )      |
| I wanted or needed someone else to feed the baby.         | <b>15.2</b>        | ( 12.3 , 18.1 )      |
| I had too many other household duties.                    | <b>14.7</b>        | ( 11.8 , 17.6 )      |
| I thought my baby was not gaining enough weight.          | <b>8.7</b>         | ( 6.4 , 11.0 )       |
| I became sick and could not breastfeed.                   | <b>5.7</b>         | ( 3.9 , 7.6 )        |
| My husband or partner wanted me to stop breastfeeding.    | <b>2.5</b>         | ( 1.2 , 3.8 )        |
| My baby became sick and could not breastfeed.             | <b>2.1</b>         | ( 0.9 , 3.3 )        |

Note: Percents do not add up to 100% because respondents could choose all answers that applied.

Of the 41% of mothers who had stopped breastfeeding by the time of the survey, the top reason for stopping breastfeeding was that they felt they were not producing enough milk. There were no significant differences by any of the demographic characteristics.

Mothers of other races were significantly less likely than White mothers to say breast milk did not satisfy the baby as a reason for stopping breastfeeding (28% vs. 36% respectively). This pattern was the same for babies having difficulty breastfeeding; only 18.9% of mothers who were of another race than White gave this as a reason compared to 25.9% of White mothers.

Almost 32% of mothers of another race than White said going back to work or school was one of the reasons they stopped breastfeeding; this was significantly higher than the 22.2% of White mothers who selected this reason.

A larger portion of younger mothers reported sore, cracked, and bleeding nipples as a reason for stopping breastfeeding: teen mothers (30.5%) and 20-24 year olds (37.9) vs. 13.7% for mothers over

35. Mothers of low birth weight babies were much less likely to give this as a reason, 7.0% compared to 22.6% for babies with birth weight over 2500 grams (5 lb. 8 oz.).

Almost 17% of White mothers said that they needed someone else to take care of the baby, significantly more than mothers of a different race (8.9%).

Married mothers were much more likely than unmarried mothers to say they felt it was the right time to stop breastfeeding 20.1% compared to 9.8% of unmarried mothers.

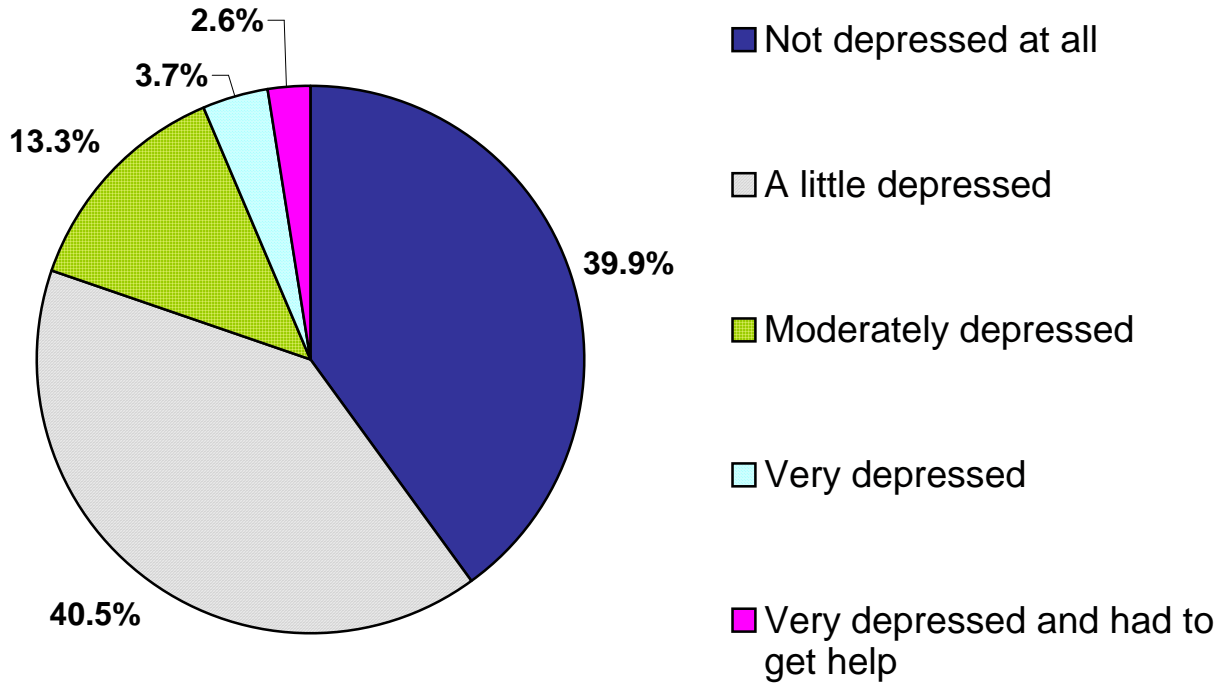
Household duties were significantly more commonly cited by mothers of babies who weighed over 2500 grams (5lb. 8 oz.) at birth (15.4% vs. 6.3% for low birth weight)

## Mental Health After Pregnancy

### Self-Reported Post-Partum Depression

Survey Question 69

In the months after delivery, would you say that you were –?



Just over 60% of mothers reported feeling some depression in the months after delivery. Moderate depression was a problem for 13.3% of mothers. Just over six percent (6.3%) of mothers reported severe depression, i.e. they responded that they were “very depressed” and “very depressed and had to get help.”

## *Depression and Pregnancy Intent*

Survey Question 12

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

Survey Question 76

How did you feel when you found out you were pregnant with your baby?

Survey Question 39

How would you describe the time during your pregnancy?

Depression after pregnancy was related to pregnancy intention, how the mother felt when she found out she was pregnant, and pregnancy experience.

- Mothers whose pregnancies were unintended were more likely to be severely depressed than mothers whose pregnancies were intended. (10.1% vs. 4.4%)
- Mothers who reported being unhappy or not sure how they felt when they found out they were pregnant were more likely to report severe depression after pregnancy than mothers who were happy when they found out they were pregnant (11.1% vs. 4.8%).
- Mothers who described the time during this pregnancy as hard were more likely to report severe depression after pregnancy than mothers who described their pregnancies as a happy time (13.5% vs. 3.9%).

## *Depression and Abuse*

Survey Question 37a

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

Survey Question 38a

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

Survey Question 82

Other types of partner abuse

\*See appendix for details

Severe depression was reported significantly more by women who had experienced partner abuse:

- 21.6 % of mothers who reported abuse before pregnancy also reported being very depressed in the months after pregnancy versus 5.4% of mothers who reported no abuse before pregnancy.
- 21.6% of mothers who reported abuse during pregnancy also reported being very depressed in the months after pregnancy versus 5.6% of mothers who reported no abuse during pregnancy.
- Increased percentage of severe depression was also related to other types of partner abuse during pregnancy, including threatening, angry, controlling behavior and forced sexual activity.

Survey Question 36  
Stressful events  
\*See appendix for details  
Survey Question 81  
Social Support  
\*See appendix for details

Severe depression was significantly related to stress and the lack of social support:

- Increased percentage of severe depression was found among mothers who experienced partner-related, financial, and traumatic stress in the past 12 months, but not among mothers who experienced emotional stress.
- Mothers with no social support were much more likely to report severe depression than mothers who said that they had someone to help them out. (24.5% vs. 5.6%)

Increased depression was not found to be related to prematurity, infant staying in the NICU, or low birth weight.

### **Information from Health Care Workers about Post-Partum Depression**

Survey Question 70

At any time during your pregnancy or after delivery, did a doctor, nurse, or other health care worker talk with you about “baby blues” (postpartum depression)?

Four out of five mothers (80%) said that their doctor, nurse or other health care worker talked to them about “baby blues” or postpartum depression at some time during this pregnancy or after delivery.

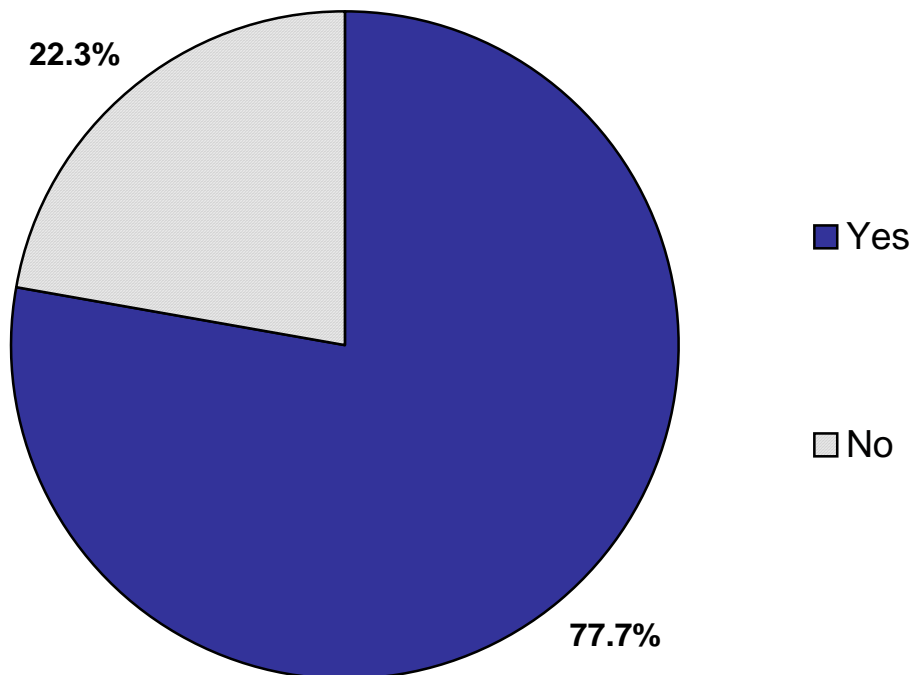
- Mothers under 20 were most likely to receive information on postpartum depression; only 13% reported that their health care workers did not talk with them about postpartum depression.
- Mothers 35 and older were least likely to receive information about postpartum depression, with 26% reporting that their health care workers did not speak with them about postpartum depression.
- Mothers who were not white were more likely to report that their health care workers did not talk to them about postpartum depression (28% vs. 18%).
- Mothers who had attained a lower educational level were less likely to report that their health care workers discussed postpartum depression with them.

## Infant Health & Safety

### One-Week Visit

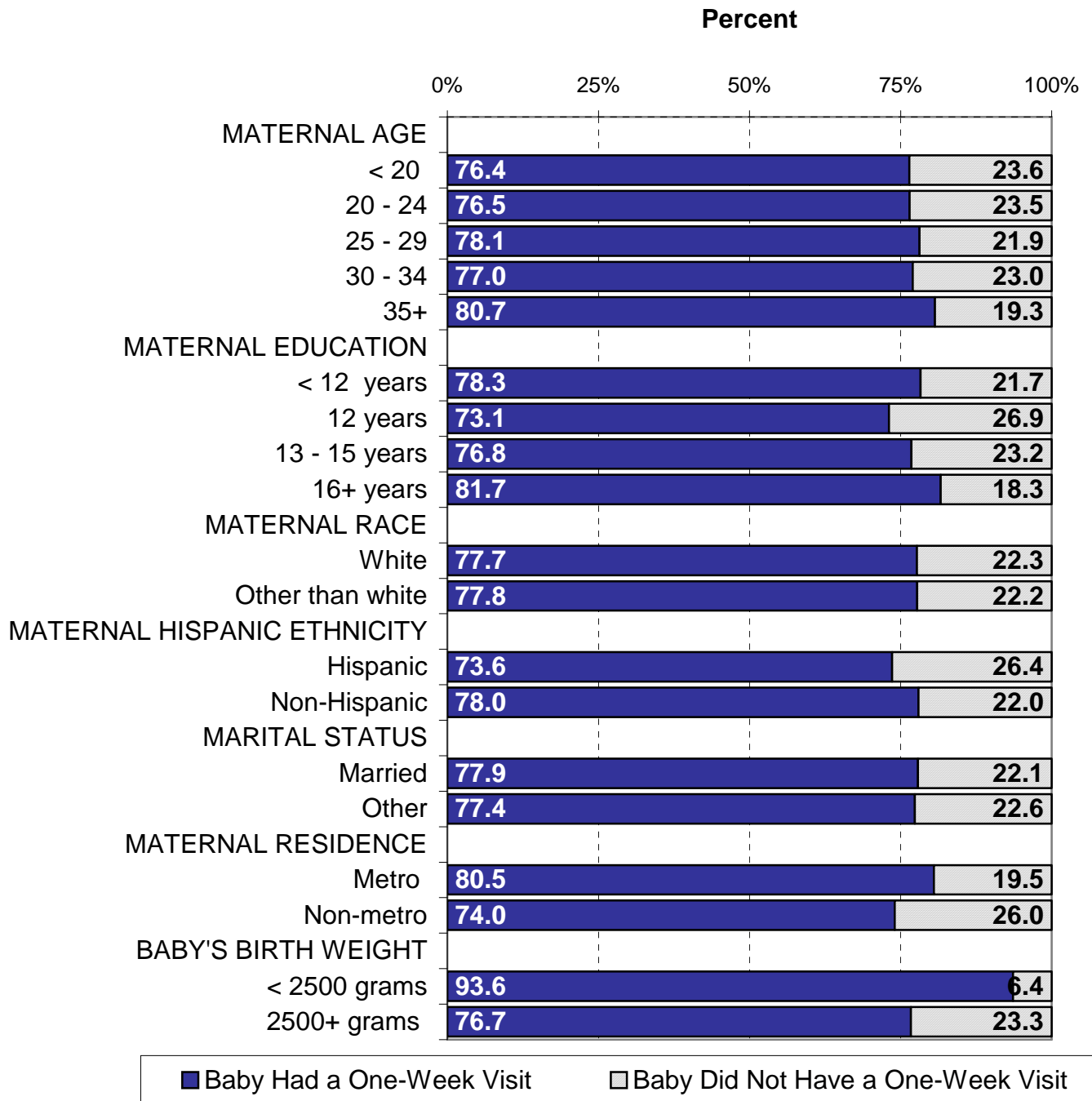
Survey Question 60

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



More than three-quarters of mothers (77.7%) reported that a health care provider had seen their new baby in the first week after leaving the hospital.

*Demographics of One-Week Visit*

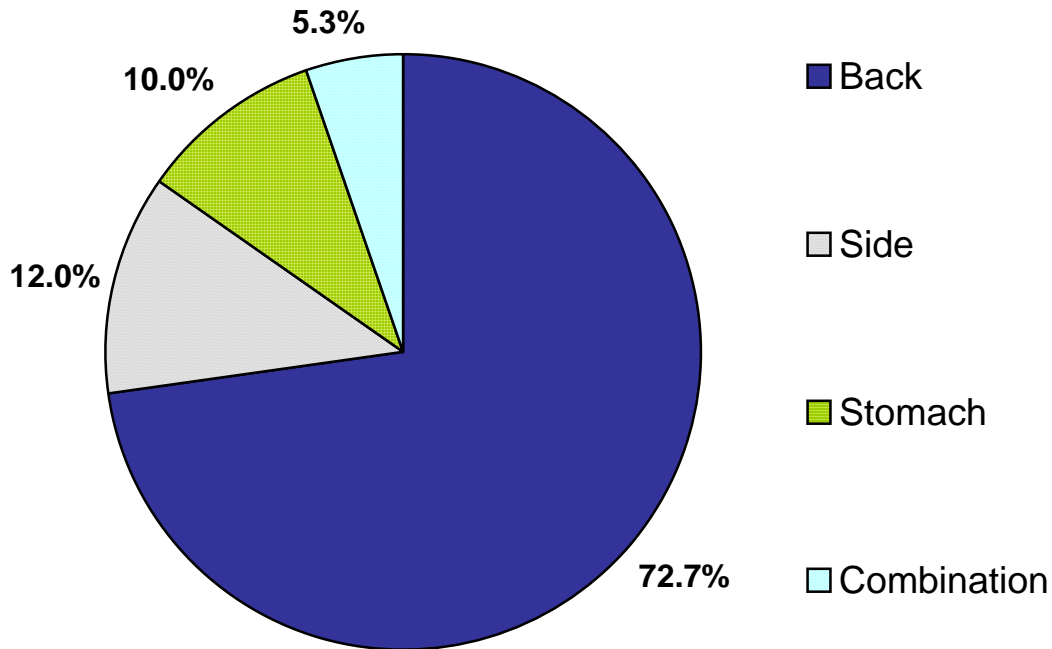


Mothers who were high school graduates were significantly less likely to take their baby for professional health care within the first week (only 73% did so) when compared to mothers with some college and college grads (82%). However, the most striking and significant finding was that mothers of low birthweight babies (< 2500 grams or < 5 lb. 8 oz.) were highly likely to obtain health care for their babies during the first week after hospital discharge. A full 94% of low birthweight babies were seen by a health care provider during the first week after discharge, while only 77% of babies born at 2500 grams or more ( $\geq$  5lb. 8oz.) were seen in week one.

## Sleep Position

Survey Question 58

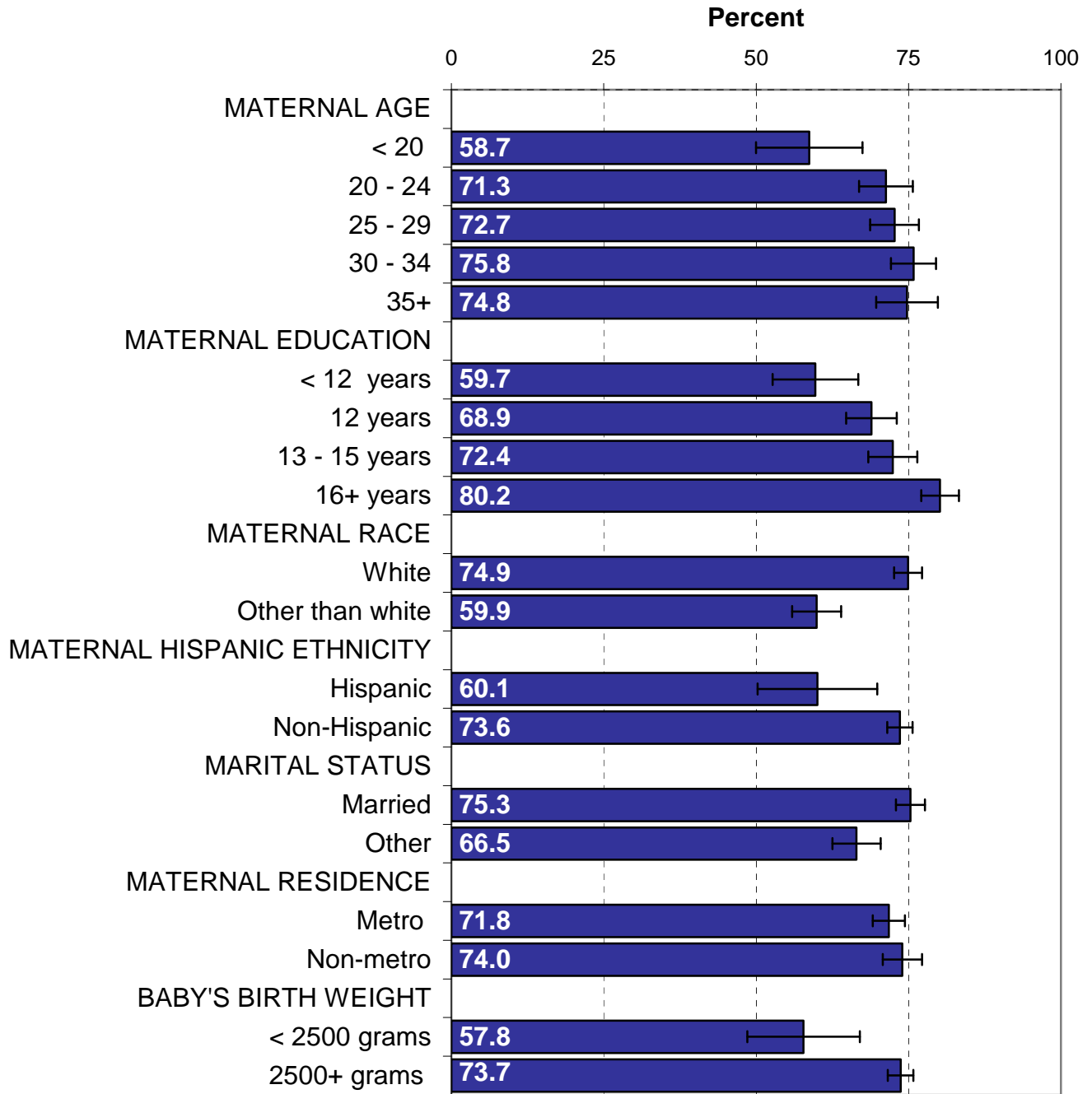
How do you *most often* lay your baby down to sleep now?



Regarding infant sleep position, 72.7% of mothers chose the recommended position for their baby: they most often put their baby down to sleep on his or her back. A distant second was the side sleeping position: 12.0% of mothers said they put their baby down to sleep on their side.

An additional 10.0% used the stomach position for infant sleep, which is not recommended because it increases the infant's risk for Sudden Infant Death syndrome (SIDS). Including the 5.3% who reported a combination of positions, 27.3% of all infants included in the survey are at a higher risk of SIDS because of unsafe positioning during sleep.

*Demographics of Back Sleep Position*



Maternal education was the most important factor in mother's choice of sleep position. Mothers with less than a high school education were significantly less likely to place their infant on his/her back (59.7%) when compared with mothers with some higher education (72.4%) and college graduates (80.2%).

Mothers of other races (59.9%) were also significantly less likely than White mothers (74.9%) to place infants on their backs. Non-Hispanic mothers reported putting their baby down to sleep on its back most often, 75.3%, compared to 60.1% of Hispanic mothers. In addition, data suggest that very young

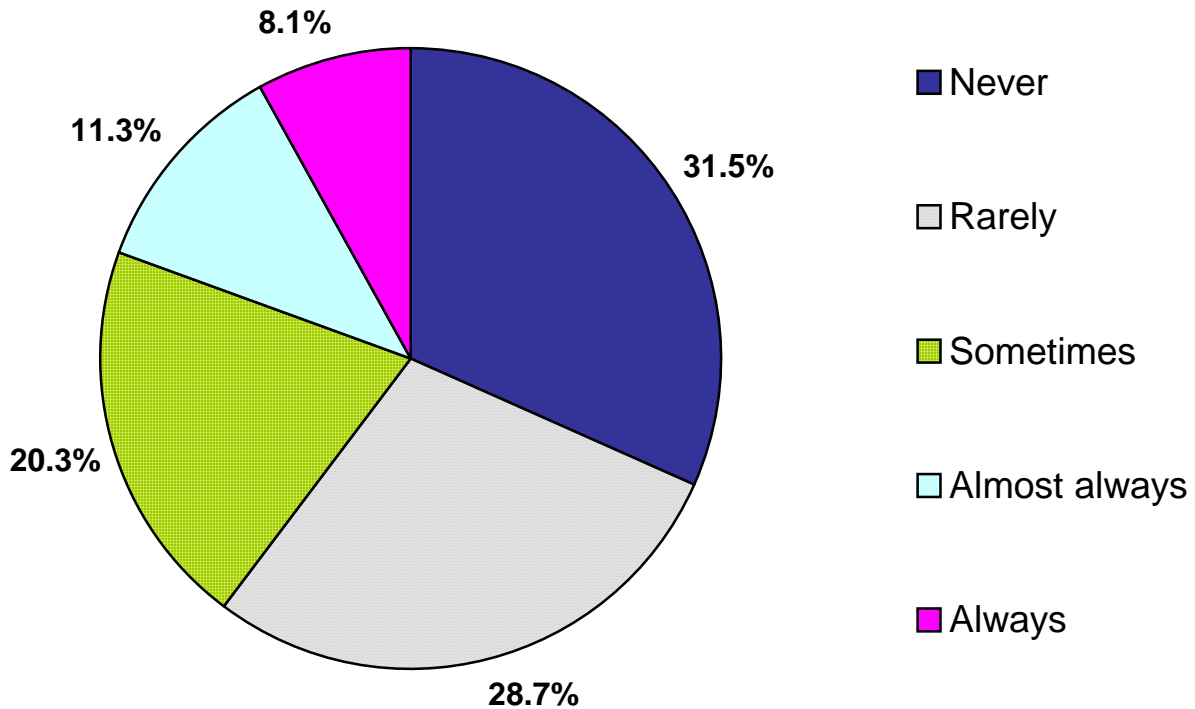
mothers (< age 20) are less likely to use the “back to sleep” position (58.7%) when compared with older mothers (over 70%).

Of considerable concern is the finding that low birthweight (< 2500 grams or < 5 lb. 8 oz.) babies were significantly less likely to be placed on their backs when sleeping (57.8%) as opposed to babies who were at least 2500 grams (5 lb. 8 oz.) at birth (73.7%).

## Co-sleeping

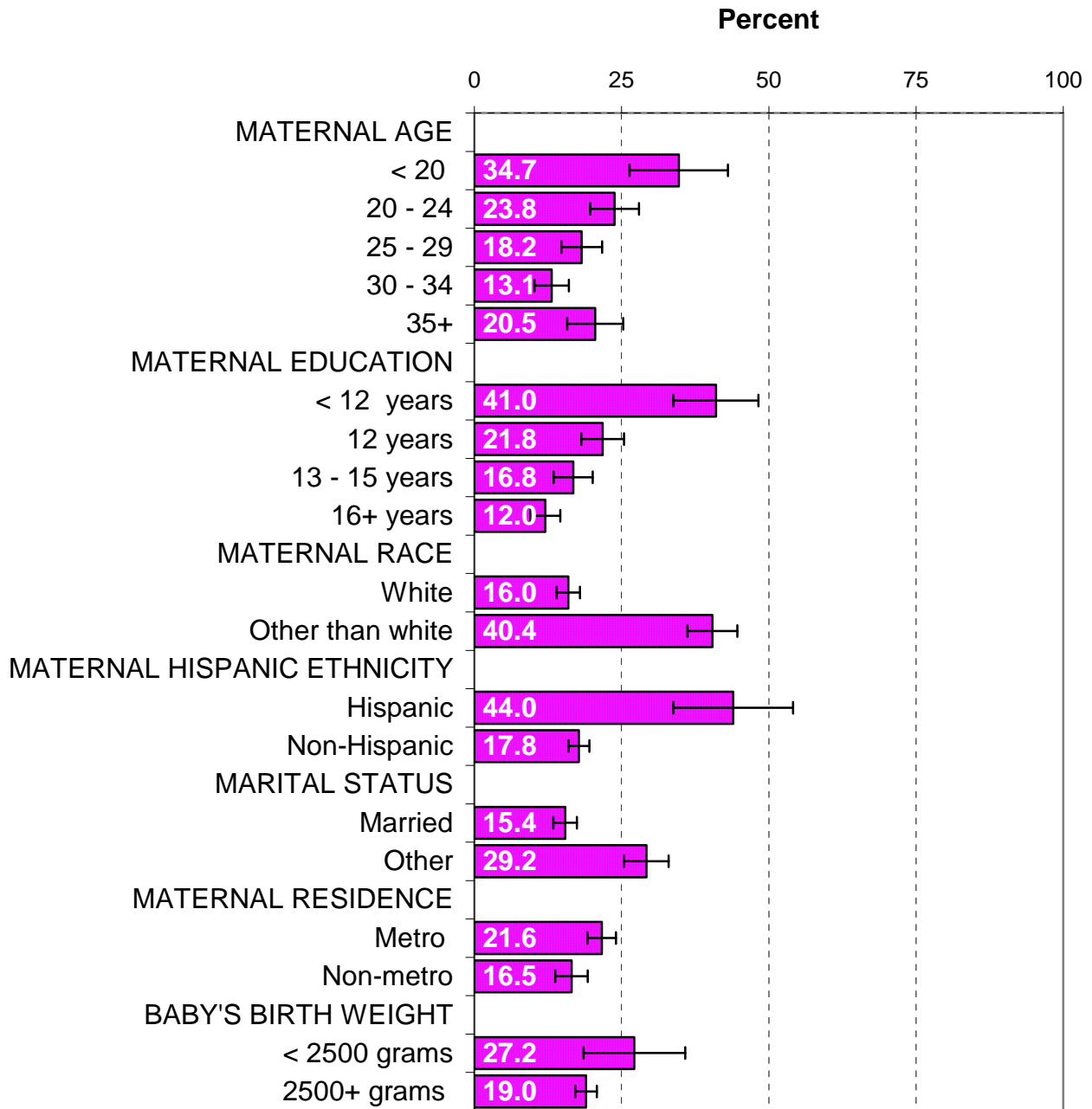
Survey Question 59

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



Co-sleeping, or having the baby sleep in the same bed with mother or others, is related to infant injury or death, including suffocation. About 8.1% of Minnesota mothers reported that their baby “always” sleeps in the same bed with someone else. However co-sleeping was “almost always” done by 11.3% of mothers and “sometimes” done by another 20.3%, resulting in a total of 39.7% of MN mothers who sleep with and/or allow others to sleep with their new baby on a regular or semi-regular basis.

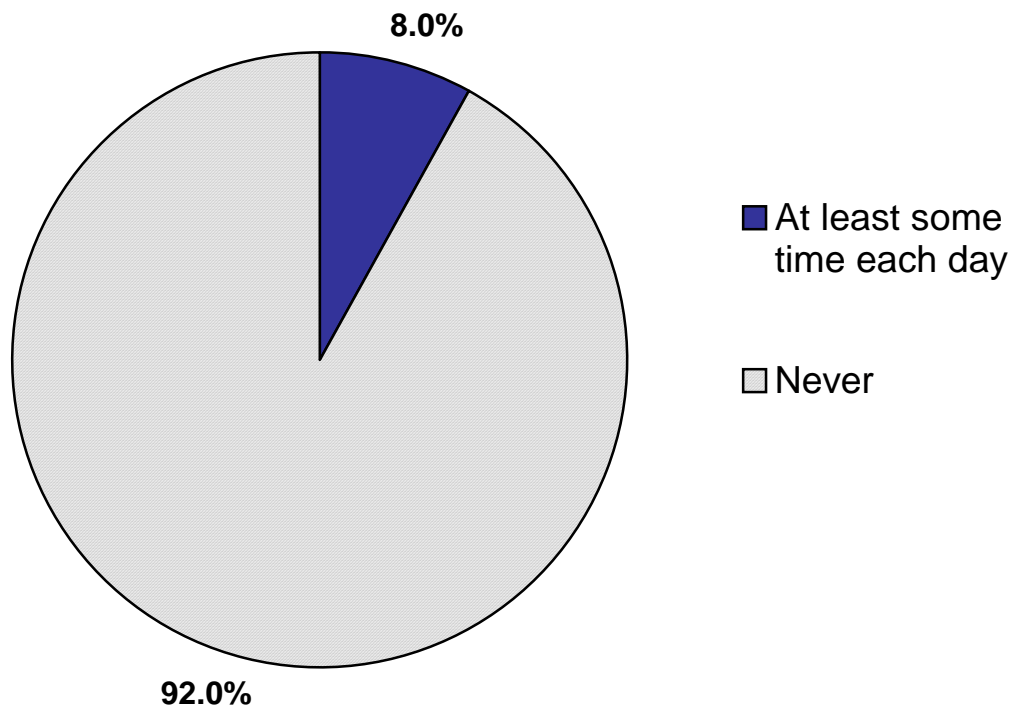
Demographics of Co-sleeping



Among respondents who said that their new baby *always* or *almost always* slept with them or others, unmarried mothers (29.2%), teens (34.7%), mothers with less than a high school education (41%), mothers of another race than White (40.4%), and Hispanic mothers (44%) were all significantly more likely to do so when compared with married mothers (15.4%), other age groups (13-22%), other education levels (12-21%), White mothers (16.0%), and non-Hispanic mothers (17.8%). College graduates were the least likely (12%) across all groups to report that their baby *always* or *almost always* slept with them or someone else. Co-sleeping was not related to residence in the 7-county metro area or low birth weight.

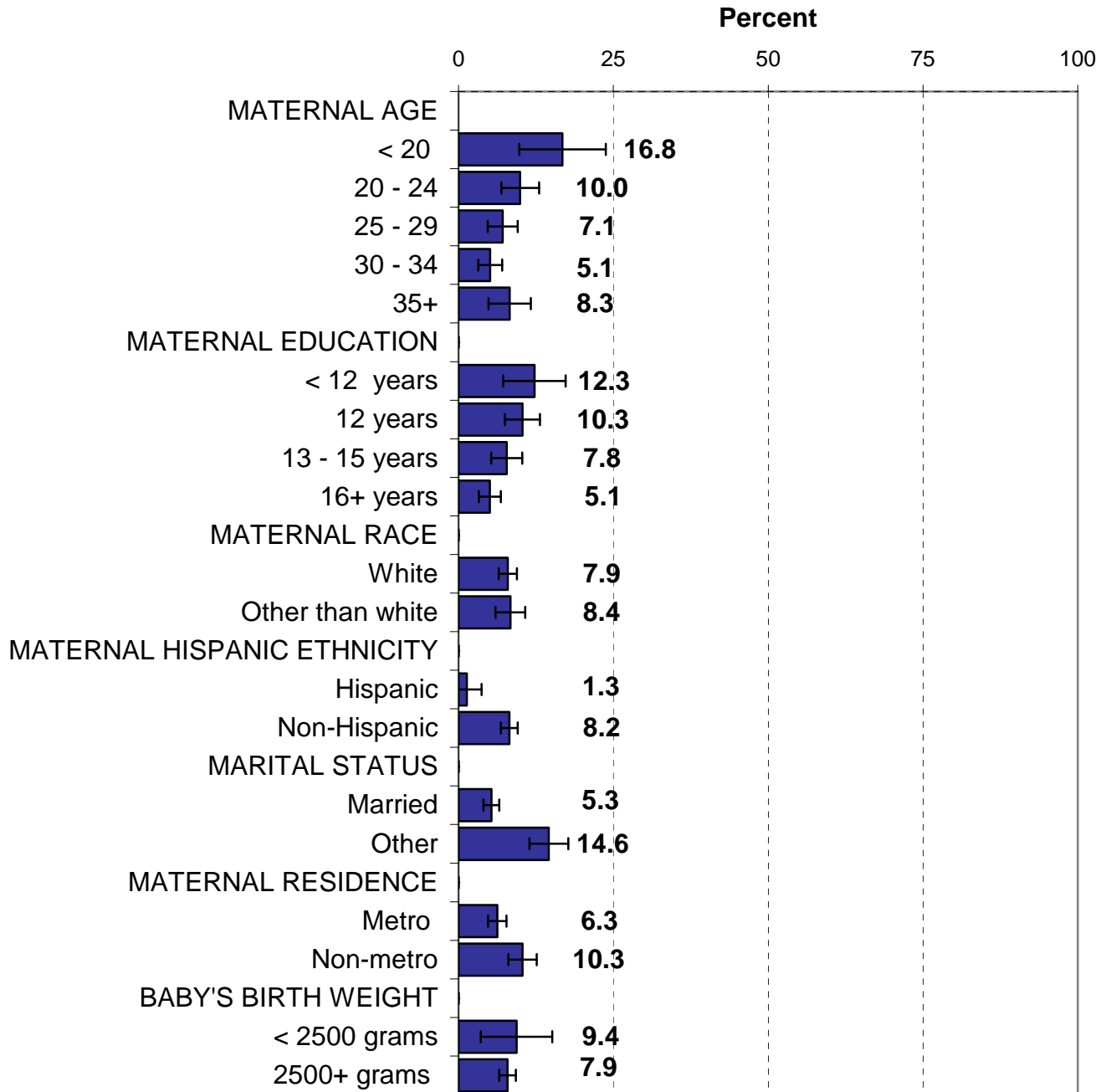
## Infant Environmental Smoke Exposure

Survey Question 57: Any time = Yes  
About how many hours a day, on average, is your baby  
in the same room with someone who is smoking?



About 8% of babies living with their mothers are exposed to smoke on a daily basis, as reported by their mothers. On average, babies who had daily smoke exposure spent an average of 2.3 hours per day in a room with someone who was smoking.

*Demographics of Mothers Whose Infants are Exposed to Environmental Tobacco Smoke*

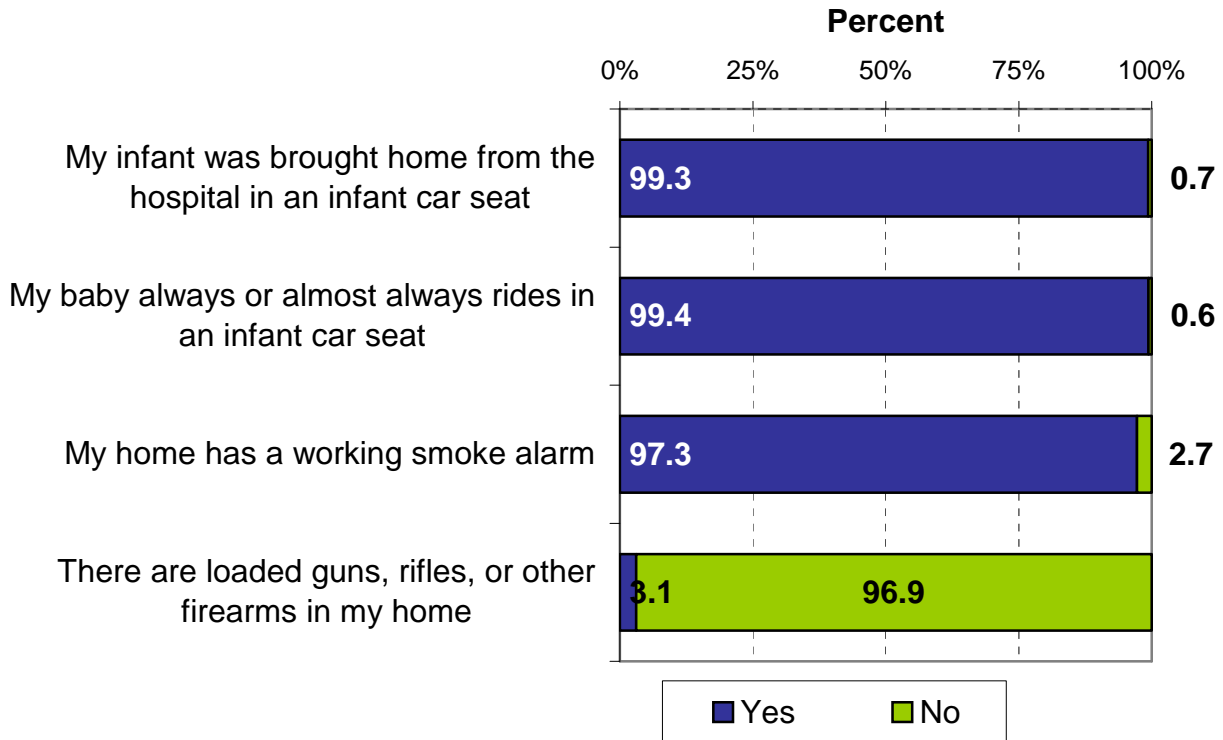


Infant environmental smoke exposure was higher for younger mothers, mothers with less education, non-Hispanic mothers, unmarried mothers, and mothers living outside the 7-county metro area.

## Injury Prevention

Survey Question 80

Listed below are some things about safety. For each thing, circle **Y** (Yes) if it applies to you or circle **N** (No) if it does not.



### Car Seats

Virtually all (99.3%) of mothers reported that they transported their new baby home from the hospital in an infant car seat. Likewise, virtually one hundred percent (99.4%) of mothers whose babies were living with them at the time of this survey said that their baby always or almost always rides in a car seat.

### Smoke Alarms

Nearly all mothers whose babies were living with them at the time of this survey said that their home has a working smoke alarm (97.3%). Most differences in sub-characteristics between “yes” and “no” respondents are statistically non-significant, due to very low numbers of negative responses. However, the difference in smoke detectors by maternal race was significant, although small. Homes of White mothers were slightly more likely (98%) than homes of mothers of other races (95%) to have smoke detectors.

### Guns

Nearly all mothers whose babies were living with them said that there are no **loaded** guns, rifles, or other firearms in their home (96.9%).

## Appendix

### Additional Questions and Categories

This section lists the text of lengthy survey questions referred to in this summary book, but not discussed as topics by themselves. It also clarifies how certain responses were recategorized.

Section: Mental Health, Post-Pregnancy

#### Survey Question 82

Other types of partner abuse

This question is about things that may have happened during your most recent pregnancy. For each thing, circle **Y** (Yes) if it happened to you or circle **N** (No) if it did not.

During your most recent pregnancy --?

[Threats]

Your husband or partner threatened you or made you feel unsafe in some way.

[Anger]

You were frightened for the safety of yourself or your family because of the anger or threats of your husband or partner.

[Control]

Your husband or partner tried to control your daily activities, for example controlling who you could talk to and where you could go.

[Forced sexual activity]

Your husband or partner forced you to take part in any sexual activity when you did not want to (including touch that made you feel uncomfortable).

#### Survey Question 36

Stressful events

The responses to the question were combined into four categories of stress originally used by the CDC PRAMS staff and used in their publication "PRAMS and... Postpartum Depression." If mothers answered any of the following options with a "yes" response, they were considered to have that sort of stress.

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

Partner-related stress

Mothers who selected "yes" for any of the following questions were considered to have experienced partner-related stress:

- You got separated or divorced from your husband or partner.
- You argued with your husband or partner more than usual.

- Your husband or partner said he didn't want you to be pregnant.

**Financial stress**

Mothers who selected “yes” for any of the following questions were considered to have experienced financial stress:

- You moved to a new address.
- Your husband or partner lost his job.
- You lost your job even though you wanted to go on working.
- You had a lot of bills you couldn't pay.

**Traumatic stress**

Mothers who selected “yes” for any of the following questions were considered to have experienced traumatic stress:

- You were homeless.
- You were in a physical fight.
- You or your husband or partner went to jail.
- Someone very close to you had a bad problem with drinking or drugs.

**Emotional stress**

Mothers who selected “yes” for any of the following questions were considered to have experienced emotional stress:

- A close family member was very sick and had to go into the hospital.
- Someone very close to you died.

**Survey Question 81**

Social Support

Since you delivered your new baby, who would help you if a problem came up? For example, who would help you if you needed to borrow \$50 or if you got sick and had to be in bed for several weeks? Check all that apply

My husband or partner

My mother, father, or in-laws

Other family member or relative

A friend

Someone else --? Please tell us: \_\_\_\_\_

No one would help me

## Sample Size and Response Rates, 2002 and 2003

Between May 2002 and December 2003, there were 101,766 Minnesota resident women who had a live birth in the state. Of these live births, 5038 were sampled. The following tables break down the response rates for each stratum:

| <b>2002 Sample and Response Rates (May-December only)</b> |                   |             |  |  |
|---|-------------------|-------------|--|--|
|   | Number<br>Sampled | Respondents | Percent<br>Responding<br><i>Unweighted</i> | Percent<br>Responding<br><i>Weighted</i> |
| Overall   | 1971              | 1153        | 58.5                                       | 76.5                                     |
| Strata:   |                   |             |  |  |
| African American*   | 736               | 323         | 43.9                                       | 43.9                                     |
| American Indian   | 491               | 239         | 48.7                                       | 48.7                                     |
| All Other**   | 744               | 591         | 79.4                                       | 79.6                                     |

*Note: After review of the 2002 data, three surveys were omitted from the final analysis dataset, bringing the total number of responses included in the analysis dataset down to 1150.*

| <b>2003 Sample and Response Rates</b> |                   |             |  |  |
|---------------------------------------|-------------------|-------------|--|--|
|                                       | Number<br>Sampled | Respondents | Percent<br>Responding<br><i>Unweighted</i> | Percent<br>Responding<br><i>Weighted</i> |
| Overall                               | 3067              | 1831        | 59.7                                       | 76.2                                     |
| Strata:                               |                   |             |  |  |
| African American*                     | 1190              | 560         | 47.1                                       | 47.1                                     |
| American Indian                       | 754               | 385         | 51.1                                       | 51.0                                     |
| All Other**                           | 1123              | 886         | 78.9                                       | 79.2                                     |

*Note: After review of the 2003 data, six surveys were omitted from the final analysis dataset, bringing the total number of responses included in the analysis dataset down to 1825.*

CDC weighs the data for each state annually to adjust for nonresponse, noncoverage, and the different sampling fractions for each stratum. This adjusts the data so that it is representative of the state's population. The overall weighted response rates were 76.5% and 76.2% for 2002 and 2003, respectively, which is above the CDC's 70% response rate threshold for publication of the data.

- Includes foreign-born Blacks.
- \*\* The All Other group is 94.3% White, 5.2% Asian/Pacific Islander, and 0.5% other races.



## **Minnesota PRAMS Analysis Request**

If you have a need for more information from the PRAMS survey beyond what is available in the data tables and other publications, staff may be available to conduct the analysis for you.

This form is intended to give us a general idea of your needs. If you have any questions or would prefer to fill out the form together, please call PRAMS staff at 612-201-5953. We would be happy to work through the details together in person or over the phone.

**Today's Date:**

**Name:**

**Title:**

**Organization:**

**Address:**

**City:**

**State:**

**Zip:**

**Telephone #:**

**Fax #:**

**Email address:**

**When do you hope to receive the results?**

\* There is a minimum of two weeks to process your request.

*Form continued on next page.*

## Minnesota PRAMS Analysis Request, continued

**1. Please tell us what question(s) you would like to answer.**

If you have an idea of which survey questions or variables you are interested in using, please include them.

**2. What would you like your analysis to look like?**

Do you need a specific number or do you have a table/pie chart in mind that you would like to fill in with the correct statistics? If so, please sketch out the table for us, or give us an idea of what you think your final product will look like.

**3. How are you planning to use the results?**

Do you need it for grant proposals, reports, or presentations? Be specific when possible and include date, title, and audience.

**4. Please select which years of PRAMS data you are interested in using for your analysis.**

2002 (8 months only)       2003 (full year)

**5. How would you like your analysis to be delivered to you?**

Email       Fax       Mail       Pick-up

Please **email** this analysis request form to: [barbara.frohnert@health.state.mn.us](mailto:barbara.frohnert@health.state.mn.us). You may also mail it to:

Barbara Frohnert, PRAMS Coordinator  
Center for Health Statistics, MDH  
P.O. Box 64882  
St. Paul, MN 55164-0882

If you have any questions, please call Barbara Frohnert at 651-201-5953.

Thank you for your interest!



## Feedback on PRAMS Summary Book

Please take a few minutes to give us some feedback on the 2002-2003 PRAMS Summary Book so that we may provide the most useful information in future editions. Thank you!

Please fax your responses to: 651-201-5179, or mail to:

PRAMS  
Minnesota Department of Health  
85 East Seventh Place, Suite 300  
P.O. Box 64882  
St. Paul, MN 55164-0882

1. What information did you find the *most* useful and why?

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2. What information did you find the *least* useful and why?

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3. Was the information presented in a clear and understandable fashion?

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4. What additional information would be useful to include in future editions?

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5. How did you use the information from the PRAMS Summary Book?

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6. Additional comments or suggestions about this publication:

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7. May we contact you for further input? (circle one) Yes No

- If yes, please provide us with your contact information.

Name: \_\_\_\_\_ Email: \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_ Telephone: \_\_\_\_\_

For more information about PRAMS, call 651-201-5179 or 1-800-723-2712.

<http://www.health.state.mn.us/divs/chs/prams>

TDD number: 651-201-5797

If you require this document in another format, such as large print, Braille, or cassette tape,  
call 1-800-723-2712.

Printed on recycled paper.

