

# Massachusetts Pregnancy Risk Assessment Monitoring System (PRAMS) 2009 Surveillance Report



Massachusetts Department of Public Health  
Bureau of Family Health and Nutrition  
Office of Data Translation

February 2012



PRAMS  
Massachusetts

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**Massachusetts PRAMS  
2009 Surveillance Report**

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\*See Appendix F for an alphabetical list of PRAMS Advisory Committee Members.

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## Executive Summary

This report contains results from analyses of data from the 2009 Massachusetts Pregnancy Risk Assessment Monitoring System (PRAMS). Massachusetts (MA) PRAMS is a collaborative surveillance project between the Centers for Disease Control and Prevention (CDC) and the MA Department of Public Health. PRAMS collects state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy. In 2009, MA PRAMS oversampled by race/ethnicity to ensure adequate representation of racial/ethnic minority mothers. The 2009 Report contains numbers that are relatively small for some maternal experiences, attitudes, and behaviors. Interpretations of these data must be made with caution until more years of data are available to provide stable estimates. A total of 2,179 mothers were sampled and 1,388 responded to the survey in 2009, for a weighted response rate of 68%. Final results were weighted to represent the cohort of MA-resident mothers who delivered a live infant in 2009. Results from PRAMS are used to assess the health of mothers and infants across the state and for planning and evaluation of public health programs and policy. This represents the third report of results from the MA PRAMS project.

The following highlights some key findings contained in this report.

### Pre-pregnancy:

- *Preconception readiness:* The most common preconception care practices reported during the 12 months before pregnancy were getting teeth cleaned by a dentist or dental hygienist (66.0%), exercising 3 or more days a week (44.8%), and talking to a health care worker about family medical history (35.8%). In addition, about 3% of mothers reported having type 1 or 2 diabetes prior to becoming pregnant.
- *Pregnancy intention and birth control use:* 43.1% of mothers indicated that they had not been trying to become pregnant when they did. Among those not trying to become pregnant, 53.0% were not using any birth control method at the time of conception.
- *Fertility treatment:* Among those trying to become pregnant, about 9% reported that they had used some form of fertility treatment when they became pregnant.

### Pregnancy:

- *WIC:* Almost 40% of births overall were to mothers enrolled in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) during this pregnancy.



- *Gestational diabetes & follow-up care during prenatal care visits:* Almost 7% of mothers reported that they had gestational diabetes mellitus (GDM), or diabetes that started during their pregnancy. The prevalence of GDM was highest among non-Hispanic Asians, (12.1%), and those who were obese (Body Mass Index  $\geq 30$ ) immediately before becoming pregnant (9.9%). Among those with gestational diabetes, 89.9% reported learning about the importance of exercise, followed by 89.5% who were referred to a nutritionist, 86.6% reported learning about getting to a healthy weight, and 78.9% reported learning about the risk of developing type 2 diabetes from their prenatal care providers.
- *Intimate partner violence:* About 3.9% of mothers reported that they experienced physical abuse from an intimate partner either in the 12 months before they became pregnant or during their pregnancy. The reported prevalence of physical abuse either before or during pregnancy was highest among those who were living at or below 100% of the Federal Poverty Level (FPL) (9.7%). In addition to physical violence, about 4% of mothers reported that their husband or partner had tried to control their daily activities, followed by 2.8% of mothers reported having been threatened by their husband or partner or feeling unsafe in some way, and 1.8% reported being frightened about their own safety or the safety of their families because of the anger or threats of their husband or partner after they delivered their baby.
- *Prenatal care:* Almost 92% of mothers reported that they initiated prenatal care within the first trimester of pregnancy. First-trimester initiation of care was lowest among mothers under 20 years of age (80.0%) and those who had less than a high school education (77.9%). The most frequently cited barriers to getting care as early as wanted were not knowing one's pregnant and not being able to get an earlier appointment.
- *HIV testing:* About 66% of mothers reported that they received an HIV test during their pregnancy. Overall, about one-fifth reported that they were not offered an HIV test. Hispanic mothers and Black, non-Hispanic mothers were more likely than White, non-Hispanic mothers to report being offered a test.
- *Mode of delivery:* One in three mothers reported that their babies were delivered by cesarean delivery (c-section).
- *Cesarean request:* Overall, about 12% of mothers reported that it was their idea to have a c-section delivery prior to going into labor. Among those delivering by c-section for the first time, 3.4% reported that the c-section was their idea before labor. Among those with a previous c-section, about 21% reported that it was their idea to have a c-section before labor began.

- *Stressors:* Overall, about 3% of mothers reported feeling stressed due to their race or ethnic background. Almost 3% of mothers reported feeling emotionally upset as a result of how they were treated, and about 2% reported experiencing physical symptoms related to treatment based on their race or ethnic background. A high proportion of MA mothers reported experiencing at least one type of family-related (31.5%), financial (46.8%) or illness/death-related (27.7%) stressors during the year before their baby was born.

### **Post-Partum:**

- *Self-rated health:* About 96% of mothers rated their overall health as good, very good or excellent, and 3.5% as fair or poor. Hispanic mothers (9.1%), or those who were living at or below 100% of the FPL (8.2%) were the most likely to report fair/poor health.
- *Post-partum depression:* Overall, 7.6% of mothers reported that they felt depressed often or always after birth. Among these mothers, only about 46% reported seeking help for depression from a health care provider.
- *Infant sleep position and location:* About 79% of mothers reported placing babies to sleep only on their backs and 80.4% reported that their babies slept in a crib or bassinet alone.
- *Breastfeeding:* Overall, about 84% of mothers reported initiating breastfeeding. Highest rates of initiation were observed among Hispanic mothers (93.0%), those age 40 or older (90.6%), mothers who had a college degree (91.5%), and those who were non-US-born (94.7%).

### **Substance use:**

- *Alcohol:* About 9% of mothers reported drinking alcoholic beverages during the last 3 months of pregnancy.
- *Tobacco:* About 12% of mothers reported using tobacco during the last 3 months of pregnancy. The prevalence of tobacco use was highest among White, non-Hispanics (14.1%), or those living at or below 100% of the FPL (23.7%).

### **Oral health:**

- Almost 91% of mothers reported that they had ever received a teeth cleaning in their lifetime.
- Mothers who were Asian, non-Hispanics (70.9%), those with less than a high school education (76.2%), those living at or below 100% of the FPL (86.4%), or those born outside of the United States (76.1%) were the least likely to have ever received a teeth cleaning in their lifetime.
- Overall, about 71% of mothers reported that they had received a teeth cleaning within the last two years. Two-thirds of the mothers had received a cleaning in the year before becoming pregnant, 49.1% during their most recent pregnancy, and 35.8% since the baby was born.

## Introduction

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a collaborative surveillance project of the Centers for Disease Control and Prevention (CDC) and state health departments. PRAMS collects state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy. Mothers are sampled for participation between two and six months post-partum, with the majority sampled two months post-partum. The goal of the PRAMS project is to improve the health of mothers and infants by supporting the reduction of adverse outcomes such as low birth weight, infant morbidity and mortality, and maternal morbidity.

Initiated in 1987 as part of the CDC's initiative to reduce infant mortality and low birth weight, the program has been expanded in recent years in support of the CDC's Safe Motherhood Initiative to promote healthy pregnancies and the delivery of healthy infants. Currently, thirty-seven states, New York City, and South Dakota Yankton Sioux Tribe participate in PRAMS. States participating in PRAMS now account for 75% of all U.S. births. In addition, three states including Connecticut, New Hampshire, and Iowa are newly funded to implement PRAMS in 2012.

Massachusetts PRAMS began collecting data in 2007. This represents the third report of results from the Massachusetts PRAMS Program. A copy of the complete MA PRAMS survey can be found in Appendix B.

## Methodology

The MA PRAMS is an ongoing, population-based surveillance system designed to identify and monitor selected maternal attitudes, experiences and behaviors that occur before, during and after pregnancy. The PRAMS survey consists of three types of questions. All surveys include a required set of questions (“Core” questions), which allow for multi-state analyses. Each state can select additional questions from a CDC-approved-questions list (“Standard” questions), or can create questions tailored to meet its needs (“State-developed” questions). The MA PRAMS 2009 survey included a total of 81 questions: the 56 Core questions required by CDC, 19 Standard questions and 6 MA-developed questions (see Appendix B for copy of 2009 MA PRAMS survey). The questionnaire was administered in English and Spanish only.

PRAMS survey participants were sampled from a frame of eligible birth certificates which included all live-born infants born to MA-resident mothers, delivered in the state, for whom a birth certificate was available. Based on CDC’s PRAMS protocol, stillbirths, fetal deaths, induced abortions and multiple-births with quadruplets or more were excluded from the sampling frame.

Since 2007, MA used a stratified sampling methodology, sampling disproportionately from four racial/ethnic groups: (1) White, non-Hispanic; (2) Black, non-Hispanic; (3) Hispanic; and (4) Other, non-Hispanic. All but White, non-Hispanic mothers were over-sampled to improve precision in examining disparities by race/ethnicity. The category of other, non-Hispanic includes all racial/ethnic groups besides White, Hispanic and Black mothers. In MA, this category contains predominantly Asian mothers. Due to small numbers in a single year, Asians, as well as those of other smaller racial/ethnic groups, were grouped into the category of “Other, non-Hispanic” for the initial sampling purposes. Similar to the 2007/2008 report, in the 2009 report, MA separates Asians from the “Other, non Hispanic” group for analytical purposes. The “Other, non-Hispanic” group has small cell sizes and the findings in this group should be interpreted with caution. Additional demographic information was obtained from the birth file, including maternal education, age, and country of birth.

Mothers who were two to six months post-partum were selected to receive up to three mailed paper surveys. Mothers who had not responded to the survey after the third mailing were contacted by telephone. About three percent of MA mothers with a live-birth in our study period were sampled. The data were weighted using selected maternal demographics to account for non-response and adjusted for sampling probabilities and coverage to represent the MA birth population in 2009.

Analyses for the MA PRAMS 2009 report accounted for the stratified sampling method and included the final survey weights. SAS version 9.2 and SUDAAN version 10 were used to calculate prevalence and bivariate statistics. The 95% Confidence Limits (95% CL) are included whenever possible in this report. When comparing estimates, if the 95% CL’s do not overlap, we indicate that there is a difference. Otherwise, differences that are not significant are reported as having “no statistical difference.”

## Limitations

Due to the exclusion criteria of the MA PRAMS survey, the data presented in this report are generalizable only to pregnancies resulting in a live birth of singletons or multiples of fewer than four, to Massachusetts residents who gave birth in the state.

The PRAMS survey is only administered in English and Spanish at this time. This presents a limitation in collecting data from mothers who speak neither survey language.

Because PRAMS is based on self-reported information, there is the potential for misclassification error. Bias may occur if some groups of mothers may recall experiences more or less accurately than others.

Income data were collected, however, about 9% of respondents declined to report income, and analyses involving household poverty could not include these respondents. In general, income level tends to be underreported on surveys.

Lastly, while PRAMS data are weighted to reflect the population of women giving birth in MA in 2009, about 32% of those surveyed did not respond and results may be biased if weighting did not account for certain characteristics or experiences associated with non-response.

## PRAMS SAMPLE CHARACTERISTICS (Weighted)

### **Race/ethnicity and nativity**

After applying sampling weights, PRAMS 2009 respondents were largely reflective of the overall population of MA mothers by race/Hispanic ethnicity. White, non-Hispanics constituted 66.1% of the sample, Hispanics represented 15.0%, Black, non-Hispanics 9.3%, Asian, non-Hispanics, 8.1%, and Other, non-Hispanics, 1.6%. About 27% of respondents were not born in the United States while 30% of the mothers giving birth in MA were not born in the United States according to the birth certificate (Table 1).

### **Marital Status**

About 37% of respondents were unmarried while 34.7% of the mothers giving birth in MA were unmarried according to the birth certificate.

### **Parity**

Almost half of mothers (49%) in the PRAMS sample had previously giving birth to a live-born infant. However, 54.2% of the mothers giving birth in MA had previously given birth according to the birth certificate.

### **Education**

Among the respondents, almost 29% had a high school education, and about 43% hold a college degree. The educational profile of the respondents is similar to the mothers giving birth in MA except only 25.2% of the mothers giving birth in MA had a high school education according to the birth certificate.

### **Preferred Language**

The majority of respondents, 91%, preferred to read or discuss health-related materials in English, followed by Spanish, 6.1%, Portuguese, 1.3%, Chinese, 0.4%, and all other languages, 1.6%. The preferred language's profile of the respondents is similar to the mothers giving birth in MA.

### **Age**

About 91% of mothers were between 20 and 39 years of age, 5.8% were under age 20 and 3.4% were 40 years or older. The age distribution of the respondents is similar to the mothers giving birth in MA.

### **Income**

About one in five respondents were living at or below 100% of the FPL\* in the year before their babies were born. For example, for a four-person family unit with two children, the 2009 poverty threshold is \$22,050. Income information was not collected on the birth certificate.

### **Disability**

Almost 5% of mothers reported having a current emotional or physical disability. Most indicated that the disability had existed for at least a month. Disability status was not collected on the birth certificate.

*\*See Appendix A for technical note on the calculation of household poverty level.*

## PRAMS SAMPLE CHARACTERISTICS (Weighted)<sup>†</sup>

**Table 1. Maternal Characteristics, PRAMS respondents vs. state birth population, 2009 MA PRAMS**

Characteristic	Sample n	Weighted n	Weighted %*	State %***
<b>Maternal race/ethnicity</b>				
White, non-Hispanic	384	47536	66.1	66.4
Black, non-Hispanic	301	6697	9.3	9.3
Hispanic	372	10768	15.0	14.7
Asian, non-Hispanic	282	5795	8.1	7.9
Other/Unknown, non-Hispanic	49	1177	1.6	1.8
<b>Maternal age (years)</b>				
<20	96	4145	5.8	6.0
20-29	632	32919	45.7	40.7
30-39	615	32435	45.1	48.9
40+	45	2474	3.4	4.3
<b>Maternal education</b>				
<High school	176	6594	9.2	10.6
High school diploma	373	20787	28.9	25.2
Some college	293	13901	19.3	20.0
College graduate	544	30625	42.6	44.3
<b>Household poverty status (approximate)**</b>				
> 100% Federal Poverty Level (FPL)	1025	56469	78.5	n/a
≤ 100% Federal Poverty Level (FPL)	363	15503	21.5	n/a
<b>Maternal nativity</b>				
Non-US-born	676	19330	26.9	30.1
US-born	711	52611	73.1	69.9
<b>Preferred language</b>				
English	1161	65213	90.7	88.9
Spanish	154	4387	6.1	5.7
Portuguese	20	928	1.3	2.4
Chinese	12	264	0.4	0.6
Other	40	1148	1.6	2.4
<b>Marital status</b>				
Unmarried	566	26716	37.1	34.7
Married	822	45256	62.9	65.3
<b>Maternal disability</b>				
No	1289	67403	95.6	n/a
Yes	66	3099	4.4	n/a
<b>Duration of disability</b>				
Non-disabled	1289	67403	95.7	n/a
1 to 29 days	10	231	0.3	n/a
30+ days	52	2773	3.9	n/a
<b>Parity</b>				
No previous live births	675	36382	51.0	45.8
Previous live births	702	34968	49.0	54.2

\*Does not include missing in proportions.

\*\*See Methodology for explanation of "household poverty status" used in this report.

\*\*\*Massachusetts Births, 2009, Registry of Vital Records and Statistics, Massachusetts Department of Public Health.

<sup>†</sup>The data were weighted using selected maternal demographics to account for non-response and adjusted for sampling probabilities and coverage to represent the Massachusetts birth population in 2009.



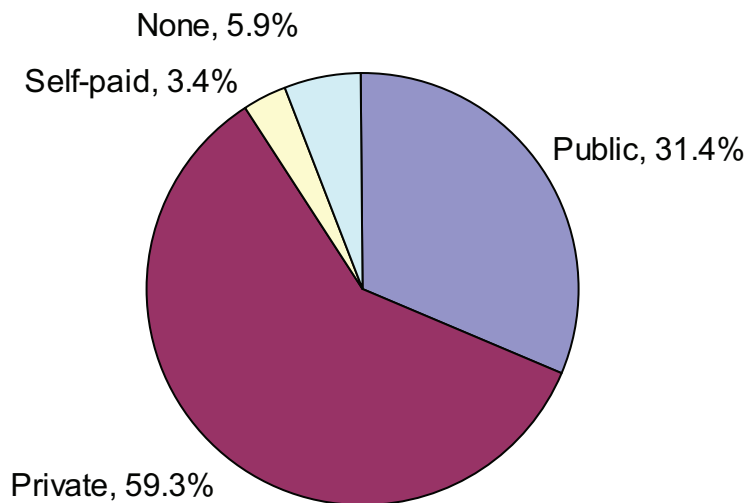
## PRE-PREGNANCY

### Pre-pregnancy health insurance

Having a source of health insurance is essential for gaining access to health care. Pregnant women who do not have a source of insurance may delay entry into prenatal care (Egertter, 2002). On April 12, 2006, MA enacted legislation that would provide nearly universal health care coverage to MA residents and beginning July 1, 2007, all MA residents were required to have health insurance. We continued to monitor the effects of MA Health Care Reform Law on the populations we serve in this report.

Prior to pregnancy, almost 60% of women had private health insurance, 31.4% had a government sponsored health insurance (i.e., MassHealth, Commonwealth Care, TRICARE), 3.4% were self-paid, and 5.9% reported no source of health insurance (Figure 1).

**Figure 1. Prevalence of insurance types prior to pregnancy, 2009 MA PRAMS**



## PRE-PREGNANCY

### Pre-pregnancy health insurance

Massachusetts' landmark health reform law has resulted in significant improvements, however, many challenges and barriers remain which prevent women from obtaining health care coverage or accessing health care services (Health of Massachusetts, 2010). This is particularly true for younger women, low-income women, and minority populations.

The proportions of mothers reporting that they did not have health insurance coverage prior to pregnancy were highest among Hispanic mothers (11.9%), those born outside of the United States (11.5%), or those who were living at or below 100% of the FPL (11.0%) (Table 2).

**Table 2. Prevalence of no insurance coverage prior to pregnancy, by socio-demographic characteristic, 2009 MA PRAMS**

Characteristic	Weighted n	Weighted %	95% CL
<b>Total</b>	4215	5.9	4.6 - 7.7
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	2079	4.4	2.7 - 7.1
Black, non-Hispanic	611	9.4	6.6 - 13.3
Hispanic	1261	11.9	9.0 - 15.6
Asian, non-Hispanic	264	4.6	2.6 - 8.0
Other, non-Hispanic	0	0	
<b>Maternal age (years)</b>			
<20	339	8.9	3.3 - 21.9
20-29	2988	9.2	6.7 - 12.4
30-39	888	2.8	1.6 - 4.7
40+	0	0	
<b>Maternal education</b>			
<High school	786	12.7	7.7 - 20.3
High school diploma	1733	8.4	5.3 - 13.1
Some college	1223	8.8	5.5 - 13.8
College graduate	474	1.6	0.8 - 3.2
<b>Household poverty level</b>			
≤100% FPL	1679	11.0	7.6 - 15.7
>100% FPL	2536	4.5	3.2 - 6.5
<b>Maternal nativity</b>			
Non-US-born	2206	11.5	8.8 - 15.1
US-born	2009	3.9	2.4 - 6.1

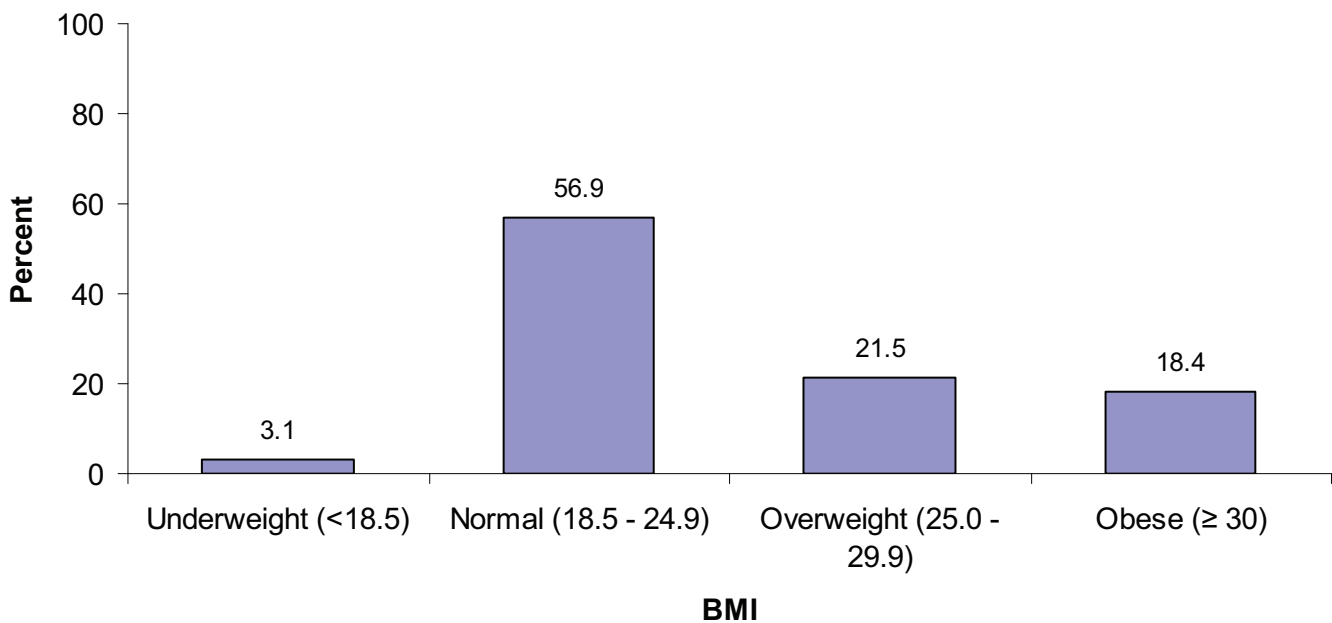
## PRE-PREGNANCY

### Body Mass Index (BMI)

The U.S. prevalence of overweight and obesity among women aged 20-39 years old were 25.5% and 34.0%, respectively (Flegal, 2010). Women who are overweight or obese when they become pregnant may have a greater risk of health complications including hypertension, gestational diabetes, higher risk of cesarean delivery and stillbirth (Baeten, 2001, Kristensen, 2005).

More than half of mothers, 56.8%, had a normal BMI prior to becoming pregnant. Almost 22% were overweight and almost 17% were obese (Figure 2).

**Figure 2. Maternal Body Mass Index (BMI) prior to pregnancy, 2009 MA PRAMS**



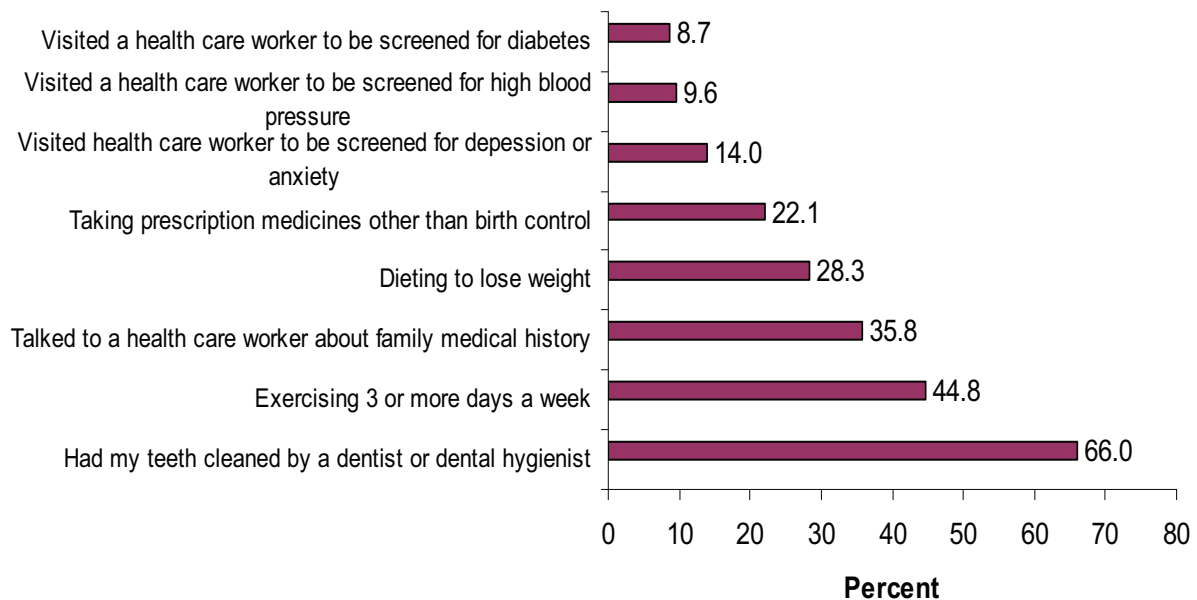
## PRE-PREGNANCY

### Preconception readiness

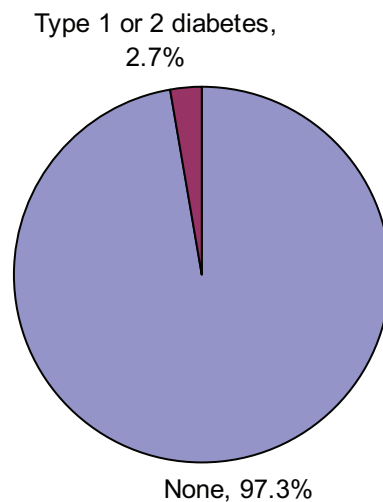
Preconception care provides opportunities to intervene and improve outcomes for both the mother and her baby by identifying and managing risks before conception. It is important to identify and keep type 1 or 2 diabetes under control prior to becoming pregnant since it is known that maternal diabetes is associated with teratogenicity (meaning relate to, or could cause malformations of an embryo or fetus) and other complications of pregnancy (IOM, 1995).

The most common preconception care practices reported were getting teeth cleaned by a dentist or dental hygienist (66.0%), exercising 3 or more days a week (44.8%), and talking to a health care worker about family medical history (35.8%) (Figure 3). About 3% of mothers had type 1 or 2 diabetes prior to becoming pregnant (Figure 4).

**Figure 3. Preconception readiness, 2009 MA PRAMS**



**Figure 4. Prevalence of mothers with type 1 or 2 diabetes, 2009 MA PRAMS**



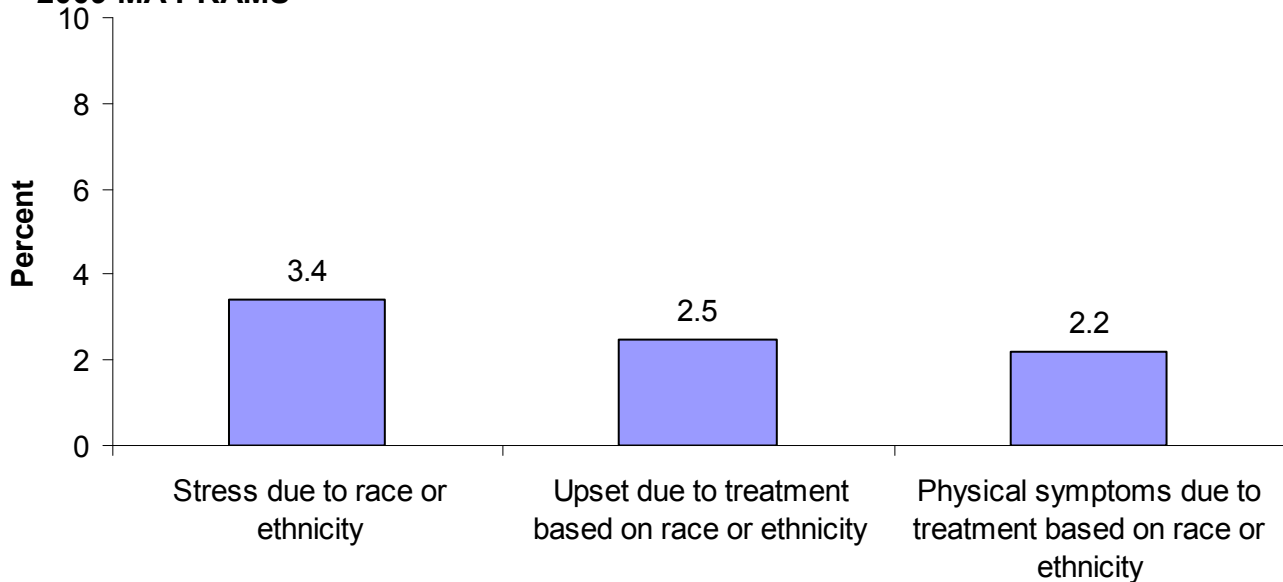
## PRE-PREGNANCY

### Reactions to racism

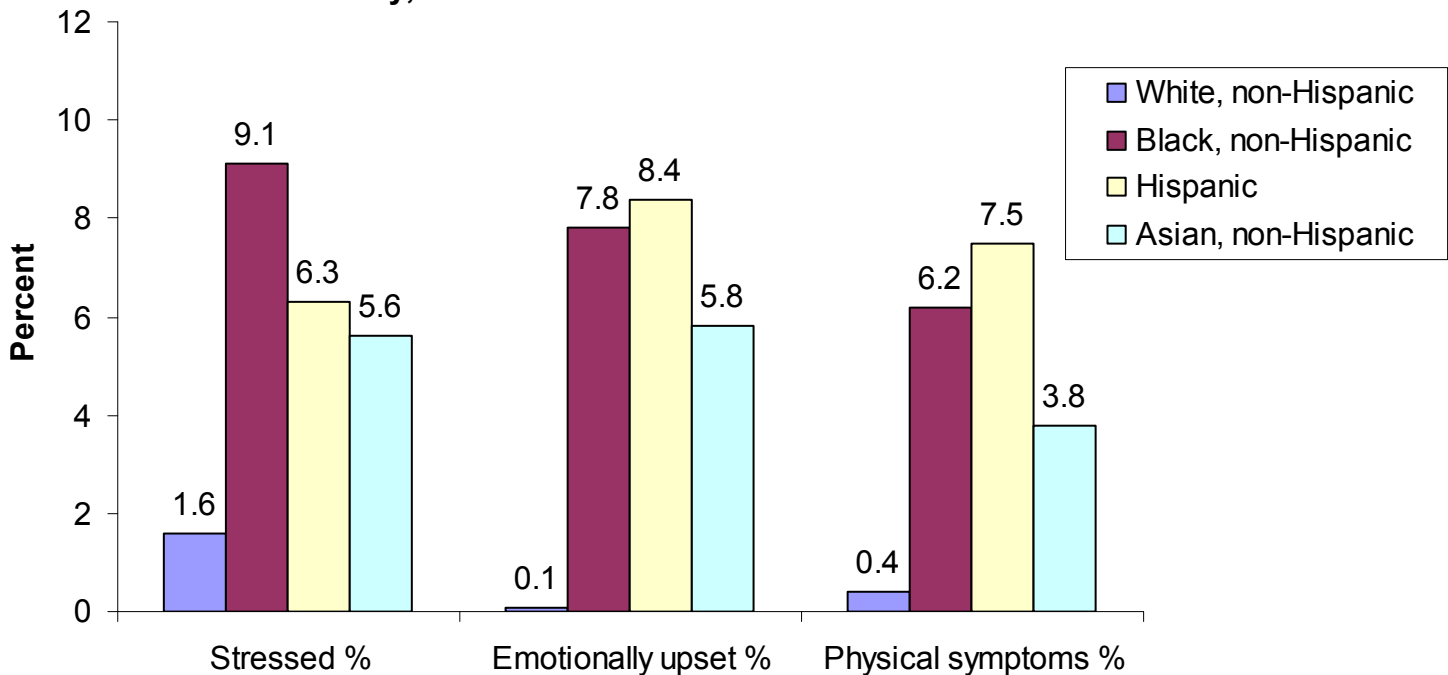
The definitions of racism may vary, but all include some notion of unequal treatment based on skin color and/or other physical characteristics. Stress due to racism may influence minority women's birth outcomes (Nuru-Jeter, 2009).

About 3% of mothers reported feeling stressed due to their race/ethnic background, almost 3% of mothers reported feeling emotionally upset as a result of how they were treated, and about 2% reported experiencing physical symptoms related to treatment based on their race/ethnic background (Figure 5). Compared to White mothers, minority mothers experienced more stress, negative emotion, and physical symptoms due to racism (Figure 6).

**Figure 5. Prevalence of reactions to racism during the 12 months before delivery, 2009 MA PRAMS**



**Figure 6. Prevalence of reactions to racism during the 12 months before delivery, by maternal race/ethnicity, 2009 MA PRAMS**



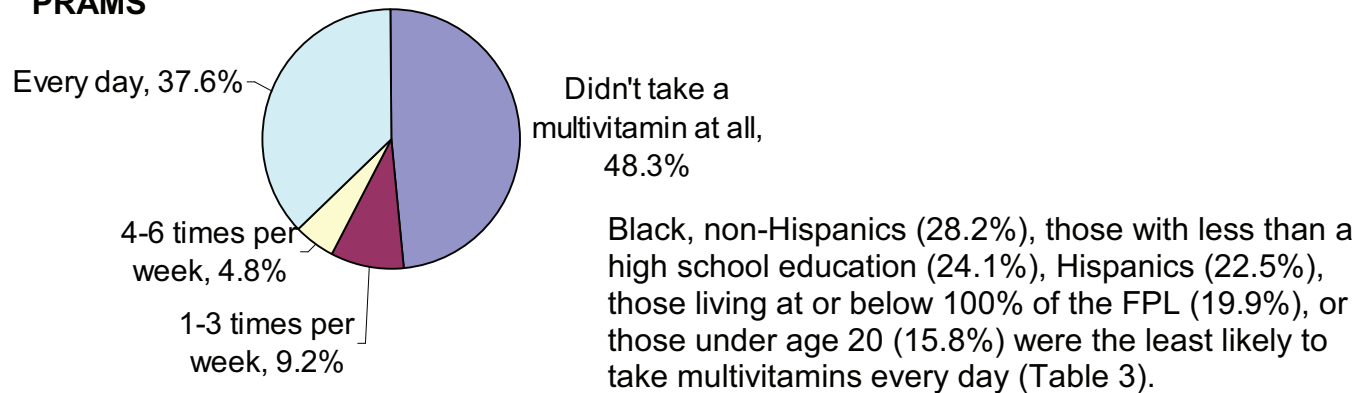
## PRE-PREGNANCY

### Prenatal multivitamin use

Use of multivitamins containing folic acid before conception and during the first 6 weeks of pregnancy may reduce the risk of neural tube defects in developing embryos (Milunsky, 1989). There have recently been increased efforts to deliver this important public health message to women of childbearing age who may be considering becoming pregnant.

Only 37.6% of mothers reported taking multivitamins every day of the week in the month before becoming pregnant. About 48% reported *never* taking them during that time (Figure 3).

**Figure 7. Prevalence of multivitamin use in the month prior to pregnancy, 2009 MA PRAMS**



**Table 3. Prevalence of daily multivitamin use in the month prior to pregnancy, by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Weighted n	Weighted	
		%	95% CL
<b>Total</b>	26921	37.6	34.3 - 41.1
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	19958	41.7	36.8 - 46.6
Black, non-Hispanic	1830	28.2	23.4 - 33.6
Hispanic	2399	22.5	18.6 - 27.0
Asian, non-Hispanic	2397	42.1	36.4 - 48.0
Other, non-Hispanic	337	43.2	27.0 - 61.0
<b>Maternal age (years)</b>			
<20	630	15.8	10.0 - 24.1
20-29	8816	26.9	22.5 - 31.9
30-39	16342	50.5	45.3 - 55.7
40+	1133	46.3	28.7 - 64.8
<b>Maternal education</b>			
<High school	1523	24.1	17.0 - 32.9
High school diploma	4305	20.8	15.8 - 27.0
Some college	4746	34.1	27.3 - 41.7
College graduate	16347	53.4	48.0 - 58.7
<b>Household poverty level</b>			
≤100% FPL	3083	19.9	15.1 - 25.7
>100% FPL	23837	42.6	38.6 - 46.6
<b>Maternal nativity</b>			
Non-US-born	6038	31.7	27.5 - 36.1
US-born	20882	39.8	35.6 - 44.3

## PRE-PREGNANCY

### Pregnancy intention

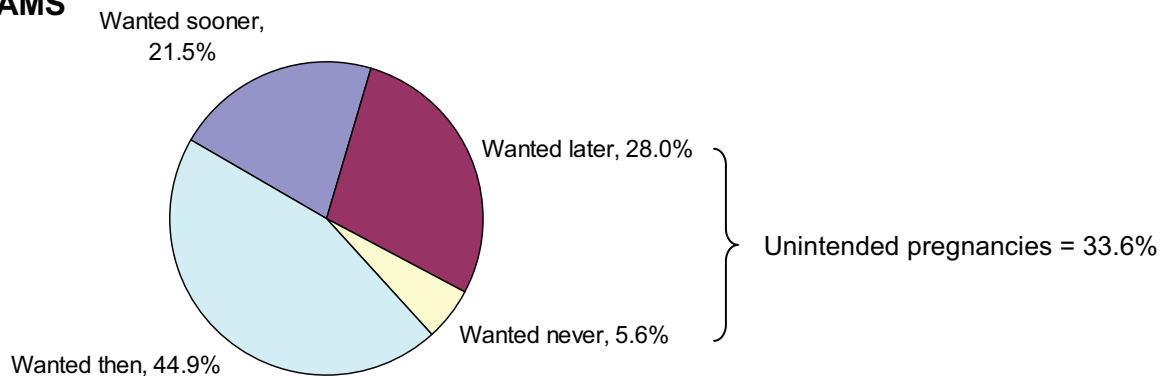
The PRAMS survey measures two distinct elements of pregnancy intention: whether the mother had been actively trying to become pregnant at the time of conception, and how she felt about becoming pregnant right before the pregnancy occurred.

Having an unplanned pregnancy could result in later awareness of the pregnancy and subsequently later cessation of dangerous and unhealthy behaviors, such as smoking or substance use. Unintended pregnancy is associated with delayed entry into prenatal care (IOM, 1995, Altfeld, 1997).

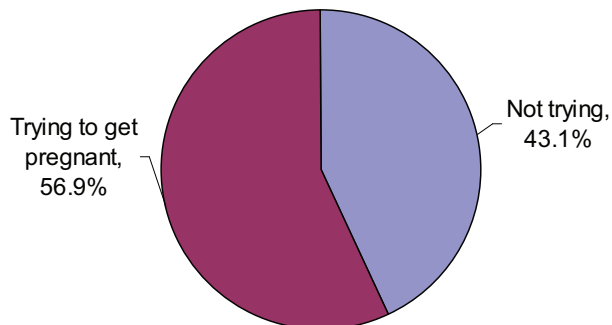
Among all mothers, about 66% reported that they had wanted the pregnancy then or sooner, and over 34% had wanted the pregnancy either later or never (Figure 8).

Almost 43% of mothers reported that they had not been trying to become pregnant when they conceived (Figure 9).

**Figure 8. Feelings about becoming pregnant prior to this pregnancy, 2009 MA PRAMS**



**Figure 9. Proportion of mothers trying to become pregnant, 2009 MA PRAMS**





## PRE-PREGNANCY

### Pregnancy intention

The proportions of mothers reporting they had not been trying to become pregnant were highest among Black, non-Hispanics (62.7%), those living at or below 100% of the FPL (64.7%), or unmarried (68.7%). Mothers who reported a history of physical abuse were also more likely to report not having tried to become pregnant than those who did not report abuse (76.9% vs. 41.8%). Mothers under age 20 were stratified further and a distinct gradient by age among adolescents is seen. Over 84% of mothers under age 18 and about 76% of those aged 18-19 years reported that they had not been trying to become pregnant when they did (Table 4).

Similar socio-demographic patterns were observed in reports of wanting the pregnancy “later” or “never” as were observed for the question around not trying to become pregnant. The proportions of mothers reported that they wanted the pregnancy “later” or “never” were highest among mothers aged 15 years or under (93.1%), those with a history of physical abuse (67.9%), unmarried (57.5%), those living at or below 100% of the FPL (52.0%), or Black, non-Hispanics (50.8%) (Table 4).

**Table 4. Prevalence of pregnancy intention and feelings about the timing of most recent pregnancy, by socio-demographic characteristics and history of abuse, 2009 MA PRAMS**

Characteristic	% Not trying to become pregnant			% Wanted pregnancy later/never		
	Weighted n	Weighted %	95% CL	Weighted n	Weighted %	95% CL
<b>Total</b>	30514	43.1	39.7 - 46.6	23576	33.6	30.4 - 37.0
<b>Maternal race/ethnicity</b>						
White, non-Hispanic	18637	39.3	34.4 - 44.4	13808	29.4	24.9 - 34.3
Black, non-Hispanic	4031	62.7	57.1 - 68.1	3194	50.8	45.1 - 56.6
Hispanic	5779	54.8	49.8 - 59.8	4920	47.0	41.9 - 52.1
Asian, non-Hispanic	1735	31.0	25.7 - 36.9	1244	21.9	17.3 - 27.4
Other, non-Hispanic	332	40.9	25.1 - 58.7	410	50.5	33.6 - 67.3
<b>Maternal age (years)</b>						
≤15	286	84.0	46.3 - 97.0	317	93.1	60.0 - 99.2
16-17	1004	86.5	70.0 - 94.6	1004	86.5	70.0 - 94.6
18-19	1972	76.4	60.3 - 87.3	1825	69.8	53.8 - 82.2
20-29	16992	52.5	47.2 - 57.7	13507	42.6	37.4 - 47.9
30-39	9475	29.8	25.2 - 34.7	6446	20.2	16.4 - 24.6
40+	786	31.8	17.7 - 50.2	478	19.3	8.5 - 38.3
<b>Maternal education</b>						
<High school	4078	63.5	54.1 - 72.0	3560	55.8	46.2 - 65.0
High school diploma	12632	62.1	55.0 - 68.8	9714	48.6	41.4 - 55.8
Some college	6820	49.4	42.0 - 56.9	5562	40.3	33.3 - 47.7
College graduate	6950	23.0	18.8 - 27.9	4707	15.7	12.2 - 19.9
<b>Household poverty level</b>						
≤100% FPL	9797	64.7	57.6 - 71.1	7731	52.0	44.8 - 59.1
>100% FPL	20717	37.2	33.4 - 41.2	15846	28.6	25.1 - 32.4
<b>Maternal nativity</b>						
Non-US-born	8635	46.0	41.3 - 50.7	6188	33.0	28.9 - 37.4
US-born	21848	42.1	37.7 - 46.6	17388	33.8	29.7 - 38.2
<b>Marital status</b>						
Married	12526	28.1	24.3 - 32.3	8734	19.7	16.4 - 23.4
Unmarried	17987	68.7	63.4 - 73.5	14842	57.5	51.9 - 63.0
<b>History of physical abuse</b>						
No	28208	41.8	38.3 - 45.4	21566	32.2	28.9 - 35.7
Yes	1996	76.9	60.3 - 88.0	1743	67.9	51.1 - 81.1

## PRE-PREGNANCY

### Pregnancy intention

The proportions of mothers reporting they wanted to be pregnant “sooner” were highest among mothers aged 40 years or older (52.5%), Asian, non-Hispanic (36.9%), married (27.5%), those living above 100% of the FPL (23.9%), or those with no history of physical abuse (22.0%) (Table 5).

**Table 5. Prevalence of wanting the pregnancy sooner by socio-demographic characteristics and history of abuse, 2009 MA PRAMS**

Characteristic	% Wanted pregnancy sooner		
	Weighted n	Weighted %	95% CL
<b>Total</b>	15110	21.5	18.8 - 24.5
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	10098	21.5	17.7 - 25.9
Black, non-Hispanic	1165	18.5	14.5 - 23.4
Hispanic	1613	15.4	12.1 - 19.4
Asian, non-Hispanic	2095	36.9	31.4 - 42.8
Other, non-Hispanic	<i>Insufficient data to report</i>		
<b>Maternal age (years)</b>			
<20	<i>Insufficient data to report</i>		
20-29	5169	16.3	12.8 - 20.5
30-39	8534	26.8	22.4 - 31.6
40+	1298	52.5	34.3 - 70.0
<b>Maternal education</b>			
<High school	795	12.5	7.6 - 19.9
High school diploma	3476	17.4	12.7 - 23.3
Some college	2755	20.0	14.6 - 26.7
College graduate	8084	26.9	22.4 - 32.0
<b>Household poverty level</b>			
≤100% FPL	1858	12.5	8.7 - 17.6
>100% FPL	13251	23.9	20.7 - 27.5
<b>Maternal nativity</b>			
Non-US-born	4799	25.6	21.6 - 30.0
US-born	10310	20.1	16.7 - 23.9
<b>Marital status</b>			
Married	12200	27.5	23.6 - 31.7
Unmarried	2909	11.3	8.5 - 14.9
<b>History of physical abuse</b>			
No	14744	22.0	19.2 - 25.2
Yes	<i>Insufficient data to report</i>		

Insufficient data to report: less than five mothers.

## PRE-PREGNANCY

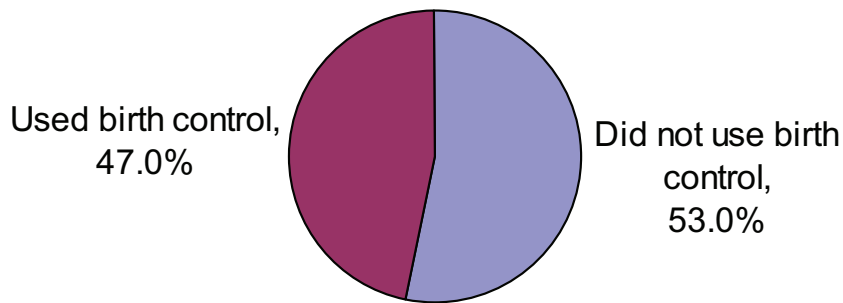
### Contraception use

A key to successful family planning programming and policy is exploring why mothers who were not intending to become pregnant did not or could not use a method of contraception. Better understanding of these issues could potentially lead to more effective strategies to improve access to and utilization of contraception.

PRAMS mothers who had not been trying to become pregnant were asked whether they or their partners had been “doing anything to keep from getting pregnant” at the time of pregnancy.

Among those who reported that they had not been trying to become pregnant, 53.0% reported *not* using any forms of contraception.

**Figure 10. Prevalence of pre-pregnancy contraception use among mothers who were not trying to become pregnant, 2009 MA PRAMS**

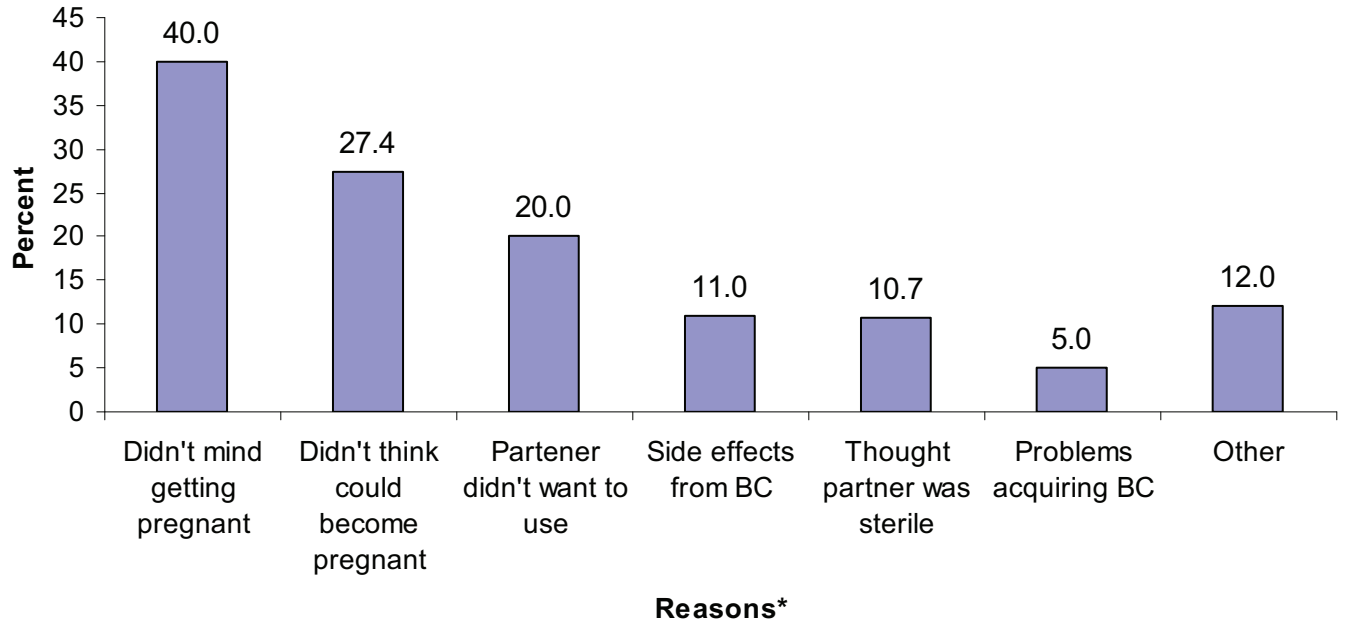


## PRE-PREGNANCY

### Contraception use

Some of the top reasons for not using any contraception included mothers not minding getting pregnant (40.0%), perception that one could not get pregnant at that time (27.4%), or husbands/partners not wanting to use birth control (20.0%) (Figure 11).

**Figure 11. Reasons for not using a contraceptive method prior to this pregnancy, 2009 MA PRAMS**



*\*Reasons for not using a contraceptive method are not mutually exclusive.*

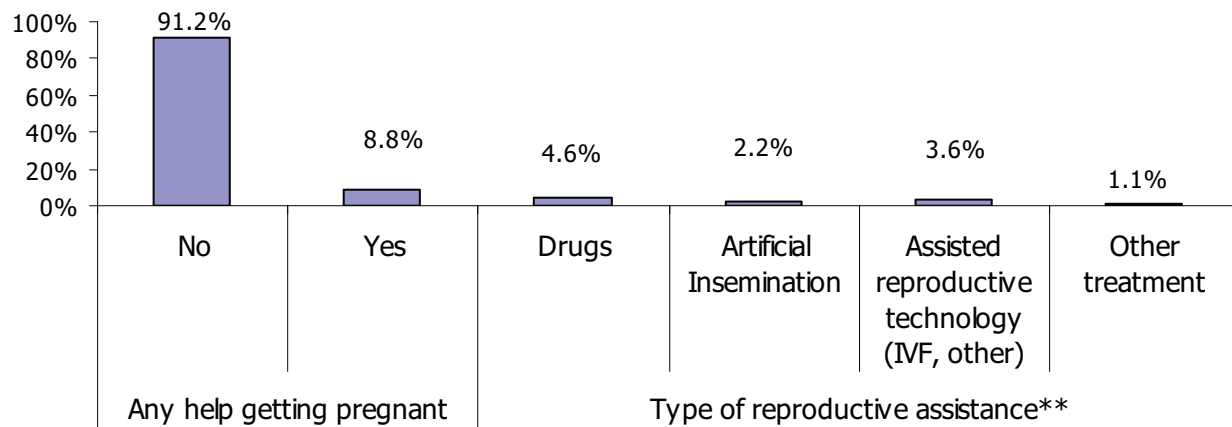
## PRE-PREGNANCY

### Fertility treatment

An estimated 12-15% of women of reproductive age may experience infertility (Chandra, 2005). A variety of fertility treatments are now available. These include fertility-enhancing drugs, artificial insemination, and assisted reproductive technology (such as in vitro fertilization (IVF), gamete intrafallopian transfer (GIFT), zygote intrafallopian transfer (ZIFT), intracytoplasmic sperm injection (ICSI), frozen embryo transfer, or donor embryo transfer).

Among all mothers, 8.8% reported receiving some form of assistance from a health care provider in becoming pregnant. Among all mothers, 4.6% received fertility drugs, 3.6% used assisted reproductive technology (ART), 2.2% received artificial insemination, and 1.1% used other forms of treatment.

**Figure 12. Prevalence of fertility treatment use\*, 2009 MA PRAMS**



\*Figure based on population prevalence of reproductive therapies.

\*\*Types of fertility treatment are not mutually exclusive.

### **Massachusetts mothers say...**

*"It is a state requirement to provide in vitro fertilization which I consider to be a positive thing."*

## PRE-PREGNANCY

### Fertility treatment

The highest prevalence of fertility treatment was observed among mothers aged 40 years or older (36.5%). Higher rates of fertility treatment were also observed among college-graduates (15.0%), those who were living above 100% of the FPL (11.0%), White, non-Hispanics (10.6%), or those born in the United States (10.5%) (Table 6).

**Table 6. Prevalence of fertility treatment use, by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Had any medical assistance in becoming pregnant		
	Weighted n	Weighted %	95% CL
<b>Total</b>	6341	8.8	7.0 - 11.1
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	5110	10.6	8.0 - 14.1
Black, non-Hispanic	298	4.6	2.8 - 7.5
Hispanic	297	2.8	1.5 - 4.9
Asian, non-Hispanic	483	8.4	5.8 - 11.9
Other, non-Hispanic	<i>Insufficient data to report</i>		
<b>Maternal age (years)</b>			
<20	<i>Insufficient data to report</i>		
20-29	1498	4.6	2.7 - 7.5
30-39	3931	12.1	9.1 - 16.1
40+	880	35.6	19.8 - 55.3
<b>Maternal education</b>			
<High school	<i>Insufficient data to report</i>		
High school diploma	856	4.1	2.0 - 8.5
Some college	813	5.9	3.1 - 10.7
College graduate	4583	15.0	11.4 - 19.4
<b>Household poverty level</b>			
≤100% FPL	<i>Insufficient data to report</i>		
>100% FPL	6203	11.0	8.7 - 13.9
<b>Maternal nativity</b>			
Non-US born	849	4.4	3.0 - 6.4
US born	5492	10.5	8.0 - 13.5

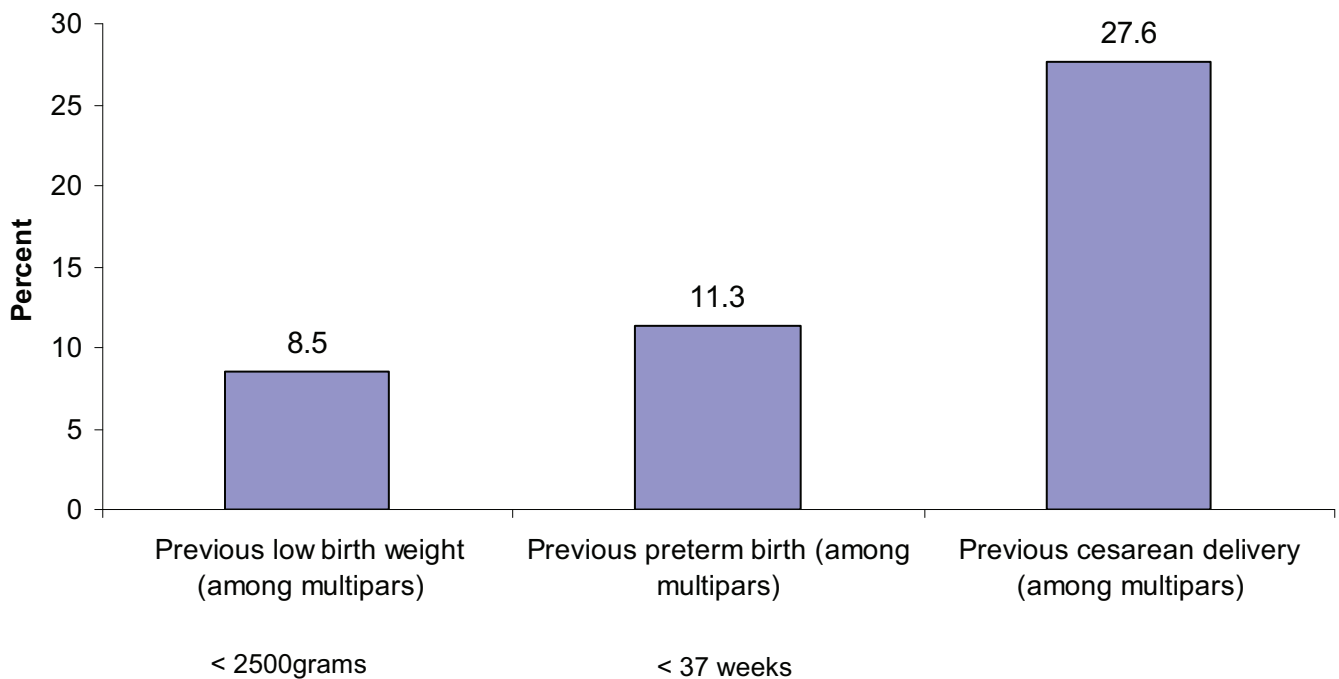
Insufficient data to report: less than five mothers.

## PRE-PREGNANCY

### Previous birth outcomes

Among multiparous mothers (those who have previously given birth to a live infant), 27.6% reported having had a previous cesarean delivery, 11.3% reported having had a previous preterm birth, and 8.5% reported having had a previous low birth weight baby.

**Figure 13. Prevalence of previous low birth weight, preterm births, and cesarean delivery among multiparous mothers, 2009 MA PRAMS**



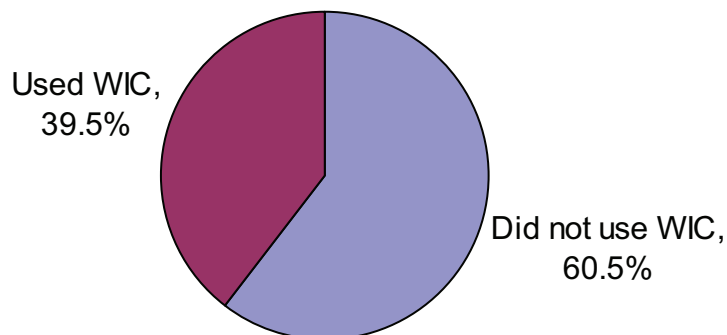
## PREGNANCY

### WIC participation during pregnancy

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides low-income women with a variety of essential supportive services during pregnancy and until their children turn 5 years old. WIC provides supplemental food packages to families, as well as nutritional counseling, breastfeeding support, and referrals to medical and social services.

Over a third of mothers (39.5%) reported participating in WIC during their most recent pregnancy (Figure 14).

**Figure 14. Proportion of mothers participating in WIC during pregnancy, 2009 MA PRAMS**



#### **Massachusetts mothers say...**

*"I am a mother who gets WIC. I wish the program included more produce for children, and produce from a supermarket. The WIC checks issued for produce is for a small amount and only for Farmer's Markets which are few and far between with inconvenient hours of operation. I love Famer's Markets and enjoy local harvests, but there just aren't enough in my area..."*



## PREGNANCY

### WIC participation during pregnancy

The highest rates of WIC participation were among those with less than a high school education (90.9%), mothers under 20 years of age (88.7%), those who were living at or below 100% of the FPL (83.6%), Hispanic mothers (80.4%), those on Medicaid (80.1%), unmarried (72.6%), or those born outside of the United States (59.6%) (Table 7).

**Table 7. Prevalence of WIC participation during pregnancy, by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	% Participated in WIC		
	Weighted n	Weighted %	95% CL
<b>Total</b>	27813	39.5	36.3 - 42.7
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	12809	27.2	22.7 - 32.1
Black, non-Hispanic	4611	72.0	66.7 - 76.8
Hispanic	8514	80.4	76.1 - 84.0
Asian, non-Hispanic	1348	24.4	19.3 - 30.4
Other, non-Hispanic	530	65.3	48.0 - 79.3
<b>Maternal age (years)</b>			
<20	3648	88.7	73.7 - 95.6
20-29	17289	53.9	48.6 - 59.1
30-39	6321	19.9	16.5 - 23.7
40+	555	22.6	12.6 - 37.3
<b>Maternal education</b>			
<High school	5917	90.9	81.4 - 95.8
High school diploma	13995	67.9	60.5 - 74.4
Some college	5747	42.5	35.5 - 49.8
College graduate	2121	7.1	5.2 - 9.7
<b>Household poverty level</b>			
≤100% FPL	12862	83.6	77.0 - 88.6
>100% FPL	14951	27.1	23.9 - 30.6
<b>Marital status</b>			
Married	8721	19.7	16.7 - 23.2
Unmarried	19093	72.6	67.1 - 77.6
<b>Maternal nativity</b>			
Non-US born	11221	59.6	55.0 - 64.0
US born	16561	32.1	28.1 - 36.4
<b>Prenatal care payer source</b>			
Non-Medicaid	5656	13.2	10.8 - 16.2
Medicaid	21802	80.1	74.9 - 84.5

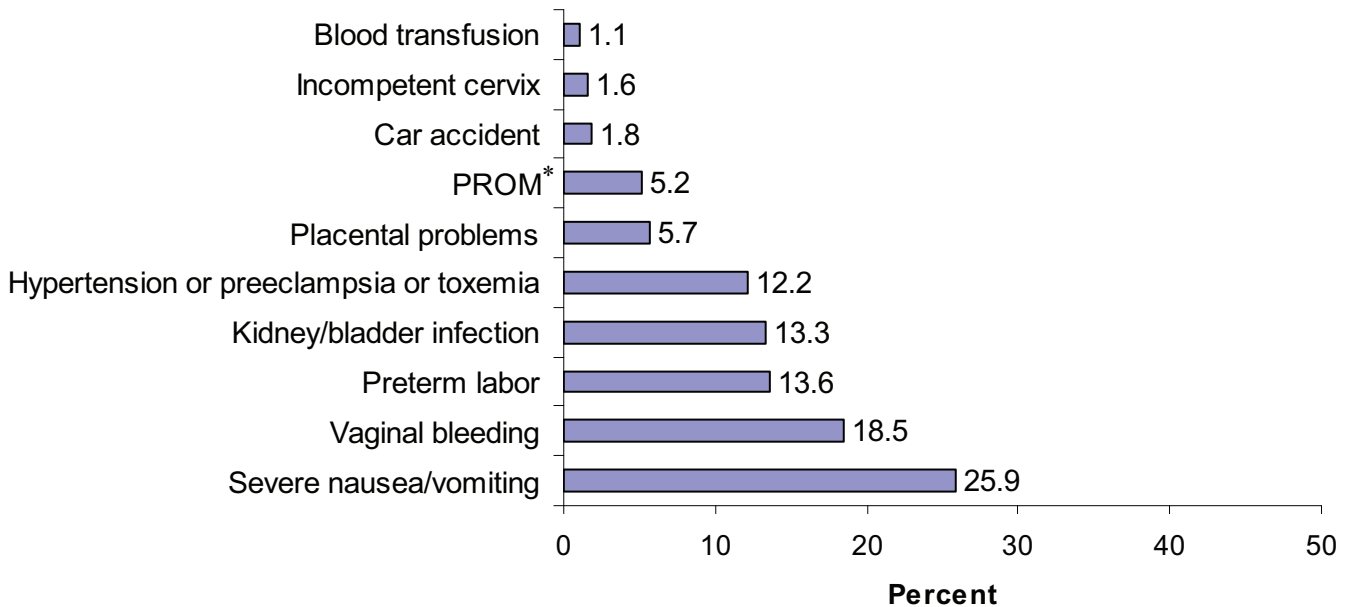
# PREGNANCY

## Health complications during pregnancy

A number of health complications can arise during pregnancy, from milder conditions needing little or no medical intervention to more severe complications leading to hospitalization prior to birth (Callaghan, 2008).

The most commonly reported health complications during pregnancy were severe nausea and/or dehydration (25.9%), followed by vaginal bleeding (18.5%), and preterm labor (13.6%) (Figure 15). See Table 8 for details on gestational diabetes mellitus.

**Figure 15. Maternal health complications during pregnancy, 2009 MA PRAMS**



\*PROM = premature rupture of membranes

# PREGNANCY

## Gestational diabetes

Gestational diabetes mellitus (GDM) is defined as glucose intolerance which did not exist immediately prior to the pregnancy, but was diagnosed during pregnancy (Kjos, 1999). GDM can cause health complications for infants, including macrosomia (high birth weight) and increased risk of childhood obesity and adult diabetes. Delivery may be complicated by having a larger baby, leading to greater likelihood of cesarean delivery or injury to the child during birth. Mothers with GDM may be at increased risk of type 2 diabetes later in life (Metzger, 2007).

The overall prevalence of reported GDM was 6.8%. However, the prevalence differed by socio-demographic variables, with the highest occurrence among mothers who were Asian, non-Hispanic (12.1%), or those born outside of the United States (10.0%) (Table 8).

**Table 8. Prevalence of gestational diabetes, by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Gestational Diabetes		
	Weighted n	Weighted %	95% CL
<b>Total</b>	4820	6.8	5.3 - 8.7
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	2047	4.3	2.6 - 7.0
Black, non-Hispanic	576	9.1	6.3 - 12.8
Hispanic	893	8.5	6.1 - 11.8
Asian, non-Hispanic	681	12.1	8.7 - 16.6
Other, non-Hispanic	<i>Insufficient data to report</i>		
<b>Maternal age (years)</b>			
<20	<i>Insufficient data to report</i>		
20-29	1886	5.8	3.9 - 8.6
30-39	2013	6.3	4.3 - 9.1
40+	<i>Insufficient data to report</i>		
<b>Maternal education</b>			
<High school	792	12.4	6.3 - 23.0
High school diploma	1598	7.8	5.0 - 11.8
Some college	809	5.9	3.3 - 10.3
College graduate	1130	3.8	2.4 - 5.8
<b>Household poverty level</b>			
≤100% FPL	1111	7.3	4.5 - 11.4
>100% FPL	3219	5.8	4.3 - 7.8
<b>Maternal nativity</b>			
Non-US-born	1888	10.0	7.7 - 12.9
US-born	2443	4.7	3.1 - 7.0
<b>Body Mass Index (BMI)</b>			
Normal or underweight	2124	5.2	3.5 - 7.7
Overweight	799	5.5	3.4 - 8.8
Obese	1245	9.9	6.0 - 15.9

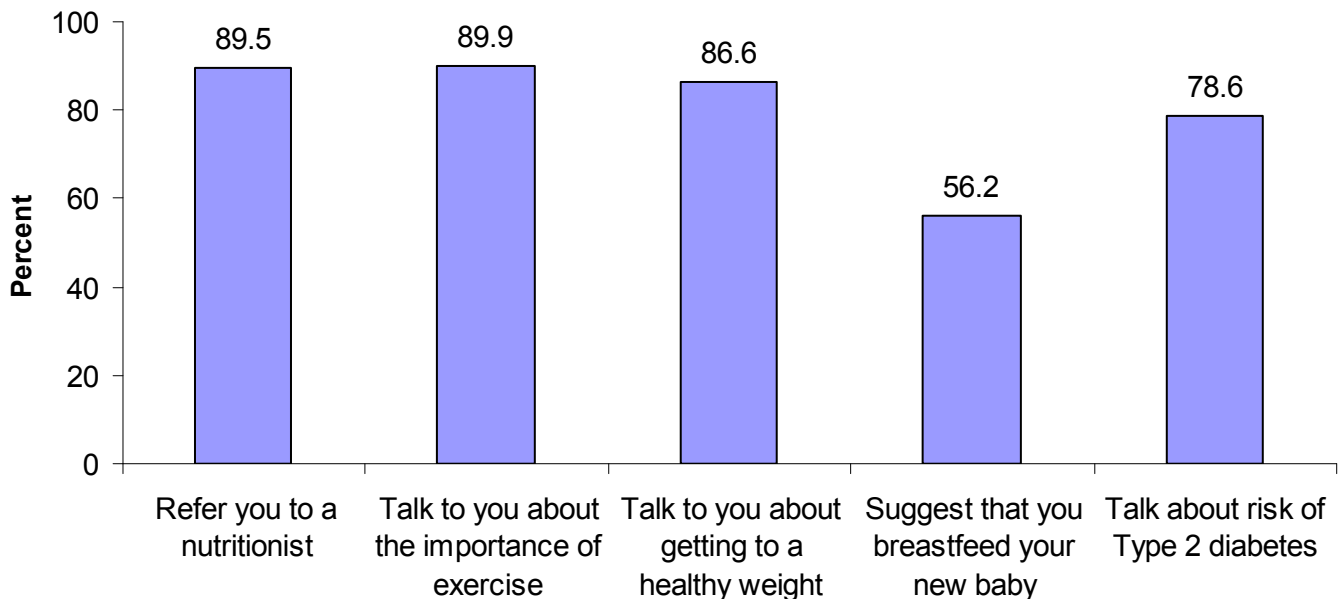
Insufficient data to report: less than five mothers.

## PREGNANCY

### Gestational diabetes follow-up care

The overall prevalence of reported GDM was 6.8%. Among mothers with GDM, 89.9% reported that their prenatal care provider talked to them about the importance of exercise, followed by 89.5% who reported that their prenatal care provider referred them to a nutritionist, 86.6% reported that their prenatal care provider taught to them about getting to a healthy weight, 78.6% learned about their risk of type 2 diabetes from their prenatal care provider, and only 56.2% reported that their prenatal care provider suggested breastfeeding the new baby (Figure 16). This indicates that more efforts are needed to encourage women with GDM to breastfeed.

**Figure 16. Prevalence of follow-up care received by mothers with gestational diabetes, 2009 MA PRAMS**



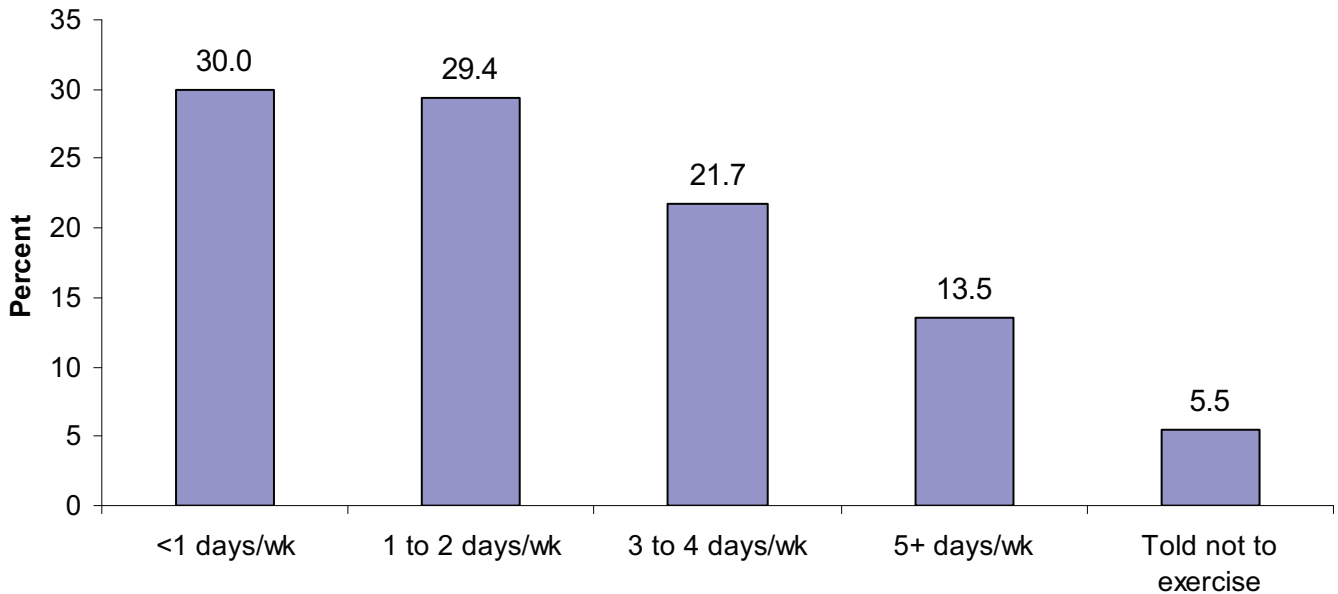
# PREGNANCY

## Exercise and diet

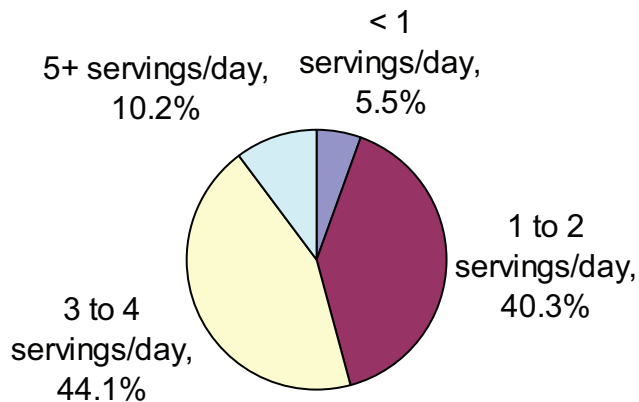
Appropriate exercise is key to maintaining good health during pregnancy and beyond. Unless advised otherwise, healthy women can maintain a regular schedule of exercise during pregnancy. The American College of Obstetricians and Gynecologists (ACOG) recommends that most women exercise 30 minutes or more on most, if not all, days of the week (ACOG, 2009).

The majority of mothers (64.6%) reported performing some types of exercise at least once a week during the last three months of pregnancy. Almost 6% of mothers were told by a health care provider that they should not exercise at all during the last three months of pregnancy (Figure 17).

**Figure 17. Frequency of physical activity during last three months of pregnancy, 2009 MA PRAMS**



**Figure 18. Consumption of fruits/vegetables per day in the last three months of pregnancy, 2009 MA PRAMS**



Current recommendations state that pregnant women should eat at least 2½ cups or 5 servings of vegetables and 1½ to 2 cups or 3 to 4 servings of fruits per day (ACOG, 2008).

About 94.6% of mothers reported eating at least one serving\* of fruits or vegetables per day in the last 3 months of pregnancy. However, only 10.2% achieved 5 or more per day.

\*A "serving" of fruit/vegetable has been defined by the US Department of Agriculture as ½ cup, however, "serving" was not defined for respondents in the PRAMS survey.

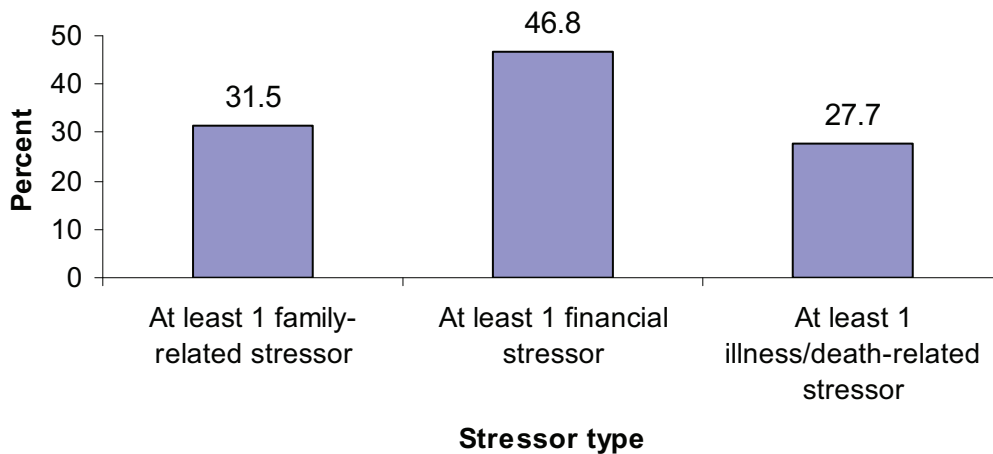
## PREGNANCY

### Stressful life events

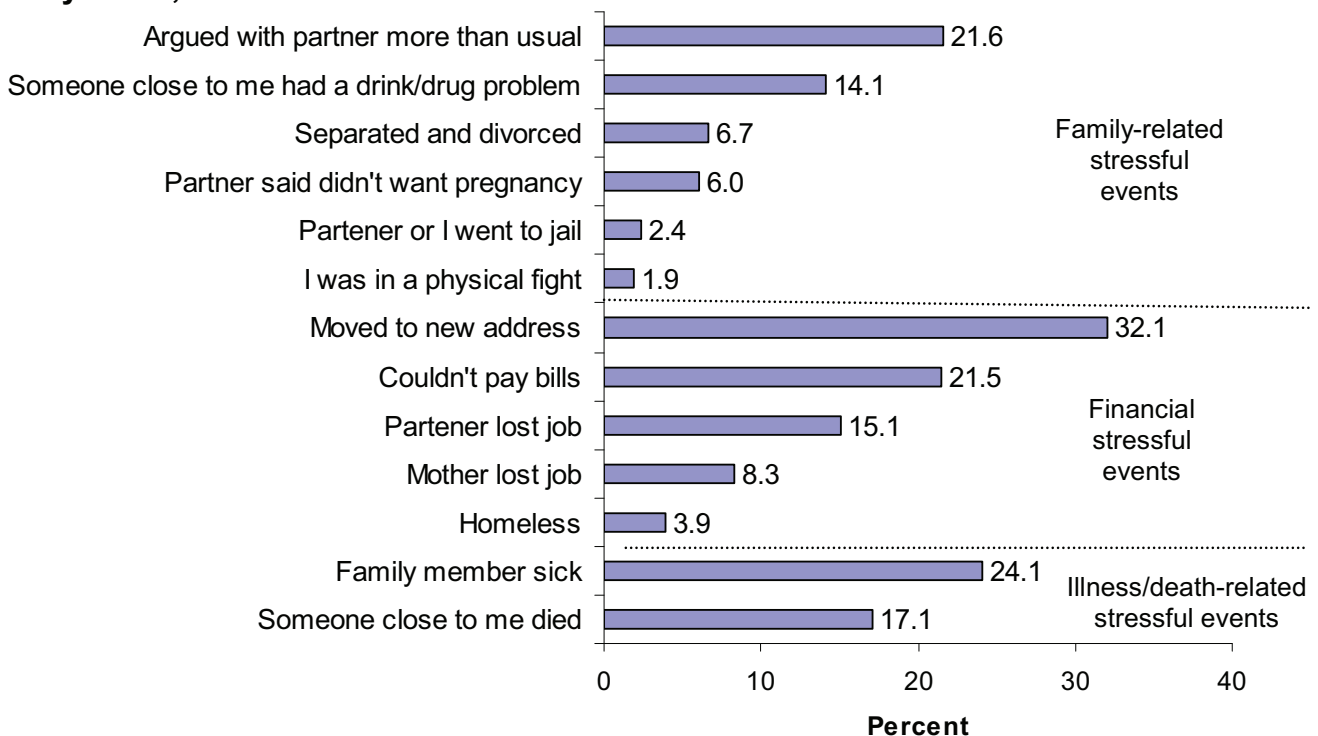
The perinatal period can be a stressful time in the lives of mothers and their families. A high proportion of MA mothers reported experiencing at least one type of family-related (31.5%), financial (46.8%) or illness/death-related (27.7%) stressor during the year before their babies were born\* (Figure 19).

The most common stressful life event mothers experienced was moving to a new address (32.1%). Many mothers (21.6%) also reported arguing with their partners more than usual during this time (Figure 20).

**Figure 19. Prevalence of stressful life events in the 12 months before birth, by type, 2009 MA PRAMS**



**Figure 20. Prevalence of stressful life events in the 12 months before birth, by event, 2009 MA PRAMS**



\*Family-related stressors: Separation/divorce, physical fight, partner said didn't want pregnancy, argued with partner more than usual, someone close had a problem with drinking/drugs, partner went to jail; Financial stressors: Moving to a new address, being homeless, mom lost job, partner lost job, had bills couldn't pay; Illness/death-related stressors: Family member sick/had to go to hospital, someone close died.

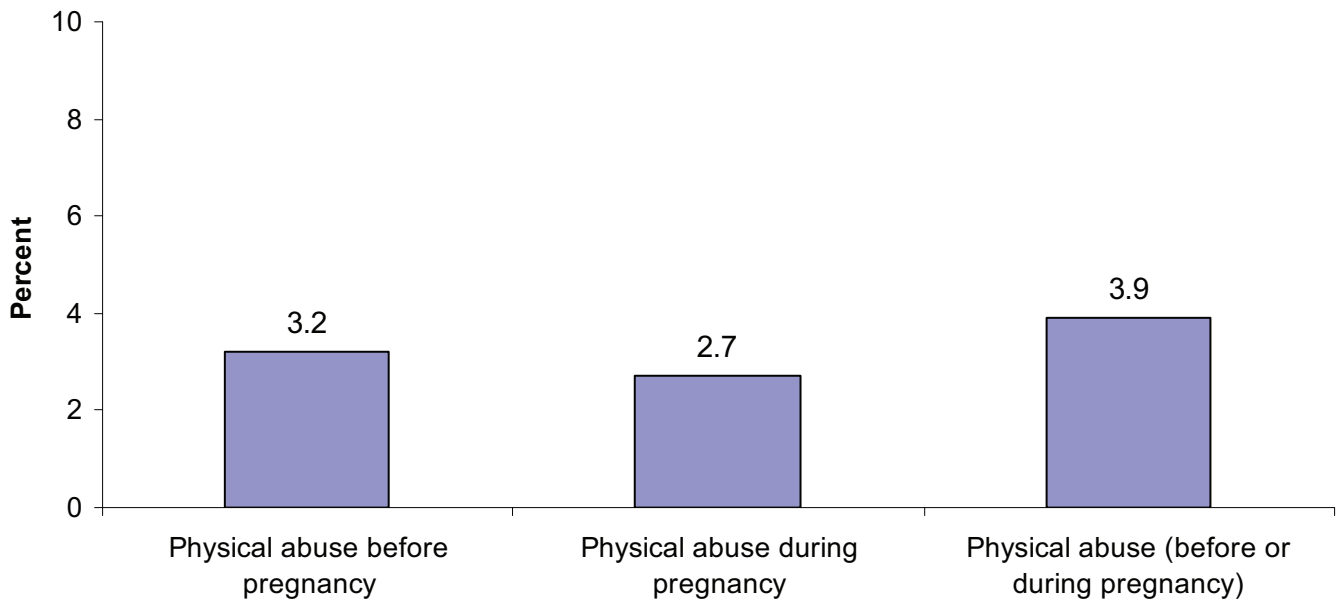
# PREGNANCY

## Intimate partner violence

Intimate partner violence (IPV) is a pressing public health problem in the United States. It is estimated that one out of four women will experience IPV in her lifetime, and pregnant women may be at a higher risk for IPV than non-pregnant women (Tjaden, 2000; Gelles, 1998). Homicide is the leading cause of death among pregnant women in the United States (Chang, 2005). IPV may lead to pregnancy complications including vaginal bleeding and infection, and outcomes such as preterm delivery and low birth weight infants (Janssen, 2003; McFarlane, 1996).

A small percentage of mothers reported experiencing physical abuse from an intimate partner (one type of IPV) in the 12 months before (3.2%) or during (2.7%) pregnancy. About 4% of mothers reported having experienced physical abuse during either time. However, these percentages may not reflect the true prevalence of physical abuse because negative experiences tend to be underreported (Bacchus, 2002).

**Figure 21. Prevalence of physical abuse in 12 months before pregnancy, during pregnancy, and at either time period, 2009 MA PRAMS**



Differences in the reported prevalence of physical abuse are most notable by poverty level. The reported prevalence of physical abuse either before or during pregnancy was highest among those who were living at or below 100% of the FPL (9.7%) (Table 9). Analysis was limited by small cell size.

# PREGNANCY

**Table 9. Prevalence of physical abuse (12 months before pregnancy, during pregnancy, and during either time period), 2009 MA PRAMS**

Characteristic	Abuse before pregnancy			Abuse during pregnancy			Abuse before or during pregnancy		
	n	Weighted %	95% CL	n	Weighted %	95% CL	n	Weighted %	95% CL
<b>Total</b>	2242	3.2	2.2 - 4.6	1897	2.7	1.8 - 4.0	2781	3.9	2.8 - 5.4
<b>Maternal race/ethnicity</b>									
White, non-Hispanic	<i>Insufficient data to report</i>			1040	2.2	1.1 - 4.2	1427	3.0	1.7 - 5.3
Black, non-Hispanic	310	5.0	3.0 - 8.2	277	4.3	2.5 - 7.2	<i>Insufficient data to report</i>		
Hispanic	572	5.5	3.6 - 8.5	<i>Insufficient data to report</i>			665	6.3	4.2 - 9.3
Asian, non-Hispanic	<i>Insufficient data to report</i>			<i>Insufficient data to report</i>			<i>Insufficient data to report</i>		
Other, non-Hispanic	0	0		0	0		0	0	
<b>Maternal age (years)</b>									
<20	<i>Insufficient data to report</i>			<i>Insufficient data to report</i>			<i>Insufficient data to report</i>		
20-29	1295	4.1	2.5 - 6.6	1234	3.8	2.3 - 6.1	1567	4.8	3.1 - 7.4
30-39	<i>Insufficient data to report</i>			<i>Insufficient data to report</i>			<i>Insufficient data to report</i>		
40+	<i>Insufficient data to report</i>			<i>Insufficient data to report</i>			<i>Insufficient data to report</i>		
<b>Maternal education</b>									
<High school	<i>Insufficient data to report</i>			<i>Insufficient data to report</i>			<i>Insufficient data to report</i>		
High school diploma	<i>Insufficient data to report</i>			<i>Insufficient data to report</i>			<i>Insufficient data to report</i>		
Some college	<i>Insufficient data to report</i>			<i>Insufficient data to report</i>			<i>Insufficient data to report</i>		
College graduate	<i>Insufficient data to report</i>			<i>Insufficient data to report</i>			<i>Insufficient data to report</i>		
<b>Household poverty level</b>									
≤100% FPL	1327	8.8	5.6 - 13.6	1095	7.1	4.3 - 11.4	1497	9.7	6.4 - 14.3
>100% FPL	<i>Insufficient data to report</i>			<i>Insufficient data to report</i>			1283	2.3	1.4 - 3.8
<b>Maternal nativity</b>									
Non-US-born	652	3.5	2.2 - 5.6	427	2.2	1.4 - 3.6	816	4.3	2.8 - 6.4
US-born	1590	3.1	1.9 - 5.0	1470	2.8	1.7 - 4.6	1964	3.8	2.5 - 5.7

*Insufficient data to report: less than five mothers.*

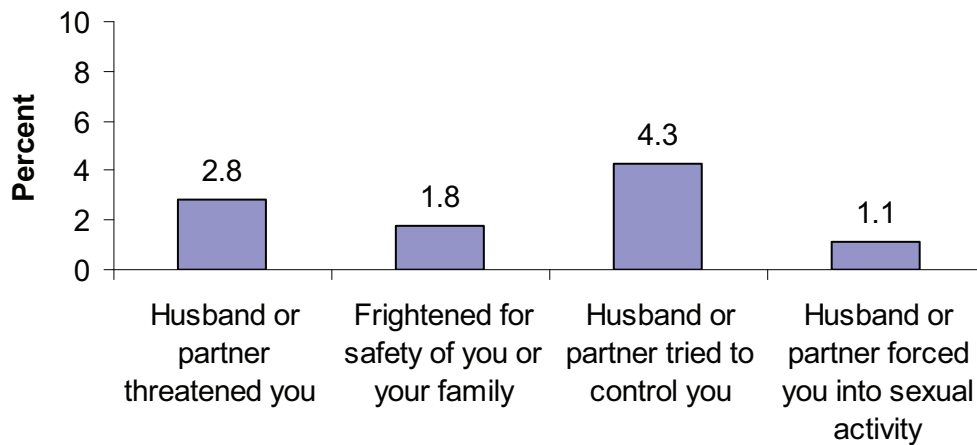


## PREGNANCY

### Intimate partner violence

A small percentage of mothers reported experiencing intimate partner violence since the birth of their new baby. About 4% of mothers reported that their husband or partner had tried to control their daily activities; 2.8% of mothers reported having been threatened by their husband or partner or feeling unsafe in some way, 1.8% reported that they were worried about their safety or the safety of their family because of the anger or threats of their husband or partner, and 1.1% reported that their husband or partner had forced them to take part in touching or any sexual activity when they did not want to. These percentages may not reflect the true prevalence of intimate partner violence because negative experiences tend to be underreported.

**Figure 22. Prevalence of intimate partner violence post-partum, 2009 MA PRAMS**

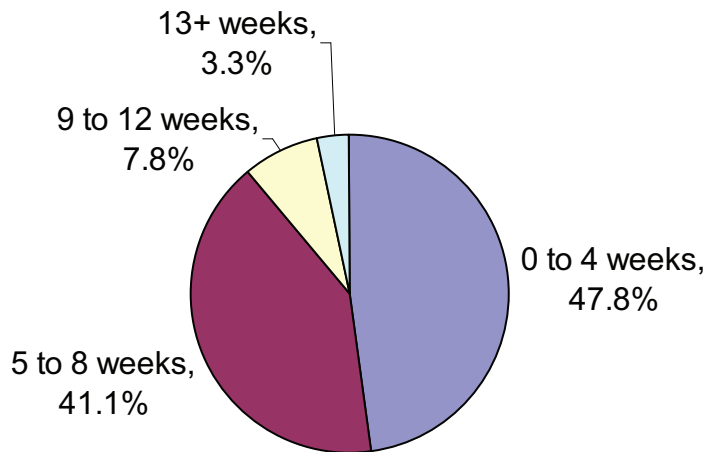


# PREGNANCY

## Prenatal care: Entry to care

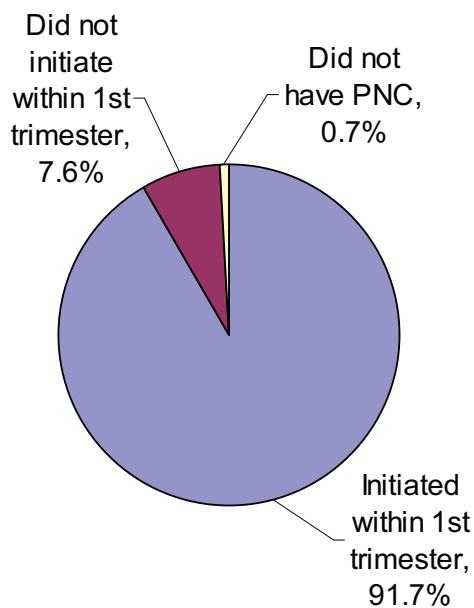
Early knowledge of pregnancy and timely entry into prenatal care provide women with access to important preventive health services as well as screening, monitoring and treatment for pregnancy-related health issues. Complications like GDM and hypertension can cause harm to the mother and fetus if left untreated (Misra, 1998, Alexander and Kotelchuck, 2001).

**Figure 23. Gestational age when pregnancy was confirmed, 2009 MA PRAMS**



Almost half of women (47.8%) had their pregnancy confirmed by a pregnancy test or by a doctor or nurse within the first month, and 3.3% did not do so until after the first trimester of the pregnancy (Figure 23).

**Figure 24. Timing of initiation of prenatal care (PNC), 2009 MA PRAMS**



Almost 92% of women began prenatal care within the first trimester of pregnancy (Figure 24). Less than one percent of women did not receive any prenatal care.

## PREGNANCY

### Prenatal care: Entry to prenatal care

While Massachusetts mothers demonstrated high levels of timely prenatal care entry overall (91.7%), differences were evident across socio-demographic groups.

Initiating care during the first trimester was lowest among Hispanic mothers (82.6%), mothers under 20 years of age (80.0%), or mothers without a high school diploma (77.9%). About 86.5% of those living at or below 100% of the FPL entered care in the first trimester. About 88% of mothers on Medicaid initiated care during the first trimester (Table 10).

**Table 10. Prevalence of entry to prenatal care in the first trimester, by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Entered prenatal care in 1st trimester			
	Weighted n	Weighted %	95% CL	
<b>Total</b>	65033	91.7	89.8	93.3
<b>Maternal race/ethnicity</b>				
White, non-Hispanic	45454	95.0	92.2	96.8
Black, non-Hispanic	5202	83.0	78.1	87.0
Hispanic	8662	82.6	78.4	86.2
Asian, non-Hispanic	4999	90.3	86.1	93.3
Other, non-Hispanic	716	91.7	73.2	97.8
<b>Maternal age (years)</b>				
<20	3245	80.0	66.7	88.8
20-29	29033	89.6	86.3	92.2
30-39	30418	95.0	92.9	96.6
40+	2336	96.3	90.0	98.7
<b>Maternal education</b>				
<High school	4921	77.9	68.9	84.8
High school diploma	18002	87.8	83.1	91.3
Some college	12677	91.9	86.8	95.1
College graduate	29400	97.2	95.4	98.3
<b>Household poverty level</b>				
≤100% FPL	13200	86.5	81.4	90.3
>100% FPL	51832	93.2	91.1	94.8
<b>Maternal nativity</b>				
Non-US-born	16266	87.0	84.0	89.4
US-born	48736	93.4	90.9	95.2
<b>Prenatal care payer source</b>				
Non-Medicaid	41163	95.4	93.2	97.0
Medicaid	23870	87.8	84.4	90.5

### **Massachusetts mothers say...**

*"I strongly believe that pregnant woman should be seen by a prenatal specialist as soon as she finds out she's pregnant. The most important time in [the] baby's development are the first few weeks, and a lot of women don't know about taking vitamins, eating right, and staying away from [the] bad things."*

## PREGNANCY

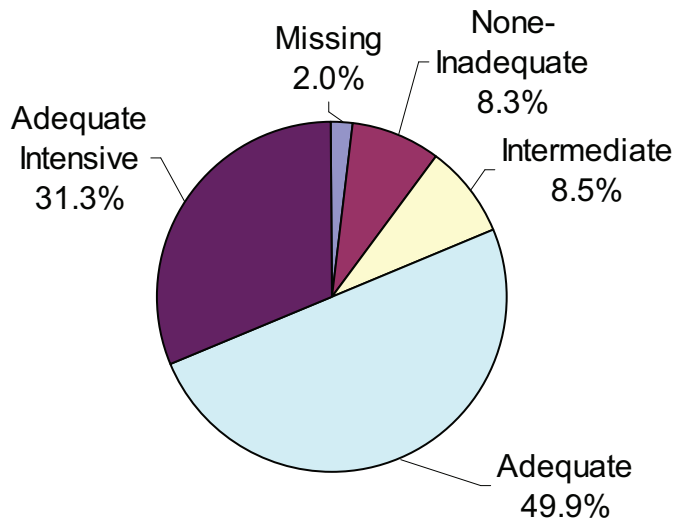
### Prenatal care: Adequacy of Prenatal Care Utilization Index

The Adequacy of Prenatal Care Utilization (APNCU) Index describes several aspects of prenatal care, including the timing of entry to care and the volume of care received. Prenatal care that classified as “adequate” starts early in the pregnancy and involves the expected number of prenatal care visits given the duration of the pregnancy as recommended by the ACOG. Less than adequate care generally involves late entry to care and/or an insufficient number of visits given the length of the pregnancy (Alexander & Kotelchuck, 2001).

Overall, more than 81% of the population received prenatal care deemed either adequate or adequate intensive (Figure 25). About 8% received inadequate or no prenatal care.

(See Appendix D. for full description of the APNCU Index.)

**Figure 25. Adequacy of prenatal care (as measured by Adequacy of Prenatal Care Utilization Index, APNCU), 2009 MA PRAMS**



## PREGNANCY

### Prenatal care: Adequacy of Prenatal Care Utilization Index (APNCU)

Adequacy of care differed across groups, with inadequate or no care particularly prevalent among those under 20 years of age (21.2%), those with less than a high school education (20.2%), Black, non-Hispanics (17.5%), those who were living at or below 100% of the FPL (15.0%), or Hispanics (13.1%) (Table 11).

**Table 11. Prevalence of inadequate/no prenatal care, as measured by the Adequacy of Prenatal Care Utilization (APNCU) Index, by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Inadequate/no prenatal care		
	Weighted n	Weighted %	95% CL
<b>Total</b>	5985	8.3	6.7 - 10.3
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	3036	6.3	4.2 - 9.3
Black, non-Hispanic	1138	17.5	13.5 - 22.3
Hispanic	1409	13.1	10.0 - 16.9
Asian, non-Hispanic	352	6.1	3.7 - 9.8
Other, non-Hispanic	<i>Insufficient data to report</i>		
<b>Maternal age (years)</b>			
<20	880	21.2	12.3 - 34.2
20-29	2564	7.8	5.7 - 10.6
30-39	2443	7.5	5.2 - 10.8
40+	<i>Insufficient data to report</i>		
<b>Maternal education</b>			
<High school	1331	20.2	13.6 - 28.8
High school diploma	1904	9.2	6.0 - 13.8
Some college	896	6.4	3.9 - 10.4
College graduate	1854	6.1	4.0 - 9.1
<b>Household poverty level</b>			
≤100% FPL	2331	15.0	10.8 - 20.6
>100% FPL	3654	6.5	4.8 - 8.6
<b>Maternal nativity</b>			
Non-US-born	2158	11.2	8.8 - 14.1
US-born	3827	7.3	5.3 - 9.9
<b>Prenatal care payer source</b>			
Non-Medicaid	2913	6.7	4.7 - 9.4
Medicaid	2912	10.5	8.1 - 13.6

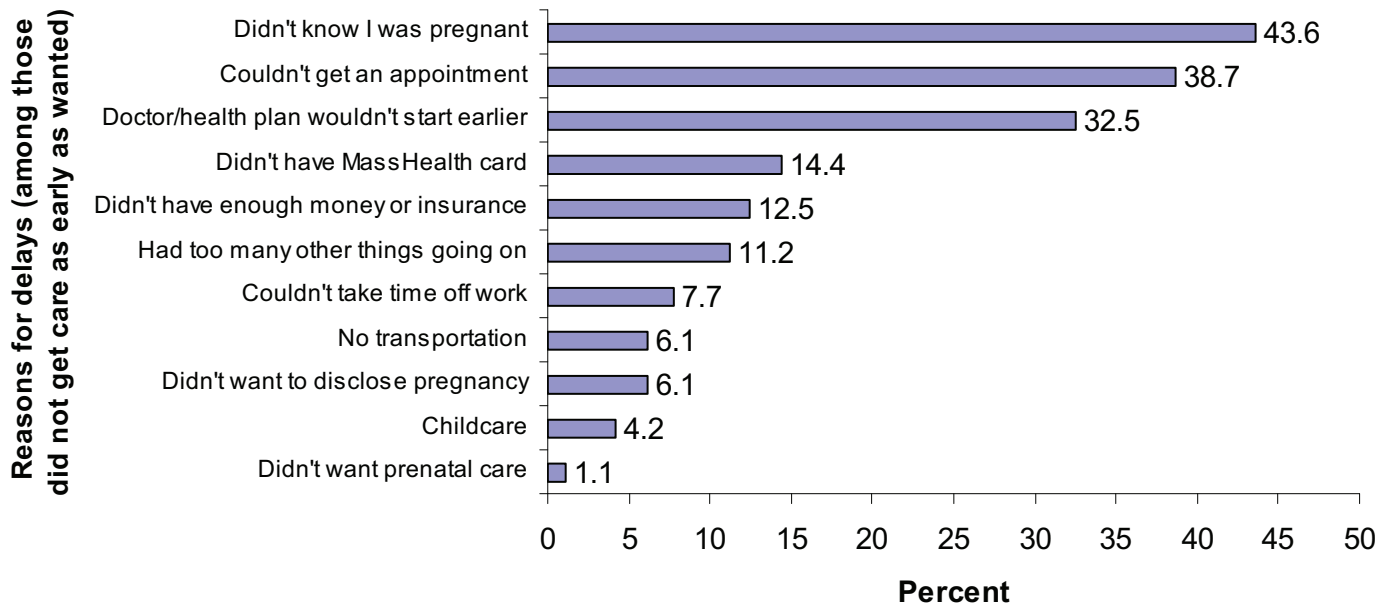
Insufficient data to report: less than five mothers.

# PREGNANCY

## Prenatal care: Reasons for delay

About 12% of mothers reported not receiving prenatal care as soon as they had wanted regardless of the timing of their first prenatal care visit. Among those who did not receive prenatal care as early as wanted, the most prevalent reason reported was not knowing about the pregnancy (43.6%). Factors related to accessing the healthcare system were frequently cited as barriers to entering prenatal care when desired. Not being able to get an appointment sooner was the second most common reason for not receiving timely care (38.7%), followed by having a doctor/health plan which would not permit earlier entry or not having a MassHealth card (32.5% and 14.4%, respectively) (Figure 26).

**Figure 26. Reasons for not receiving prenatal care as early as wanted\*, 2009 MA PRAMS**



\*Reasons for not receiving prenatal care as early as wanted are not mutually exclusive.

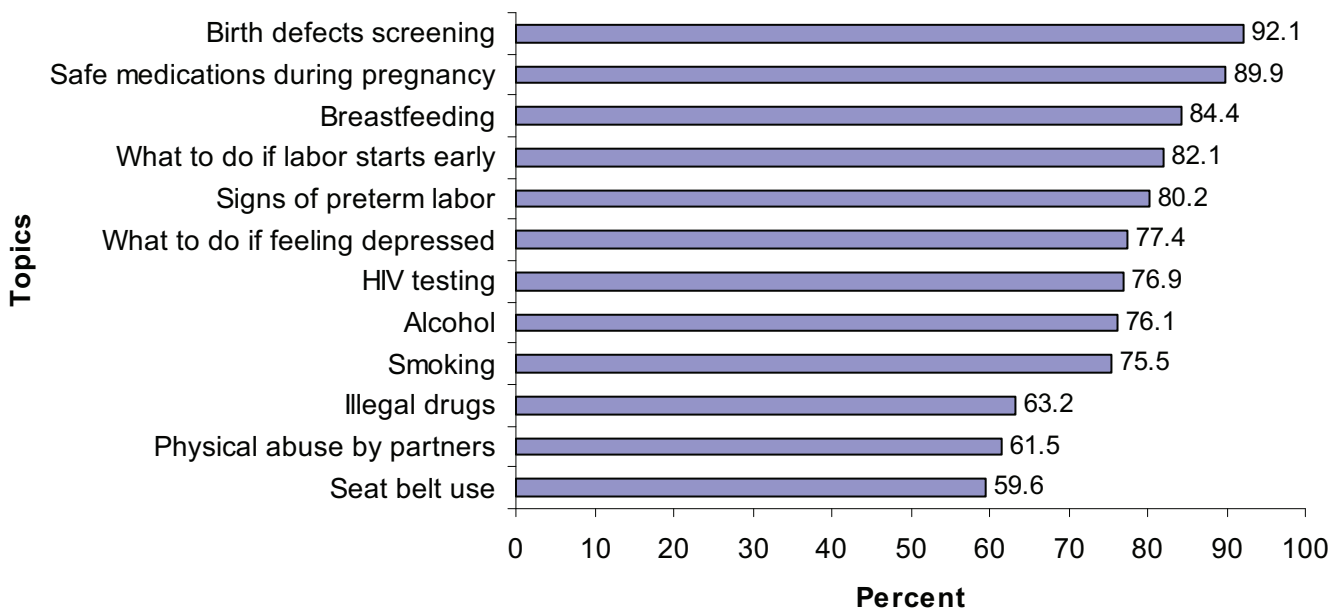
# PREGNANCY

## Prenatal care: Topics discussed with health care providers

Mothers reported discussing certain health topics with their health care providers more often than others (Figure 27). The most frequently discussed topics included birth defects screening (92.1%) and safe medications to use during pregnancy (89.9%). The least frequently discussed were physical abuse by partners (61.5%) and seat belt use (59.6%).

Topics discussed with health care providers are not necessarily in order of public health importance. The population prevalence of reported physical abuse by a partner during pregnancy from MA PRAMS 2009 is similar to the prevalence of major birth defects (about 3-4% in MA in 2007/2008) (National Birth Defects Prevention Network, 2009). However, physical abuse was reportedly far less frequently discussed compared to birth defects screening.

**Figure 27. Topics discussed with health care providers during prenatal care visits, 2009 MA PRAMS**



### **Massachusetts mothers say...**

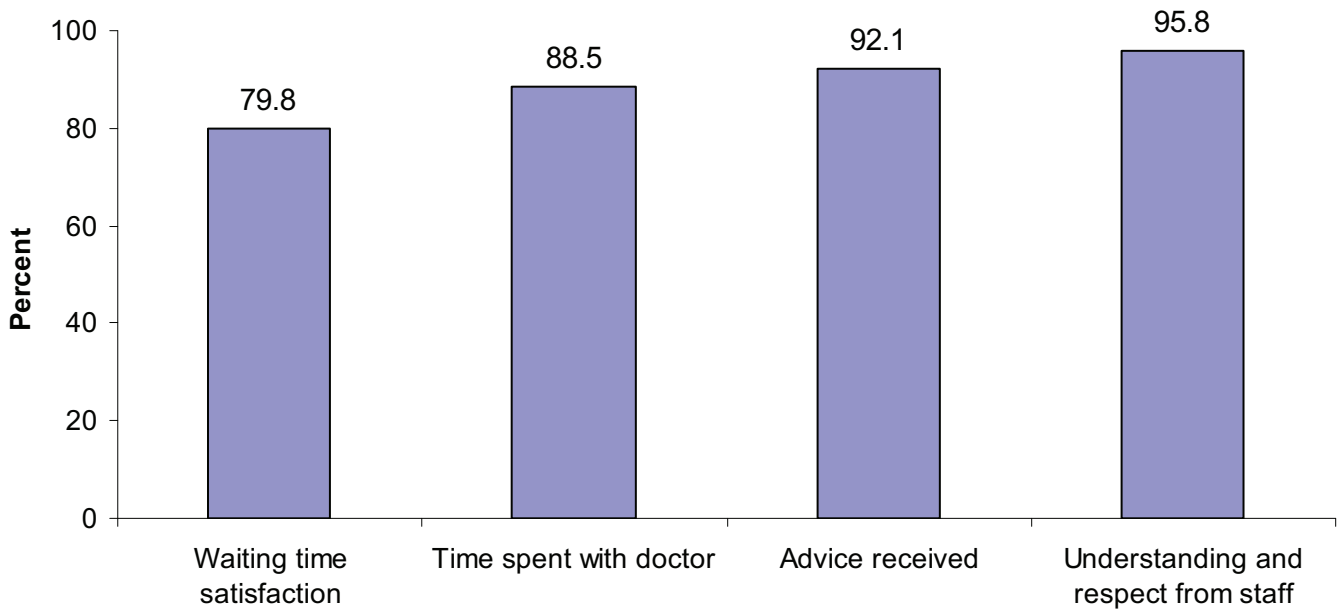
*"[It's] important for health care workers to discuss domestic violence. Not just physical but the emotional/verbal abuse aspect. How to cope, who to turn to, and when to know it's happening to you. Victims often rationalize the behavior of the abuser and blame themselves."*

# PREGNANCY

## Prenatal care satisfaction

For maternal satisfaction of prenatal care visits during pregnancy, about 96% of mothers reported that they were satisfied with the understanding and respect received from office staff, and 92.1% were satisfied with advice received on how to take care of themselves. About 89% were satisfied with the amount of time the prenatal care provider spent with them during the visits, and 79.8% were satisfied with the amount of time they had to wait after they arrived for their visits (Figure 28).

**Figure 28. Prevalence of maternal satisfaction of prenatal care provided by health care providers, 2009 MA PRAMS**





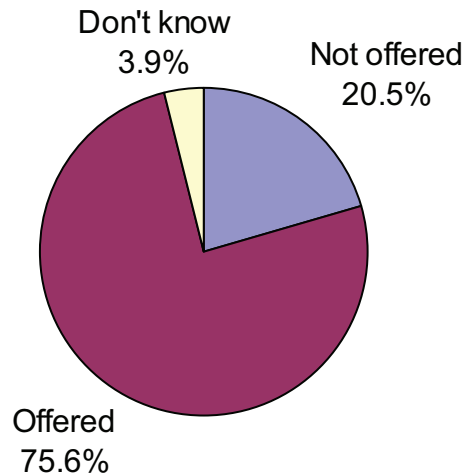
## PREGNANCY

### HIV testing during pregnancy: Testing and offer of testing

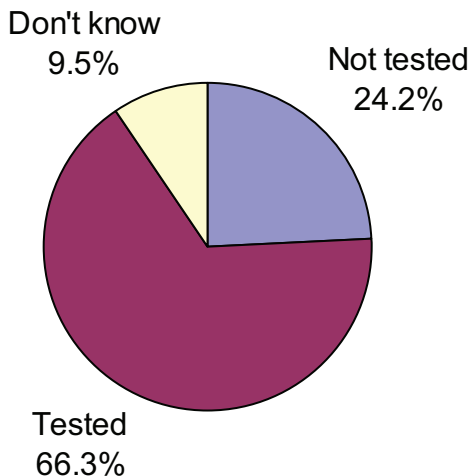
It is recommended by the ACOG that pregnant women have the opportunity to know their HIV status. Anti-retroviral treatment for HIV-positive women during pregnancy can drastically reduce the chances of transmission to the fetus during pregnancy and delivery (Branson, 2006).

Overall, about three-quarters of mothers reported that they were offered an HIV test during pregnancy (Figure 29). About 66% of mothers reporting having received an HIV test during their pregnancy, 24.2% reported not being tested, and another 9.5% reported not knowing whether they had been tested (Figure 30).

**Figure 29. Proportion of mothers offered HIV testing during pregnancy, 2009 MA PRAMS**



**Figure 30. Proportion of mothers tested for HIV during pregnancy, 2009 MA PRAMS**



## PREGNANCY

### HIV testing during pregnancy: Offering and testing

Patterns of HIV test offering varied across socio-demographic groups. Black, non-Hispanic and Hispanic mothers (84.9% and 83.9%, respectively) were more likely to report being offered an HIV test than White, non-Hispanic mothers (73.1%). About 83% of mothers on Medicaid were offered a HIV test compared to 71.3% of those mothers who were not on Medicaid (Table 12).

Report of being tested was similar to report of being offered a test. Hispanic (79.7%) and Black, non-Hispanic (77.4%) mothers were more likely to be tested for HIV than White, non-Hispanic (60.4%) mothers. Testing was also associated with living at or below 100% of the FPL (77.9%), on Medicaid (76.7%), or being born outside of the United States (74.3%).

**Table 12. Prevalence of offer-of-testing/HIV testing during pregnancy, by socio-demographic characteristics, 2009 MA PRAMS**

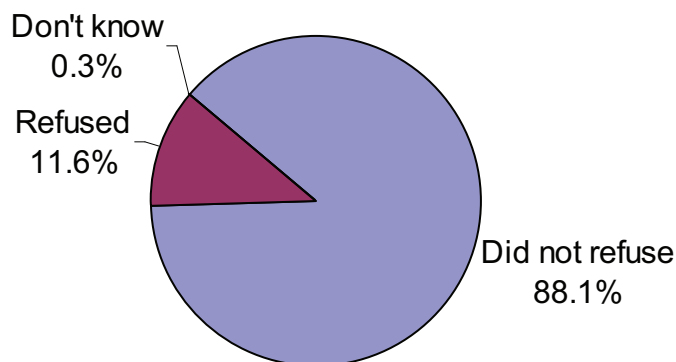
Characteristic	Offered HIV test			Tested for HIV		
	Weighted n	Weighted %	95% CL	Weighted n	Weighted %	95% CL
<b>Total</b>	46762	75.6	72.4 - 78.5	46762	65.0	61.6 - 68.3
<b>Maternal race/ethnicity</b>						
White, non-Hispanic	35118	73.1	68.4 - 77.3	29046	60.4	55.5 - 65.2
Black, non-Hispanic	5528	84.9	80.4 - 88.5	5038	77.4	72.3 - 81.7
Hispanic	9036	83.9	79.9 - 87.3	8579	79.7	75.4 - 83.4
Asian, non-Hispanic	3979	68.9	63.2 - 74.0	3413	59.1	53.2 - 64.7
Other, non-Hispanic	724	89.2	74.0 - 96.0	687	84.6	69.2 - 93.1
<b>Maternal age (years)</b>						
<20	3542	85.5	74.4 - 92.2	3416	82.4	71.4 - 89.8
20-29	25940	78.8	74.1 - 82.9	23152	70.3	65.2 - 75.0
30-39	22985	70.9	65.9 - 75.5	18604	57.4	52.2 - 62.5
40+	1918	77.5	58.0 - 89.6	1590	64.3	45.1 - 79.8
<b>Maternal education</b>						
<High school	5753	87.1	81.7 - 91.1	5480	83.0	75.6 - 88.5
High school diploma	16240	78.2	71.4 - 83.7	15124	72.8	65.8 - 78.8
Some college	10852	78.1	71.2 - 83.7	8964	64.5	56.9 - 71.4
College graduate	21508	70.2	65.0 - 75.0	17161	56.0	50.6 - 61.3
<b>Household poverty level</b>						
≤100% FPL	12917	83.3	76.8 - 88.3	12078	77.9	71.0 - 83.6
>100% FPL	41469	73.5	69.8 - 76.9	34684	61.5	57.5 - 65.3
<b>Maternal nativity</b>						
Non-US-born	15232	78.8	74.7 - 82.4	14354	74.3	70.1 - 78.1
US-born	39123	74.4	70.3 - 78.2	32377	61.6	57.1 - 65.9
<b>Prenatal care payer source</b>						
Non-Medicaid	31097	71.3	67.0 - 75.3	25253	57.9	53.3 - 62.4
Medicaid	25053	83.1	78.3 - 87.1	21273	76.7	71.5 - 81.3

## PREGNANCY

### HIV testing during pregnancy: Refusal

Among mothers who were offered an HIV test during their pregnancy, 11.6% indicated that they had refused the test (Figure 31).

**Figure 31. Proportion of mothers who refused HIV testing during pregnancy (among those offered), 2009 MA PRAMS**



**Table 13. Prevalence of mothers who refused HIV testing during pregnancy (among those offered), by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Refused HIV test		
	Weighted n	Weighted %	95% CL
<b>Total</b>	6313	11.6	9.2 - 14.6
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	5390	15.4	11.7 - 20.0
Black, non-Hispanic	320	5.8	3.6 - 9.3
Hispanic	232	2.6	1.3 - 5.0
Asian, non-Hispanic	371	9.3	6.1 - 14.0
Other, non-Hispanic	0	0	
<b>Maternal age (years)</b>			
<20		<i>Insufficient data to report</i>	
20-29	2371	9.1	6.1 - 13.5
30-39	3712	16.2	11.9 - 21.5
40+		<i>Insufficient data to report</i>	
<b>Maternal education</b>			
<High school	191	3.3	0.6 - 15.6
High school diploma	800	4.9	2.3 - 10.5
Some college	1599	14.7	9.3 - 22.5
College graduate	3723	17.3	12.9 - 22.9
<b>Household poverty level</b>			
≤100% FPL	5722	4.6	2.0 - 10.4
>100% FPL	591	13.8	10.8 - 17.5
<b>Maternal nativity</b>			
Non-US-born	461	3.0	2.0 - 4.6
US-born	5852	15.0	11.6 - 19.1
<b>Prenatal care payer source</b>			
Non-Medicaid	4971	16.0	12.3 - 20.5
Medicaid	1342	5.8	3.2 - 10.3

Insufficient data to report: less than five mothers.

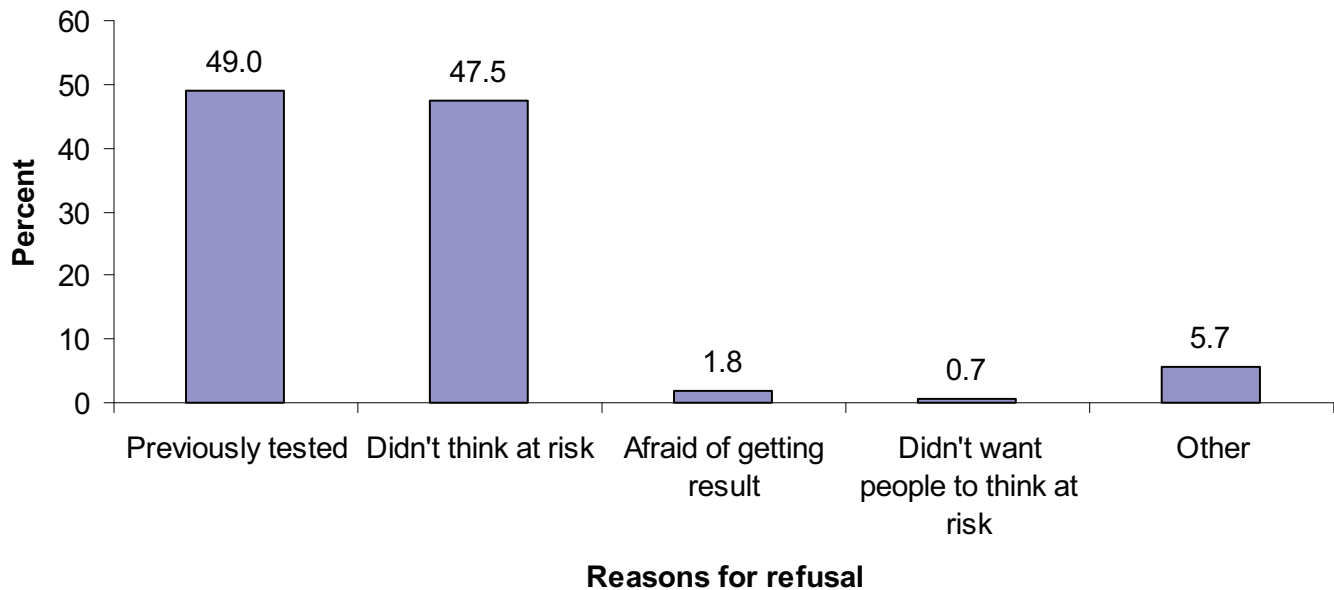
## PREGNANCY

### HIV testing during pregnancy: Refusal

Among mothers who were offered an HIV test during their pregnancy, 11.6% indicated that they had refused the test. White, non-Hispanic mothers were more likely to refuse an HIV test than Black, non-Hispanic mothers (15.4% and 5.8%, respectively). Refusal rates were higher among those who were not on Medicaid (16.0%), born in the United States (15.0%), or those living above 100% of the FPL (13.8%) (Table 13).

Among those refusing an HIV test, the most common reasons for refusal included having been previously tested (49.0%), and not believing oneself to be at risk for HIV (47.5%) (Figure 32).

**Figure 32. Reasons for refusing HIV testing during pregnancy\*, 2009 MA PRAMS**



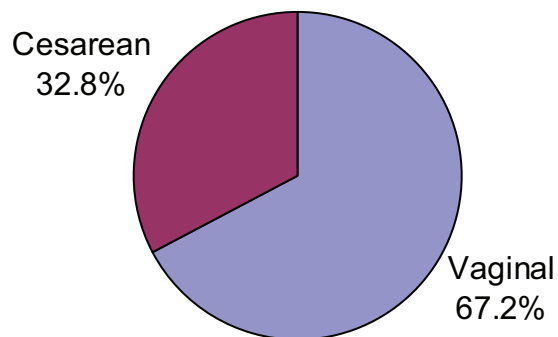
*\*Reasons for refusing HIV testing during pregnancy are not mutually exclusive.*

## PREGNANCY

### Method of delivery

Massachusetts PRAMS data reflect the national trend of an increasing proportion of births occurring by cesarean delivery (Martin, 2010), a birth where the baby is delivered through an incision in the abdomen. Over a third of mothers reported that their most recent baby was delivered by cesarean (Figure 33).

**Figure 33. Proportion of births by vaginal and cesarean delivery, 2009 MA PRAMS**



#### **Massachusetts mothers say...**

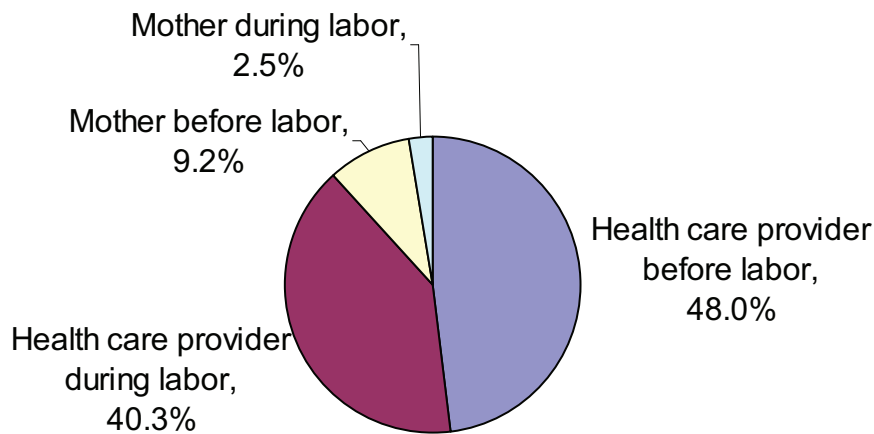
*"I feel like there needs to be more information for women who had a c-section, how to take care of yourself after c-section, and to prevent having a c-section. I know that there is a lot of pressure on doctors during pregnancy and [women need] more education around c-section vs. vaginal birth; more support for vaginal birth."*

## PREGNANCY

### Cesarean delivery request

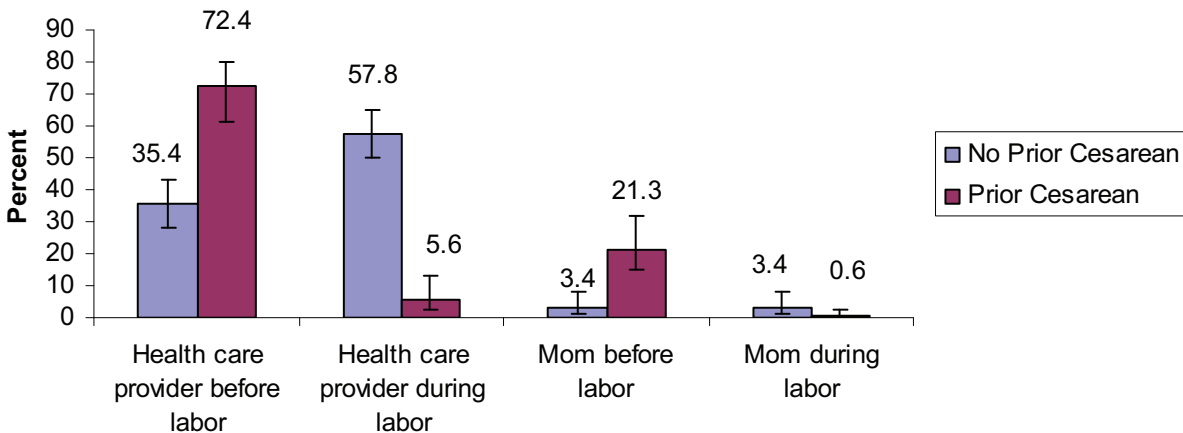
The Massachusetts PRAMS survey asks mothers to report who made the decision for a cesarean and when (*i.e.* before or during labor). Among those who delivered by cesarean, about 88% reported that it was the decision of a health care provider (HCP) to perform the cesarean, either before or during labor. About 9% of mothers who had a cesarean reported that it was their idea to have a cesarean before labor, and 2.5% said it was their decision during labor (Figure 34).

**Figure 34. Source of cesarean delivery request, among mothers who delivered by cesarean, 2009 MA PRAMS**



When examined by prior cesarean history, relatively few mothers with no prior cesarean reported that they (as opposed to the HCP) requested a cesarean delivery before labor (3.4%), whereas 21.3% of those with a prior cesarean said that it was their idea before labor began (Figure 35).

**Figure 35. Source of cesarean delivery request among mothers who delivered by cesarean, by prior-birth history, 2009 MA PRAMS**

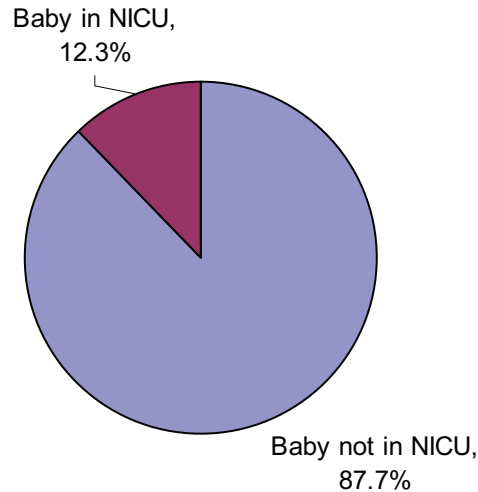


# PREGNANCY

## Infant birth hospitalization

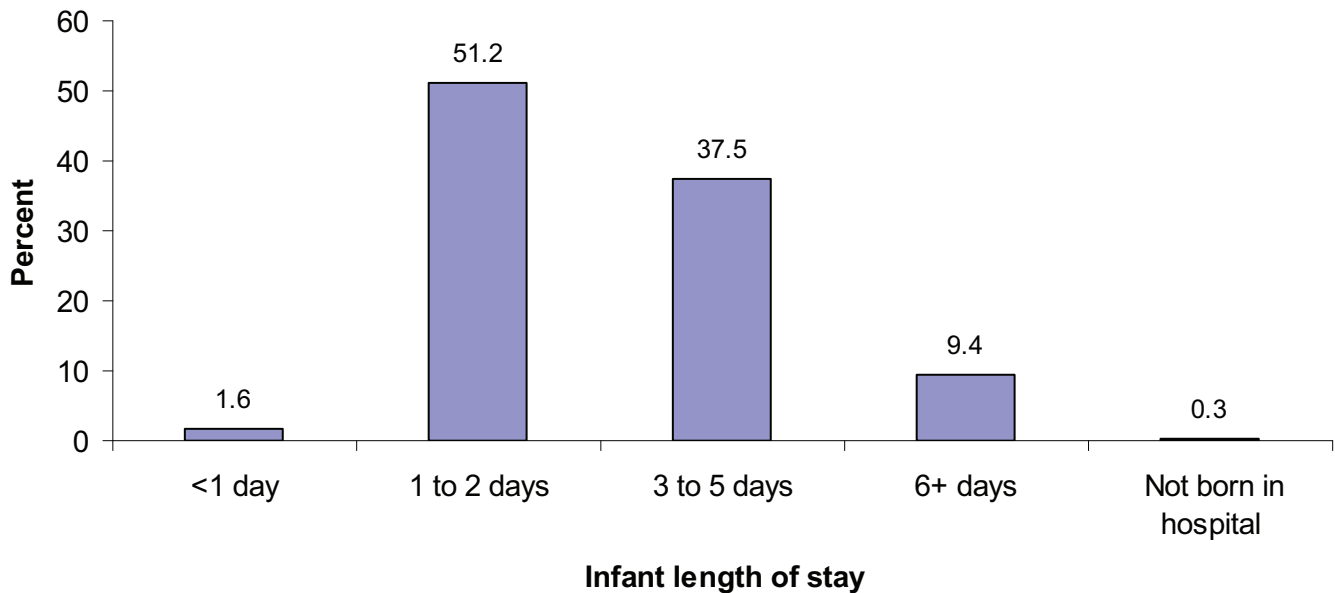
About 12% of mothers reported that their babies spent time in a neonatal intensive care unit (NICU) (Figure 36).

**Figure 36. Proportion of infants staying in the neonatal intensive care unit, 2009 MA PRAMS**



A stay of 1-2 days in the hospital was most frequently reported (51.2%) followed by 37.5% staying for 3 to 5 days. A reported 9.4% of infants stayed in for 6 or more days (Figure 37).

**Figure 37. Infant length of hospital stay at birth, 2009 MA PRAMS**

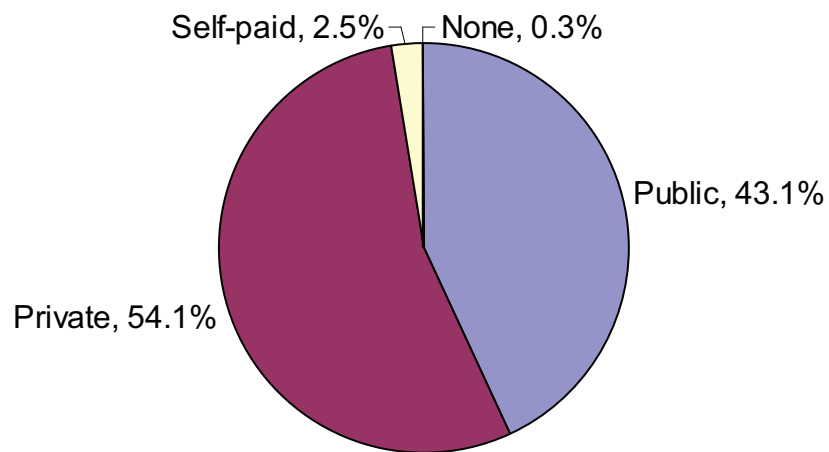


## PREGNANCY

### Delivery payer source

The majority of births were paid for by private health insurance. However, about 43% were paid by a government sponsored insurance (Figure 38).

Figure 38. Prevalence of delivery payment sources, 2009 MA PRAMS



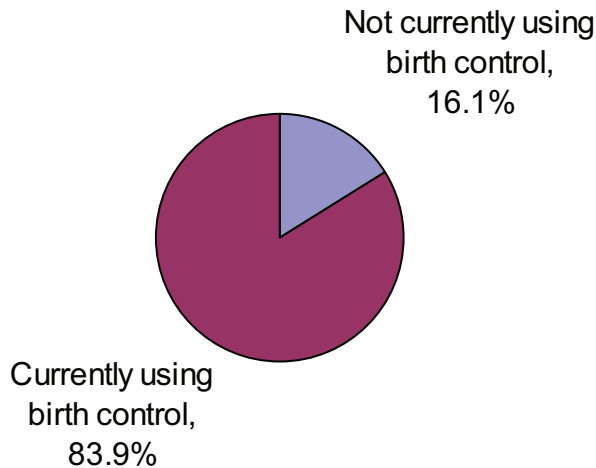


## POST-PARTUM

### Contraception use

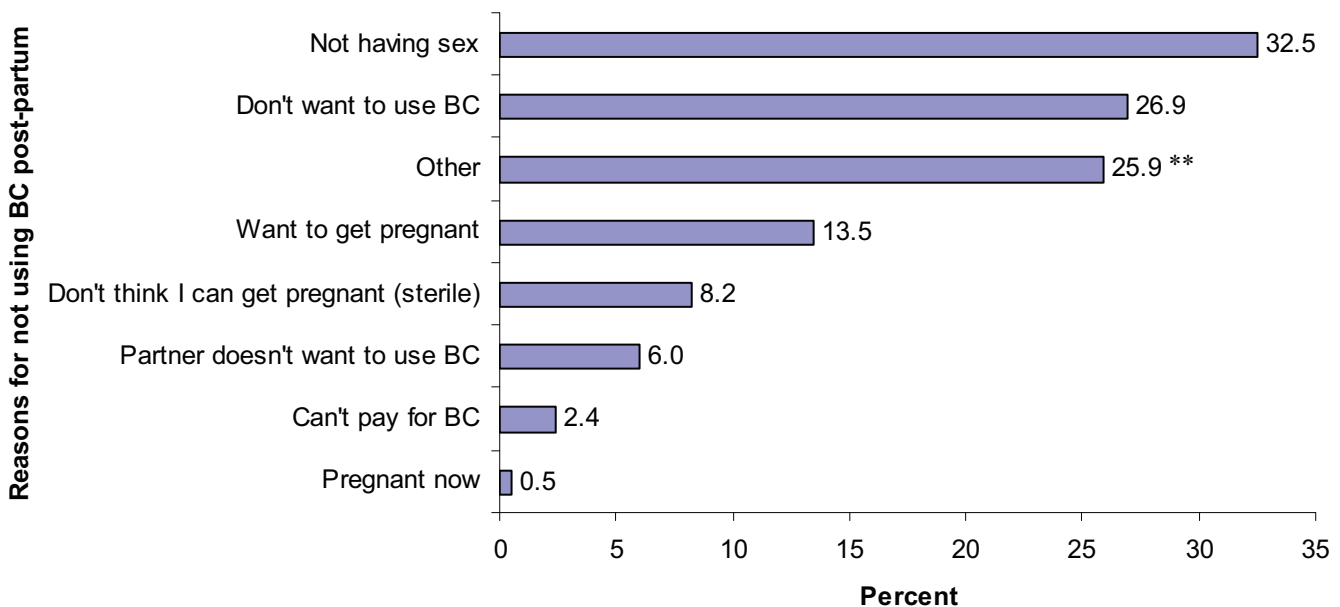
Adequate spacing of pregnancies is important for the health of both mothers and babies. Shorter inter-pregnancy intervals have been associated with adverse birth outcomes including preterm birth, low birth weight, small size for gestational age, and neonatal and infant mortality (Conde-Agudelo, 2006). About 84% of mothers reported using birth control post-partum (about three months after delivery).

**Figure 39. Proportion of mothers using contraception post-partum, 2009 MA PRAMS**



Among those not using birth control, the most commonly named reasons for not doing so included not having sex (32.5%), not wanting to use birth control (26.9%), and wanting to become pregnant again (13.5%) (Figure 40).

**Figure 40. Reasons for not using contraception post-partum (among those reporting no use)\*, 2009 MA PRAMS**



\*Reasons for not using contraception post-partum are not mutually exclusive.

\*\*A variety of reasons were given such as breastfeeding, lack of time, same-sex marriage, smoking, infertility issue, undecided on the method to use, and side effects from contraception.

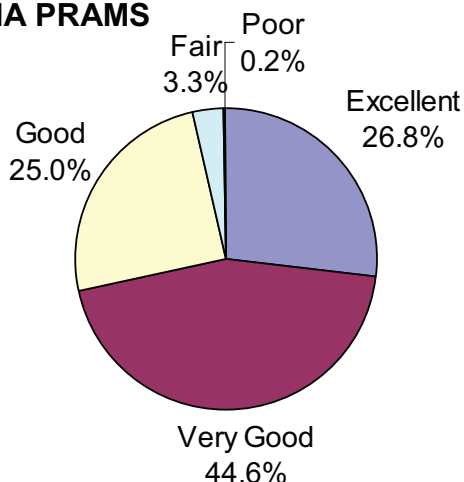
## POST-PARTUM

### Maternal self-rated health

Self-rated health has been suggested to be a valid predictor of morbidity and mortality in adults and a useful tool in assessing the overall well-being of populations (Singh-Manoux, 2006).

Over two-thirds of respondents reported that their health was “very good” or “excellent,” and another 25.0% reported that their health was “good” (Figure 41). Overall, 3.5% reported their health to be fair or poor.

**Figure 41. Maternal self-rated health post-partum, 2009 MA PRAMS**



Reported fair/poor self-rated health was most prevalent among Hispanic mothers (9.1%), or those who were living at or below 100% of the FPL (8.2%) (Table 14).

**Table 14. Prevalence of fair/poor self-rated health, by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	% Fair/poor self-rated health		
	Weighted n	Weighted %	95% CL
<b>Total</b>	2529	3.6	2.5 - 5.0
<b>Maternal race/ethnicity</b>			
White, non-Hispanic		<i>Insufficient data to report</i>	
Black, non-Hispanic	149	2.3	1.1 - 4.7
Hispanic	973	9.1	6.6 - 12.5
Asian, non-Hispanic		<i>Insufficient data to report</i>	
Other, non-Hispanic	0	0	
<b>Maternal age (years)</b>			
<20		<i>Insufficient data to report</i>	
20-29	1297	4.0	2.5 - 6.3
30-39	871	<i>Insufficient data to report</i>	
40+		<i>Insufficient data to report</i>	
<b>Maternal education</b>			
<High school	531	8.1	5.1 - 12.7
High school diploma		<i>Insufficient data to report</i>	
Some college		<i>Insufficient data to report</i>	
College graduate		<i>Insufficient data to report</i>	
<b>Household poverty level</b>			
≤100% FPL	1256	8.2	5.1 - 12.9
>100% FPL	1273	2.3	1.4 - 3.8
<b>Maternal nativity</b>			
Non-US-born	827	4.3	3.0 - 6.1
US-born	1702	3.3	2.0 - 5.3

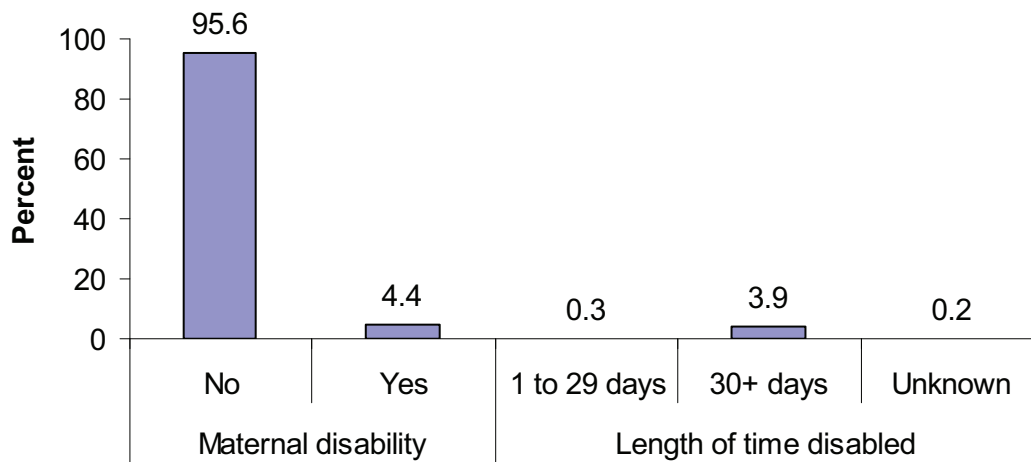
Insufficient data to report: less than five mothers.

## POST-PARTUM

### Maternal disability status

Women with disabilities are more likely to report poor health, chronic conditions, and unmet health care needs (Chevarley, 2006, Thierry, 1998). About 4% of mothers reported having a disability. Almost all of them reported that they had the disability for more than 30 days (Figure 42).

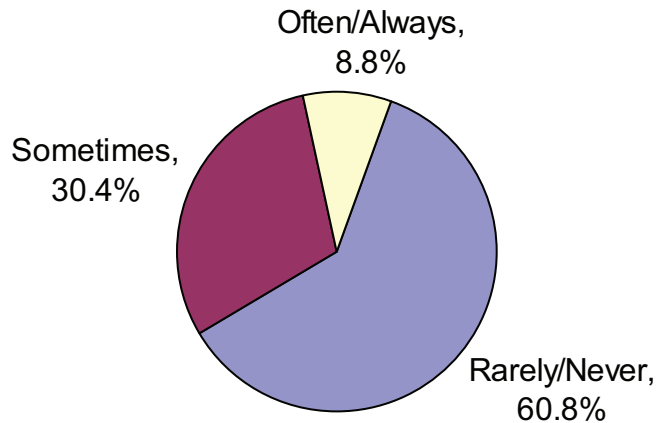
**Figure 42. Prevalence of mothers with a disability and length of time disabled, 2009 MA PRAMS**



## POST-PARTUM

### Post-partum depressive symptoms: feeling down, depressed, or sad

**Figure 43. Frequency of feeling depressed post-partum, 2009 MA PRAMS**



Post-partum depression (PPD) can be a serious and debilitating condition for new mothers, affecting both maternal and infant health, and potentially interfering with infant development and mother-child bonding (Logsdon, 2006).

About 30% of mothers reported “sometimes” feeling down, depressed, or sad, and 8.8% reported “often” or “always” having these feelings (Figure 43).

The occurrence of “often” or “always” feeling down, depressed, or sad was most prevalent among those living at or below 100% of the FPL (14.1%) (Table 15).

**Table 15. Prevalence of “often” or “always” feeling down, depressed, or sad post-partum, by socio-demographic characteristics, 2009 MA PRAMS**

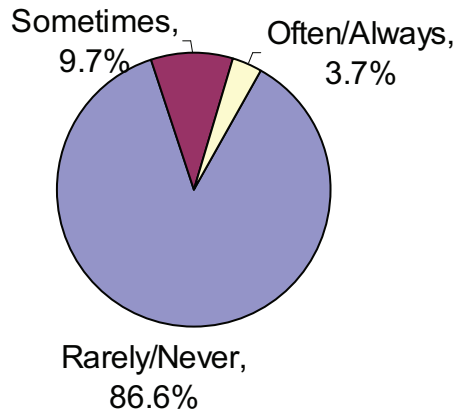
Characteristic	Weighted n	Weighted %	95% CL
<b>Total</b>	6024	8.8	7.1 - 10.9
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	3287	7.0	4.8 - 10.0
Black, non-Hispanic	760	12.7	9.2 - 17.2
Hispanic	1602	16.6	13.0 - 21.0
Asian, non-Hispanic	292	5.7	3.5 - 9.2
Other, non-Hispanic	<i>Insufficient data to report</i>		
<b>Maternal age (years)</b>			
<20	<i>Insufficient data to report</i>		
20-29	3418	11.0	8.2 - 14.6
30-39	1873	6.0	4.0 - 8.9
40+	<i>Insufficient data to report</i>		
<b>Maternal education</b>			
<High school	552	9.6	6.0 - 14.9
High school diploma	2177	11.2	7.5 - 16.3
Some college	1415	10.5	6.9 - 15.7
College graduate	1847	6.2	4.1 - 9.3
<b>Household poverty level</b>			
≤100% FPL	2084	14.1	10.0 - 19.5
>100% FPL	3940	7.3	5.5 - 9.7
<b>Maternal nativity</b>			
Non-US-born	1367	8.0	6.1 - 10.4
US-born	4626	9.0	6.8 - 11.7

Insufficient data to report: less than five mothers.

## POST-PARTUM

### Post-partum depressive symptoms: feeling hopeless

**Figure 44. Proportion of mothers often/always feeling hopeless post-partum, 2009 MA PRAMS**



Measures of feeling hopeless are used in assessing the presence of depression (Whooley, 1997).

PRAMS asks how often mothers have felt hopeless in the post-partum period.

Overall, 3.7% of mothers reported that they “often” or “always” felt hopeless and 9.7% of mothers reported “sometimes” felt hopeless in the post-partum period (Figure 44).

Similar patterns were observed with regard to feeling hopeless as with feeling down, depressed, or sad, with the most prevalent group of mothers reporting “often” or “always” feeling hopeless being among those living at or below 100% of the FPL (8.3%) (Table 16).

**Table 16. Prevalence of “often” or “always” felt hopeless, by socio-demographic characteristics, 2009 MA PRAMS**

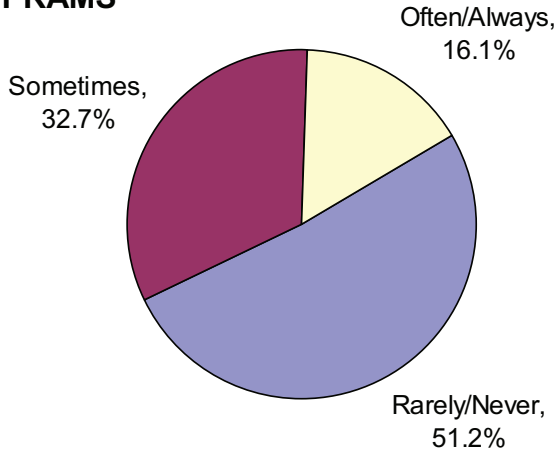
Characteristic	Weighted n	Weighted %	95% CL
<b>Total</b>	2519	3.7	2.7 - 5.2
<b>Maternal race/ethnicity</b>			
White, non-Hispanic		<i>Insufficient data to report</i>	
Black, non-Hispanic	407	6.9	4.4 - 10.6
Hispanic	763	8.2	5.6 - 11.7
Asian, non-Hispanic		<i>Insufficient data to report</i>	
Other, non-Hispanic		<i>Insufficient data to report</i>	
<b>Maternal age (years)</b>			
<20		<i>Insufficient data to report</i>	
20-29	1195	3.9	2.4 - 6.2
30-39	1109	3.6	2.1 - 6.2
40+		<i>Insufficient data to report</i>	
<b>Maternal education</b>			
<High school		<i>Insufficient data to report</i>	
High school diploma	1329	6.9	4.2 - 11.3
Some college		<i>Insufficient data to report</i>	
College graduate		<i>Insufficient data to report</i>	
<b>Household poverty level</b>			
≤100% FPL	1216	8.3	5.4 - 12.7
>100% FPL	1303	2.4	1.5 - 4.0
<b>Maternal nativity</b>			
Non-US-born	959	5.8	3.6 - 9.1
US-born	1529	3.0	1.9 - 4.7

Insufficient data to report: less than five mothers.

## POST-PARTUM

### Post-partum depressive symptoms: feeling slowed down

**Figure 45. Proportion of mothers often/always feeling slowed down post-partum, 2009 MA PRAMS**



PRAMS asks how often mothers have felt slowed down in the post-partum period.

Overall, 16.1% of mothers reported that they “often” or “always” felt slowed down and 32.7% reported “sometimes” felt slowed down in the post-partum period (Figure 45).

No significant patterns were observed with regard to “often” or “always” feeling slowed down (Table 17). However, a much greater proportion of mothers reported “often” or “always” feeling slowed down (16.1%) than “often” or “always” feeling depressed (8.8%) and “often” or “always” feeling hopeless (3.7%) (Figures 43-45).

**Table 17. Prevalence of “often” or “always” felt slowed down, by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Weighted n	Weighted %	95% CL
<b>Total</b>	10925	16.1	13.5 - 19.1
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	7967	17.1	13.6 - 21.3
Black, non-Hispanic	748	12.5	9.1 - 16.9
Hispanic	1569	16.8	13.2 - 21.3
Asian, non-Hispanic	515	9.9	6.9 - 14.0
Other, non-Hispanic	<i>Insufficient data to report</i>		
<b>Maternal age (years)</b>			
<20	650	<i>Insufficient data to report</i>	
20-29	4912	16.1	12.4 - 20.7
30-39	5077	16.4	12.7 - 20.9
40+	<i>Insufficient data to report</i>		
<b>Maternal education</b>			
<High school	474	8.4	5.1 - 13.5
High school diploma	3864	20.3	14.7 - 27.3
Some college	1648	12.5	8.4 - 18.2
College graduate	4938	16.5	12.8 - 21.0
<b>Household poverty level</b>			
≤100% FPL	2952	20.5	14.9 - 27.6
>100% FPL	7973	14.9	12.1 - 18.2
<b>Maternal nativity</b>			
Non-US-born	1919	11.5	8.6 - 15.2
US-born	8975	17.6	14.3 - 21.3

Insufficient data to report: less than five mothers.

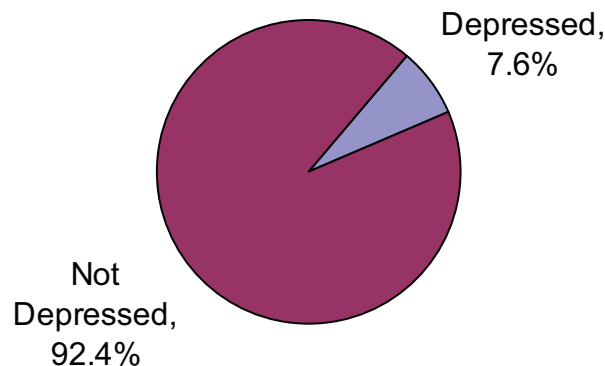
## POST-PARTUM

### Post-partum depression: combined 3 depressive symptoms

CDC recommends summing parts a, b & c of the depression question together (depressed, hopeless and slowed down) and using a cut off of  $\geq 10$  as an indication of post-partum depressive symptoms (always=5, often=4, sometimes=3, rarely=2, never=1).

Please note: Using this algorithm, the post-partum depressive symptoms estimates will likely differ from the estimates generated with the Phase 5 questions (2007-2008 data). Because of the use of different questions to assess post-partum depressive symptoms in Phases 5 and 6, we do not recommend comparing prevalence of post-partum depressive symptoms between phases. However, the questions stayed the same within the phase, and therefore, it is fine to compare prevalence estimates of post-partum depressive symptoms between 2007 and 2008.

**Figure 46. Proportion of mothers with post-partum depression (a combined scoring of depressed, hopeless, and slowed down  $\geq 10$ ), 2009 MA PRAMS**



#### **Massachusetts mothers say...**

*"My care during my pregnancy was excellent. I do believe that health care providers should focus a little bit more on the symptoms of post-partum depression. After my pregnancy, I experienced chills, shakes, [and] panic attacks that I had never suffered from before. It would have been easier to cope with these things had I known what to look for and expect."*

## POST-PARTUM

### Post-partum depression: combined 3 depressive symptoms

Similar patterns were observed as with the depression symptoms presented individually, with the most prevalent group of mothers who reported frequent experiences of depressive symptoms among those living at or below 100% of the FPL (13.3%) (Table 18).

**Table 18. Prevalence of mothers with post-partum depression (a combined scoring of depressed, hopeless, and slowed down  $\geq 10$ ), by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	% Post-partum Depression (Combined Measure)			
	Weighted n	Weighted %	95% CL	
<b>Total</b>	5463	7.6	6.0 -	9.6
<b>Maternal race/ethnicity</b>				
White, non-Hispanic	3067	6.4	4.3 -	9.4
Black, non-Hispanic	717	11.0	7.9 -	15.1
Hispanic	1210	11.2	8.4 -	14.9
Asian, non-Hispanic	366	6.3	4.1 -	9.7
Other, non-Hispanic	<i>Insufficient data to report</i>			
<b>Maternal age (years)</b>				
<20	397	9.6	4.0 -	21.2
20-29	2953	9.0	6.5 -	12.3
30-39	1941	6.0	4.0 -	8.9
40+	<i>Insufficient data to report</i>			
<b>Maternal education</b>				
<High school	<i>Insufficient data to report</i>			
High school diploma	2535	12.2	8.2 -	17.7
Some college	658	4.7	2.9 -	7.6
College graduate	1870	6.1	4.1 -	9.1
<b>Household poverty level</b>				
$\leq 100\%$ FPL	2068	13.3	9.3 -	18.9
$> 100\%$ FPL	3395	6.0	4.4 -	8.2
<b>Maternal nativity</b>				
Non-US-born	1113	5.8	4.3 -	7.7
US-born	4319	8.2	6.1 -	10.9

Insufficient data to report: less than five mothers.



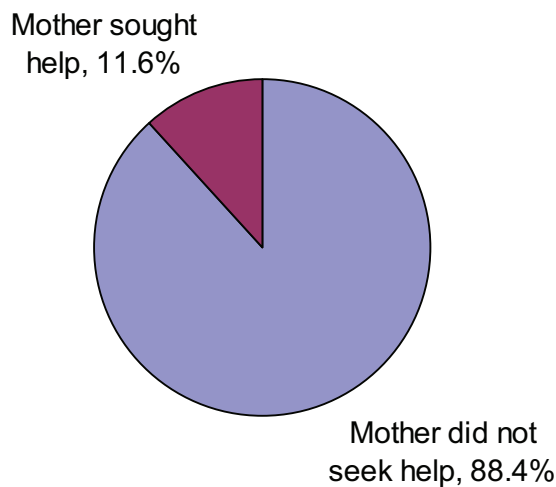
## POST-PARTUM

### Post-partum depression: help-seeking

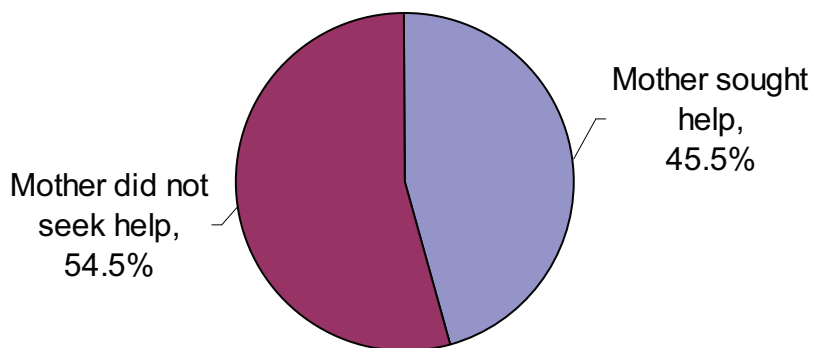
Among all mothers regardless of their frequency of feeling depressed or loss of interests reported, 11.6% of them sought help for depression in the time since their babies had been born (Figure 47).

Among mothers reporting frequent experiences of depressive symptoms ( $\geq 10$  in the score of the combined measure of depressive symptoms), only about 45% reported that they had sought help for depression (Figure 48).

**Figure 47. Proportion of mothers seeking help for post-partum depression (among all mothers regardless of depressive symptoms' frequencies), 2009 MA PRAMS**



**Figure 48. Proportion of mothers seeking help for post-partum depression (only among those reporting  $\geq 10$  in the score of the combined measure of depressive symptoms), 2009 MA PRAMS**



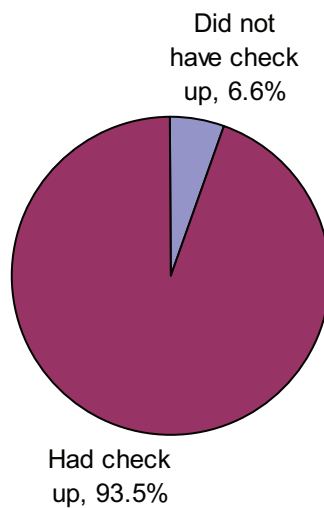
## POST-PARTUM

### Post-partum health care

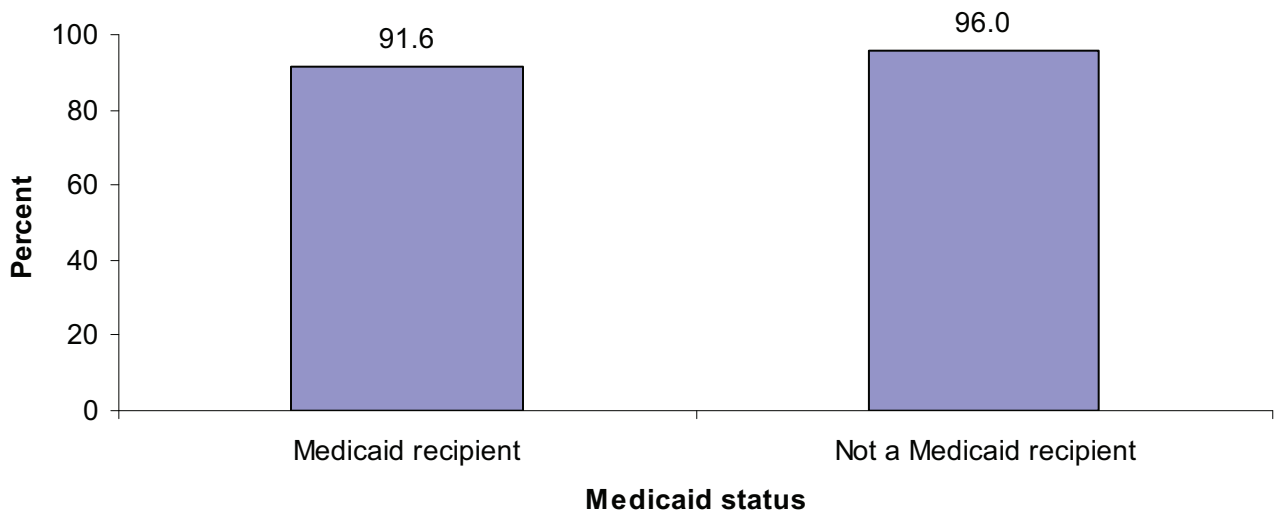
Most mothers, almost 94%, had received a post-partum checkup at the time of the survey (Figure 49). Most respondents returned the survey between 2 and 4 months post-partum.

However, the prevalence of post-partum care differed by insurance status. All mothers reported a source of health insurance post-partum. Among those insured by Medicaid, 91.6% had received a post partum visit, compared with 96% of mothers who had a non-Medicaid source of insurance (Figure 50). The difference by insurance status was significant.

**Figure 49. Proportion of mothers receiving a post-partum checkup by the time of survey, 2009 MA PRAMS**



**Figure 50. Proportion of mothers receiving a post-partum checkup, by insurance type, 2009 MA PRAMS**

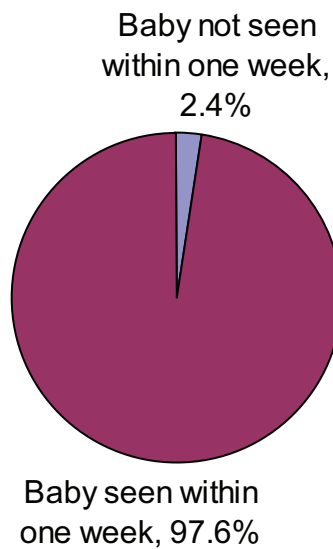


## POST-PARTUM

### Infant health care

The American Academy of Pediatrics (AAP) recommends routine well-baby visits for infants at 1 week of age (AAP, 2000). Most infants (97.6%) were reported to have been seen by a health care provider within one week of leaving the hospital (Figure 51).

**Figure 51. Proportion of infants seen by health care provider within one week of leaving birth hospital, 2009 MA PRAMS**

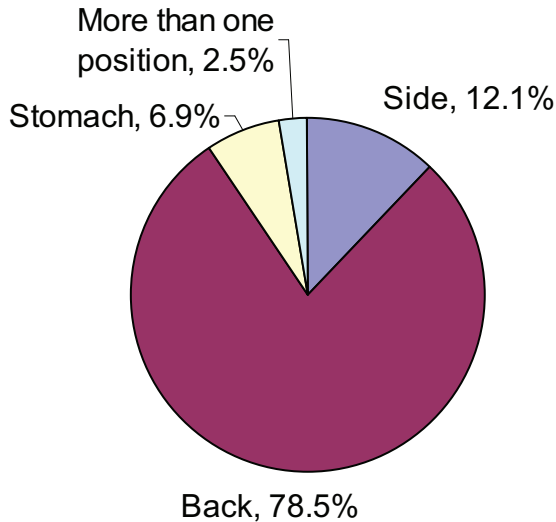


## POST-PARTUM

### Infant sleep position

Placing infants to sleep on their backs (supine position) has been associated with lowered risk of Sudden Infant Death Syndrome (SIDS), and the practice has been promoted widely to families (AAP, 1992).

**Figure 52. Prevalence of infant sleep positions, 2009 MA PRAMS**



The majority of PRAMS babies, 78.5%, were reported most often to be positioned on their backs for sleep (Figure 52).

Mothers least likely to place their babies on their backs for sleep were those living at or below 100% of the FPL (70.6%), Hispanic (67.0%), or Black, non-Hispanic (55.2%) (Table 19).

**Table 19. Prevalence of placing infant to sleep on back, by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Weighted n	Weighted	
		%	95% CL
<b>Total</b>	54226	78.6	75.8 - 81.2
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	38931	83.9	79.8 - 87.4
Black, non-Hispanic	3424	55.2	49.4 - 61.0
Hispanic	6781	67.0	61.9 - 71.7
Asian, non-Hispanic	4514	82.3	77.1 - 86.5
Other, non-Hispanic	577	72.7	54.2 - 85.7
<b>Maternal age (years)</b>			
<20	2286	68.0	56.5 - 77.6
20-29	24240	76.7	72.1 - 80.8
30-39	25755	81.6	77.3 - 85.2
40+	1945	79.5	62.8 - 89.9
<b>Maternal education</b>			
<High school	4337	69.9	61.4 - 77.2
High school diploma	13951	72.3	65.6 - 78.0
Some college	9957	74.2	67.6 - 79.9
College graduate	25948	86.4	82.3 - 89.7
<b>Household poverty level</b>			
≤100% FPL	10382	70.6	64.4 - 76.2
>100% FPL	43844	80.8	77.5 - 83.7
<b>Maternal nativity</b>			
Non-US-born	13787	74.2	70.1 - 78.0
US-born	40439	80.2	76.5 - 83.5

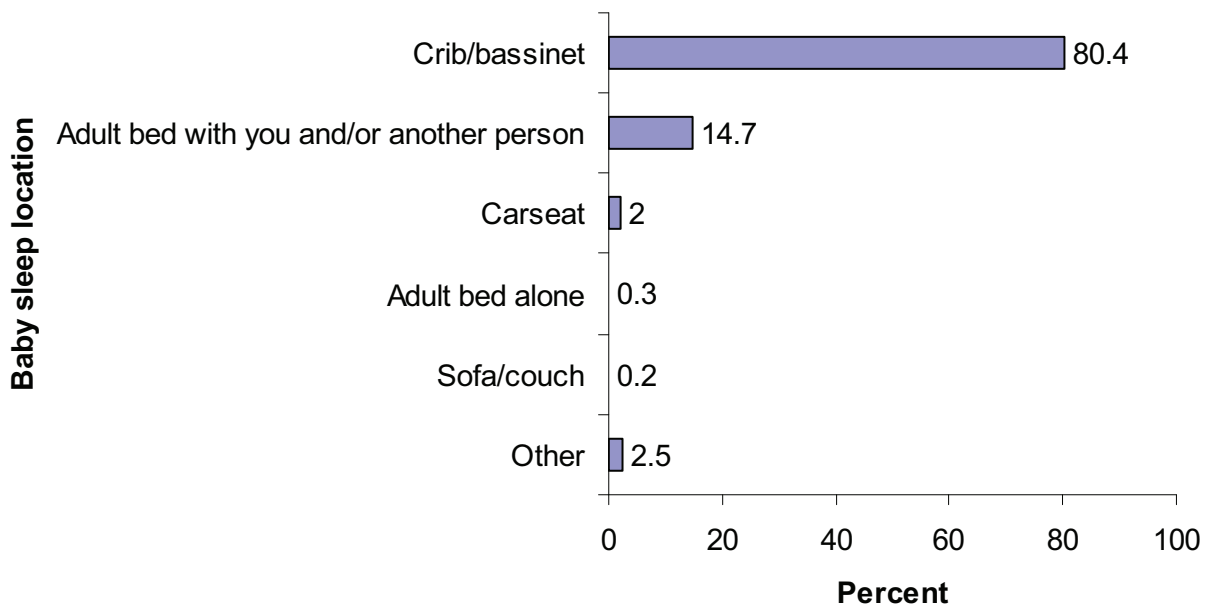
## POST-PARTUM

### Infant sleep location

The practice of “bed-sharing” or infants sharing a bed with someone else, has been associated with some infant deaths (American Academy of Pediatrics, 1992). However, the evidence on the safety of bed-sharing is mixed, with some findings indicating that the risk is differential depending on parental use of substances such as tobacco while some argue that the benefits of breastfeeding, facilitated by bed-sharing, may outweigh the risks (Horsley, 2007).

Over 80% of babies were reported usually sleeping in a crib or bassinet. About 15% shared an adult bed with at least one other person (Figure 53).

**Figure 53. Prevalence of infant sleep locations, 2009 MA PRAMS**



#### **Massachusetts mothers say...**

*“I start the evening by putting the baby down on his back in a basinet. I nurse him during the night and put him back. But, at the last feeding of the night (5am - ish). I usually put the baby down next to me in the bed b/c I'm too tired to put him back in the basinet. I feel ok about co-sleeping half the night, it feels like the best of both worlds to me!”*

## POST-PARTUM

### Infant sleep location

The practice of bed-sharing differed widely by race/ethnicity, and was most commonly reported by Asian, non-Hispanic (29.5%) and Black, non-Hispanic mothers (25.3%). Patterns by other demographic groups were less apparent (Table 20).

**Table 20. Prevalence of infant sleeping on an adult bed with other person(s), by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Weighted n	Weighted %	95% CL
<b>Total</b>	10071	14.7	12.4 - 17.2
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	5553	12.0	9.0 - 15.8
Black, non-Hispanic	1541	25.3	20.5 - 30.8
Hispanic	1332	13.0	9.9 - 16.9
Asian, non-Hispanic	1593	29.5	24.2 - 35.3
Other, non-Hispanic	<i>Insufficient data to report</i>		
<b>Maternal age (years)</b>			
<20	807	21.4	12.0 - 35.3
20-29	3644	11.7	8.9 - 15.3
30-39	5323	16.9	13.4 - 21.1
40+	<i>Insufficient data to report</i>		
<b>Maternal education</b>			
<High school	917	14.7	9.3 - 22.3
High school diploma	3213	16.5	11.8 - 22.5
Some college	2447	18.6	13.7 - 24.9
College graduate	3494	11.7	8.9 - 15.3
<b>Household poverty level</b>			
≤100% FPL	2288	15.3	11.1 - 20.8
>100% FPL	7784	14.5	11.9 - 17.4
<b>Maternal nativity</b>			
Non-US-born	3105	16.8	13.8 - 20.2
US-born	6967	13.9	11.1 - 17.2

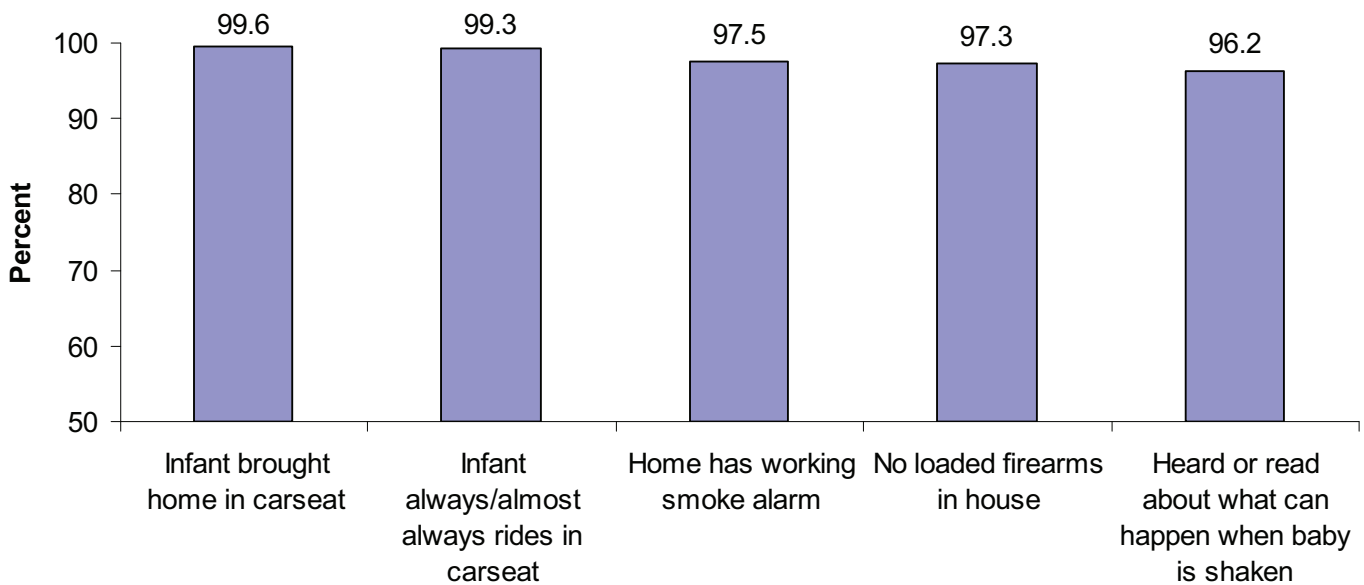
Insufficient data to report: less than five mothers.

## POST-PARTUM

### Infant Safety

Almost all mothers reported that their infants were brought home from the hospital in a car seat (99.6%) and always/almost always rode in a car seat (99.3%), had a working smoke alarm in the home (97.5%), and did not keep loaded firearms in the home (97.3%). About 96% of mothers reported being aware of what can happen if a baby is shaken (Figure 54).

Figure 54. Prevalence of infant safety practices, 2009 MA PRAMS



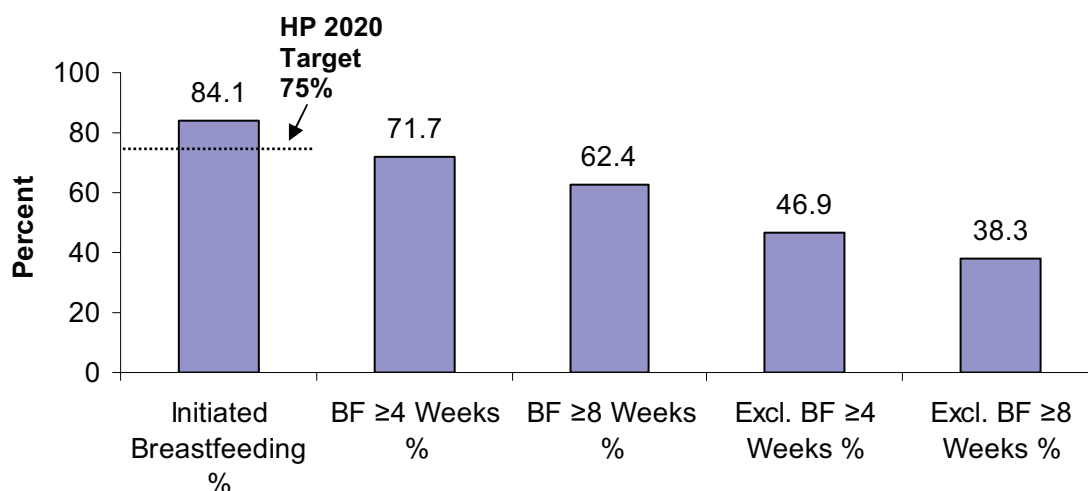
## POST-PARTUM

### Breastfeeding

Except when it is medically contraindicated, exclusive breastfeeding for the first six months of life is recognized as the best and most complete source of nourishment for most infants, associated with lowered risk of infections and certain chronic diseases, and has substantial benefits for many mothers as well (Gartner, 2005).

About 84% of mothers reported initiating breastfeeding, a figure which exceeds the Healthy People 2020 goal of 81.9% in the early postpartum period (US-DHHS, 2010). Almost 72% reported any breastfeeding (exclusive, or with complementary foods) for at least four weeks, and 62.4% for at least eight weeks. Exclusive breastfeeding was less prevalent, with 46.9% of mothers reporting exclusive breastfeeding for at least four weeks, and 38.3% reporting exclusive breastfeeding for at least eight weeks.

**Figure 55. Prevalence of breastfeeding (BF) initiation, duration, and exclusivity, all mothers, 2009 MA PRAMS**



#### **Massachusetts mothers say...**

*“The lactation consultant played a major role in the success I had after a few troubled days. The access of consultants or other health care providers to address breastfeeding problems, I believe, plays a major factor in continuation of breastfeeding.”*

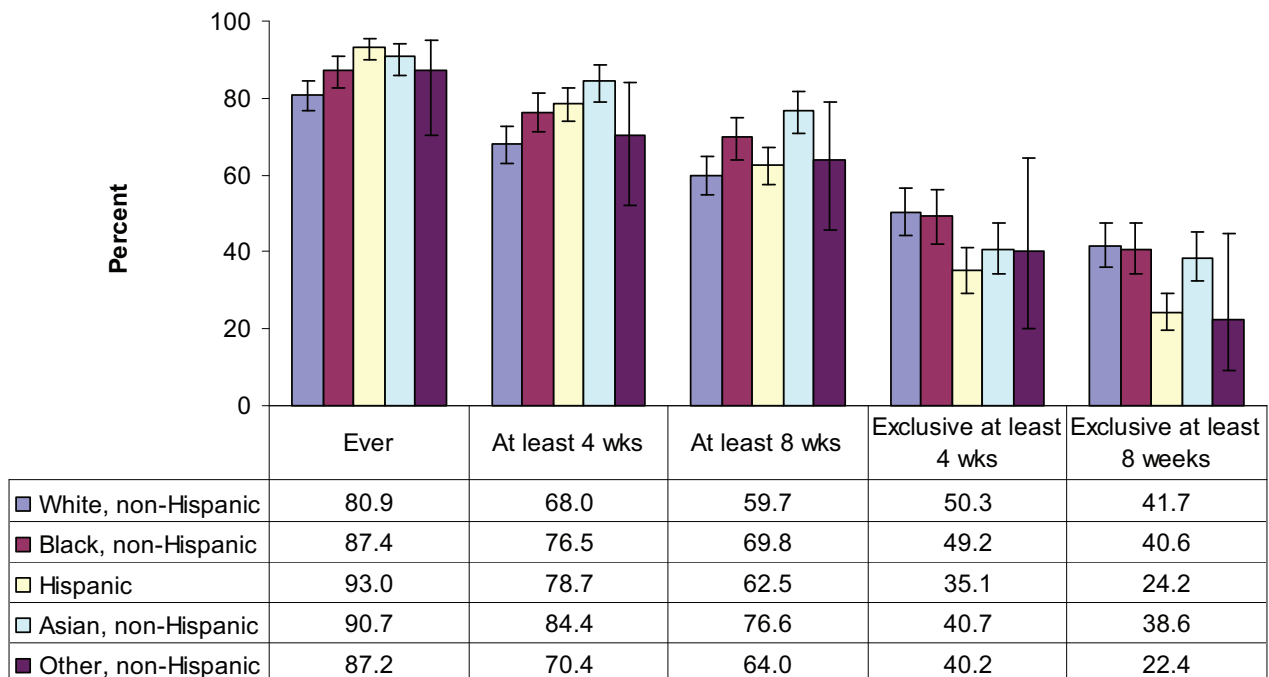


## POST-PARTUM

### Breastfeeding: Differences by race/ethnicity

The prevalence of each of the breastfeeding measures (initiation, overall duration and duration of exclusive breastfeeding) varied by race/ethnicity. The highest rate of breastfeeding initiation was among Hispanic mothers (93.0%) and the highest rates of breastfeeding for the duration of four and eight weeks were among Asian, non-Hispanic mothers, and the lowest among White, non-Hispanic mothers. Hispanic mothers had a lower rate of breastfeeding exclusively at four and eight weeks (35.1% and 24.2%, respectively) compared to White, non-Hispanic mothers (50.3% and 41.7%, respectively) (Figure 56).

**Figure 56. Prevalence of breastfeeding initiation, duration, and exclusivity, by maternal race/ethnicity, 2009 MA PRAMS**

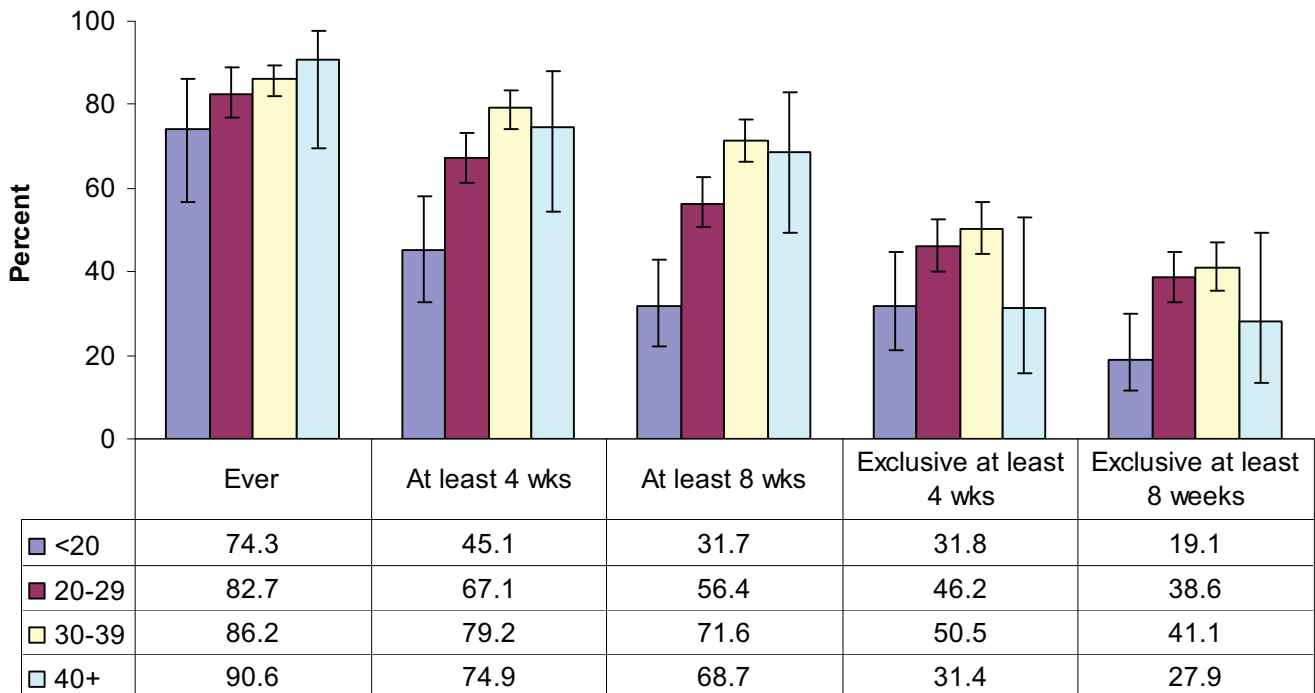


## POST-PARTUM

### Breastfeeding: Differences by age

Increasing maternal age was associated with greater initiation and duration of breastfeeding. Mothers aged 30-39 years or older reported breastfeeding duration to four and eight weeks more than younger age groups (Figure 57).

**Figure 57. Prevalence of breastfeeding initiation, duration, and exclusivity, by maternal age (years), 2009 MA PRAMS**

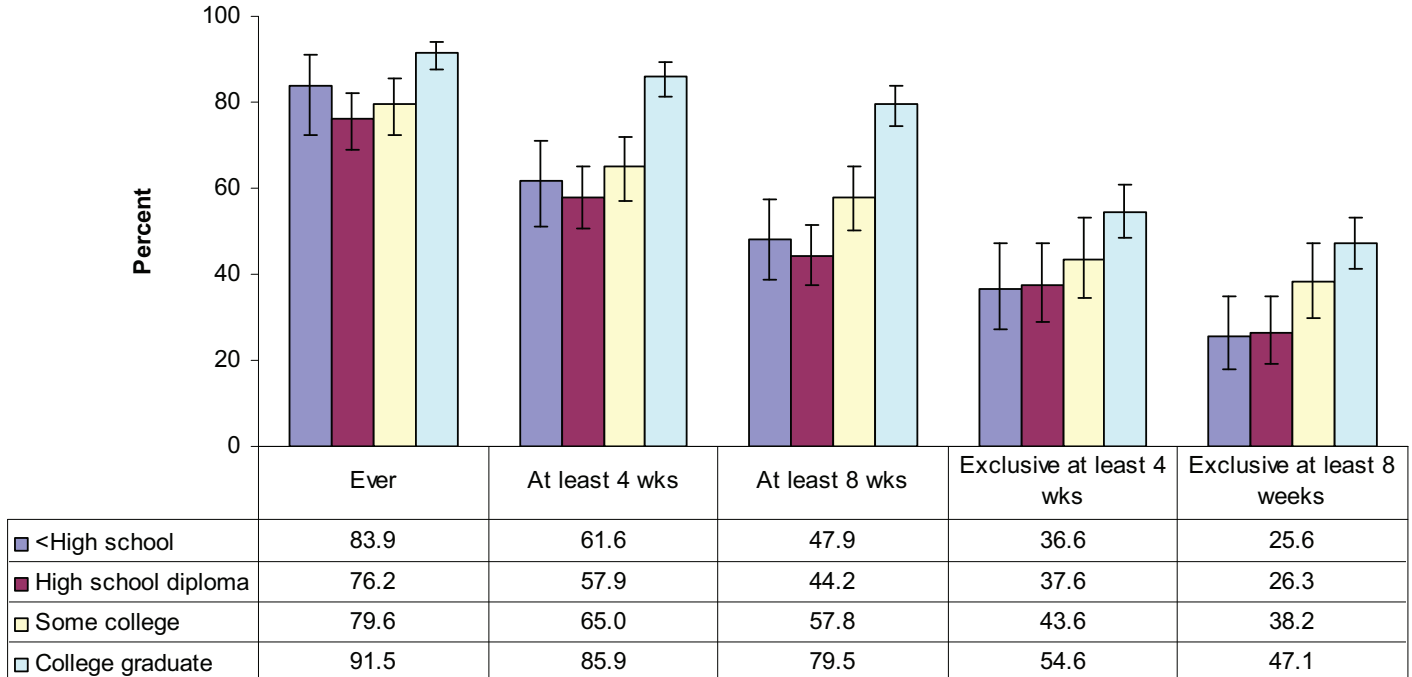


## POST-PARTUM

### Breastfeeding: Differences by education

Breastfeeding initiation and duration to four and eight weeks was positively associated with greater education. However, a less marked association was observed for exclusive breastfeeding (Figure 58).

**Figure 58. Prevalence of breastfeeding initiation, duration, and exclusivity, by maternal education, 2009 MA PRAMS**

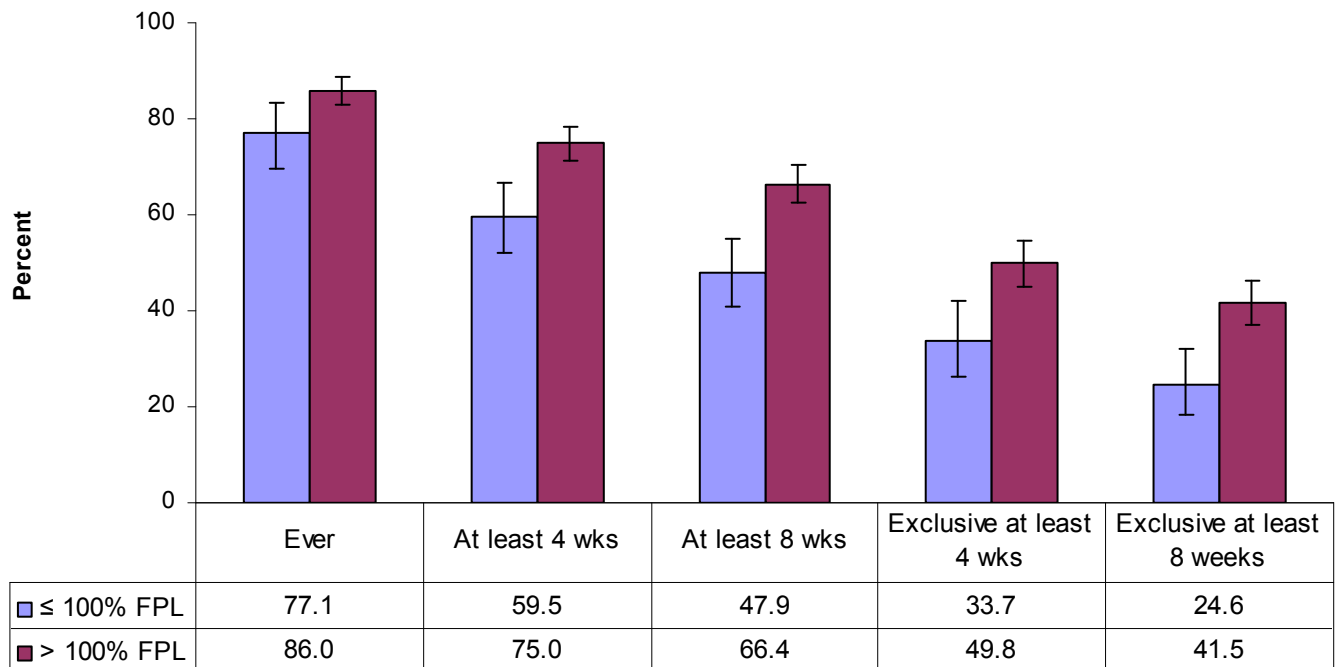


## POST-PARTUM

### Breastfeeding: Differences by FPL

The magnitude of differences in reported breastfeeding by FPL were more significant than other socio-demographic measures. Mothers with household income above 100% of the FPL had higher breastfeeding rates in all categories except in the ever breastfeeding category (Figure 59).

**Figure 59. Prevalence of breastfeeding initiation, duration, and exclusivity, by federal poverty level, 2009 MA PRAMS**

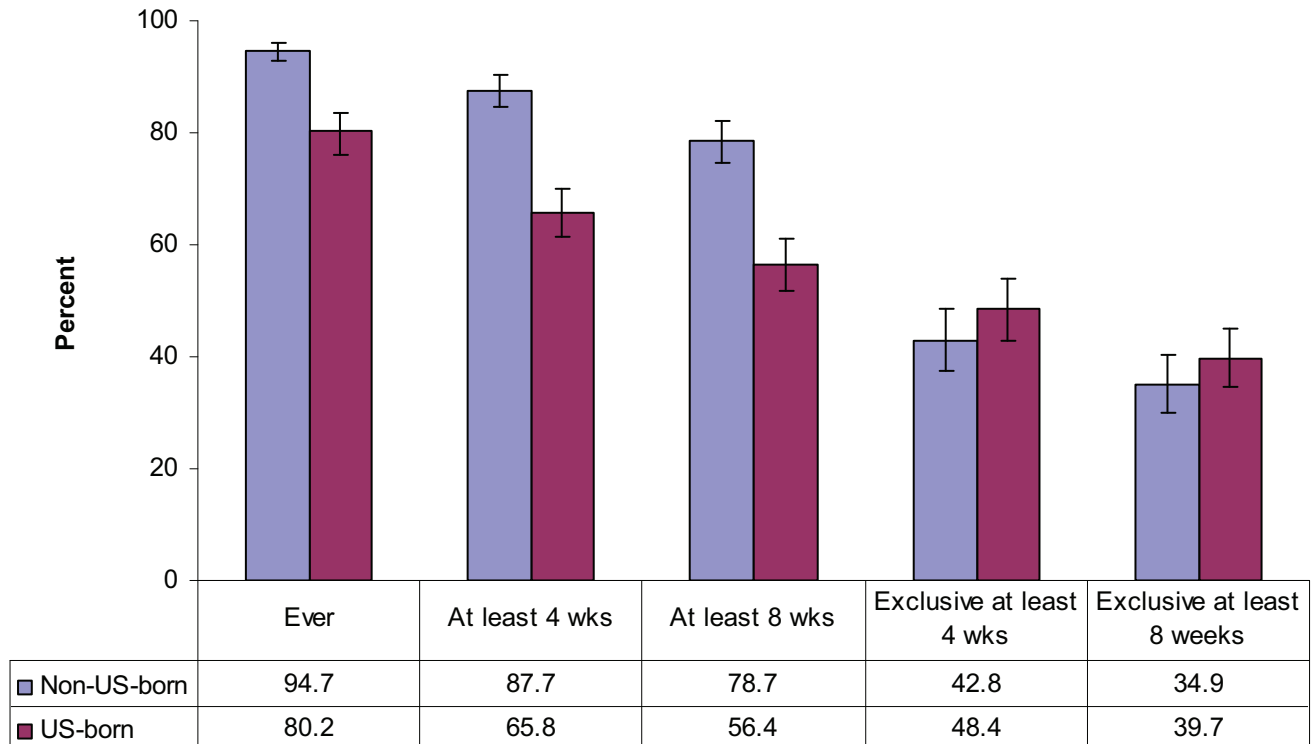


## POST-PARTUM

### Breastfeeding: Differences by maternal nativity

Breastfeeding initiation and duration of any breastfeeding was higher among mothers born outside of the United States than those born in the United States. However, there was no difference in the prevalence of exclusive breastfeeding by maternal nativity (Figure 60).

**Figure 60. Prevalence of breastfeeding initiation, duration, and exclusivity, by maternal nativity, 2009 MA PRAMS**

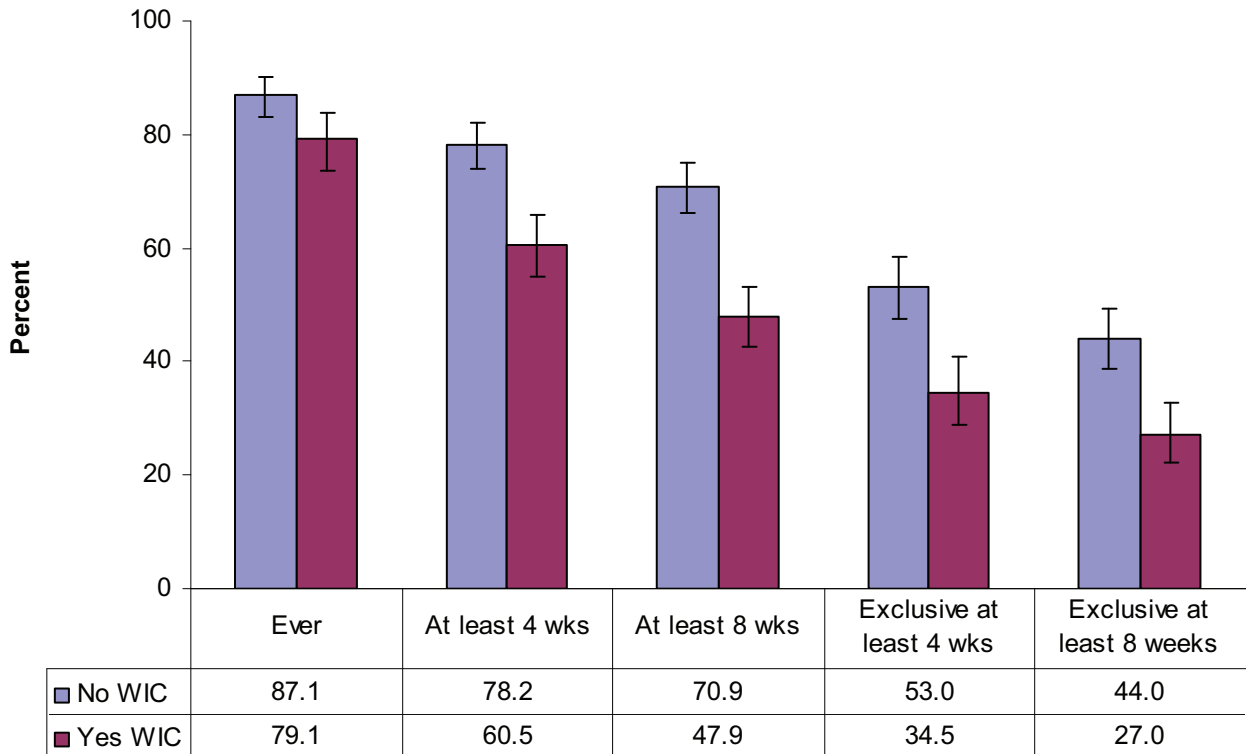


## POST-PARTUM

### Breastfeeding: Differences by WIC participation

Mothers who participated in WIC during pregnancy reported initiating breastfeeding less than those not participating in WIC, though it may not be significant. Larger, significant gaps were seen between the two groups with regard to breastfeeding duration and exclusivity (Figure 61).

**Figure 61. Prevalence of breastfeeding initiation, duration, and exclusivity, by WIC participation during pregnancy, 2009 MA PRAMS**



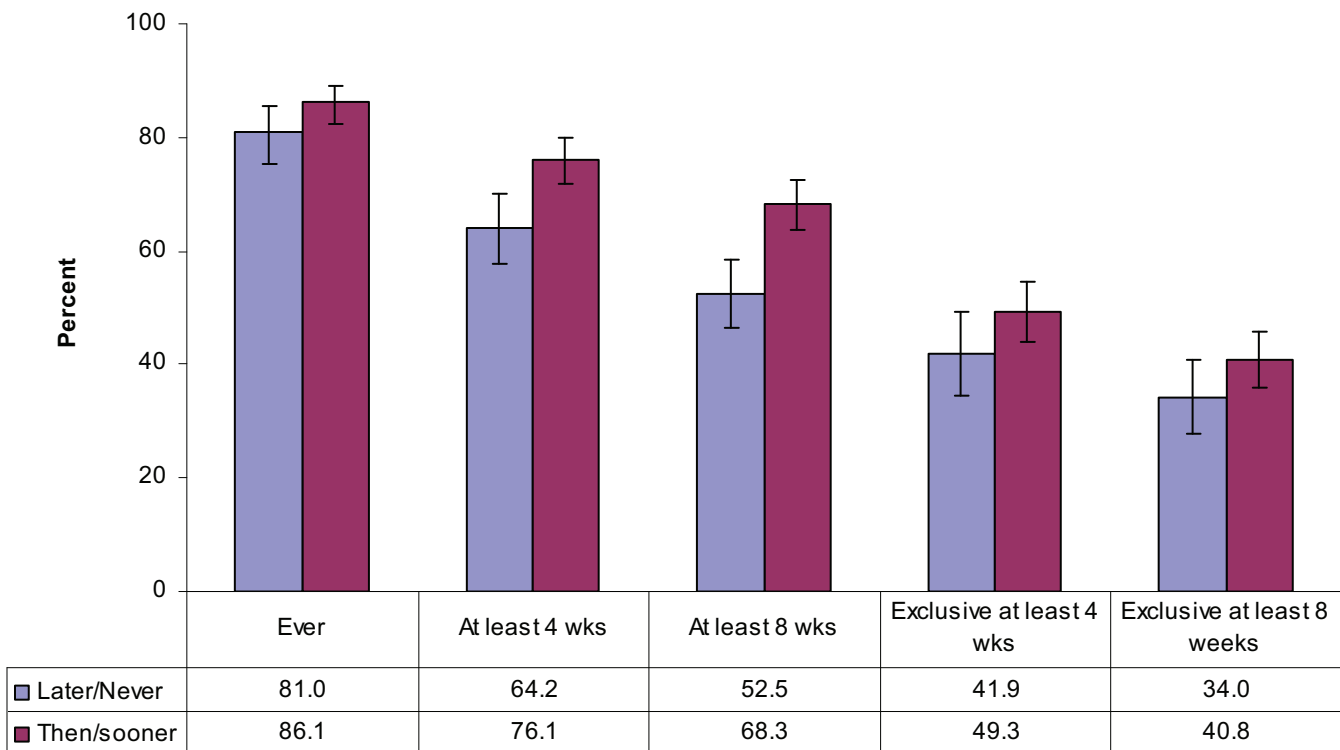
## POST-PARTUM

### Breastfeeding: Differences by pregnancy intention (feelings)

Breastfeeding was also examined in relation to pregnancy intention, or feelings about becoming pregnant right before the pregnancy occurred.

Those reporting that they had wanted the pregnancy “then” or “sooner” (intended) were more likely to have initiated breastfeeding and continued for longer than those reporting that they had wanted the pregnancy “later” or “never” (unintended). Mothers who intended to be pregnant reported higher prevalence of any breastfeeding at four and eight weeks than those who were unintended (Figure 62).

**Figure 62. Prevalence of breastfeeding initiation, duration, and exclusivity, by feelings about this pregnancy, 2009 MA PRAMS**



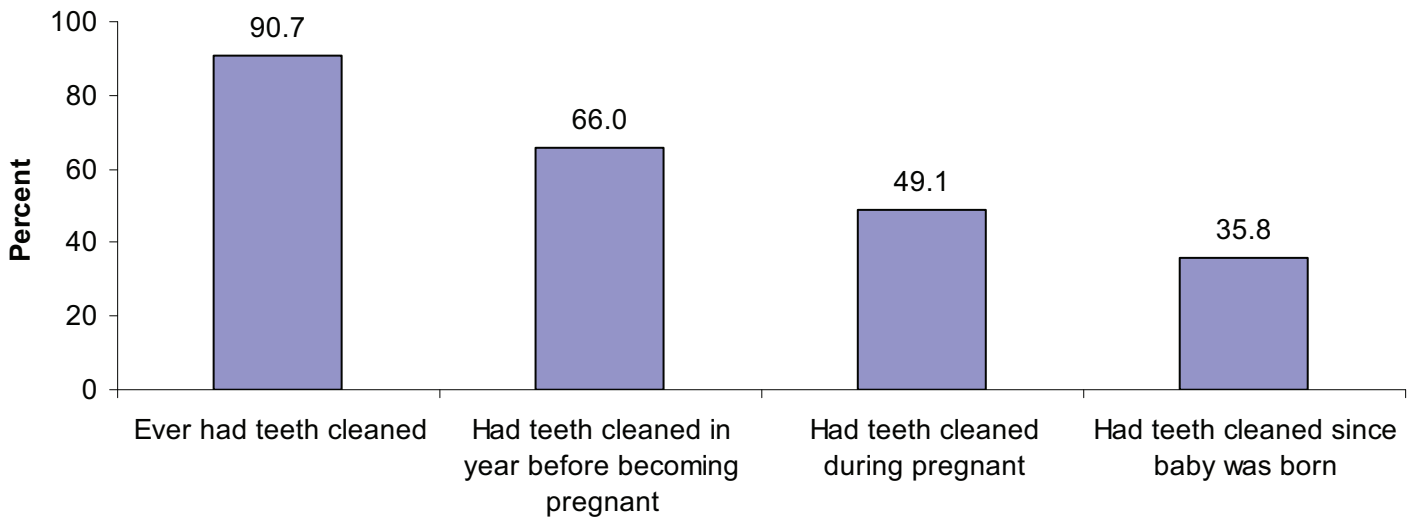
# ORAL HEALTH

## Oral health care

Maintaining good oral health during pregnancy is important to both mother and child. Hormonal changes during pregnancy can cause changes to the gums which may necessitate care. Untreated oral infections or periodontal disease may be associated with preterm delivery (Jeffcoat, 2001).

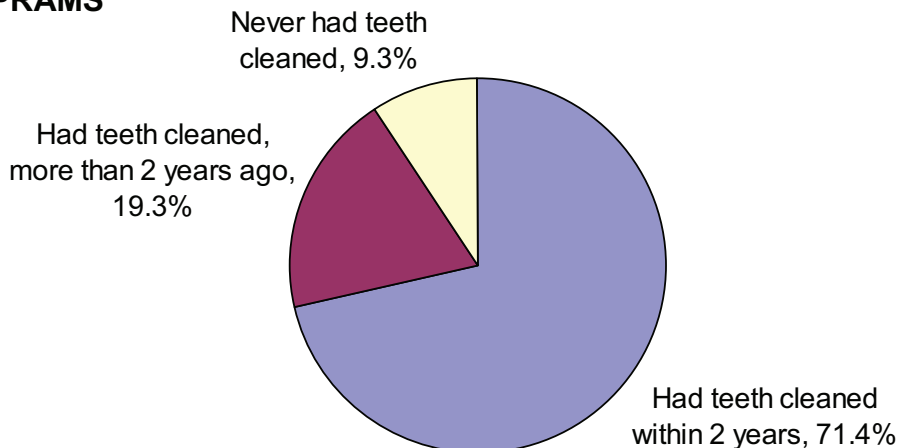
Most mothers (90.7%) reported that they had ever had their teeth cleaned. Another 66.0% had received a cleaning in the year before becoming pregnant, 49.1% during their most recent pregnancy, and 35.8% since the baby was born (Figure 63).

**Figure 63. Prevalence of teeth cleaning, ever, before, during, and after pregnancy, 2009 MA PRAMS**



About 71% of mothers indicated that they had received oral health care at least once during the time between the year before becoming pregnant and when they completed the survey. However, about 19% reported that their last cleaning visit had occurred before the year prior to pregnancy — in most cases at least 2 years ago (Figure 64).

**Figure 64. Prevalence of teeth cleaning, never, ever but not recently, or recently, 2009 MA PRAMS**





## ORAL HEALTH

### Oral health care

The prevalence of teeth cleaning (ever) varied by socio-demographic characteristics, with those living at or below 100% of the FPL (86.4%), those with less than a high school education (76.2%), those born outside of the United States (76.1%), or Asian, non-Hispanic mothers (70.9%) being the least likely to report ever having had a cleaning (Table 21).

**Table 21. Prevalence of teeth cleaning (ever), by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Ever had teeth cleaned		
	Weighted n	Weighted %	95% CL
<b>Total</b>	65237	90.7	89.1 - 92.1
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	46448	96.6	94.2 - 98.0
Black, non-Hispanic	5439	83.5	78.8 - 87.4
Hispanic	8625	80.1	75.7 - 83.8
Asian, non-Hispanic	4093	70.9	65.1 - 76.0
Other, non-Hispanic	633	77.9	59.3 - 89.5
<b>Maternal age (years)</b>			
<20	3345	80.7	69.6 - 88.4
20-29	29733	90.3	87.9 - 92.3
30-39	29945	92.4	90.0 - 94.3
40+	2213	89.5	94.9 - 96.0
<b>Maternal education</b>			
<High school	5030	76.2	69.2 - 82.0
High school diploma	18374	88.4	84.4 - 91.6
Some college	12628	90.8	86.5 - 93.9
College graduate	29172	95.3	93.3 - 96.7
<b>Household poverty level</b>			
≤100% FPL	13398	86.4	82.3 - 89.7
>100% FPL	51838	91.9	90.0 - 93.4
<b>Maternal nativity</b>			
Non-US-born	14707	76.1	72.2 - 79.6
US-born	50498	96.0	94.2 - 97.3

### **Massachusetts mothers say...**

*“Before you get pregnant, [you] should always get a dental check-up.”*

## ORAL HEALTH

### Oral health care

The prevalence of teeth cleaning 12 months before pregnancy and during pregnancy varied by socio-demographic characteristics, with those living at or below 100% of the FPL (55.2%), or Black, non-Hispanic mothers (53.7%) being the least likely to report having teeth cleaned 12 months before pregnancy. Those living at or below 100% of the FPL (39.7%), those born outside of the United States (35.8%), or Black, non-Hispanic mothers (32.0%) were the least likely to report having teeth cleaned during pregnancy (Table 22).

**Table 22. Prevalence of teeth cleaning 12 months before pregnancy and during pregnancy, by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Teeth cleaned 12 months before pregnancy			Teeth cleaned during pregnancy		
	Weighted n	Weighted %	95% CL	Weighted n	Weighted %	95% CL
<b>Total</b>	47106	66.0	62.6 - 69.2	35315	49.1	45.6 - 52.6
<b>Maternal race/ethnicity</b>						
White, non-Hispanic	33190	69.5	64.6 - 74.0	26732	55.6	50.6 - 60.6
Black, non-Hispanic	3480	53.7	48.0 - 59.4	2084	32.0	27.0 - 37.5
Hispanic	6598	62.3	57.3 - 67.1	4136	38.4	33.7 - 43.4
Asian, non-Hispanic	3273	56.9	50.9 - 62.6	2049	35.5	30.1 - 41.2
Other, non-Hispanic	563	69.4	51.0 - 83.1	314	38.7	23.8 - 56.1
<b>Maternal age (years)</b>						
<20	2606	66.5	52.5 - 78.0	1269	30.6	19.7 - 44.2
20-29	19146	58.7	53.5 - 63.8	13837	42.0	36.9 - 47.3
30-39	23408	72.2	67.4 - 76.6	18652	57.6	52.4 - 62.6
40+	1945	78.6	60.1 - 90.0	1557	63.0	43.8 - 78.7
<b>Maternal education</b>						
<High school	3662	58.2	48.8 - 67.1	2105	31.9	23.3 - 41.9
High school diploma	10411	50.6	43.5 - 57.7	7122	34.3	27.9 - 41.3
Some college	9633	69.4	62.4 - 75.6	6406	46.1	38.7 - 53.6
College graduate	23366	76.3	71.6 - 80.4	19683	64.3	59.1 - 69.1
<b>Household poverty level</b>						
≤100% FPL	8518	55.2	48.0 - 62.2	6158	39.7	32.9 - 47.0
>100% FPL	38588	69.0	65.2 - 72.5	29157	51.7	47.7 - 55.6
<b>Maternal nativity</b>						
Non-US-born	11888	62.0	57.6 - 66.2	6917	35.8	31.4 - 40.4
US-born	35217	67.5	63.1 - 71.6	28398	54.0	49.5 - 58.4

## SUBSTANCE USE

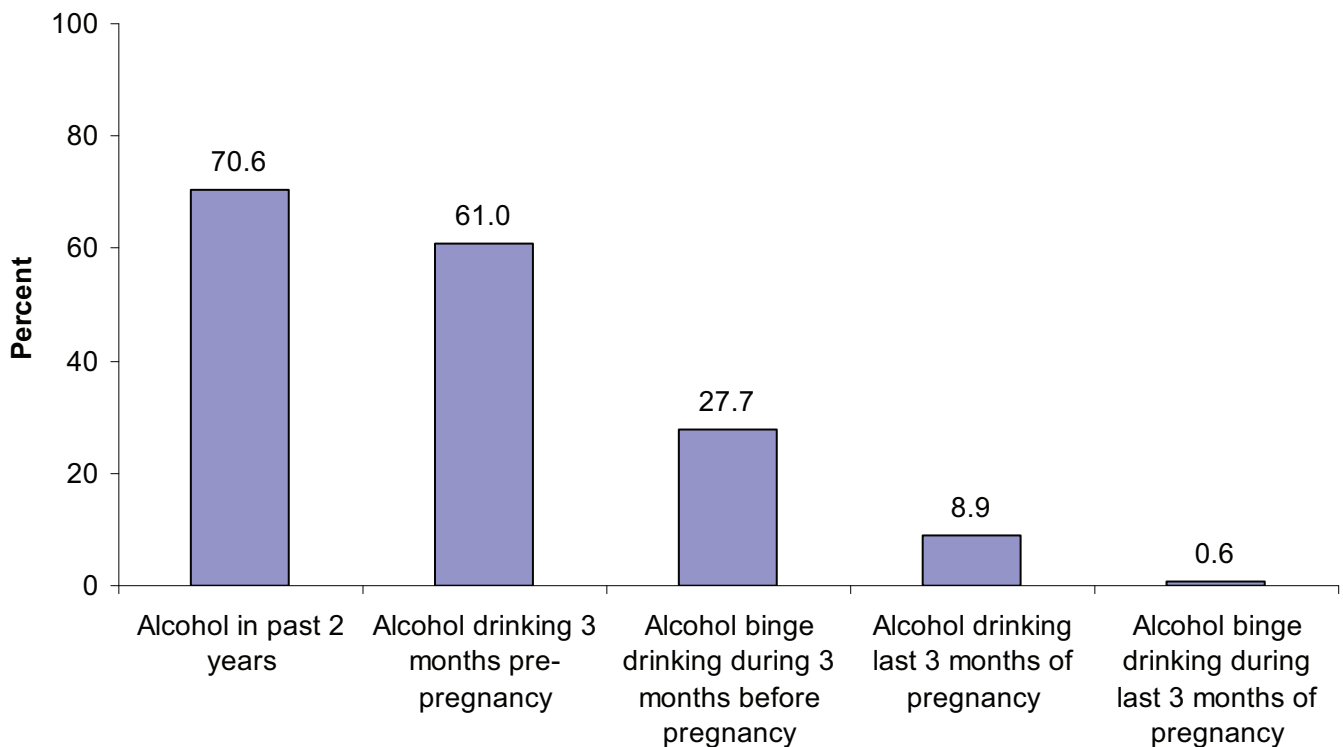
### Alcohol

The PRAMS survey presents a unique opportunity to collect information on substance use during pregnancy. The confidential nature of the data collection method may encourage more mothers to accurately report their substance use.

Excessive alcohol consumption during pregnancy can cause a variety of profound physical and mental disorders in the fetus, known as Fetal Alcohol Spectrum Disorders (FASD). While the hazards of heavy drinking during pregnancy are well known, no amount of alcohol during pregnancy has been established as safe for the fetus (Sokol, 2003).

Most mothers (70.6%) reported ever drinking alcohol in the past 2 years, 61.0% reported drinking alcohol in the three months prior to becoming pregnant and another 27.7% reported alcohol binge drinking (drinking more than 4 drinks in one sitting) in the 3 months before becoming pregnant. About 8.9% reported drinking any alcohol in the last three months of pregnancy, and less than one percent of mothers reported any alcohol binge drinking during the last 3 months of pregnancy (Figure 65).

**Figure 65. Prevalence of maternal alcohol consumption prior to and during pregnancy, 2009 MA PRAMS**



## SUBSTANCE USE

### Alcohol

Higher prevalence of alcohol consumption during the last 3 months of pregnancy was observed among 30-39 years old mothers than 20-29 years old mothers (11.8% vs. 5.2%) (Table 23). Analysis was limited by small cell sizes.

**Table 23. Prevalence of maternal alcohol consumption in the last three months of pregnancy, by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Any drinking in last 3 months of pregnancy		
	Weighted n	Weighted %	95% CL
<b>Total</b>	6269	8.9	7.1 - 11.2
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	4940	10.5	7.9 - 13.9
Black, non-Hispanic	341	5.4	3.4 - 8.5
Hispanic	663	6.3	4.3 - 9.3
Asian, non-Hispanic	292	5.3	3.2 - 8.5
Other, non-Hispanic	<i>Insufficient data to report</i>		
<b>Maternal age (years)</b>			
<20	<i>Insufficient data to report</i>		
20-29	1667	5.2	3.5 - 7.7
30-39	3747	11.8	8.7 - 15.8
40+	<i>Insufficient data to report</i>		
<b>Maternal education</b>			
<High school	<i>Insufficient data to report</i>		
High school diploma	<i>Insufficient data to report</i>		
Some college	1047	7.7	4.7 - 12.6
College graduate	4417	14.6	11.0 - 19.1
<b>Household poverty level</b>			
≤100% FPL	<i>Insufficient data to report</i>		
>100% FPL	5619	10.2	7.9 - 13.0
<b>Maternal nativity</b>			
Non-US-born	1465	7.8	5.2 - 11.4
US-born	4804	9.3	7.1 - 12.3

Insufficient data to report: less than five mothers.

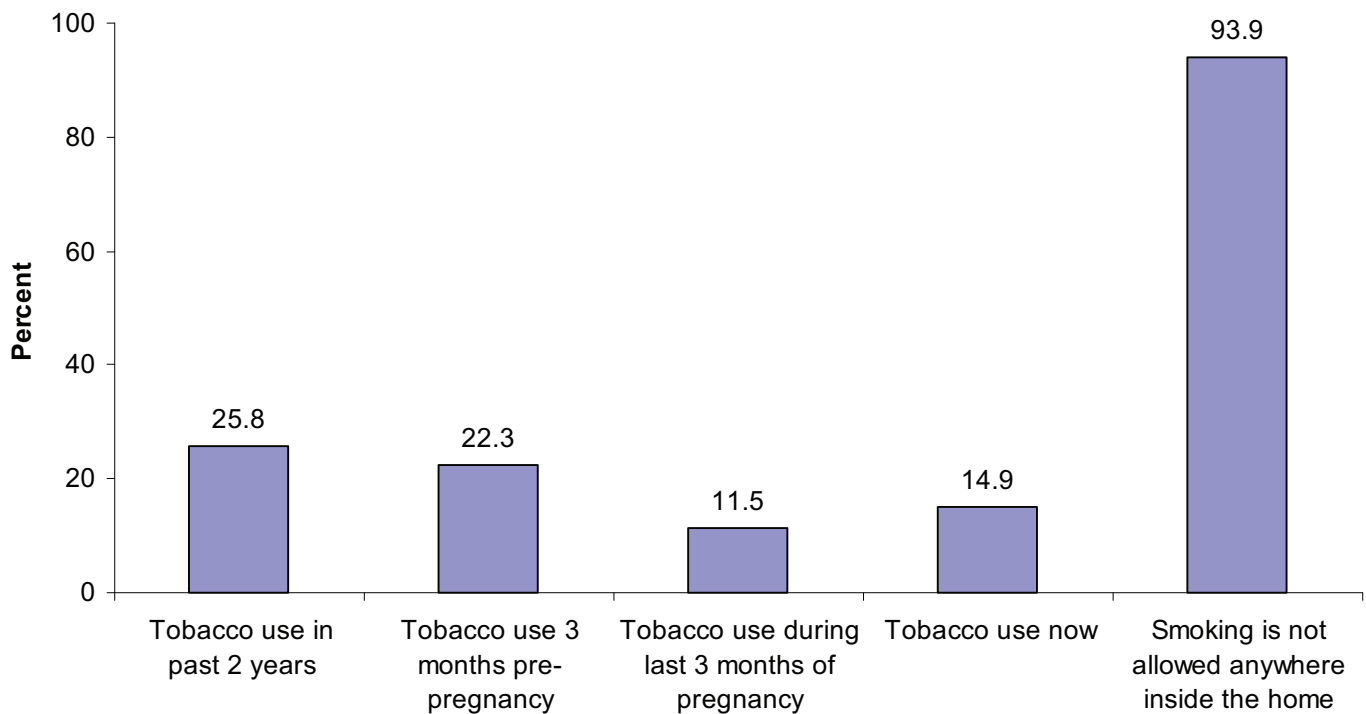
## SUBSTANCE USE

### Tobacco

Smoking during pregnancy presents multiple hazards to the health of mothers and infants. Smoking has been associated with preterm birth, low birth weight, stillbirth and infant mortality. Smoking may also be associated with pregnancy complications including placenta previa and placental abruption (DiFranza, 1995; Castles, 1999).

About one-fifth of mothers reported smoking the 2 years prior to becoming pregnant, 22.3% reported using tobacco in the three months before becoming pregnant, 11.5% reported some use during the last 3 months of pregnancy, 14.9% reported smoking in the post-partum period, and 93.9% of all mothers regardless of their smoking status reported that smoking is not allowed anywhere inside the home (Figure 66).

**Figure 66. Prevalence of maternal tobacco use prior to, during, and after pregnancy, 2009 MA PRAMS**



## SUBSTANCE USE

### Tobacco

Smoking during the last 3 months of pregnancy was more prevalent among those living at or below 100% of the FPL (23.7%), or White, non-Hispanics (14.1%) (Table 24). Analysis was limited by small cell size.

**Table 24. Prevalence of maternal tobacco use during the last three months of pregnancy, by socio-demographic characteristics, 2009 MA PRAMS**

Characteristic	Smoking in last 3 months of pregnancy		
	Weighted n	Weighted %	95% CL
<b>Total</b>	8077	11.5	9.2 - 14.3
<b>Maternal race/ethnicity</b>			
White, non-Hispanic	6637	14.1	10.8 - 18.2
Black, non-Hispanic	528	8.2	5.5 - 12.1
Hispanic	696	6.6	4.5 - 9.7
Asian, non-Hispanic		<i>Insufficient data to report</i>	
Other, non-Hispanic		<i>Insufficient data to report</i>	
<b>Maternal age (years)</b>			
<20		<i>Insufficient data to report</i>	
20-29	4684	14.5	10.8 - 19.2
30-39	2775	8.8	5.9 - 12.9
40+	26	1.0	0.2 - 6.9
<b>Maternal education</b>			
<High school	1258	19.7	12.1 - 30.3
High school diploma	4447	22.1	16.3 - 29.4
Some college	1782	12.9	8.4 - 19.4
College graduate		<i>Insufficient data to report</i>	
<b>Household poverty level</b>			
≤100% FPL	3634	23.7	17.5 - 31.3
>100% FPL	4443	8.1	5.9 - 11.0
<b>Maternal nativity</b>			
Non-US-born		<i>Insufficient data to report</i>	
US-born	7213	14.0	11.0 - 17.7

Insufficient data to report: less than five mothers.

# **Appendix A.**

## **Supplemental Data Tables\***

*\*The following data tables reflect questions in the order that they appear in the Massachusetts PRAMS 2009 survey.*

## APPENDIX A. Supplemental Data Tables

Table 1. Question 1, Prevalence of things done during the 12 months before pregnancy (pre-conception readiness), 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Dieting to lose weight				
No	1008	51028	71.7	68.3 - 74.8
Yes	364	20181	28.3	25.2 - 31.7
Exercising 3 or more days a week				
No	805	39233	55.2	51.7 - 58.7
Yes	561	31795	44.8	41.3 - 48.3
Taking prescription medicines other than birth control				
No	1112	55624	77.6	74.7 - 80.7
Yes	261	15819	22.1	19.3 - 25.3
Visited a health care worker to be screened for diabetes				
No	1227	64801	91.3	89.3 - 92.3
Yes	141	6166	8.7	7.0 - 10.7
Visited a health care worker to be screened for high blood pressure				
No	1212	64256	90.4	88.2 - 92.2
Yes	156	6843	9.6	7.8 - 11.8
Visited health care worker to be screened for depression or anxiety				
No	1190	61279	86.0	83.4 - 88.3
Yes	181	9968	14.0	11.7 - 16.6
Talked to a health care worker about family medical history				
No	918	45598	64.2	60.7 - 67.5
Yes	449	25444	35.8	32.5 - 39.3
Had my teeth cleaned by a dentist or dental hygienist				
No	513	24287	34.0	30.8 - 37.4
Yes	864	47106	66.0	62.6 - 69.2



## APPENDIX A. Supplemental Data Tables

Table 2. Question 2, Prevalence of insurance types prior to pregnancy, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Health insurance from your job or job of partner or parents	770	44856	62.4	59.1 - 65.6
Health insurance that you or someone else paid	47	2589	3.6	2.5 - 5.2
Medicaid or MassHealth	460	19943	27.8	24.9 - 30.8
TRICARE or other military healthcare	12	615	0.9	0.4 - 1.8
Commonwealth Care	60	3051	4.3	3.0 - 6.0
None	99	4215	5.9	4.5 - 7.6
Pre-pregnancy insurance (collapsed into 4 categories)				
Public	503	22318	31.4	28.3 - 34.6
Private	719	42218	59.3	56.0 - 62.6
Self-paid	54	2392	3.4	2.4 - 4.7
None	99	4215	5.9	4.6 - 7.7

Table 3. Question 3, Prevalence of daily multivitamin use in the month prior to pregnancy, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Prenatal vitamin use				
Never	703	34570	48.3	44.9 - 51.8
1-3 times per week	134	6605	9.2	7.4 - 11.5
4-6 times per week	63	3429	4.8	3.5 - 6.6
Every day	477	26921	37.6	34.3 - 41.1

Table 4. Questions 4-5, Maternal Body Mass Index (BMI) immediately prior to pregnancy (derived from maternal report of height and weight), 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Maternal BMI, pre-pregnancy				
Underweight (<18.5)	57	2152	3.1	2.2 - 4.5
Normal (18.5 - 24.9)	719	39078	56.9	53.3 - 60.4
Overweight (25.0 - 29.9)	297	14797	21.5	18.8 - 24.6
Obese (≥ 30)	228	12665	18.4	15.7 - 21.5

## APPENDIX A. Supplemental Data Tables

Table 5. Question 7, Maternal self-rated health post-partum, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Maternal self-rated health, current				
Excellent	375	19123	26.8	23.8 - 30.0
Very Good	573	31794	44.6	41.0 - 48.0
Good	374	17897	25.0	22.2 - 28.3
Fair	50	2381	3.3	2.3 - 4.8
Poor				<i>Insufficient data to report</i>

Table 6. Question 8, Prevalence of Type 1 or Type 2 diabetes, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Told by a doctor before pregnancy that you had type 1 or 2 diabetes				
No	1341	69440	97.3	95.9 - 98.2
Yes	37	1954	2.7	1.8 - 4.1

Table 7. Questions 9-12, Prevalence of previous low birth weight and previous preterm births among multiparous mothers, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Birth History				
Previous live births				
No	691	37130	52.5	48.9 - 56.0
Yes	671	33625	47.5	44.0 - 51.1
Previous normal birth weight				
No	72	2810	8.5	6.2 - 11.4
Yes	588	30385	91.5	88.6 - 93.8
Previous preterm birth (among multiparas)				
No	567	29414	88.7	85.4 - 91.3
Yes	94	3739	11.3	8.7 - 14.6
Previous cesarean delivery				
No	484	24217	72.5	67.7 - 76.8
Yes	182	9208	27.6	23.3 - 32.3

Insufficient data to report: less than five mothers.

## APPENDIX A. Supplemental Data Tables

Table 8. Question 13, Feelings about becoming pregnant prior to this pregnancy, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Pregnancy feelings				
Wanted sooner	310	15110	21.5	18.8 - 24.5
Wanted later	393	19671	28.0	24.9 - 31.3
Wanted never	100	3905	5.6	4.3 - 7.3
Wanted then	553	31541	44.9	41.4 - 48.5

Table 9. Question 14, Proportion of mothers trying to become pregnant, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Trying to get pregnant				
No	617	30514	43.1	39.7 - 46.7
Yes	746	40263	56.9	53.4 - 60.3

Table 10. Question 15, Prevalence of pre-pregnancy contraception use among mothers who were not trying to become pregnant, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Used birth control (among those not trying to get pregnant)				
No	327	15917	53.0	47.5 - 58.3
Yes	281	14132	47.0	41.7 - 52.5

Table 11. Question 16, Reasons for not using a contraceptive method prior to pregnancy among mothers not trying to get pregnant, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Reasons for not using birth control (if not trying and no birth control)				
Didn't mind getting pregnant	149	6998	40.0	33.4 - 47.0
Didn't think could become pregnant	111	4782	27.4	21.8 - 33.9
Partner didn't want to use	72	3465	20.0	15.0 - 26.0
Side effects from BC	34	1935	11.0	7.2 - 16.6
Thought partner was sterile	32	1867	10.7	6.8 - 16.3
Problems acquiring BC	17	882	5.0	2.7 - 9.4
Other	37	2112	12.0	8.0 - 17.9

## APPENDIX A. Supplemental Data Tables

Table 12. Questions 17-18, Prevalence of fertility treatment use, 2009 MA PRAMS

<b>Question</b>	<b>Sample n</b>	<b>Weighted n</b>	<b>Weighted %</b>	<b>95% CL</b>
Had any help getting pregnant (among only those who were trying to get pregnant)				
No	635	33905	84.2	80.4 - 87.5
Yes	102	6341	15.8	12.5 - 19.6
Kinds of reproductive assistance (among those reporting any fertility treatment use)				
Drugs	54	3282	44.3	33.7 - 55.4
Artificial Insemination	24	1569	21.2	13.3 - 31.9
Assisted reproductive technology (e.g., in vitro fertilization [IVF])	37	2590	34.9	25.0 - 46.3
Other treatment	15	789	10.6	5.6 - 19.3
Was not using fertility treatments	12	700	9.4	4.6 - 18.4

Table 13. Question 19, Weeks pregnant when sure of pregnancy, 2009 MA PRAMS

<b>Question</b>	<b>Sample n</b>	<b>Weighted n</b>	<b>Weighted %</b>	<b>95% CL</b>
Weeks pregnant when sure of pregnancy				
0 to 4 weeks	600	32419	47.8	44.2 - 51.4
5 to 8 weeks	530	27864	41.1	37.6 - 44.7
9 to 12 weeks	107	5316	7.8	6.1 - 10.0
13+ weeks	58	2227	3.3	2.3 - 4.7

Table 14. Question 20, Timing of entry to prenatal care, 2009 MA PRAMS

<b>Question</b>	<b>Sample n</b>	<b>Weighted n</b>	<b>Weighted %</b>	<b>95% CL</b>
Timing of initiation of prenatal care				
Initiated within 1st trimester	1197	65033	91.7	89.8 - 93.3
Did not initiate within 1st trimester	144	5366	7.6	6.1 - 9.4
Did not have PNC	12	513	0.7	0.3 - 1.6

## APPENDIX A. Supplemental Data Tables

Table 15. Question 21, Prevalence of mothers receiving prenatal care as early as wanted, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Received prenatal care as early as wanted				
No	173	8407	11.9	9.8 - 14.4
Yes	1180	62182	88.1	85.6 - 90.2

Table 16. Question 22, Reasons for not getting prenatal care as early as wanted, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Reasons for not getting prenatal care as early as wanted				
Couldn't get an appointment	68	3176	38.7	29.2 - 49.1
Didn't have enough money or insurance	25	1019	12.5	7.2 - 20.8
No transportation	13	488	6.1	12.4 - 20.9
Doctor/health plan wouldn't start earlier	55	2691	32.5	23.6 - 42.9
Too many other things going on	24	879	11.2	6.5 - 18.8
Couldn't take time off work	16	617	7.7	3.9 - 14.7
Didn't have MassHealth card	25	1183	14.4	8.4 - 23.5
Childcare			<i>Insufficient data to report</i>	
Didn't know I was pregnant	59	3544	43.6	33.4 - 54.3
Didn't want to disclose pregnancy	16	486	6.1	3.3 - 10.9
Didn't want prenatal care			<i>Insufficient data to report</i>	

Table 17. Question 23, Sources of payment for prenatal care, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Health Insurance from your job or the job of your husband, partner, or parents				
Health insurance that you or someone else paid for	734	42542	59.7	56.3 - 62.9
Medicaid or MassHealth	46	2686	3.8	2.6 - 5.5
TRICARE or other military health care	619	27726	38.9	35.7 - 42.2
Commonwealth care	10	742	1.0	0.5 - 2.2
None	43	2251	3.2	2.1 - 4.7
None	7	385	0.5	0.2 - 1.5
Prenatal care insurance (collapsed into 4 categories)				
Public	643	29204	41.4	38.1 - 44.8
Private	666	38840	55.0	51.6 - 58.4
Self-paid	40	2185	3.1	2.1 - 4.6
None	7	385	0.5	0.2 - 1.5

Insufficient data to report: less than five mothers.

## APPENDIX A. Supplemental Data Tables

Table 18. Question 24, Topics discussed by health care providers during prenatal care visits, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Topics discussed during prenatal care visits				
Smoking	1012	52775	75.5	72.3 - 78.4
Breastfeeding	1145	59328	84.4	81.6 - 86.8
Alcohol	1040	53337	76.1	72.9 - 79.1
Seat belt use	803	41634	59.6	56.0 - 63.0
Safe medications during pregnancy	1203	63325	89.9	87.5 - 91.8
Illegal drugs	888	44192	63.2	59.7 - 66.6
Birth defects screening	1207	64706	92.1	90.1 - 93.8
Signs of preterm labor	1061	56164	80.2	77.2 - 82.9
What to do if labor starts early	1094	57218	82.1	79.1 - 84.7
HIV testing	1072	53732	76.9	73.7 - 79.9
What to do if feeling depressed	1010	54225	77.4	74.3 - 80.2
Physical abuse by partners	838	43053	61.5	58.0 - 64.9

Table 19. Question 25, Prenatal care satisfaction, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Satisfaction with prenatal care				
Waiting time satisfaction	1068	55944	79.8	76.7 - 82.5
Time spent with doctor	1180	62086	88.5	86.0 - 90.5
Advice received	1228	64872	92.1	90.5 - 94.2
Understanding and respect from staff	1292	67257	95.8	94.0 - 97.1

Table 20. Questions 26-29, Prevalence of HIV testing, offer and refusal during pregnancy, and reasons for declining HIV testing, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Tested for HIV				
Not tested	308	18502	23.7	22.7 - 29.0
Tested	954	46762	65.0	61.6 - 68.3
Don't know	125	6676	9.3	7.4 - 11.6
Offered an HIV test (population estimate)				
Not offered	252	14729	20.5	17.7 - 23.5
Offered	1077	54386	75.6	72.4 - 78.5
Don't know	58	2825	3.9	2.8 - 5.5
Refused HIV test (population estimate)				
Did not refuse	984	47922	88.1	85.1 - 90.6
Refused	90	6313	11.6	9.2 - 14.6
Don't know			<i>Insufficient data to report</i>	
Reasons for declining HIV test (among those declining)				
Didn't think at risk	53	3808	47.5	36.8 - 58.4
Didn't want people to think at risk			<i>Insufficient data to report</i>	
Afraid of getting result			<i>Insufficient data to report</i>	
Previously tested	50	3940	49.0	38.4 - 60.0
Other	8	455	5.7	2.4 - 12.9

Insufficient data to report: less than five mothers.

## APPENDIX A. Supplemental Data Tables

Table 21. Question 30, Prevalence of WIC participation during pregnancy, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
WIC during pregnancy				
Did not use WIC	690	42677	60.6	57.3 - 63.1
Used WIC	667	27813	39.5	36.3 - 42.7

Table 22. Questions 31-32, Prevalence of WIC participation during pregnancy, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Gestational Diabetes				
No	1237	66076	93.2	91.4 - 94.7
Yes	123	4820	6.8	5.3 - 8.7
Among those with Gestational Diabetes				
Refer you to a nutritionist	108	4332	89.5	80.0 - 94.7
Talk to you about the importance of exercise	108	4331	89.9	80.3 - 95.1
Talk to you about getting to a healthy weight	103	4195	86.6	77.2 - 92.5
Suggest that you breastfeed your new baby	85	2632	56.2	43.2 - 68.4
Talk about risk of Type 2 diabetes	98	3806	78.6	66.1 - 87.4

Table 23. Question 33, Maternal health complications during pregnancy, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Health complications during pregnancy (% yes)				
Severe nausea/vomiting	364	18249	25.9	22.9 - 29.1
Vaginal bleeding	248	13123	18.5	16.0 - 21.4
Preterm labor	205	9555	13.6	11.4 - 16.1
Kidney/bladder infection	190	9414	13.3	11.1 - 15.9
Hypertension or preeclampsia or toxemia				
Placental problems	74	3978	5.7	4.2 - 7.6
PROM*	69	3648	5.2	3.8 - 7.0
Car accident	27	1262	1.8	1.1 - 2.9
Incompetent cervix	30	1100	1.6	1.0 - 2.6
Blood transfusion	20	744	1.1	0.6 - 1.8

\*PROM = premature rupture of membranes

## APPENDIX A. Supplemental Data Tables

Table 24. Questions 34-38, Prevalence of maternal tobacco use prior to, during and after pregnancy, change in smoking status, and smoking rules inside the home, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL		
Tobacco use in past 2 years						
No	1092	52392	74.2	70.8	-	77.4
Yes	266	18182	25.8	22.6	-	29.2
Tobacco use 3 months pre-pregnancy						
No	1128	54735	77.7	74.4	-	80.7
Yes	232	15674	22.3	19.3	-	25.6
Tobacco use during last 3 months of pregnancy						
No	1255	62383	88.6	85.7	-	90.9
Yes	104	8077	11.5	9.2	-	14.3
Tobacco use now						
No	1204	59988	85.1	82.2	-	87.7
Yes	155	10472	14.9	12.3	-	17.8
Changes in tobacco use during pregnancy						
Non-smoker	1126	54672	77.7	74.4	-	80.7
Smoker quit	129	7711	11.0	8.9	-	13.5
Smoker reduced	66	5595	8.0	6.0	-	10.5
smoker same/more	37	2368	3.4	2.2	-	5.1
Smoking inside home						
No smoking in home	1289	66291	93.9	91.9	-	95.5
Smoking in some rooms	59	3868	5.5	4.0	-	7.5
Smoking anywhere in house	11	414	0.6	0.3	-	1.4



## APPENDIX A. Supplemental Data Tables

Table 25. Questions 39-41, Prevalence of maternal alcohol consumption and bingeing prior to and during pregnancy, and change in alcohol use, 2009 MA PRAMS

Question		Sample n	Weighted n	Weighted %	95% CL	
Alcohol drinking in past 2 years						
	No	576	20903	29.4	26.7	- 32.4
	Yes	789	50132	70.6	67.7	- 73.3
Alcohol drinking 3 months pre-pregnancy						
	No	707	27600	39.0	35.9	- 42.3
	Yes	654	43116	61.0	57.7	- 64.1
Alcohol binge drinking during 3 months before pregnancy						
	No	1091	50765	72.4	68.9	- 75.5
	Yes	264	19403	27.7	24.5	- 31.1
Alcohol drinking last 3 months of pregnancy						
	No	1250	64061	91.9	88.8	- 92.9
	Yes	101	6269	8.9	7.1	- 11.2
Alcohol binge drinking during last 3 months of pregnancy						
	No	1340	7008	99.4	98.9	- 99.7
	Yes	13	413	0.6	0.3	- 1.2
Changes in alcohol drinking during pregnancy						
	Non-drinker	702	27465	39.1	35.9	- 42.4
	Drinker quit	545	36518	52.0	48.5	- 55.4
	Drinker reduced	45	3648	5.2	3.7	- 7.2
	Drinker same/more	54	2559	3.6	2.6	- 5.1
	Non-drinker resumed			<i>Insufficient data to report</i>		

Insufficient data to report: less than five mothers.

## APPENDIX A. Supplemental Data Tables

Table 26. Question 42, Prevalence of stressful life events during pregnancy, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Maternal stressors in 12 months before baby was born				
Family member sick	283	16963	24.1	21.1 - 27.4
Separated and divorced	109	4737	6.7	5.2 - 8.6
Moved to new address	441	22631	32.1	28.9 - 35.5
Homeless	78	2770	3.9	3.0 - 5.2
Partner lost job	194	10625	15.1	12.7 - 17.8
Mother lost job	147	58248	8.3	6.7 - 10.3
Argued with partner more than usual	304	15225	21.6	18.8 - 24.7
Partner said didn't want pregnancy	92	4193	6.0	4.5 - 7.8
Couldn't pay bills	281	15038	21.5	18.7 - 24.6
I was in a physical fight	48	1369	1.9	1.4 - 2.7
Partner or I went to jail	43	1673	2.4	1.6 - 3.6
Someone close to me had an alcohol drinking or drug problem	135	9920	14.1	11.6 - 17.0
Someone close to me died	207	12045	17.1	14.5 - 20.1
At least 1 family-related stressor	491	25001	34.8	31.5 - 38.2
At least 1 financial stressor	702	36153	50.3	46.8 - 53.8
At least 1 illness/death-related stressor	377	2226	30.9	27.7 - 34.3
Number of stressors (grouped)				
None	418	21074	29.7	26.6 - 33.0
1 to 2	580	30237	42.6	39.2 - 46.2
3 to 5	315	17163	24.2	21.2 - 27.4
6 to 18	56	2447	3.5	2.4 - 4.9

Table 27. Questions 43-44, Prevalence of physical abuse prior to and during pregnancy, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Physical abuse before pregnancy				
No	1292	67647	96.8	95.4 - 97.8
Yes	52	2242	3.2	2.2 - 4.6
Physical abuse during pregnancy				
No	1324	69203	97.3	96.0 - 98.2
Yes	44	1897	2.7	1.8 - 4.0
Physical abuse (before or during pregnancy)				
No	1303	68363	96.1	94.6 - 97.2
Yes	67	2781	3.9	2.8 - 5.4

## APPENDIX A. Supplemental Data Tables

Table 28. Questions 12 & 48-49, Prevalence of prior cesarean delivery, mode of delivery for current birth, and source of cesarean request, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Previous cesarean (among multiparas)				
No	484	24217	72.5	67.7 - 76.8
Yes	182	9208	27.6	23.3 - 32.3
Delivery				
Vaginal	926	47718	67.2	63.7 - 70.4
Cesarean	440	2335	32.8	29.6 - 36.3
Who requested cesarean (all cesarean deliveries)				
Health care provider before labor	191	10907	48.0	41.7 - 54.3
Health care provider during labor	178	9149	40.3	34.2 - 46.6
Mother before labor	46	2091	9.2	6.3 - 13.3
Mother during labor	13	574	2.5	1.1 - 5.6

Table 29. Question 51, Prevalence of delivery payment sources, 2009 MA

Question	Sample n	Weighted n	Weighted %	95% CL
Health insurance from your job or job of partner or parents	716	41456	58.3	54.9 - 61.6
Health insurance that you or someone else paid	31	1742	2.5	1.5 - 3.9
Medicaid	638	28718	40.4	37.1 - 43.7
TRICARE or other military healthcare	13	902	1.3	0.7 - 2.5
Commonwealth Care	42	2266	3.2	2.2 - 4.7
None		<i>Insufficient data to report</i>		
Delivery payment insurance (collapsed into 4 categories)				
Public	663	30493	43.1	39.7 - 46.5
Private	661	38375	54.2	50.8 - 57.6
Self-paid	34	1751	2.5	1.6 - 3.8
None		<i>Insufficient data to report</i>		

Insufficient data to report: less than five mothers.

## APPENDIX A. Supplemental Data Tables

Table 30. Questions 52-53, Infant stay in the neonatal intensive unit (NICU) and length of infant hospital stay at birth, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Baby ever in NICU				
No	1181	618	87.7	85.2 - 89.9
Yes	164	8634	12.3	10.1 - 14.8
Baby length of stay in hospital				
<1 day	25	1127	1.6	1.0 - 2.7
1 to 2 days	663	36016	51.2	47.7 - 54.7
3 to 5 days	536	26401	37.5	34.2 - 41.0
6+ days	120	6613	9.4	7.5 - 11.8
Not born in hospital				<i>Insufficient data to report</i>

Table 31. Questions 54-55, Infant alive now and infant living with mother, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Infant alive now	1328	69251	99.7	99.4 - 99.8
Infant living with mother now	1318	68903	100.0	NA

Table 32. Questions 56-59, Prevalence of ever breastfeeding, any breastfeeding at 4-week and 8-week post-partum, and exclusivity at 4-week and 8-week post-partum, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Breastfeeding (Ever)				
No	151	11168	15.9	13.3 - 19.0
Yes	1189	58994	84.1	81.0 - 86.7
Duration of breastfeeding (to at least 4 weeks)				
No	299	19818	28.3	25.1 - 31.8
Yes	1040	50100	71.7	68.2 - 74.9
Duration of breastfeeding (to at least 8 weeks)				
No	429	26284	37.6	34.1 - 41.2
Yes	910	423635	62.4	58.8 - 65.9
Exclusive breastfeeding (to at least 4 weeks)				
No	529	24533	53.1	48.9 - 57.4
Yes	408	21631	46.9	42.6 - 51.2
Exclusive breastfeeding (to at least 8 weeks)				
No	658	31354	61.7	57.6 - 65.6
Yes	367	19493	38.3	34.4 - 42.4

Insufficient data to report: less than five mothers.

## APPENDIX A. Supplemental Data Tables

Table 33. Question 60, Prevalence of infant sleep position, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Baby Sleep Position				
Side	199	8337	12.1	10.1 - 14.4
Back	976	54226	78.5	75.8 - 81.2
Stomach	101	4731	6.9	5.3 - 8.8
More than one position	50	1692	2.5	1.7 - 3.6

Table 34. Question 61, Proportion of infants seen by a health care provider (HCP) within a week after leaving hospital, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Baby seen by HCP within week after leaving hospital				
No	35	1643	2.4	1.5 - 3.7
Yes	1306	68351	97.7	96.3 - 98.5

Table 35. Questions 62-63, Prevalence of contraception use post-partum and reasons for not using a contraception method, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Current Birth Control				
No	240	11327	16.1	13.7 - 18.8
Yes	1111	59094	83.9	81.2 - 86.3
If no current birth control, why not				
Not having sex	106	3916	32.5	25.7 - 40.3
Don't want to use BC	57	3232	26.9	20.0 - 35.2
Other	53	3124	25.9	19.1 - 34.1
Want to get pregnant	26	1607	13.5	8.6 - 20.6
Don't think I can get pregnant (sterile)	16	988	8.2	4.5 - 14.4
Partner doesn't want to use BC	20	705	6.0	3.3 - 10.6
Can't pay for BC	7	291	2.4	1.0 - 5.9
Pregnant now			<i>Insufficient data to report</i>	

Insufficient data to report: less than five mothers.

## APPENDIX A. Supplemental Data Tables

Table 36. Question 64, Prevalence of maternal post-partum checkup, 2009 MA PRAMS

<b>Question</b>	<b>Sample n</b>	<b>Weighted n</b>	<b>Weighted %</b>	<b>95% CL</b>
Mother had post-partum check-up				
No	86	3894	5.5	4.2 - 7.2
Yes	1274	66885	94.5	92.8 - 95.8

Table 37. Question 65, Prevalence of maternal post-partum depressive symptoms, 2009 MA PRAMS

<b>Question</b>	<b>Sample n</b>	<b>Weighted n</b>	<b>Weighted %</b>	<b>95% CL</b>
Post partum depressive symptoms				
Down, depressed, sad				
Rarely/Never	769	41751	60.8	57.2 - 64.3
Sometimes	384	20890	30.4	27.2 - 33.9
Often/Always	137	6024	8.8	7.1 - 10.9
Hopeless				
Rarely/Never	1070	58847	86.6	84.1 - 88.8
Sometimes	140	6586	9.7	7.8 - 12.0
Often/Always	62	2519	3.7	2.7 - 5.2
Slowed down				
Rarely/Never	697	34725	51.2	47.6 - 54.8
Sometimes	388	22179	32.7	29.3 - 36.2
Often/Always	192	10925	16.1	13.5 - 19.1
Combined all 3 questions				
Rarely/Never	534	26790	38.8	35.4 - 42.4
Sometimes	507	28050	40.7	37.2 - 44.3
Often/Always	262	14129	20.5	17.7 - 23.6
Depression defined by CDC ( $\geq 10$ )				
No	1264	66477	92.4	90.4 - 94.0
Yes	123	5463	7.6	6.0 - 9.6

Table 38. Question 66, Prevalence of reactions to racism during the 12 months before delivery, 2009 MA PRAMS

<b>Question</b>	<b>Sample n</b>	<b>Weighted n</b>	<b>Weighted %</b>	<b>95% CL</b>
Things that happened in 12 months before baby was born				
Stress due to race or ethnicity	76	2356	3.4	2.5 - 4.6
Upset due to treatment based on race or ethnicity	73	1762	2.5	2.0 - 3.1
Physical symptoms due to treatment based on race or ethnicity	55	1546	2.2	1.6 - 3.0

## APPENDIX A. Supplemental Data Tables

Table 39. Questions 67-68, Frequency of physical activity and servings of fruits/vegetables intake per day in the last 3 months of pregnancy, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Exercise, last 3 months of pregnancy				
<1 days/wk	440	20938	30.0	26.9 - 33.3
1 to 2 days/wk	361	20532	29.4	26.2 - 32.8
3 to 4 days/wk	280	15172	21.7	18.9 - 24.8
5+ days/wk	182	9417	13.5	11.2 - 16.1
Told not to exercise	72	1838	5.5	4.1 - 7.4
Fruits and vegetables servings/day, last 3 months of pregnancy				
< 1 servings/day	102	3840	5.5	4.2 - 7.0
1 to 2 servings/day	563	28397	40.3	36.9 - 43.8
3 to 4 servings/day	536	31050	44.1	40.6 - 47.6
5+ servings/day	151	7198	10.2	8.3 - 12.5

Table 40. Question 69, Infant sleep location and bed sharing, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Where does baby sleep in the last month?				
Sofa/couch		<i>Insufficient data to report</i>		
Adult bed alone	5	225	0.3	0.1 - 1.0
Carseat	15	1338	2.0	1.1 - 3.4
Adult bed with you and/or another person	246	10071	14.7	12.4 - 17.2
Crib/bassinet	1024	55294	80.4	77.5 - 83.1
Other	28	1718	2.5	1.5 - 4.1

Table 41. Question 70, Awareness of shaken baby syndrome, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Heard or read about what can happen when baby is shaken				
No	93	2660	3.8	3.0 - 4.8
Yes	1250	67466	96.2	95.2 - 97.0

Insufficient data to report: less than five mothers.

## APPENDIX A. Supplemental Data Tables

Table 42. Question 71, Prevalence of infant safety practices, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Safety practices				
Infant brought home in carseat				
No	8	309	0.4	0.2 - 1.0
Yes	1340	69873	99.6	99.0 - 99.8
Always/almost always rides in carseat				
No	17	513	0.7	0.4 - 1.3
Yes	1326	69532	99.3	98.7 - 99.6
Home has working smoke alarm				
No	46	1750	2.5	1.7 - 3.7
Yes	1294	68171	97.5	96.4 - 98.3
Loaded firearms in house				
No	1298	68033	97.3	96.0 - 98.2
Yes	44	1912	2.7	1.8 - 4.0

Table 43. Question 72, Prevalence of seeking professional help for post-partum depression, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Mother sought help for depression (among all)				
Mother did not seek help	1194	62640	88.4	86.0 - 90.5
Mother sought help	168	8222	11.6	9.5 - 14.0
Mother sought help for depression (among those defined as having depression using CDC's definition of ≥10)				
	55	2478	45.5	33.7 - 57.9
Mother sought help for depression (among those reported "often" or "always" feeling down, depressed, sad, hopeless, or slowed down)				
	78	4364	31.0	23.9 - 39.1



## APPENDIX A. Supplemental Data Tables

Table 44. Question 73, Prevalence of intimate partner violence post-partum, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Things that have happened since baby was born				
Husband or partner threatened you	51	1959	2.8	1.9 - 3.9
Frightened for safety of you or your family	36	1240	1.8	1.2 - 2.7
Husband or partner tried to control you	60	3036	4.3	3.1 - 6.0
Husband or partner forced you into sexual activity	14	781	1.1	0.6 - 2.2

Table 45. Question 74, Prevalence of maternal health insurance types post-partum, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Mother insurance (current)				
Health insurance from job	698	36763	55.9	52.5 - 59.3
Health insurance you or someone paid for	31	1462	2.1	1.3 - 3.3
MassHealth	599	27519	38.7	35.5 - 42.1
TRICARE or other military healthcare	11	764	1.1	0.5 - 2.2
Commonwealth care	40	2137	3.0	2.0 - 4.5
None	36	1693	2.4	1.5 - 3.7
Current health insurance (collapsed into 4 categories)				
Public	623	29314	41.6	38.2 - 45.0
Private	651	37288	52.9	49.5 - 56.3
Self-paid	43	2185	3.1	2.1 - 4.6
None	36	1693	2.4	1.6 - 3.7

Table 46. Questions 75-76, Prevalence of maternal disability status and length of disability, 2009 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Maternal disability				
No	1288	67270	95.6	93.9 - 96.9
Yes	66	3099	4.4	3.2 - 6.1
Days disabled				
Non-disabled	1288	67370	95.7	94.0 - 97.0
1 to 29 days	10	231	0.3	0.2 - 0.6
30+ days	52	2773	3.9	2.7 - 5.7

## APPENDIX A. Supplemental Data Tables

Tables 47. Questions 77-78, Prevalence of maternal teeth cleaning, prior to, during, and after pregnancy, 2009 MA PRAMS

<b>Question</b>	<b>Sample n</b>	<b>Weighted n</b>	<b>Weighted %</b>	<b>95% CL</b>		
Dental Care						
Ever had teeth cleaned	1171	65237	90.7	89.1	-	92.1
Had teeth cleaned during pregnancy	592	35315	49.1	45.6	-	52.6
Had teeth cleaned since baby was born	457	25740	35.8	32.5	-	39.2

Tables 48. Questions 77-78, Prevalence of maternal teeth cleaning, never, ever but not recently, or recently, 2009 MA PRAMS

<b>Question</b>	<b>Sample n</b>	<b>Weighted n</b>	<b>Weighted %</b>	<b>95% CL</b>		
How recently were the teeth cleaned?						
Had teeth cleaned within 2 years	942	51362	71.4	68.2	-	74.4
Had teeth cleaned, more than 2 years ago	229	13874	19.3	16.5	-	22.4
Never had teeth cleaned	216	6703	9.3	7.9	-	10.9

Tables 49. Question 79, Total household income during the 12 months before your new baby was born, 2009 MA PRAMS

<b>Question</b>	<b>Sample n</b>	<b>Weighted n</b>	<b>Weighted %</b>	<b>95% CL</b>		
Yearly total household income						
Less than 10,000	252	10487	15.7	18.4	-	13.4
10,000-14,999	103	4419	6.6	8.6	-	5.1
15,000-19,999	75	3295	4.9	6.7	-	3.6
20,000-24,999	81	3426	5.1	7.0	-	3.8
25,000-34,999	106	5294	7.9	10.2	-	6.2
35,000-49,000	114	5457	8.2	10.4	-	6.4
50,000-64,999	75	5182	7.8	10.2	-	5.9
65,000-79,999	73	4797	7.2	9.5	-	5.5
80,000 or more	377	24288	36.4	40.0	-	33.0

## APPENDIX A. Supplemental Data Tables

### Technical notes

#### **Confidence limits and statistical significance:**

For the 2009 PRAMS report, we calculated 95% confidence limits around population estimates, using the point estimates and their standard errors. When comparing prevalence estimates across different socio-demographic subgroups, estimates with non-, or minimally-overlapping confidence limits were considered statistically significant. Differences in estimates between subgroups were presented as such when they were statistically significant, but in some cases were noted when the differences were not statistically significant but worth noting due to the potential public health impact.

#### **Weighted-n:**

Most data tables in this report present a “weighted n” which represents an estimate of the actual number of people affected by a behavior, condition or outcome in the Massachusetts population. PRAMS samples a small fraction of new mothers in the state, and as a result, our data are weighted to make estimates which represent the sampling frame from which our sample was drawn.

#### **Calculation of household FPL:**

Because we wished to examine differences in health by household income level, each respondent’s household FPL was approximated using self-reported income (as a range) and the number of dependent household members, comparing these to the 2009 Department of Health and Human Services Federal Poverty guidelines (DHHS, 2009). Because exact dollar amounts were not reported by respondents, we used the mid-point of each income range to approximate household income. Thus, our estimated household poverty level should be viewed as approximate, and may misclassify some households.

**Appendix B.**  
Massachusetts PRAMS Survey,  
2009

Please mark your answers. Follow the directions included with the questions. If no directions are presented, check the box next to your answer or fill in the blanks. Because not all questions will apply to everyone, you may be asked to skip certain questions.

**BEFORE PREGNANCY**

First, we would like to ask a few questions about you and the time *before* you got pregnant with your new baby.

**1. At any time during the 12 months before you got pregnant with your new baby, did you do any of the following things?** For each item, circle Y (Yes) if you did it or circle N (No) if you did not.

	No	Yes
a. I was dieting (changing my eating habits) to lose weight . . . . .	N	Y
b. I was exercising 3 or more days of the week . . . . .	N	Y
c. I was regularly taking prescription medicines other than birth control . . .	N	Y
d. I visited a health care worker to be checked or treated for diabetes. . . .	N	Y
e. I visited a health care worker to be checked or treated for high blood pressure. . . . .	N	Y
f. I visited a health care worker to be checked or treated for depression or anxiety . . . . .	N	Y
g. I talked to a health care worker about my family medical history . . . .	N	Y
h. I had my teeth cleaned by a dentist or dental hygienist. . . . .	N	Y

**2. During the month before you got pregnant with your new baby, were you covered by any of these health insurance plans?**

Check all that apply

- Health insurance from your job or the job of your husband, partner, or parents
- Health insurance that you or someone else paid for (not from a job)
- Medicaid or MassHealth
- TRICARE or other military health care
- Commonwealth Care
- Other source(s) —————> Please tell us:  
\_\_\_\_\_
- I did not have any health insurance before I got pregnant

**3. During the month before you got pregnant with your new baby, how many times a week did you take a multivitamin, a prenatal vitamin, or a folic acid vitamin?**

- I didn't take a multivitamin, prenatal vitamin, or folic acid vitamin at all
- 1 to 3 times a week
- 4 to 6 times a week
- Every day of the week

**4. Just before you got pregnant with your new baby, how much did you weigh?**

\_\_\_\_\_ Pounds **OR** \_\_\_\_\_ Kilos

**5. How tall are you without shoes?**

Feet  Inches

OR  Meters

**6. What is your date of birth?**

/  / 19  
Month Day Year

**7. Would you say that, in general, your health is—**

- Excellent
- Very good
- Good
- Fair
- Poor

**8. Before you got pregnant with your new baby, were you ever told by a doctor, nurse, or other health care worker that you had Type 1 or Type 2 diabetes? This is not the same as gestational diabetes or diabetes that starts during pregnancy.**

- No
- Yes

**9. Before you got pregnant with your new baby, did you ever have any other babies who were born alive?**

- No → Go to Question 13
- Yes

**10. Did the baby born *just before* your new one weigh *more than* 5 pounds, 8 ounces (2.5 kilos) at birth?**

- No
- Yes

**11. Was the baby *just before* your new one born *more than* 3 weeks before his or her due date?**

- No
- Yes

**12. Before you had your new baby, did you ever have a baby by cesarean delivery or c-section (when a doctor cuts through the mother's belly to bring out the baby)?**

- No
- Yes

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

**13. Thinking back to *just before* you got pregnant with your *new* baby, how did you feel about becoming pregnant?**

Check one answer

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

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

- No
- Yes → Go to Question 17

Go to Question 15

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

- No  
 Yes → **Go to Page 4, Question 19**

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

**Check all that apply**

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

---

**If you were not trying to get pregnant when you got pregnant with your new baby, go to Page 4, Question 19.**

**17. Did you take any fertility drugs or receive any medical procedures from a doctor, nurse, or other health care worker to help you get pregnant with your *new* baby?** (This may include infertility treatments such as fertility-enhancing drugs or assisted reproductive technology.)

No → **Go to Page 4, Question 19**

Yes

**18. Did you use any of the following fertility treatments *during the month you got pregnant with your new baby*?**

**Check all that apply**

- Fertility-enhancing drugs prescribed by a doctor (fertility drugs include Clomid<sup>®</sup>, Serophene<sup>®</sup>, Pergonal<sup>®</sup>, or other drugs that stimulate ovulation)
- Artificial insemination or intrauterine insemination (treatments in which sperm, but NOT eggs, were collected and medically placed into a woman's body)
- Assisted reproductive technology (treatments in which BOTH a woman's eggs and a man's sperm were handled in the laboratory, such as in vitro fertilization [IVF], gamete intrafallopian transfer [GIFT], zygote intrafallopian transfer [ZIFT], intracytoplasmic sperm injection [ICSI], frozen embryo transfer, or donor embryo transfer)
- Other medical treatment → Please tell us:

---

- I wasn't using fertility treatments during the month that I got pregnant with my new baby

**DURING PREGNANCY**

The next questions are about the prenatal care you received during your most recent pregnancy. Prenatal care includes visits to a doctor, nurse, or other health care worker before your baby was born to get checkups and advice about pregnancy. (It may help to look at the calendar when you answer these questions.)

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

Weeks **OR**  Months  
 I don't remember

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

{  Weeks **OR**  Months  
 I didn't go for prenatal care → **Go to Question 22**

**Go to Question 21**

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

No  
 Yes → **Go to Question 23**

**22. Did any of these things keep you from getting prenatal care at all or as early as you wanted?** For each item, circle **T** (True) if it was a reason that you didn't get prenatal care when you wanted or circle **F** (False) if it was not a reason for you or if something does not apply to you.

	True	False
a. I couldn't get an appointment when I wanted one . . . . .	T	F
b. I didn't have enough money or insurance to pay for my visits . . . . .	T	F
c. I had no transportation to get to the clinic or doctor's office . . . . .	T	F
d. The doctor or my health plan would not start care as early as I wanted . . . . .	T	F
e. I had too many other things going on . . . . .	T	F
f. I couldn't take time off from work or school . . . . .	T	F
g. I didn't have my Medicaid or MassHealth card . . . . .	T	F
h. I had no one to take care of my children . . . . .	T	F
i. I didn't know that I was pregnant . . . . .	T	F
j. I didn't want anyone else to know I was pregnant . . . . .	T	F
k. I didn't want prenatal care . . . . .	T	F

**If you did not go for prenatal care, go to Page 6, Question 26.**



**23. Did any of these health insurance plans help you pay for your prenatal care?**

**Check all that apply**

- Health insurance from your job or the job of your husband, partner, or parents
- Health insurance that you or someone else paid for (not from a job)
- Medicaid or MassHealth
- TRICARE or other military health care
- Commonwealth Care
- Other source(s) —————> Please tell us:
- I did not have health insurance to help pay for my prenatal care

**24. During any of your prenatal care visits, did a doctor, nurse, or other health care worker talk with you about any of the things listed below?** Please count only discussions, not reading materials or videos. For each item, circle Y (Yes) if someone talked with you about it or circle N (No) if no one talked with you about it.

	No	Yes
a. How smoking during pregnancy could affect my baby. . . . .	N	Y
b. Breastfeeding my baby . . . . .	N	Y
c. How drinking alcohol during pregnancy could affect my baby. . . . .	N	Y
d. Using a seat belt during my pregnancy . . . . .	N	Y
e. Medicines that are safe to take during my pregnancy . . . . .	N	Y
f. How using illegal drugs could affect my baby. . . . .	N	Y
g. Doing tests to screen for birth defects or diseases that run in my family . . . . .	N	Y
h. The signs and symptoms of preterm labor (labor more than 3 weeks before the baby is due). . . . .	N	Y
i. What to do if my labor starts early . . . . .	N	Y
j. Getting tested for HIV (the virus that causes AIDS) . . . . .	N	Y
k. What to do if I feel depressed during my pregnancy or after my baby is born . . . . .	N	Y
l. Physical abuse to women by their husbands or partners . . . . .	N	Y

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

**Were you satisfied with—**

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

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

- No
- Yes → Go to Question 30
- I don't know

**27. Were you offered an HIV test during your most recent pregnancy or delivery?**

- No → Go to Question 30
- Yes

**28. Did you turn down the HIV test?**

- No → Go to Question 30
- Yes

**Go to Question 29**

**29. Why did you turn down the HIV test?**

**Check all that apply**

- I did not think I was at risk for HIV
- I did not want people to think I was at risk for HIV
- I was afraid of getting the result
- I was tested before this pregnancy, and did not think I needed to be tested again
- Other → Please tell us:

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

- No
- Yes

**31. During your most recent pregnancy, were you told by a doctor, nurse, or other health care worker that you had gestational diabetes (diabetes that started during *this* pregnancy)?**

- No → Go to Question 33
- Yes

**Go to Question 32**

**32. During your most recent pregnancy, when you were told that you had gestational diabetes, did a doctor, nurse, or other health care worker do any of the things listed below?** For each item, circle **Y** (Yes) if it was done or circle **N** (No) if it was not done.

- |  | No | Yes |
|--|----|-----|
| a. Refer you to a nutritionist . . . . .   | N  | Y   |
| b. Talk to you about the importance of exercise . . . . .                                | N  | Y   |
| c. Talk to you about getting to and staying at a healthy weight after delivery . . . . . | N  | Y   |
| d. Suggest that you breastfeed your new baby . . . . .                                   | N  | Y   |
| e. Talk to you about your risk for Type 2 diabetes . . . . .                             | N  | Y   |

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

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

The next questions are about smoking cigarettes around the time of pregnancy (before, during, and after).

**34. Have you smoked any cigarettes in the past 2 years?**

- No → Go to Page 8, Question 38

Yes

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

- 41 cigarettes or more
- 21 to 40 cigarettes
- 11 to 20 cigarettes
- 6 to 10 cigarettes
- 1 to 5 cigarettes
- Less than 1 cigarette
- I didn't smoke then

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

- 41 cigarettes or more
- 21 to 40 cigarettes
- 11 to 20 cigarettes
- 6 to 10 cigarettes
- 1 to 5 cigarettes
- Less than 1 cigarette
- I didn't smoke then

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

- 41 cigarettes or more
- 21 to 40 cigarettes
- 11 to 20 cigarettes
- 6 to 10 cigarettes
- 1 to 5 cigarettes
- Less than 1 cigarette
- I don't smoke now

**38. Which of the following statements best describes the rules about smoking *inside* your home *now*?**

Check one answer

- No one is allowed to smoke anywhere inside my home
- Smoking is allowed in some rooms or at some times
- Smoking is permitted anywhere inside my home

The next questions are about drinking alcohol around the time of pregnancy (before, during, and after).

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

- No → **Go to Question 42**
- Yes

**40a. During the *3 months before* you got pregnant, how many alcoholic drinks did you have in an average week?**

- 14 drinks or more a week
  - 7 to 13 drinks a week
  - 4 to 6 drinks a week
  - 1 to 3 drinks a week
  - Less than 1 drink a week
  - I didn't drink
- then → **Go to Question 41a**

**40b. During the *3 months before* you got pregnant, how many times did you drink 4 alcoholic drinks or more in one sitting?** A sitting is a two hour time span.

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

**41a. During the *last 3 months* of your pregnancy, how many alcoholic drinks did you have in an average week?**

- 14 drinks or more a week
  - 7 to 13 drinks a week
  - 4 to 6 drinks a week
  - 1 to 3 drinks a week
  - Less than 1 drink a week
  - I didn't drink
- then → **Go to Question 42**

**41b. During the *last 3 months* of your pregnancy, how many times did you drink 4 alcoholic drinks or more in one sitting?** A sitting is a two hour time span.

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

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

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

	No	Yes
a. A close family member was very sick and had to go into the hospital . . . . .	N	Y
b. I got separated or divorced from my husband or partner . . . . .	N	Y
c. I moved to a new address . . . . .	N	Y
d. I was homeless . . . . .	N	Y
e. My husband or partner lost his job . . .	N	Y
f. I lost my job even though I wanted to go on working . . . . .	N	Y
g. I argued with my husband or partner more than usual . . . . .	N	Y
h. My husband or partner said he didn't want me to be pregnant . . . . .	N	Y
i. I had a lot of bills I couldn't pay. . . . .	N	Y
j. I was in a physical fight . . . . .	N	Y
k. My husband or partner or I went to jail . . . . .	N	Y
l. Someone very close to me had a problem with drinking or drugs . . . . .	N	Y
m. Someone very close to me died . . . . .	N	Y

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

- No  
 Yes

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

- No  
 Yes

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

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

/  / 20  
 Month      Day      Year

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

/  / 20  
 Month      Day      Year

- I didn't have my baby in a hospital

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

/  / 20  
 Month      Day      Year

**48. How was your *new* baby delivered?**

- Vaginally →  
 Cesarean delivery (c-section)

**Go to Page 10, Question 50**

**Go to Page 10, Question 49**

**49. Which statement *best* describes whose idea was it for you to have a cesarean delivery (c-section)?**

Check one answer

- My health care provider recommended a cesarean delivery *before* I went into labor
- My health care provider recommended a cesarean delivery while I was in labor
- I asked for the cesarean delivery *before* I went into labor
- I asked for the cesarean delivery while I was in labor

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

\_\_\_\_ / \_\_\_\_ / 20  
 Month      Day      Year

- I didn't have my baby in a hospital

**51. Did any of these health insurance plans help you pay for the *delivery* of your new baby?**

Check all that apply

- Health insurance from your job or the job of your husband, partner, or parents
- Health insurance that you or someone else paid for (not from a job)
- Medicaid or MassHealth
- TRICARE or other military health care
- Commonwealth Care
- Other source(s) —————> Please tell us:

\_\_\_\_\_

- I did not have health insurance to help pay for my delivery

## AFTER PREGNANCY

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

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

- No
- Yes
- I don't know

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

- Less than 24 hours (less than 1 day)
- 24 to 48 hours (1 to 2 days)
- 3 to 5 days
- 6 to 14 days
- More than 14 days
- My baby was not born in a hospital
- My baby is still in the hospital —————> **Go to Question 56**

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

- No —————> **Go to Question 62**
- Yes

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

- No —————> **Go to Question 62**
- Yes

**56. Did you ever breastfeed or pump breast milk to feed your new baby after delivery, even for a short period of time?**

- No —————> **Go to Question 59b**
- Yes

**Go to Question 57**

**57. Are you currently breastfeeding or feeding pumped milk to your new baby?**

- No  
 Yes → **Go to Question 59a**

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

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

- Less than 1 week

**59a. How old was your new baby the first time he or she drank liquids other than breast milk (such as formula, water, juice, tea, or cow's milk)?**

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

- My baby was less than 1 week old  
 My baby has not had any liquids other than breast milk

**59b. How old was your new baby the first time he or she ate food (such as baby cereal, baby food, or any other food)?**

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

- My baby was less than 1 week old  
 My baby has not eaten any foods

**If your baby is still in the hospital, go to Question 62.**

**60. In which *one* position do you *most often* lay your baby down to sleep now?**

**Check one answer**

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

**61. Was your new baby seen by a doctor, nurse, or other health care worker for a *one week check-up* after he or she was born?**

- No  
 Yes

**62. Are you or your husband or partner doing anything *now* to keep from getting pregnant?** (Some things people do to keep from getting pregnant include not having sex at certain times [natural family planning or rhythm] or withdrawal, and using birth control methods such as the pill, condoms, vaginal ring, IUD, having their tubes tied, or their partner having a vasectomy.)

- No  
 Yes → **Go to Question 64**

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

**Check all that apply**

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

\_\_\_\_\_

**64. *Since your new baby was born, have you had a postpartum checkup for yourself?*** (A postpartum checkup is the regular checkup a woman has about 6 weeks after she gives birth.)

- No  
 Yes

**65. Below is a list of feelings and experiences that women sometimes have after childbirth. Read each item to determine how well it describes your feelings and experiences. Then, write on the line the number of the choice that best describes how often you have felt or experienced things this way since your new baby was born. Use the scale when answering:**

- |  |          |          |           |          |          |
|--|----------|----------|-----------|----------|----------|
|  | <b>1</b> | <b>2</b> | <b>3</b>  | <b>4</b> | <b>5</b> |
|  | Never    | Rarely   | Sometimes | Often    | Always   |
- a. I felt down, depressed, or sad. . . .
- b. I felt hopeless. . . . .
- c. I felt slowed down . . . . .

**OTHER EXPERIENCES**

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

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

- |  |           |            |
|--|-----------|------------|
|  | <b>No</b> | <b>Yes</b> |
| a. I felt that my race or ethnic background contributed to the stress in my life. . . . .  | N         | Y          |
| b. I felt emotionally upset (for example, angry, sad, or frustrated) as a result of how I was treated based on my race or ethnic background. . . . .   | N         | Y          |
| c. I experienced physical symptoms (for example, a headache, an upset stomach, tensing of my muscles, or a pounding heart) that I felt were related to how I was treated based on my race or ethnic background . . . . | N         | Y          |

**67. During the last 3 months of your most recent pregnancy, how often did you participate in any physical activities or exercise for 30 minutes or more?** (For example, walking for exercise, swimming, cycling, dancing, or gardening.)

- Less than 1 day per week
- 1 to 2 days per week
- 3 to 4 days per week
- 5 or more days per week
- I was told by a doctor, nurse, or other health care worker not to exercise

**68. During the last 3 months of your most recent pregnancy, about how many servings of fruits or vegetables did you have in a day?**

**Check one answer**

- Less than 1 serving per day
- 1 or 2 servings per day
- 3 or 4 servings per day
- 5 or more servings per day

**If your baby is not alive or is not living with you now, go to Question 72.**

**69. In the last month, where did your new baby usually sleep?**

**Check one answer**

- In a crib, cradle, or bassinet
- On an adult bed or mattress with me and/or another person(s)
- On an adult bed or mattress alone
- On a sofa or couch
- In a car seat or infant seat
- Someplace else —————> Please tell us:



**70. Have you ever heard or read about what can happen if a baby is shaken?**

- No
- Yes

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

	No	Yes
a. My baby was brought home from the hospital in an infant car seat . . . . .	N	Y
b. My baby always or almost always rides in an infant car seat . . . . .	N	Y
c. My home has a working smoke alarm . . . . .	N	Y
d. There are <b>loaded</b> guns, rifles, or other firearms in my home . . . . .	N	Y

**72. Since your new baby was born, have you asked for help for depression from a doctor, nurse, or other health care worker?**

- No
- Yes

**73. This question is about things that may have happened since your new baby was born.**

For each thing, circle **Y** (Yes) if it happened to you or circle **N** (No) if it did not.

*Since your new baby was born—*

	No	Yes
a. Your husband or partner threatened you or made you feel unsafe in some way . . . . .	N	Y
b. You were frightened for the safety of yourself or your family because of the anger or threats of your husband or partner. . . . .	N	Y
c. Your husband or partner tried to control your daily activities, for example, controlling who you could talk to or where you could go. . . . .	N	Y
d. Your husband or partner forced you to take part in touching or any sexual activity when you did not want to. . . . .	N	Y

**74. What type of health insurance are you covered by right now?**

**Check all that apply**

- Health insurance from your job or the job of your husband, partner, or parents
- Health insurance that you or someone else paid for (not from a job)
- Medicaid or MassHealth
- TRICARE or other military health care
- Commonwealth Care
- Other source(s) —————> Please tell us:

- I do not have any health insurance

**75. Are you limited in any way in any activities because of physical, mental, or emotional problems?**

- No → Go to Question 77  
 Yes

**76. For how long have your activities been limited because of physical, mental, or emotional problems?**

Number of Days

**OR**

Number of Weeks

**OR**

Number of Months

**OR**

Number of Years

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

- No → Go to Question 79  
 Yes

**78. Did you have your teeth cleaned by a dentist or dental hygienist during the time periods listed below?** For each time period, circle **Y** (Yes) if you had your teeth cleaned then or circle **N** (No) if you did not have your teeth cleaned then.

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

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

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

- Less than \$10,000
- \$10,000 to \$14,999
- \$15,000 to \$19,999
- \$20,000 to \$24,999
- \$25,000 to \$34,999
- \$35,000 to \$49,999
- \$50,000 to \$64,999
- \$65,000 to \$79,999
- \$80,000 or more

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

People

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

/  /  20  
 Month      Day      Year

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

*Thanks for answering our questions!*

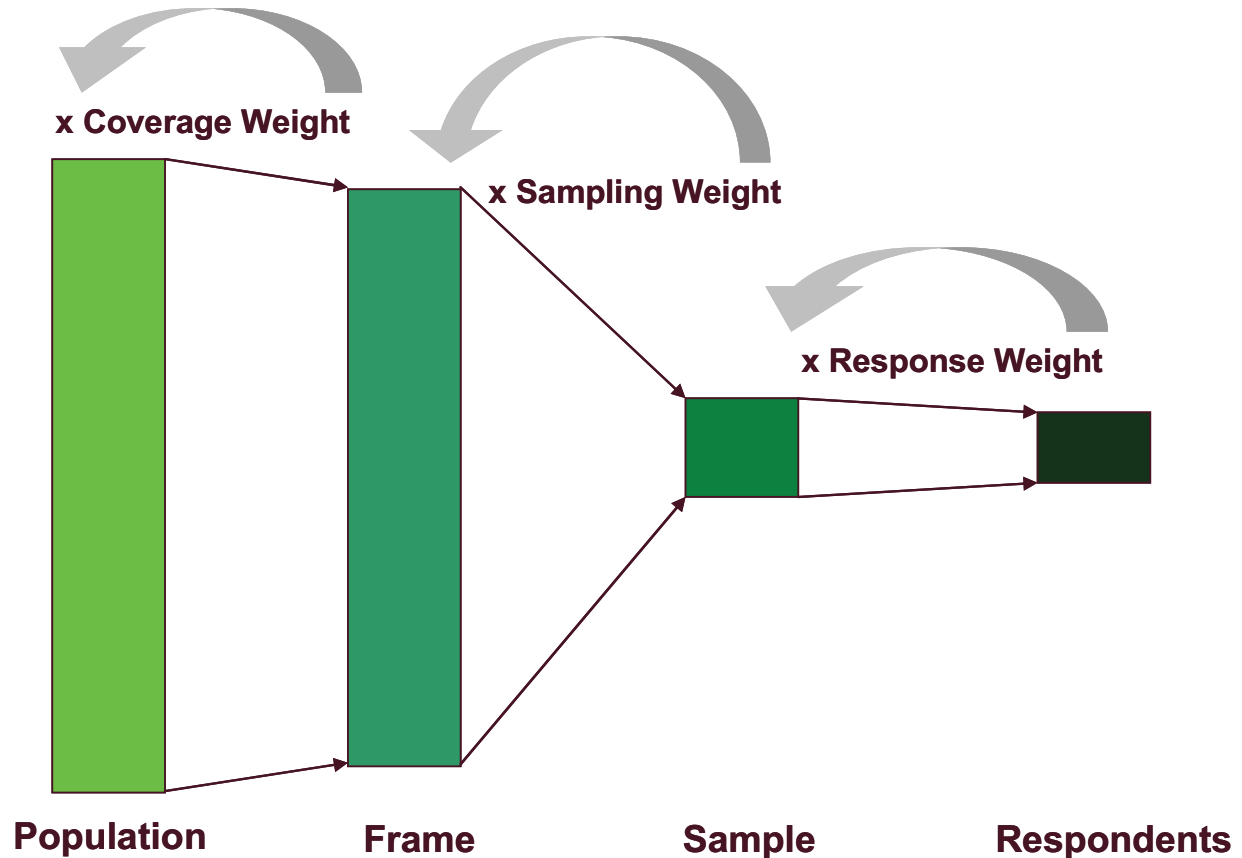
*Your answers will help us work to make Massachusetts  
mothers and babies healthier.*

December 8, 2008

**Appendix C.**  
Massachusetts PRAMS 2009  
Weighting Rubric

## APPENDIX C. PRAMS weighting system

Figure 67. PRAMS Data Weighting Illustration\*



Population: Total births to Massachusetts resident women

Frame: Massachusetts resident women who recently gave birth to a live infant. Women with twins or triplets are only included in the frame once. Women with quadruplets and higher order births are excluded from the frame.

Sample: Women selected from the frame to participate in PRAMS

Respondents: Women who completed a PRAMS survey by mail or telephone

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

\*Figure adapted from CDC PRAMS protocol.

**Appendix D.**  
Massachusetts PRAMS 2009  
Adequacy of Prenatal Care  
Utilization Index

## APPENDIX D: Adequacy of Prenatal Care Utilization Index

The Adequacy of Prenatal Care Utilization (APNCU) Index, (Kotelchuck, 1994) developed by Dr. Milton Kotelchuck, is the measure used in Healthy People 2010 and by the majority of states.

The Index characterizes prenatal care (PNC) utilization by measuring two distinct components of prenatal care — adequacy of initiation and adequacy of received services (visits). Each is measured as an independent index, and the APNCU Index is a composite of these two component indices. The APNCU Index characterizes care using five categories: “adequate intensive,” “adequate basic,” “intermediate,” “inadequate,” and “unknown.” The Index does not assess quality of the prenatal care delivered, only utilization.

### Adequacy of Prenatal Care Utilization (APNCU) Index: Definition of Categories

Category	Month Prenatal Care Began	% of Expected <sup>1</sup> Prenatal Care Visits
Adequate Intensive	1, 2, 3, or 4	110% or more
Adequate Basic	1, 2, 3, or 4	80 – 109%
Intermediate	1, 2, 3, or 4	50 – 79%
Inadequate	Month 5 or later	Less than 50%
Unknown	Prenatal care information not recorded	

<sup>1</sup> The number of “expected” visits is determined based on standards set by the American College of Obstetricians and Gynecologists (ACOG).

**Appendix E.**  
Massachusetts PRAMS 2009  
List of references



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**Appendix F.**  
Alphabetical List of PRAMS Advisory  
Committee Members

## **APPENDIX F: Alphabetical List of PRAMS Advisory Committee Members**

<b>Name</b>	<b>Organization</b>
Brianne Beagan	Massachusetts Department of Public Health
Candice Belanoff	Boston University School of Public Health
Lynn Bethel	Massachusetts Department of Public Health
Meg Blanchet	Massachusetts Department of Public Health
Sandra Broughton	Massachusetts Department of Public Health
Paula Callahan	Massachusetts Department of Children and Families
Jennifer Cochran	Massachusetts Department of Public Health
Rachel Colchamiro	Massachusetts Department of Public Health
Eugene Declercq	Boston University School of Public Health
Ed Doherty	March of Dimes Massachusetts Chapter
Karin Downs	Massachusetts Department of Public Health
Milton Kotelchuck	MassGeneral Hospital for Children
Bridget Larson	Massachusetts Department of Public Health
Vera Mouradian	Massachusetts Department of Public Health
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