Massachusetts Pregnancy Risk Assessment Monitoring System (PRAMS) 2009/2010 Surveillance Report

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

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PRAMS
Massachusetts

Pregnancy Risk Assessment Monitoring System

Massachusetts PRAMS 2009/2010 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 2009/2010 Massachusetts Pregnancy Risk Assessment Monitoring System (MA PRAMS). MA PRAMS is a collaborative surveillance project between the Centers for Disease Control and Prevention (CDC) and the Massachusetts Department of Public Health. PRAMS collects state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy. In 2009 and 2010, MA PRAMS oversampled by race and Hispanic ethnicity to ensure adequate representation of racial and ethnic minority mothers. The 2009/2010 data are presented in combined form since the numbers 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 4,627 mothers were sampled and 2,902 responded to the survey in 2009 and 2010, for a weighted response rate of 67%. Final results were weighted to represent the cohort of Massachusetts-resident mothers who delivered a live infant in 2009 and 2010. 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 fourth 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 (68.7%), exercising three or more days a week (45.0%), and talking to a health care worker about family medical history (35.7%).

- *Pregnancy intention and birth control use:* 42.2% of mothers indicated that they had not been trying to become pregnant when they did. Among those not trying to become pregnant, 53.2% were not using any birth control method at the time of conception.

- *Fertility treatment:* Among those trying to become pregnant, about 8% reported that they had used some form of fertility treatment when they became pregnant.

Pregnancy:

- *WIC:* Almost 39% 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:* About 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 (12.0%) and those who were obese (Body Mass Index ≥ 30) immediately before becoming pregnant (10.1%). Among those with GDM, 90.3% reported learning about the importance of exercise, 87.2% were referred to a nutritionist, 81.3% reported learning about getting to a healthy weight, and 80.8% reported learning about the risk of developing type 2 diabetes from their prenatal care providers.

- *Intimate partner violence:* About 3.2% 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) (7.8%). In addition to physical abuse, about 3% of mothers reported that their husband or partner had tried to control their daily activities, 2.2% of mothers reported having been threatened by their husband or partner or feeling unsafe in some way, and 1.6% 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:* About 92% of mothers reported that they initiated prenatal care within the first trimester of pregnancy. First-trimester initiation of care was lowest among those who had less than a high school education (81.7%) and mothers under 20 years of age (84.4%). The most frequently cited barriers to getting care as early as wanted were not knowing they were pregnant and not being able to get an earlier appointment.

- *HIV testing:* About 65% of mothers reported that they received an HIV test during their pregnancy. Overall, about one-fourth 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 (31.2%) mothers reported that their babies were delivered by cesarean delivery (c-section).

- *Cesarean request:* Overall, about 10% of mothers who had a cesarean delivery 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, 2.9% 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. About 3% of mothers reported feeling emotionally upset as a result of how they were treated, and about 3% reported experiencing physical symptoms related to treatment based on their race or ethnic background. A high proportion of Massachusetts mothers reported experiencing at least one type of family-related (34.9%), financial (50.3%) or illness/death-related (30.6%) stressors during the year before their baby was born.

Postpartum:

- *Self-rated health:* About 96% of mothers rated their overall health as good, very good or excellent, and 4.0% as fair or poor. Hispanic mothers (10.7%), or those who were living at or below 100% of the FPL (9.0%) were the most likely to report fair/poor health.

- *Postpartum depression:* Overall, 9.3% of mothers reported that they felt depressed often or always after birth. Among these mothers, only about 50% reported seeking help for depression from a health care provider.

- *Infant sleep position and location:* About 78% of mothers reported placing babies to sleep only on their backs and 82.1% 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 Asian, non-Hispanic mothers (90.9%), those age 40 or older (89.5%), mothers who had a college degree (92.8%), and those who were born outside of the United States (92.8%).

Substance use:

- *Alcohol:* About 10% of mothers reported drinking alcoholic beverages during the last three months of pregnancy.

- *Tobacco:* About 9% of mothers reported using tobacco during the last three months of pregnancy. The prevalence of tobacco use was highest among those born in the United States (11.1%), or those living at or below 100% of the FPL (20.4%).

Oral health:

- About 91% of mothers reported that they had ever received a teeth cleaning in their lifetime. About 69% of mothers reported that they received a teeth cleaning during the 12 months before pregnancy. Mothers who were Black, non-Hispanic (55.1%), those with a high school diploma (54.7%), those living at or below 100% of the FPL (56.0%), or those born outside of the United States (60.9%) were the least likely to have received a teeth cleaning during the 12 months before they got pregnant.

- Overall, about 73% of mothers reported that they had received a teeth cleaning within the last two years. Over two-thirds of the mothers had received a cleaning in the year before becoming pregnant, 50.6% during their most recent pregnancy, and 36.4% since the baby was born.

Note: A copy of the 2009/2010 MA PRAMS survey is located in Appendix B.

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 postpartum, with the majority sampled two months postpartum. 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, there are forty-one PRAMS sites participating in ongoing surveillance. In September 2011, CDC funded three new states (Connecticut, New Hampshire, and Iowa). CDC is also funding a teen pregnancy oversample in Mississippi and New York, a tribal flu project in New Mexico, Oregon and Washington, and a Kellogg Foundation minority oversample in Mississippi, Michigan, New Mexico and Louisiana. States participating in PRAMS now account for 78% of all U.S. births.

Massachusetts (MA) PRAMS began collecting data in 2007. This represents the fourth report of results from the MA PRAMS Program. A copy of the 2009/2010 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 2009/2010 survey included a total of 81 questions: 56 Core questions required by CDC, 19 Standard questions and six Massachusetts-developed questions (see Appendix B for copy of 2009/2010 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 Massachusetts-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, Massachusetts has used a stratified sampling methodology, sampling disproportionately from four racial and Hispanic ethnic groups: (1) White, non-Hispanic; (2) Black, non-Hispanic; (3) Hispanic; and (4) Other, non-Hispanic. All but White, non-Hispanic mothers were oversampled to improve precision in examining disparities by race and ethnicity. The category of other, non-Hispanic includes all racial and ethnic groups besides White, Hispanic and Black mothers. In Massachusetts, 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 2009/2010 report, Massachusetts separates Asians from the "Other, non Hispanic" group for analytical purposes. The "Other, non-Hispanic" group has a small sample size 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 postpartum 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 Massachusetts 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 Massachusetts birth population in 2009/2010.

Analyses for the MA PRAMS 2009/2010 report accounted for the stratified sampling method and included the final survey weights. SAS v9.2 and SUDAAN v11.0 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 Massachusetts in 2009/2010, about 33% 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 2009/2010 respondents were largely reflective of the overall population of Massachusetts mothers by race/Hispanic ethnicity. White, non-Hispanics constituted 66.9% of the sample, Hispanics represented 14.9%, Black, non-Hispanics, 9.0%, Asian, non-Hispanics, 8.1%, and Other, non-Hispanics, 1.0%. About 28% of respondents were not born in the United States while 30% of the mothers giving birth in Massachusetts 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 Massachusetts were unmarried according to the birth certificate.

Parity

About half of mothers (50.4%) in the PRAMS sample had previously giving birth to a live-born infant. However, 54.3% of the mothers giving birth in Massachusetts had previously given birth according to the birth certificate.

Education

Among the respondents, almost 28% 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 Massachusetts.

Preferred Language

The majority of respondent, 90.5%, preferred to read or discuss health-related materials in English, followed by Spanish, 6.5%, Portuguese, 1.2%, Chinese, 0.2%, and all other languages, 1.5%. The preferred language profile of the respondents is similar to the mothers giving birth in Massachusetts.

Age

About 90% of mothers were between 20 and 39 years of age, 5.7% were under age 20 and 4.0% were 40 years or older. The age distribution of the respondents is similar to the mothers giving birth in Massachusetts.

Income

About one in four respondents were living at or below 100% of the FPL* in the year before their babies were born. For example, for a family of four, the income for 100% federal poverty threshold was $22,050 in 2009 and 2010. Income information was not collected on the birth certificate.

Disability

Almost 4% 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 federal poverty level.*

PRAMS SAMPLE CHARACTERISTICS (Weighted)†

Table 1. Maternal characteristics, PRAMS respondents vs. state birth population, 2009/2010 MA PRAMS

Characteristic		Sample n	Weighted n	Weighted %*	State %***
Total		2902	141979	100.0	n/a
Maternal race/ethnicity					
	White, non-Hispanic	838	94932	66.9	66.5
	Black, non-Hispanic	672	12795	9.0	9.3
	Hispanic	736	21157	14.9	14.6
	Asian, non-Hispanic	590	11529	8.1	8.0
	Other, non-Hispanic	60	1401	1.0	1.7
Maternal age (years)					
	<20	182	8050	5.7	5.7
	20-29	1288	61722	43.5	40.5
	30-39	1320	66338	46.8	49.3
	40+	107	5737	4.0	4.5
Maternal education					
	<High school	375	13141	9.3	10.3
	High school diploma	759	39453	27.9	25.1
	Some college	621	27663	19.5	19.8
	College graduate	1139	61359	43.3	44.8
Household poverty status (approximate)**					
	≤ 100% Federal Poverty Level (FPL)	767	30613	23.5	n/a
	> 100% Federal Poverty Level (FPL)	1816	99642	76.5	n/a
Maternal nativity					
	Non-US-born	1457	39166	27.6	30.0
	US-born	1437	102599	72.4	70.0
Preferred language					
	English	2415	128092	90.5	89.0
	Spanish	325	9198	6.5	5.7
	Portuguese	44	1764	1.2	2.3
	Chinese	14	317	0.2	0.6
	Other	85	2183	1.5	2.4
Marital status					
	Unmarried	1176	51888	36.6	34.7
	Married	1720	89926	63.4	65.3
Maternal disability					
	No	2698	133659	96.0	n/a
	Yes	125	5631	4.0	n/a
Duration of disability					
	Non-disabled	2698	133659	96.3	n/a
	1 to 29 days	18	477	0.3	n/a
	30+ days	91	4710	3.4	n/a
Parity					
	No previous live births	1361	69762	49.6	45.7
	Previous live births	1519	71019	50.4	54.3

**Does not include missing in proportions.*
***See Methodology for explanation of "household poverty status" used in this report.*
****Massachusetts Births, 2009/2010, Registry of Vital Records and Statistics, Massachusetts Department of Public Health.*

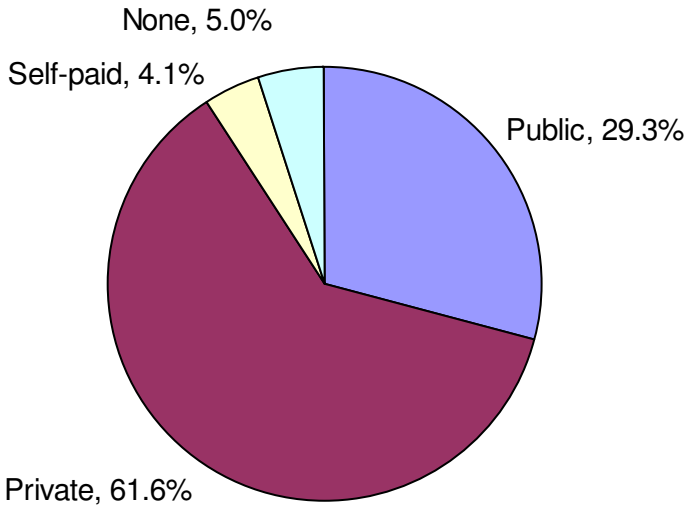
†The data were weighted using selected maternal demographics to account for non-response and adjusted for sampling probabilities and coverage to represent the Massachusetts birth population in 2009/2010.

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 (Egerter, 2002). On April 12, 2006, Massachusetts enacted legislation that would provide nearly universal health care coverage to Massachusetts residents and beginning July 1, 2007, all Massachusetts residents were required to have health insurance.

Prior to pregnancy, about 62% of Massachusetts mothers had private health insurance, 29.3% had a government sponsored health insurance (i.e., MassHealth, Commonwealth Care, TRICARE), 4.1% were self-paid, and 5% reported no source of health insurance (Figure 1).

Figure 1. Prevalence of insurance types prior to pregnancy, 2009/2010 MA PRAMS



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 (9.9%), those born outside of the United States (9.7%), or those who were living at or below 100% of the FPL (8.9%) (Table 2).

Table 2. Prevalence of no insurance coverage prior to pregnancy, by socio-demographic characteristic, 2009/2010 MA PRAMS

Characteristic	Weighted n	Weighted %	95% CL
Total	6998	5.0	4.1 - 6.1
Maternal race/ethnicity			
White, non-Hispanic	3162	3.4	2.2 - 5.0
Black, non-Hispanic	1223	9.6	7.6 - 12.1
Hispanic	2064	9.9	7.9 - 12.2
Asian, non-Hispanic	522	4.5	3.1 - 6.7
Other, non-Hispanic	*Insufficient data to report*		
Maternal age (years)			
<20	515	6.8	3.3 - 13.3
20-29	4636	7.6	5.9 - 9.7
30-39	1764	2.7	1.8 - 3.9
40+	*Insufficient data to report*		
Maternal education			
<High school	1115	8.8	5.9 - 12.8
High school diploma	3183	8.1	5.8 - 11.2
Some college	1682	6.1	4.1 - 8.9
College graduate	1017	1.7	1.0 - 2.7
Household poverty level			
≤100% FPL	2709	8.9	6.7 - 11.7
>100% FPL	3415	3.4	2.5 - 4.8
Maternal nativity			
Non-US-born	3745	9.7	7.9 - 11.8
US-born	3253	3.2	2.2 - 4.6

Insufficient data to report: Less than five mothers.

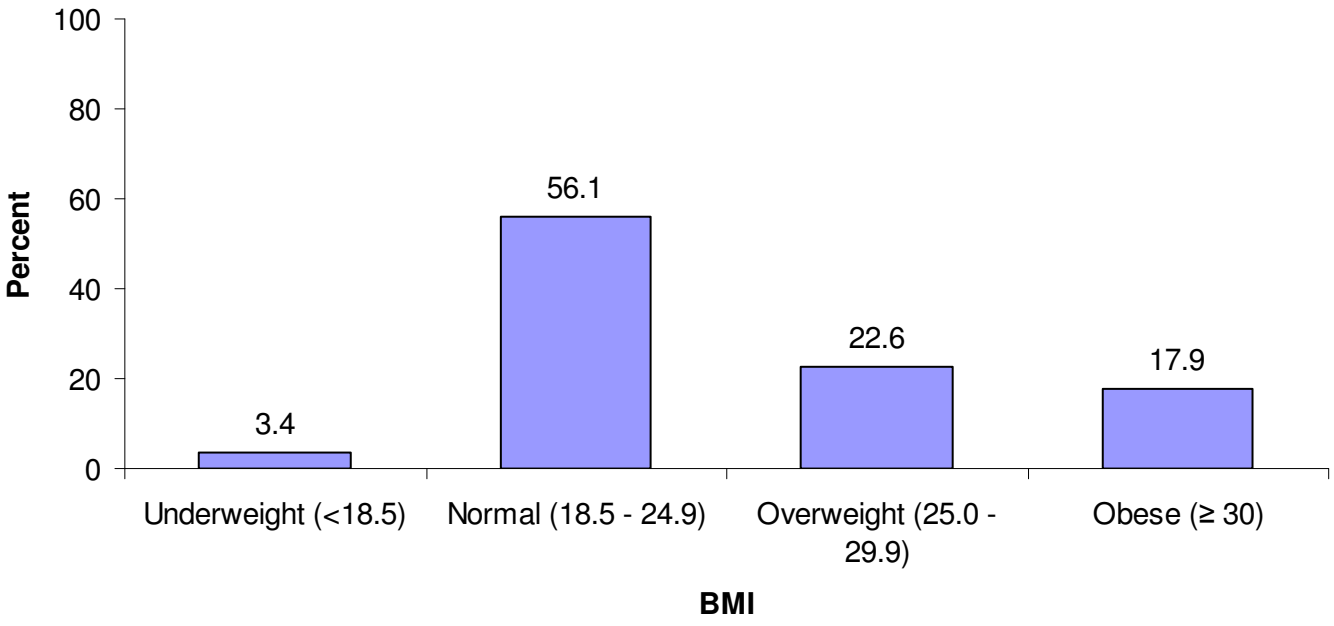
PRE-PREGNANCY

Body Mass Index (BMI)

The U.S. prevalence of overweight and obesity among women aged 20-39 years 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, 56.1%, had a normal BMI prior to becoming pregnant. Almost 23% were overweight and almost 18% were obese (Figure 2).

Figure 2. Maternal Body Mass Index (BMI) prior to pregnancy, 2009/2010 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 can cause malformations of an embryo or fetus and other complications of pregnancy (IOM, 1995).

The most common preconception care practices reported during the 12 months before pregnancy were getting teeth cleaned by a dentist or dental hygienist (68.7%), exercising three or more days a week (45.0%), and talking to a health care worker about family medical history (35.7%) (Figure 3). About 3% of mothers had type 1 or 2 diabetes prior to becoming pregnant (Figure 4).

Figure 3. Preconception readiness, activities reported during the 12 months before pregnancy, 2009/2010 MA PRAMS

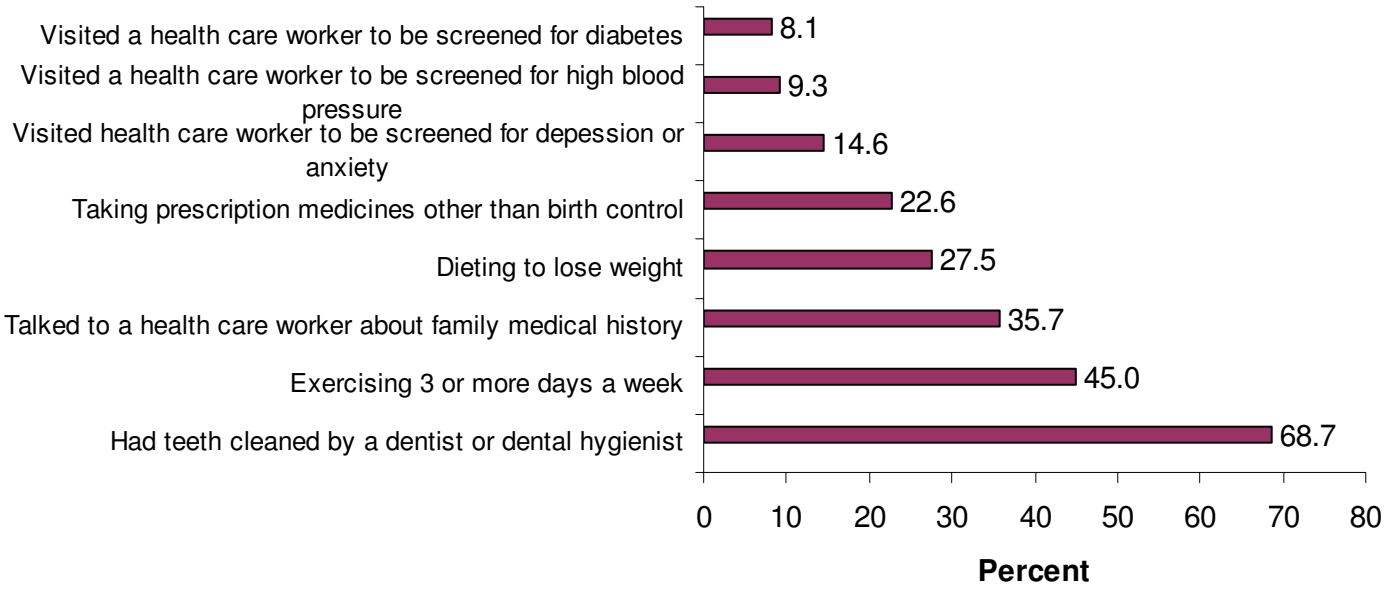
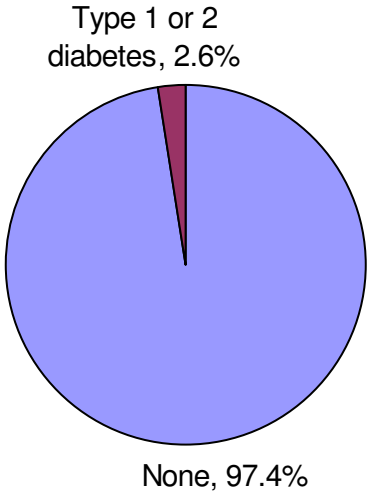


Figure 4. Prevalence of mothers with type 1 or 2 diabetes, 2009/2010 MA PRAMS



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

Figure 5. Prevalence of reactions to racism during the 12 months before delivery, 2009/2010 MA PRAMS

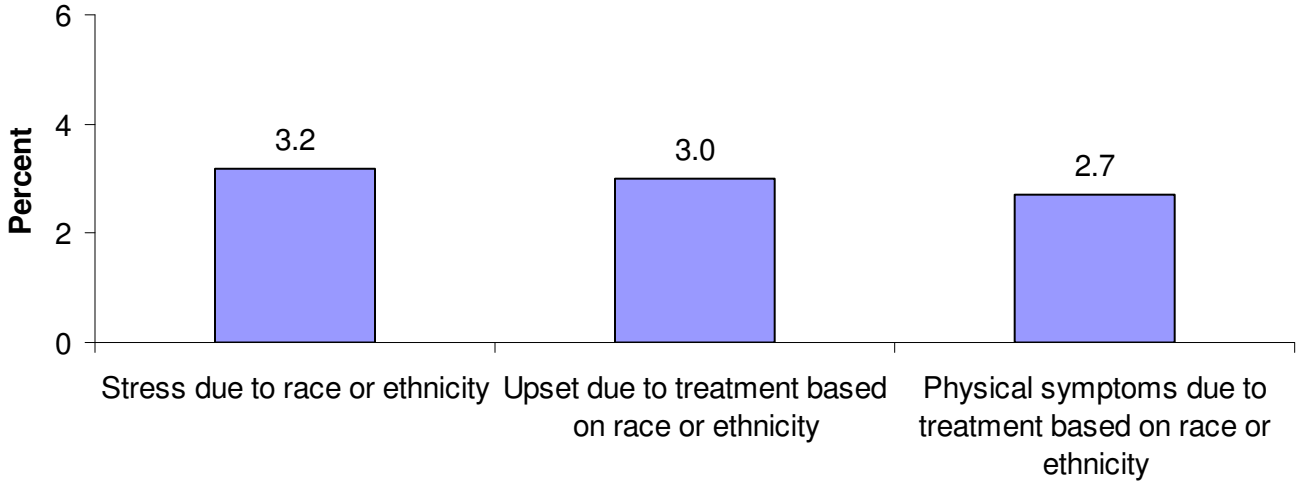
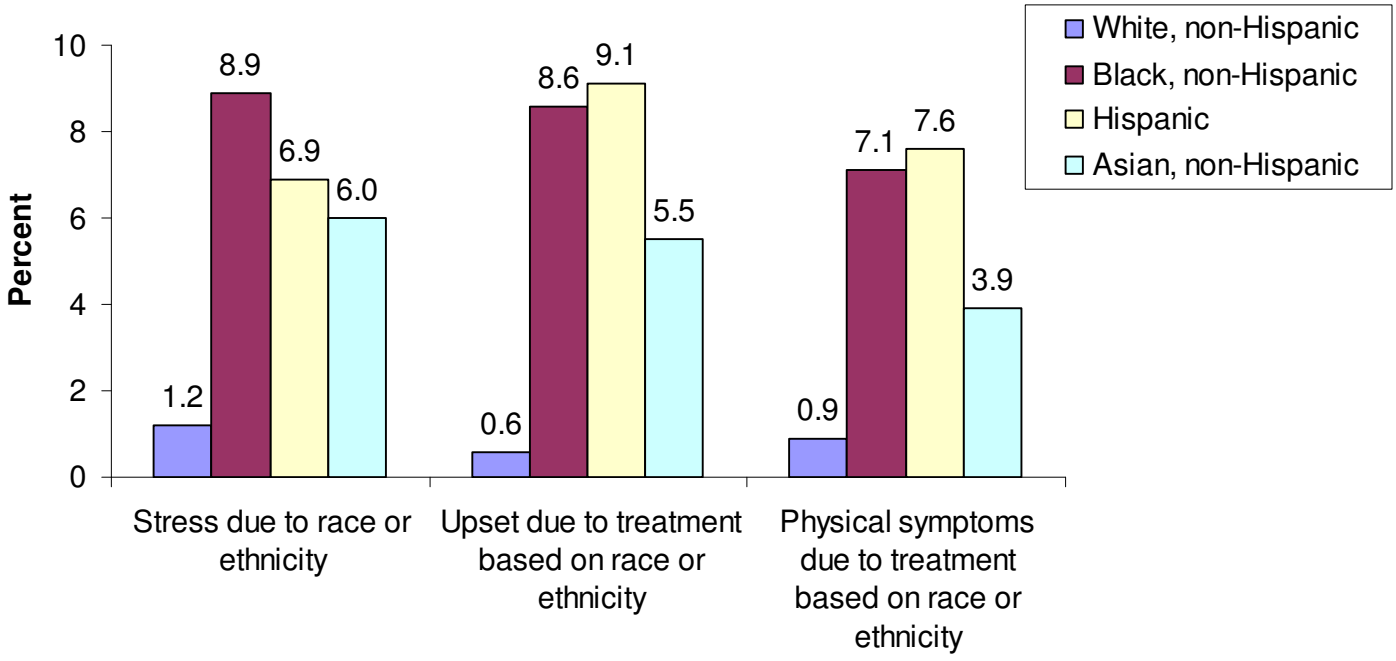


Figure 6. Prevalence of reactions to racism during the 12 months before delivery, by maternal race/ethnicity, 2009/2010 MA PRAMS

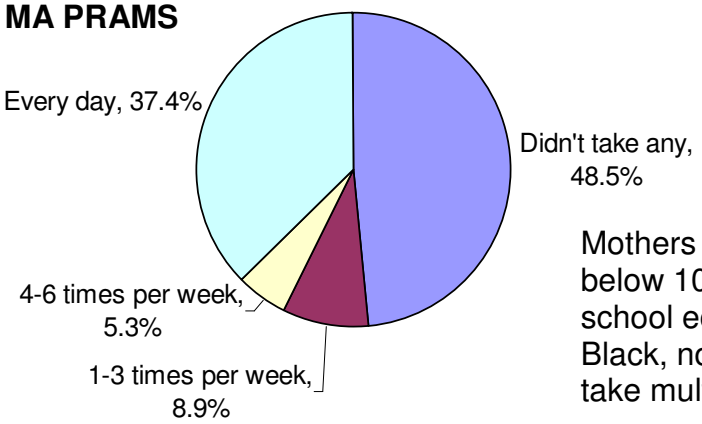


Prenatal multivitamin use

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 37.4% of mothers reported taking multivitamins every day of the week in the month before becoming pregnant. About 49% reported *never* taking them during that time (Figure 3).

Figure 7. Prevalence of multivitamin use in the month prior to pregnancy, 2009/2010 MA PRAMS



Mothers under age 20 (16.9%), those living at or below 100% of the FPL (18.5%), those with a high school education (22.7%), Hispanics (24.6%), or Black, non-Hispanics (28.3%) were the least likely to take multivitamins every day (Table 3).

Table 3. Prevalence of daily multivitamin use in the month prior to pregnancy, by socio-demographic characteristics, 2009/2010 MA PRAMS

Characteristic	Weighted n	Weighted %	95% CL
Total	52767	37.4	35.0 - 39.8
Maternal race/ethnicity			
White, non-Hispanic	38789	40.9	37.5 - 44.4
Black, non-Hispanic	3603	28.3	25.0 - 31.8
Hispanic	5135	24.6	21.7 - 27.8
Asian, non-Hispanic	4670	41.0	37.1 - 45.0
Other, non-Hispanic	569	41.6	29.7 - 54.5
Maternal age (years)			
<20	1318	16.9	11.4 - 24.4
20-29	16644	27.1	23.9 - 30.6
30-39	31643	47.8	44.2 - 51.4
40+	3162	55.4	43.0 - 67.1
Maternal education			
<High school	2986	23.5	18.6 - 29.2
High school diploma	8929	22.7	18.7 - 27.3
Some college	9345	33.8	28.9 - 39.0
College graduate	31507	51.4	47.7 - 55.2
Household poverty level			
≤100% FPL	5642	18.5	15.2 - 22.4
>100% FPL	43755	44.0	41.0 - 47.0
Maternal nativity			
Non-US-born	12965	33.6	30.5 - 36.7
US-born	39801	38.9	35.8 - 42.0

Pregnancy intention

The PRAMS survey measures two distinct elements of pregnancy intention: Whether the mother had been actively trying to get 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 67% reported that they had wanted the pregnancy then or sooner, and about 33% had wanted the pregnancy either later or never (Figure 8).

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

Figure 8. Feelings about becoming pregnant prior to this pregnancy, 2009/2010 MA PRAMS

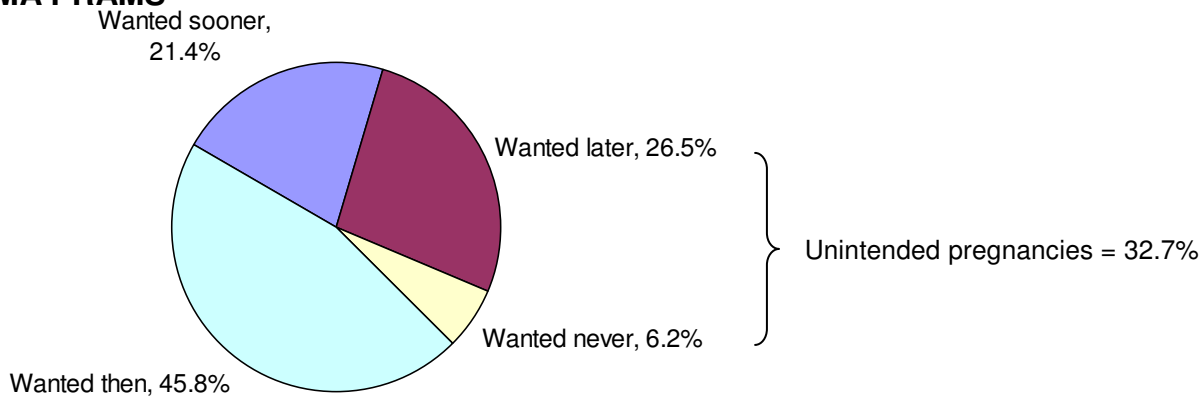
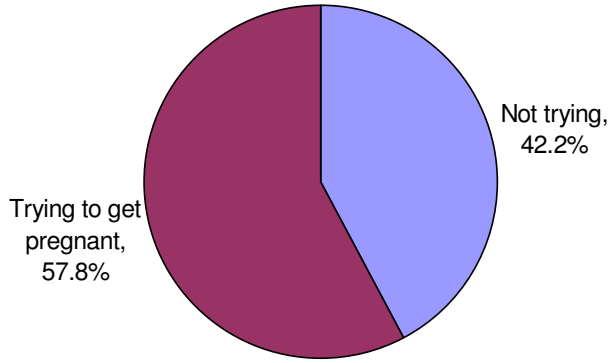


Figure 9. Proportion of mothers trying to get pregnant, 2009/2010 MA PRAMS



PRE-PREGNANCY

Pregnancy intention

The proportions of mothers reporting they had not been trying to become pregnant were highest among mothers aged 16-17 years (84.6%), those reported a history of physical abuse (76.1%), unmarried (68.8%), those living at or below 100% of the FPL (68.4%), or Black, non-Hispanics (61.9%) (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 who reported that they wanted the pregnancy "later" or "never" were highest among mothers aged 15 years or under (95.0%), those with a history of physical abuse (67.1%), unmarried (56.6%), those living at or below 100% of the FPL (55.3%), or Black, non-Hispanics (50.3%) (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, 2009/2010 MA PRAMS

	% Not trying to become pregnant			% Wanted pregnancy later/never		
Characteristic	Weighted n	Weighted %	95% CL	Weighted n	Weighted %	95% CL
Total	58950	42.2	39.8 - 44.7	45450	32.8	30.5 - 35.1
Maternal race/ethnicity						
White, non-Hispanic	35956	38.4	34.9 - 42.0	26550	28.5	25.3 - 32.0
Black, non-Hispanic	7829	61.9	58.2 - 65.5	6210	50.3	46.5 - 54.2
Hispanic	11071	53.5	49.9 - 57.1	9272	45.0	41.4 - 48.6
Asian, non-Hispanic	3492	31.0	27.3 - 35.0	2798	24.8	21.3 - 28.6
Other, non-Hispanic	602	44.3	32.0 - 57.4	619	44.2	32.0 - 57.2
Maternal age (years)						
≤15	382	81.0	49.8 - 94.8	448	95.0	70.4 - 99.3
16-17	2068	84.6	66.3 - 93.8	1962	80.3	62.9 - 90.7
18-19	3800	74.9	63.1 - 83.9	3542	69.4	57.3 - 79.4
20-29	32149	53.0	49.2 - 56.8	25488	42.5	38.7 - 46.3
30-39	18404	28.2	25.1 - 31.6	12820	19.7	17.0 - 22.6
40+	2147	37.5	26.5 - 50.0	1190	21.3	12.7 - 33.3
Maternal education						
<High school	8080	63.0	56.4 - 69.1	6817	53.4	46.7 - 60.0
High school diploma	23387	60.2	55.0 - 65.1	18343	47.7	42.5 - 52.9
Some college	14331	53.0	47.6 - 58.3	11105	41.5	36.3 - 46.9
College graduate	13119	21.6	18.7 - 24.9	9151	15.1	12.7 - 17.9
Household poverty level						
≤100% FPL	20581	68.4	63.7 - 72.8	16449	55.3	50.2 - 60.3
>100% FPL	32587	33.2	30.4 - 36.2	24130	24.6	22.1 - 27.3
Maternal nativity						
Non-US-born	16116	42.2	39.1 - 45.4	12303	32.3	29.4 - 35.3
US-born	42784	42.2	39.1 - 45.4	33128	32.9	30.0 - 36.0
Marital status						
Married	23735	26.8	24.2 - 29.7	16871	19.1	16.8 - 21.6
Unmarried	35214	68.8	65.0 - 72.4	28579	56.6	52.5 - 60.6
History of physical abuse						
No	55093	41.1	38.6 - 43.6	42138	31.6	29.3 - 34.0
Yes	3240	76.1	64.1 - 85.0	2819	67.1	54.2 - 77.9

PRE-PREGNANCY

Pregnancy intention

The proportions of mothers reporting they wanted to be pregnant "sooner" were highest among mothers aged 40 years or older (42.8%), Asian, non-Hispanics (34.4%), married (27.8%), those living above 100% of the FPL (24.4%), or those with no history of physical abuse (21.8%) (Table 5).

Table 5. Prevalence of wanting the pregnancy sooner by socio-demographic characteristics and history of abuse, 2009/2010 MA PRAMS

	% Wanted pregnancy sooner		
Characteristic	Weighted n	Weighted %	95% CL
Total	29744	21.4	19.5 - 23.5
Maternal race/ethnicity			
White, non-Hispanic	19920	21.4	18.7 - 24.4
Black, non-Hispanic	2511	20.3	17.5 - 23.6
Hispanic	3051	14.8	12.4 - 17.5
Asian, non-Hispanic	3883	34.4	30.6 - 38.3
Other, non-Hispanic	380	27.1	17.6 - 39.4
Maternal age (years)			
<20	287	3.6	1.9 - 6.7
20-29	9969	16.6	14 - 19.6
30-39	17090	26.2	23.2 - 29.5
40+	2398	42.8	31.2 - 55.4
Maternal education			
<High school	1472	11.5	8.4 - 15.7
High school diploma	5747	14.9	11.8 - 18.8
Some college	5509	20.6	16.6 - 25.3
College graduate	17017	28.1	24.9 - 31.6
Household poverty level			
≤100% FPL	3665	12.3	9.6 - 15.7
>100% FPL	23969	24.4	22 - 27.1
Maternal nativity			
Non-US-born	10374	27.2	24.3 - 30.4
US-born	19371	19.3	16.9 - 21.9
Marital status			
Married	24483	27.8	25 - 30.7
Unmarried	5262	10.4	8.5 - 12.7
History of physical abuse			
No	29048	21.8	19.8 - 23.9
Yes	477	11.4	6.0 - 20.4

Massachusetts mothers say...

"In addition to education initiatives for safe sex and sexual health, junior high and high school students should be informed about healthy pregnancy and child rearing needs as well as the financial and emotional costs. The highest risk group in my opinion is the teen population."

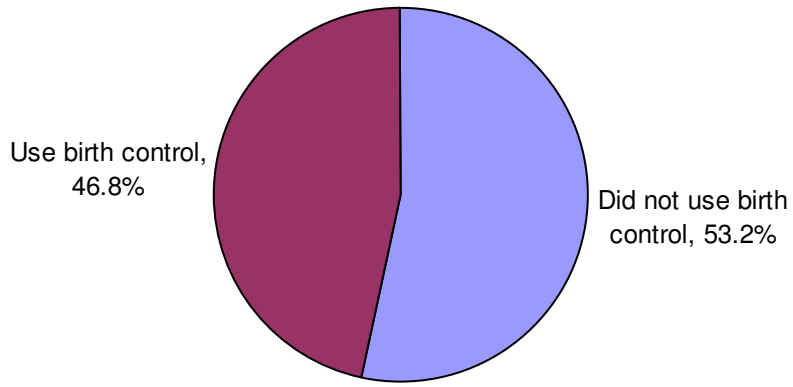
Contraception use

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 get pregnant, 53.2% reported *not* using any form of contraception.

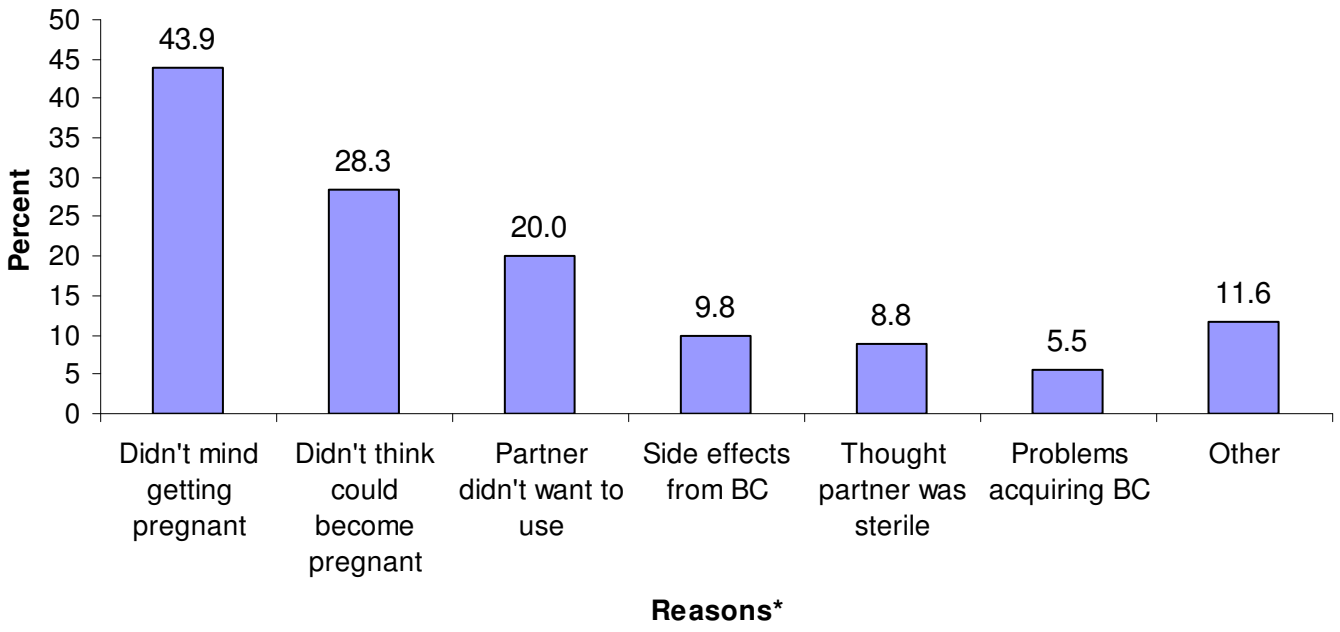
Figure 10. Prevalence of pre-pregnancy contraception use among mothers who were not trying to get pregnant, 2009/2010 MA PRAMS



Contraception use

Some of the top reasons for not using any contraception included mothers not minding getting pregnant (43.9%), perception that one could not get pregnant at that time (28.3%), 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 among mothers who were not trying to get pregnant, 2009/2010 MA PRAMS



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

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, 8.4% reported receiving some form of assistance from a health care provider in becoming pregnant. Among all mothers, 4.3% received fertility drugs, 3.8% used assisted reproductive technology (ART), 1.9% received artificial insemination, and 1.0% used other forms of treatment.

Figure 12. Prevalence of fertility treatment use*, 2009/2010 MA PRAMS

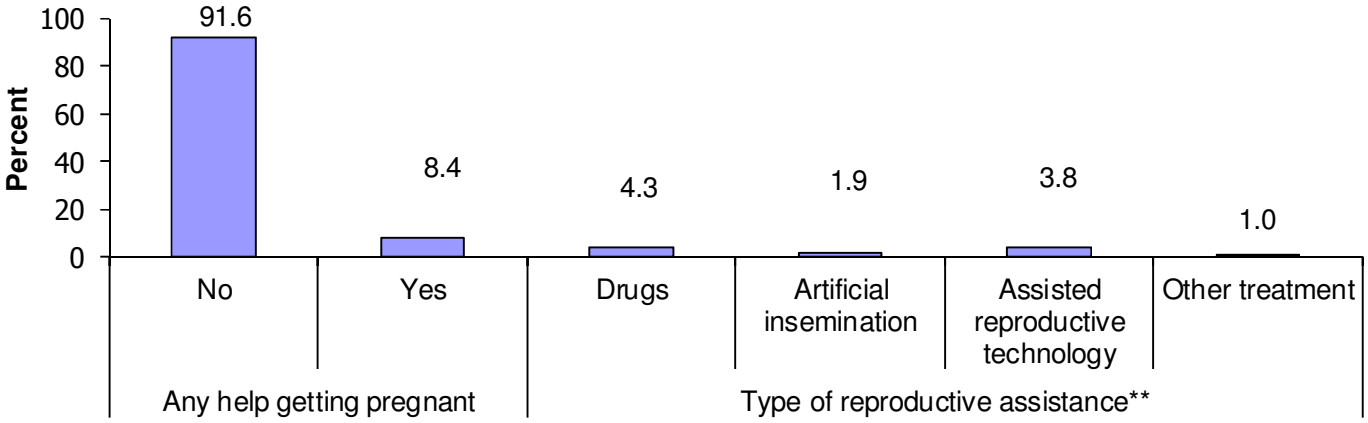


**Figure based on population prevalence of reproductive therapies.*
***Types of fertility treatment are not mutually exclusive.*

Fertility treatment

The highest prevalence of fertility treatment was observed among mothers aged 40 years or older (32.6%). Higher rates of fertility treatment were also observed among college graduates (14.3%), those who were living above 100% of the FPL (11.2%), White, non-Hispanics (10.1%), or those born in the United States (9.0%) (Table 6).

Table 6. Prevalence of fertility treatment use, by socio-demographic characteristics, 2009/2010 MA PRAMS

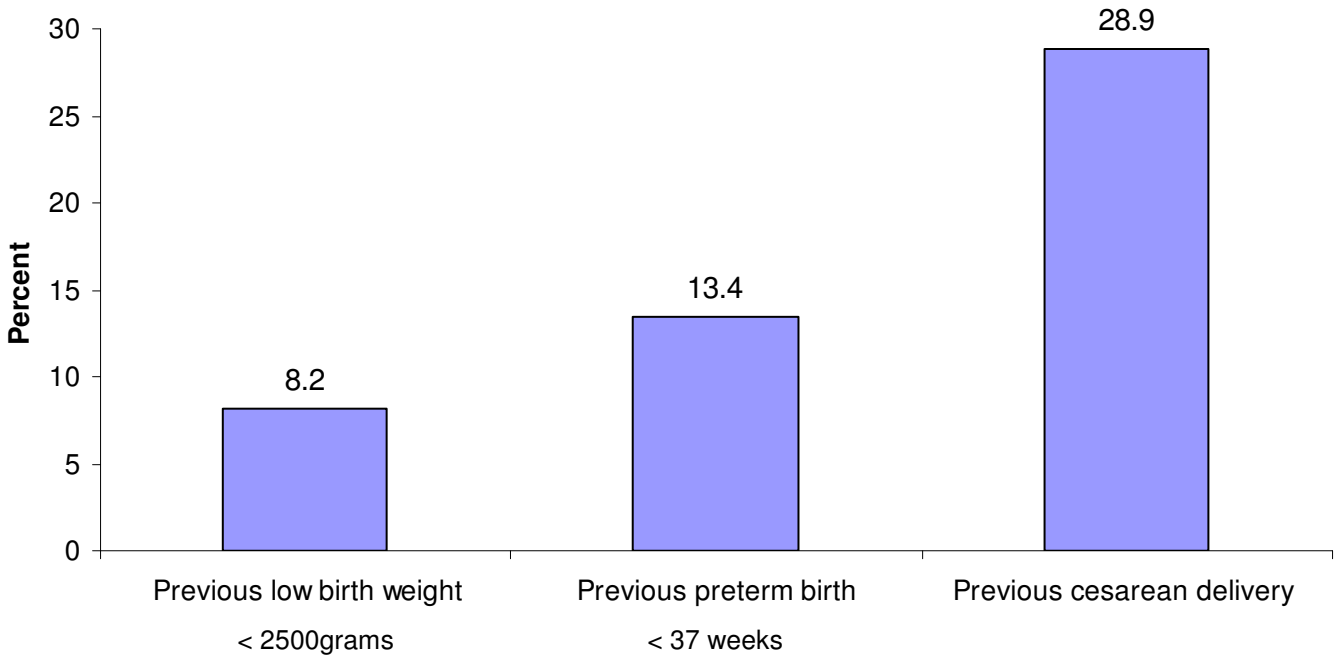
	Had any medical assistance in becoming pregnant			
Characteristic	Weighted n	Weighted %	95% CL	
Total	11968	8.4	7.1 -	10.0
Maternal race/ethnicity				
White, non-Hispanic	9604	10.1	8.2 -	12.4
Black, non-Hispanic	567	4.4	3.1 -	6.2
Hispanic	684	3.2	2.2 -	4.7
Asian, non-Hispanic	926	8.0	6.2 -	10.4
Other, non-Hispanic	186	13.3	6.7 -	24.6
Maternal age (years)				
<20	*Insufficient data to report*			
20-29	2529	4.1	2.8 -	6.0
30-39	7537	11.4	9.2 -	13.9
40+	1871	32.6	21.9 -	45.5
Maternal education				
<High school	171	1.3	0.6 -	2.9
High school diploma	1539	3.9	2.2 -	6.7
Some college	1456	5.3	3.3 -	8.2
College graduate	8802	14.3	11.8 -	17.3
Household poverty level				
≤100% FPL	244	0.8	0.4 -	1.4
>100% FPL	11119	11.2	9.4 -	13.3
Maternal nativity				
Non-US born	2683	6.8	5.1 -	9.1
US born	9285	9.0	7.4 -	11.0

Insufficient data to report: Less than five mothers.

Previous birth outcomes

Among multiparous mothers (those who have previously given birth to a live infant), 28.9% reported having had a previous cesarean delivery, 13.4% reported having had a previous preterm birth, and 8.2% 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, 2009/2010 MA PRAMS

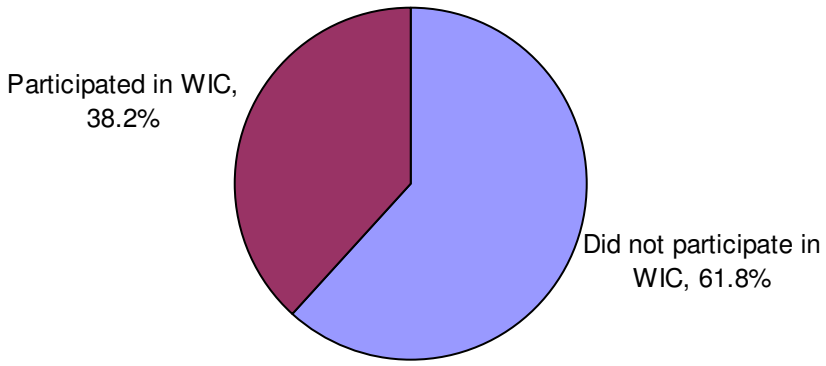


WIC participation during pregnancy

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides low income women (income at or below 185% of the Federal Poverty Level) with a variety of essential supportive services during and after pregnancy and until their children turn five 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 (38.2%) reported participating in WIC during their most recent pregnancy (Figure 14).

Figure 14. Proportion of mothers participating in WIC during pregnancy, 2009/2010 MA PRAMS



Massachusetts mothers say...

"The WIC Program is excellent. [I] am glad that it is available for pregnant and breastfeeding mothers."

WIC participation during pregnancy

The highest rates of WIC participation were among mothers with less than a high school education (87.1%), living at or below 100% of the FPL (82.9%), mothers under 20 years of age (81.0%), on Medicaid (80.2%), Hispanic (80.1%), unmarried (71.1%), or born outside of the United States (57.7%) (Table 7).

Table 7. Prevalence of WIC participation during pregnancy, by socio-demographic characteristics, 2009/2010 MA PRAMS

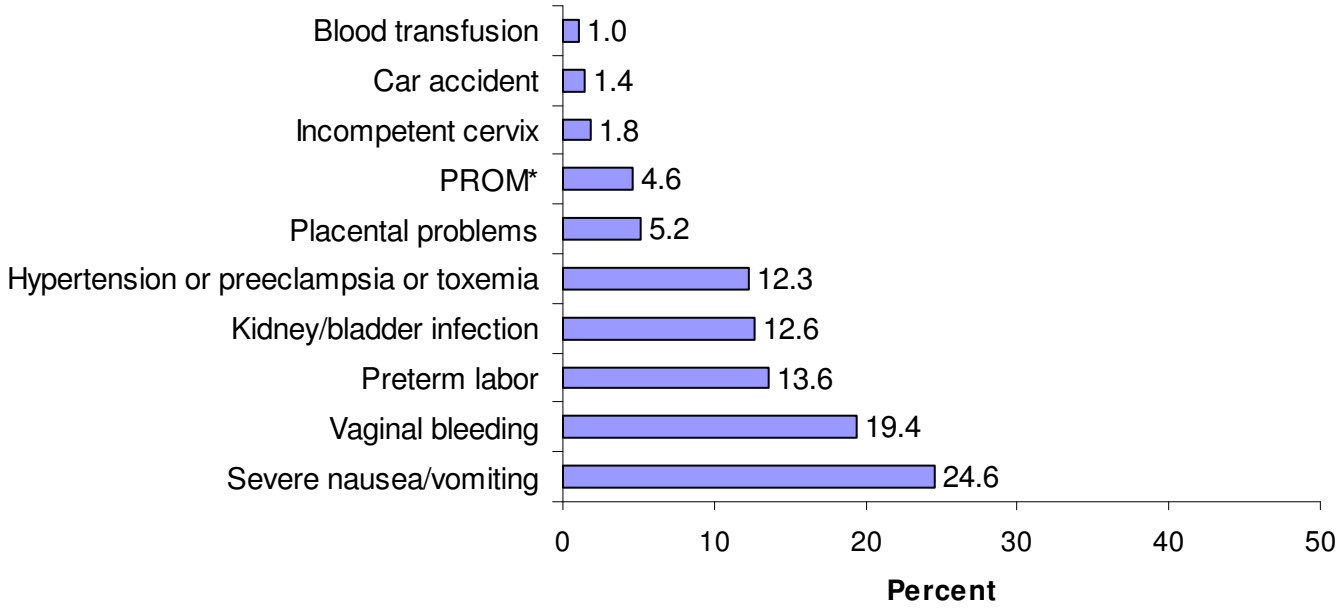
	% Participated in WIC		
Characteristic	Weighted n	Weighted %	95% CL
Total	53266	38.2	36.0 - 40.4
Maternal race/ethnicity			
White, non-Hispanic	23665	25.2	22.1 - 28.6
Black, non-Hispanic	9161	72.9	69.5 - 76.1
Hispanic	16643	80.1	77.1 - 82.8
Asian, non-Hispanic	2963	26.6	22.9 - 30.5
Other, non-Hispanic	834	61.4	48.5 - 72.9
Maternal age (years)			
<20	6469	81.0	70.1 - 88.6
20-29	32755	54.2	50.4 - 58.0
30-39	13003	19.9	17.5 - 22.5
40+	1039	18.3	12.1 - 26.6
Maternal education			
<High school	11211	87.1	80.6 - 91.7
High school diploma	26363	67.6	62.3 - 72.5
Some college	11493	42.2	37.2 - 47.4
College graduate	4166	6.9	5.6 - 8.5
Household poverty level			
≤100% FPL	25028	82.9	78.3 - 86.7
>100% FPL	21242	21.5	19.3 - 24.0
Marital status			
Married	16971	19.2	17.1 - 21.4
Unmarried	36295	71.1	67.0 - 74.9
Maternal nativity			
Non-US born	22099	57.7	54.5 - 60.9
US born	31136	30.7	27.9 - 33.7
Prenatal care payer source			
Non-Medicaid	12236	13.9	12.0 - 16.0
Medicaid	40487	80.2	76.6 - 83.5

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 (24.6%), followed by vaginal bleeding (19.4%), and preterm labor (13.6%) (Figure 15). See Table 8 for details on gestational diabetes mellitus.

Figure 15. Prevalence of maternal health complications during pregnancy, 2009/2010 MA PRAMS



**PROM = premature rupture of membranes*

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 type 2 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 7.1%. However, the prevalence differed by socio-demographic category, with the highest occurrence among mothers who were Asian, non-Hispanic (12.0%), those born outside of the United States (11.6%), those with less than a high school education (10.8%), or those who were obese (10.1%) (Table 8).

Table 8. Prevalence of gestational diabetes, by socio-demographic characteristics, 2009/2010 MA PRAMS

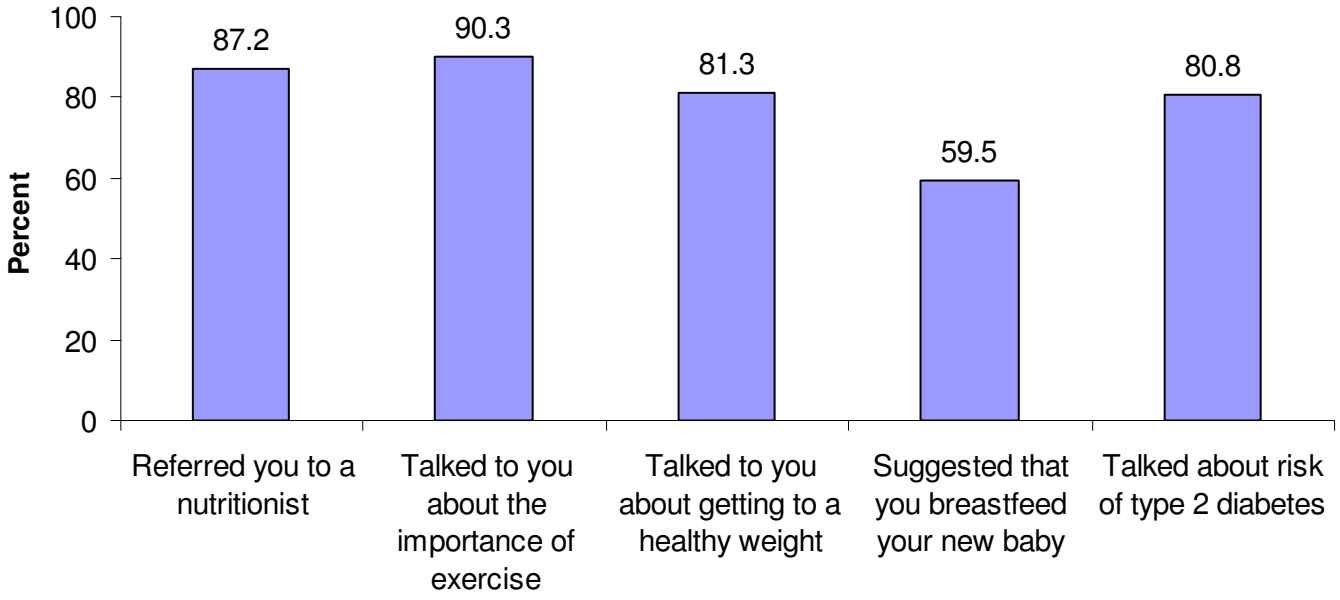
	Gestational Diabetes			
Characteristic	Weighted n	Weighted %	95% CL	
Total	9919	7.1	6.0 -	8.4
Maternal race/ethnicity				
White, non-Hispanic	4462	4.7	3.4 -	6.5
Black, non-Hispanic	1068	8.6	6.7 -	10.9
Hispanic	1956	9.5	7.6 -	11.8
Asian, non-Hispanic	1357	12.0	9.6 -	14.9
Other, non-Hispanic	*Insufficient data to report*			
Maternal age (years)				
<20	*Insufficient data to report*			
20-29	3650	6.0	4.5 -	7.9
30-39	4715	7.2	5.6 -	9.1
40+	380	6.6	4.0 -	10.9
Maternal education				
<High school	1371	10.8	7.0 -	16.3
High school diploma	2821	7.2	5.1 -	10.1
Some college	1733	6.3	4.3 -	9.1
College graduate	3106	5.1	3.8 -	6.8
Household poverty level				
≤100% FPL	2166	7.2	5.2 -	9.8
>100% FPL	5872	5.9	4.7 -	7.4
Maternal nativity				
Non-US-born	4443	11.6	9.6 -	13.9
US-born	4586	4.5	3.4 -	6.0
Body Mass Index (BMI)				
Normal or underweight	3922	4.9	3.7 -	6.4
Overweight	2297	7.6	5.4 -	10.5
Obese	2432	10.1	7.1 -	14.1

Insufficient data to report: Less than five mothers.

Gestational diabetes follow-up care

The overall prevalence of reported GDM was 7.1%. Among mothers with GDM, 90.3% reported that their prenatal care provider talked to them about the importance of exercise, 87.2% reported that their prenatal care provider referred them to a nutritionist, 81.3% reported that their prenatal care provider taught to them about getting to a healthy weight, 80.8% learned about their risk of type 2 diabetes from their prenatal care provider, and only 59.5% 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, 2009/2010 MA PRAMS



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 (66.1%) 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, 2009/2010 MA PRAMS

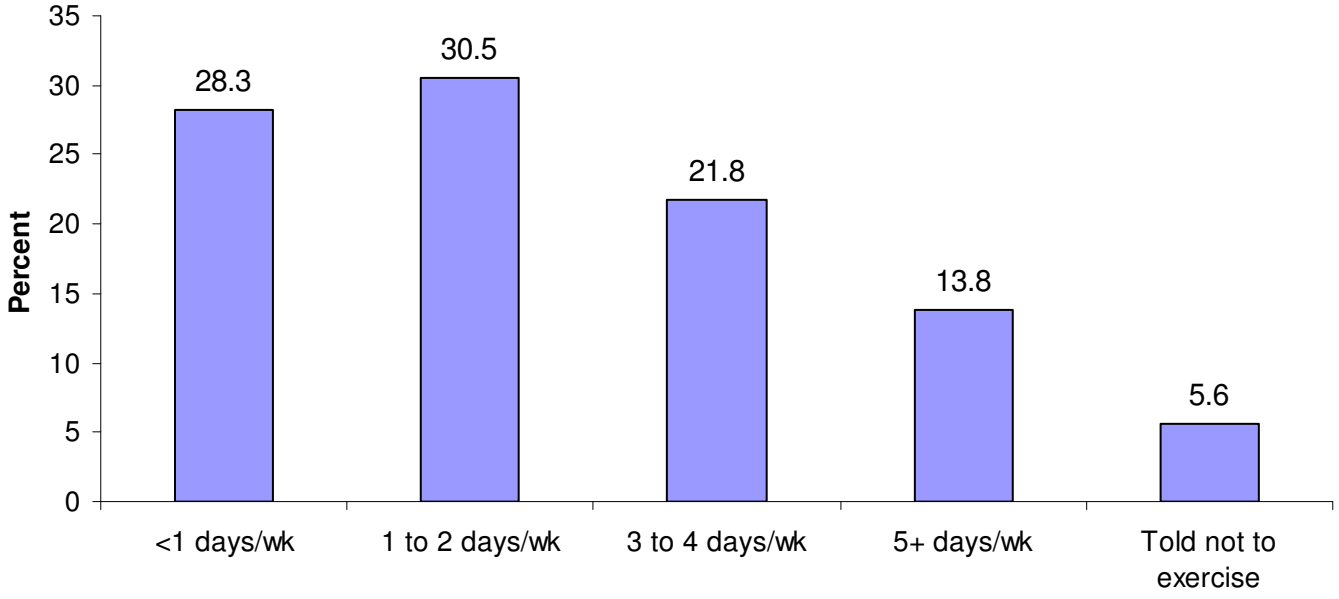
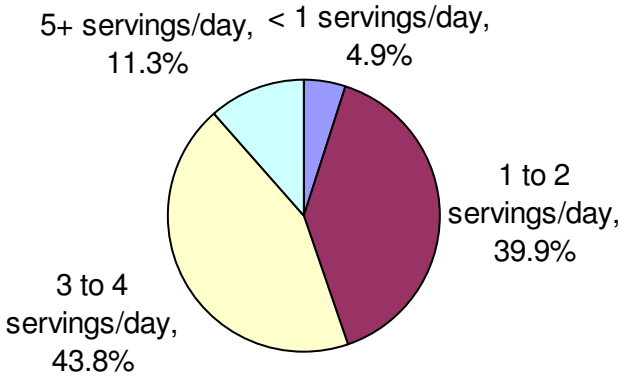


Figure 18. Consumption of fruits/vegetables per day in the last three months of pregnancy, 2009/2010 MA PRAMS



Current recommendations state that pregnant women should eat at least 2½ cups or five servings of vegetables and 1½ to two cups or three to four servings of fruits per day (ACOG, 2008).

About 95.1% of mothers reported eating at least one serving* of fruits or vegetables per day in the last three months of pregnancy. However, only 11.3% achieved five 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.*

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 (34.9%), financial (50.3%) or illness/death-related (30.6%) 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 (31.9%). Some mothers also reported having a very sick family member (24.2%) or arguing with their partners more than usual during this time (21.8%) (Figure 20).

Figure 19. Prevalence of stressful life events in the 12 months before birth, by type, 2009/2010 MA PRAMS

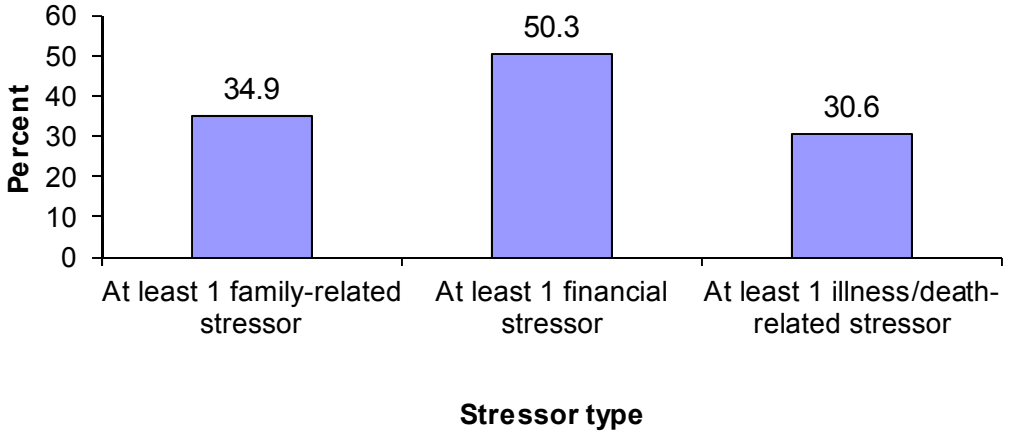
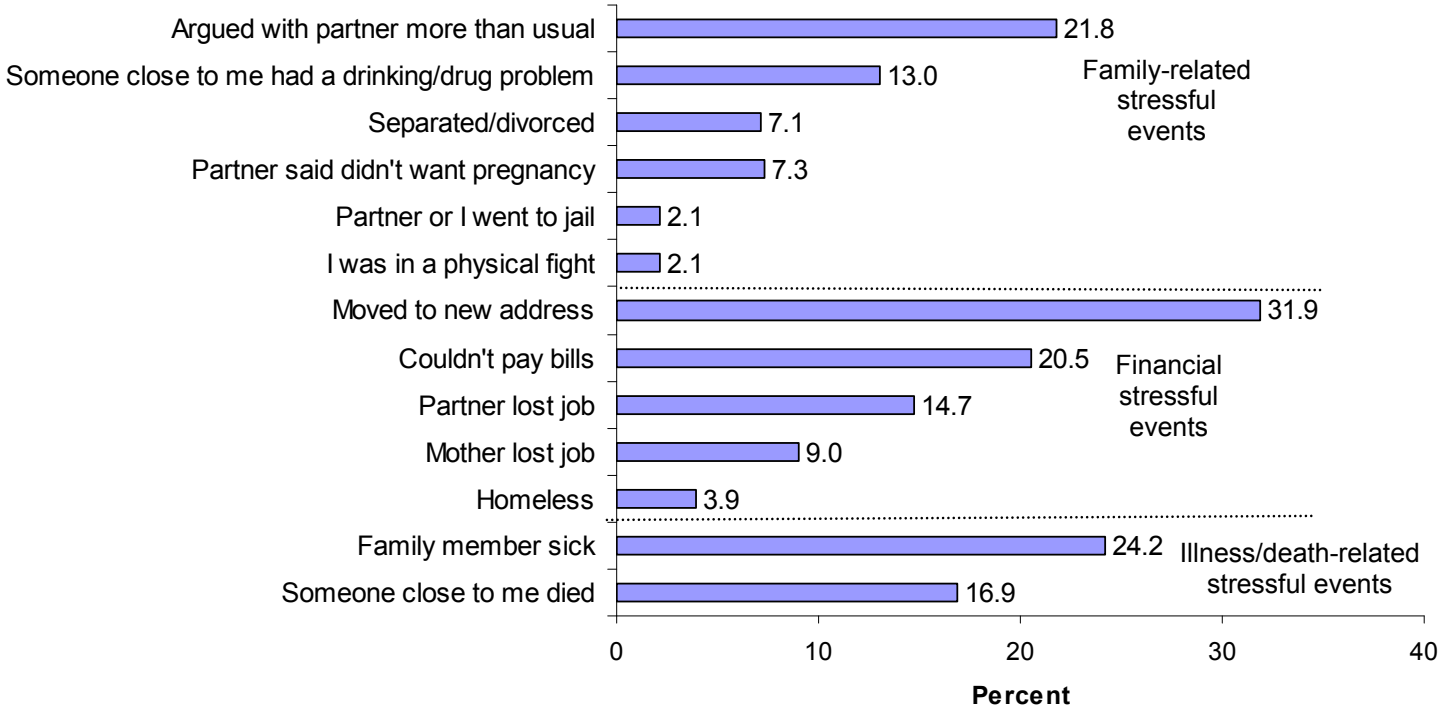


Figure 20. Prevalence of stressful life events in the 12 months before birth, by event, 2009/2010 MA PRAMS



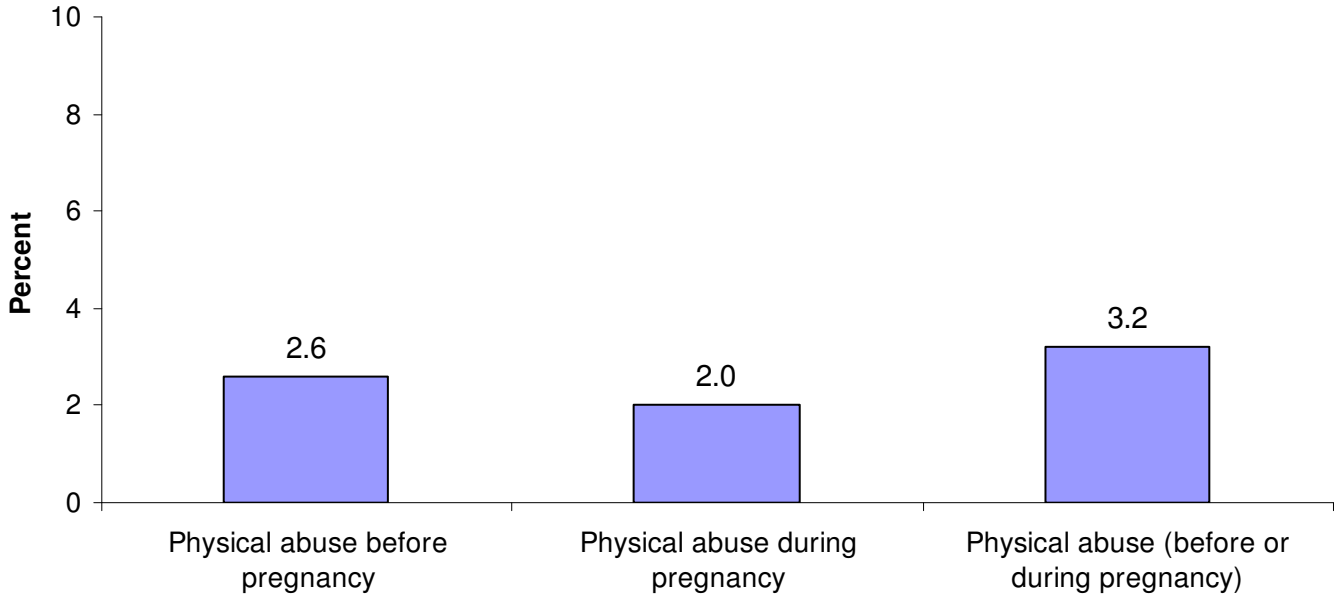
**Family-related stressors: Separation/divorce, physical fight, partner said didn't want pregnancy, argued with partner more than usual, someone close had a problem with drinking/drugs, partner went to jail; Financial stressors: Moving to a new address, being homeless, mom lost job, partner lost job,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

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 (2.6%) or during (2.0%) pregnancy. About 3% 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 the 12 months before pregnancy, during pregnancy, and during either time period, 2009/2010 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 (7.8%) (Table 9). Analysis was limited by small cell sizes.

Massachusetts mothers say...

"After my baby was born and we were still in the hospital, I was extremely impressed by the fact that several healthcare providers talked to me about postpartum depression and domestic violence. Fortunately, these experiences were not relevant to me, but I imagine [that] hearing about them might help other women [become] informed about [the] experiences they [had]."

Table 9. Prevalence of physical abuse (12 months before pregnancy, during pregnancy, and during either time period), 2009/2010 MA PRAMS

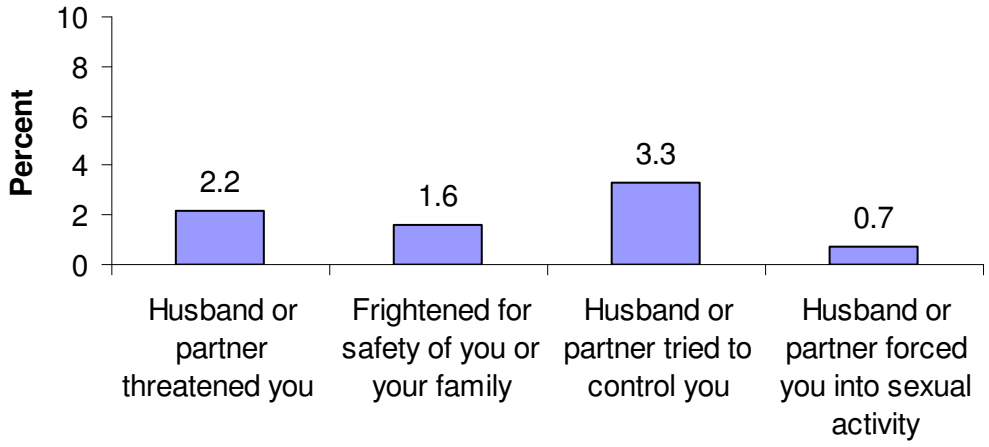
Characteristic	Abuse before pregnancy			Abuse during pregnancy			Abuse before or during pregnancy		
	Weighted n	Weighted %	95% CL	Weighted n	Weighted %	95% CL	Weighted n	Weighted %	95% CL
Total	3624	2.6	2.0 - 3.5	2766	2.0	1.5 - 2.7	4444	3.2	2.5 - 4.1
Maternal race/ethnicity									
White, non-Hispanic	1892	2.0	1.2 - 3.4	1199	1.3	0.7 - 2.3	2154	2.3	1.4 - 3.7
Black, non-Hispanic	599	4.9	3.5 - 6.8	539	4.3	3.0 - 6.1	816	6.5	4.8 - 8.6
Hispanic	918	4.6	3.2 - 6.4	776	3.7	2.6 - 5.4	1129	5.4	4.0 - 7.3
Asian, non-Hispanic	215	1.9	1.1 - 3.4	*Insufficient data to report*			301	2.6	1.6 - 4.3
Other, non-Hispanic	0	0		*Insufficient data to report*			*Insufficient data to report*		
Maternal age (years)									
<20	*Insufficient data to report*			*Insufficient data to report*			*Insufficient data to report*		
20-29	2027	3.4	2.3 - 4.9	1741	2.9	1.9 - 4.2	2429	4.0	2.8 - 5.6
30-39	1094	1.7	1.0 - 2.9	*Insufficient data to report*			1438	2.2	1.4 - 3.5
40+	*Insufficient data to report*			*Insufficient data to report*			*Insufficient data to report*		
Maternal education									
<High school	*Insufficient data to report*			*Insufficient data to report*			*Insufficient data to report*		
High school diploma	1114	2.9	1.7 - 5.0	831	2.1	1.3 - 3.5	1378	3.5	2.3 - 5.5
Some college	1060	3.9	2.4 - 6.4	931	3.4	2.0 - 5.7	1368	5.0	3.2 - 7.6
College graduate	*Insufficient data to report*			*Insufficient data to report*			964	1.6	0.9 - 2.7
Household poverty level									
≤100% FPL	2014	6.8	4.6 - 9.8	1592	5.2	3.6 - 7.5	2374	7.8	5.6 - 10.7
>100% FPL	1536	1.6	1.0 - 2.5	1147	1.2	0.7 - 1.9	1996	2.0	1.3 - 3.0
Maternal nativity									
Non-US-born	922	2.4	1.7 - 3.6	643	1.7	1.1 - 2.4	1194	3.1	2.2 - 4.2
US-born	2702	2.7	1.9 - 3.9	2123	2.1	1.4 - 3.0	3250	3.2	2.3 - 4.4

Insufficient data to report: Less than five mothers.

Intimate partner violence

A small percentage of mothers reported experiencing intimate partner violence since the birth of their new baby. About 3% of mothers reported that their husband or partner had tried to control their daily activities; 2.2% of mothers reported having been threatened by their husband or partner or feeling unsafe in some way; 1.6% 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 0.7% 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.

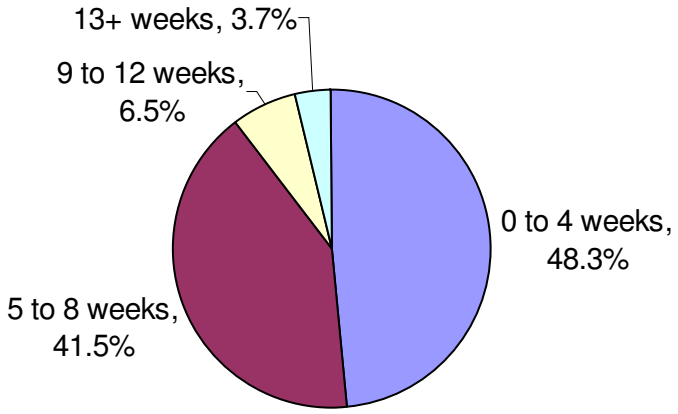
Figure 22. Prevalence of intimate partner violence postpartum, 2009/2010 MA PRAMS



Prenatal care: Entry to care

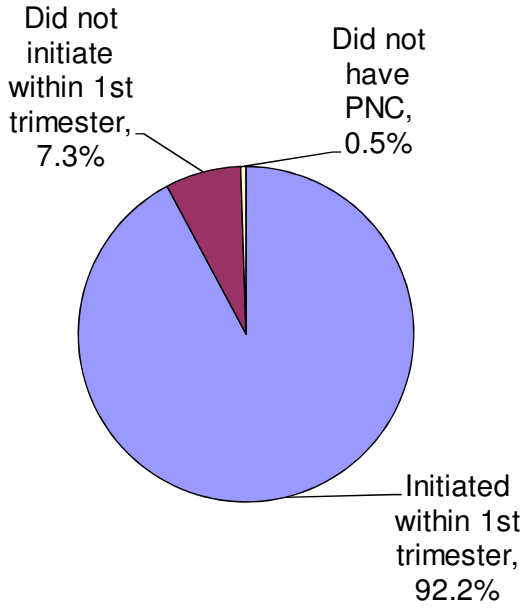
Early knowledge of pregnancy and timely entry into prenatal care provide women with access to important preventive health services as well as screening, monitoring and treatment for pregnancy-related health issues. Complications like GDM and hypertension can cause harm to the mother and fetus if left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

Figure 23. Gestational age when pregnancy was confirmed, 2009/2010 MA PRAMS



Almost half of women (48.3%) had their pregnancy confirmed by a pregnancy test or by a doctor or nurse within the first month, and 3.7% did not do so until after the first trimester of the pregnancy (Figure 23).

Figure 24. Timing of initiation of prenatal care (PNC), 2009/2010 MA PRAMS



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

Prenatal care: Entry into 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 those mothers without a high school diploma (81.7%), Black, non-Hispanics (84.3%), or mothers under 20 years of age (84.4%). About 86% 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 into prenatal care in the first trimester, by socio-demographic characteristics, 2009/2010 MA PRAMS

	Entered prenatal care in 1st trimester			
Characteristic	Weighted n	Weighted %	95% CL	
Total	129002	92.2	90.9 -	93.3
Maternal race/ethnicity				
White, non-Hispanic	89860	95.1	93.3 -	96.5
Black, non-Hispanic	10383	84.3	81.2 -	86.9
Hispanic	17501	85.2	82.4 -	87.6
Asian, non-Hispanic	10049	89.5	86.6 -	91.8
Other, non-Hispanic	1208	90.0	78.3 -	95.7
Maternal age (years)				
<20	6697	84.4	76.8 -	89.9
20-29	54398	89.6	87.2 -	91.6
30-39	62637	95.3	93.8 -	96.4
40+	5270	95.7	92.2 -	97.7
Maternal education				
<High school	10315	81.7	76.5 -	86.0
High school diploma	34427	88.4	85.2 -	91.0
Some college	25077	91.7	88.4 -	94.1
College graduate	58983	97.0	95.6 -	98.0
Household poverty level				
≤100% FPL	25728	85.5	81.8 -	88.5
>100% FPL	93716	94.8	93.4 -	96.0
Maternal nativity				
Non-US-born	33775	89.2	87.4 -	90.8
US-born	95177	93.3	91.6 -	94.7
Prenatal care payer source				
Non-Medicaid	85033	95.5	94.0 -	96.6
Medicaid	43897	87.8	85.3 -	89.9

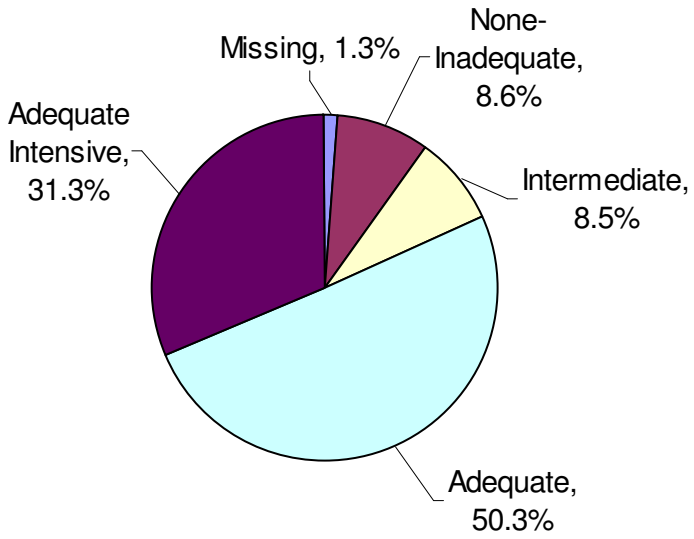
Prenatal care: Adequacy of Prenatal Care Utilization Index

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 9% 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), 2009/2010 MA PRAMS



Massachusetts mothers say...

"I truly believe controlling one's emotional/mental health is key [to] a healthy pregnancy. I believe that when an expectant mother is stressed, the baby feels stressed as well. I worked hard at keeping control of my feelings & emotions. My baby is a happy and healthy little girl. Lastly, prenatal care and healthy eating are crucial!"

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 (17.2%), those with less than a high school education (16.2%), Black, non-Hispanics (15.8%), those who were living at or below 100% of the FPL (15.4%), or Hispanics (12.4%) (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, 2009/2010 MA PRAMS

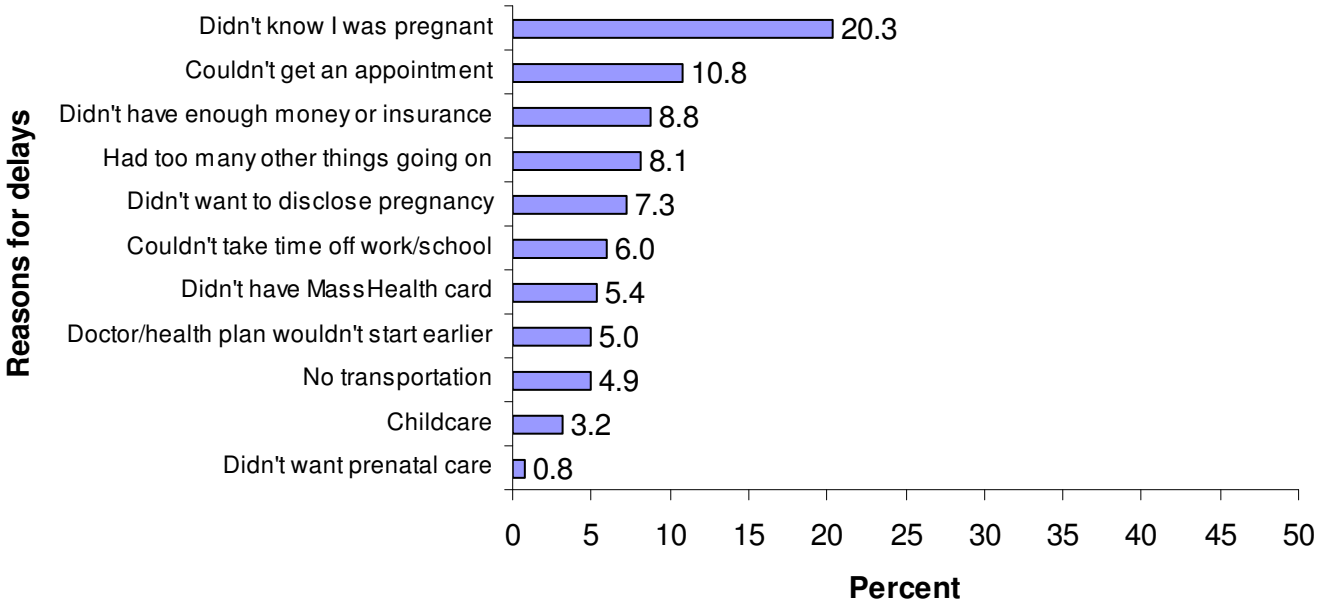
	Inadequate/no prenatal care		
Characteristic	Weighted n	Weighted %	95% CL
Total	12156	8.6	7.3 - 10.0
Maternal race/ethnicity			
White, non-Hispanic	6629	7.0	5.3 - 9.1
Black, non-Hispanic	2024	15.8	13.2 - 18.9
Hispanic	2622	12.4	10.2 - 15.0
Asian, non-Hispanic	797	6.9	5.1 - 9.3
Other, non-Hispanic	*Insufficient data to report*		
Maternal age (years)			
<20	1385	17.2	11.6 - 24.8
20-29	5503	8.9	7.0 - 11.3
30-39	5071	7.6	6.0 - 9.7
40+	*Insufficient data to report*		
Maternal education			
<High school	2137	16.2	12.3 - 21.2
High school diploma	4313	10.9	8.2 - 14.5
Some college	2050	7.4	5.2 - 10.5
College graduate	3657	6.0	4.4 - 8.0
Household poverty level			
≤100% FPL	4712	15.4	12.1 - 19.3
>100% FPL	6180	6.2	4.9 - 7.9
Maternal nativity			
Non-US-born	4235	10.8	9.0 - 13.0
US-born	7921	7.7	6.2 - 9.6
Prenatal care payer source			
Non-Medicaid	5930	6.6	5.2 - 8.4
Medicaid	6029	11.8	9.7 - 14.3

Insufficient data to report: Less than five mothers.

Prenatal care: Reasons for delay

About 10% 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 and had late prenatal care entry (after the first trimester of pregnancy), the top four reasons reported including not knowing about the pregnancy (20.3%), could not get an appointment (10.8%), followed by lack of money or insurance (8.8%), and having too many other things going on (8.1%) (Figure 26).

Figure 26. Reasons for not receiving prenatal care as early as wanted among those with late prenatal care entry*, 2009/2010 MA PRAMS



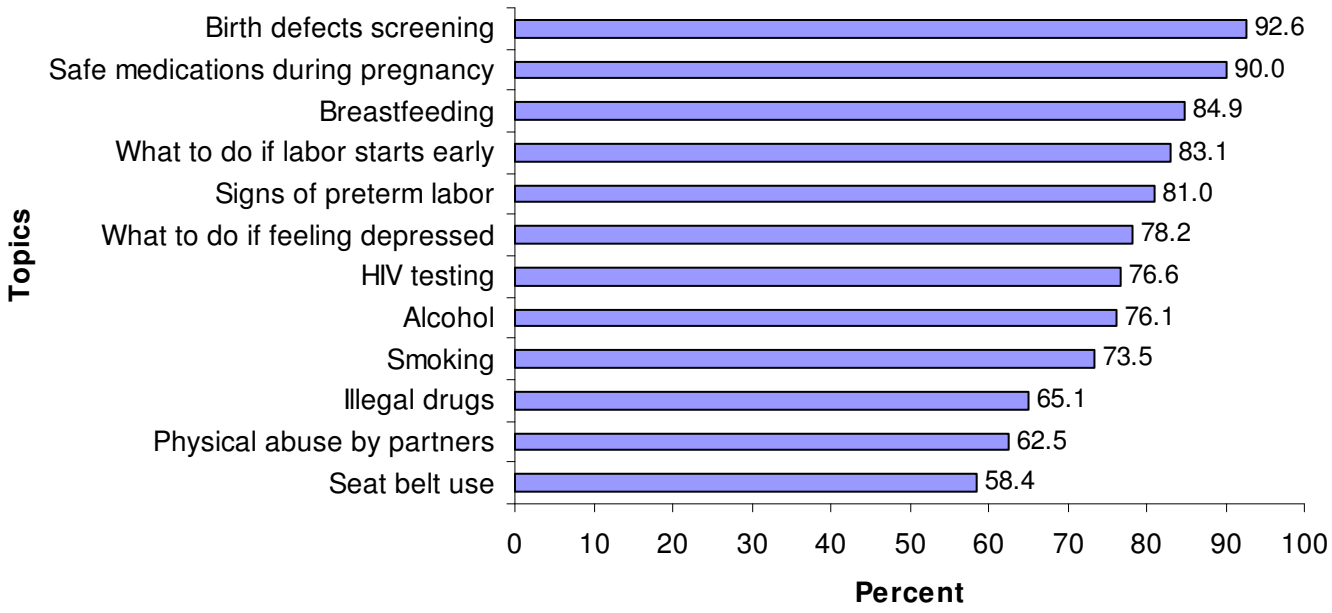
**Reasons for not receiving prenatal care as early as wanted are not mutually exclusive.*

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 (92.6%) and safe medications to use during pregnancy (90.0%). The least frequently discussed were physical abuse by partners (62.5%) and seat belt use (58.4%).

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 2009/2010 is similar to the prevalence of major birth defects (about 3-4% in Massachusetts in 2007/2008) (National Birth Defects Prevention Network, 2009). However, physical abuse was reportedly far less frequently discussed compared to birth defects screening.

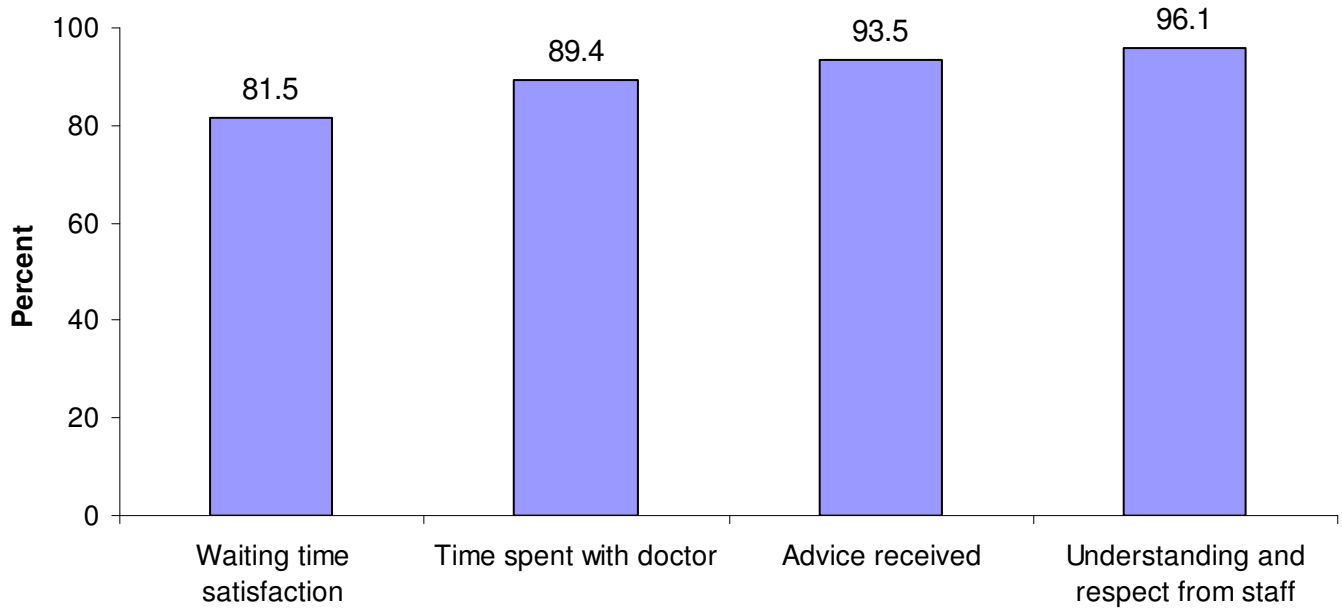
Figure 27. Topics discussed with health care providers during prenatal care visits, 2009/2010 MA PRAMS



Prenatal care satisfaction

About 96% of mothers reported that they were satisfied with the understanding and respect received from office staff at their prenatal care visit, and 93.5% 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 81.5% 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 with prenatal care provided by health care providers, 2009/2010 MA PRAMS



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 65% of mothers reported having received an HIV test during their pregnancy, 25.9% reported not being tested, and another 8.8% reported not knowing whether they had been tested (Figure 30).

Figure 29. Proportion of mothers offered HIV testing during pregnancy, 2009/2010 MA PRAMS

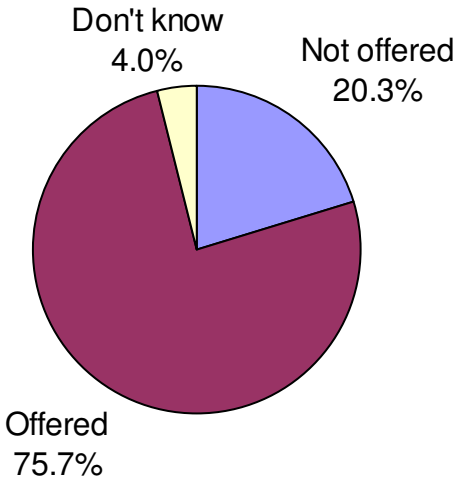
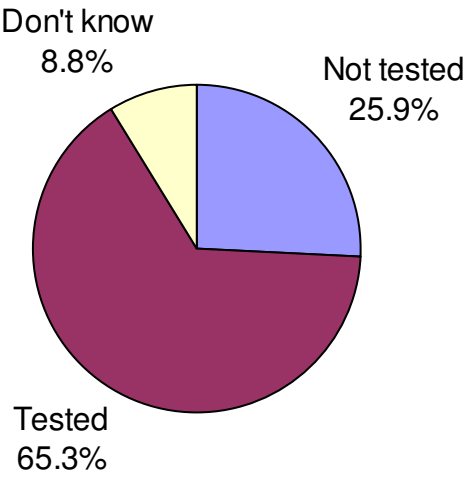


Figure 30. Proportion of mothers tested for HIV during pregnancy, 2009/2010 MA PRAMS



HIV testing during pregnancy: Offering and testing

Offers of HIV testing varied across socio-demographic groups. Black, non-Hispanic and Hispanic mothers (85.7% and 85.3%, respectively) were more likely to report being offered an HIV test than White, non-Hispanic mothers (72.6%). About 84% of mothers living at or below 100% of the FPL were offered a HIV test compared to 72.3% of mothers living above 100% of the FPL. About 85% of mothers on Medicaid were offered an HIV test compared to 70.9% of mothers who were not on Medicaid (Table 12).

Report of being tested was similar to report of being offered a test. Hispanic (80.9%) and Black, non-Hispanic (79.0%) mothers were more likely to be tested for HIV than White, non-Hispanic (60.1%) mothers. Testing was also associated with living at or below 100% of the FPL (78.1%), being on Medicaid (77.5%), or being born outside of the United States (73.2%).

Table 12. Prevalence of offer-of-testing/HIV testing during pregnancy, by socio-demographic characteristics, 2009/2010 MA PRAMS

	Offered HIV test			Tested for HIV		
		Weighted			Weighted	
Characteristic	Weighted n	%	95% CL	Weighted n	%	95% CL
Total	107346	75.7	73.5 - 77.8	92583	65.3	62.9 - 67.6
Maternal race/ethnicity						
White, non-Hispanic	68896	72.6	69.3 - 75.6	57086	60.1	56.6 - 63.5
Black, non-Hispanic	10970	85.7	82.9 - 88.2	10110	79.0	75.8 - 81.9
Hispanic	18056	85.3	82.6 - 87.7	17114	80.9	77.9 - 83.5
Asian, non-Hispanic	8276	71.8	68.0 - 75.3	7204	62.5	58.5 - 66.3
Other, non-Hispanic	1149	82.0	70.7 - 89.6	1069	76.3	64.4 - 85.1
Maternal age (years)						
<20	6982	86.7	79.1 - 91.9	6606	82.1	73.5 - 88.3
20-29	49466	80.1	76.8 - 83.1	44584	72.2	68.6 - 75.6
30-39	46706	70.4	67.0 - 73.7	37663	56.8	53.2 - 60.4
40+	4192	73.1	60.4 - 82.9	3731	65.0	52.3 - 75.9
Maternal education						
<High school	11565	87.9	84.4 - 90.7	10899	82.9	77.8 - 86.9
High school diploma	31843	80.7	76.2 - 84.6	29136	73.9	68.9 - 78.3
Some college	21891	79.1	74.4 - 83.2	18722	67.7	62.4 - 72.6
College graduate	42013	68.5	64.8 - 71.9	33794	55.1	51.3 - 58.8
Household poverty level						
≤100% FPL	25762	84.2	79.8 - 87.7	23910	78.1	73.3 - 82.2
>100% FPL	72001	72.3	69.4 - 74.9	59980	60.2	57.2 - 63.1
Maternal nativity						
Non-US-born	31062	79.3	76.4 - 81.9	28689	73.2	70.2 - 76.1
US-born	76234	74.3	71.4 - 77.0	63844	62.2	59.1 - 65.3
Prenatal care payer source						
Non-Medicaid	63610	70.9	67.8 - 73.7	52596	58.6	55.4 - 61.7
Medicaid	43320	84.8	81.6 - 87.5	39588	77.5	73.8 - 80.7

HIV testing during pregnancy: Refusal

Among mothers who were offered an HIV test during their pregnancy, 11.0% indicated that they had refused the test (Figure 31).

Figure 31. Proportion of mothers who refused HIV testing during pregnancy (among those offered), 2009/2010 MA PRAMS

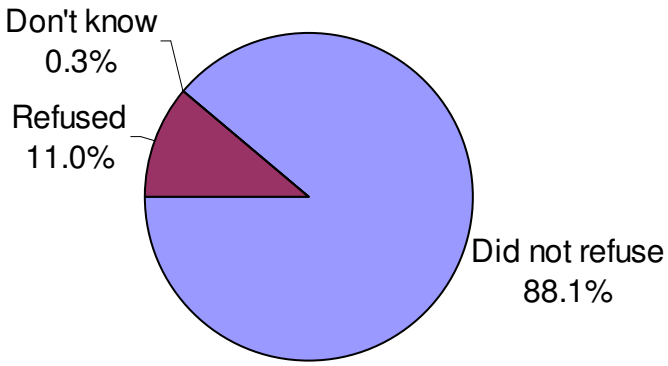


Table 13. Prevalence of mothers who refused HIV testing during pregnancy (among those offered), by socio-demographic characteristics, 2009/2010 MA PRAMS

	Refused HIV test		
Characteristic	Weighted n	Weighted %	95% CL
Total	11850	11.0	9.3 - 13.1
Maternal race/ethnicity			
White, non-Hispanic	10061	14.6	11.9 - 17.7
Black, non-Hispanic	467	4.3	2.9 - 6.2
Hispanic	480	2.7	1.7 - 4.2
Asian, non-Hispanic	800	9.7	7.3 - 12.7
Other, non-Hispanic	0	0	
Maternal age (years)			
<20	*Insufficient data to report*		
20-29	3620	7.3	5.2 - 10.1
30-39	7867	16.8	13.7 - 20.5
40+	290	6.9	2.4 - 18.6
Maternal education			
<High school	264	2.3	0.7 - 7.6
High school diploma	1865	5.9	3.5 - 9.6
Some college	2700	12.3	8.6 - 17.3
College graduate	7021	16.7	13.5 - 20.5
Household poverty level			
≤100% FPL	867	3.4	1.7 - 6.7
>100% FPL	10227	14.2	11.8 - 17.0
Maternal nativity			
Non-US-born	1515	4.9	3.5 - 6.7
US-born	10335	13.6	11.2 - 16.3
Prenatal care payer source			
Non-Medicaid	9456	14.9	12.3 - 17.8
Medicaid	2395	5.5	3.6 - 8.3

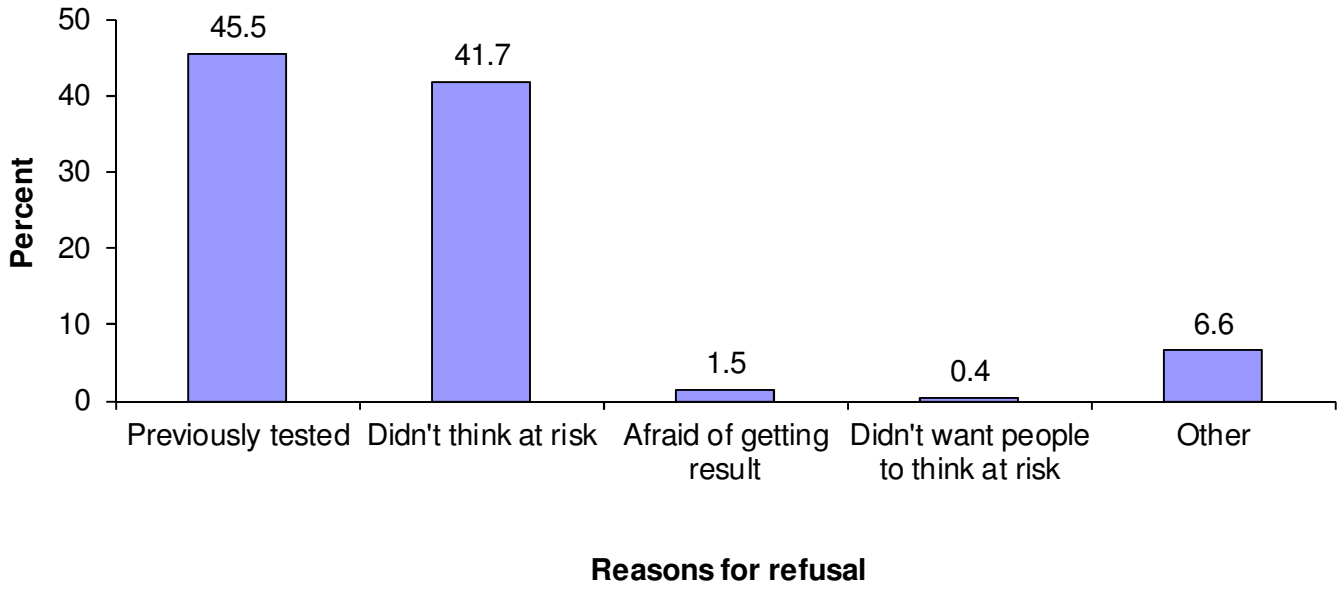
Insufficient data to report: Less than five mothers.

HIV testing during pregnancy: Refusal

Among mothers who were offered an HIV test during their pregnancy, 11.0% indicated that they had refused the test. White, non-Hispanic mothers were more likely to refuse an HIV test than Black, non-Hispanic mothers (14.6% and 4.3%, respectively). Refusal rates were higher among those who were not on Medicaid (14.9%), those living above 100% of the FPL (14.2%), or born in the United States (13.6%) (Table 13).

Among those refusing an HIV test, the most common reasons for refusal included having been previously tested (45.5%), and not believing oneself to be at risk for HIV (41.7%) (Figure 32).

Figure 32. Reasons for refusing HIV testing during pregnancy*, 2009/2010 MA PRAMS



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

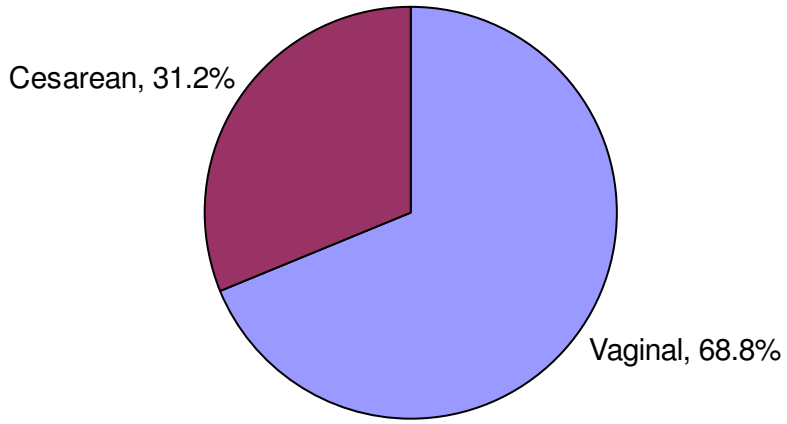
Massachusetts mothers say...

"During my first pregnancy, I got prenatal care from a low income healthcare facility (it serviced a low income population for the most part). There I was given an HIV test, and I was talked to about many of the risk factors mentioned. For my 2nd pregnancy (the one I just completed), I went to a healthcare facility in a higher income area. I was not offered an HIV test here, nor was I talked to about many risk factors."

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. About 31% of mothers reported that their most recent baby was delivered by cesarean (Figure 33).

Figure 33. Proportion of births by vaginal and cesarean delivery, 2009/2010 MA PRAMS



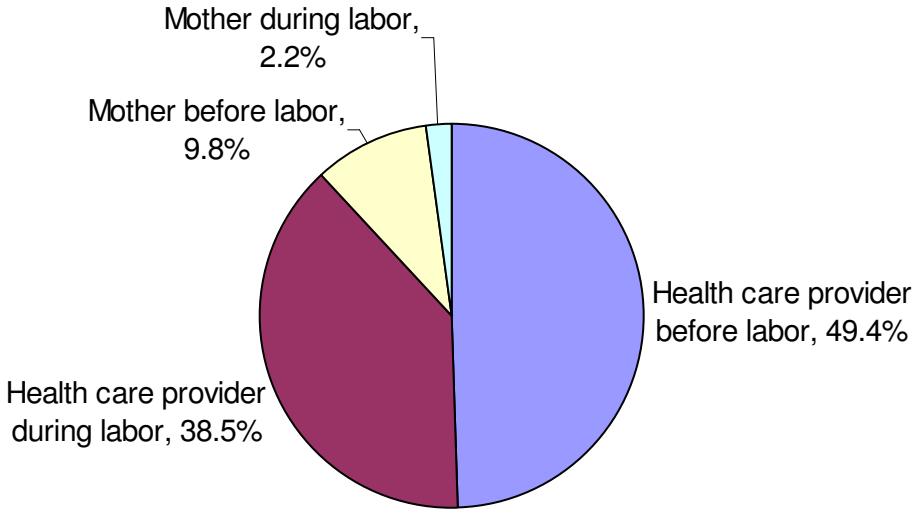
Massachusetts mothers say...

"I had wanted a vaginal birth after cesarean (VBAC) as I was disappointed by the earlier delivery I had. For my new baby, I was able to do this successfully and would encourage all mothers for this. The option to have VBAC should be provided to all mothers who wish [to do] so."

Cesarean delivery request

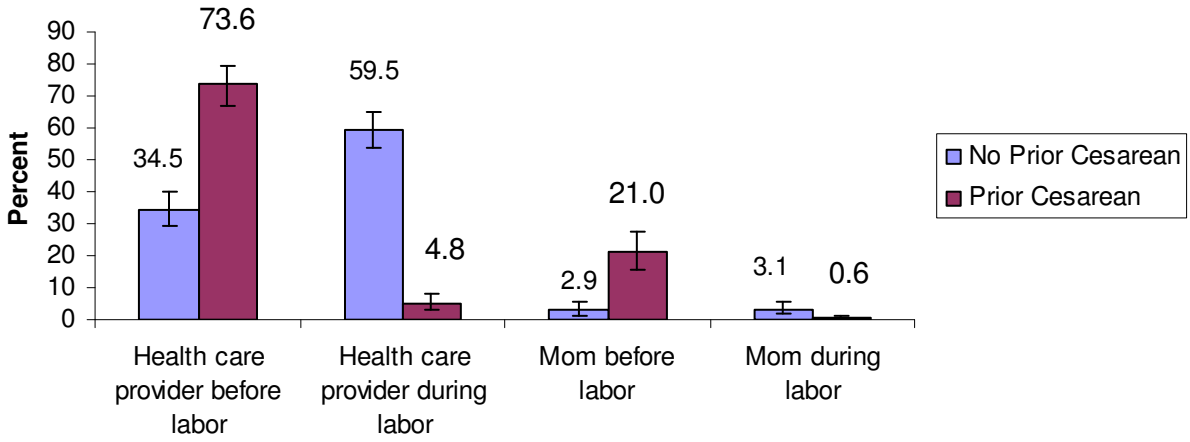
The Massachusetts PRAMS survey asks mothers who delivered their infant by cesarean to report who made the decision for a cesarean and when (*i.e.,* before or during labor). Among those who delivered by cesarean, about 88% reported that it was the decision of a health care provider (HCP) to perform the cesarean, either before or during labor. About 10% of mothers who had a cesarean reported that it was their idea to have a cesarean before labor, and 2.2% said it was their decision during labor (Figure 34).

Figure 34. Source and timing of cesarean delivery request among mothers who delivered by cesarean, 2009/2010 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 (2.9%), whereas 21.0% of those with a prior cesarean said that it was their idea before labor began (Figure 35).

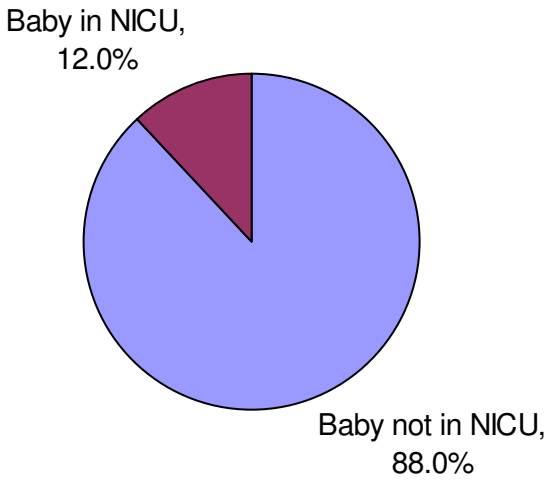
Figure 35. Source and timing of cesarean delivery request among mothers who delivered by cesarean, by prior-birth history, 2009/2010 MA PRAMS



Infant birth hospitalization

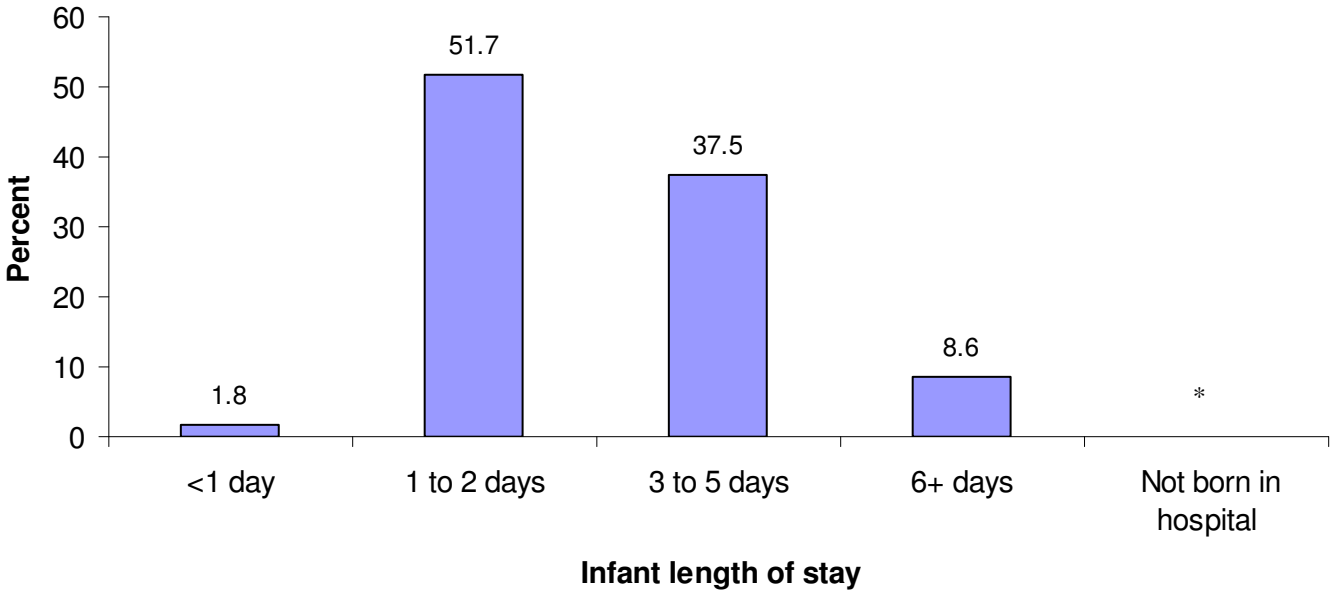
About 12% of mothers reported that their babies spent time in a neonatal intensive care unit (NICU) (Figure 36).

Figure 36. Proportion of infants staying in the neonatal intensive care unit, 2009/2010 MA PRAMS



A stay of one to two days in the hospital was most frequently reported (51.7%) followed by 37.5% staying for three to five days. A reported 8.6% of infants stayed in the hospital for six or more days (Figure 37).

Figure 37. Infant length of hospital stay at birth, 2009/2010 MA PRAMS

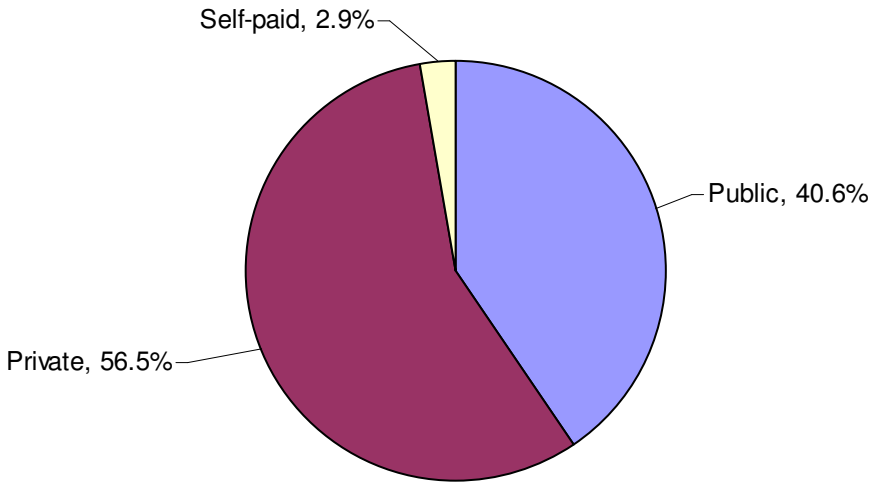


* Insufficient data to report: Less than five mothers.

Delivery payer source

The majority of births were paid for by private health insurance. However, about 41% were paid by a government sponsored insurance (Figure 38).

Figure 38. Prevalence of delivery payment sources, 2009/2010 MA PRAMS



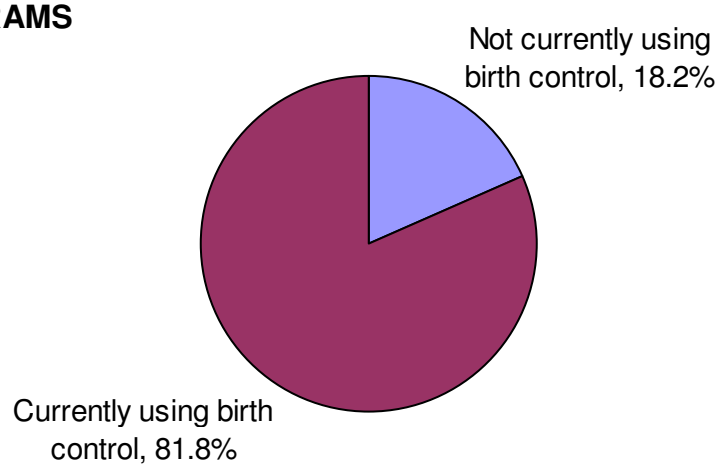
Massachusetts mothers say...

"...I wanted to share that I requested to be released from the hospital earlier than I was permitted by my insurance. (They allowed me 4 days, I stayed [for] 2 [days]). I wasn't thrilled about being [in] the hospital so long and wanted to start our routine at home sooner. The first couple of days were really overwhelming and I had a hard time finding confidence in my mothering, fortunately since I was released early, I was allowed a home visit from visiting nurse. I found it to be incredibly helpful. I think all new moms should have the privilege of a visit of this type a few days after their release."

Contraception use

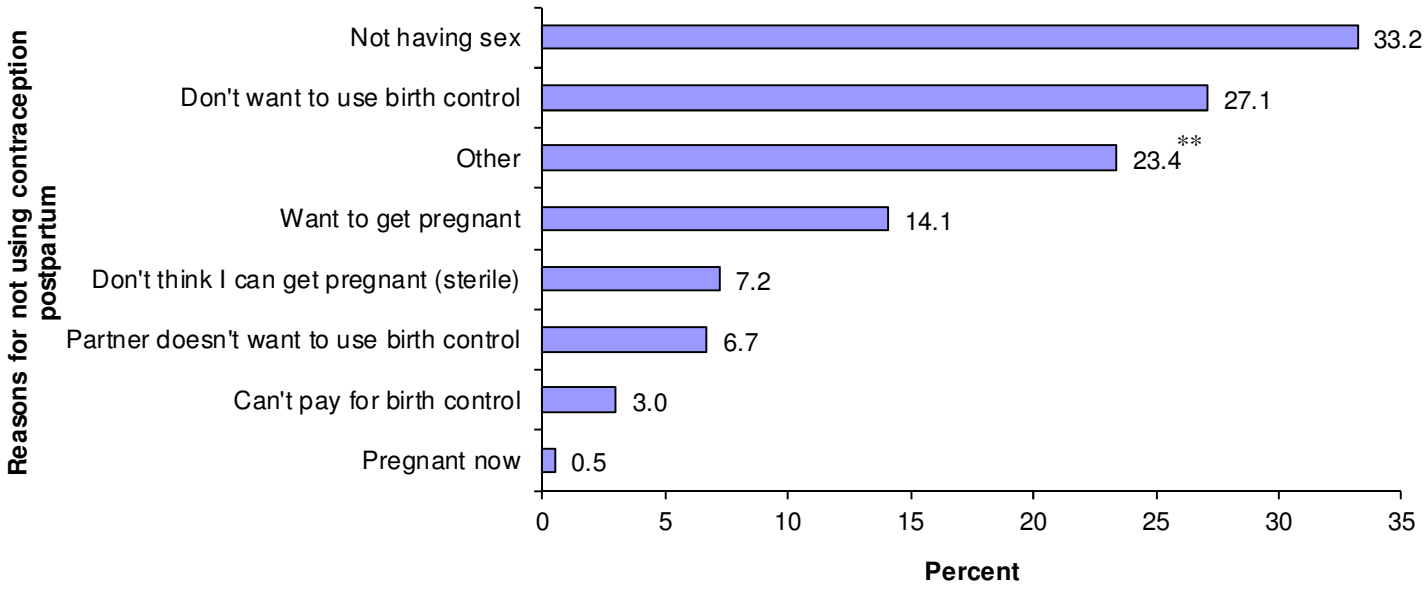
Adequate spacing of pregnancies is important for the health of both mothers and babies. Shorter inter-pregnancy intervals have been associated with adverse birth outcomes including preterm birth, low birth weight, small size for gestational age, and neonatal and infant mortality (Conde-Agudelo, 2006). About 82% of mothers reported using birth control postpartum (about three months after delivery).

Figure 39. Proportion of mothers using contraception postpartum, 2009/2010 MA PRAMS



Among those not using birth control, the most commonly named reasons for not doing so included not having sex (33.2%), not wanting to use birth control (27.1%), and wanting to become pregnant again (14.1%) (Figure 40).

Figure 40. Reasons for not using contraception postpartum (among those reporting no use)*, 2009/2010 MA PRAMS



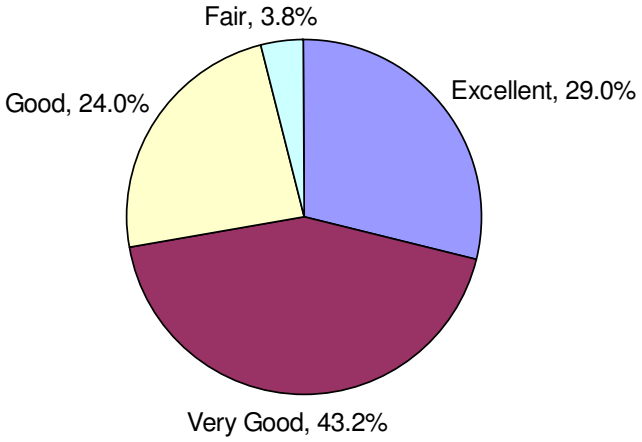
**Reasons for not using contraception postpartum are not mutually exclusive.*
***A variety of reasons were given such as breastfeeding, lack of time, same-sex marriage, smoking, infertility issue, undecided on the method to use, and side effects from contraception.*

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 72% of mothers reported that their health was “very good” or “excellent,” and another 25.0% reported that their health was “good” (Figure 41). Overall, 3.8% reported their health to be fair.

Figure 41. Maternal self-rated health postpartum, 2009/2010 MA PRAMS



Reported fair/poor self-rated health was most prevalent among Hispanic mothers (10.7%), or those who were living at or below 100% of the FPL (9.0%) (Table 14).

Table 14. Prevalence of fair/poor self-rated health, by socio-demographic characteristics, 2009/2010 MA PRAMS

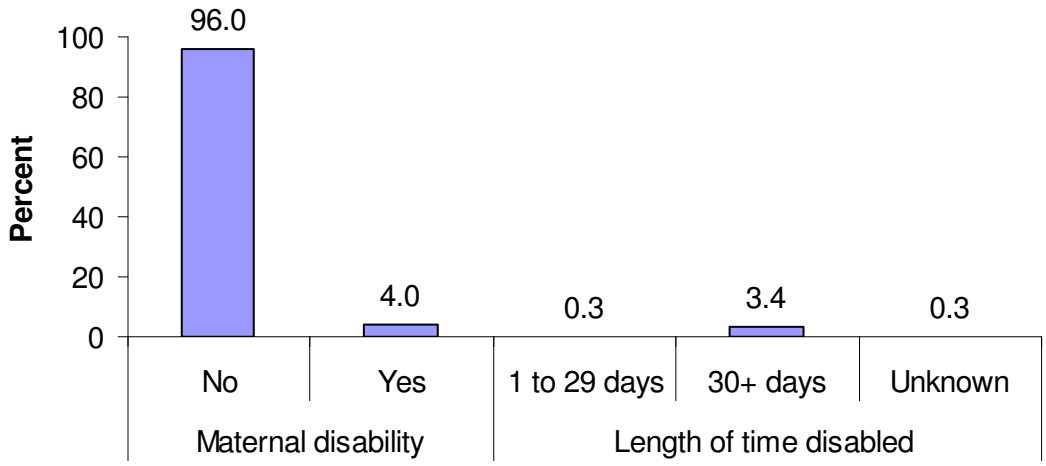
Characteristic	Weighted n	Weighted %	95% CL
Total	5664	4.0	3.2 - 5.0
Maternal race/ethnicity			
White, non-Hispanic	2446	2.6	1.6 - 4.1
Black, non-Hispanic	538	4.2	3.0 - 6.0
Hispanic	2245	10.7	8.7 - 13.2
Asian, non-Hispanic	348	3.0	1.9 - 4.9
Other, non-Hispanic	*Insufficient data to report*		
Maternal age (years)			
<20	*Insufficient data to report*		
20-29	3024	5.0	3.7 - 6.7
30-39	1845	2.8	1.9 - 4.1
40+	*Insufficient data to report*		
Maternal education			
<High school	1375	10.5	8.0 - 13.8
High school diploma	2734	7.0	4.9 - 10.0
Some college	1168	4.3	2.6 - 6.9
College graduate	*Insufficient data to report*		
Household poverty level			
≤100% FPL	2722	9.0	6.7 - 11.9
>100% FPL	1892	1.9	1.2 - 3.0
Maternal nativity			
Non-US-born	2166	5.6	4.5 - 6.9
US-born	3498	3.4	2.5 - 4.8

Insufficient data to report: Less than five mothers.

Maternal disability status

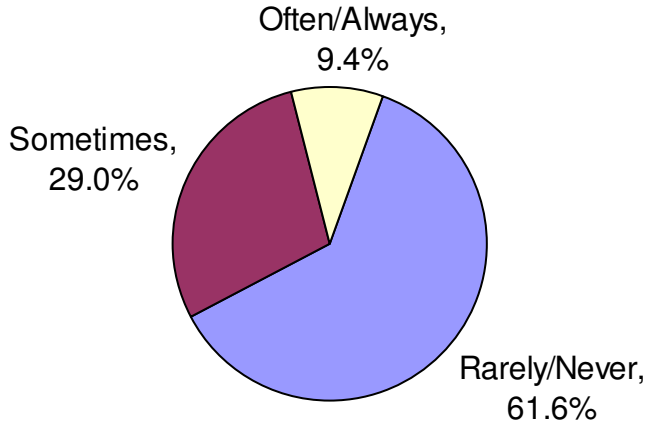
Women with disabilities are more likely to report poor health, chronic conditions, and unmet health care needs (Chevarley, 2006, Thierry, 1998). About 4% of mothers reported having a disability. Almost all of them reported that they had the disability for more than 30 days (Figure 42).

Figure 42. Prevalence of mothers with a disability and length of time disabled, 2009/2010 MA PRAMS



Postpartum depressive symptoms: Feeling down, depressed, or sad

Figure 43. Proportion of mothers often/ always feeling down, depressed, or sad postpartum, 2009/2010 MA PRAMS



Postpartum 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 29% of mothers reported "sometimes" feeling down, depressed, or sad, and 9.4% 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 (15.2%) or Hispanics (14.9%) (Table 15).

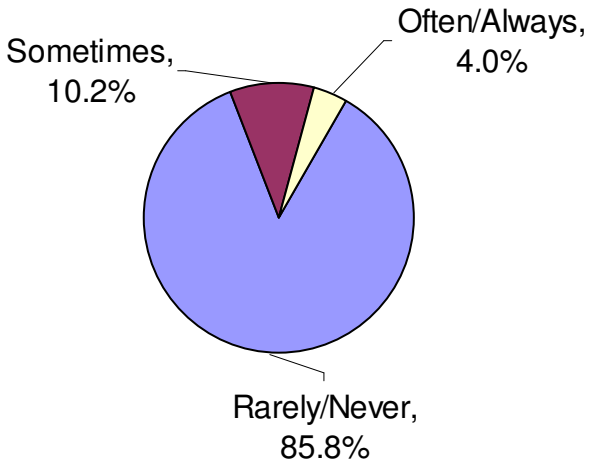
Table 15. Prevalence of "often" or "always" feeling down, depressed, or sad postpartum, by socio-demographic characteristics, 2009/2010 MA PRAMS

Characteristic	Weighted n	Weighted %	95% CL
Total	12773	9.4	8.0 - 10.9
Maternal race/ethnicity			
White, non-Hispanic	7468	8.0	6.2 - 10.2
Black, non-Hispanic	1562	13.3	10.9 - 16.3
Hispanic	2868	14.9	12.4 - 17.8
Asian, non-Hispanic	738	7.0	5.2 - 9.4
Other, non-Hispanic	*Insufficient data to report*		
Maternal age (years)			
<20	1069	13.8	8.5 - 21.7
20-29	6461	11.0	8.9 - 13.5
30-39	4893	7.6	5.9 - 9.8
40+	*Insufficient data to report*		
Maternal education			
<High school	1309	11.4	7.9 - 16.0
High school diploma	4353	11.6	8.8 - 15.3
Some college	2831	10.5	7.7 - 14.2
College graduate	4246	7.0	5.3 - 9.2
Household poverty level			
≤100% FPL	4468	15.2	11.9 - 19.2
>100% FPL	7416	7.6	6.2 - 9.3
Maternal nativity			
Non-US-born	2991	8.5	7.0 - 10.3
US-born	9750	9.6	8.0 - 11.6

Insufficient data to report: Less than five mothers.

Postpartum depressive symptoms: Feeling hopeless

Figure 44. Proportion of mothers often/always feeling hopeless postpartum, 2009/2010 MA PRAMS



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

PRAMS asks how often mothers were feeling hopeless in the postpartum period. Overall, 4% of mothers reported that they were “often” or “always” feeling hopeless and 10.2% of mothers reported that they were “sometimes” feeling hopeless in the postpartum period (Figure 44).

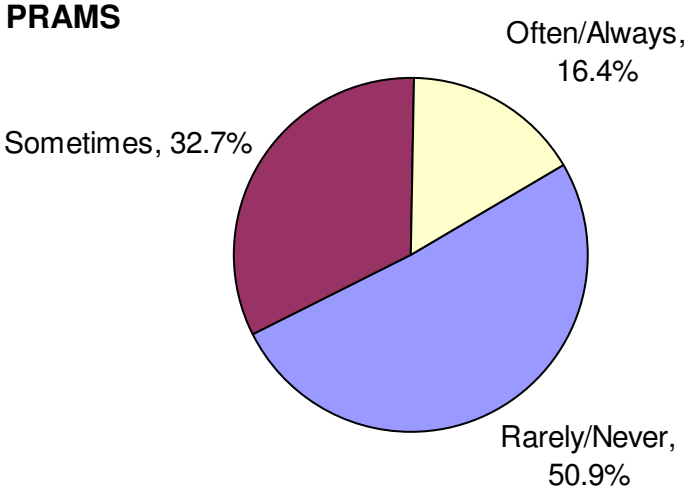
Similar patterns were observed with regard to feeling hopeless as with feeling down, depressed, or sad, with the most prevalent group of mothers reporting “often” or “always” feeling hopeless being among those living at or below 100% of the FPL (7.5%) or Hispanics (7.5%) (Table 16).

Table 16. Prevalence of “often” or “always” feeling hopeless, by socio-demographic characteristics, 2009/2010 MA PRAMS

Characteristic	Weighted n	Weighted %	95% CL
Total	5363	4.0	3.1 - 5.0
Maternal race/ethnicity			
White, non-Hispanic	2745	2.9	1.9 - 4.5
Black, non-Hispanic	772	6.7	4.9 - 9.0
Hispanic	1408	7.5	5.7 - 9.8
Asian, non-Hispanic	348	3.3	2.1 - 5.2
Other, non-Hispanic	*Insufficient data to report*		
Maternal age (years)			
<20	607	7.9	4.1 - 14.4
20-29	2269	3.9	2.8 - 5.4
30-39	2455	3.9	2.6 - 5.6
40+	*Insufficient data to report*		
Maternal education			
<High school	936	8.4	4.8 - 14.0
High school diploma	2120	5.7	3.9 - 8.4
Some college	1211	4.5	2.8 - 7.3
College graduate	1095	1.8	1.1 - 3.0
Household poverty level			
≤100% FPL	2167	7.5	5.3 - 10.4
>100% FPL	2667	2.7	1.9 - 3.9
Maternal nativity			
Non-US-born	1680	4.9	3.5 - 6.7
US-born	3653	3.6	2.6 - 4.9

Postpartum depressive symptoms: Feeling slowed down

Figure 45. Proportion of mothers often/always feeling slowed down postpartum, 2009/2010 MA PRAMS



PRAMS asks how often mothers were feeling slowed down in the postpartum period.

Overall, 16.4% of mothers reported that they were "often" or "always" feeling slowed down and 32.7% reported "sometimes" feeling slowed down in the postpartum 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 (16.4%) than "often" or "always" feeling depressed (9.4%) and "often" or "always" feeling hopeless (4.0%) (Figures 43-45).

Table 17. Prevalence of "often" or "always" feeling slowed down, by socio-demographic characteristics, 2009/2010 MA PRAMS

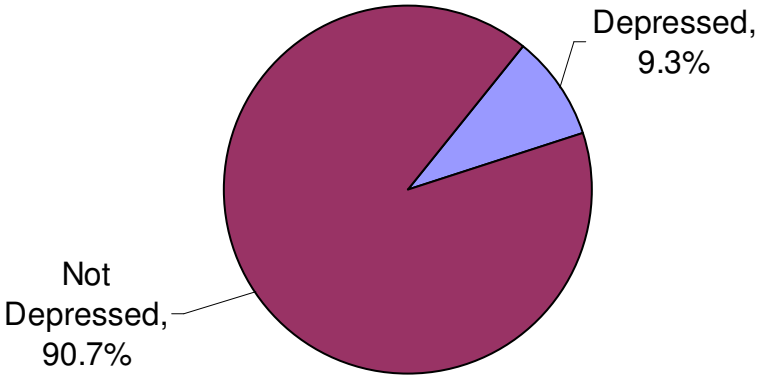
Characteristic	Weighted n	Weighted %	95% CL
Total	22148	16.4	14.5 - 18.4
Maternal race/ethnicity			
White, non-Hispanic	16161	17.4	14.8 - 20.3
Black, non-Hispanic	1682	14.4	11.8 - 17.3
Hispanic	2863	15.4	12.8 - 18.3
Asian, non-Hispanic	1247	11.8	9.4 - 14.6
Other, non-Hispanic	195	14.8	7.8 - 26.1
Maternal age (years)			
<20	1822	23.7	15.4 - 34.6
20-29	8962	15.4	12.7 - 18.5
30-39	10614	16.7	14.0 - 19.7
40+	749	*13.3*	7.0 - 23.8
Maternal education			
<High school	1206	10.7	6.9 - 16.3
High school diploma	6937	18.8	14.8 - 23.6
Some college	3800	14.3	10.9 - 18.4
College graduate	10039	16.7	14.0 - 19.7
Household poverty level			
≤100% FPL	5665	19.7	15.6 - 24.5
>100% FPL	15110	15.5	13.4 - 17.9
Maternal nativity			
Non-US-born	3846	11.1	9.2 - 13.5
US-born	18271	18.1	15.8 - 20.8

Postpartum 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 ≥10 as an indication of postpartum depressive symptoms (for each question, always=5, often=4, sometimes=3, rarely=2, never=1).

Please note: Using this algorithm, the postpartum 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 postpartum depressive symptoms in Phases 5 and 6, we do not recommend comparing prevalence of postpartum depressive symptoms between phases. However, the questions stayed the same within the phase, and therefore, it is fine to compare prevalence estimates of postpartum depressive symptoms between 2007 and 2008.

Figure 46. Proportion of mothers with postpartum depression (a combined scoring of depressed, hopeless, and slowed down ≥10), 2009/2010 MA PRAMS



Postpartum 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 (14.6%) (Table 18).

Table 18. Prevalence of mothers with postpartum depression (a combined scoring of depressed, hopeless, and slowed down ≥10), by socio-demographic characteristics, 2009/2010 MA PRAMS

	% Post-partum Depression (Combined Measure 10+)		
Characteristic	Weighted n	Weighted %	95% CL
Total	12567	9.3	8.0 - 10.9
Maternal race/ethnicity			
White, non-Hispanic	8034	8.6	6.8 - 10.9
Black, non-Hispanic	1499	13.0	10.6 - 15.9
Hispanic	2146	11.6	9.4 - 14.4
Asian, non-Hispanic	760	7.3	5.4 - 9.7
Other, non-Hispanic	*Insufficient data to report*		
Maternal age (years)			
<20	929	12.1	7.0 - 20.0
20-29	6004	10.3	8.2 - 12.9
30-39	5310	8.4	6.5 - 10.8
40+	*Insufficient data to report*		
Maternal education			
<High school	1036	9.4	6.1 - 14.1
High school diploma	4594	12.5	9.3 - 16.5
Some college	2193	8.2	5.9 - 11.5
College graduate	4744	7.9	6.1 - 10.2
Household poverty level			
≤100% FPL	4179	14.6	11.2 - 18.8
>100% FPL	7678	7.9	6.4 - 9.7
Maternal nativity			
Non-US-born	2226	6.6	5.3 - 8.1
US-born	10310	10.2	8.5 - 12.3

Insufficient data to report: Less than five mothers.

Postpartum depression: Help-seeking

Among all mothers (regardless of reported frequency of feeling depressed or loss of interests), 12.1% sought help for depression in the time since their babies had been born (Figure 47).

Among mothers reporting frequent experiences of depressive symptoms (≥10 in the score of the combined measure of depressive symptoms), only about 50% reported that they had sought help for depression (Figure 48).

Figure 47. Proportion of mothers seeking help for postpartum depression (among all mothers regardless of frequency of depressive symptoms), 2009/2010 MA PRAMS

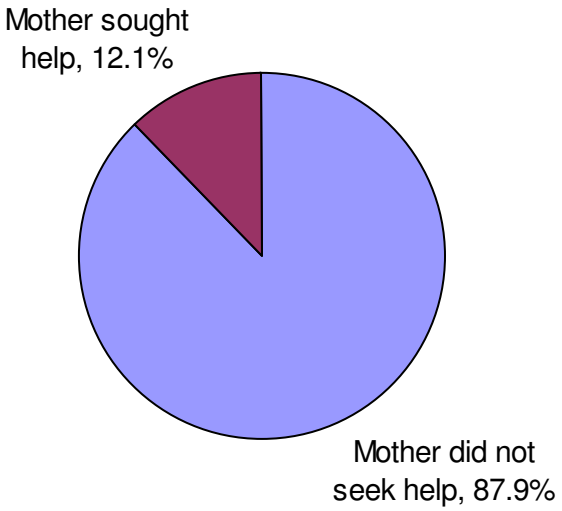
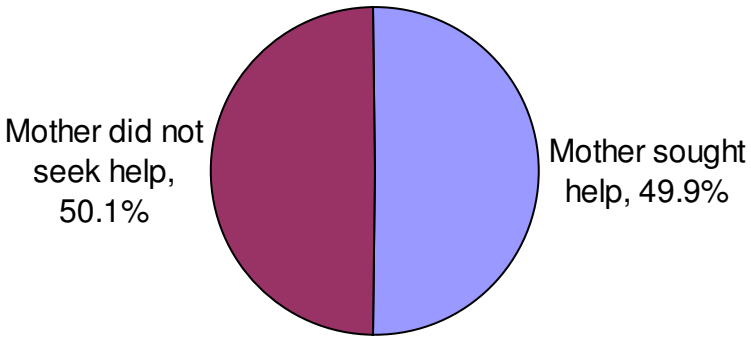


Figure 48. Proportion of mothers seeking help for postpartum depression (among those scoring ≥10 on the combined measure of depressive symptoms), 2009/2010 MA PRAMS



Postpartum health care

Most mothers, almost 95%, had received a postpartum check-up at the time of the survey (Figure 49). Most respondents returned the survey between 2 and 4 months postpartum.

However, the prevalence of postpartum care differed by insurance status. All mothers reported a source of health insurance postpartum. Among those insured by Medicaid, 92.7% 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 postpartum check-up by the time of survey, 2009/2010 MA PRAMS

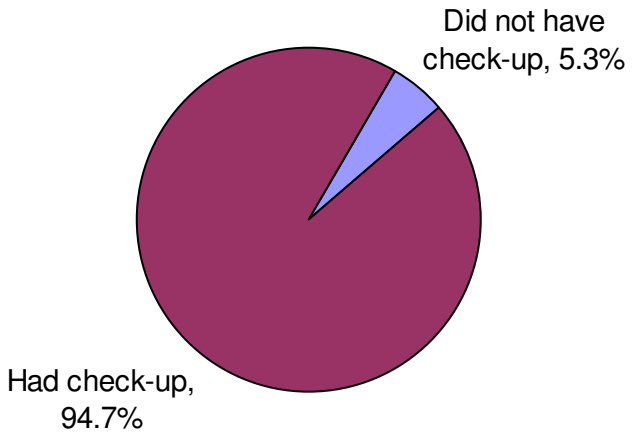
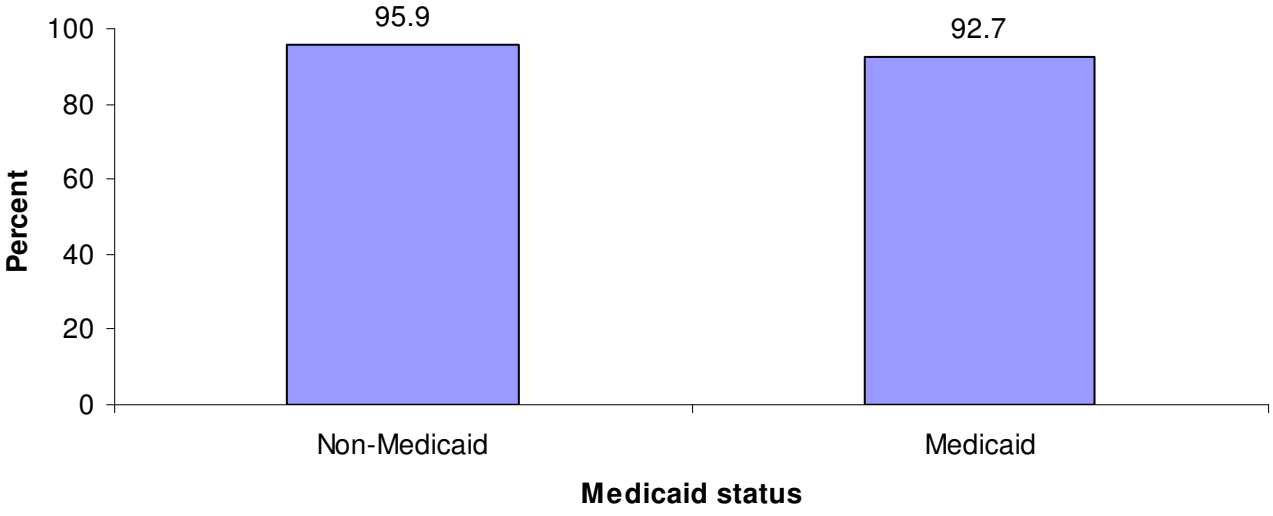


Figure 50. Proportion of mothers receiving a postpartum check-up, by insurance type, 2009/2010 MA PRAMS



Postpartum health care

Patterns of postpartum check-up varied across socio-demographic groups. Other, non-Hispanic (86.5%), Black, non-Hispanic (91.4%), and Hispanic (92.0%) mothers were less likely than White, non-Hispanic (95.8%) mothers to receive postpartum check-up. Mothers with Medicaid insurance (92.7%) or receiving WIC services (92.6%) were also less likely to have received a postpartum check-up (Table 19).

Table 19. Prevalence of mothers who received a postpartum check-up, by socio-demographic characteristics, 2009/2010 MA PRAMS

Characteristic	Weighted n	Weighted %	95% CL
Total	132535	94.7	93.6 - 95.7
Maternal race/ethnicity			
White, non-Hispanic	90251	95.8	94.1 - 97.0
Black, non-Hispanic	11360	91.4	89.0 - 93.3
Hispanic	19000	92.0	89.7 - 93.7
Asian, non-Hispanic	10727	95.7	93.4 - 97.2
Other, non-Hispanic	1197	86.5	74.5 - 93.3
Maternal age (years)			
<20	7360	93.7	87.3 - 97.0
20-29	57316	94.4	92.6 - 95.7
30-39	62224	94.8	93.0 - 96.2
40+	5636	98.9	96.5 - 99.6
Maternal education			
<High school	11772	91.9	88.0 - 94.7
High school diploma	35825	93.0	90.4 - 94.9
Some college	25865	94.7	91.8 - 96.6
College graduate	58874	96.4	94.7 - 97.6
Household poverty level			
≤100% FPL	28335	93.3	91.1 - 95.1
>100% FPL	94998	95.6	94.2 - 96.7
Maternal nativity			
Non-US-born	35843	94.2	92.6 - 95.5
US-born	96643	94.9	93.4 - 96.1
Post-partum insurance			
Non-Medicaid	85355	95.9	94.4 - 97.0
Medicaid	47078	92.7	90.9 - 94.2
WIC Program			
Non-WIC recipient	82480	96.1	94.5 - 97.2
WIC recipient	48513	92.6	90.7 - 94.2

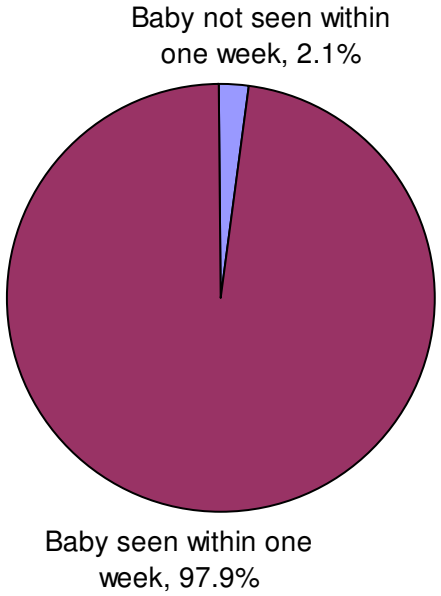
Massachusetts mothers say...

"Better postpartum care [is needed because] one 6-week postpartum check-up is not enough! Many need better follow-up sooner than 6-week postpartum and more than one visit, or at least better access to the person who delivered her baby!"

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 (97.9%) were reported to have been seen by a health care provider within one week of leaving the hospital (Figure 51).

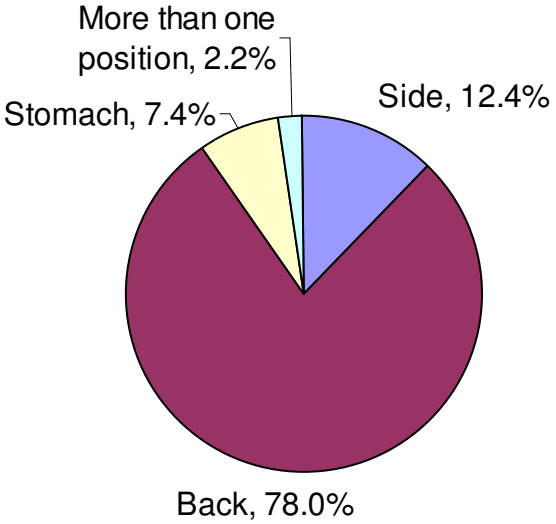
Figure 51. Proportion of infants seen by health care provider within one week of leaving birth hospital, 2009/2010 MA PRAMS



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 (American Academy of Pediatrics, 1992).

Figure 52. Prevalence of infant sleep positions, 2009/2010 MA PRAMS



The majority of PRAMS babies, 78.0%, were reported to be positioned most often 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 (69.1%), Hispanic (65.7%), or Black, non-Hispanic (59.0%) (Table 20).

Table 20. Prevalence of placing infant to sleep on back, by socio-demographic characteristics, 2009/2010 MA PRAMS

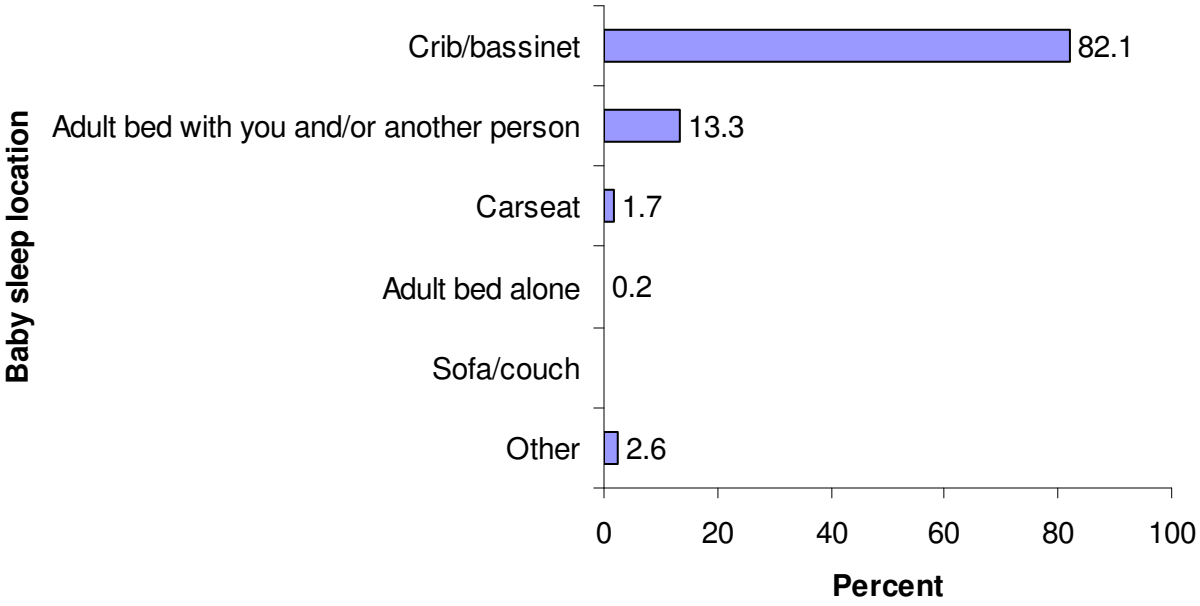
Characteristic	Weighted n	Weighted %	95% CL
Total	106401	78.0	76.0 - 79.9
Maternal race/ethnicity			
White, non-Hispanic	75896	82.7	79.8 - 85.3
Black, non-Hispanic	7217	59.0	55.1 - 62.7
Hispanic	13149	65.7	62.2 - 69.1
Asian, non-Hispanic	9120	82.2	78.7 - 85.2
Other, non-Hispanic	1019	77.0	63.8 - 86.5
Maternal age (years)			
<20	4351	62.8	52.6 - 71.9
20-29	44000	74.2	70.8 - 77.3
30-39	53529	82.8	80.0 - 85.2
40+	4522	82.8	72.5 - 89.8
Maternal education			
<High school	7799	62.8	56.0 - 69.1
High school diploma	26955	72.0	67.3 - 76.3
Some college	19939	75.4	70.8 - 79.5
College graduate	51509	86.0	83.2 - 88.4
Household poverty level			
≤100% FPL	20199	69.1	64.4 - 73.4
>100% FPL	78950	81.2	78.7 - 83.4
Maternal nativity			
Non-US-born	27577	73.3	70.5 - 75.9
US-born	78824	79.8	77.2 - 82.3

Infant sleep location

The practice of “bed-sharing” or infants sharing a bed with someone else puts infants at increased risk of suffocation and strangulation and has been associated with some infant deaths (American Academy of Pediatrics, 1992; Vennemann, 2012).

Over 82% of babies were reported to usually sleep in a crib or bassinet. About 13% shared an adult bed with at least one other person (Figure 53).

Figure 53. Prevalence of infant sleep locations, 2009/2010 MA PRAMS



Infant sleep location

The practice of bed-sharing differed widely by race/ethnicity, and was most commonly reported by Asian, non-Hispanic (25.6%) and Black, non-Hispanic mothers (25.1%). There were no significant differences by other demographic subgroups (Table 21).

Table 21. Prevalence of infant sleeping on an adult bed with other person(s), by socio-demographic characteristics, 2009/2010 MA PRAMS

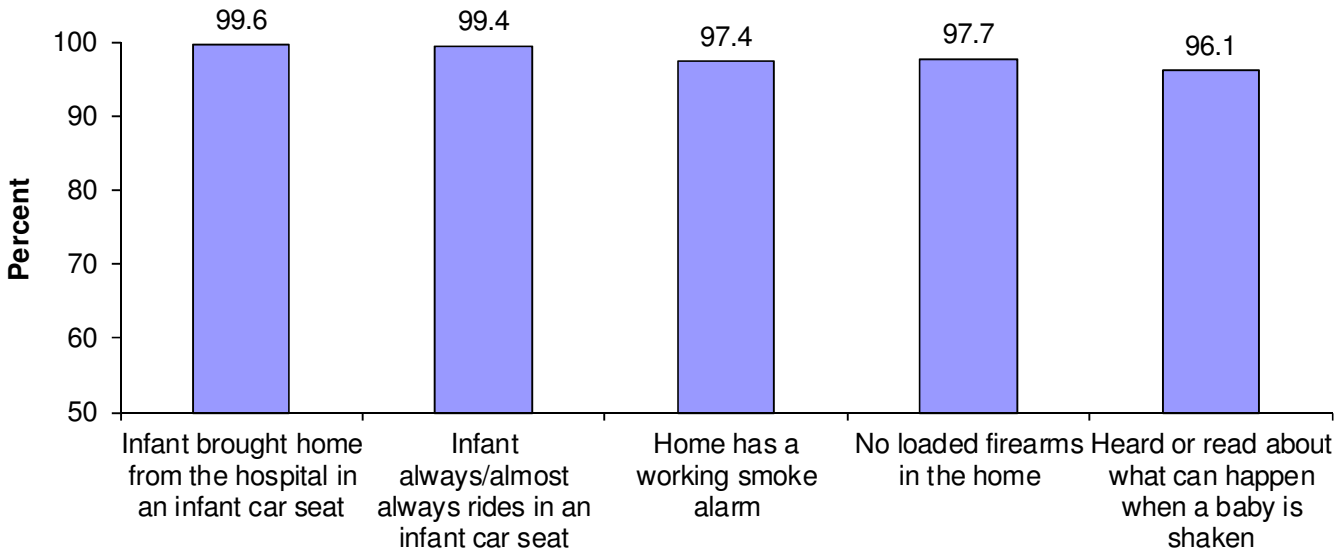
Characteristic	Weighted n	Weighted %	95% CL
Total	18127	13.3	11.8 - 15
Maternal race/ethnicity			
White, non-Hispanic	9540	10.4	8.4 - 12.8
Black, non-Hispanic	2995	25.1	21.9 - 28.7
Hispanic	2579	12.9	10.7 - 15.6
Asian, non-Hispanic	2822	25.6	22.2 - 29.4
Other, non-Hispanic	190	14.2	7.3 - 25.9
Maternal age (years)			
<20	1510	20.3	13.6 - 29.2
20-29	6603	11.3	9.2 - 13.7
30-39	9435	14.6	12.4 - 17.2
40+	*Insufficient data to report*		
Maternal education			
<High school	1643	13.3	9.8 - 17.8
High school diploma	5801	15.5	12.3 - 19.4
Some college	3904	14.8	11.5 - 18.8
College graduate	6779	11.3	9.3 - 13.7
Household poverty level			
≤100% FPL	4354	14.9	12.0 - 18.5
>100% FPL	12715	13.1	11.3 - 15.1
Maternal nativity			
Non-US-born	6121	16.4	14.3 - 18.8
US-born	11988	12.1	10.3 - 14.3

Insufficient data to report: Less than five mothers.

Infant safety

Almost all mothers reported that their infants were brought home from the hospital in an infant car seat (99.6%) and always or almost always rode in an infant car seat (99.4%), that they had a working smoke alarm in the home (97.4%), and that they did not keep loaded firearms in the home (97.7%). 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, 2009/2010 MA PRAMS

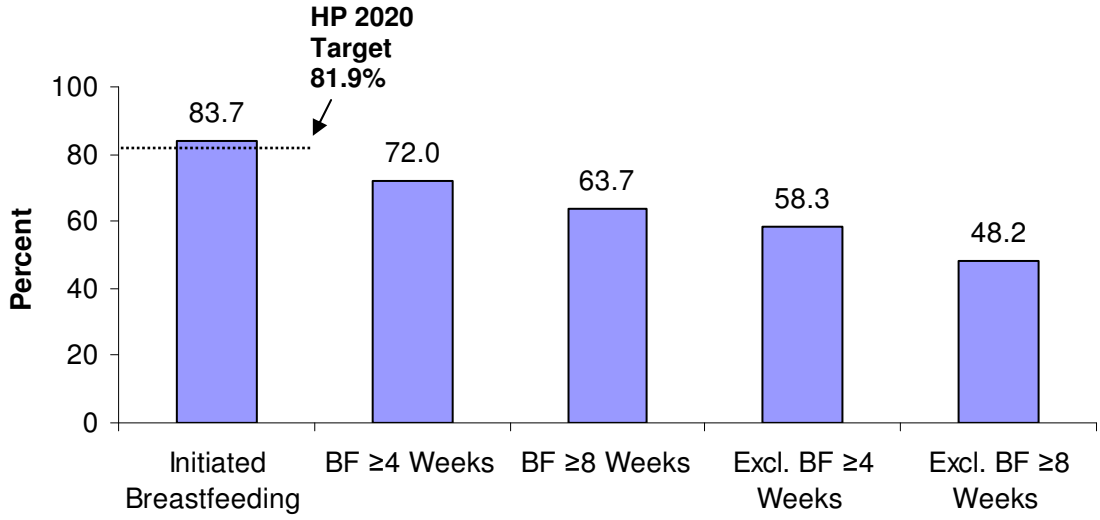


Breastfeeding

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. It is 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). About 72% reported any breastfeeding (exclusive, or with complementary foods) for at least four weeks, and 63.7% for at least eight weeks. Exclusive breastfeeding was less prevalent, with 58.3% of mothers reporting exclusive breastfeeding for at least four weeks, and 48.2% reporting exclusive breastfeeding for at least eight weeks.

Figure 55. Prevalence of breastfeeding (BF) initiation, duration, and exclusivity, all mothers, 2009/2010 MA PRAMS



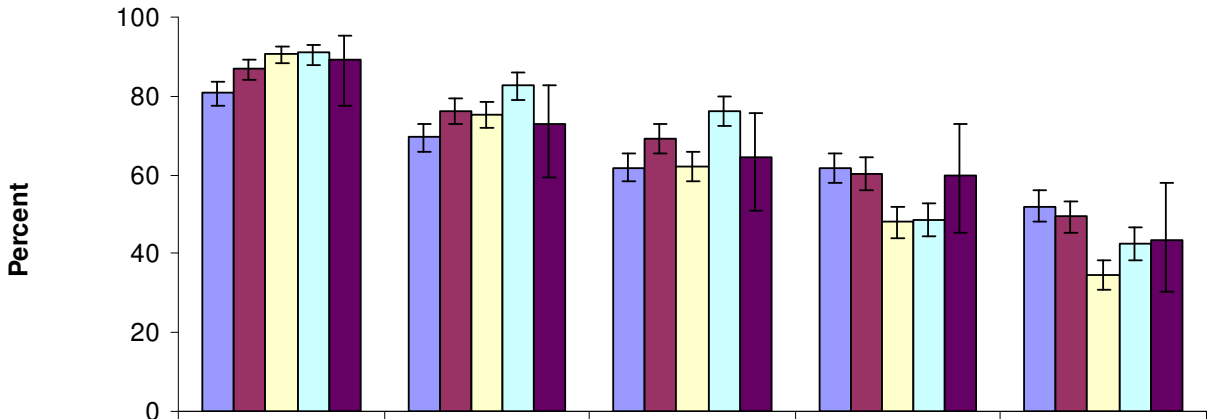
Massachusetts mothers say...

"I would like to see more lactation specialists at [the] pediatrician's offices and have pediatricians [be] more helpful with breastfeeding."

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 Asian, non-Hispanic mothers (90.9%) 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 (48.0% and 34.5%, respectively) compared to White, non-Hispanic mothers (61.8% and 52.1%, respectively). Asian, non-Hispanic mothers had a lower rate of breastfeeding exclusively at four and eight weeks (48.7% and 42.4%, respectively) compared to White, non-Hispanic mothers (Figure 56).

Figure 56. Prevalence of breastfeeding initiation, duration, and exclusivity, by maternal race/ethnicity, 2009/2010 MA PRAMS



	Ever	At least 4 weeks	At least 8 weeks	Exclusive at least 4 weeks	Exclusive at least 8 weeks
White, non-Hispanic	80.8	69.4	61.8	61.8	52.1
Black, non-Hispanic	87.0	76.4	69.2	60.3	49.3
Hispanic	90.7	75.4	62.2	48.0	34.5
Asian, non-Hispanic	90.9	82.8	76.2	48.7	42.4
Other, non-Hispanic	89.2	72.7	64.4	59.9	43.5

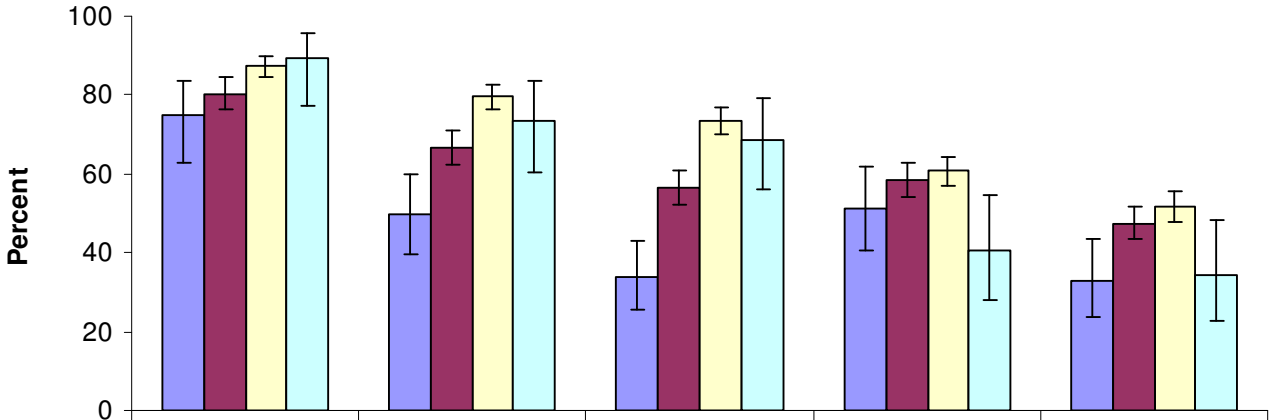
Massachusetts mothers say...

"I was surprised that [there are] not more mothers [who] breastfeed. Not only do you bond with your baby, [and] it's a time that nobody can take [away] from you. Also, [it] promotes healthy eating for the mother. I loved it!"

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), 2009/2010 MA PRAMS

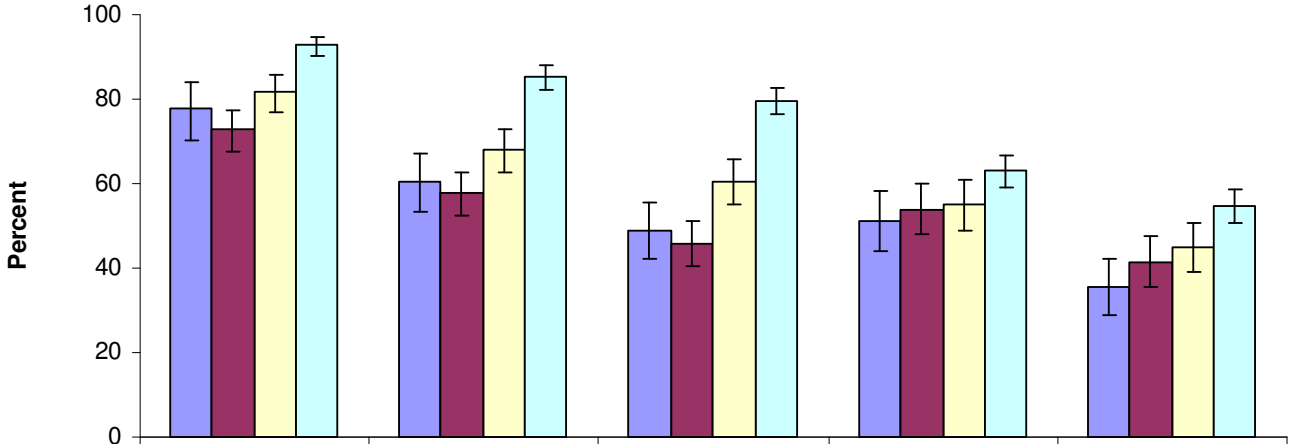


	Ever	At least 4 weeks	At least 8 weeks	Exclusive at least 4 weeks	Exclusive at least 8 weeks
<20	74.7	49.8	33.6	51.3	32.8
20-29	80.4	66.5	56.4	58.3	47.5
30-39	87.3	79.5	73.5	60.7	51.5
40+	89.5	73.5	68.6	40.7	34.4

Breastfeeding: Differences by education

Breastfeeding initiation and duration of 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, 2009/2010 MA PRAMS

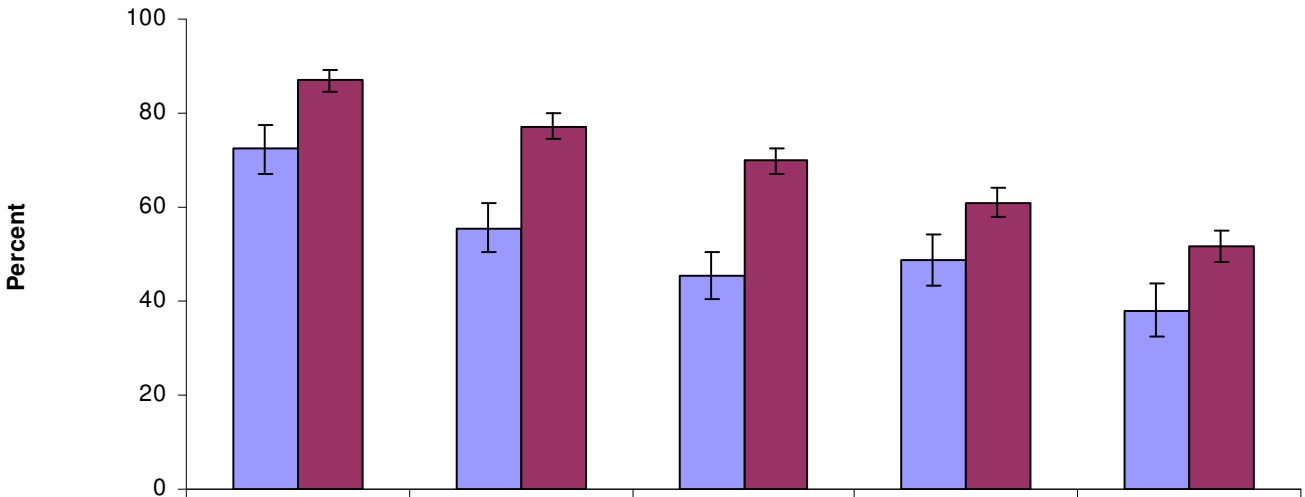


	Ever	At least 4 weeks	At least 8 weeks	Exclusive at least 4 weeks	Exclusive at least 8 weeks
<High school	78.0	60.5	48.7	51.1	35.5
High school diploma	72.8	57.6	45.7	53.8	41.5
Some college	81.6	67.9	60.4	55.0	44.8
College graduate	92.8	85.3	79.6	63.0	54.8

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 (Figure 59).

Figure 59. Prevalence of breastfeeding initiation, duration, and exclusivity, by federal poverty level, 2009/2010 MA PRAMS

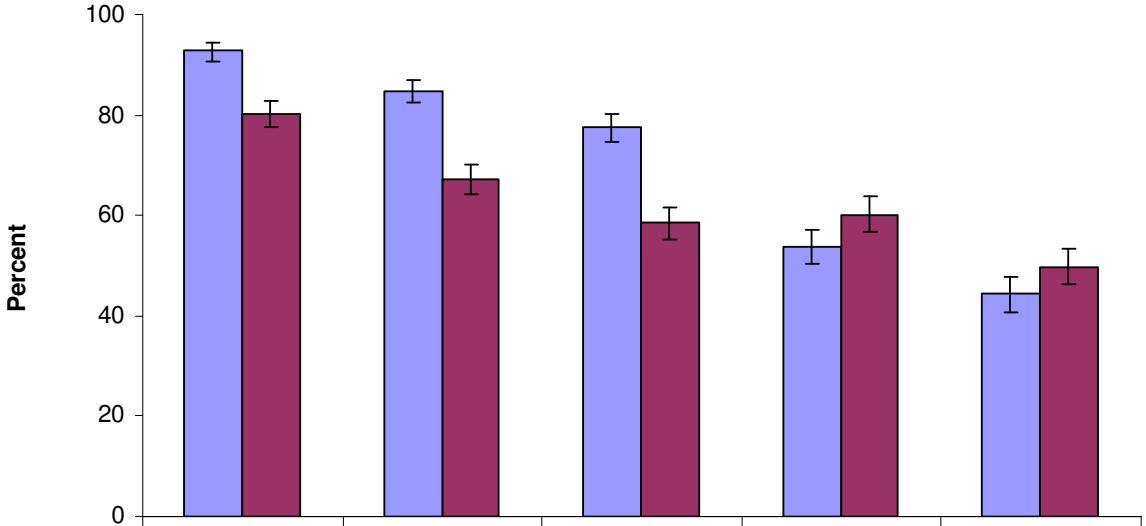


	Ever	At least 4 weeks	At least 8 weeks	Exclusive at least 4 weeks	Exclusive at least 8 weeks
≤ 100% FPL	72.6	55.6	45.5	48.8	38.0
> 100% FPL	87.1	77.2	69.9	61.0	51.6

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, 2009/2010 MA PRAMS

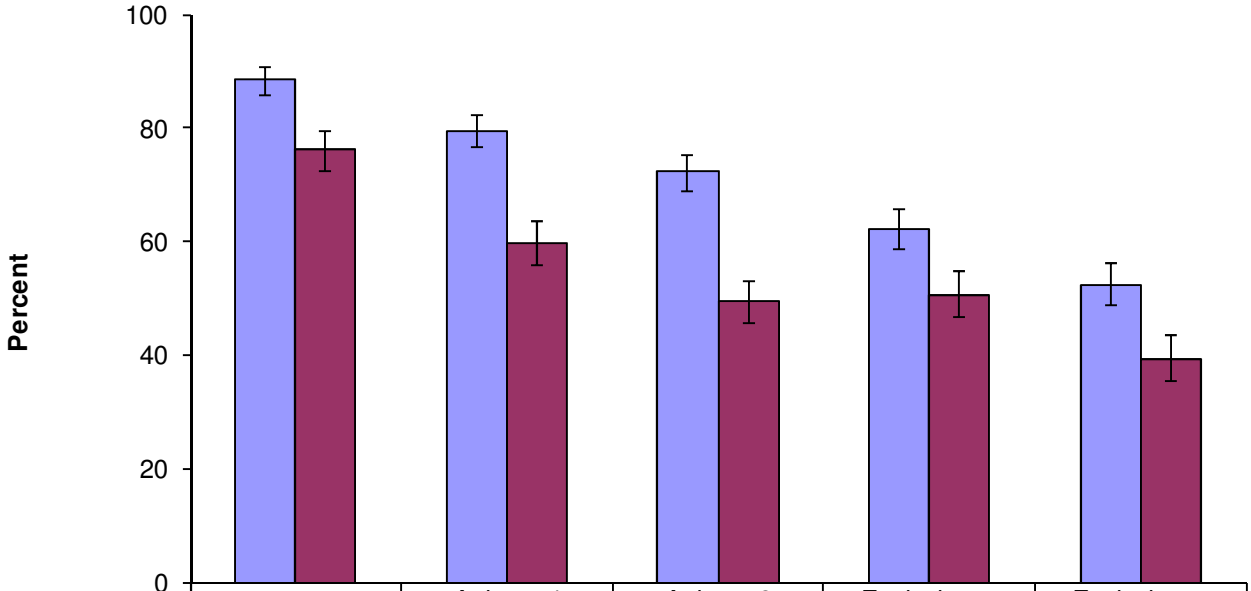


	Ever	At least 4 weeks	At least 8 weeks	Exclusive at least 4 weeks	Exclusive at least 8 weeks
Non-US-born	92.8	84.8	77.7	53.7	44.3
US-born	80.3	67.2	58.4	60.2	49.7

Breastfeeding: Differences by WIC participation

Mothers who participated in WIC during pregnancy reported initiating breastfeeding less than those not participating in WIC. 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, 2009/2010 MA PRAMS



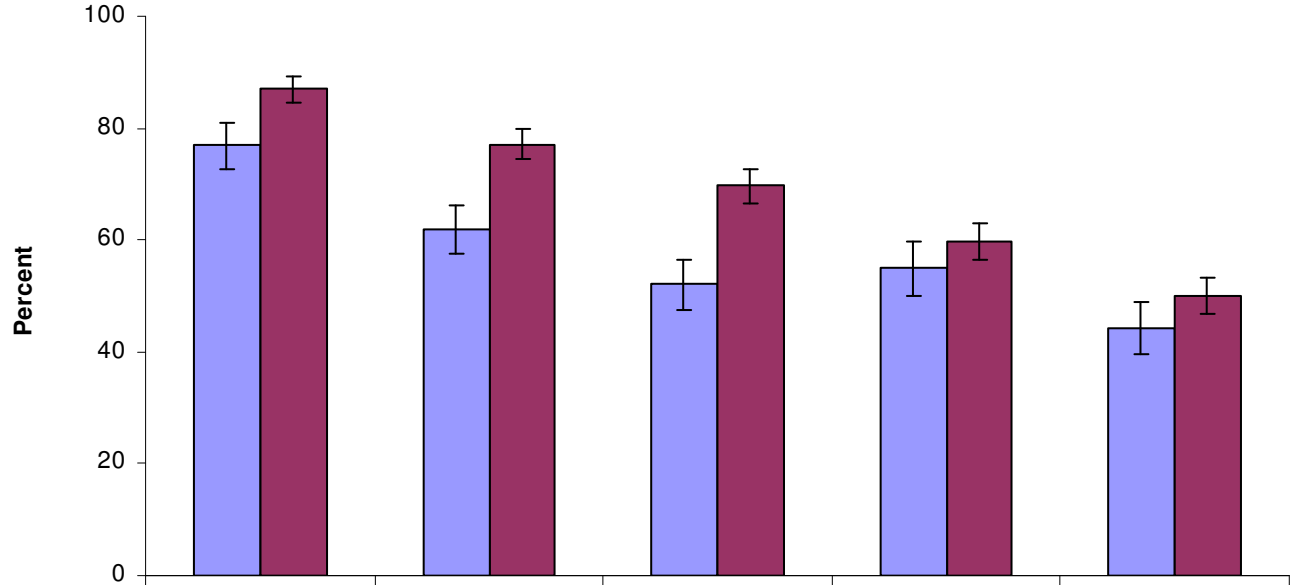
	Ever	At least 4 weeks	At least 8 weeks	Exclusive at least 4 weeks	Exclusive at least 8 weeks
non-WIC	88.4	79.5	72.2	62.1	52.4
WIC	76.1	59.7	49.3	50.7	39.3

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 a longer duration 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 whose pregnancy was unintended (Figure 62).

Figure 62. Prevalence of breastfeeding initiation, duration, and exclusivity, by feelings about this pregnancy, 2009/2010 MA PRAMS



	Ever	At least 4 weeks	At least 8 weeks	Exclusive at least 4 weeks	Exclusive at least 8 weeks
Later/Never	77.1	61.9	52.0	54.9	44.2
Then/sooner	87.0	77.1	69.7	59.8	50.1

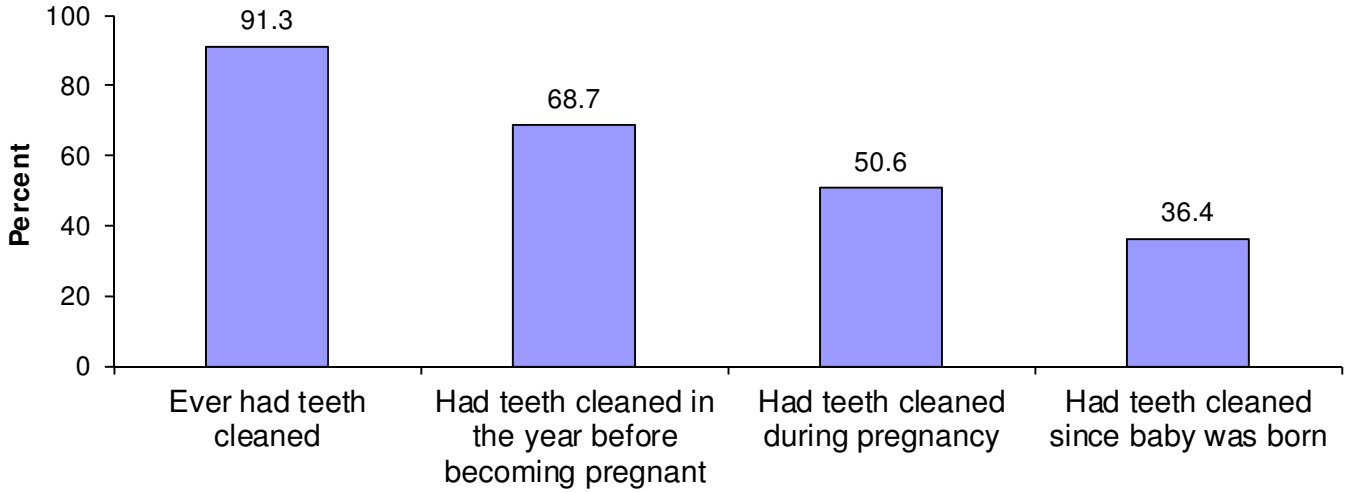
ORAL HEALTH

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).

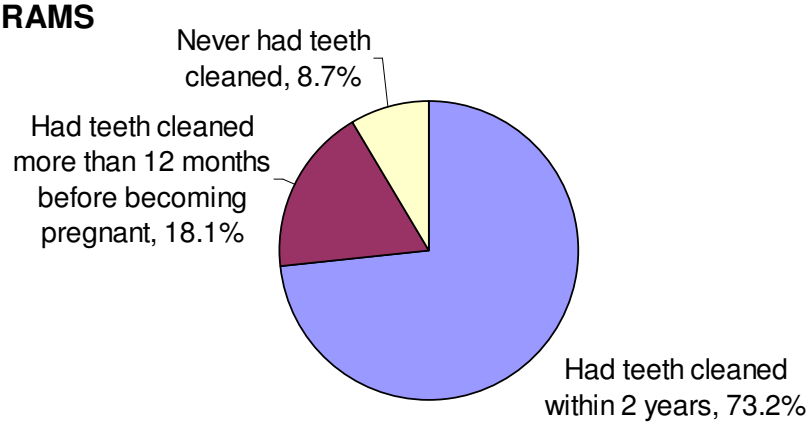
Most mothers (91.3%) reported that they had ever had their teeth cleaned. Another 68.7% had received a cleaning in the year before becoming pregnant, 50.6% during their most recent pregnancy, and 36.4% since the baby was born (Figure 63).

Figure 63. Prevalence of teeth cleaning, ever, before, during, and after pregnancy, 2009/2010 MA PRAMS



About 73% 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 18% reported that their last cleaning visit had occurred more than 12 months prior to becoming pregnant (Figure 64).

Figure 64. Prevalence of teeth cleaning, never, ever but not recently, or recently, 2009/2010 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 (87.3%), those born outside of the United States (78.5%), those with less than a high school education (77.9%), or Asian, non-Hispanic mothers (76.4%) being the least likely to report ever having had a cleaning (Table 22).

Table 22. Prevalence of teeth cleaning (ever), by socio-demographic characteristics, 2009/2010 MA PRAMS

	Ever had teeth cleaned			
Characteristic	Weighted n	Weighted %	95% CL	
Total	129533	91.3	90.2 -	92.3
Maternal race/ethnicity				
White, non-Hispanic	91712	96.6	95.0 -	97.7
Black, non-Hispanic	10589	82.8	79.7 -	85.4
Hispanic	17243	81.5	78.6 -	84.1
Asian, non-Hispanic	8810	76.4	72.7 -	79.8
Other, non-Hispanic	1178	84.1	71.5 -	91.8
Maternal age (years)				
<20	6906	85.8	79.2 -	90.5
20-29	55191	89.4	87.5 -	91.1
30-39	62016	93.5	92.0 -	94.8
40+	5420	94.5	87.9 -	97.6
Maternal education				
<High school	10243	77.9	73.3 -	81.9
High school diploma	35096	89.0	86.2 -	91.3
Some college	24962	90.2	87.0 -	92.7
College graduate	59032	96.2	95.1 -	97.1
Household poverty level				
≤100% FPL	26730	87.3	84.6 -	89.6
>100% FPL	94608	94.9	93.8 -	95.9
Maternal nativity				
Non-US-born	30731	78.5	75.9 -	80.8
US-born	98771	96.3	95.0 -	97.2

Massachusetts mothers say...

"Mothers should be given insurance that covers dental insurance."

ORAL HEALTH

Oral health care

The prevalence of teeth cleaning in the 12 months before pregnancy and during pregnancy varied by socio-demographic characteristics, with those living at or below 100% of the FPL (56.0%), or Black, non-Hispanic mothers (55.1%) being the least likely to report having teeth cleaned 12 months before pregnancy. Those living at or below 100% of the FPL (39.0%), those born outside of the United States (37.8%), or Black, non-Hispanic mothers (33.0%) were the least likely to report having teeth cleaned during pregnancy (Table 23).

Table 23. Prevalence of teeth cleaning in the 12 months before pregnancy and during pregnancy, by socio-demographic characteristics, 2009/2010 MA PRAMS

	Teeth cleaned 12 months before pregnancy			Teeth cleaned during pregnancy		
Characteristic	Weighted n	Weighted %	95% CL	Weighted n	Weighted %	95% CL
Total	96734	68.7	66.4 - 70.9	71727	50.6	48.1 - 53.0
Maternal race/ethnicity						
White, non-Hispanic	69168	73.2	69.9 - 76.3	54129	57.0	53.5 - 60.5
Black, non-Hispanic	6986	55.1	51.3 - 58.8	4218	33.0	29.5 - 36.6
Hispanic	13268	64.0	60.4 - 67.3	8468	40.0	36.6 - 43.6
Asian, non-Hispanic	6430	56.0	51.9 - 60.0	4469	38.8	35.0 - 42.7
Other, non-Hispanic	882	63.0	49.9 - 74.4	443	31.6	21.3 - 44.1
Maternal age (years)						
<20	5324	68.8	58.7 - 77.3	3267	40.6	31.2 - 50.7
20-29	37666	61.5	57.8 - 65.1	25995	42.1	38.4 - 45.9
30-39	49139	74.2	71.0 - 77.1	39138	59.0	55.5 - 62.5
40+	4606	82.2	71.7 - 89.4	3328	58.0	45.5 - 69.6
Maternal education						
<High school	7638	59.9	53.4 - 66.0	4667	35.5	29.1 - 42.4
High school diploma	21338	54.7	49.5 - 59.8	14112	35.8	31.0 - 40.9
Some college	18740	67.8	62.7 - 72.5	12434	44.9	39.7 - 50.3
College graduate	48819	79.7	76.8 - 82.4	40515	66.0	62.5 - 69.4
Household poverty level						
≤100% FPL	17023	56.0	50.8 - 61.0	11938	39.0	34.1 - 44.1
>100% FPL	72544	73.1	70.4 - 75.7	55888	56.1	53.1 - 59.1
Maternal nativity						
Non-US-born	23525	60.9	57.8 - 64.0	14817	37.8	34.7 - 41.0
US-born	73209	71.7	68.7 - 74.5	56910	55.5	52.3 - 58.6

SUBSTANCE USE

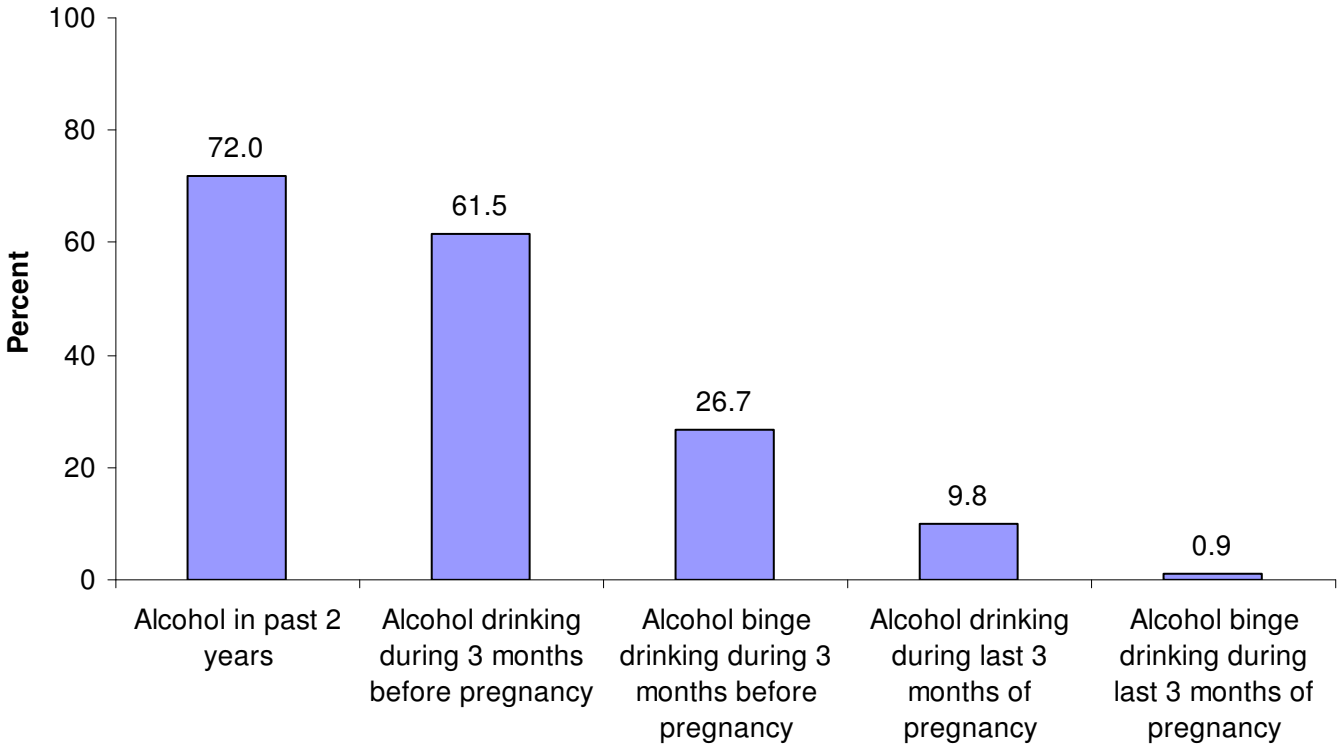
Alcohol

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 (72.0%) reported ever drinking alcohol in the past 2 years, 61.5% reported drinking alcohol in the three months prior to becoming pregnant and another 26.7% reported alcohol binge drinking (drinking more than 4 drinks in one sitting) in the three months before becoming pregnant. About 9.8% 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 three months of pregnancy (Figure 65).

Figure 65. Prevalence of maternal alcohol consumption prior to and during pregnancy, 2009/2010 MA PRAMS



SUBSTANCE USE

Alcohol

Higher prevalence of alcohol consumption during the last three months of pregnancy was observed among 30-39 years old mothers than 20-29 years old mothers (13.5% vs. 5.9%) (Table 24). Analysis was limited by small cell sizes.

Table 24. Prevalence of maternal alcohol consumption in the last three months of pregnancy, by socio-demographic characteristics, 2009/2010 MA PRAMS

	Any drinking in last 3 months of pregnancy		
Characteristic	Weighted n	Weighted %	95% CL
Total	13644	9.8	8.4 - 11.5
Maternal race/ethnicity			
White, non-Hispanic	11008	11.8	9.7 - 14.2
Black, non-Hispanic	698	5.6	4.1 - 7.6
Hispanic	1168	5.7	4.2 - 7.6
Asian, non-Hispanic	624	5.6	4.0 - 7.7
Other, non-Hispanic	*Insufficient data to report*		
Maternal age (years)			
<20	*Insufficient data to report*		
20-29	3574	5.9	4.4 - 7.9
30-39	8839	13.5	11.1 - 16.4
40+	769	13.7	6.9 - 25.3
Maternal education			
<High school	*Insufficient data to report*		
High school diploma	2101	5.5	3.5 - 8.5
Some college	2017	7.5	5.1 - 10.8
College graduate	8886	14.6	12.0 - 17.7
Household poverty level			
≤100% FPL	1129	3.8	2.6 - 5.5
>100% FPL	12098	12.3	10.3 - 14.5
Maternal nativity			
Non-US-born	3300	8.7	6.6 - 11.3
US-born	10345	10.3	8.5 - 12.4

Insufficient data to report: Less than five mothers.

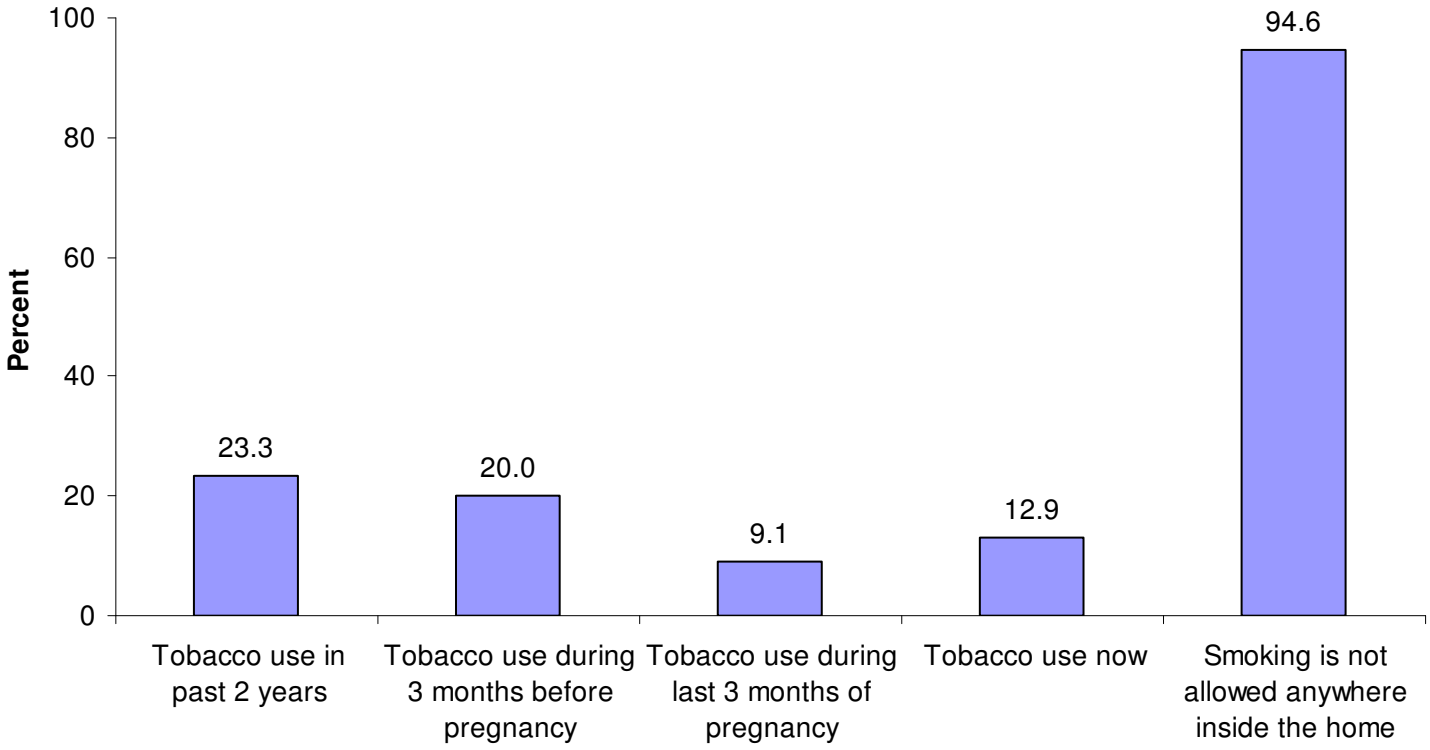
SUBSTANCE USE

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 during the 2 years prior to becoming pregnant, 20.0% reported using tobacco in the three months before becoming pregnant, 9.1% reported some use during the last three months of pregnancy, 12.9% reported smoking in the postpartum period, and 94.6% 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, 2009/2010 MA PRAMS



Massachusetts mothers say...

"Not a lot of pregnant women take seriously the dangerous effects smoking and alcohol [drinking] can have on a baby. This is a great survey!"

Tobacco

Smoking during the last three months of pregnancy was more prevalent among those living at or below 100% of the FPL (20.4%), those between 20 and 29 years of age (13.0%), or those born in the United States (11.4%) (Table 25). Analysis was limited by small cell sizes.

Table 25. Prevalence of maternal tobacco use during the last three months of pregnancy, by socio-demographic characteristics, 2009/2010 MA PRAMS

	Smoking in last 3 months of pregnancy			
Characteristic	Weighted n	Weighted %	95% CL	
Total	12703	9.1	7.6 -	10.9
Maternal race/ethnicity				
White, non-Hispanic	10099	10.8	8.7 -	13.4
Black, non-Hispanic	1029	8.2	6.3 -	10.6
Hispanic	1228	6.0	4.5 -	8.0
Asian, non-Hispanic	*Insufficient data to report*			
Other, non-Hispanic	*Insufficient data to report*			
Maternal age (years)				
<20	*Insufficient data to report*			
20-29	7902	13.0	10.4 -	16.1
30-39	3988	6.1	4.4 -	8.5
40+	*Insufficient data to report*			
Maternal education				
<High school	2079	16.4	11.1 -	23.6
High school diploma	6485	16.8	13.0 -	21.4
Some college	3211	11.7	8.4 -	16.1
College graduate	*Insufficient data to report*			
Household poverty level				
≤100% FPL	6171	20.4	16.1 -	25.4
>100% FPL	5570	5.6	4.3 -	7.4
Maternal nativity				
Non-US-born	1098	2.9	1.8 -	4.5
US-born	11574	11.4	9.4 -	13.8

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 2009/2010 survey.*

APPENDIX A. Supplemental Data Tables

Table 1. Question 1, Prevalence of things done during the 12 months before pregnancy (pre-conception readiness), 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Dieting to lose weight				
No	2120	101871	72.5	70.3 - 74.7
Yes	747	38565	27.5	25.3 - 29.7
Exercising 3 or more days a week				
No	1672	77137	55.0	52.5 - 57.5
Yes	1183	63045	45.0	42.5 - 47.5
Taking prescription medicines other than birth control				
No	2318	108765	77.4	75.2 - 79.4
Yes	545	31809	22.6	20.6 - 24.8
Visited a health care worker to be screened for diabetes				
No	2560	128675	91.9	90.6 - 93.0
Yes	298	11388	8.1	7.0 - 9.4
Visited a health care worker to be screened for high blood pressure				
No	2517	127197	90.7	89.3 - 91.9
Yes	344	13074	9.3	8.1 - 10.7
Visited health care worker to be screened for depession or anxiety				
No	2473	119928	85.4	83.5 - 87.1
Yes	390	20479	14.6	12.9 - 16.5
Talked to a health care worker about family medical history				
No	1892	89935	64.3	61.9 - 66.7
Yes	959	49927	35.7	33.3 - 38.1
Had my teeth cleaned by a dentist or dental hygienist				
No	1041	44089	31.3	29.1 - 33.6
Yes	1831	96734	68.7	66.4 - 70.9

APPENDIX A. Supplemental Data Tables

Table 2. Question 2, Prevalence of insurance types prior to pregnancy, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Health insurance from your job or job of partner or parents	1613	89105	62.9	60.6 - 65.1
Health insurance that you or someone else paid for	131	6709	4.7	3.8 - 5.9
Medicaid or MassHealth	981	38205	27.0	25.0 - 29.0
TRICARE or other military healthcare	37	1580	1.1	0.7 - 1.7
Commonwealth Care	143	6353	4.5	3.6 - 5.7
None	186	6998	4.9	4.0 - 6.0
Pre-pregnancy insurance (collapsed into 4 categories)				
Public	1039	41206	29.3	27.2 - 31.4
Private	1529	86855	61.7	59.4 - 63.9
Self-paid	124	5721	4.1	3.2 - 5.1
None	186	6998	5.0	4.1 - 6.1

Table 3. Question 3, Prevalence of daily multivitamin use in the month prior to pregnancy, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Prenatal vitamin use				
Didn't take any	1468	68379	48.5	46.0 - 50.9
1-3 times per week	265	12546	8.9	7.6 - 10.4
4-6 times per week	148	7429	5.3	4.3 - 6.5
Every day	994	52767	37.4	35.0 - 39.8

Table 4. Questions 4-5, Maternal Body Mass Index (BMI) immediately prior to pregnancy (derived from maternal report of height and weight), 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Maternal BMI, pre-pregnancy				
Underweight (<18.5)	128	4672	3.4	2.7 - 4.4
Normal (18.5 - 24.9)	1473	75910	56.1	53.5 - 58.6
Overweight (25.0 - 29.9)	650	30567	22.6	20.5 - 24.7
Obese (≥ 30)	463	24280	17.9	16.0 - 20.0

APPENDIX A. Supplemental Data Tables

Table 5. Question 7, Maternal self-rated health postpartum, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Maternal self-rated health, current				
Excellent	809	40544	28.9	26.7 - 31.2
Very Good	1167	60443	43.1	40.6 - 45.5
Good	748	33707	24.0	22.0 - 26.2
Fair	136	5361	3.8	3.0 - 4.8
Poor	*Insufficient data to report*			

Table 6. Question 8, Prevalence of Type 1 or Type 2 diabetes, 2009/2010 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	2802	136935	97.4	96.4 - 98.1
Yes	72	3693	2.6	1.9 - 3.6

Table 7. Questions 9-12, Prevalence of previous low birth weight and previous preterm births among multiparous mothers, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Birth History				
Previous live births				
No	1396	71219	51.0	48.5 - 53.5
Yes	1453	68405	49.0	46.5 - 51.5
Previous normal birth weight				
No	150	5565	8.2	6.6 - 10.2
Yes	1285	62296	91.8	89.8 - 93.4
Previous preterm birth (among multiparas)				
No	1219	58572	86.6	84.1 - 88.8
Yes	214	9064	13.4	11.2 - 15.9
Previous cesarean delivery				
No	1050	48446	71.1	67.8 - 74.2
Yes	397	19684	28.9	25.8 - 32.2

Insufficient data to report: Less than five mothers.

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Table 8. Question 13, Feelings about becoming pregnant prior to this pregnancy, 2009/2010 MA PRAMS

Question		Sample n	Weighted n	Weighted %	95% CL
Pregnancy feelings					
	Wanted sooner	649	29744	21.4	19.5 - 23.5
	Wanted later	808	36816	26.5	24.4 - 28.8
	Wanted never	212	8634	6.2	5.2 - 7.5
	Wanted then	1161	63531	45.8	43.3 - 48.3

Table 9. Question 14, Proportion of mothers trying to get pregnant, 2009/2010 MA PRAMS

Question		Sample n	Weighted n	Weighted %	95% CL
Trying to get pregnant					
	No	1278	58950	42.2	39.8 - 44.7
	Yes	1569	80612	57.8	55.3 - 60.2

Table 10. Question 15, Prevalence of pre-pregnancy contraception use among mothers who were not trying to get pregnant, 2009/2010 MA PRAMS

Question		Sample n	Weighted n	Weighted %	95% CL
Used birth control (among those not trying to get pregnant)					
	No	682	30862	53.2	49.4 - 57.1
	Yes	576	27104	46.8	42.9 - 50.6

Table 11. Question 16, Reasons for not using a contraceptive method prior to pregnancy among mothers not trying to get pregnant, 2009/2010 MA PRAMS

Question		Sample n	Weighted n	Weighted %	95% CL
Reasons for not using birth control					
	Didn't mind getting pregnant	312	14832	43.9	39.0 - 49.0
	Didn't think could become pregnant	230	9538	28.3	24.0 - 32.9
	Partner didn't want to use	152	6776	20.0	16.2 - 24.4
	Side effects from birth control	68	3321	9.8	7.1 - 13.4
	Thought partner was sterile	58	2963	8.8	6.2 - 12.2
	Problems acquiring birth control	41	1855	5.5	3.6 - 8.2
	Other	84	3938	11.6	8.7 - 15.3

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Table 12. Questions 17-18, Prevalence of fertility treatment use, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Had any help getting pregnant (among only those who were trying to get pregnant)				
No	1351	68379	85.1	82.5 - 87.4
Yes	200	11968	14.9	12.6 - 17.5
Kinds of reproductive assistance (among those reporting any fertility treatment use)				
Drugs	98	6148	43.2	35.5 - 51.2
Artificial Insemination	42	2667	18.7	13.2 - 25.9
Assisted reproductive technology (*e.g.,* in vitro fertilization [IVF])	80	5335	37.5	30.1 - 45.5
Other treatment	28	1459	10.3	6.4 - 16.1
Was not using fertility treatments	23	1085	7.6	4.4 - 12.9

Table 13. Question 19, Weeks pregnant when sure of pregnancy, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Weeks pregnant when sure of pregnancy				
0 to 4 weeks	1244	64606	48.3	45.7 - 50.8
5 to 8 weeks	1123	55563	41.5	39.0 - 44.0
9 to 12 weeks	206	8754	6.5	5.4 - 7.9
13+ weeks	130	4973	3.7	2.9 - 4.7

Table 14. Question 20, Timing of entry to prenatal care, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Timing of initiation of prenatal care				
Initiated within 1st trimester	2528	129002	92.2	90.9 - 93.3
Did not initiate within 1st trimester	282	10220	7.3	6.2 - 8.5
Did not have PNC	20	684	0.5	0.3 - 0.9

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Table 15. Question 21, Prevalence of mothers receiving prenatal care as early as wanted, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Received prenatal care as early as wanted				
No	324	14033	10.1	8.7 - 11.7
Yes	2503	125164	89.9	88.3 - 91.3

Table 16. Question 22, Reasons for not receiving prenatal care as early as wanted among those with late prenatal care entry, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Reasons for not getting prenatal care as early as wanted among those with late prenatal care entry				
Couldn't get an appointment	27	1095	10.8	6.4 - 17.6
Didn't have enough money or insurance	22	905	8.8	5.0 - 15.1
No transportation	15	490	4.9	2.4 - 9.7
Doctor/health plan wouldn't start earlier	14	505	5.0	2.5 - 9.6
Too many other things going on	28	819	8.1	5.1 - 12.7
Couldn't take time off work or school	17	612	6.0	3.1 - 11.5
Didn't have MassHealth card	15	559	5.4	2.6 - 11.1
Childcare	8	328	3.2	1.2 - 8.7
Didn't know I was pregnant	42	2081	20.3	13.9 - 28.8
Didn't want to disclose pregnancy	17	740	7.3	3.8 - 13.7
Didn't want prenatal care	*Insufficient data to report*			

Table 17. Question 23, Sources of payment for prenatal care, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Health Insurance from your job or the job of your husband, partner, or parents	1545	86410	61.3	59.0 - 63.6
Health insurance that you or someone else paid for	116	6327	4.5	3.5 - 5.7
Medicaid or MassHealth	1274	51110	36.3	34.1 - 38.5
TRICARE or other military health care	28	1547	1.1	0.7 - 1.8
Commonwealth care	110	4335	3.1	2.4 - 4.0
None	16	738	0.5	0.3 - 1.1
Prenatal care insurance (collapsed into 4 categories)				
Public	1329	54116	38.7	36.4 - 41.0
Private	1405	79989	57.2	54.8 - 59.5
Self-paid	91	5098	3.6	2.8 - 4.8
None	16	738	0.5	0.3 - 1.1

Insufficient data to report: Less than five mothers.

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Table 18. Question 24, Topics discussed by health care providers during prenatal care visits, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Topics discussed during prenatal care visits				
Smoking	2090	101684	73.5	71.3 - 75.7
Breastfeeding	2410	118136	84.9	83.0 - 86.6
Alcohol	2167	105339	76.1	73.8 - 78.2
Seat belt use	1674	80690	58.4	55.9 - 60.8
Safe medications during pregnancy	2526	125301	90.0	88.4 - 91.4
Illegal drugs	1887	89774	65.1	62.6 - 67.4
Birth defects screening	2528	128473	92.6	91.3 - 93.7
Signs of preterm labor	2241	112117	81.0	79.0 - 82.9
What to do if labor starts early	2324	114798	83.1	81.1 - 84.9
HIV testing	2257	105531	76.6	74.3 - 78.7
What to do if feeling depressed	2155	108575	78.2	76.1 - 80.2
Physical abuse by partners	1790	86082	62.5	60.0 - 64.9

Table 19. Question 25, Prenatal care satisfaction, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Satisfaction with prenatal care visits				
Waiting time satisfaction	2257	113015	81.5	79.4 - 83.3
Time spent with doctor	2487	124193	89.4	87.8 - 90.8
Advice received	2589	129384	93.5	92.1 - 94.6
Understanding and respect from staff	2702	133415	96.1	94.9 - 97.0

Table 20. Questions 26-29, Prevalence of HIV testing, offer and refusal during pregnancy, and reasons for declining HIV testing, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Tested for HIV				
Not tested	631	36773	25.9	23.8 - 28.2
Tested	2036	92583	65.3	62.9 - 67.6
Don't know	229	12459	8.8	7.4 - 10.3
Offered an HIV test (population estimate)				
Not offered	505	28831	20.3	18.4 - 22.4
Offered	2281	107346	75.7	73.5 - 77.8
Don't know	110	5638	4.0	3.1 - 5.1
Refused HIV test (population estimate)				
Did not refuse	2099	95145	88.6	86.6 - 90.4
Refused	176	11850	11.0	9.3 - 13.1
Don't know	*Insufficient data to report*			
Reasons for declining HIV test (among those declining)				
Didn't think at risk	96	6580	41.7	34.2 - 49.7
Didn't want people to think at risk	*Insufficient data to report*			
Afraid of getting result	*Insufficient data to report*			
Previously tested	102	7175	45.5	37.8 - 53.4
Other	15	1034	6.6	3.6 - 11.6

Insufficient data to report: Less than five mothers.

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Table 21. Question 30, Prevalence of WIC participation during pregnancy, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
WIC during pregnancy				
Did not use WIC	1435	86343	61.8	59.6 - 64.0
Used WIC	1407	53266	38.2	36.0 - 40.4

Table 22. Questions 31-32, Prevalence of Gestational Diabetes during pregnancy, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Gestational Diabetes				
No	2585	130225	92.9	91.6 - 94.0
Yes	260	9919	7.1	6.0 - 8.4
Among those with Gestational Diabetes				
Refer you to a nutritionist	220	8669	87.2	80.7 - 91.7
Talk to you about the importance of exercise	229	8938	90.3	84.4 - 94.1
Talk to you about getting to a healthy weight	208	7989	81.3	73.9 - 87.1
Suggest that you breastfeed your new baby	183	5739	59.5	50.4 - 68.0
Talk about risk of Type 2 diabetes	204	7848	80.8	72.8 - 86.8

Table 23. Question 33, Prevalence of maternal health complications during pregnancy, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Health complications during pregnancy				
Severe nausea/vomiting	754	34350	24.6	22.6 - 26.8
Vaginal bleeding	533	27155	19.4	17.5 - 21.5
Preterm labor	421	18960	13.6	12.0 - 15.4
Kidney/bladder infection	378	17586	12.6	11.1 - 14.4
Hypertension or preeclampsia or toxemia	313	17154	12.3	10.7 - 14.1
Placental problems	139	7185	5.2	4.2 - 6.4
PROM*	133	6341	4.6	3.6 - 5.7
Incompetent cervix	58	2536	1.8	1.3 - 2.6
Car accident	50	1991	1.4	1.0 - 2.1
Blood transfusion	43	1430	1.0	0.7 - 1.5

**PROM = premature rupture of membranes*

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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, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Tobacco use in past 2 years				
No	2335	106999	76.7	74.4 - 78.9
Yes	505	32513	23.3	21.1 - 25.6
Tobacco use 3 months pre-pregnancy				
No	2413	111712	80.0	77.8 - 82.1
Yes	433	27889	20.0	17.9 - 22.2
Tobacco use during last 3 months of pregnancy				
No	2657	126806	90.9	89.1 - 92.4
Yes	186	12703	9.1	7.6 - 10.9
Tobacco use now				
No	2560	121704	87.1	85.2 - 88.9
Yes	285	17947	12.9	11.1 - 14.8
Changes in tobacco use during pregnancy				
Non-smoker	2410	111614	80.1	77.8 - 82.1
Smoker quit	247	15192	10.9	9.3 - 12.7
Smoker reduced	117	9034	6.5	5.2 - 8.1
smoker same/more	68	3555	2.6	1.8 - 3.5
Smoking inside home				
No smoking in home	2686	131809	94.6	93.2 - 95.6
Smoking in some rooms	126	6950	5.0	3.9 - 6.3
Smoking anywhere in house	23	644	0.5	0.3 - 0.8

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Table 25. Questions 39-41, Prevalence of maternal alcohol consumption and bingeing prior to and during pregnancy, and change in alcohol use, 2009/2010 MA PRAMS

Question		Sample n	Weighted n	Weighted %	95% CL
Alcohol drinking in past 2 years					
	No	1179	39312	28.0	26.1 - 30.0
	Yes	1667	100880	72.0	70.0 - 73.9
Alcohol drinking during 3 months before pregnancy					
	No	1468	53590	38.5	36.2 - 40.7
	Yes	1369	85752	61.5	59.3 - 63.8
Alcohol binge drinking during 3 months before pregnancy					
	No	2286	101468	73.3	70.9 - 75.6
	Yes	539	36939	26.7	24.4 - 29.1
Alcohol drinking during last 3 months of pregnancy					
	No	2606	125265	90.2	88.5 - 91.6
	Yes	220	13644	9.8	8.4 - 11.5
Alcohol binge drinking during last 3 months of pregnancy					
	No	2799	137799	99.1	98.6 - 99.5
	Yes	29	1190	0.9	0.5 - 1.4
Changes in alcohol drinking during pregnancy					
	Non-drinker	1456	52890	38.2	36.0 - 40.5
	Drinker quit	1141	71981	52.0	49.5 - 54.4
	Drinker reduced	105	8042	5.8	4.7 - 7.2
	Drinker same/more	108	5158	3.7	2.9 - 4.8
	Non-drinker resumed	*Insufficient data to report*			

Insufficient data to report: less than five mothers.

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Table 26. Question 42, Prevalence of stressful life events during pregnancy, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Maternal stressors in the 12 months before baby was born				
Family member sick	586	33728	24.2	22.0 - 26.5
Separated/divorced	236	9897	7.1	5.9 - 8.4
Moved to new address	911	44610	31.9	29.6 - 34.4
Homeless	162	5482	3.9	3.2 - 4.8
Partner lost job	414	20375	14.7	13.0 - 16.6
Mother lost job	316	12470	9.0	7.7 - 10.4
Argued with partner more than usual	679	30434	21.8	19.8 - 23.9
Partner said didn't want pregnancy	227	10226	7.3	6.1 - 8.8
Couldn't pay bills	611	28548	20.5	18.6 - 22.6
I was in a physical fight	94	2871	2.1	1.6 - 2.7
Partner or I went to jail	80	2873	2.1	1.5 - 2.8
Someone close to me had a drinking/drug problem	270	18186	13.0	11.3 - 15.0
Someone close to me died	442	23577	16.9	15.0 - 18.9
At least 1 family-related stressor	1062	49472	34.9	32.6 - 37.3
At least 1 financial stressor	1494	71295	50.3	47.8 - 52.8
At least 1 illness/death-related stressor	799	43424	30.6	28.3 - 33.0
Number of stressors (grouped)				
None	833	41582	29.6	27.4 - 31.9
1 to 2	1232	60411	43.1	40.6 - 45.5
3 to 5	681	33144	23.6	21.5 - 25.8
6 to 18	113	5184	3.7	2.8 - 4.8

Table 27. Questions 43-44, Prevalence of physical abuse prior to and during pregnancy, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Physical abuse before pregnancy				
No	2722	134829	97.4	96.5 - 98.0
Yes	89	3624	2.6	2.0 - 3.5
Physical abuse during pregnancy				
No	2780	137747	98.0	97.3 - 98.5
Yes	79	2766	2.0	1.5 - 2.7
Physical abuse (before or during pregnancy)				
No	2746	136150	96.8	95.9 - 97.5
Yes	117	4444	3.2	2.5 - 4.1

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Table 28. Questions 12 & 48-49, Prevalence of prior cesarean delivery, mode of delivery for current birth, and source of cesarean request, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Previous cesarean (among multiparas)				
No	1050	48446	71.1	67.8 - 74.2
Yes	397	19684	28.9	25.8 - 32.2
Delivery				
Vaginal	1973	96547	68.8	66.5 - 71.1
Cesarean	877	43697	31.2	28.9 - 33.5
Who requested cesarean (all cesarean deliveries)				
Health care provider before labor	387	21130	49.4	44.9 - 54.0
Health care provider during labor	354	16463	38.5	34.2 - 43.0
Mother before labor	85	4201	9.8	7.4 - 13.0
Mother during labor	27	945	2.2	1.3 - 3.8

Table 29. Question 51, Prevalence of delivery payment sources, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Health insurance from your job or job of partner or parents	1493	83912	59.7	57.4 - 62.1
Health insurance that you or someone else paid for	89	4668	3.3	2.5 - 4.4
Medicaid	1317	53134	37.8	35.6 - 40.1
TRICARE or other military healthcare	28	1637	1.2	0.7 - 1.9
Commonwealth Care	98	4225	3.0	2.3 - 4.0
None	*Insufficient data to report*			
Delivery payment insurance (collapsed into 4 categories)				
Public	1376	56671	40.5	38.2 - 42.9
Private	1381	78732	56.3	53.9 - 58.6
Self-paid	79	4022	2.9	2.1 - 3.9
None	*Insufficient data to report*			

Insufficient data to report: Less than five mothers.

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Table 30. Questions 52-53, Infant stay in the neonatal intensive unit (NICU) and length of infant hospital stay at birth, 2009/2010 MA PRAMS

Question		Sample n	Weighted n	Weighted %	95% CL
Baby ever in NICU					
	No	2451	122126	88.0	86.2 - 89.5
	Yes	347	16715	12.0	10.5 - 13.8
Baby length of stay in hospital					
	<1 day	56	2556	1.8	1.3 - 2.6
	1 to 2 days	1421	72059	51.7	49.2 - 54.2
	3 to 5 days	1107	52270	37.5	35.2 - 40.0
	6+ days	229	12017	8.6	7.3 - 10.2
	Not born in hospital		*Insufficient data to report*		

Table 31. Questions 54-55, Infant alive now and infant living with mother, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Infant alive now	2774	136995	99.6	99.3 - 99.8
Infant living with mother now	2759	136127	99.8	99.5 - 100.0

Table 32. Questions 56-59, Prevalence of ever breastfeeding, any breastfeeding at 4-week and 8-week postpartum, and exclusivity at 4-week and 8-week postpartum, 2009/2010 MA PRAMS

Question		Sample n	Weighted n	Weighted %	95% CL
Breastfeeding (Ever)					
	No	330	22545	16.3	14.3 - 18.4
	Yes	2474	115949	83.7	81.6 - 85.7
Duration of breastfeeding (to at least 4 weeks)					
	No	645	38646	28.0	25.7 - 30.4
	Yes	2153	99487	72.0	69.6 - 74.3
Duration of breastfeeding (to at least 8 weeks)					
	No	880	50141	36.3	33.9 - 38.8
	Yes	1918	87993	63.7	61.2 - 66.1
Exclusive breastfeeding (to at least 4 weeks)					
	No	1064	46633	41.7	39.0 - 44.3
	Yes	1300	65326	58.3	55.7 - 61.0
Exclusive breastfeeding (to at least 8 weeks)					
	No	1303	58026	51.8	49.1 - 54.6
	Yes	1061	53933	48.2	45.4 - 50.9

Insufficient data to report: Less than five mothers.

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Table 33. Question 60, Prevalence of infant sleep position, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Baby Sleep Position				
Side	415	16896	12.4	10.9 - 14.0
Back	2038	106401	78.0	76.0 - 79.9
Stomach	228	10117	7.4	6.2 - 8.8
More than one position	98	2970	2.2	1.7 - 2.8

Table 34. Question 61, Proportion of infants seen by a health care provider (HCP) within a week after leaving hospital, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Baby seen by HCP within week after leaving hospital				
No	62	2864	2.1	1.5 - 2.9
Yes	2738	134900	97.9	97.1 - 98.5

Table 35. Questions 62-63, Prevalence of contraception use postpartum and reasons for not using a contraception method, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Current birth control use				
No	546	25241	18.2	16.3 - 20.2
Yes	2262	113641	81.8	79.8 - 83.7
Reasons for not using birth control				
Not having sex	241	8882	33.2	28.4 - 38.4
Don't want to use birth control	136	7228	27.1	22.3 - 32.5
Other	115	6251	23.4	18.9 - 28.6
Want to get pregnant	68	3712	14.1	10.5 - 18.5
Don't think I can get pregnant (sterile)	39	1911	7.2	4.8 - 10.6
Partner doesn't want to use birth control	51	1776	6.7	4.5 - 9.8
Can't pay for birth control	18	793	3.0	1.6 - 5.5
Pregnant now	6	127	0.5	0.2 - 1.1

Insufficient data to report: Less than five mothers.

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Table 36. Question 64, Prevalence of maternal postpartum check-up, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Mother had postpartum check-up				
No	181	7363	5.3	4.3 - 6.4
Yes	2657	132535	94.7	93.6 - 95.7

Table 37. Question 65, Prevalence of maternal postpartum depressive symptoms, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Postpartum depressive symptoms				
Feeling down, depressed, or sad				
Rarely/Never	1619	84140	61.7	59.2 - 64.1
Sometimes	804	39529	29.0	26.7 - 31.3
Often/Always	291	12773	9.4	8.0 - 10.9
Feeling hopeless				
Rarely/Never	2244	116298	85.9	84.1 - 87.5
Sometimes	307	13745	10.2	8.7 - 11.8
Often/Always	131	5363	4.0	3.1 - 5.0
Feeling slowed down				
Rarely/Never	1464	68900	50.9	48.4 - 53.5
Sometimes	815	44216	32.7	30.3 - 35.2
Often/Always	412	22148	16.4	14.5 - 18.4
Combined all 3 questions				
Rarely/Never	1129	54603	39.9	37.4 - 42.4
Sometimes	1041	53807	39.3	36.8 - 41.8
Often/Always	564	28507	20.8	18.8 - 23.0
Depression defined by CDC (10+)				
No	2398	122105	90.7	89.1 - 92.0
Yes	268	12567	9.3	8.0 - 10.9

Table 38. Question 66, Prevalence of reactions to racism during the 12 months before delivery, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Things that happened in 12 months before baby was born				
Stress due to race or ethnicity	164	4444	3.2	2.6 - 3.9
Upset due to treatment based on race or ethnicity	171	4178	3.0	2.5 - 3.6
Physical symptoms due to treatment based on race or ethnicity	132	3734	2.7	2.2 - 3.3

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Table 39. Questions 67-68, Frequency of physical activity and servings of fruits/ vegetables intake per day in the last three months of pregnancy, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Exercise, last 3 months of pregnancy				
<1 day/week	891	39096	28.3	26.1 - 30.5
1 to 2 days/week	788	42162	30.5	28.2 - 32.9
3 to 4 days/week	575	30135	21.8	19.8 - 24.0
5+ days/week	385	19076	13.8	12.1 - 15.7
Told not to exercise	153	7759	5.6	4.6 - 6.9
Fruits and vegetables servings/day, last 3 months of pregnancy				
< 1 serving/day	186	6902	4.9	4.1 - 6.0
1 to 2 servings/day	1207	55693	39.9	37.5 - 42.4
3 to 4 servings/day	1117	61166	43.8	41.4 - 46.3
5+ servings/day	321	15805	11.3	9.8 - 13.0

Table 40. Question 69, Infant sleep location and bed sharing, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Where does baby sleep in the last month?				
Sofa/couch		*Insufficient data to report*		
Adult bed alone	7	278	0.2	0.1 - 0.5
Carseat	28	2271	1.7	1.1 - 2.6
Adult bed with you and/or another person	487	18127	13.3	11.8 - 15.0
Crib/bassinet	2169	111782	82.1	80.2 - 83.9
Other	62	3515	2.6	1.9 - 3.6

Table 41. Question 70, Awareness of shaken baby syndrome, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Heard or read about what can happen when a baby is shaken				
No	191	5434	3.9	3.3 - 4.7
Yes	2610	133151	96.1	95.3 - 96.7

Insufficient data to report: Less than five mothers.

APPENDIX A. Supplemental Data Tables

Table 42. Question 71, Prevalence of infant safety practices, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Safety practices				
Infant brought home from the hospital in an infant car seat				
No	16	558	0.4	0.2 - 0.8
Yes	2794	138134	99.6	99.2 - 99.8
Infant always/almost always rides in an infant car seat				
No	31	786	0.6	0.4 - 0.9
Yes	2765	137613	99.4	99.1 - 99.6
Home has a working smoke alarm				
No	98	3629	2.6	2.0 - 3.4
Yes	2694	134630	97.4	96.6 - 98.0
Loaded firearms in the home				
No	2701	134942	97.7	97.0 - 98.3
Yes	87	3160	2.3	1.7 - 3.0

Table 43. Question 72, Prevalence of seeking professional help for postpartum depression, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Mother sought help for depression (among all)				
Mother did not seek help	2485	122955	87.9	86.2 - 89.5
Mother sought help	347	16888	12.1	10.5 - 13.8
Mother sought help for depression (among those defined as having depresion using CDC's definition of ≥10)	122	6266	49.9	41.7 - 58.2
Mother sought help for depression (among those reported "often" or "always" feeling down, depressed, sad, hopeless, or slowed down)	186	10049	61.1	53.9 - 67.9

APPENDIX A. Supplemental Data Tables

Table 44. Question 73, Prevalence of intimate partner violence postpartum, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Things that have happened since baby was born				
Husband or partner threatened you	82	3053	2.2	1.6 - 2.9
Frightened for safety of you or your family	60	2302	1.6	1.2 - 2.3
Husband or partner tried to control you	107	4679	3.3	2.6 - 4.3
Husband or partner forced you into sexual activity	23	1037	0.7	0.4 - 1.3

Table 45. Question 74, Prevalence of maternal health insurance types postpartum, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Mother insurance (current)				
Health insurance from job	1460	81448	58.0	55.6 - 60.4
Health insurance you or someone paid for	75	3640	2.6	1.9 - 3.5
MassHealth	1245	51074	36.4	34.1 - 38.7
TRICARE or other military healthcare	26	1656	1.2	0.7 - 1.9
Commonwealth care	92	4149	3.0	2.2 - 3.9
None	63	3006	2.2	1.5 - 3.0
Current health insurance (collapsed into 4 categories)				
Public	1309	55016	39.5	37.2 - 41.9
Private	1359	77063	55.3	52.9 - 57.7
Self-paid	88	4190	3.0	2.3 - 4.0
None	63	3006	2.2	1.5 - 3.1

Table 46. Questions 75-76, Prevalence of maternal disability status and length of disability, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Maternal disability				
No	2698	133659	96.0	94.9 - 96.8
Yes	125	5631	4.0	3.2 - 5.1
Days disabled				
Non-disabled	2698	133659	96.3	95.2 - 97.1
1 to 29 days	18	477	0.3	0.2 - 0.6
30+ days	91	4710	3.4	2.6 - 4.5

APPENDIX A. Supplemental Data Tables

Tables 47. Questions 77-78, Prevalence of maternal teeth cleaning prior to, during, and after pregnancy, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Teeth cleaning				
Ever had teeth cleaned	2482	129533	91.3	90.2 - 92.3
Had teeth cleaned during pregnancy	1272	71727	50.6	48.1 - 53.0
Had teeth cleaned since baby was born	959	51673	36.4	34.1 - 38.9

Tables 48. Questions 77-78, Prevalence of maternal teeth cleaning, never, ever but not recently, or recently, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
How recently were the teeth cleaned?				
Had teeth cleaned within 2 years	1993	103833	73.2	71.0 - 75.3
Had teeth cleaned more than 12 months before becoming pregnant	489	25700	18.1	16.2 - 20.2
Never had teeth cleaned	414	12282	8.7	7.7 - 9.8

Tables 49. Question 79, Total household income during the 12 months before your new baby was born, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Yearly total household income				
Less than 10,000	525	20994	15.9	14.2 - 17.7
10,000-14,999	219	8305	6.3	5.2 - 7.5
15,000-19,999	145	5792	4.4	3.5 - 5.5
20,000-24,999	168	6213	4.7	3.8 - 5.8
25,000-34,999	228	10010	7.6	6.3 - 9.0
35,000-49,000	244	11914	9.0	7.6 - 10.6
50,000-64,999	180	11511	8.7	7.3 - 10.4
65,000-79,999	142	8741	6.6	5.4 - 8.1
80,000 or more	795	48824	36.9	34.5 - 39.4

Tables 50. Question 80, Total number of people including yourself in the household during the 12 months before your new baby was born, 2009/2010 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Household size before this new baby was born				
1	288	13503	10.1	8.6 - 11.7
2	1032	54422	40.6	38.0 - 43.1
3	785	40246	30.0	27.7 - 32.4
4	349	16980	12.7	11.1 - 14.4
5	140	5440	4.1	3.2 - 5.0
6+	80	3611	2.7	2.0 - 3.6

APPENDIX A. Supplemental Data Tables

Technical notes

Confidence limits and statistical significance:
For the 2009/2010 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 significantly different. 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 2009/2010 Department of Health and Human Services Federal Poverty guidelines (DHHS, 2009 and 2010). 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, 2009/2010

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®, Serophene®, Pergonal®, 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 <u>does not apply to you</u>.

		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.	***Severe*** 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 → **Go to Page 10, Question 50**
- ❑ Cesarean delivery (c-section)

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 <u>how often</u> you have felt or experienced things this way *since your new baby was born*. Use the scale when answering:

1 Never 2 Rarely 3 Sometimes 4 Often 5 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.

		No	Yes
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 <u>one</u> 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 <u>one</u> 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 **loaded** 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!

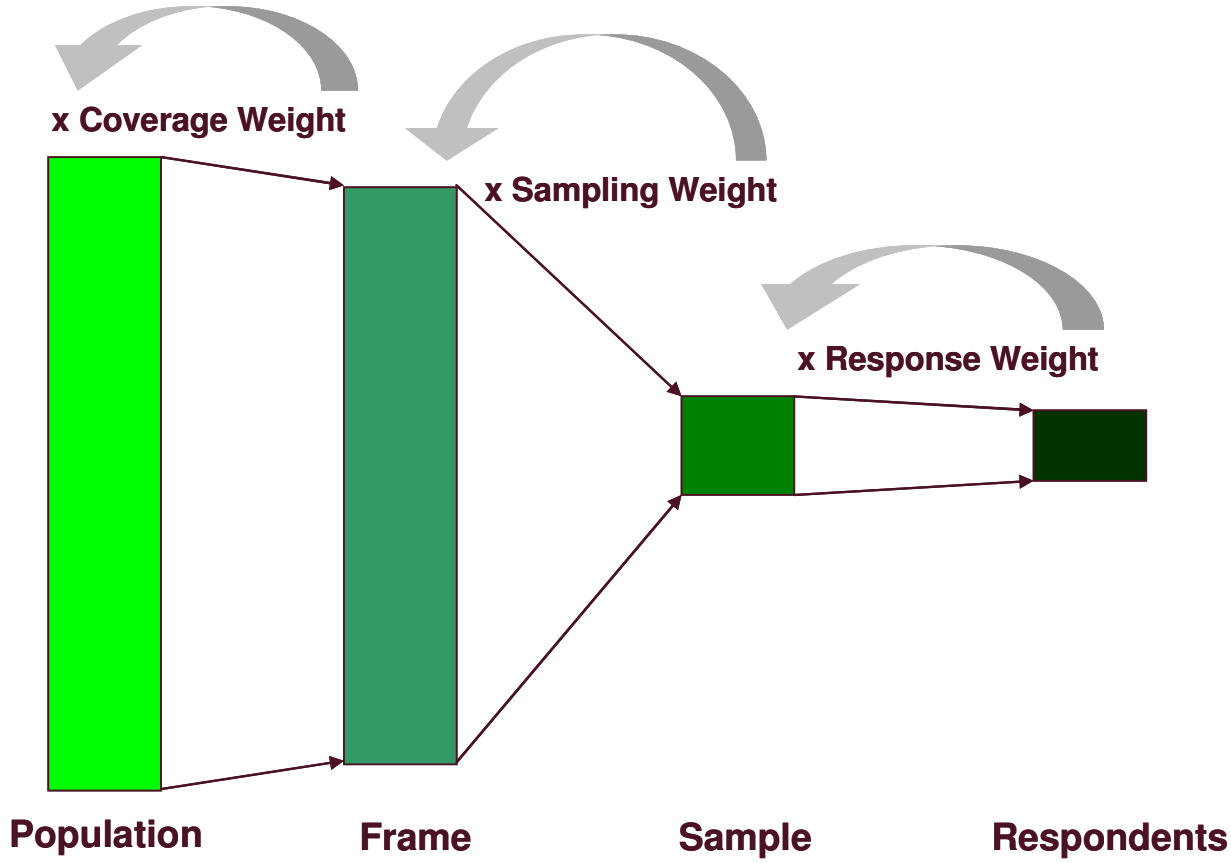
Your answers will help us work to make Massachusetts mothers and babies healthier.

December 8, 2008

Appendix C.
Massachusetts PRAMS 2009/2010
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 2009/2010
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 2020 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[1] 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	

[1] The number of "expected" visits is determined based on standards set by the American College of Obstetricians and Gynecologists (ACOG).

Appendix E.
Massachusetts PRAMS 2009/2010
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

Name	Organization
Candice Belanoff	Boston University School of Public Health
Sarah Ball	Abt Associates
Sandra Broughton	Massachusetts Department of Public Health
Paula Callahan	Massachusetts Department of Children and Families
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Eugene Declercq	Boston University School of Public Health
Karin Downs	Massachusetts Department of Public Health
Holly Hackman	Massachusetts Department of Public Health
Sunah Hwang	South Shore Hospital
Milton Kotelchuck	MassGeneral Hospital for Children
Jill Clark	Massachusetts Department of Public Health
Vera Mouradian	Massachusetts Department of Public Health
Alice Mroszczyk	Massachusetts Department of Public Health
Beth Nagy	Massachusetts Department of Public Health
Jerry O'Keefe	Massachusetts Department of Public Health
Paul Oppedisano	Massachusetts Department of Public Health
Vincent Smith	Beth Israel Deaconess Medical Center
Ellen Tolan	Massachusetts Department of Public Health
Alexis Travis	March of Dimes Massachusetts Chapter
Maria Vu	Massachusetts Department of Public Health
Megan Young	Boston Public Health Commission