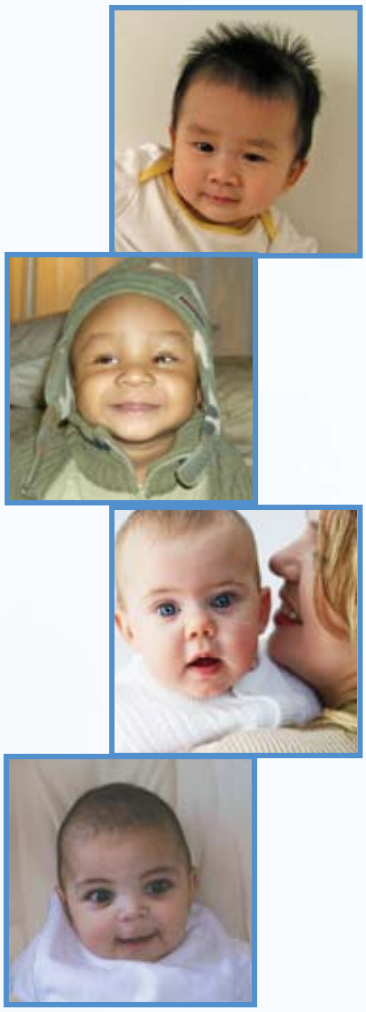

Massachusetts Pregnancy Risk Assessment Monitoring System (PRAMS) 2007/2008 Surveillance Report

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

September 2010

PRAMS
Massachusetts

Pregnancy Risk Assessment Monitoring System

Massachusetts PRAMS
2007/2008 Surveillance Report

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September 2010

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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 combined data from the 2007/2008 Massachusetts Pregnancy Risk Assessment Monitoring System (PRAMS). Massachusetts (MA) PRAMS is a collaborative surveillance project between the Centers for Disease Control and Prevention (CDC) and the Massachusetts Department of Public Health. PRAMS collects state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy. In 2007 and 2008, MA PRAMS oversampled by race/ethnicity to ensure adequate representation of racial/ethnic minority women. The 2007/2008 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 4,697 mothers were sampled and 2,989 responded to the survey, for a weighted response rate of 71%. Final results were weighted to represent the cohort of MA-resident women who delivered a live infant in 2007 and 2008. 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 second report of results from the MA PRAMS project.

The following highlights some key findings contained in this report.

Pre-pregnancy:

- *Pregnancy intention and birth control use:* 42.7% of mothers indicated that they had not been trying to become pregnant when they did. Among those not trying to become pregnant, 58.1% were not using any birth control method at the time of conception.

- *Fertility treatment:* Among those trying to become pregnant, over 13% reported that they had used some form of fertility treatment when they became pregnant.

Pregnancy:

- *WIC:* Almost 38% of births overall were to mothers enrolled in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) during this pregnancy.

- *Gestational Diabetes:* Almost 7% of women reported that they had gestational diabetes mellitus (GDM), or diabetes that started during their pregnancy. The prevalence of GDM was highest among Asian, non-Hispanics (11.2%), those age 40 or older (12.8%), and those who were obese (Body Mass Index ≥ 30) immediately before becoming pregnant (10.7%).

- *Physical Violence:* 4.3% of women reported that they experienced physical abuse from an intimate partner either in the 12 months before they became pregnant or during their pregnancy. Hispanic mothers reported the highest prevalence of intimate partner violence (9.4%) while Asian, non-Hispanic mothers reported the lowest prevalence (1.8%). Over 12% of mothers living below 100% of the Federal Poverty Level reported experiencing violence. Nearly 8% of respondents living below 100% of the Federal Poverty Level reported abuse *during* pregnancy.

- *Prenatal care:* Almost 86% of mothers reported that they initiated prenatal care within the first trimester of pregnancy. First-trimester initiation of care was lowest among those under 20 years of age (61.6%) and those who had less than a high school education (67.6%). The most frequently cited barriers to getting care as early as wanted were not being able to get an earlier appointment and not having a Medicaid card.

- *HIV testing:* About 59% of mothers reported that they received an HIV test during their pregnancy. Overall, about a quarter reported that they were not offered an HIV test. Women who were under age 20, as well as Hispanic women, Black, non-Hispanic women, and women living below 100% of the Federal Poverty Level were more likely than others to report being offered a test.

- *Mode of delivery:* One in three women reported that their babies were delivered by cesarean delivery (c-section).

- *Cesarean request:* Overall, about 13% of mothers reported that it was their idea to have a c-section delivery prior to going into labor. However, among those delivering by c-section for the first time, 4.5% reported that the c-section was their idea before labor. Among those with a previous c-section, over 27% reported that it was their idea to have a c-section before labor began.

Post-Partum:

- *Self-rated health:* Almost 95% of mothers rated their own health as good, very good or excellent, and 5.2% as fair or poor. Mothers under age 20, mothers living below 100% of the Federal Poverty Level, or mothers who had less than a high school education were the most likely to report fair/poor health (15.8%, 14.6% and 16.5%, respectively).

- *Post-partum depression:* Overall, 7.7% of mothers reported that they felt depressed often or always post-partum. Among these women, only about one third reported seeking help for depression from a health care provider.

- *Infant sleep position and location:* Over 75% of mothers reported placing babies to sleep only on their backs and 81.3% reported that their babies slept in a crib or bassinet alone.

- *Breastfeeding:* Overall, about 82% of mothers reported initiating breastfeeding. Highest rates of initiation were observed among Asian, non-Hispanic mothers (91.2%), those age 40 or older (91.9%), mothers who had a college degree (88.0%), and those who were non-US-born (92.5%).

Substance use:

- *Alcohol:* Over 11% of mothers reported drinking alcoholic beverages during the last 3 months of pregnancy.

- *Tobacco:* 9.3% of mothers reported using tobacco during the last 3 months of pregnancy. The prevalence of tobacco use was highest among those who had less than a college degree (15.5%) and those living below 100% of the Federal Poverty Level (12.2%).

Oral health:

- Almost 91% of mothers reported that they had ever received a teeth cleaning in their lifetime.

- Mothers who were of Other, non-Hispanic race/ethnicity (72.8%), mothers who had less than a high school education (77.6%), or mothers who were non-US-born (76.1%) were the least likely to have ever received a teeth cleaning in their lifetime.

Introduction

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

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

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

Methodology

The Massachusetts Pregnancy Risk Assessment Monitoring System (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. PRAMS began in 1987 as part of the Centers for Disease Control and Prevention (CDC) initiative to reduce infant mortality and low birth weight. In recent years, the program has been expanded in support of CDC's Safe Motherhood Initiative to promote healthy pregnancies and the delivery of healthy infants. Massachusetts (MA) PRAMS began collecting data in 2007.

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 2007/2008 survey included a total of 80 questions: the 54 Core questions required by CDC, 16 Standard questions and 10 MA-developed questions (see Appendix B for copy of 2007/2008 MA PRAMS survey). The questionnaire was administered in English and Spanish only.

PRAMS survey participants were sampled from a frame of eligible birth certificates which included all live-born infants born to MA-resident women, 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.

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

Women who were two to six months post-partum were selected to receive up to three mailed paper surveys. Women who had not responded to the survey after the third mailing were contacted by telephone. About three percent of MA women with a live-birth in our study period were sampled. The data were weighted using selected maternal demographics to account for non-response and adjusted for sampling probabilities and coverage to represent the MA birth population in 2007/2008.

Analyses for the MA PRAMS 2007/2008 report accounted for the stratified sampling method and included the final survey weights. SAS version 9.1 and SUDAAN version 10 were used to calculate prevalence and bivariate statistics.

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, almost 11% of respondents declined to report income, and analyses involving household poverty could not include these respondents.

Lastly, while PRAMS data are weighted to reflect the population of women giving birth in Massachusetts in 2007/2008, about 30% 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 2007/2008 respondents were largely reflective of the overall population of MA mothers. White, non-Hispanics constituted almost 67.8% of the sample, Hispanics represented 14.4%, Black, non-Hispanics 8.3%, Asian, non-Hispanics, 7.9%, and Other, non-Hispanics, 1.6%. About 30% of respondents were not born in the United States.

Marital Status

Over 34% of respondents were unmarried.

Parity

Just over half of mothers (51.8%) in our sample had previously given birth to a live-born infant.

Education

Most mothers, almost 89%, had at least a high school education, with over 45% holding a college degree.

Preferred Language

Most mothers, about 88%, preferred to read or discuss health-related materials in English, followed by Spanish, 6.4%, Portuguese, 2.7%, Chinese, 0.8%, and all other languages, 2%.

Age

Eighty-nine percent of mothers were between 20 and 39 years of age, 6.4% were under age 20 and 4.4% were 40 years or older.

Income and public assistance

More than one in five mothers were living at or below 100% of the Federal Poverty Level* (FPL) in the year before their babies were born. Over 88% lived in a household where at least some income was from employment and almost 16% received some form of public assistance.

Disability

Almost 5% of mothers reported having a current emotional or physical disability. Most indicated that the disability had existed for at least a month.

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

PRAMS SAMPLE CHARACTERISTICS (Weighted)†

Table 1. Maternal Characteristics, PRAMS respondents vs. state birth population, 2007/2008 MA PRAMS

Characteristic	Sample n	Weighted n	Weighted %*	State %***
Total	2989	148838	100.0	n/a
Maternal race/ethnicity				
White, non-Hispanic	900	100962	67.8	67.8
Black, non-Hispanic	594	12365	8.3	8.4
Hispanic	784	21422	14.4	13.9
Asian, non-Hispanic	608	11764	7.9	7.5
Other/Unknown, non-Hispanic	103	2325	1.6	2.3
Maternal age (years)				
<20	215	9759	6.6	6.2
20-29	1287	60528	40.7	40.8
30-39	1378	72986	49.0	48.5
40+	109	5565	3.7	4.5
Maternal education				
<High school	412	16624	11.2	10.8
High school diploma	784	37973	25.5	25.4
Some college	611	26815	18.0	20.4
College graduate	1181	67398	45.3	43.4
Household poverty status (approximate)**				
> 100% Federal Poverty Level (FPL)	1886	107117	78.7	n/a
≤ 100% Federal Poverty Level (FPL)	772	28964	21.3	n/a
Maternal nativity				
Non-US-born	1563	44548	29.9	29.8
US-born	1426	104291	70.1	70.2
Preferred language				
English	2429	131262	88.2	88.6
Spanish	350	9575	6.4	5.7
Portuguese	58	3970	2.7	2.7
Chinese	52	1214	0.8	0.7
Other	100	2818	2	2.4
Marital status				
Unmarried	1193	51007	34.3	33.5
Married	1796	97831	65.7	66.6
Maternal disability				
No	2732	137691	95.1	n/a
Yes	138	7134	4.9	n/a
Duration of disability				
Non-disabled	2732	137691	96.0	n/a
1 to 29 days	15	406	0.3	n/a
30+ days	90	5307	3.7	n/a
Parity				
No previous live births	1368	71180	48.3	45.2
Previous live births	1574	76357	51.8	54.8

**Does not include missing in proportions.*

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

****Based on figures, Massachusetts Births, 2007/2008.*

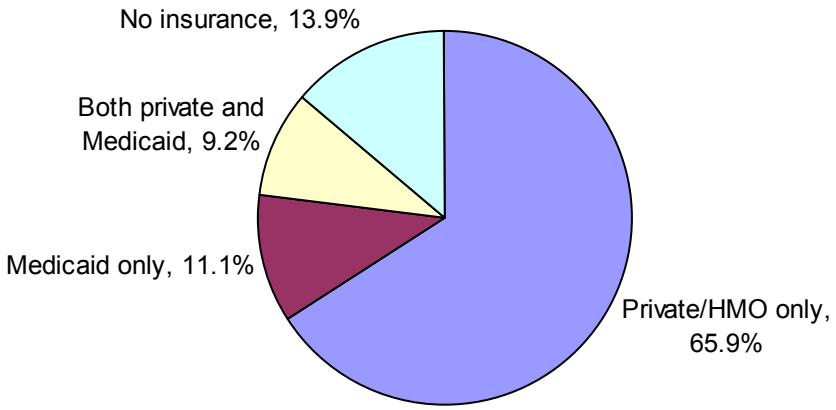
†The data were weighted using selected maternal demographics to account for non-response and adjusted for sampling probabilities and coverage to represent the Massachusetts birth population in 2007/2008.

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, MA enacted legislation that would provide nearly universal health care coverage to MA residents and beginning July 1, 2007, all MA residents will be required to have health insurance. For this report, only a portion of the women in the study could potentially benefit from the MA Health Care Reform. We will continue to monitor the effects of MA Health Care Reform on the populations we serve in the years to come.

Prior to pregnancy, almost two-thirds of mothers had a source of private/HMO health insurance, 11.1% were enrolled in Medicaid only, 9.2% had both private and Medicaid coverage, and 13.9% reported no source of health insurance (Figure 1).

Figure 1. Prevalence of insurance types prior to pregnancy, 2007/2008 MA PRAMS



Massachusetts mothers say...

"Thanks to the Masshealth program [for making coverage] available to those who don't expect to make the same amount of income while they are pregnant!"

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 (23%), age 20 to 29 years old (22%), those had less than a high school education (25.7%), those who were living at or below 100% of the Federal Poverty Level (FPL) (27.9%), or those born outside of the United States (24.8%) (Table 2).

Table 2. Prevalence of no insurance coverage prior to pregnancy, by socio-demographic characteristic, 2007/2008 MA PRAMS

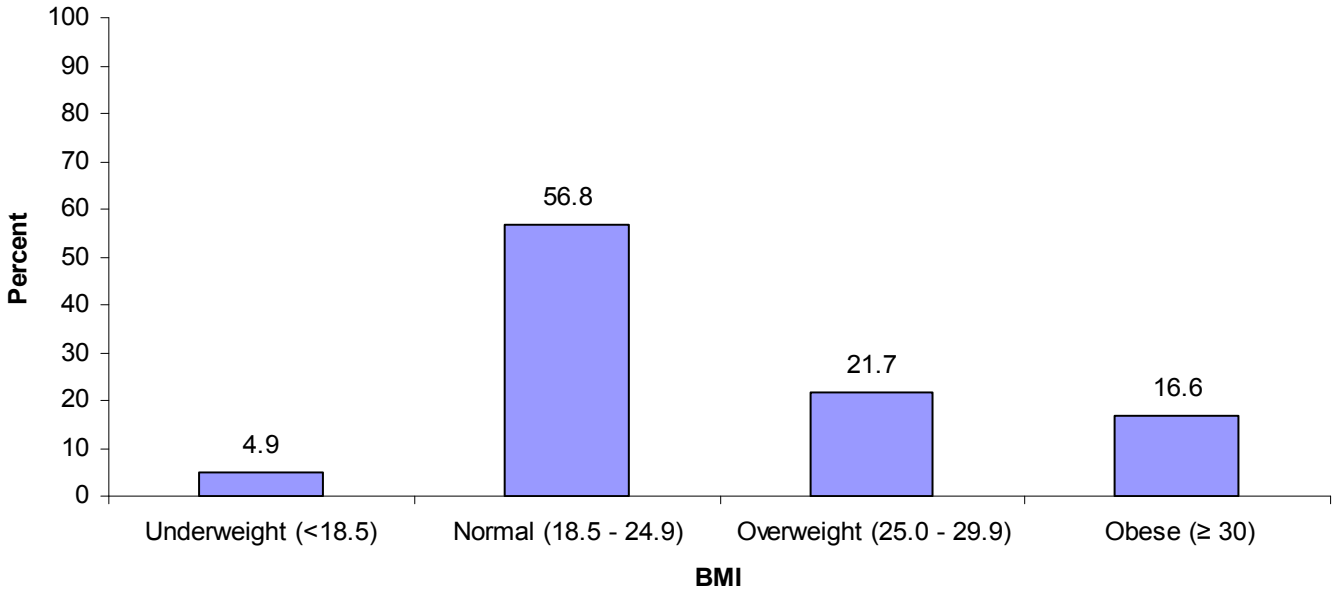
Characteristic	Weighted n	Weighted %	95% CL
Total	20467	13.9	12.3 - 15.6
Maternal race/ethnicity			
White, non-Hispanic	11049	11.0	8.9 - 13.4
Black, non-Hispanic	2280	18.7	15.7 - 22.0
Hispanic	4826	23.0	20.1 - 26.0
Asian, non-Hispanic	1680	14.4	11.7 - 17.6
Other, non-Hispanic	633	27.8	19.9 - 37.4
Maternal age (years)			
<20	979	10.2	6.1 - 16.5
20-29	13182	22.0	18.9 - 25.3
30-39	5894	8.1	6.6 - 10.0
40+	412	7.4	3.3 - 15.6
Maternal education			
<High school	4215	25.7	20.2 - 32.1
High school diploma	8868	23.6	19.6 - 28.0
Some college	4215	15.9	12.3 - 20.2
College graduate	3170	4.7	3.5 - 6.3
Household poverty level			
≤100% FPL	7933	27.9	23.6 - 32.6
>100% FPL	10021	9.4	7.8 - 11.3
Maternal nativity			
Non-US-born	10857	24.8	21.9 - 28.0
US-born	9610	9.2	7.5 - 11.3

Body Mass Index (BMI)

Women who are overweight or obese when they become pregnant may have a greater risk of health complications including hypertension, gestational diabetes, higher risk of cesarean delivery and stillbirth (Baeten, 2001, Kristensen, 2005).

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

Figure 2. Maternal Body Mass Index (BMI) prior to pregnancy, 2007/2008 MA PRAMS

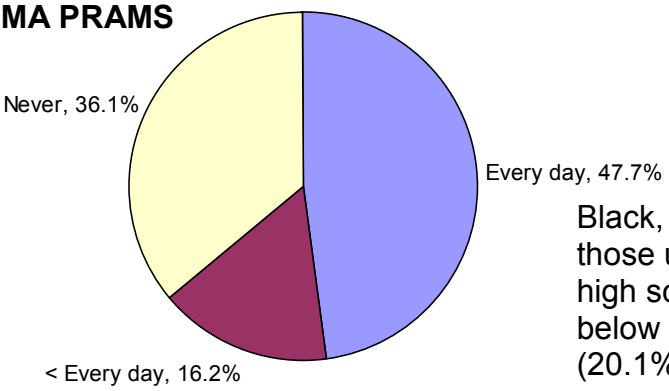


Prenatal multivitamin use

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 47.7% of mothers reported taking multivitamins every day of the week in the month before becoming pregnant. Over one-third reported *never* taking them during that time (Figure 3).

Figure 3. Prevalence of multivitamin use in the month prior to pregnancy, 2007/2008 MA PRAMS



Black, non-Hispanics (26.9%), Hispanics (26.2%), those under age 20 (14.2%), those with less than a high school education (21.3%), or those living at or below 100% of the Federal Poverty Level (FPL) (20.1%) 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, 2007/2008 MA PRAMS

Characteristic	Weighted n	Weighted %	95% CL
Total	53549	36.1	33.8 - 38.5
Maternal race/ethnicity			
White, non-Hispanic	39130	38.9	35.6 - 42.2
Black, non-Hispanic	3299	26.9	23.5 - 30.6
Hispanic	5564	26.2	23.3 - 29.4
Asian, non-Hispanic	4853	41.4	37.6 - 45.3
Other, non-Hispanic	703	30.3	22.2 - 39.8
Maternal age (years)			
<20	1387	14.2	9.5 - 20.7
20-29	16381	27.2	23.9 - 30.7
30-39	32521	44.7	41.3 - 48.2
40+	3259	59.0	46.9 - 70.2
Maternal education			
<High school	3522	21.3	16.9 - 26.6
High school diploma	10925	29.0	24.7 - 33.7
Some college	7872	29.4	24.7 - 34.7
College graduate	31201	46.4	42.8 - 50.1
Household poverty level			
≤100% FPL	5751	20.1	16.8 - 23.9
>100% FPL	43168	40.3	37.5 - 43.3
Maternal nativity			
Non-US-born	14139	32.0	29.0 - 35.1
US-born	39410	37.9	34.9 - 41.0

Pregnancy intention

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

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

Almost 43% of mothers reported that they had *not been* trying to become pregnant when they conceived (Figure 4).

Among all mothers, almost 68% reported that they had wanted the pregnancy then or sooner, and over 32% had wanted the pregnancy either later or never (Figure 5).

Figure 4. Proportion of women trying to become pregnant, 2007/2008 MA PRAMS

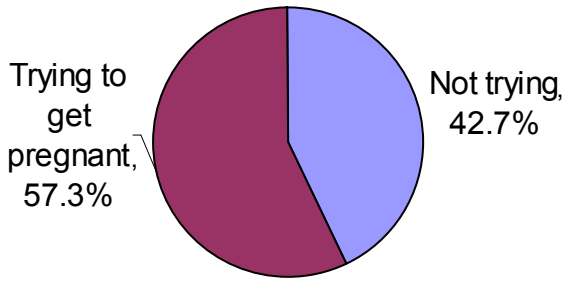
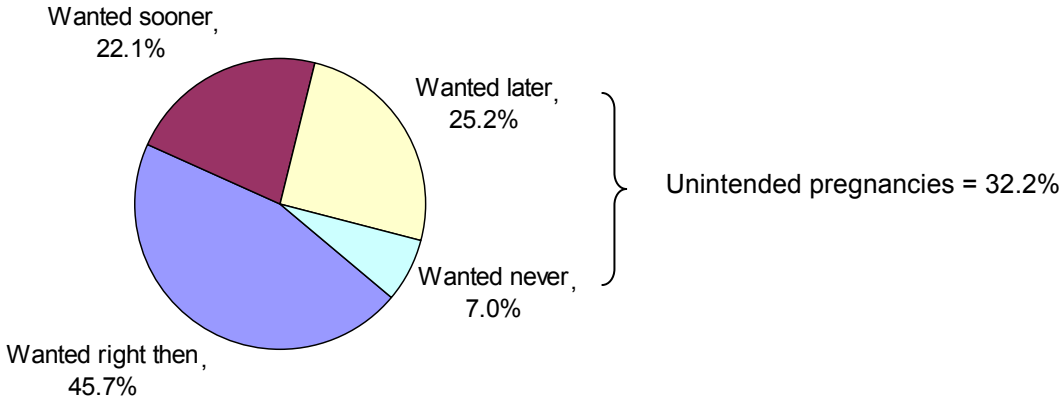


Figure 5. Feelings about becoming pregnant prior to this pregnancy, 2007/2008 MA PRAMS



Pregnancy intention

The proportions of mothers reporting they had *not* been trying to become pregnant were highest among Black, non-Hispanics (66.1%), those with less than a high school education (71.8%), living at or below 100% of the Federal Poverty Level (FPL) (71.2%), or unmarried (71.5%). Women who reported a history of physical abuse were also more likely to report not having tried to become pregnant than those who did not report abuse (62.6% vs. 41.7%) (Table 4).

In Table 3, women under age 20 were stratified further and a distinct gradient by age among adolescents is seen. Almost all women under age 18 and nearly 80% of those aged 18-19 reported that they had not been trying to become pregnant when they did.

Similar socio-demographic patterns were observed in reports of wanting the pregnancy "later" or "never" as were observed for the question around trying to become pregnant. However, in almost all categories, fewer women reported not wanting a pregnancy than reported not trying to become pregnant.

Table 4. Prevalence of pregnancy intention and feelings about the timing of most recent pregnancy, by socio-demographic characteristics and history of abuse, 2007/2008 MA PRAMS

	% Not trying to become pregnant			% Wanted pregnancy later/never		
Characteristic	Weighted n	Weighted %	95% CL	Weighted n	Weighted %	95% CL
Total	62735	42.7	40.3 - 45.1	47125	32.2	30.0 - 34.5
Maternal race/ethnicity						
White, non-Hispanic	37297	37.3	34.0 - 40.8	27138	27.4	24.3 - 30.6
Black, non-Hispanic	8055	66.1	62.2 - 69.8	6084	49.9	45.9 - 53.9
Hispanic	11940	56.7	53.3 - 60.2	9699	46.3	42.8 - 49.8
Asian, non-Hispanic	4213	36.5	32.7 - 40.4	3229	27.9	24.4 - 31.7
Other, non-Hispanic	1230	53.6	43.9 - 63.0	976	42.3	33.1 - 52.1
Maternal age (years)						
≤15	481	96.0	75.5 - 99.5	452	90.3	65.7 - 97.8
16-17	3148	98.1	92.7 - 99.5	3070	96.5	90.9 - 98.7
18-19	4733	78.5	66.7 - 87.0	3992	66.0	53.6 - 76.5
20-29	30782	51.7	47.8 - 55.5	23840	40.1	36.4 - 43.9
30-39	21956	30.4	27.4 33.6	14677	20.5	17.9 23.3
40+	1635	30.1	20.8 - 41.4	1093	20.3	12.7 - 30.9
Maternal education						
<High school	11778	71.8	66.0 - 76.9	9091	55.3	48.6 - 61.8
High school diploma	21245	56.9	51.8 - 61.8	15714	42.5	37.6 - 47.5
Some college	13170	49.6	44.2 - 55.1	10070	37.9	32.8 - 43.2
College graduate	16542	24.8	21.9 - 28.0	12250	18.5	15.9 - 21.5
Household poverty level						
≤100% FPL	20442	71.2	66.8 - 75.3	15069	52.8	47.8 - 57.7
>100% FPL	35610	33.6	30.9 - 36.5	27196	25.8	23.3 - 28.5
Maternal nativity						
Non-US-born	20750	47.5	44.3 - 50.8	15263	35.2	32.1 - 38.4
US-born	41984	40.6	37.6 - 43.8	31862	31.0	28.2 - 33.9
Marital status						
Married	26818	27.7	25.1 - 30.5	18583	19.3	17.1 - 21.8
Unmarried	35916	71.5	67.8 - 74.9	28542	56.9	52.9 - 60.9
History of physical abuse						
No	57623	41.7	39.3 - 44.2	42737	31.2	28.9 - 33.5
Yes	3866	62.6	51.0 - 73.0	3469	55.9	44.6 - 66.7

Pregnancy intention

The proportions of mothers reporting they wanted to be pregnant “sooner” were highest among Asian, non-Hispanics (31.7%), women aged 40 or above (46.0%), those who graduated from college (27.0%), living above 100% of the Federal Poverty Level (FPL) (25.7%), or married (27.7%) (Table 5).

Table 5. Prevalence of wanting the pregnancy sooner by socio-demographic characteristics and history of abuse, 2007/2008 MA PRAMS

	% Wanted pregnancy sooner		
Characteristic	Weighted n	Weighted %	95% CL
Total	32340	22.1	20.2 - 24.2
Maternal race/ethnicity			
White, non-Hispanic	23157	23.3	20.6 - 26.4
Black, non-Hispanic	2372	19.5	16.5 - 34.3
Hispanic	2719	13.0	10.8 - 15.5
Asian, non-Hispanic	3670	31.7	28.1 - 35.5
Other, non-Hispanic	422	18.3	12.1 - 26.7
Maternal age (years)			
<20	280	2.9	1.6 - 5.2
20-29	10388	17.5	14.7 - 20.6
30-39	19196	26.8	23.8 - 30.0
40+	2476	46.0	34.0 - 58.5
Maternal education			
<High school	1706	10.4	7.1 - 14.8
High school diploma	6680	18.0	14.5 - 22.3
Some college	6077	22.9	18.5 - 27.9
College graduate	17876	27.0	23.9 - 30.4
Household poverty level			
≤100% FPL	3609	12.6	9.8 - 16.1
>100% FPL	27096	25.7	23.2 - 28.4
Maternal nativity			
Non-US-born	10152	23.4	20.7 - 26.4
US-born	22187	21.6	19.1 - 24.3
Marital status			
Married	26578	27.7	25.0 - 30.5
Unmarried	5762	11.5	9.3 - 14.1
History of physical abuse			
No	840	17.6	10.2 - 28.7
Yes	31149	22.4	20.4 - 24.6

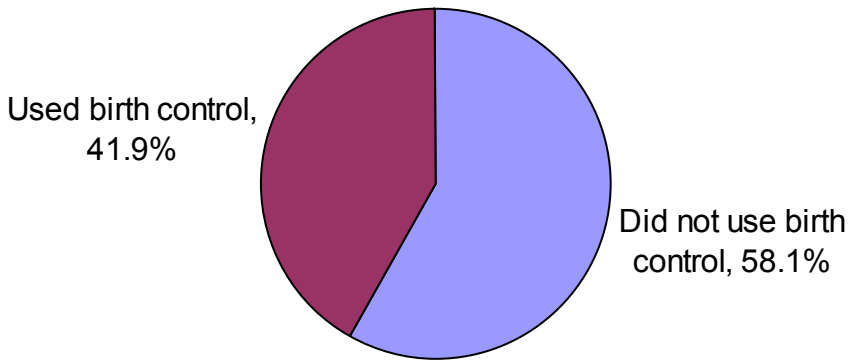
Contraception use

One key to successful family planning programming and policy is understanding why women who were not intending to become pregnant did not or could not use a method of contraception. Better understanding of these issues will likely lead to more effective efforts to improve access to and utilization of contraception.

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

Among those who reported that they had *not* been trying to become pregnant, 58.1% reported *not* using any forms of contraception.

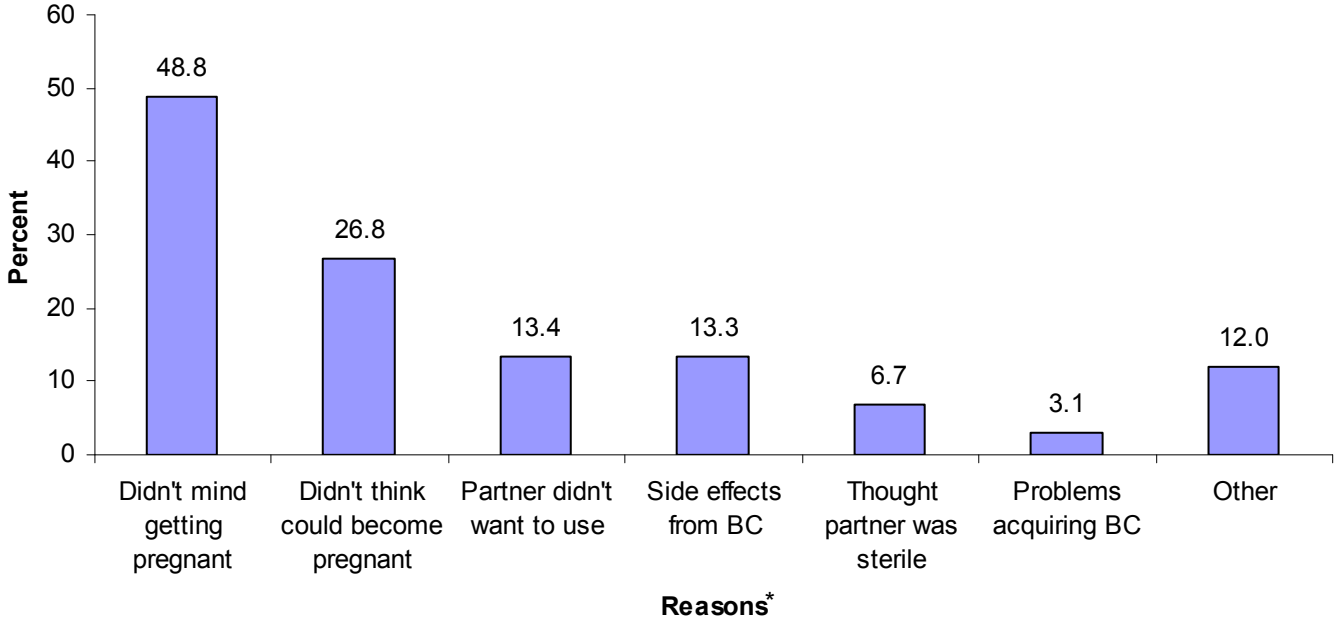
Figure 6. Prevalence of pre-pregnancy contraception use among women who were <u>not</u> trying to become pregnant, 2007/2008 MA PRAMS



Contraception use

Some of the top reasons for not using any contraception included mothers not minding getting pregnant (48.8%), mothers believing that it wasn't possible to get pregnant at that time (26.8%), and husbands/partners not wanting to use birth control (13.4%) (Figure 7).

Figure 7. Reasons for not using a contraceptive method prior to this pregnancy, 2007/2008 MA PRAMS



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

Emergency contraception

The majority of women, 85.2%, reported knowing about emergency contraception or the "morning after" pill before becoming pregnant.

Women who reported that they had wanted to become pregnant later or never were less likely (79.8%) to report knowing about the morning after pill than those who had wanted to become pregnant then or sooner.

Table 6. Proportion of women who reported knowing about emergency contraception (the "morning-after pill") before pregnancy, 2007/2008 MA PRAMS

	% Knowledgeable about "morning after pill"		
	Weighted n	Weighted %	95% CL
Total	123784	85.2	83.7 - 86.6
Feelings about becoming pregnant			
Wanted to become pregnant sooner/then	85001	87.8	86.2 - 89.4
Wanted to become pregnant later or never	36734	79.8	76.8 - 82.9
All respondents who answered both questions	121735	85.2	83.8 - 86.7

Fertility treatment

An estimated 12-15% of women of reproductive age may face infertility (Chandra, 2005). A variety of treatments are now available to address infertility including 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, 7.4% reported receiving some form of assistance from a health care provider in becoming pregnant. Among all mothers, 3.6% received fertility drugs, 2.8% used assisted reproductive technology (ART), 1.5% received artificial insemination, and 1.4% used other forms of treatment.

Figure 8. Prevalence of fertility treatment use*, 2007/2008 MA PRAMS

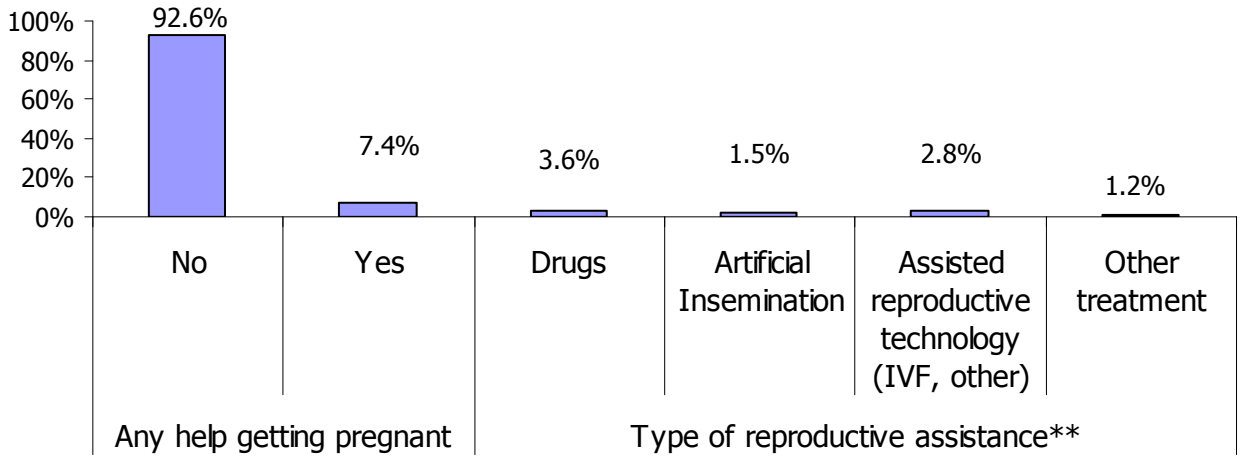


**Figure based on population prevalence of reproductive therapies.*
***Types of fertility treatment are not mutually exclusive.*

Fertility treatment

The highest prevalence of reproductive medical assistance was observed among mothers aged 40 years or older (26.1%). Higher rates of fertility treatment were also observed among White, non-Hispanics (8.5%), Asian, non-Hispanics (8.7%), college-graduates (11.2%), those who were living above 100% of the Federal Poverty Level (FPL) (9.1%), or those born in the United States (8.3%) (Table 7).

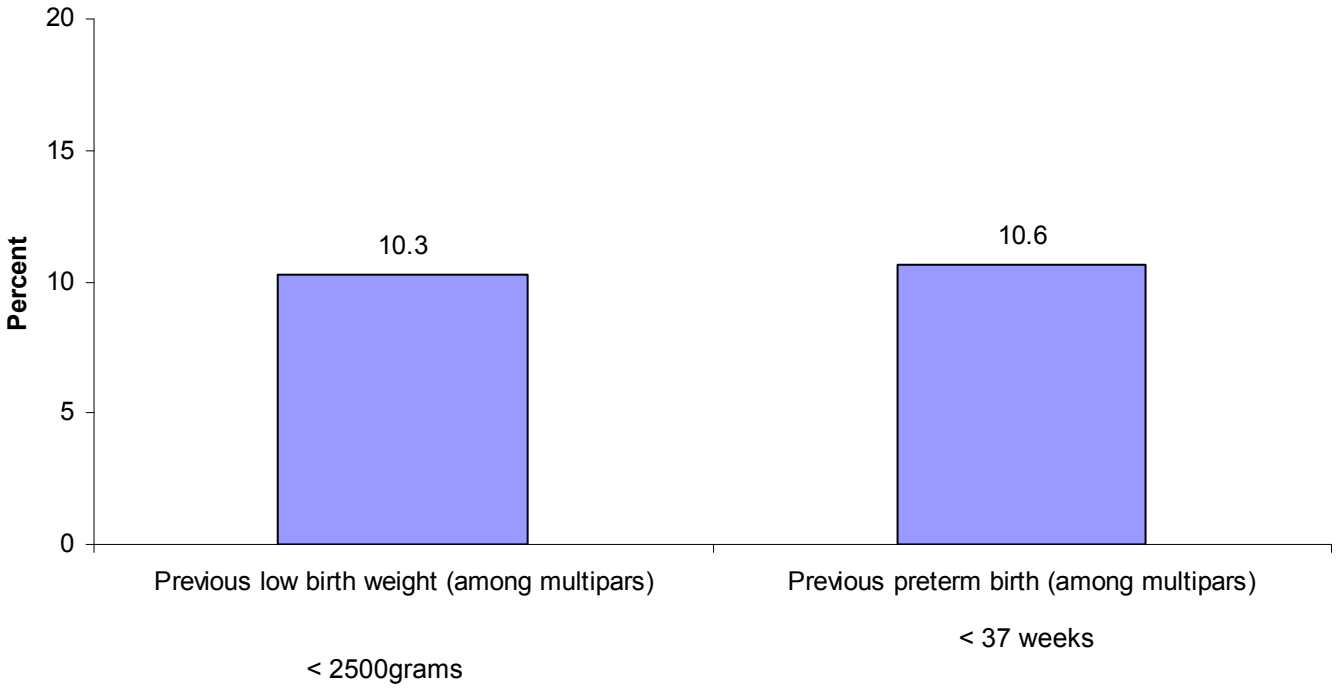
Table 7. Prevalence of fertility treatment use, by socio-demographic characteristics, 2007/2008 MA PRAMS

	Had any medical assistance in becoming pregnant		
Characteristic	Weighted n	Weighted %	95% CL
Total	11044	7.4	6.2 - 8.8
Maternal race/ethnicity			
White, non-Hispanic	8564	8.5	6.8 - 10.5
Black, non-Hispanic	449	3.6	2.4 - 5.4
Hispanic	956	4.5	3.3 - 6.1
Asian, non-Hispanic	1018	8.7	6.7 - 11.1
Other, non-Hispanic	57	2.5	0.6 - 9.0
Maternal age (years)			
<20	174	1.8	0.3 - 11.4
20-29	1925	3.2	2.1 - 4.8
30-39	7493	10.3	8.3 - 12.6
40+	1452	26.1	16.4 - 38.9
Maternal education			
<High school	493	3.0	1.4 - 6.4
High school diploma	1547	4.1	2.5 - 6.6
Some college	1444	5.4	3.3 - 8.6
College graduate	7559	11.2	9.1 - 13.8
Household poverty level			
≤100% FPL	657	2.3	1.2 - 4.1
>100% FPL	9717	9.1	7.5 - 10.9
Maternal nativity			
Non-US born	2349	5.3	4.1 - 6.8
US born	8694	8.3	6.8 - 10.3

Previous birth outcomes

Among multiparous women (those who have previously given birth to a live infant), 10.3% reported having had a previous preterm birth, and 10.6% reported having had a previous low birth weight baby.

Figure 9. Prevalence of previous low birth weight and preterm births among multiparous women, 2007/2008 MA PRAMS

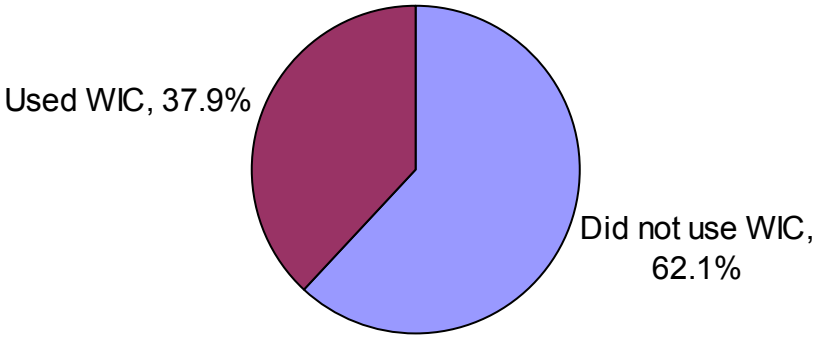


WIC participation during pregnancy

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

Over a third of mothers (37.9%) reported participating in WIC during their most recent pregnancy (Figure 10).

Figure 10. Proportion of mothers participating in WIC during pregnancy, 2007/2008 MA PRAMS



WIC participation during pregnancy

The highest rates of WIC participation were among Hispanic mothers (78.1%), under 20 years of age (86.3%), those with less than a high school education (82.5%), those who were living at or below 100% of the Federal Poverty Level (FPL) (85.5%), unmarried (75.7%), those born outside of the United States (54.9%), or on Medicaid (82.1%) (Table 8).

Table 8. Prevalence of WIC participation during pregnancy, by socio-demographic characteristics, 2007/2008 MA PRAMS

	% Participated in WIC		
Characteristic	Weighted n	Weighted %	95% CL
Total	55489	37.9	35.8 - 40.1
Maternal race/ethnicity			
White, non-Hispanic	25156	25.3	22.3 - 28.6
Black, non-Hispanic	8662	71.3	67.6 - 74.7
Hispanic	16300	78.1	75.1 - 80.8
Asian, non-Hispanic	3874	33.8	29.9 - 37.8
Other, non-Hispanic	1497	66.0	56.4 - 74.4
Maternal age (years)			
<20	8367	86.3	77.1 - 92.1
20-29	31951	53.6	49.8 - 57.4
30-39	14146	19.8	17.5 - 22.3
40+	1025	18.6	12.3 - 27.1
Maternal education			
<High school	13251	82.5	75.7 - 87.6
High school diploma	24524	66.1	61.0 - 70.9
Some college	11895	45.1	39.8 - 50.5
College graduate	5819	8.7	7.1 - 10.7
Household poverty level			
≤100% FPL	24646	85.5	81.3 - 88.8
>100% FPL	23225	21.9	19.7 - 24.3
Marital status			
Married	17626	18.3	16.3 - 20.5
Unmarried	37863	75.7	71.8 - 79.2
Maternal nativity			
Non-US born	23745	54.9	51.6 - 58.1
US born	31745	30.8	28.0 - 33.8
Prenatal care payer source			
Non-Medicaid	13470	14.3	12.4 - 16.4
Medicaid	41260	82.1	78.6 - 85.2

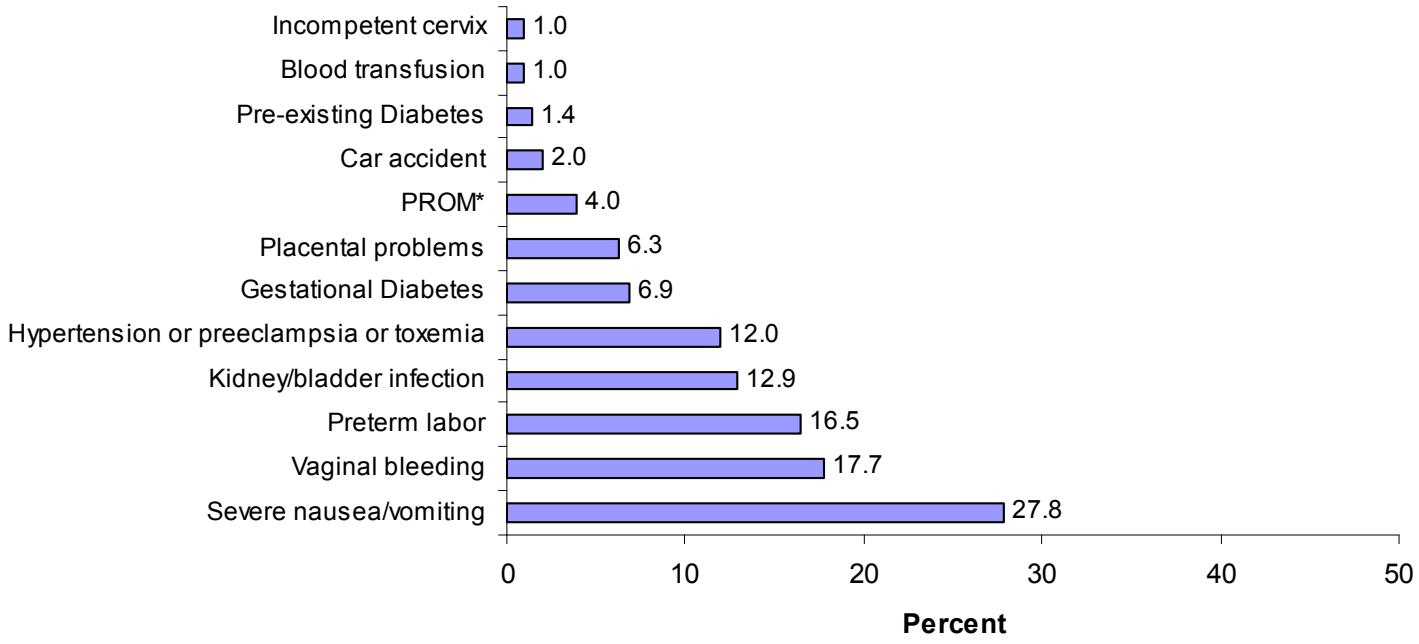
Health complications during pregnancy

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 (27.8%), followed by vaginal bleeding (17.7%), and preterm labor (16.5%) (Figure 11). See Table 8 for details on gestational diabetes mellitus.

Among those reporting health complications, 11% reported being hospitalized during their pregnancy and 28.9% reported being put on bed rest for more than 2 days (data not shown in figure).

Figure 11. Maternal health complications during pregnancy, 2007/2008 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 adult diabetes. Delivery may be complicated by having a larger baby, leading to greater likelihood of cesarean delivery or injury to the child during birth. Mothers with GDM may be at increased risk of Type 2 diabetes later in life (Metzger, 2007).

The overall prevalence of reported GDM was 6.9%. However, the prevalence differed by socio-demographic variables, with the highest occurrence among mothers who were Asian, non-Hispanics (11.2%), age 40 years or older (12.8%), born outside of the United States (10.1%), overweight (BMI = 25.0 - 29.9) (10.0%), or obese (BMI ≥ 30.0) (10.7%) (Table 9).

Table 9. Prevalence of gestational diabetes, by socio-demographic characteristics, 2007/2008 MA PRAMS

	Gestational Diabetes		
Characteristic	Weighted n	Weighted %	95% CL
Total	9982	6.9	5.8 - 8.2
Maternal race/ethnicity			
White, non-Hispanic	6217	6.3	4.8 - 8.2
Black, non-Hispanic	930	7.7	5.8 - 10.1
Hispanic	1351	6.6	5.1 - 8.6
Asian, non-Hispanic	1268	11.2	8.9 - 13.9
Other, non-Hispanic	216	9.9	5.4 - 17.4
Maternal age (years)			
<20	520	5.5	2.2 - 12.9
20-29	3052	5.2	3.8 - 7.0
30-39	5709	8.1	6.4 - 10.1
40+	701	12.8	6.8 - 22.9
Maternal education			
<High school	1078	6.7	3.8 - 11.5
High school diploma	1474	4.0	2.6 - 6.3
Some college	2140	8.1	5.6 - 11.6
College graduate	5290	8.0	6.3 - 10.2
Household poverty level			
≤100% FPL	1187	4.3	3.0 - 6.1
>100% FPL	7522	7.1	5.8 - 8.7
Maternal nativity			
Non-US-born	4292	10.1	8.2 - 12.4
US-born	5690	5.6	4.3 - 7.2
Body Mass Index (BMI)			
Normal or underweight	4235	5.0	3.8 - 6.5
Overweight	3004	10.0	7.2 - 13.7
Obese	2487	10.7	7.5 - 15.0

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 their pregnancies (ACOG, 2009).

The majority of women (65.8%) reported performing some type of exercise at least once a week prior to becoming pregnant. However, this proportion dropped by the last trimester of pregnancy, to 43.6%. 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 12. Frequency of physical activity prior to and during pregnancy, 2007/2008 MA PRAMS

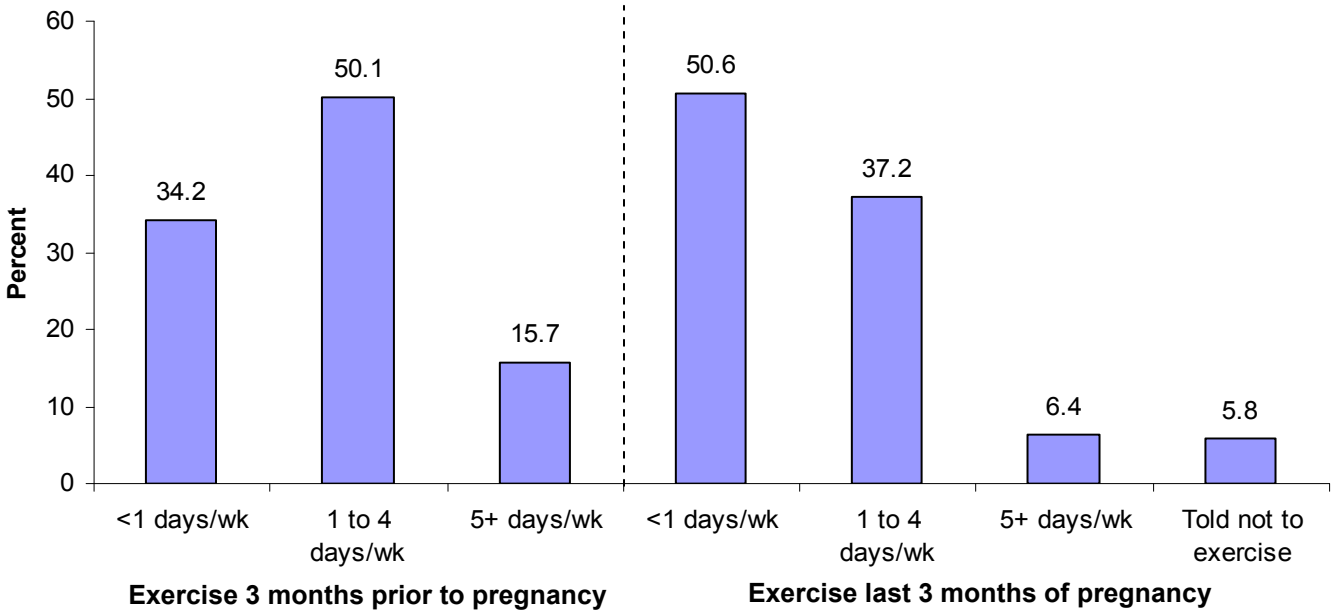
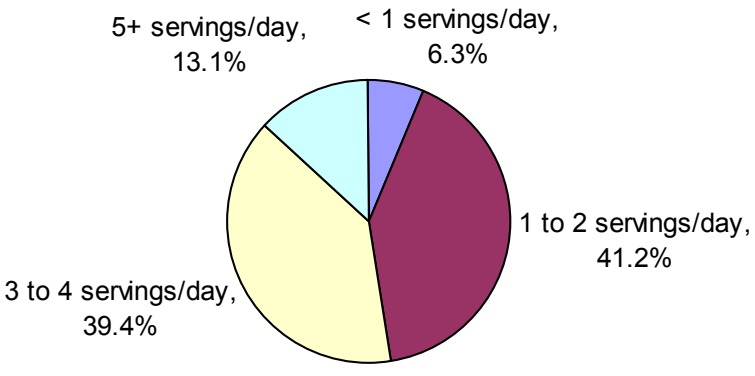


Figure 13. Consumption of fruits/vegetables per day in the last three months of pregnancy, 2007/2008 MA PRAMS



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

Almost 94% of mothers reported eating at least one serving* of fruits or vegetables per day in the last 3 months of pregnancy. However, only 13.1% achieved 5 or more per day.

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

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 (33.8%), financial (46.5%) or illness/death-related (28.1%) stressor during the year before their babies were born* (Figure 14).

The most common stressful life event women experienced was moving to a new address (32.8%). Many women (22.5%) also reported arguing with their partners more than usual during this time (Figure 15).

Figure 14. Prevalence of stressful life events in the 12 months before birth, by type, 2007/2008 MA PRAMS

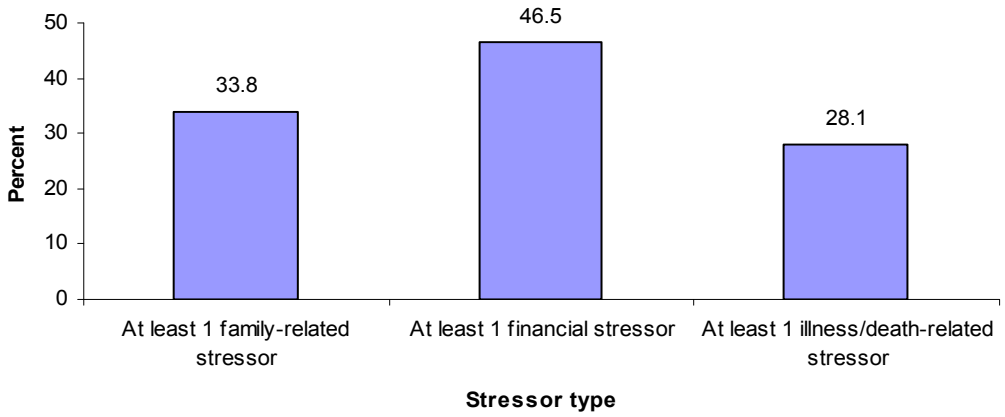
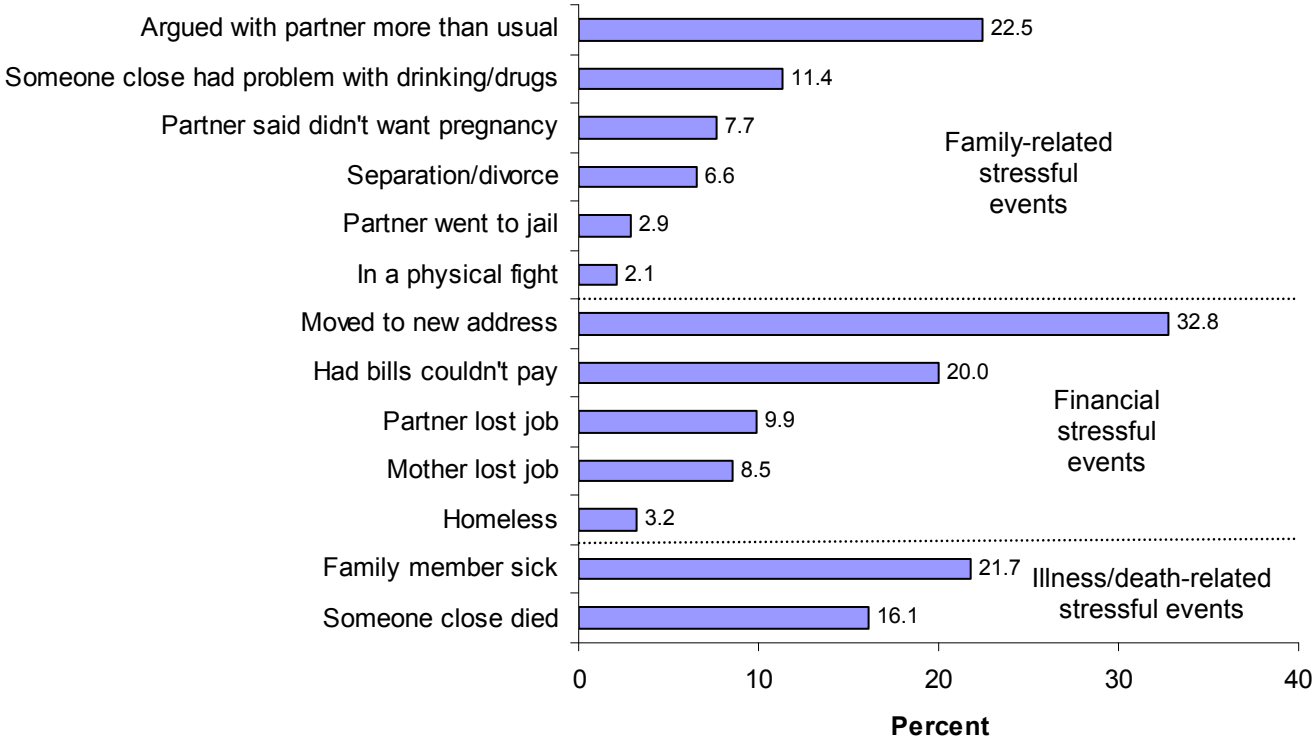


Figure 15. Prevalence of stressful life events in the 12 months before birth, by event, 2007/2008 MA PRAMS



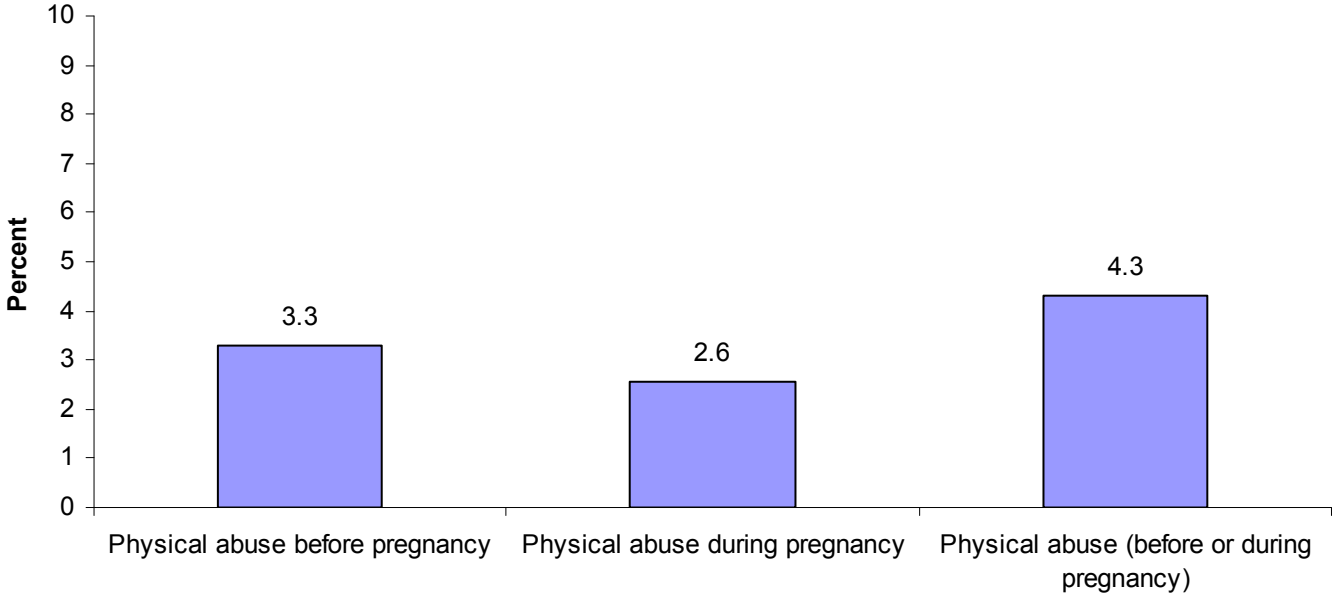
**Family-related stressors: Separation/divorce, physical fight, partner said didn't want pregnancy, argued with partner more than usual, someone close had a problem with drinking/drugs, partner went to jail; Financial stressors: Moving to a new address, being homeless, mom lost job, partner lost job,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

Physical abuse

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

A small percentage of mothers reported experiencing physical abuse from an intimate partner (one type of IPV) in the 12 months before (3.3%) or during (2.6%) pregnancy. About 4% of women 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.

Figure 16. Prevalence of physical abuse in 12 months before pregnancy, during pregnancy, and at either time period, 2007/2008 MA PRAMS



Differences in the reported prevalence of physical abuse are most notable by race/ethnicity and poverty level. The reported prevalence of physical abuse either before or during pregnancy was highest among Hispanics (9.4%), those with less than a high school education (8.1%), or those who were living at or below 100% of the Federal Poverty Level (FPL) (12.5%) (Table 10).

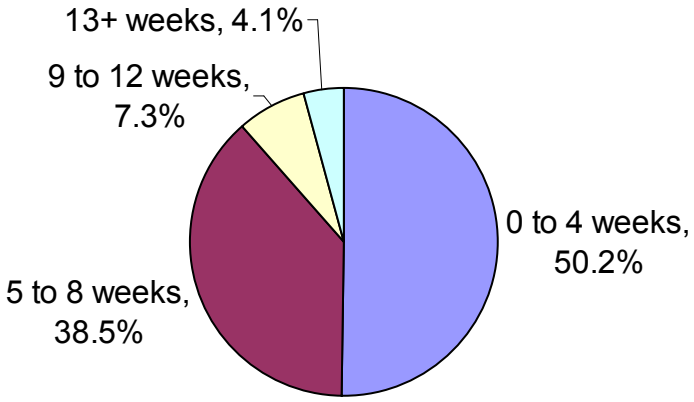
Table 10. Prevalence of physical abuse (12 months before pregnancy, during pregnancy, and during either time period), 2007/2008 MA PRAMS

	Abuse before pregnancy			Abuse during pregnancy			Abuse before or during pregnancy		
Characteristic	Weighted n	Weighted %	95% CL	Weighted n	Weighted %	95% CL	Weighted n	Weighted %	95% CL
Total	4837	3.3	2.6 - 4.3	3729	2.6	1.9 - 3.4	6288	4.3	3.5 - 5.4
Maternal race/ethnicity									
White, non-Hispanic	2541	2.6	1.6 - 4.0	1889	1.9	1.1 - 3.2	3279	3.3	2.2 - 4.9
Black, non-Hispanic	608	5.1	3.6 - 7.2	496	4.2	2.8 - 6.2	759	6.4	4.7 - 8.7
Hispanic	1426	6.9	5.3 - 8.9	1114	5.4	4.0 - 7.3	1925	9.4	7.5 - 11.7
Asian, non-Hispanic	173	1.5	0.8 - 2.9	162	1.4	0.8 - 2.7	208	1.8	1.0 - 3.2
Other, non-Hispanic	89	3.9	1.5 - 9.9	69	3.1	1.0 - 9.0	118	5.2	2.2 - 11.9
Maternal age (years)									
<20	355	3.7	2.1 - 6.4	363	3.8	2.2 - 6.5	562	5.9	3.8 - 9.1
20-29	3043	5.1	3.7 - 7.1	2158	3.6	2.5 - 5.4	3875	6.5	4.9 - 8.7
30-39	1328	1.9	1.1 - 3.1	1183	1.7	1.0 - 2.7	1716	2.4	1.5 - 3.7
40+	110	2.0	0.3 - 12.8	25	0.5	0.1 - 3.1	136	2.5	0.5 - 11.7
Maternal education									
<High school	1167	7.2	4.3 - 11.9	819	5.1	2.8 - 9.2	1306	8.1	5.1 - 12.9
High school diploma	1602	4.3	2.8 - 6.6	1159	3.1	2.0 - 5.0	2051	5.6	3.9 - 8.0
Some college	1380	5.2	3.2 - 8.5	1043	4.0	2.2 - 7.0	1951	7.4	4.9 - 11.2
College graduate	688	1.0	0.5 - 2.0	707	1.1	0.6 - 2.1	981	1.5	0.8 - 2.6
Household poverty level									
≤100% FPL	2724	9.4	6.7 - 13.1	2150	7.5	5.1 - 10.8	3598	12.5	9.4 - 16.4
>100% FPL	1711	1.6	1.0 - 2.5	1269	1.2	0.8 - 1.9	2289	2.2	1.5 - 3.1
Maternal nativity									
Non-US-born	1322	3.1	2.2 - 4.2	1050	2.5	1.7 - 3.5	1650	3.9	2.9 - 5.1
US-born	3515	3.4	2.4 - 4.7	2679	2.6	1.8 - 3.8	4639	4.5	3.4 - 6.0

Prenatal care: Entry to care

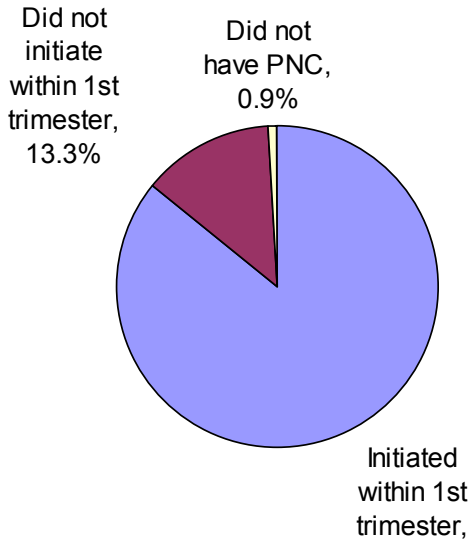
Early knowledge of pregnancy and timely entry into prenatal care provide women with access to important preventive health services as well as screening, monitoring and treatment for pregnancy-related health issues. Complications like gestational diabetes mellitus and hypertension can cause harm to the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

Figure 17. Gestational age when pregnancy was confirmed, 2007/2008 MA PRAMS



Over half of women (50.2%) had their pregnancy confirmed within the first month, and 4.1% did not do so until after the first trimester (Figure 17).

Figure 18. Timing of initiation of prenatal care (PNC), 2007/2008 MA PRAMS



Almost 86% of women began prenatal care within the first trimester of pregnancy (Figure 18). Less than one percent of women did not receive any prenatal care.

Prenatal care: Entry to prenatal care

While Massachusetts mothers demonstrated high levels of timely prenatal care entry overall (85.9%), differences were evident across socio-demographic groups.

Initiating care during the first trimester was lowest among Black, non-Hispanic mothers (73.0%), mothers under 20 years of age (61.6%), or mothers without a high school diploma (67.6%). About 73.9% of those living at or below 100% of the Federal Poverty Level (FPL) entered care in the first trimester. Only 76.2% of mothers on Medicaid initiated care during the first trimester (Table 11).

Table 11. Prevalence of entry to prenatal care in the first trimester, by socio-demographic characteristics, 2007/2008 MA PRAMS

	Entered prenatal care in 1st trimester		
Characteristic	Weighted n	Weighted %	95% CL
Total	124821	85.9	84.3 - 87.4
Maternal race/ethnicity			
White, non-Hispanic	89489	90.3	88.0 - 92.2
Black, non-Hispanic	8778	73.0	69.2 - 76.5
Hispanic	15654	76.0	72.9 - 78.9
Asian, non-Hispanic	9116	80.3	76.8 - 83.4
Other, non-Hispanic	1784	78.4	68.9 - 85.6
Maternal age (years)			
<20	5867	61.6	51.8 - 70.6
20-29	49786	84.7	82.1 - 87.0
30-39	64528	90.0	87.9 - 91.8
40+	4640	86.7	78.4 - 92.1
Maternal education			
<High school	10890	67.6	60.8 - 73.7
High school diploma	29357	80.3	76.4 - 83.6
Some college	22263	85.2	81.1 - 88.5
College graduate	62311	93.7	91.9 - 95.1
Household poverty level			
≤100% FPL	20922	73.9	69.5 - 77.9
>100% FPL	94838	90.1	88.3 - 91.7
Maternal nativity			
Non-US-born	35093	81.6	79.3 - 83.7
US-born	89728	87.7	85.5 - 89.6
Prenatal care payer source			
Non-Medicaid	86552	92.1	90.4 - 93.6
Medicaid	37661	76.2	72.8 - 79.2

Massachusetts mothers say...

"Prenatal care [is] very important for both the mother and the baby. The pregnant woman has to take seriously the advices of [her health care providers] and practice them, [and] keep all medical appointments."

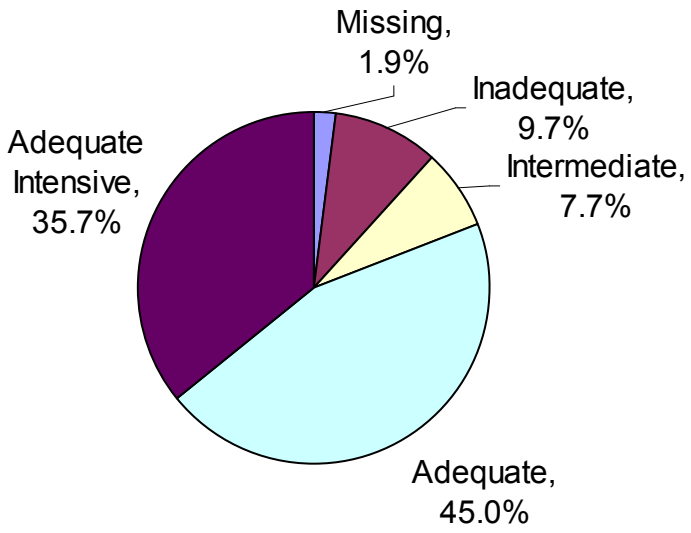
Prenatal care: Adequacy of Prenatal Care Utilization Index

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 classified as “adequate” started early in the pregnancy and involved the expected number of prenatal care visits given the duration of the pregnancy as recommended by the American College of Obstetrics and Gynecology (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 80% received prenatal care deemed either adequate or adequate+ (Figure 19). Almost 10% received inadequate or no prenatal care.

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

Figure 19. Adequacy of prenatal care (as measured by Adequacy of Prenatal Care Utilization Index, APNCU), 2007/2008 MA PRAMS



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

Adequacy of care differed across groups, with inadequate or no care particularly prevalent among Hispanics (14.4%), Black, non-Hispanics (14.3%), those under 20 years of age (30.1%), those with less than a high school education (21.3%), those who were living at or below 100% of the Federal Poverty Level (FPL) (17.9%), those born outside of the United States (12.4%), or on Medicaid (15.7%) (Table 12).

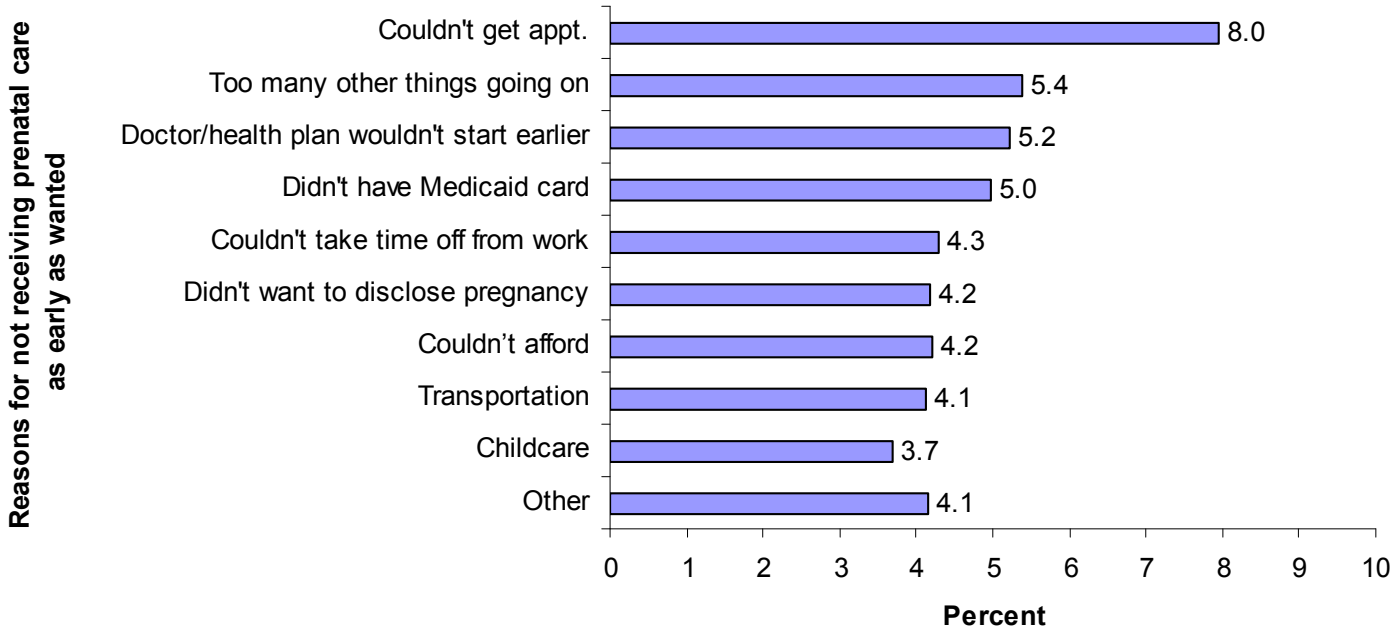
Table 12. Prevalence of inadequate/no prenatal care, as measured by the Adequacy of Prenatal Care Utilization (APNCU) Index, by socio-demographic characteristics, 2007/2008 MA PRAMS

	Inadequate/no prenatal care		
Characteristic	Weighted n	Weighted %	95% CL
Total	14413	9.7	8.4 - 11.2
Maternal race/ethnicity			
White, non-Hispanic	7922	7.9	6.1 - 10.0
Black, non-Hispanic	1766	14.3	11.7 - 17.4
Hispanic	3076	14.4	12.1 - 17.0
Asian, non-Hispanic	1313	11.2	8.8 - 14.0
Other, non-Hispanic	338	14.5	8.7 - 23.2
Maternal age (years)			
<20	2940	30.1	21.5 - 40.4
20-29	6501	10.7	8.7 - 13.1
30-39	4446	6.1	4.8 - 7.7
40+	527	9.5	4.6 - 18.7
Maternal education			
<High school	3536	21.3	16.2 - 27.5
High school diploma	4329	11.4	8.7 - 14.8
Some college	2284	8.5	6.1 - 11.8
College graduate	4265	6.3	4.8 - 8.3
Household poverty level			
≤100% FPL	5190	17.9	14.3 - 22.2
>100% FPL	7712	7.2	5.8 - 8.8
Maternal nativity			
Non-US-born	5510	12.4	10.4 - 14.6
US-born	8903	8.5	6.9 - 10.5
Prenatal care payer source			
Non-Medicaid	6170	6.4	5.1 - 8.1
Medicaid	7991	15.7	13.1 - 18.8

Prenatal care: Reasons for delay

Almost 11% of mothers reported not receiving prenatal care as soon as they had wanted regardless of the timing of their first prenatal care visit. Factors related to accessing the healthcare system were frequently cited as barriers to entering prenatal care when desired. Not being able to get an appointment sooner was the most common reason for not receiving timely care (8.0%) and not having a Medicaid card or having a doctor/health plan which would not permit earlier entry were other common causes of delay (5.0 and 5.2%, respectively) (Figure 20). Others indicated that there were too many other things going on (5.4%).

Figure 20. Reasons for not receiving prenatal care as early as wanted*, 2007/2008 MA PRAMS



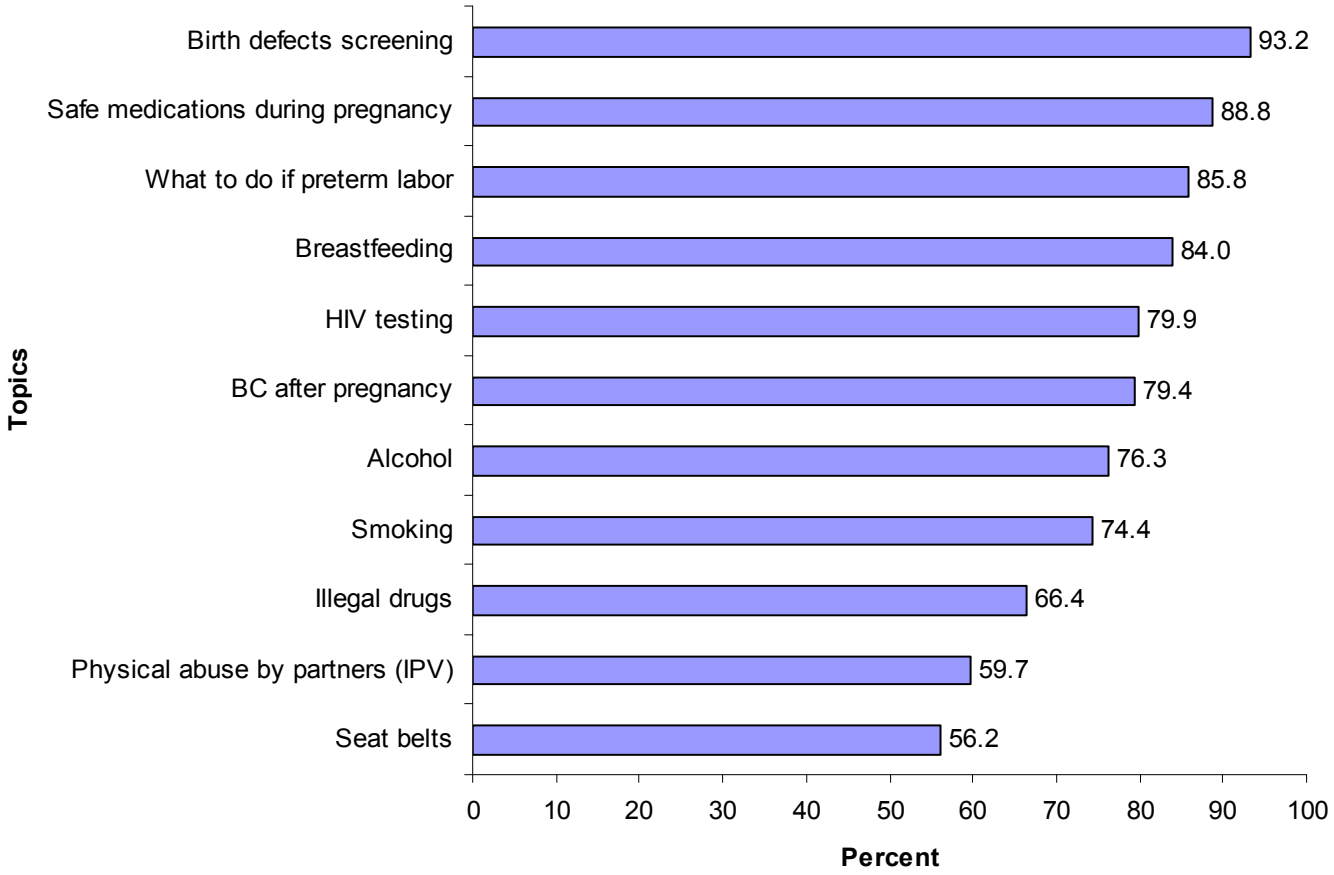
**Reasons for not receiving prenatal care as early as wanted are not mutually exclusive.*

Prenatal care: Topics discussed with health care providers

Mothers reported discussing certain health topics with their health care providers more often than others (Figure 21). The most frequently discussed topics included birth defects screening (93.2%) and safe medications to use during pregnancy (88.8%). The least frequently discussed were physical abuse by partners (59.7%) and seat belt use (56.2%).

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 2007/2008 is similar to the prevalence of major birth defects (about 3-4% in MA in 2007/2008) (NBDPN, 2009). However, physical abuse was reportedly far less frequently discussed compared to birth defects screening.

Figure 21. Topics discussed with health care providers during prenatal care visits, 2007/2008 MA PRAMS

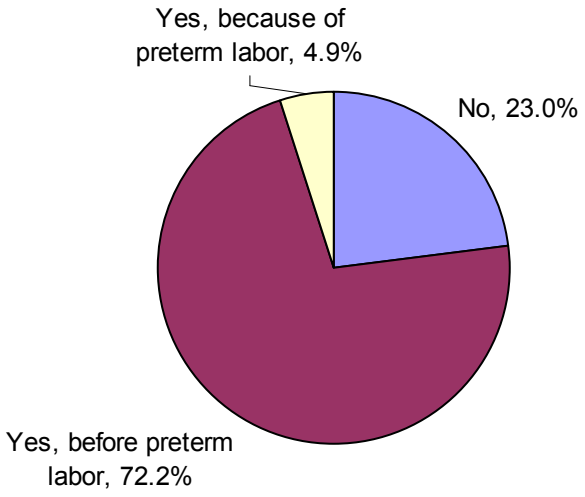


Prenatal care: Discussing preterm labor (PTL)

Recognizing the signs of preterm labor is critical for obtaining treatment to delay delivery. All pregnant women should be informed so that they can recognize the signs of preterm labor and know what to do if it occurs (IOM, 2007).

Health care providers discussed the signs and symptoms of preterm labor with 72.2% of mothers before labor began, and 4.9% because they were in preterm labor. Almost a quarter of women reported that the signs and symptoms of preterm labor were not discussed at all.

Figure 22. Discussion of the signs of preterm labor (PTL) with health care providers, 2007/2008 MA PRAMS



HIV testing during pregnancy: Testing and offer of testing

It is recommended by 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 23). Almost 59% of mothers reporting having received an HIV test during their pregnancy, 30.7% reported not being tested, and another 10.4% reported not knowing whether they had been tested (Figure 24).

Figure 23. Proportion of women offered HIV testing during pregnancy, 2007/2008 MA PRAMS

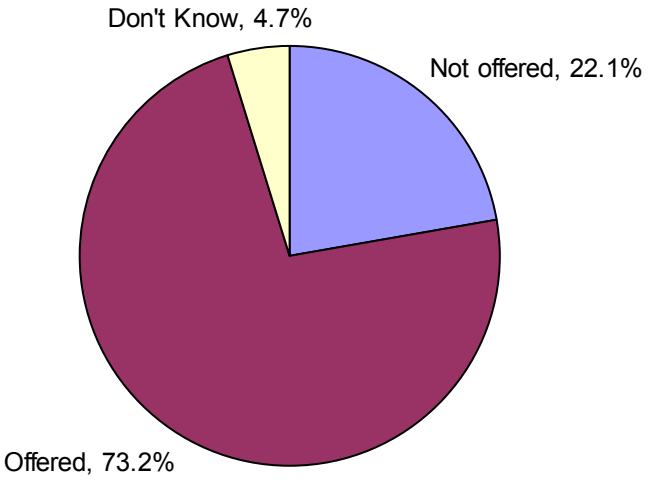
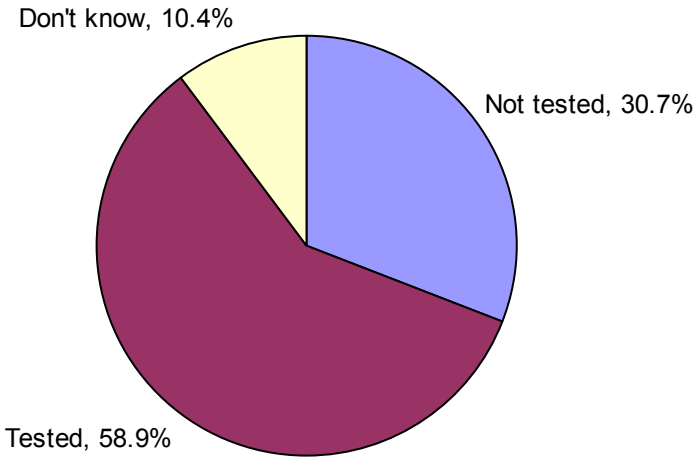


Figure 24. Proportion of women tested for HIV during pregnancy, 2007/2008 MA PRAMS



HIV testing during pregnancy: Offering and testing

HIV test offering patterns varied across socio-demographic groups. Hispanic, Black, non-Hispanic, and Other, non-Hispanic mothers (85.3% and 87.0%, and 87.3% respectively) were more likely to report being offered an HIV test than White, non-Hispanic mothers (68.8%). Mothers under age 20 (89.6%), those with less than a high school education (85.6%) or a high school education (83.3%) or living at or below 100% of the Federal Poverty Level (FPL) (84.3%) were more likely than other groups to report being offered an HIV test (Table 13).

Report of being *tested* paralleled report of being offered a test. Hispanic (76.7%) and Black, non-Hispanic (77.3%) mothers were more likely to be tested for HIV than White, non-Hispanic (52.2%) mothers. Testing was also associated with mothers under 20 years of age (80.1%), those with less than a high school education (75.4%), or those who were living at or below 100% of the FPL (76.8%).

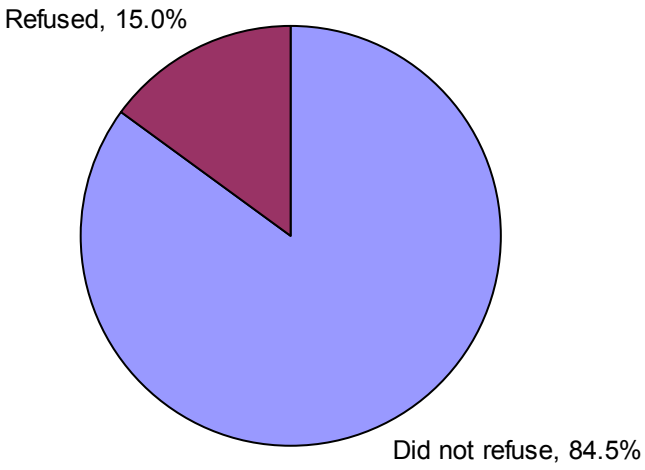
Table 13. Prevalence of offer-of-testing/HIV testing during pregnancy, by socio-demographic characteristics, 2007/2008 MA PRAMS

	Offered HIV test			Tested for HIV		
Characteristic	Weighted n	Weighted %	95% CL	Weighted n	Weighted %	95% CL
Total	108899	73.2	70.9 - 75.3	87589	58.9	56.5 - 61.2
Maternal race/ethnicity						
White, non-Hispanic	69441	68.8	65.6 - 71.8	52732	52.2	48.8 - 55.6
Black, non-Hispanic	10763	87.0	84.1 - 89.5	9555	77.3	73.8 - 80.4
Hispanic	18274	85.3	82.7 - 87.6	16424	76.7	73.6 - 79.5
Asian, non-Hispanic	8392	71.3	67.7 - 74.8	7117	60.5	56.6 - 64.3
Other, non-Hispanic	2030	87.3	79.3 - 92.5	1761	75.7	66.7 - 83.0
Maternal age (years)						
<20	8749	89.6	83.2 - 93.8	7813	80.1	71.7 - 86.4
20-29	47537	78.5	75.1 - 81.6	40704	67.3	63.5 - 70.8
30-39	48358	66.3	62.9 - 69.5	36079	49.4	46.0 - 52.9
40+	4255	76.5	64.6 - 85.3	2993	53.8	41.6 - 65.6
Maternal education						
<High school	14225	85.6	80.3 - 89.6	12540	75.4	69.1 - 80.8
High school diploma	31624	83.3	79.1 - 86.8	27113	71.4	66.6 - 75.8
Some college	19819	73.9	68.6 - 78.6	16508	61.6	56.0 - 66.8
College graduate	43231	64.1	60.5 - 67.6	31428	46.6	43.0 - 50.3
Household poverty level						
≤100% FPL	24422	84.3	80.1 - 87.8	22247	76.8	
>100% FPL	74825	69.9	67.1 - 72.5	57254	53.5	50.5 - 56.4
Maternal nativity						
Non-US-born	34809	78.1	75.1 - 80.9	30349	68.1	64.9 - 71.2
US-born	74090	71.0	68.1 - 73.8	57240	54.9	51.7 - 58.0

HIV testing during pregnancy: Refusal

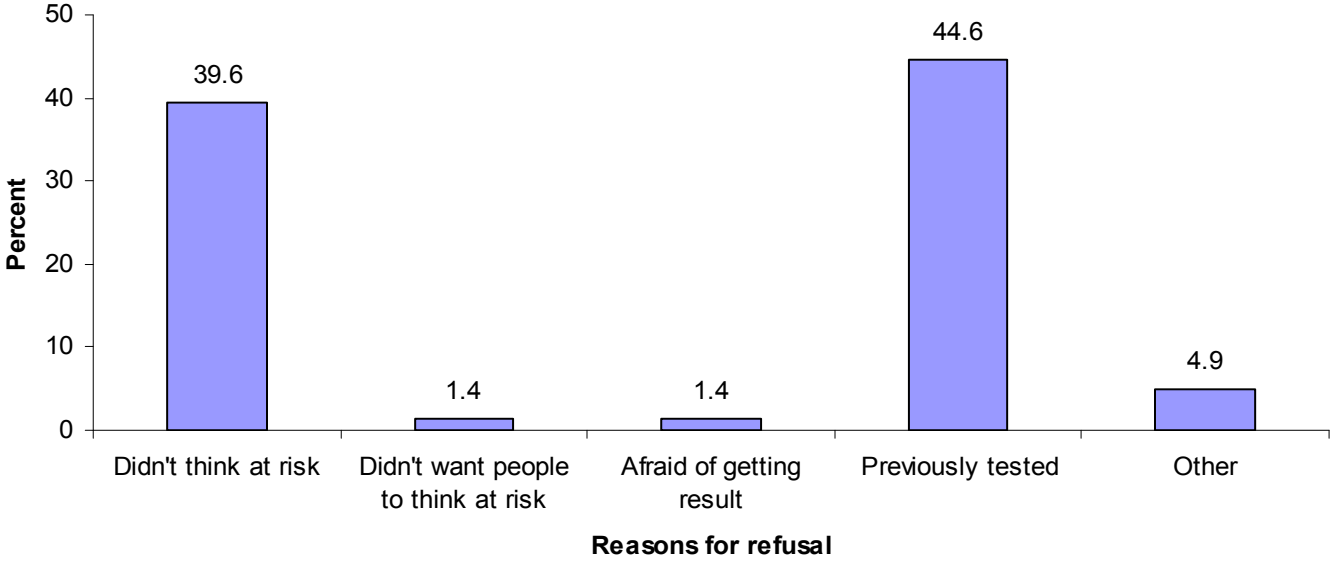
Among women who were *offered* an HIV test during their pregnancy, 15% indicated that they had refused the test (Figure 25).

Figure 25. Proportion of women who refused HIV testing during pregnancy (among those offered), 2007/2008 MA PRAMS



Among those refusing an HIV test, the most common reasons included having been previously tested (44.6%), and not believing oneself to be at risk for HIV (39.6%) (Figure 26).

Figure 26. Reasons for refusing HIV testing during pregnancy*, 2007/2008 MA PRAMS

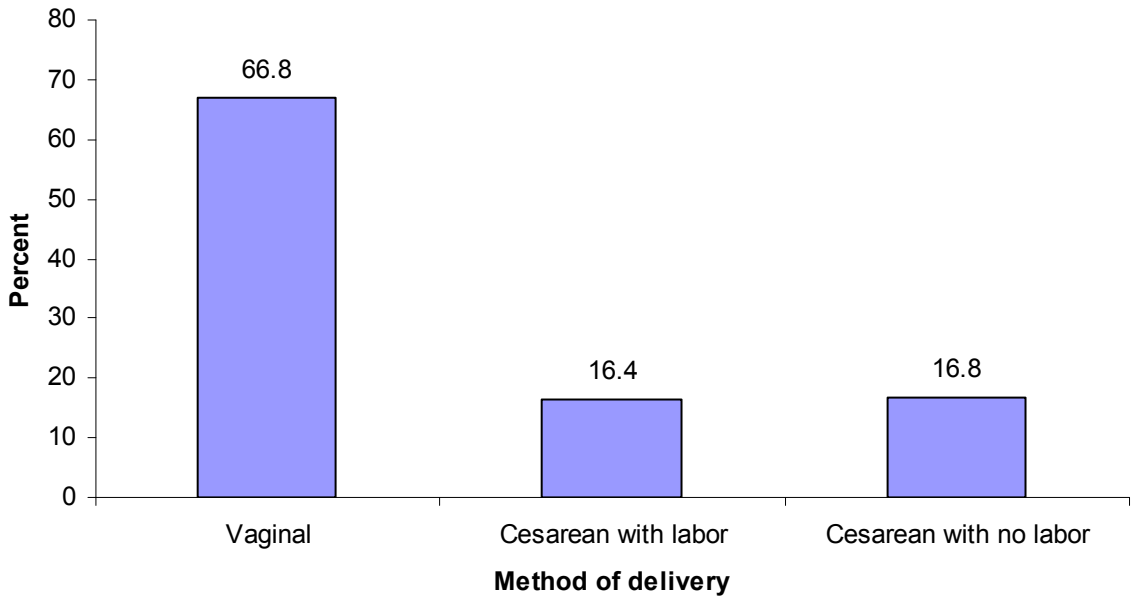


**Reasons for refusing HIV testing during pregnancy are not mutually exclusive.*

Method of delivery

Massachusetts PRAMS data reflect the national trend of an increasing proportion of births occurring by cesarean delivery, a birth where the baby is delivered through an incision in the abdomen. Over a third of mothers reported that their most recent baby was delivered by cesarean. Of these, about half were planned cesareans (those performed before the onset of labor), while the other half were initiated after labor had already begun (Figure 27).

Figure 27. Proportion of births by vaginal and cesarean delivery, 2007/2008 MA PRAMS



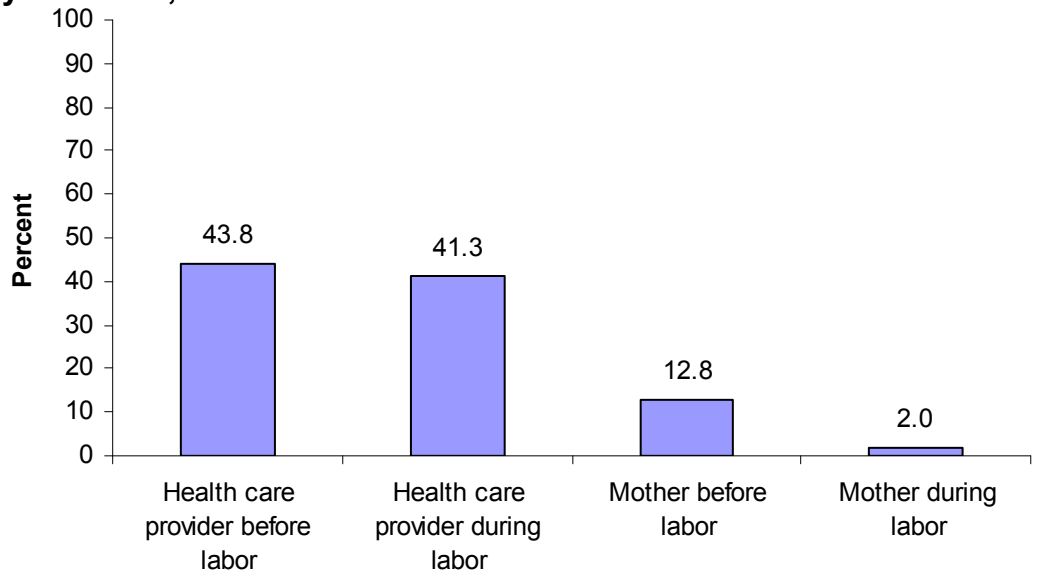
Massachusetts mothers say...

"I feel that most of my healthcare providers initially dismissed my concerns during pregnancy due to the fact that I was on MassHealth. Many of them seemed to believe being poor was the same as being stupid...If I had stayed with my original obstetrician instead of switching to a CNM, I would have had a c-section instead of [the] natural vaginal birth I desired."

Cesarean delivery request

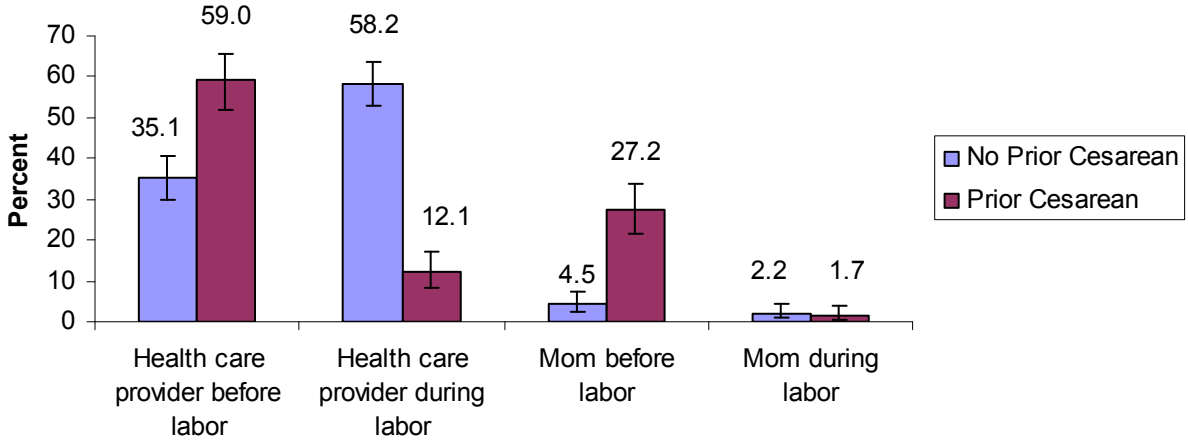
The Massachusetts PRAMS survey asks mothers to report who made the decision for a cesarean and when (i.e. before or during labor). Among those who delivered by cesarean, over 85% reported that it was the decision of a health care provider to perform the cesarean, either before or during labor. Almost 13% of women who had a cesarean reported that it was their idea to have a cesarean before labor, and 2.0% said it was their decision during labor (Figure 28).

Figure 28. Source of cesarean delivery request, among women who delivered by cesarean, 2007/2008 MA PRAMS



When examined by prior cesarean history, relatively few women with no prior cesarean reported that they (as opposed to the HCP) requested a cesarean delivery before labor (4.5%), whereas 27.2% of those with a prior cesarean said that it was their idea before labor began (Figure 29).

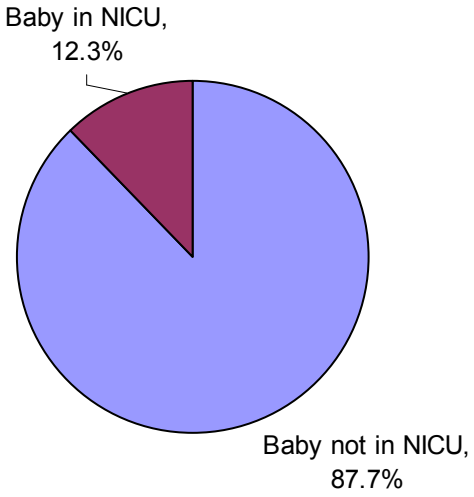
Figure 29. Source of cesarean delivery request among women who delivered by cesarean, by prior-birth history, 2007/2008 MA PRAMS



Infant birth hospitalization

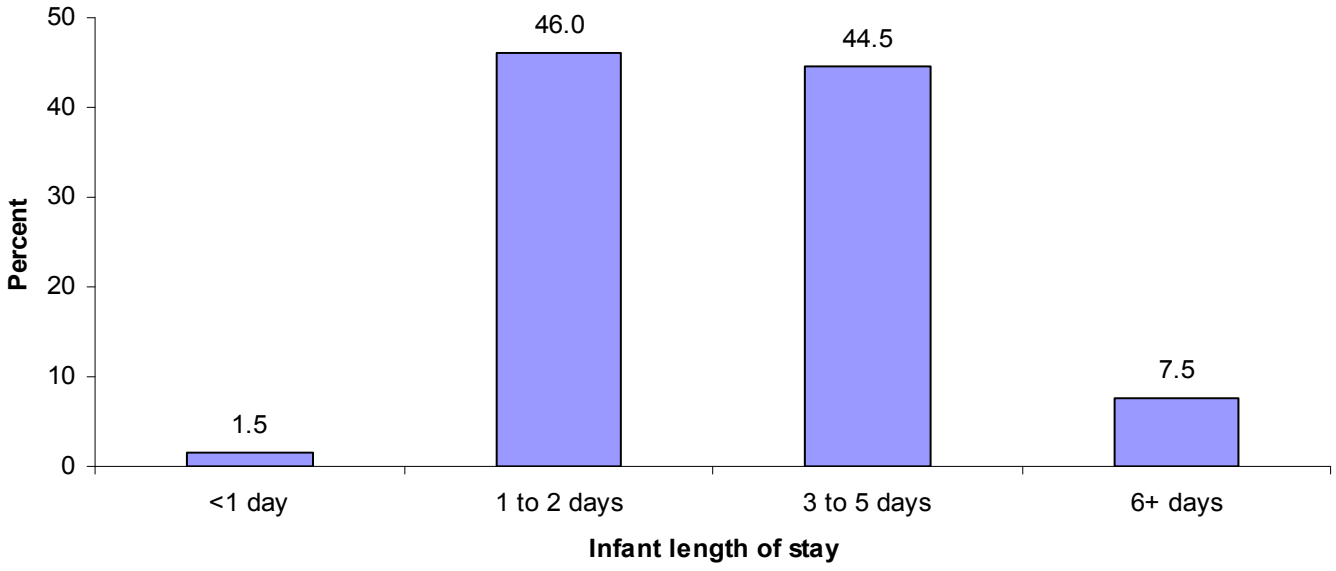
Over 12% of mothers reported that their babies spent time in a neonatal intensive care unit (NICU) (Figure 30).

Figure 30. Proportion of infants staying in the neonatal intensive care unit, 2007/2008 MA PRAMS



A stay of 1-2 days in the hospital was most frequently reported (46%) followed by 44.5% staying for 3 to 5 days. A reported 7.5% of infants stayed in for 6 or more days (Figure 31).

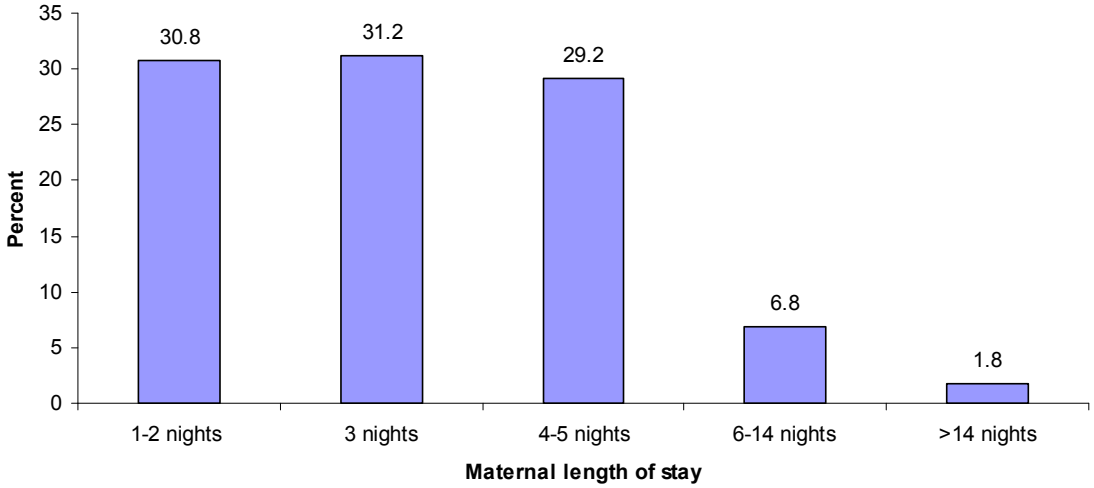
Figure 31. Infant length of hospital stay at birth, 2007/2008 MA PRAMS



Maternal delivery hospitalization

About a third of mothers reported staying in the hospital 1-2 days after their delivery and 60.4% of mothers reported staying in the hospital for 3 to 5 days. Fewer (8.6%) reported staying in the hospital for 6 days or more (Figure 32).

Figure 32. Maternal length of hospital stay for delivery, 2007/2008 MA PRAMS



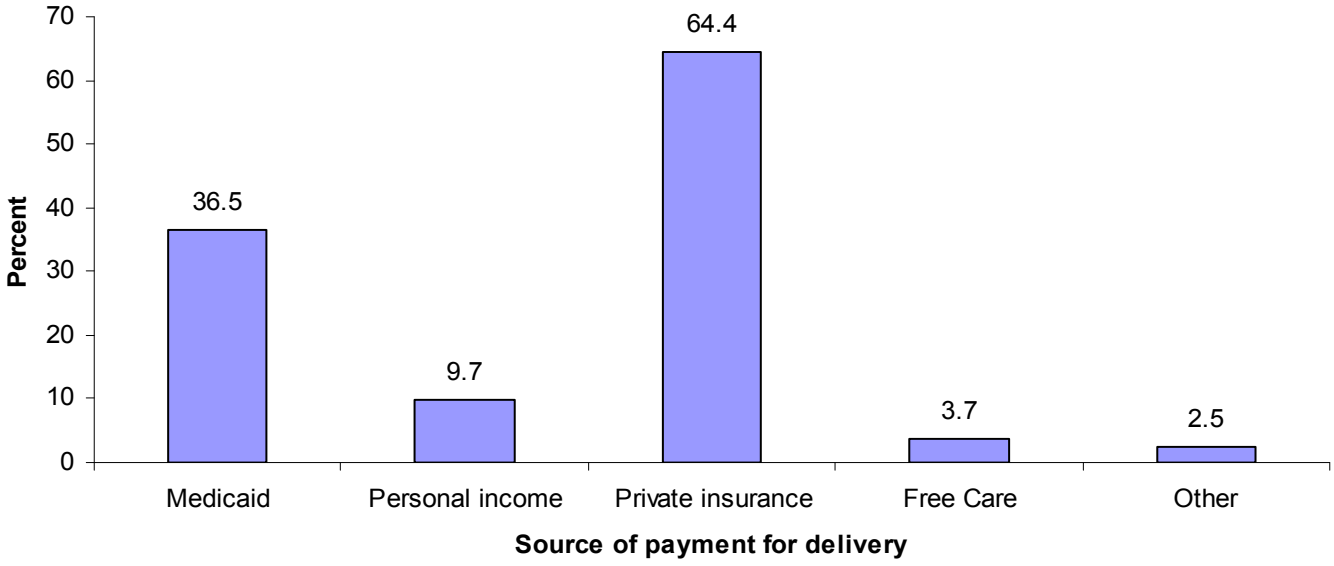
Massachusetts mothers say...

"Even though I delivered vaginally, I felt I was not ready to leave the hospital two days after delivery. However, that is what the insurance company allows. I really think a new mother should be allowed to stay in the hospital longer than two days."

Delivery payer source

The majority of births were paid for by private health insurance. However, over a third were paid by Medicaid (Figure 33). (NOTE: Respondents could indicate more than one source of insurance, thus percentages do not total 100% in the figure.)

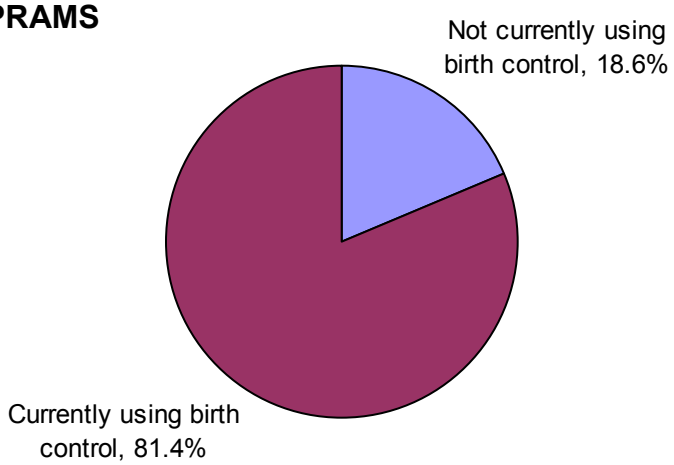
Figure 33. Prevalence of delivery payment sources, 2007/2008 MA PRAMS



Contraception use

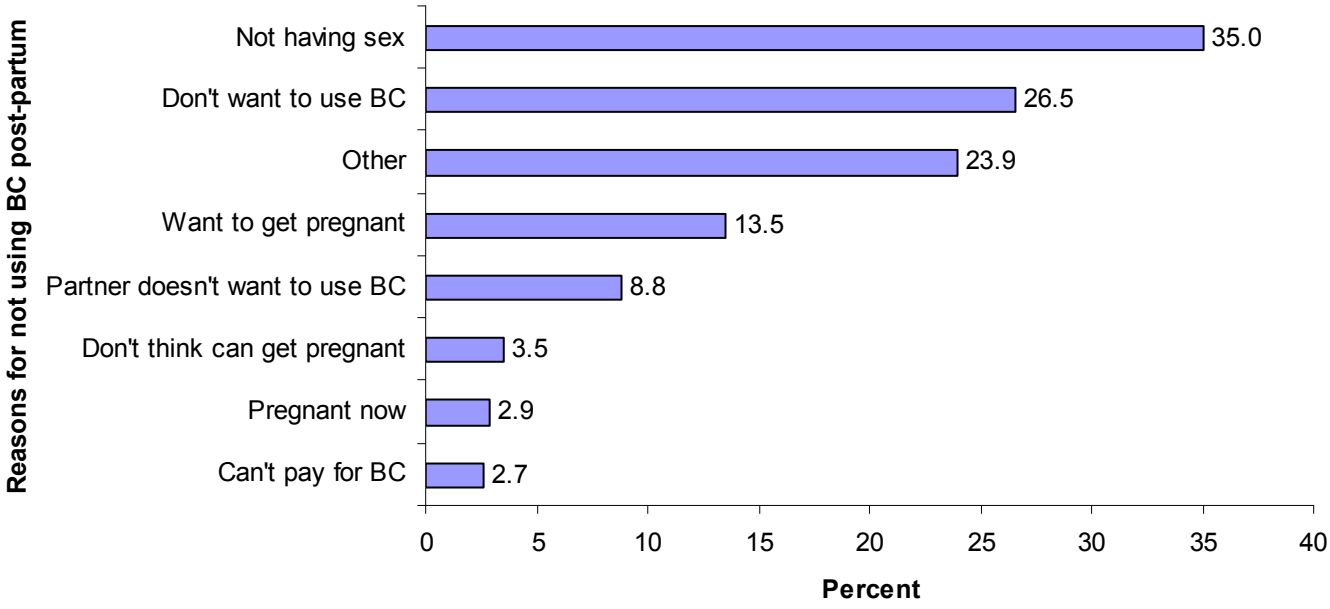
Adequate spacing of pregnancies is important for the health of both mothers and babies. Shorter inter-pregnancy intervals have been associated with adverse birth outcomes including preterm birth, low birth weight, small size for gestational age, and neonatal and infant mortality (Conde-Agudelo, 2006). Over 81% of women reported using birth control post-partum.

Figure 34. Proportion of women using contraception post-partum, 2007/2008 MA PRAMS



Among those not using birth control, the most commonly named reasons for not doing so included not having sex (35.0%), not wanting to use birth control (26.5%), and wanting to become pregnant again (13.5%).

Figure 35. Reasons for not using contraception post-partum (among those reporting no use)*, 2007/2008 MA PRAMS



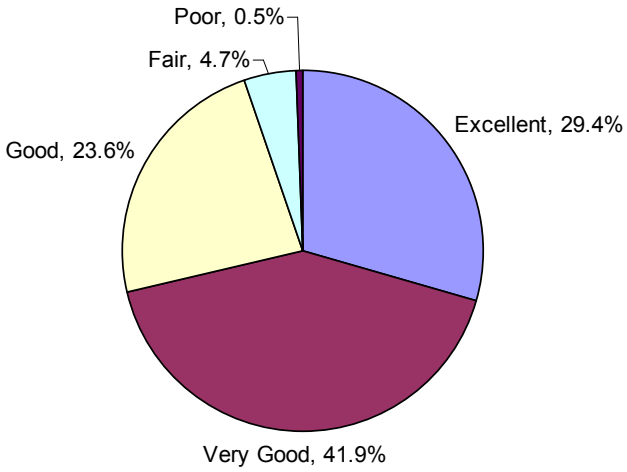
**Reasons for not using contraception post-partum are not mutually exclusive.*

Maternal self-rated health

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

Over two-thirds of respondents reported that their health was “very good” or “excellent,” and another 23.6% reported that their health was “good” (Figure 36). Overall, 5.2% reported their health to be fair or poor.

Figure 36. Maternal self-rated health post-partum, 2007/2008 MA PRAMS



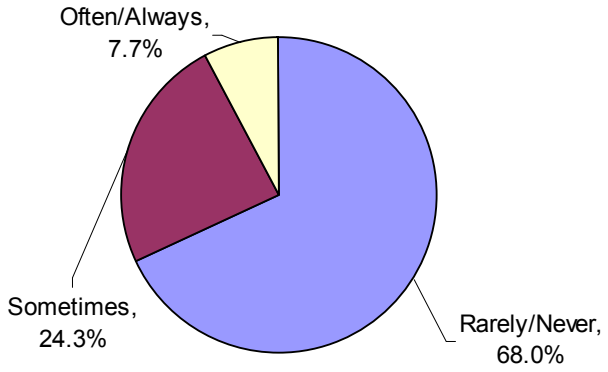
Reported fair/poor self-rated health was most prevalent among Hispanic mothers (11.3%), those with less than a high school education (16.5%), under 20 years of age (15.8%), or those who were living at or below 100% of the FPL (14.6%) (Table 14).

Table 14. Prevalence of fair/poor self-rated health, by socio-demographic characteristics, 2007/2008 MA PRAMS

	% Fair/poor self-rated health		
Characteristic	Weighted n	Weighted %	95% CL
Total	7598	5.1	4.2 - 6.3
Maternal race/ethnicity			
White, non-Hispanic	3883	3.9	2.7 - 5.6
Black, non-Hispanic	723	5.9	4.3 - 8.1
Hispanic	2398	11.3	9.3 - 13.7
Asian, non-Hispanic	479	4.1	2.7 - 6.1
Other, non-Hispanic	115	5.0	2.1 - 11.4
Maternal age (years)			
<20	1537	15.8	9.5 - 25.0
20-29	3506	5.8	4.3 - 7.8
30-39	2279	3.1	2.2 - 4.4
40+	275	5.0	2.0 - 11.7
Maternal education			
<High school	2727	16.5	11.9 - 22.5
High school diploma	2945	7.9	5.7 - 10.8
Some college	1290	4.8	2.9 - 7.8
College graduate	636	1.0	0.5 - 1.8
Household poverty level			
≤100% FPL	4181	14.6	11.2 - 18.8
>100% FPL	2225	2.1	1.4 - 3.1
Maternal nativity			
Non-US-born	3010	6.8	5.5 - 8.4
US-born	4588	4.4	3.3 - 6.0

Post-partum depressive symptoms: feelings of depression

Figure 37. Frequency of feeling depressed post-partum, 2007/2008 MA PRAMS



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

About one-quarter of mothers reported “sometimes” feeling depressed, down or hopeless (24.3%), and 7.7% reported “often” or “always” having these feelings (Figure 37).

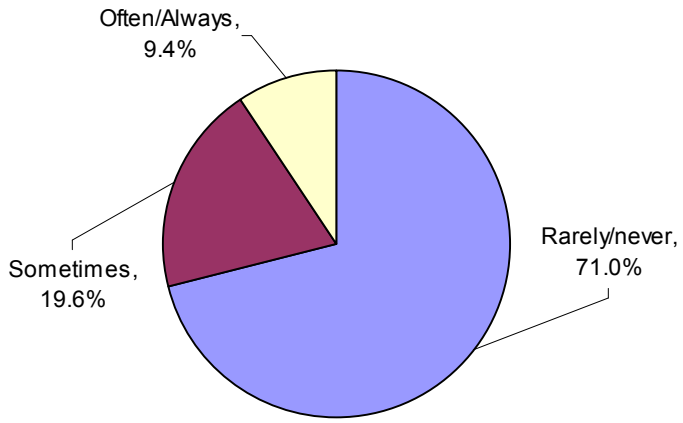
The occurrence of “often” or “always” feeling depressed differed across groups, with certain characteristics appearing distinctly protective against frequent depressive symptoms. White, non-Hispanics (6.4%), those aged 40 years or older (1.1%), those with a college education (4.8%), or those living above 100% of the FPL (5.9%) were least likely to report often or always feeling depressed while those living at or below 100% of the FPL (15.2%), those under 20 years of age (16.6%), or Hispanics (12.1%) appeared at far greater risk (Table 15).

Table 15. Prevalence of “often” or “always” feeling depressed post-partum, by socio-demographic characteristics, 2007/2008 MA PRAMS

Characteristic	Weighted n	Weighted %	95% CL
Total	11232	7.7	6.6 - 9.1
Maternal race/ethnicity			
White, non-Hispanic	6419	6.4	4.9 - 8.4
Black, non-Hispanic	1219	10.3	8.0 - 13.1
Hispanic	2469	12.1	10.0 - 14.6
Asian, non-Hispanic	952	8.4	6.4 - 10.9
Other, non-Hispanic	172	8.2	4.0 - 16.1
Maternal age (years)			
<20	1578	16.6	10.5 - 25.2
20-29	5064	8.6	6.7 - 10.9
30-39	4530	6.4	4.9 - 8.2
40+	60	1.1	0.4 - 3.5
Maternal education			
<High school	1704	10.7	7.4 - 15.3
High school diploma	3892	10.6	7.8 - 14.1
Some college	2458	9.4	6.8 - 13.0
College graduate	3178	4.8	3.5 - 6.5
Household poverty level			
≤100% FPL	4367	15.2	11.9 - 19.2
>100% FPL	6274	5.9	4.7 - 7.4
Maternal nativity			
Non-US-born	3615	8.5	6.9 - 10.5
US-born	7617	7.4	5.9 - 9.2

Post-partum depressive symptoms: loss of interest or pleasure in activities

Figure 38. Proportion of women often/always experiencing little interest in activities post-partum, 2007/2008 MA PRAMS



Measures of loss of interest or pleasure in daily activities are used in assessing the presence of depression (Whooley, 1997).

PRAMS asks how often mothers have had little interest or little pleasure in doing things in the post-partum period.

Overall, 9.4% reported that they "often" or "always" experienced little pleasure or interest in their activities (Figure 38).

Similar patterns were observed with regard to loss of interest as with feeling depressed, with White non-Hispanics (6.8%), those who were 40 years of age or older (7.0%), or those with a college education (5.9%) faring better. However, a much greater proportion of mothers who were born outside of United States reported a loss of interest in activities (15.7%) than feeling depressed (8.5%) (Tables 15 & 16).

Table 16. Prevalence of "often" or "always" experiencing loss of interest/pleasure in doing things, by socio-demographic characteristics, 2007/2008 MA PRAMS

Characteristic	Weighted n	Weighted %	95% CL
Total	13653	9.4	8.2 - 10.8
Maternal race/ethnicity			
White, non-Hispanic	6749	6.8	5.2 - 8.8
Black, non-Hispanic	1709	14.6	11.9 - 17.8
Hispanic	2583	12.7	10.5 - 15.3
Asian, non-Hispanic	2233	19.8	16.8 - 23.3
Other, non-Hispanic	380	18.1	11.6 - 27.1
Maternal age (years)			
<20	1096	11.8	7.4 - 18.2
20-29	6391	10.9	8.8 - 13.3
30-39	5784	8.1	6.5 - 10.1
40+	381	7.0	3.5 - 13.7
Maternal education			
<High school	1772	11.5	8.5 - 15.3
High school diploma	5318	14.5	11.3 - 18.3
Some college	2606	10.1	7.6 - 13.3
College graduate	3958	5.9	4.5 - 7.7
Household poverty level			
≤100% FPL	4886	17.2	13.7 - 21.2
>100% FPL	7914	7.4	6.1 - 9.0
Maternal nativity			
Non-US-born	6623	15.7	13.4 - 18.4
US-born	7031	6.9	5.5 - 8.6

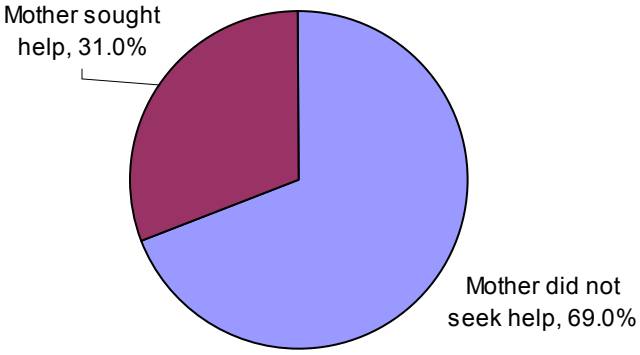
Post-partum depression: help-seeking

Among all mothers regardless of their frequency of feeling depressed or loss of interests reported, 10.3% of them sought help for depression in the time since their babies had been born (Figure 39).

Among mothers indicating that they felt “often” or “always” depressed or “often” or “always” experiencing loss of interest/pleasure in doing things, only about a third reported that they had sought help for depression (Figure 40).

Figure 39. Proportion of women seeking help for post-partum depression (among all mothers regardless of depressive symptoms’ frequencies), 2007/2008 MA PRAMS

Figure 40. Proportion of women seeking help for post-partum depression (only among those reporting “often” or “always” feeling depressed or “often” or “always” experiencing loss of interest/pleasure in doing things), 2007/2008 MA PRAMS



Massachusetts mothers say...

“I had severe post-partum depression with my first child... Throughout my second pregnancy I was put on antidepressant medication which was tremendously [effective] in defeating any signs of PPD. Even though I was apprehensive about taking meds during my pregnancy, it was clear in my case the pros far outweighed the cons.”

Post-partum health care

Most mothers, almost 94%, had received a post-partum checkup at the time of the survey (Figure 41). Most respondents returned the survey between 2 and 4 months post-partum.

However, the prevalence of post-partum care differed by insurance status. All mothers reported a source of health insurance post-partum. Among those insured by Medicaid, 89% had received a post partum visit, compared with nearly 96% of mothers who had a non-Medicaid source of insurance (Figure 42).

Figure 41. Proportion of women receiving a post-partum checkup by the time of survey, 2007/2008 MA PRAMS

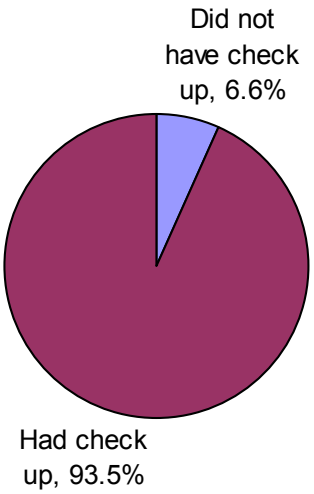
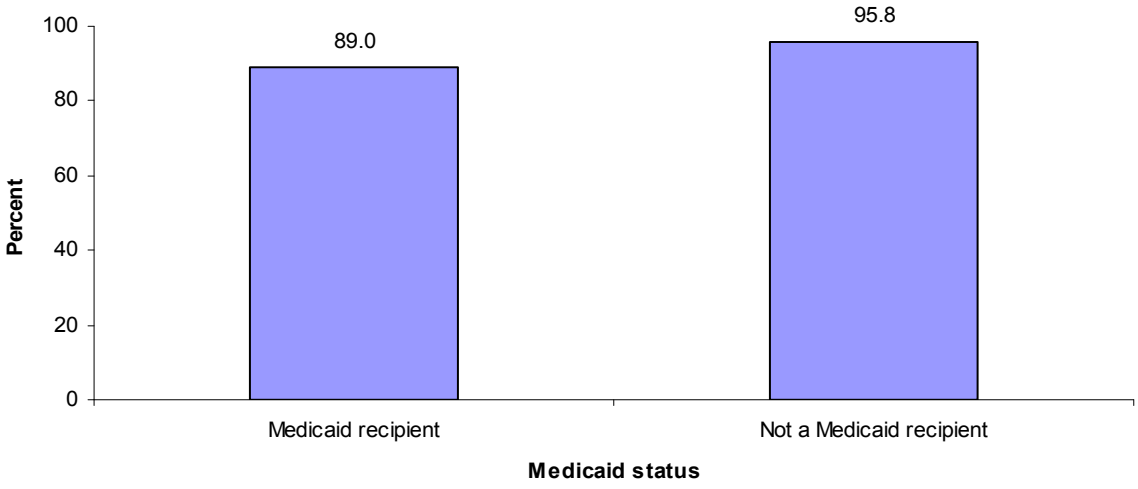


Figure 42. Proportion of women receiving a post-partum checkup, by insurance type, 2007/2008 MA PRAMS



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 (95.0%) were reported to have been seen by a health care provider within one week of leaving the hospital (Figure 43), and 99% had had at least one well-baby care visit at the time of the survey (Figure 44).

Figure 43. Proportion of infants seen by health care provider within one week of leaving birth hospital, 2007/2008 MA PRAMS

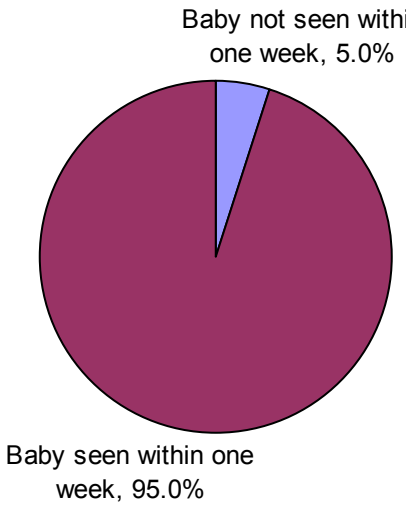
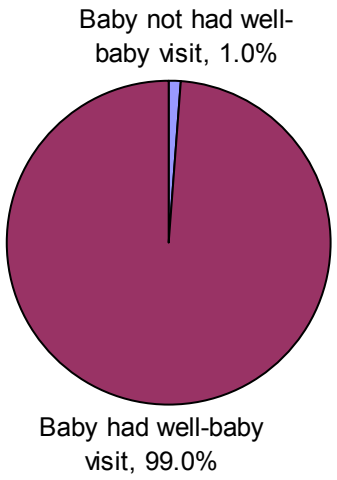


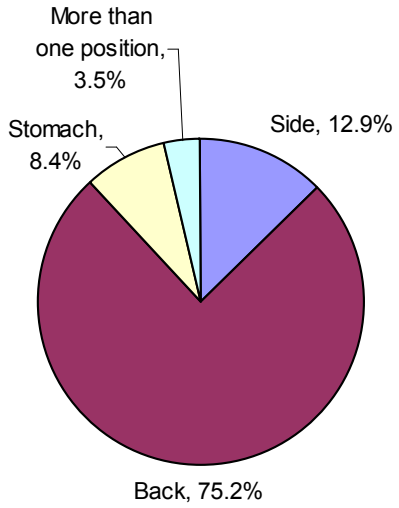
Figure 44. Proportion of infants receiving a well-baby visit by the time of survey, 2007/2008 MA PRAMS



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 (AAP, 1992).

Figure 45. Prevalence of infant sleep positions, 2007/2008 MA PRAMS



The majority of PRAMS babies, 75.2%, were reported most often to be positioned on their backs for sleep (Figure 45).

Mothers least likely to place their babies on their backs for sleep were Black, non-Hispanic (55.8%), Hispanic (58.7%), Other, non-Hispanic (57.0%), those under 20 years of age (59.3%), or those without a high school diploma (56.7%) (Table 17).

Table 17. Prevalence of placing infant to sleep on back, by socio-demographic characteristics, 2007/2008 MA PRAMS

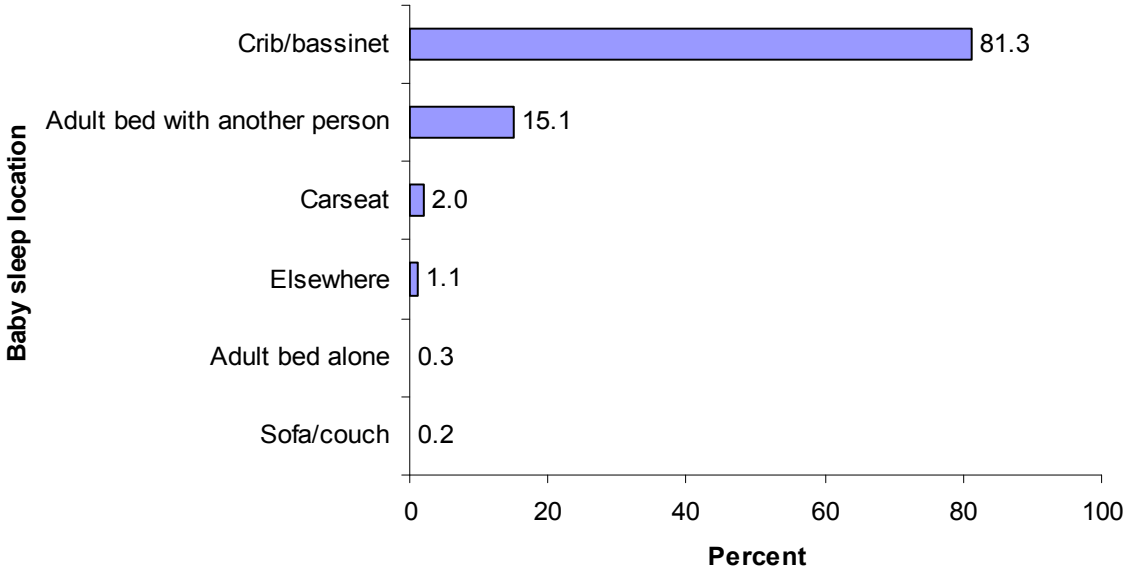
Characteristic	Weighted n	Weighted %	95% CL
Total	106966	75.2	73.1 - 77.2
Maternal race/ethnicity			
White, non-Hispanic	79142	80.9	78.0 - 83.5
Black, non-Hispanic	6351	55.8	51.6 - 59.9
Hispanic	11643	58.7	55.1 - 62.2
Asian, non-Hispanic	8641	77.5	73.8 - 80.8
Other, non-Hispanic	1188	57.0	46.8 - 66.7
Maternal age (years)			
<20	5535	59.3	49.7 - 68.4
20-29	41262	71.1	67.6 - 74.4
30-39	55784	80.2	77.4 - 82.8
40+	4385	81.2	71.2 - 88.3
Maternal education			
<High school	8757	56.7	49.7 - 63.6
High school diploma	24901	69.6	65.0 - 73.9
Some college	17427	69.0	63.7 - 73.8
College graduate	55851	84.9	82.2 - 87.3
Household poverty level			
≤100% FPL	17142	62.5	57.6 - 67.1
>100% FPL	83731	79.9	77.5 - 82.1
Maternal nativity			
Non-US-born	27721	67.2	64.1 - 70.2
US-born	79245	78.4	75.8 - 80.9

Infant sleep location

The practice of “bed sharing” or infants sharing a bed with someone else, has been associated with some infant deaths (AAP, 1992). However, the evidence on the safety of bed-sharing is mixed, with some findings indicating that the risk is differential depending on parental use of substances such as tobacco while some argue that the benefits of breastfeeding, facilitated by bedsharing, may outweigh the risks (Horsley, 2008).

Over 81% of babies were reported usually sleeping in a crib or bassinet. About 15% shared an adult bed with at least one other person.

Figure 46. Prevalence of infant sleep locations, 2007/2008 MA PRAMS



Infant sleep location

The practice of bed-sharing differed widely by race/ethnicity, and was most commonly reported by Asian, non-Hispanic (32.7%) and Black, non-Hispanic mothers (23.7%). Non-US-born mothers reported bed sharing more than US-born mothers (19.9% vs. 13.2%). Patterns by other demographic groups were less apparent (Table 18).

Table 18. Prevalence of infant sleeping on an adult bed with other person(s), by socio-demographic characteristics, 2007/2008 MA PRAMS

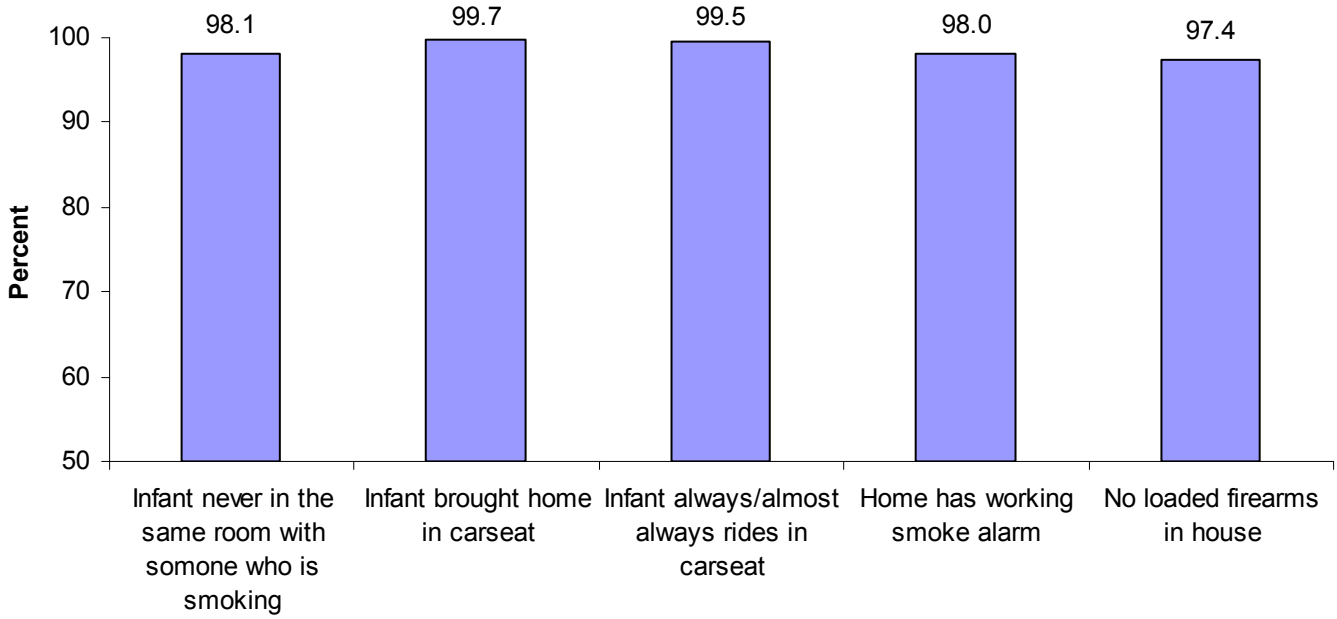
Characteristic	Weighted n	Weighted %	95% CL
Total	21108	15.1	13.5 - 16.9
Maternal race/ethnicity			
White, non-Hispanic	11643	12.1	10.0 - 14.7
Black, non-Hispanic	2663	23.7	20.3 - 27.4
Hispanic	2876	14.6	12.2 - 17.3
Asian, non-Hispanic	3557	32.7	28.9 - 36.7
Other, non-Hispanic	370	17.8	11.4 - 26.8
Maternal age (years)			
<20	1678	17.8	11.4 - 26.6
20-29	9933	17.3	14.6 - 20.4
30-39	8593	12.7	10.7 - 15.0
40+	905	17.2	10.3 - 27.5
Maternal education			
<High school	2695	17.4	12.7 - 23.4
High school diploma	6081	17.3	13.9 - 21.4
Some college	4096	16.6	13.1 - 20.9
College graduate	8237	12.8	10.6 - 15.3
Household poverty level			
≤100% FPL	5081	18.5	15.0 - 22.6
>100% FPL	14887	14.5	12.6 - 16.6
Maternal nativity			
Non-US-born	8042	19.9	17.4 - 22.5
US-born	13067	13.2	11.2 - 15.4

Infant Safety

The vast majority of mothers reported taking appropriate safety measures around car travel, smoke exposure and smoke alarms, and firearms.

Almost all mothers reported that their infants were never exposed to second-hand smoke (98.1%), were brought home from the hospital in a car seat (99.7%) and always/almost always rode in a carseat (99.5%), had a working smoke alarm in the home (98.0%), and did not keep loaded firearms in the home (97.4%) (Figure 47).

Figure 47. Prevalence of infant safety practices, 2007/2008 MA PRAMS

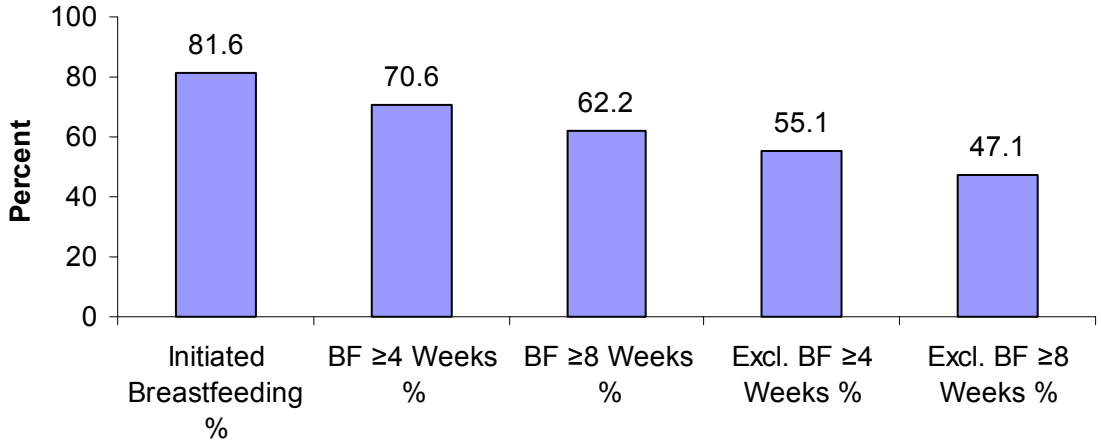


Breastfeeding

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, associated with lowered risk of infections and certain chronic diseases, and has substantial benefits for many mothers as well (Gartner, 2005).

Almost 82% of mothers reported initiating breastfeeding, a figure which exceeds the Healthy People 2010 goal of 75% initiation (US-DHHS, 2000). Almost 71% reported any breastfeeding (exclusive, or with complementary foods) for at least four weeks, and 62.2% for at least eight weeks. *Exclusive* breastfeeding was less prevalent, with 55.1% of mothers reporting exclusive breastfeeding for at least four weeks, and 47.1% reporting exclusive breastfeeding for at least eight weeks.

Figure 48. Prevalence of breastfeeding (BF) initiation, duration, and exclusivity, all mothers, 2007/2008 MA PRAMS



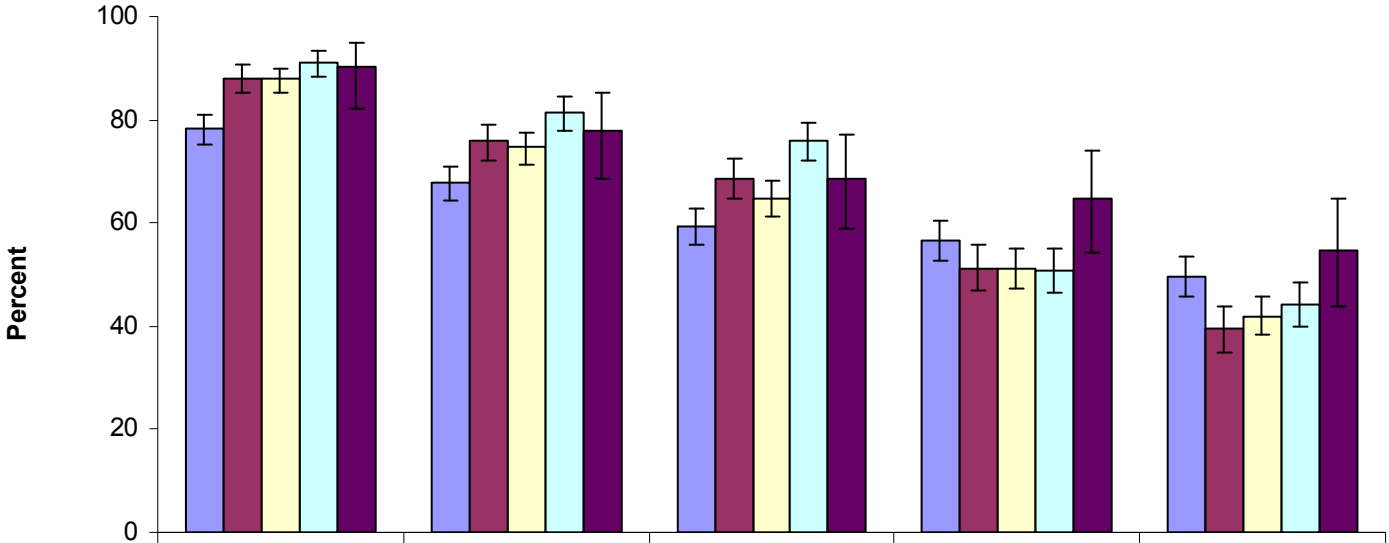
Massachusetts mothers say...

"I did not feel there was enough support around breastfeeding in the hospital. My baby had to be supplemented [with] formula due to losing 10% of his weight. However there was no lactation consultant in the hospital and I had many issues (bleeding, cracked nipples) that made it almost impossible to breastfeed...."

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 rates of breastfeeding initiation and duration to four and eight weeks were among Asian, non-Hispanic mothers, and the lowest among White, non-Hispanic mothers. However, White, non-Hispanic mothers (as well as Other, non-Hispanic mothers) were more likely than other groups to *exclusively* breastfeed for at least four and eight weeks (Figure 49).

Figure 49. Prevalence of breastfeeding initiation, duration, and exclusivity, by maternal race/ethnicity, 2007/2008 MA PRAMS

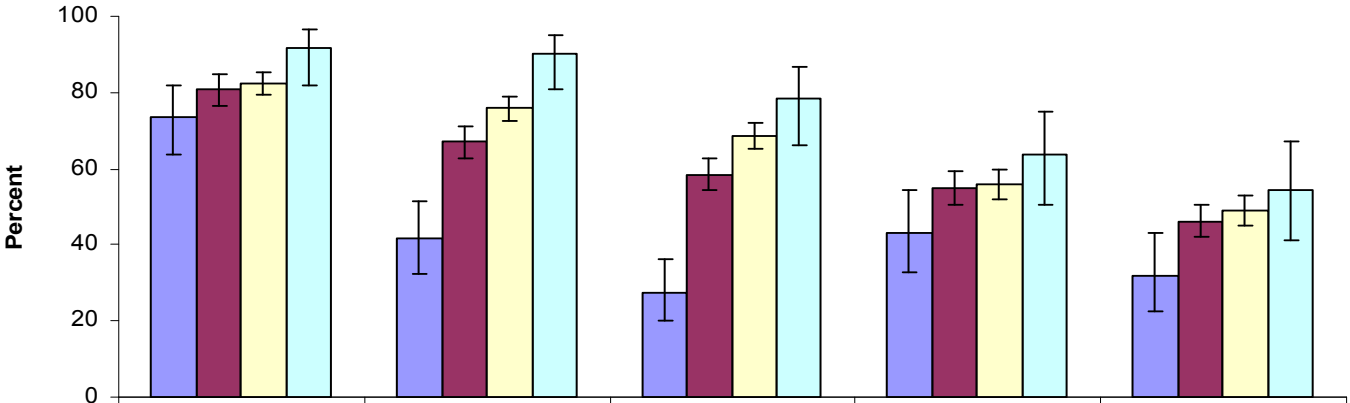


	Ever	At least 4 wks	At least 8 wks	Exclusive at least 4 wks	Exclusive at least 8 weeks
White, non-Hispanic	78.2	67.8	59.3	56.7	49.4
Black, non-Hispanic	88.1	75.8	68.7	51.3	39.4
Hispanic	87.9	74.6	64.7	51.3	42.0
Asian, non-Hispanic	91.2	81.4	75.9	50.8	44.1
Other, non-Hispanic	90.2	78.0	68.7	64.8	54.5

Breastfeeding: Differences by age

Increasing maternal age was associated with greater initiation and duration of breastfeeding. Mothers aged 40 years or older reported breastfeeding more than younger age groups (Figure 50).

Figure 50. Prevalence of breastfeeding initiation, duration, and exclusivity, by maternal age (years), 2007/2008 MA PRAMS

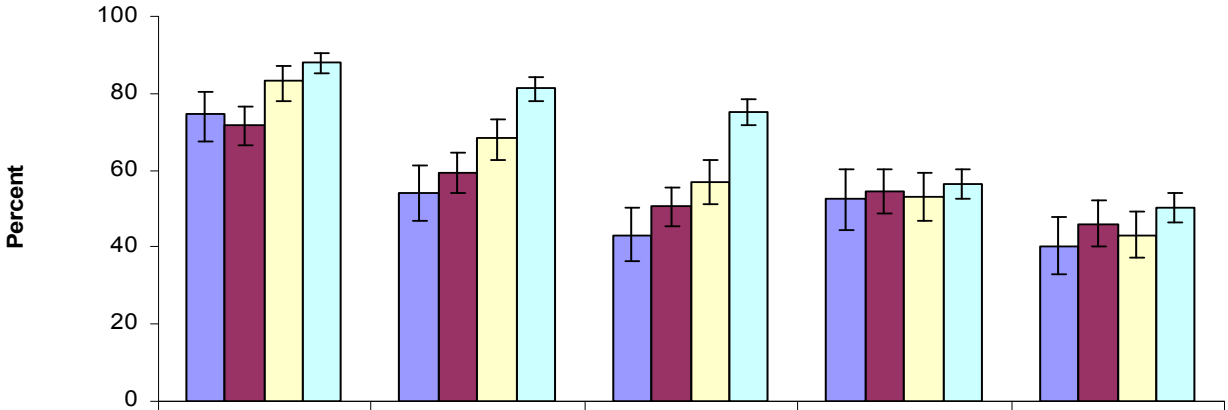


	Ever	At least 4 wks	At least 8 wks	Exclusive at least 4 wks	Exclusive at least 8 weeks
<20	73.7	41.6	27.6	43.3	32.1
20-29	80.8	66.9	58.5	54.8	46.3
30-39	82.5	75.9	68.7	56.0	49.0
40+	91.9	90.2	78.4	63.5	54.4

Breastfeeding: Differences by education

Breastfeeding initiation and duration to four and eight weeks was positively associated with greater education. However, a less marked association was observed for exclusive breastfeeding (Figure 51).

Figure 51. Prevalence of breastfeeding initiation, duration, and exclusivity, by maternal education, 2007/2008 MA PRAMS

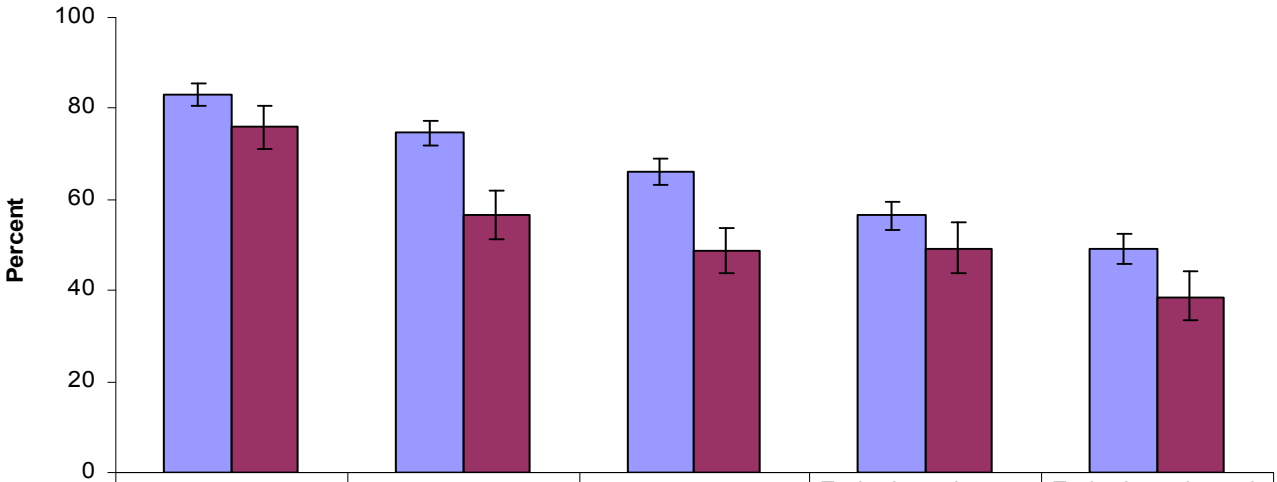


	Ever	At least 4 wks	At least 8 wks	Exclusive at least 4 wks	Exclusive at least 8 weeks
<High school	74.6	54.2	43.2	52.4	40.2
High school diploma	71.7	59.5	50.5	54.5	46.1
Some college	83.2	68.2	56.9	53.2	43.0
College graduate	88.0	81.4	75.1	56.6	50.4

Breastfeeding: Differences by federal poverty level (FPL)

The magnitude of differences in reported breastfeeding by federal poverty level were somewhat smaller than other socio-demographic measures. However, mothers with household income above 100% of the federal poverty level had higher breastfeeding rates in all categories except in the *exclusive* breastfeeding for at least 8-week category.

Figure 52. Prevalence of breastfeeding initiation, duration, and exclusivity, by poverty level, 2007/2008 MA PRAMS

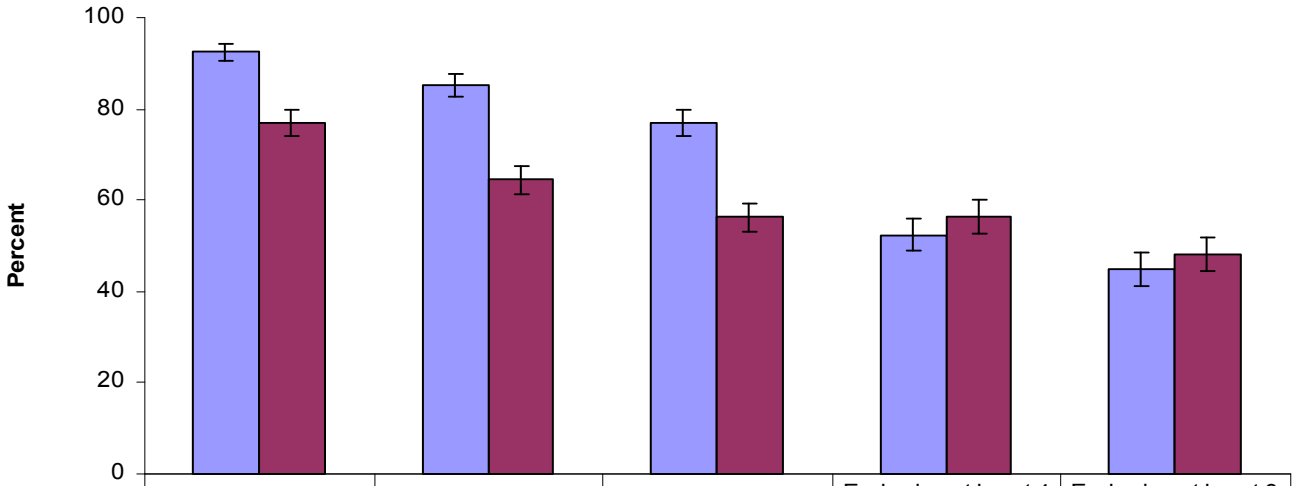


	Ever	At least 4 wks	At least 8 wks	Exclusive at least 4 wks	Exclusive at least 8 weeks
>100% FPL	83.2	74.6	66.1	56.5	49.3
≤ 100% FPL	76.1	56.7	48.7	49.3	38.6

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, no statistically significant difference was observed in *exclusive* breastfeeding by maternal nativity (Figure 53).

Figure 53. Prevalence of breastfeeding initiation, duration, and exclusivity, by maternal nativity, 2007/2008 MA PRAMS

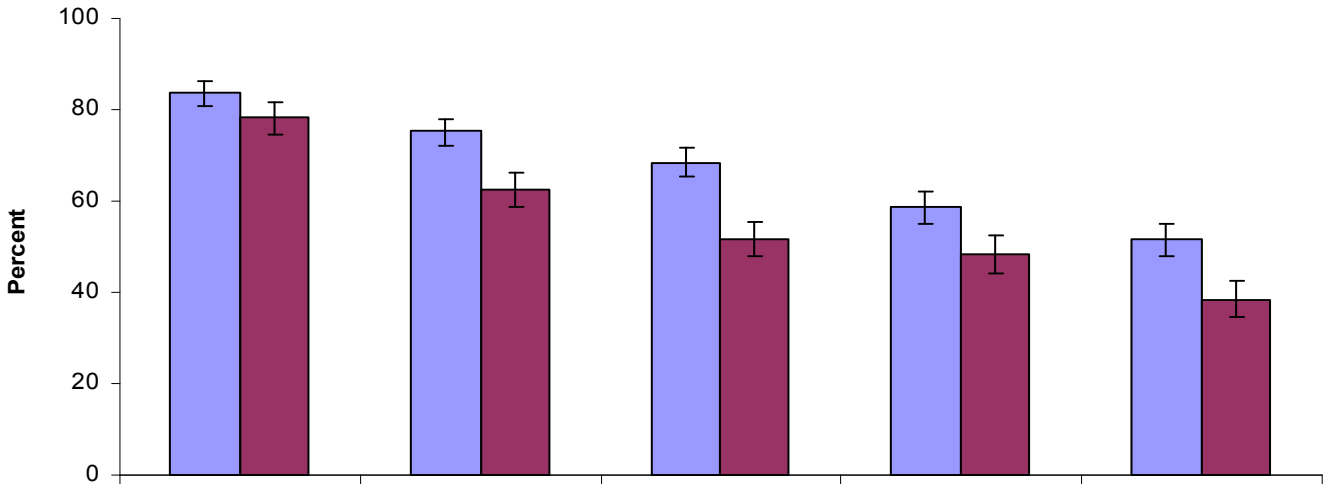


	Ever	At least 4 wks	At least 8 wks	Exclusive at least 4 wks	Exclusive at least 8 weeks
Non-US-born	92.5	85.4	77.0	52.4	44.8
US-born	77.1	64.6	56.3	56.4	48.2

Breastfeeding: Differences by WIC participation

Mothers who participated in WIC during pregnancy reported initiating breastfeeding less than those not participating in WIC, though not at a level of statistical significance. Larger, significant gaps were seen between the two groups with regard to breastfeeding duration and exclusivity (Figure 54).

Figure 54. Prevalence of breastfeeding initiation, duration, and exclusivity, by WIC participation during pregnancy, 2007/2008 MA PRAMS



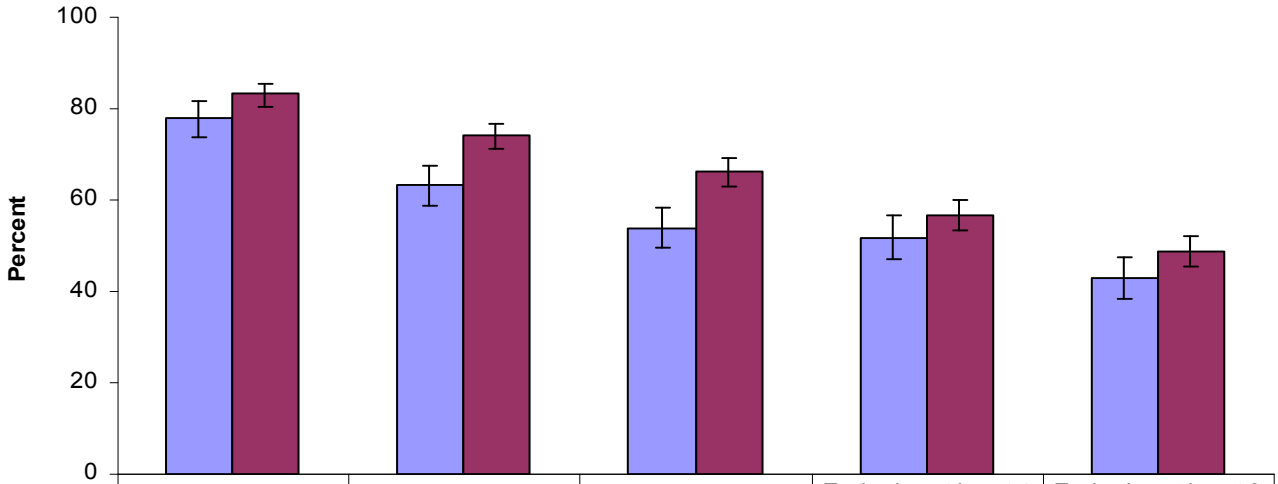
	Ever	At least 4 wks	At least 8 wks	Exclusive at least 4 wks	Exclusive at least 8 weeks
No WIC	83.7	75.3	68.4	58.6	51.6
Yes WIC	78.3	62.6	51.8	48.3	38.4

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 (Figure 55).

Those reporting that they had wanted the pregnancy then or sooner (intended) were more likely to have initiated breastfeeding and continued for longer than those reporting that they had wanted the pregnancy later or never wanted to be pregnant (unintended). However, the only statistically significant differences between the intended and unintended groups were in the duration of any breastfeeding to at least four and eight weeks.

Figure 55. Prevalence of breastfeeding initiation, duration, and exclusivity, by feelings about this pregnancy, 2007/2008 MA PRAMS



	Ever	At least 4 wks	At least 8 wks	Exclusive at least 4 wks	Exclusive at least 8 weeks
Later/Never	77.9	63.3	53.9	51.8	42.8
Then/sooner	83.2	74.0	66.1	56.6	48.9

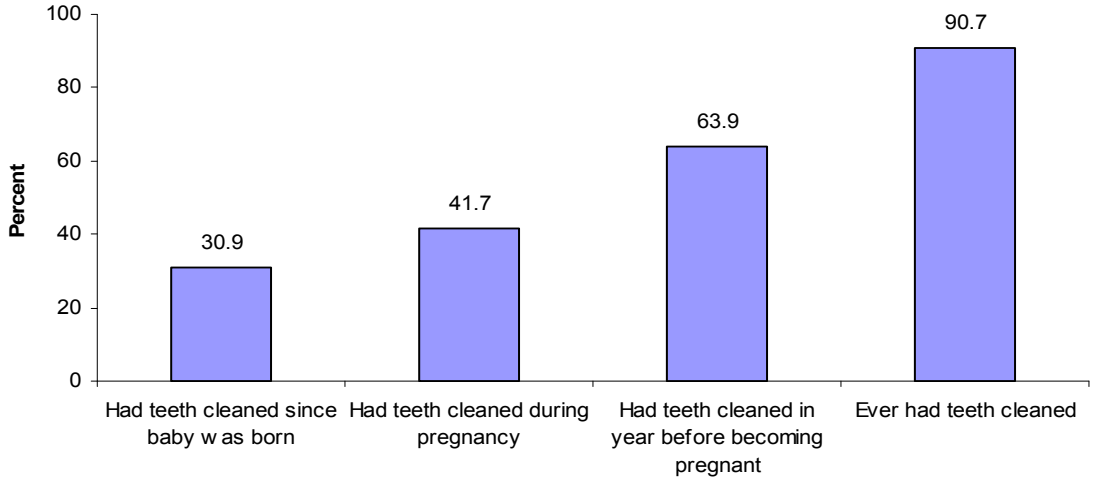
ORAL HEALTH

Oral health care

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

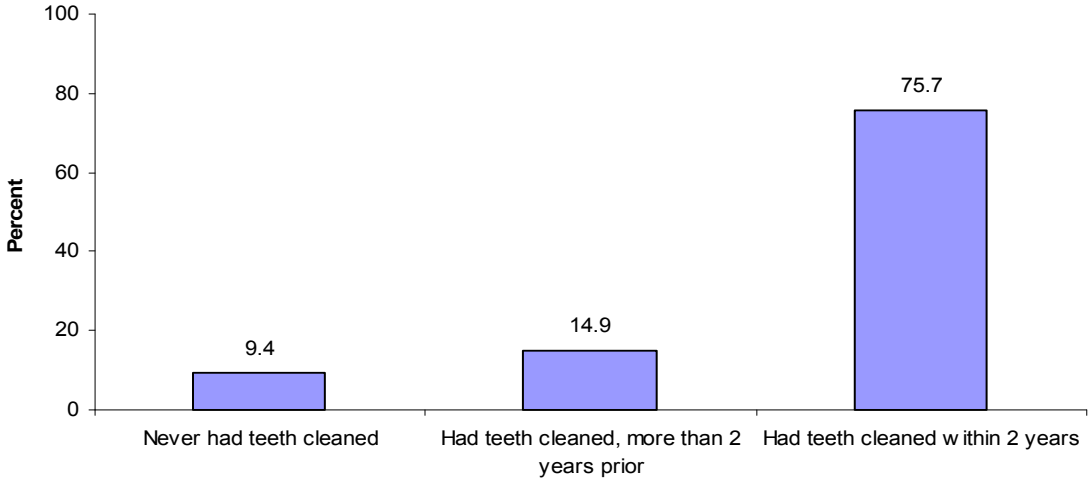
Most mothers (90.7%) reported that they had ever had their teeth cleaned. Another 63.9% had received a cleaning in the year before becoming pregnant, 41.7% during their most recent pregnancy, and 30.9% since the baby was born.

Figure 56. Prevalence of teeth cleaning, ever, before, during, and after pregnancy, 2007/2008 MA PRAMS



Almost 76% of women 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, almost 15% reported that their last cleaning visit had occurred before the year prior to pregnancy — in most cases at least 2 years ago (Figure 57).

Figure 57. Prevalence of teeth cleaning, never, ever but not recently, or recently, 2007/2008 MA PRAMS



ORAL HEALTH

Oral health care

The prevalence of teeth cleaning (ever) varied by socio-demographic characteristics, with Other, non-Hispanic mothers (72.8%), those with less than a high school education (77.6%), or those born outside of the United States (76.1%) being the least likely to report ever having had a cleaning (Table 19).

Table 19. Prevalence of teeth cleaning (ever), by socio-demographic characteristics, 2007/2008 MA PRAMS

	Ever had teeth cleaned		
Characteristic	Weighted n	Weighted %	95% CL
Total	134928	90.7	89.5 - 91.7
Maternal race/ethnicity			
White, non-Hispanic	97123	96.2	94.5 - 97.4
Black, non-Hispanic	9993	80.8	77.5 - 83.8
Hispanic	16922	79.0	76.0 - 81.7
Asian, non-Hispanic	9196	78.2	74.7 - 81.3
Other, non-Hispanic	1694	72.8	63.3 - 80.7
Maternal age (years)			
<20	8852	90.7	86.8 - 93.5
20-29	53258	88.0	85.8 - 89.9
30-39	67632	92.7	91.1 - 94.0
40+	5186	93.2	88.9 - 95.9
Maternal education			
<High school	12907	77.6	73.1 - 81.6
High school diploma	32720	86.2	82.9 - 88.9
Some college	24565	91.6	88.8 - 93.8
College graduate	64707	96.0	94.7 - 97.0
Household poverty level			
≤100% FPL	24327	84.0	80.7 - 86.8
>100% FPL	102667	95.9	94.8 - 96.7
Maternal nativity			
Non-US-born	33904	76.1	73.3 - 78.7
US-born	101024	96.9	95.7 - 97.7

SUBSTANCE USE

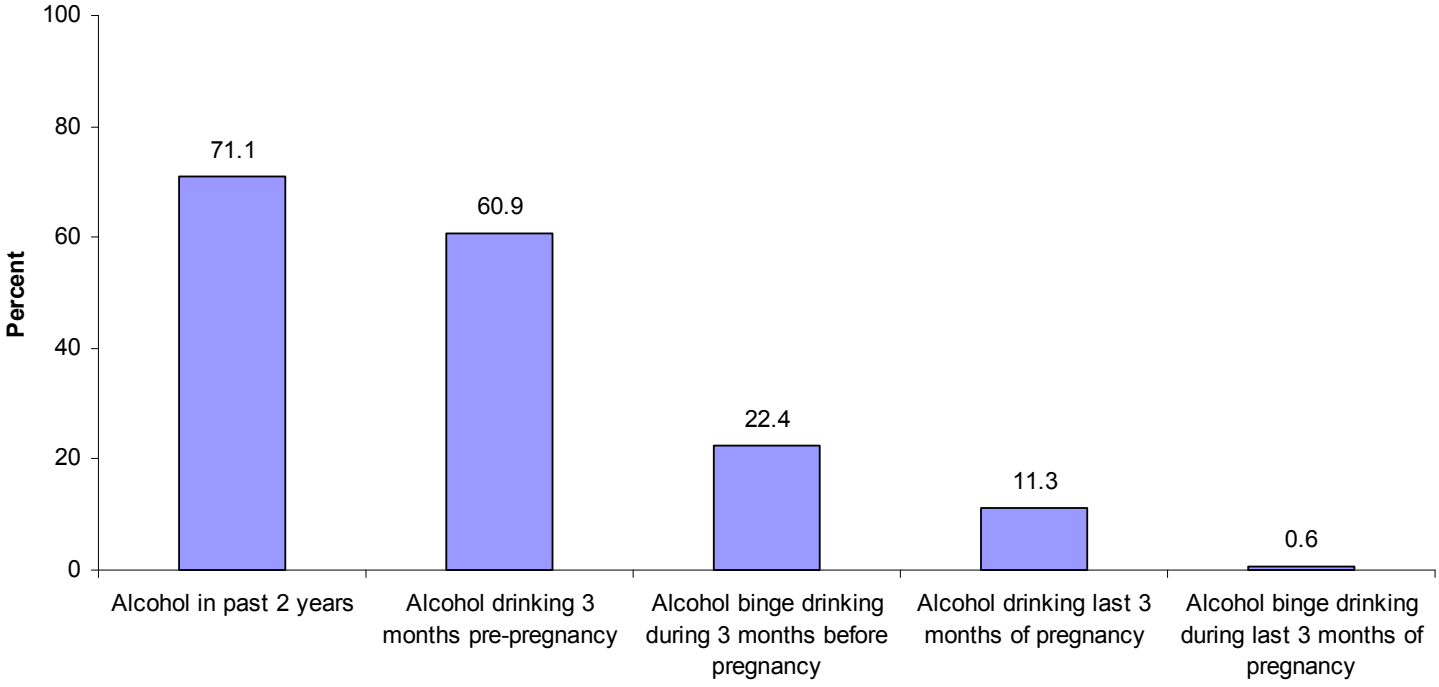
Alcohol

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 (71.1%) reported ever drinking alcohol in the past 2 years, 60.9% reported drinking alcohol in the three months prior to becoming pregnant and another 22.4% reported alcohol binge drinking (drinking more than 5 drinks in one sitting) in the 3 months before becoming pregnant. About 11.3% reported drinking any alcohol in the last three months of pregnancy, and less than one percent of mothers reported any alcohol binge drinking during the last 3 months of pregnancy (Figure 58).

Figure 58. Prevalence of maternal alcohol consumption prior to and during pregnancy, 2007/2008 MA PRAMS



SUBSTANCE USE

Alcohol

The highest prevalence of alcohol consumption during the last 3 months of pregnancy was observed among White, non-Hispanic mothers (13.7%), with a college education (17.4%), those aged 40 years or older (24.0%), those living above 100% of the Federal Poverty Level (FPL) (13.4%), or those born in the United States (13.1%) (Table 20).

Table 20. Prevalence of maternal alcohol consumption in the last three months of pregnancy, by socio-demographic characteristics, 2007/2008 MA PRAMS

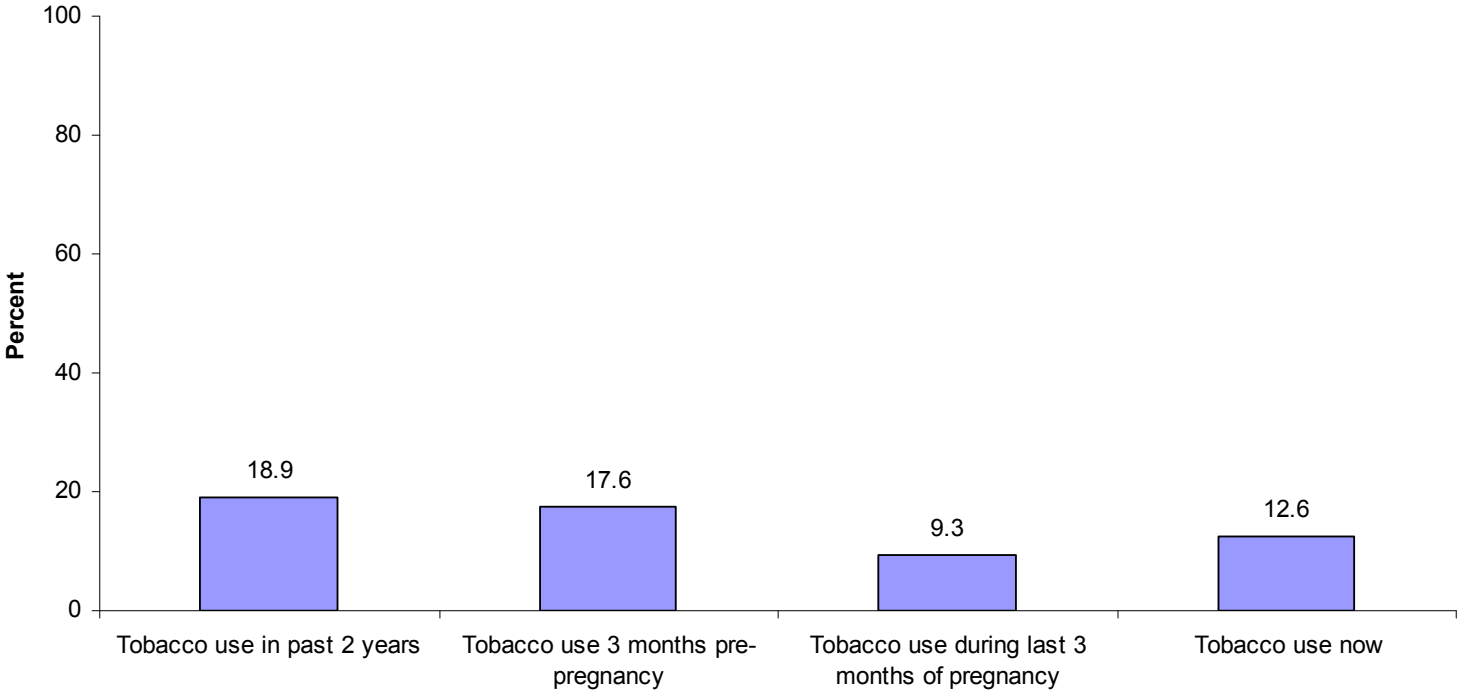
	Any drinking in last 3 months of pregnancy		
Characteristic	Weighted n	Weighted %	95% CL
Total	16371	11.3	9.8 - 13.0
Maternal race/ethnicity			
White, non-Hispanic	13527	13.7	11.5 - 16.2
Black, non-Hispanic	732	6.1	4.5 - 8.3
Hispanic	1219	5.9	4.5 - 7.8
Asian, non-Hispanic	745	6.6	4.9 - 8.8
Other, non-Hispanic	149	6.7	3.4 - 12.7
Maternal age (years)			
<20	442	4.6	1.5 - 12.8
20-29	3462	5.9	4.3 - 8.0
30-39	11146	15.7	13.2 - 18.6
40+	1321	24.0	14.7 - 36.7
Maternal education			
<High school	562	3.5	1.5 - 7.8
High school diploma	2672	7.3	5.0 - 10.6
Some college	1669	6.4	4.1 - 9.8
College graduate	11468	17.4	14.7 - 20.4
Household poverty level			
≤100% FPL	1575	5.6	3.7 - 8.3
>100% FPL	14185	13.4	11.5 - 15.7
Maternal nativity			
Non-US-born	2972	6.9	5.3 - 9.0
US-born	13400	13.1	11.1 - 15.4

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).

Nearly one-fifth of respondents reported smoking the 2 years prior to becoming pregnant, 17.6% reported using tobacco in the three months before becoming pregnant and 9.3% reported some use during the last 3 months of pregnancy (Figure 59).

Figure 59. Prevalence of maternal tobacco use prior to, during, and after pregnancy, 2007/2008 MA PRAMS



Tobacco

Large differences in tobacco use during pregnancy exist across all socio-demographic categories. Smoking during the last 3 months of pregnancy was associated with being White, non-Hispanic, under 30 years of age, having less than a college degree, living at or below 100% of the Federal Poverty Level (FPL), or US-born (Table 21).

Table 21. Prevalence of maternal tobacco use during the last three months of pregnancy, by socio-demographic characteristics, 2007/2008 MA PRAMS

	Smoking in last 3 months of pregnancy		
Characteristic	Weighted n	Weighted %	95% CL
Total	13660	9.3	7.8 - 11.1
Maternal race/ethnicity			
White, non-Hispanic	11017	11.0	8.9 - 13.6
Black, non-Hispanic	871	7.2	5.3 - 9.6
Hispanic	1368	6.6	5.0 - 8.6
Asian, non-Hispanic	221	1.9	1.0 - 3.6
Other, non-Hispanic	183	8.1	4.3 - 14.8
Maternal age (years)			
<20	922	9.5	5.0 - 17.2
20-29	8572	14.4	11.6 - 17.7
30-39	4143	5.8	4.2 - 8.0
40+	24	0.4	0.1 - 2.9
Maternal education			
<High school	2773	17.0	11.8 - 23.8
High school diploma	5546	14.9	11.4 - 19.4
Some college	4053	15.4	11.4 - 20.4
College graduate	1288	1.9	1.1 - 3.5
Household poverty level			
≤100% FPL	5411	18.9	14.7 - 23.9
>100% FPL	6995	6.6	5.1 - 8.4
Maternal nativity			
Non-US-born	1069	2.5	1.7 - 3.7
US-born	12591	12.2	10.2 - 14.6

Appendix A.
Supplemental Data Tables*

**The following data tables reflect questions in the order that they appear in the Massachusetts PRAMS 2007/2008 survey.*

APPENDIX A. Supplemental Data Tables

Table 1. From survey questions 1-2, Prevalence of insurance types prior to pregnancy, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Any non-Medicaid insurance before pregnancy				
No	927	36899	24.9	22.9 - 26.8
Yes	2046	111465	75.1	73.2 - 77.1
Medicaid before pregnancy				
No	2157	117852	79.6	77.8 - 81.3
Yes	810	30265	20.4	18.7 - 22.2
Source of insurance before pregnancy				
Private/HMO only	1680	97367	65.9	63.7 - 68.0
Medicaid only	447	16332	11.1	9.7 - 12.4
Both private and Medicaid	353	13608	9.2	7.9 - 10.5
No insurance	476	20467	13.9	12.2 - 15.5

Table 2. From survey question 3, Prevalence of daily multivitamin use in the month prior to pregnancy, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Prenatal vitamin use				
Every day	1003	70681	47.7	45.3 - 50.1
< Every day	447	24005	16.2	14.4 - 18.0
Never	1523	53549	36.1	33.8 - 38.5

APPENDIX A. Supplemental Data Tables

Table 3. From survey questions 5-6, Maternal Body Mass Index (BMI) immediately prior to pregnancy (derived from maternal report of height and weight), 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Maternal BMI, pre-pregnancy				
Underweight (<18.5)	164	6966	4.9	3.9 - 5.9
Normal (18.5 - 24.9)	1556	80752	56.8	54.3 - 59.3
Overweight (25.0 - 29.9)	637	30895	21.7	19.7 - 23.8
Obese (≥ 30)	449	23529	16.6	14.7 - 18.4

Table 4. From survey question 7, Maternal self-rated health post-partum, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Maternal self-rated health, current				
Excellent	838	43512	29.4	27.2 - 31.6
Very Good	1163	62030	41.9	39.5 - 44.3
Good	794	34903	23.6	21.6 - 25.6
Fair	170	6927	4.7	3.7 - 5.7
Poor	*Insufficient data to report*			

Table 5. From survey questions 8-10, Prevalence of previous low birth weight and previous preterm births among multiparous women, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Birth History				
Previous live births				
No	1368	71180	48.3	45.8 - 50.7
Yes	1574	76357	51.8	49.3 - 54.2
Previous low birth weight (among multipars)				
No	1320	66877	89.7	87.9 - 91.5
Yes	217	7653	10.3	8.5 - 12.1
Previous preterm birth (among multipars)				
No	1351	67301	89.4	87.5 - 91.2
Yes	207	8004	10.6	8.8 - 12.5

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Table 6. From survey question 11, Feelings about becoming pregnant prior to this pregnancy, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Pregnancy feelings				
Wanted right then	1219	66765	45.7	43.2 - 48.1
Wanted sooner	643	32340	22.1	20.1 - 24.1
Wanted later	838	36883	25.2	23.1 - 27.3
Wanted never	236	10242	7.0	5.8 - 8.2

Table 7. From survey question 12, Proportion of women trying to become pregnant, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Trying to get pregnant				
Not trying	1400	62735	42.7	40.3 - 45.0
Trying to get pregnant	1547	84289	57.3	55.0 - 59.7

Table 8. From survey question 13, Prevalence of pre-pregnancy contraception use among women who were not trying to become pregnant, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Used birth control (among those not trying to get pregnant)				
Did not use birth control	770	35675	58.1	54.5 - 61.7
Used birth control	599	25723	41.9	38.3 - 45.5

Table 9. From survey question 14, Reasons for not using a contraceptive method prior to pregnancy among women not trying to get pregnant, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Reasons for not using birth control (if not trying and no birth control)				
Didn't mind getting pregnant	392	18826	48.8	44.0 - 53.5
Didn't think could become pregnant	250	10376	26.8	22.8 - 30.9
Partner didn't want to use	139	5164	13.4	10.4 - 16.3
Side effects from BC	100	5150	13.3	9.9 - 16.7
Thought partner was sterile	58	2595	6.7	4.4 - 9.0
Problems acquiring BC	36	1184	3.1	1.7 - 4.4
Other	95	4638	12.0	8.9 - 15.1

APPENDIX A. Supplemental Data Tables

Table 10. From survey questions 15-16, Prevalence of fertility treatment use, 2007/2008 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	1333	72405	86.8	84.5 - 89.0
Yes	194	11044	13.2	11.0 - 15.5
Kinds of reproductive assistance (among those reporting any fertility treatment use)				
Drugs	91	5316	40.0	31.9 - 48.0
Artificial Insemination	39	2296	17.2	11.1 - 23.4
ART (IVF, other)	65	4185	31.4	23.7 - 39.1
Other treatment	38	1993	15.0	9.1 - 20.8

Table 11. From survey question 17, Weeks pregnant when sure of pregnancy, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Weeks pregnant when sure of pregnancy				
0 to 4 weeks	1308	70424	50.2	47.7 - 52.6
5 to 8 weeks	1039	54037	38.5	36.0 - 40.9
9 to 12 weeks	275	10261	7.3	6.2 - 8.5
13+ weeks	170	5699	4.1	3.3 - 4.9

Table 12. From survey question 18, Timing of entry to prenatal care, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Timing of initiation of prenatal care				
Initiated within 1st trimester	2368	124821	85.9	84.3 - 87.4
Did not initiate within 1st trimester	498	19290	13.3	11.7 - 14.8
Did not have PNC	39	1231	0.9	0.5 - 1.2

APPENDIX A. Supplemental Data Tables

Table 13. From survey question 19, Prevalence of women receiving prenatal care as early as wanted, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Received prenatal care as early as wanted				
No	343	15575	10.6	9.1 - 12.1
Yes	2578	130299	88.5	87.0 - 90.1
Didn't want prenatal care	34	1295	0.9	0.4 - 1.3

Table 14. From survey question 20, Reasons for not getting prenatal care as early as wanted, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Reasons for not getting prenatal care as early as wanted				
Couldn't get appt.	259	10652	8.0	6.7 - 9.2
Too many other things going on	188	7117	5.4	4.3 - 6.4
Doctor/health plan wouldn't start earlier	180	6902	5.2	4.2 - 6.2
Didn't have Medicaid card	187	6570	5.0	4.0 - 6.0
Couldn't take time off from work	143	5680	4.3	3.3 - 5.2
Didn't want to disclose pregnancy	145	5494	4.2	3.2 - 5.1
Couldn’t afford	168	5635	4.2	3.4 - 5.1
Transportation	151	5487	4.1	3.2 - 5.0
Childcare	129	4856	3.7	2.8 - 4.6
Other	90	3793	4.1	2.9 - 5.3

Table 15. From survey question 21, Sources of payment for prenatal care, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Source of payment for prenatal care				
Medicaid	1258	50817	34.7	32.5 - 36.8
Personal income	254	13176	9.0	7.6 - 10.4
Health insurance/HMO	1592	93669	63.9	61.7 - 66.1
Free Care	225	7408	5.1	4.2 - 6.0
Other	82	4307	2.9	2.1 - 3.8

APPENDIX A. Supplemental Data Tables

Table 16. From survey question 22, Topics discussed by health care providers during prenatal care visits, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Topics discussed during prenatal care visits				
Birth defects screening	2592	133156	93.2	92.0 - 94.3
Safe medications during pregnancy	2518	127213	88.8	87.3 - 90.3
What to do if preterm labor	2444	122295	85.8	84.1 - 87.6
Breastfeeding	2435	120598	84.0	82.2 - 85.9
HIV testing	2359	113592	79.9	77.8 - 81.9
Birth control after pregnancy	2319	113671	79.4	77.4 - 81.4
Alcohol	2204	109345	76.3	74.2 - 78.4
Smoking	2154	106541	74.4	72.2 - 76.5
Illegal drugs	1969	94781	66.4	64.1 - 68.8
Physical abuse by partners (IPV)	1781	84892	59.7	57.3 - 62.2
Seat belts	1694	80454	56.2	53.7 - 58.6

Table 17. From survey questions 23-26, Prevalence of HIV testing, offer and refusal during pregnancy, and reasons for declining HIV testing, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Tested for HIV				
Not tested	727	45749	30.7	28.5 - 33.0
Tested	1961	87589	58.9	56.5 - 61.2
Don't know	301	15501	10.4	8.9 - 11.9
Offered an HIV test (population estimate)				
Not offered	535	32956	22.1	20.1 - 24.2
Offered	2318	108899	73.2	71.0 - 75.3
Don't know	136	6984	4.7	3.7 - 5.7
Refused HIV test (population estimate)				
Did not refuse	2067	92050	84.5	82.4 - 86.7
Refused	243	16350	15.0	12.9 - 17.1
Don't know		*Insufficient data for reporting*		
Reasons for declining HIV test (among those declining)				
Didn't think at risk	131	8520	39.6	33.0 - 46.1
Didn't want people to think at risk		*Insufficient data for reporting*		
Afraid of getting result		*Insufficient data for reporting*		
Previously tested	139	9608	44.6	37.9 - 51.3
Other	15	1064	4.9	2.0 - 7.9

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Table 18. From survey question 27, Prevalence of WIC participation during pregnancy, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
WIC during pregnancy				
Did not use WIC	1496	90797	62.1	59.9 - 64.2
Used WIC	1436	55489	37.9	35.8 - 40.1

Table 19. From survey question 28, Maternal health complications during pregnancy, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Health complications during pregnancy (% yes)				
Severe nausea/vomiting	897	40343	27.8	25.6 - 30.0
Vaginal bleeding	478	25691	17.7	15.8 - 19.6
Preterm labor	474	23838	16.5	14.6 - 18.3
Kidney/bladder infection	380	18623	12.9	11.2 - 14.5
Hypertension or preeclampsia or toxemia	312	17433	12.0	10.4 - 13.6
Gestational Diabetes	228	9982	6.9	5.7 - 8.1
Placental problems	151	9079	6.3	5.0 - 7.6
PROM*	136	5734	4.0	3.1 - 4.9
Car accident	76	2924	2.0	1.4 - 2.6
Pre-existing Diabetes	65	2069	1.4	0.9 - 1.9
Blood transfusion	39	1438	1.0	0.6 - 1.4
Incompetent cervix	51	1371	1.0	0.6 - 1.3

**PROM = premature rupture of membranes*

Table 20. From survey question 29, Prevalence of maternal hospitalization and bed rest among women with complications during pregnancy, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Hospitalization during pregnancy (among those with complications)				
No	2305	118627	89.0	87.4 - 90.5
Yes	330	14703	11.0	9.5 - 12.6
Bed rest >2 days (among those with complications)				
No	1081	53754	71.1	68.1 - 74.2
Yes	466	21813	28.9	25.8 - 31.9

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Table 21. From survey questions 30-33, Prevalence of maternal tobacco use prior to, during and after pregnancy, and change in smoking status, 2007/2008 MA PRAMS

Question		Sample n	Weighted n	Weighted %	95% CL
Tobacco use in past 2 years					
	No	2503	117921	81.1	79.0 - 83.2
	Yes	407	27507	18.9	16.8 - 21.0
Tobacco use 3 months pre-pregnancy					
	No	2539	119922	82.4	80.4 - 84.5
	Yes	373	25538	17.6	15.5 - 19.6
Tobacco use during last 3 months of pregnancy					
	No	2734	132761	90.7	89.1 - 92.3
	Yes	193	13660	9.3	7.7 - 10.9
Tobacco use now					
	No	2655	128030	87.4	85.6 - 89.2
	Yes	273	18412	12.6	10.8 - 14.4
Changes in tobacco use during pregnancy					
	Non smoker	2537	119718	82.3	80.3 - 84.4
	Smoker quit	180	12031	8.3	6.8 - 9.7
	Smoker reduced	114	8096	5.6	4.3 - 6.8
	Smoker same/more	78	5391	3.7	2.7 - 4.8
	Non-Smoker resumed		Insufficient data for reporting		

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Table 22. From survey questions 34-36, Prevalence of maternal alcohol consumption and bingeing prior to and during pregnancy, and change in alcohol use, 2007/2008 MA PRAMS

Question		Sample n	Weighted n	Weighted %	95% CL
Alcohol drinking in past 2 years					
	No	1276	42432	28.9	27.0 - 30.8
	Yes	1655	104266	71.1	69.2 - 73.0
Alcohol drinking 3 months pre-pregnancy					
	No	1583	56734	39.2	37.0 - 41.3
	Yes	1313	88171	60.9	58.7 - 63.0
Alcohol binge drinking during 3 months before pregnancy					
	No	2471	112573	77.6	75.4 - 79.8
	Yes	425	32427	22.4	20.2 - 24.6
Alcohol drinking last 3 months of pregnancy					
	No	2642	128690	88.7	87.1 - 90.3
	Yes	256	16371	11.3	9.7 - 12.9
Alcohol binge drinking during last 3 months of pregnancy					
	No	2877	144291	99.4	99.1 - 99.7
	Yes	24	854	0.6	0.3 - 0.9
Change in alcohol drinking during pregnancy					
	Non drinker	1574	56531	39.1	36.9 - 41.3
	Drinker quit	1058	71729	49.6	47.2 - 52.0
	Drinker reduced	141	10911	7.6	6.2 - 8.9
	Drinker same/more	107	5273	3.7	2.7 - 4.6
	Non-drinker resumed	*Insufficient data for reporting*			

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Table 23. From survey question 37, Prevalence of stressful life events during pregnancy, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Maternal stressors in 12 months before baby was born				
Someone close died	420	23462	16.1	14.2 - 18.0
Family member sick	548	31670	21.7	19.7 - 23.8
Homeless	137	4680	3.2	2.5 - 3.9
Mother lost job	293	12368	8.5	7.2 - 9.8
Partner lost job	297	14361	9.9	8.4 - 11.4
Had bills couldn't pay	617	29075	20.0	18.0 - 22.0
Moved to new address	971	47876	32.8	30.5 - 35.1
In a physical fight	93	3084	2.1	1.5 - 2.7
Partner went to jail	86	4150	2.9	2.0 - 3.7
Separation/divorce	259	9632	6.6	5.5 - 7.7
Partner said didn't want pregnancy	264	11168	7.7	6.4 - 8.9
Someone close had problem with drinking/drugs	252	16554	11.4	9.7 - 13.1
Argued with partner more than usual	719	32571	22.5	20.4 - 24.5
At least 1 family-related stressor	1070	50328	33.8	31.5 - 36.1
At least 1 financial stressor	1458	69163	46.5	44.1 - 48.9
At least 1 illness/death-related stressor	747	41854	28.1	25.9 - 30.4
Number of stressors (grouped)				
None	955	48027	32.8	30.5 - 35.0
1 to 2	1237	63071	43.0	40.6 - 45.5
3 to 5	612	29579	20.2	18.2 - 22.2
6 to 18	126	5893	4.0	3.1 - 5.0

Table 24. From survey questions 38-39, Prevalence of physical abuse prior to and during pregnancy, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Physical abuse before pregnancy				
No	2800	141351	96.7	95.8 - 97.5
Yes	114	4837	3.3	2.5 - 4.2
Physical abuse during pregnancy				
No	2809	142153	97.4	96.7 - 98.2
Yes	92	3729	2.6	1.8 - 3.3
Physical abuse (either before or during pregnancy)				
No	2751	139544	95.7	94.7 - 96.6
Yes	148	6288	4.3	3.4 - 5.3

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Table 25. From survey question 44, Prevalence of delivery payment sources, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Delivery payment source (all that apply)				
Medicaid	1357	53474	36.5	34.3 - 38.7
Personal income	219	14134	9.7	8.2 - 11.2
Private insurance	1593	94373	64.4	62.3 - 66.6
Free Care	168	5472	3.7	3.0 - 4.5
Other	74	3680	2.5	1.7 - 3.3

Table 26. From survey questions 45-46, Infant stay in the neonatal intensive unit (NICU) and length of infant hospital stay at birth, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Baby ever in NICU				
No	2506	126688	87.7	86.1 - 89.4
Yes	357	17711	12.3	10.6 - 13.9
Baby length of stay in hospital				
Not born in hospital		*Insufficient data to report*		
<1 day	49	2165	1.5	0.9 - 2.0
1 to 2 days	1244	67010	46.0	43.6 - 48.5
3 to 5 days	1372	64794	44.5	42.0 - 46.9
6+ days	222	10975	7.5	6.2 - 8.9

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Table 27. From survey questions 47-48, Infant alive now and infant living with mother, 2007/2008 MA PRAMS

Question		Sample n	Weighted n	Weighted %	95% CL
Infant alive now					
	No	22	847	0.6	0.3 - 0.9
	Yes	2846	143273	99.4	99.1 - 99.7
Infant living with mother now					
	No	12	890	0.6	0.2 - 1.1
	Yes	2809	141326	99.4	98.9 - 99.8

Table 28. From survey questions 49-52, Prevalence of ever breastfeeding, any breastfeeding at 4- and 8-weeks post-partum, and exclusivity at 4-week and 8-week post-partum, 2007/2008 MA PRAMS

Question		Sample n	Weighted n	Weighted %	95% CL
Breastfeeding (Ever)					
	No	381	26287	18.4	16.3 - 20.5
	Yes	2460	116415	81.6	79.5 - 83.7
Duration of breastfeeding (to at least 4 weeks)					
	No	682	41622	29.4	27.0 - 31.8
	Yes	2123	99850	70.6	68.2 - 73.0
Duration of breastfeeding (to at least 8 weeks)					
	No	902	53421	37.8	35.3 - 40.2
	Yes	1903	88051	62.2	59.8 - 64.7
Exclusive breastfeeding (to at least 4 weeks)					
	No	1118	51431	44.9	42.2 - 47.6
	Yes	1275	63087	55.1	52.4 - 57.8
Exclusive breastfeeding (to at least 8 weeks)					
	No	1324	60570	52.9	50.2 - 55.6
	Yes	1069	53947	47.1	44.4 - 49.8

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Table 29. From survey question 53, Hours per day infant in the same room with someone who is smoking, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Baby smoke exposure				
0 hours per day	2736	138797	98.1	97.3 - 98.8
1 hours per day	41	2090	1.5	0.8 - 2.1
2+ hours per day	15	668	0.5	0.1 - 0.8

Table 30. From survey question 54, Prevalence of infant sleep position, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Sleep position				
Side	451	18291	12.9	11.3 - 14.4
Back	1954	106966	75.2	73.2 - 77.2
Stomach	275	12010	8.4	7.1 - 9.8
Side & back	87	3367	2.4	1.8 - 3.2
Side & stomach		*Insufficient data to report*		
Back & stomach		*Insufficient data to report*		
All 3 positions	31	880	0.6	0.4 - 0.9

Table 31. From survey questions 55-56, Proportion of infants seen by a health care provider (HCP) within a week after leaving hospital and proportion who received a well-baby checkup, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Baby seen by HCP within week after leaving hospital				
No	151	7076	5.0	3.9 - 6.0
Yes	2667	134923	95.0	94.0 - 96.1
Baby has had well-baby visit				
No	36	1470	1.0	0.6 - 1.5
Yes	2791	140901	99.0	98.5 - 99.4

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Table 32. From survey question 57, Prevalence of infant health insurance types, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Baby insurance				
Medicaid	1373	55248	38.2	35.9 - 40.4
Private insurance	1475	88359	61.2	58.9 - 63.4
Other	163	6842	4.7	3.7 - 5.7
No insurance	0	0	0.0	0.0 - 0.0

Table 33. From survey questions 58-59, Prevalence of contraception use post-partum and reasons for not using a contraception method, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Current birth control use				
No	555	27025	18.6	16.7 - 20.5
Yes	2329	118086	81.4	79.5 - 83.3
If no current birth control, why not				
Can't pay for BC	15	746	2.7	0.8 - 4.5
Pregnant now	15	805	2.9	1.0 - 4.8
Don't think can get pregnant	32	994	3.5	1.9 - 5.1
Partner doesn't want to use BC	55	2476	8.8	5.6 - 12.0
Want to get pregnant	70	3813	13.5	9.8 - 17.3
Other	123	6748	23.9	19.2 - 28.7
Don't want to use BC	129	7432	26.5	21.5 - 31.6
Not having sex	245	9894	35.0	30.0 - 40.1

Table 34. From survey question 60, Prevalence of maternal post-partum checkup, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Mother had post-partum check-up				
No	207	9521	6.6	5.4 - 7.7
Yes	2683	135732	93.5	92.3 - 94.6

APPENDIX A. Supplemental Data Tables

Table 35. From survey question 61, Sources of household income, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Sources of income, 12 months before baby was born				
Paycheck	2428	128761	88.1	86.7 - 89.5
Public assistance	583	23273	15.9	14.3 - 17.6
Family/friends	385	17316	11.8	10.3 - 13.4
Business, other income	146	8926	6.1	4.9 - 7.3
Child support/alimony	100	5056	3.5	2.5 - 4.4
Social Security, etc.	92	4266	2.9	2.1 - 3.7
Unemployment	113	5212	3.6	2.7 - 4.5
Other	95	4386	3.0	2.2 - 3.8

Table 36. From survey question 62, Total household income, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Total household income in 12 months before baby was born				
Less than $10,000	524	18962	13.8	12.3 - 15.4
$10,000 TO $14,999	234	9443	6.9	5.7 - 8.1
$15,000 TO $19,999	142	5438	4.0	3.1 - 4.9
$20,000 TO $24,999	181	7284	5.3	4.2 - 6.4
$25,000 TO $34,999	260	12638	9.2	7.7 - 10.7
$35,000 TO $49,999	223	10516	7.7	6.3 - 9.1
$50,000 or more	1118	72688	53.1	50.6 - 55.5

Table 37. From survey question 64, Prevalence of knowledge of emergency contraception (the “morning-after pill”), 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Knew about the "morning-after pill"				
No	688	21577	14.8	13.4 - 16.3
Yes	2206	123784	85.2	83.7 - 86.6

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Table 38. From survey questions 65-67, Frequency of physical activity prior to and during pregnancy; servings of fruits/vegetables per day in the last trimester of pregnancy, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Exercise, days/week, 3 mo. prior to pregnancy				
<1 days/wk	1137	49397	34.2	31.9 - 36.5
1 to 4 days/wk	1314	72347	50.1	47.6 - 52.6
5+ days/wk	407	22677	15.7	13.9 - 17.5
Exercise, last 3 mo. pregnancy				
<1 days/wk	1425	72635	50.6	48.1 - 53.1
1 to 4 days/wk	1028	53414	37.2	34.8 - 39.6
5+ days/wk	214	9126	6.4	5.2 - 7.5
Told not to exercise	166	8390	5.8	4.7 - 7.0
Fruits and vegetables servings/day, last 3 mo. pregnancy				
< 1 servings/day	217	9132	6.3	5.2 - 7.5
1 to 2 servings/day	1232	59603	41.2	38.8 - 43.6
3 to 4 servings/day	1082	57015	39.4	37.0 - 41.8
5+ servings/day	343	18932	13.1	11.4 - 14.8

Table 39. From survey question 68, Timing of discussion of the signs of preterm labor with health care providers, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Did health care provider discuss signs/symptoms of preterm labor?				
No	757	33101	23.0	21.0 - 25.0
Yes, before preterm labor	1981	104014	72.2	70.0 - 74.3
Yes, because of preterm labor	123	7044	4.9	3.8 - 6.0

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Table 40. From survey questions 69-71, Prevalence of prior cesarean delivery, mode of delivery for current birth, and source of cesarean request, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Previous cesarean (among multiparas)				
No	1104	125636	85.7	84.0 - 87.3
Yes	457	21022	14.3	12.7 - 16.0
Mode of delivery (current birth)				
Vaginal	1921	97088	66.8	64.5 - 69.1
Cesarean with labor	498	23824	16.4	14.7 - 18.3
Cesarean with no labor	464	24342	16.8	15.0 - 18.7
Who requested cesarean (All)				
Health care provider before labor	395	20431	43.8	39.6 - 48.2
Health care provider during labor	391	19256	41.3	37.1 - 45.6
Mother before labor	118	5984	12.8	10.2 - 16.0
Mother during labor	25	950	2.0	1.2 - 3.6

Table 41. From survey question 72, Infant sleep location and bed sharing, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Where does baby sleep?				
Sofa/couch		*Insufficient data to report*		
Adult bed alone		*Insufficient data to report*		
Elsewhere	31	1564	1.1	0.6 - 1.6
Carseat	35	2843	2.0	1.3 - 2.8
Adult bed with another person	535	21108	15.1	13.4 - 16.8
Crib/bassinet	2161	113667	81.3	79.4 - 83.1

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Table 42. From survey question 73, Prevalence of infant safety practices, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Safety practices				
Infant brought home in carseat				
No	15	474	0.3	0.1 - 0.6
Yes	2814	141537	99.7	99.4 - 99.9
Always/almost always rides in carseat				
No	25	769	0.5	0.2 - 0.9
Yes	2802	141420	99.5	99.1 - 99.8
Home has working smoke alarm				
No	70	2842	2.0	1.3 - 2.7
Yes	2746	139100	98.0	97.3 - 98.7
Loaded firearms in house				
No	2751	138396	97.4	96.6 - 98.2
Yes	66	3690	2.6	1.8 - 3.4

Table 43. From survey questions 74-75, Prevalence of maternal post-partum depressive symptoms and help-seeking for post-partum depression, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Post partum depressive symptoms				
Rarely/Never	1860	98786	68.0	63.5 - 72.7
Sometimes	767	35305	24.3	22.3 - 26.4
Often/Always	257	11232	7.7	6.5 - 9.0
Post partum loss of interest				
Rarely/never	1954	102705	71.0	66.3 - 75.8
Sometimes	652	28313	19.6	17.7 - 21.5
Often/Always	364	13653	9.4	8.1 - 10.8
Mother sought help for depression (population)				
Mother did not seek help	2613	130427	89.7	88.2 - 91.2
Mother sought help	277	15004	10.3	8.8 - 11.8
Mother sought help for depression (only among those reporting “often” or “always” feeling depressed or “often” or “always” experiencing loss of interest/pleasure in doing things)				
Mother did not seek help	372	13137	69.0	62.7 - 74.6
Mother sought help	123	5914	31.0	25.4 - 37.3

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Table 44. From survey question 76, Prevalence of maternal health insurance types post-partum, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Mother insurance (current)				
Medicaid	1229	50569	34.7	32.5 - 36.9
Private insurance/HMO	1534	91070	62.4	60.2 - 64.6
Other	172	7819	5.4	4.3 - 6.5
No Insurance		*Insufficient data to report*		

Table 45. From survey questions 77-78, Prevalence of maternal disability status and length of disability, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Maternal disability				
No	2732	137691	95.1	94.0 - 96.2
Yes	138	7134	4.9	3.8 - 6.0
Days disabled				
Non-disabled	2732	137691	96.0	95.0 - 97.0
1 to 29 days	15	406	0.3	0.1 - 0.5
30+ days	90	5307	3.7	2.7 - 4.7

Tables 46. From survey questions 79-80, Prevalence of maternal teeth cleaning, prior to, during, and after pregnancy, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
Dental Care				
Had teeth cleaned since baby was born	811	46012	30.9	28.7 - 33.2
Had teeth cleaned during pregnancy	1052	62061	41.7	39.3 - 44.1
Had teeth cleaned in year before becoming pregnant	1724	95164	63.9	61.7 - 66.2
Ever had teeth cleaned	2536	134928	90.7	89.6 - 91.7

Tables 47. From survey questions 79-80, Prevalence of maternal teeth cleaning, never, ever but not recently, or recently, 2007/2008 MA PRAMS

Question	Sample n	Weighted n	Weighted %	95% CL
How recently were the teeth cleaned?				
Never had teeth cleaned	453	13911	9.4	8.3 - 10.4
Had teeth cleaned, more than 2 years ago	421	22205	14.9	13.2 - 16.7
Had teeth cleaned within 2 years	2115	112723	75.7	73.8 - 77.7

APPENDIX A. Supplemental Data Tables

Technical notes

Confidence limits and statistical significance:
For the 2007/2008 PRAMS report, we calculated 95% confidence limits around population estimates, using the point estimates and their standard errors. When comparing prevalences across different socio-demographic subgroups, estimates with non-, or minimally-overlapping confidence limits were considered statistically significant. Differences in estimates between subgroups were presented as such when they were statistically significant, but in some cases were noted when the differences were not statistically significant but worth noting due to the potential public health impact.

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

Calculation of household Federal Poverty Level (FPL):
Because we wished to examine differences in health by household income level, each respondent's household Federal Poverty Level (FPL) was approximated using self-reported income (as a range) and the number of dependent household members, comparing these to the 2007 Department of Health and Human Services Federal Poverty guidelines (DHHS, 2007). 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, 2007/2008

APPENDIX B. Massachusetts PRAMS Survey

First, we would like to ask a few questions about you and the time before you got pregnant with your new baby. Please check the box next to your answer.

1. *Just before* you got pregnant, did you have health insurance? Do not count Medicaid (MassHealth).

- ❑ No
- ❑ Yes

2. *Just before* you got pregnant, were you on Medicaid (MassHealth)?

- ❑ No
- ❑ Yes

3. During the *month before* you got pregnant with your new baby, how many times a week did you take a multivitamin or a prenatal vitamin? These are pills that contain many different vitamins and minerals.

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

4. What is *your* date of birth?

____ Month ____ Day 19____ Year

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

____ Pounds **OR** ____ Kilos

6. How tall are you without shoes?

____ Feet ____ Inches

OR ____ Centimeters

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, did you ever have any other babies who were born alive?

- ❑ No → **Go to Page 2, Question 11**
- ❑ Yes

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

- ❑ No
- ❑ Yes

10. Was the baby *just before* your new one born *more* than 3 weeks before its due date?

- ❑ No
- ❑ Yes

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

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

Check one answer

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

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

- ❑ No
- ❑ Yes → **Go to Question 15**

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

- ❑ No
- ❑ Yes → **Go to Question 17**

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

Check all that apply

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

_____

If you were not trying to get pregnant when you got pregnant with your new baby, go to Question 17.

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

- ❑ No → **Go to Question 17**
- ❑ Yes

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16. Did you use any of the following 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:

_____

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.)

17. 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

18. 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

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

- ❑ No
- ❑ Yes
- ❑ I didn't want prenatal care → **Go to Question 21**

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

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

If you did not go for prenatal care, go to Question 23.

21. How was your prenatal care paid for?

Check all that apply

- ❑ Medicaid (MassHealth)
- ❑ Personal income (cash, check, or credit card)
- ❑ Health insurance or HMO (including insurance from your work or your husband's/partner's work)
- ❑ Free Care
- ❑ Other → Please tell us:

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

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

23. 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 27**
- ❑ I don't know

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

- ❑ No → **Go to Question 27**
- ❑ Yes

25. Did you turn down the HIV test?

- ❑ No → **Go to Question 27**
- ❑ Yes

26. 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:

_____

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

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

- ❑ No
- ❑ Yes

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

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

If you did not have any of these problems, go to Question 30.

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

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

The next questions are about smoking cigarettes and drinking alcohol.

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

- ❑ No → **Go to Question 34**
- ❑ Yes

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

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

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

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

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

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

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

- ❑ No → **Go to Page 8, Question 37**
- ❑ Yes

35a. 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

35b. During the *3 months before* you got pregnant, how many times did you drink 5 alcoholic drinks or more in one sitting?

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

36a. 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

36b. During the *last 3 months* of your pregnancy, how many times did you drink 5 alcoholic drinks or more in one sitting?

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

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

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

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

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

38a. During the *12 months before* you got pregnant, did an ex-husband or ex-partner push, hit, slap, kick, choke, or physically hurt you in any other way?

- ❑ No
- ❑ Yes

38b. During the *12 months before* you got pregnant, were you physically hurt in any way by your husband or partner?

- ❑ No
- ❑ Yes

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

39a. During your most recent pregnancy, did an ex-husband or ex-partner push, hit, slap, kick, choke, or physically hurt you in any other way?

- ❑ No
- ❑ Yes

39b. During your most recent pregnancy, were you physically hurt in any way by your husband or partner?

- ❑ No
- ❑ Yes

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

40. When was your baby due?

Month ____ Day ____ Year ____

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

Month ____ Day ____ Year ____

❑ I didn't have my baby in a hospital

42. When was your baby born?

Month ____ Day ____ Year ____

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

Month ____ Day ____ Year ____

❑ I didn't have my baby in a hospital

44. How was your delivery paid for?

Check all that apply

- ❑ Medicaid (MassHealth)
- ❑ Personal income (cash, check, or credit card)
- ❑ Health insurance or HMO (including insurance from your work or your husband's/partner's work)
- ❑ Free Care
- ❑ Other → Please tell us:

_____

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

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

- ❑ No
- ❑ Yes
- ❑ I don't know

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

- ❑ Less than 24 hours (less than 1 day)
- ❑ 24 to 48 hours (1 to 2 days)
- ❑ 3 days
- ❑ 4 days
- ❑ 5 days
- ❑ 6 days or more
- ❑ My baby was not born in a hospital
- ❑ My baby is still in the hospital → **Go to Page 10, Question 49**

APPENDIX B. Massachusetts PRAMS Survey

47. Is your baby alive now?

- ❑ No → **Go to Question 58**
- ❑ Yes

48. Is your baby living with you now?

- ❑ No → **Go to Question 58**
- ❑ Yes

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

- ❑ No → **Go to Question 53**
- ❑ Yes

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

- ❑ No
- ❑ Yes → **Go to Question 52**

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

_____ Weeks **OR** _____ Months

- ❑ Less than 1 week

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

_____ Weeks **OR** _____ Months

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

If your baby is still in the hospital, go to Question 57.

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

_____ Hours

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

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

Check one answer

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

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

- ❑ No
- ❑ Yes

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

- ❑ No
- ❑ Yes

APPENDIX B. Massachusetts PRAMS Survey

57. What type of health insurance is your new baby covered by right now?

Check all that apply

- ❑ Medicaid (MassHealth)
- ❑ Private insurance or HMO (including insurance from your work or your husband's/partner's work)
- ❑ Other → Please tell us:

_____

- ❑ My new baby does not have health insurance

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

- ❑ No
- ❑ Yes → **Go to Question 60**

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

Check all that apply

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

_____

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

- ❑ No
- ❑ Yes

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

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

Check all that apply

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

_____

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

Check one answer

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

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

_____ People

The next few questions are on a variety of topics.

64. *Before* you got pregnant with your new baby, had you ever heard or read about emergency birth control (the "morning-after pill")? This combination of pills is used to prevent pregnancy up to 3 days after unprotected sex.

- ❑ No
- ❑ Yes

65. During the *3 months before* you got pregnant with your new baby, 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.) Do not count exercise you may have done as part of your regular job.

- ❑ Less than 1 day per week
- ❑ 1 to 4 days per week
- ❑ 5 or more days per week

66. 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? Do not count exercise you may have done as part of your regular job.

- ❑ Less than 1 day per week
- ❑ 1 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

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

Check one answer

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

APPENDIX B. Massachusetts PRAMS Survey

68. During your most recent pregnancy, did a doctor, nurse, or other health care worker talk with you about the signs and symptoms of preterm labor? (Preterm labor is defined as early labor more than 3 weeks before the baby is due.)

- ❑ No
- ❑ Yes, before I went into labor
- ❑ Yes, because I was in preterm labor

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

- ❑ No
- ❑ Yes

70. How was your *new* baby delivered?

- ❑ Vaginally → **Go to Question 72**
- ❑ I went into labor but had to have a cesarean delivery
- ❑ I didn't go into labor and had to have a cesarean delivery

71. Whose idea was it for you to have a cesarean delivery? Please select the choice that best describes whose idea it was.

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
- ❑ Mine, I wanted the cesarean delivery before I went into labor
- ❑ Mine, I asked for the cesarean delivery while I was in labor

If your baby is not alive or is not currently living with you, go to Page 14, Question 74a.

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

Check one answer

- ❑ In a crib, cradle, or bassinet
- ❑ On an adult bed or mattress with you 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:

_____

73. 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 infant 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

APPENDIX B. Massachusetts PRAMS Survey

74a. *Since your new baby was born*, how often have you felt down, depressed, or hopeless?

- ❑ Always
- ❑ Often
- ❑ Sometimes
- ❑ Rarely
- ❑ Never

74b. *Since your new baby was born*, how often have you had little interest or little pleasure in doing things?

- ❑ Always
- ❑ Often
- ❑ Sometimes
- ❑ Rarely
- ❑ Never

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

- ❑ No
- ❑ Yes

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

Check all that apply

- ❑ Medicaid (MassHealth)
- ❑ Private insurance or HMO (including insurance from your work or your husband's/partner's work)
- ❑ Other → Please tell us:

_____

- ❑ I do not have health insurance

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

- ❑ No → **Go to Question 79**
- ❑ Yes

78. 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

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

- ❑ No → **Go to Question 81**
- ❑ Yes

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

		No	Yes
a.	Within a year before I became pregnant	N	Y
b.	During my most recent pregnancy	N	Y
c.	After my most recent pregnancy	N	Y

81. What is today's date?

_____ Month _____ Day _____ Year

APPENDIX B. Massachusetts PRAMS Survey

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!

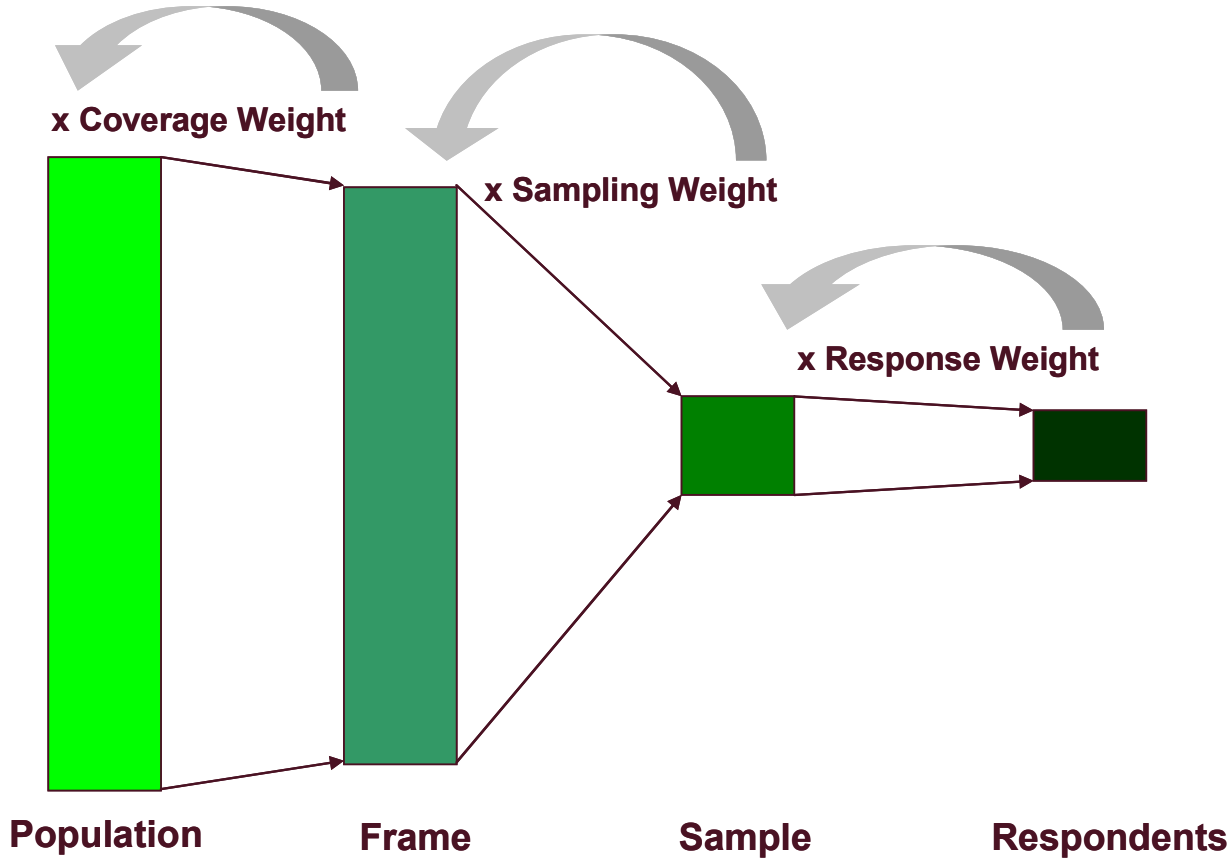
Your answers will help us work to make Massachusetts mothers and babies healthier.

November 9, 2006

Appendix C.
Massachusetts PRAMS 2007/2008
Weighting Rubric

APPENDIX C. PRAMS weighting system

Figure 60. 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 2007/2008
Adequacy of Prenatal Care
Utilization Index

APPENDIX D: Adequacy of Prenatal Care Utilization Index

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

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

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

Category	Month Prenatal Care Began	% of Expected[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 2007/2008
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
Brianne Beagan	Massachusetts Department of Public Health
Candice Belanoff	Boston University School of Public Health
Lynn Bethel	Massachusetts Department of Public Health
Meg Blanchet	Massachusetts Department of Public Health
Sandra Broughton	Massachusetts Department of Public Health
Paula Callahan	Massachusetts Department of Children and Families
Jill Clark	Massachusetts Department of Public Health
Jennifer Cochran	Massachusetts Department of Public Health
Rachel Colchamiro	Massachusetts Department of Public Health
Eugene Declercq	Boston University School of Public Health
Ed Doherty	March of Dimes Massachusetts Chapter
Karin Downs	Massachusetts Department of Public Health
Milton Kotelchuck	Boston University School of Public Health
Samuel Louis	Massachusetts Department of Public Health
Vera Mouradian	Massachusetts Department of Public Health
Beth Nagy	Massachusetts Department of Public Health
Bill O'Connell	Massachusetts Department of Public Health
Holly Hackman	Massachusetts Department of Public Health
Barbara Namias	North American Indian Center of Boston
G. Mike Portuphy	Massachusetts Department of Public Health
Jane Purtill	Massachusetts Department of Public Health
Snehal Shah	Boston Public Health Commission
Physllis Sims	Boston Public Health Commission
Lauren Smith	Massachusetts Department of Public Health
Vincent Smith	Beth Israel Deaconess Medical Center