

West Virginia PRAMS 2016 Annual Report

Pregnancy Risk Assessment Monitoring System

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Introduction

Purpose of the Pregnancy Risk Assessment Monitoring System (PRAMS)

West Virginia PRAMS is a joint research project between the West Virginia Department of Health and Human Resources Office of Maternal, Child and Family Health and the Centers for Disease Control and Prevention (CDC). The project is an on-going, population-based surveillance system designed to identify maternal attitudes and experiences before, during and after pregnancy.

PRAMS was developed in 1987 by the CDC because infant mortality rates were not declining as rapidly as they had in previous years, and the number of low birthweight babies had changed little in the previous 20 years. Research indicates that maternal behaviors during pregnancy influence infant birthweight and death rates. The goal of PRAMS is to identify maternal risk behaviors that may affect both maternal and infant health.

Each month, approximately 200 mothers are randomly selected from the West Virginia Birth Certificate Registry and asked to participate in the PRAMS survey. All West Virginia mothers who have had a live birth have about a one in fourteen chance of being chosen two to four months after their baby's birth. Selected mothers are contacted first by mail and asked to complete a questionnaire; then, after several attempts by mail, the non-respondents are called and asked if they would like to participate by phone. After completion of the survey, each participant receives a special gift.

PRAMS provides data not available from other sources about pregnancy and the first few months after birth. This information can be used to identify groups of mothers and babies at high risk for health problems, to monitor changes in health status and to measure progress toward goals in improving the health status of mothers and infants. PRAMS information is also used by state and local governments to plan and review programs and policies intended to decrease poor health outcomes among mothers and babies.

Technical Notes

This Surveillance Report covers a variety of perinatal and infant health topics. West Virginia data were collected by the PRAMS questionnaire and West Virginia Vital Statistics in 2016. A new phase of the survey, Phase 8, was implemented in 2016 where new content was added and some questions were removed. Selection of the questions was determined by input from the West Virginia PRAMS Steering Committee, including the PRAMS Director and Coordinator. Topics are broken down into several categories: family planning, prenatal care, pregnancy risk factors, infant health and care, maternal health and care and state-interest perinatal topics and services. Statewide yearly trend data are reported in graphs and charts throughout the report along with additional descriptive narrative.

It is important to remember that PRAMS data collected from the questionnaire are self-reported by participants. After data collection ends each year, survey data are linked with appropriate birth certificate data. The combined birth certificate/survey database is then weighted by the CDC to adjust for sample design, non-response and omissions in the sampling frame.¹ This weighted dataset is an estimation, reflective of West Virginia's PRAMS eligible population (i.e., residents who delivered a live infant during the survey year of interest). The data methods used by West Virginia PRAMS are standardized CDC protocols used by all participating PRAMS states.

Each participating states' survey is unique, as states have the ability to add or eliminate topics based on interest when developing their surveys. Previously each state had to reach a minimum 60% survey completion rate before data was considered substantial, currently that threshold decreased to 55% for valid data reporting purposes. PRAMS states not achieving the threshold minimum for a particular year are *not* included in the collective data. As of 2016, 47 US states and New York City, Puerto Rico, the District of Columbia and the Great Plains Tribal Chairmen's Health Board (GPTCHB) were participating in PRAMS. For more details concerning state participation and PRAMS data availability, visit <http://www.cdc.gov/prams/index.htm>.

A copy of the West Virginia PRAMS questionnaire is located in Appendix A for reference purposes.

¹ CDC PRAMS Methodology: <http://www.cdc.gov/PRAMS/methodology.htm>

West Virginia PRAMS Highlights

Family Planning

- 19.3% of mothers responded that their pregnancy was unintended.
- 59.5% of mothers reported not using contraception at the time of conception.

Prenatal Care

- 87.4% of mothers initiated prenatal care in the 1st trimester of pregnancy.
- 95.3% of mothers were asked during their prenatal care visits if they were smoking.
- 88.7% were asked if they planned to use birth control after their new baby was born.
- Mothers responded that the most common conversation they had with their prenatal care was – *“doing tests to screen for birth defects or diseases that run in my family”*

Risk Factors

- 22.8% of all mothers smoked during the last 3 months of pregnancy.
- 19.4% were not advised to quit smoking during any of their prenatal care visits.
- Among mothers who responded they had used e-cigarettes in the past two years, 32.4% said they used them during the last 3 months of their pregnancy.
- 44.3% of mothers had any alcohol use during the 3 months prior to pregnancy.

Infant Health and Care

- 86.1% of infants were placed to sleep on their backs.
- 66.7% of mothers reported their infants *always* slept alone in their own crib or bed.
- 75% of mothers initiated breastfeeding.
- 91.2% of mothers reported smoking isn't allowed anywhere inside their home.

Maternal Health and Care

- 83.8% of mothers used contraception postpartum, birth control pills was the most common method used.
- 87.5% of mothers went in for their postpartum checkup.
- 31.1% of mothers had their teeth cleaned during their pregnancy.
- 92.1% of mothers did not have gestational diabetes during their pregnancy.

PRAMS Maternal Demographics

Characteristic	PRAMS Eligible Population*		PRAMS Survey Participants	
	Population Size*	Percent	Respondents [†]	Estimated Percent [‡]
Total	16,651	--	800	--
Age (years)				
<20	1,443	8.7	72	10.3
20-24	4,988	30.0	231	27.8
25-34	8,576	51.5	413	53.2
35+	1,644	9.9	84	8.7
	16,651		800	
Race				
White	15,207	91.8	733	91.9
Black	521	3.1	27	3.0
Hispanic	324	2.0	14	1.8
American Indian	16	0.1	1	0.2
Asian/Pac. Islander	153	0.9	7	1.1
Other/Mixed	347	2.1	14	2.0
	16,568		796	
Annual Household Income				
<\$16,000	--	--	252	33.1
\$16,001-\$40,000	--	--	214	29.4
\$40,001-\$85,000	--	--	145	22.9
≥\$85,001	--	--	94	14.6
			705	
Education (yrs.)				
<12	2,453	14.8	125	13.8
12	5,295	32.0	256	32.0
>12	8,784	53.1	413	54.2
	16,532		794	

Characteristic	PRAMS Eligible Population*		PRAMS Survey Participants	
	Population Size*	Percent	Respondents†	Estimated Percent‡
Marital Status				
Married	8,888	53.7	420	53.5
Unmarried	7,678	46.3	374	46.5
	16,566		794	
Birthweight§				
LBW (<2,500 g)	1,475	8.9	345	8.8
NBW (≥2,500 g)	15,170	91.1	455	91.2
	16,645		800	
Parity				
1 st Birth	6,516	39.2	314	39.1
2 nd or later	10,105	60.8	484	60.9
	16,621		798	
Delivery payment method				
Medicaid	--	--	466	57.5
Other	--	--	302	42.5
			768	

*PRAMS Eligible Population = all West Virginia mothers who gave birth to a live-born infant in a referenced year (2016). These data are taken from West Virginia Vital Statistics Birth Certificate information.

†Respondents = the actual number of mothers who fall into the referenced demographical group who participated in the survey.

‡Estimated Percent = the number of mothers who would fall into a demographical group if the survey were given to all PRAMS eligible mothers. These values are determined by weighting PRAMS respondents' data.

§Low Birthweight is considered a baby born weighing less than 5 pounds 8 ounces or less than 2,500 grams. Normal Birthweight is a baby born weighing 5 pounds 8 ounces or more or 2,500 grams or more. LBW = Low Birthweight; NBW = Normal Birthweight.

Family Planning



Pregnancy Intention

An unintended pregnancy is a pregnancy that is mistimed, unplanned or unwanted at the time of conception. Unintended pregnancies are associated with an increased risk of problems for the mother and baby. If a pregnancy is not planned before conception, a woman may not be in optimal health for childbearing. For example, a woman with an unintended pregnancy may delay prenatal care that may potentially lead to an adverse pregnancy outcome.

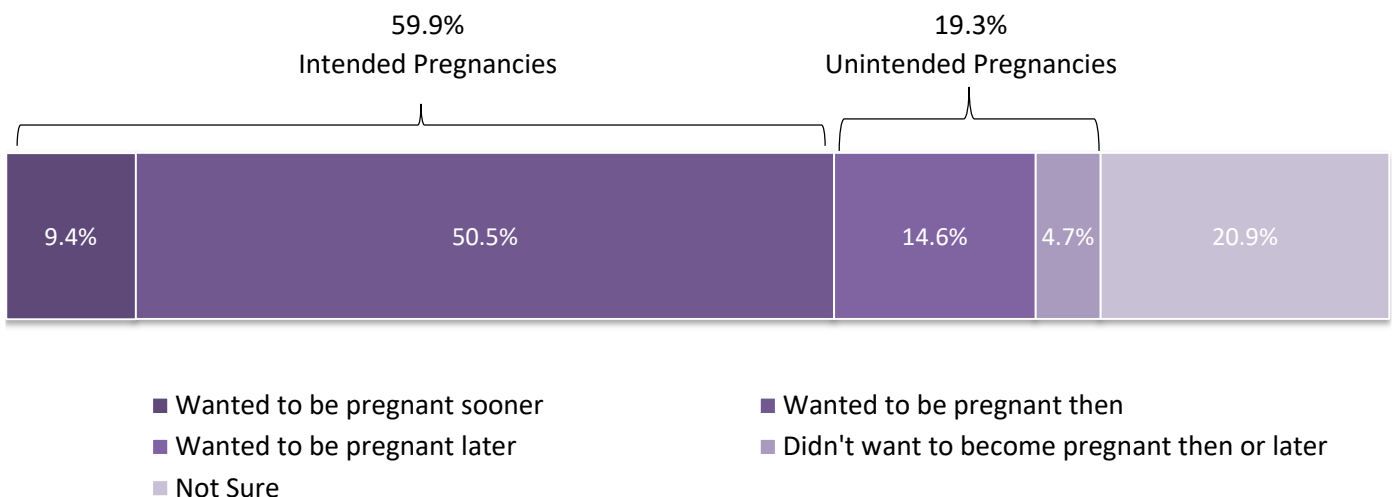
PRAMS asks mothers how they felt about becoming pregnant with their most recent baby. Those mothers who reported they wanted to be pregnant “later” or “didn’t want to be pregnant at any time in the future” were grouped as having an unintended pregnancy. Mothers who responded with “weren’t sure what they wanted” were classified as unsure. ±

At the time of the survey, West Virginia’s prevalence of unintended pregnancy was 19.3% in 2016 (**Figure 1**). The highest rates of unintended pregnancy were prevalent in mothers 17 years and younger, a high school graduate and those who make \$20,000 or less (**Figure 2**).

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

Figure 1.

Intendedness of Pregnancy



± The response “wasn’t sure what I wanted” previously was classified as unintended. Data for 2016 is not comparable to previous years.

Figure 2.

Demographics of Mothers' Pregnancy Intention



Preconception Contraception Use

The best way to decrease the risk of unintended pregnancy among women who are sexually active is to use effective birth control correctly and consistently.

PRAMS wanted to find out if mothers who said they were not trying to get pregnant were using some form of birth control at the time of their conception.

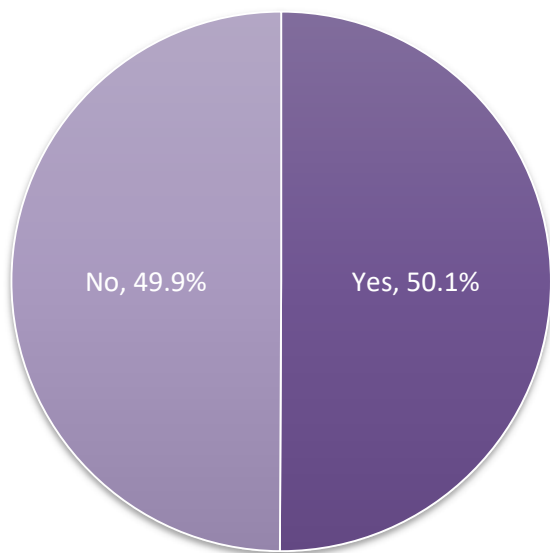
In 2016, 50.1% of mothers stated they were trying to become pregnant at the time they became pregnant in West Virginia. Among the mothers who reported they were not trying to get pregnant during their current pregnancy, only 40.5% were using contraception prior to pregnancy (**Figure 3**). The highest rates of mothers reporting no contraception use prior to pregnancy were among mothers 17 years of or younger of age, some college education and slightly higher among mothers with and income \$20,000 or less compared to \$60,001 or more (**Figure 4**).

Question 16: When you got pregnant with your new baby, were you trying to get pregnant?

Question 17: When you got pregnant with your new baby, were you or your husband or partner doing anything to keep from getting pregnant?

Figure 3.

Distribution of Mothers Trying to Become Pregnant



Preconception Contraception Use Among Mothers Who Reported They Were Not Trying to Become Pregnant Before Conception

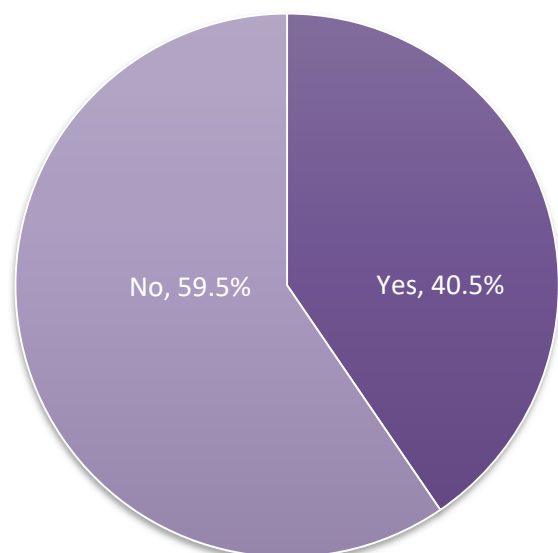


Figure 4.

Demographics of Mothers' Contraception Use Prior to Pregnancy



Postpartum Contraceptive Use

Postpartum contraception use is important in preventing unintended pregnancies and short birth intervals, as these pregnancies are associated with adverse health outcomes for both mother and baby. Those risks include increased chance of low birthweight and/or preterm birth.

PRAMS asked mothers if they were using any form of contraception after their most recent pregnancy. Those mothers indicating they were not using any form of contraception were then asked to indicate the reason(s) for not using it. Those mothers indicating they were using contraception after their most recent pregnancy were then further asked about the type(s) used.

West Virginia's prevalence of postpartum contraception use was 83.8% in 2016 (**Figure 5**). Mothers stated the most common reason for not using postpartum contraception in 2016 was "I don't want to use birth control" (**Figure 6**). Among mothers who did use postpartum contraception, the most common methods were birth control pills and condoms (**Figure 7**).

Question 61: Are you or your husband doing anything now to keep from getting pregnant?

Question 62: What are your reasons or your husband's or partner's reasons for not doing anything to keep from getting pregnant now?

Question 63: What kind of birth control are you or your husband or partner using now to keep from getting pregnant?

Figure 5.

Postpartum Contraception Use Among Mothers

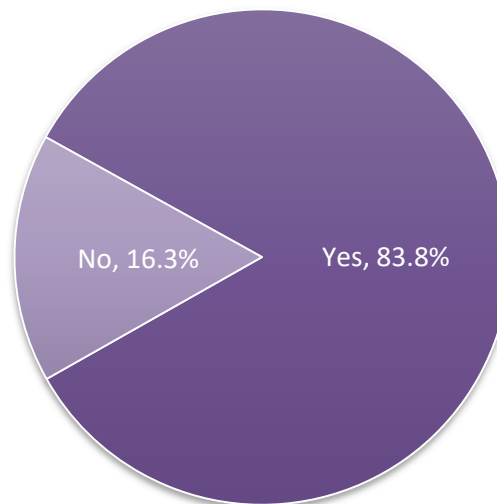


Figure 6.

Reasons for Not Using Birth Control Postpartum

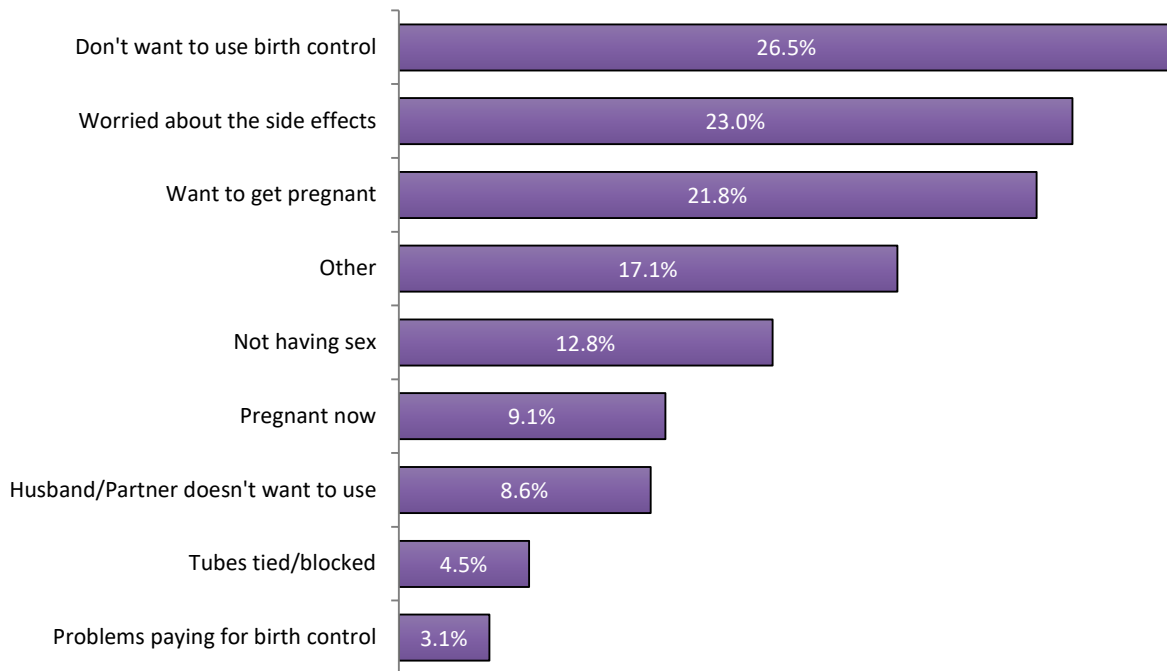
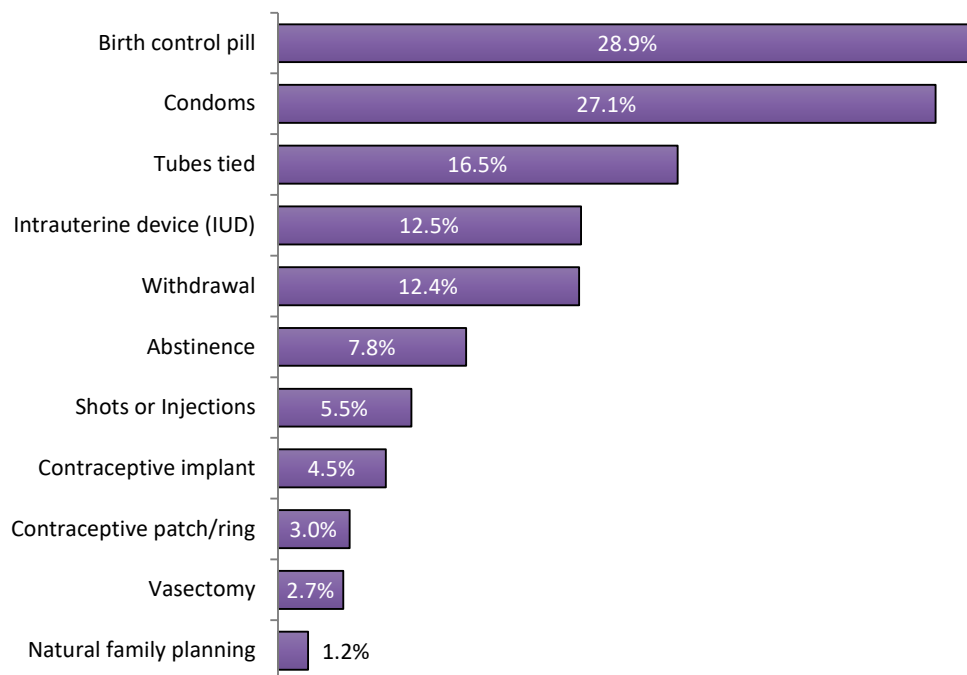


Figure 7.

Methods of Postpartum Contraception



Prenatal Care



Prenatal Care Initiation

Prenatal care (PNC) visits are vital for the health of both mother and baby. It is important for pregnant women to begin prenatal care in the 1st trimester of pregnancy (within the first 12 weeks). Early initiation of prenatal care allows health care providers to identify and manage a woman's risk factors and health conditions.

PRAMS asked mothers what month in their pregnancy they began their prenatal care. The information is used to determine the prevalence of mothers starting prenatal care in the 1st trimester.

In West Virginia, 87.4% of mothers reported initiating prenatal care during the 1st trimester of their pregnancy in 2016 (**Figure 8**). Mothers 17 years or younger, those who had some high school and mothers with a household income of \$20,000 or less were *more likely* to not have initiated prenatal care in the 1st trimester (**Figure 9**).

Question 18: How many weeks or months pregnant were you when you had your first visit for prenatal care?

Figure 8.

Mothers Who Initiated Prenatal Care During 1st Trimester

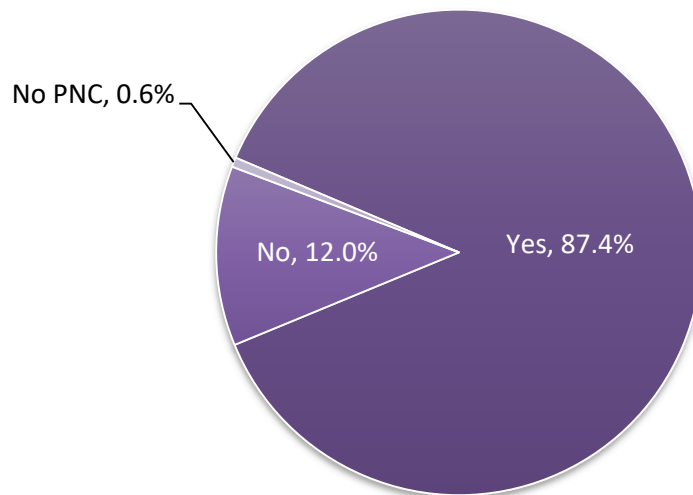


Figure 9.

Demographics of Prenatal Care Initiation During the 1st Trimester



Prenatal Care Content

In addition to identifying maternal risks and behaviors, prenatal care visits are an optimal time to educate mothers on important health issues, such as their diet and nutrition, exercise, immunizations, weight gain, and abstaining from drugs and alcohol. Health care providers can use health and behavior information gathered at early prenatal care assessments to make referrals and recommendations for additional care and services, if they are needed.

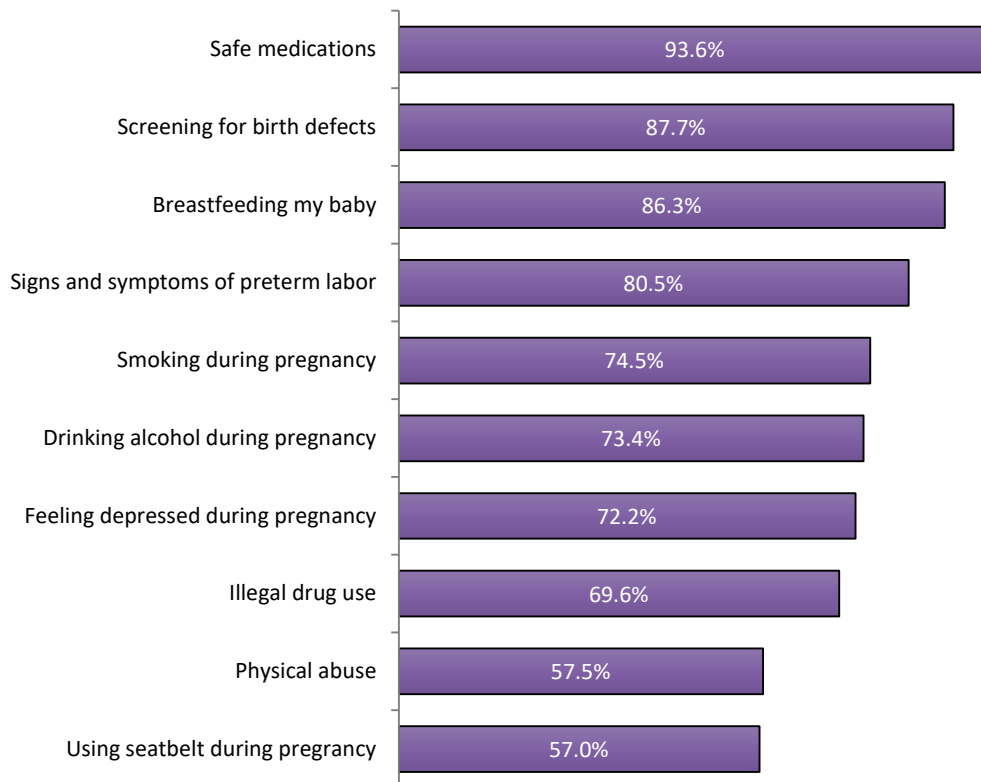
PRAMS asked mothers about various topics discussed, questions asked and services used during their prenatal visits. Mothers were able to select one or multiple options for these questions. These questions allow a better understanding of the content and quality of prenatal care visits mothers are receiving in West Virginia.

In 2016, more than 80% of mothers reported hearing information about: medicines that were safe to take while pregnant, tests they could get to screen for birth defects, information about breastfeeding their new baby and signs and symptoms of preterm labor (**Figure 10**). However, less than 60% of mothers reported getting information about domestic abuse and wearing a seatbelt during pregnancy (**Figure 10**).

Question 19: During any of your prenatal care visits, did a doctor, nurse, or other health care worker talk to you about any of the things listed below?

Figure 10.

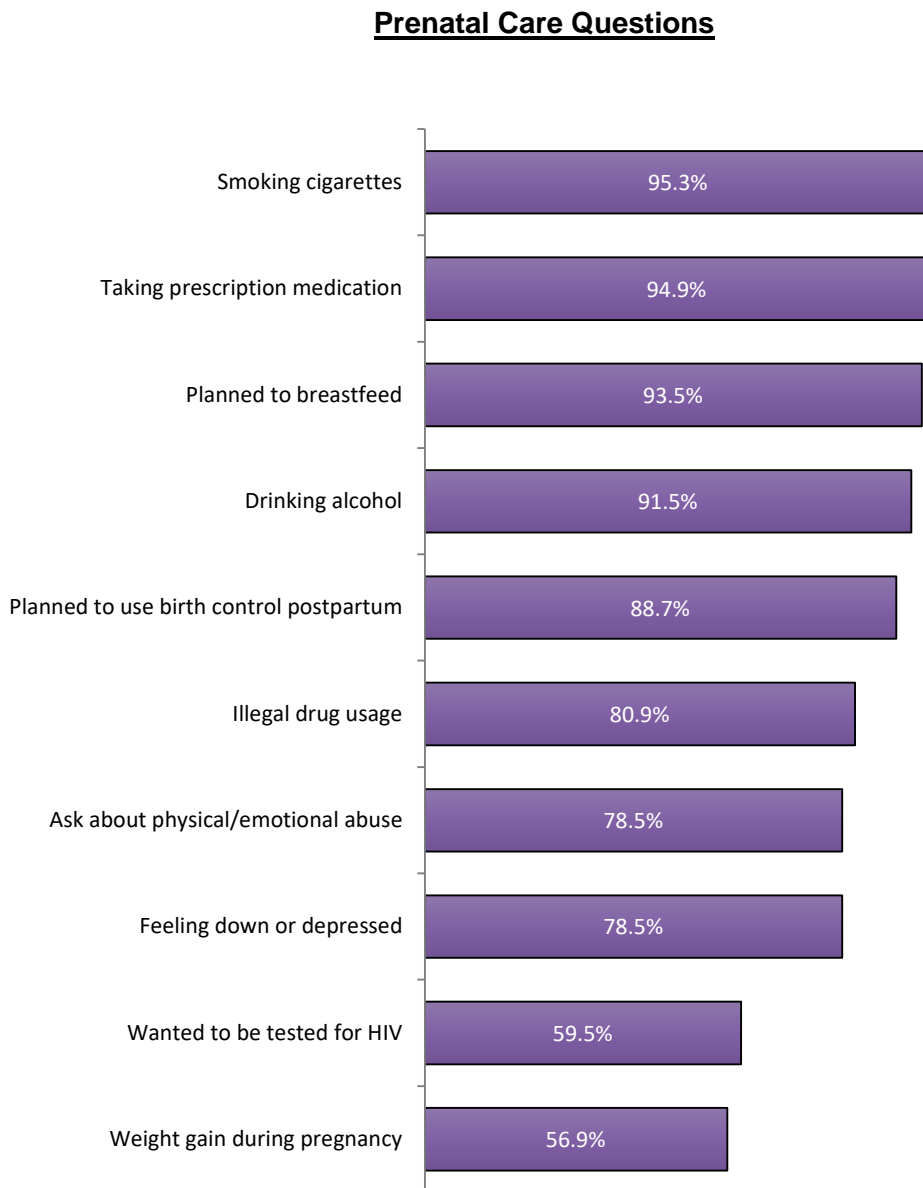
Prenatal Health and Well-being Discussions During Prenatal Visits



Over 80% of mothers in 2016 reported they were asked by their prenatal care providers about cigarette use, prescription medications they took, plans to breastfeed, alcohol consumption, plans to use birth control postpartum and illegal drug use. For the same time period, less than 60% of mothers reported prenatal care providers were *least* likely to ask if they wanted to be tested for HIV or AIDS or about weight gain during pregnancy (**Figure 11**).

Question 20: During any of your prenatal care visits did a doctor, nurse, or other health care worker ask you any of the things listed below?

Figure 11.



Multivitamin Use

There are many essential vitamins that are needed early in pregnancy for healthy fetal development. This period can be before a woman realizes she is pregnant, therefore daily vitamin use among women of child-bearing age is important.

PRAMS asked mothers if they took a multivitamin, a prenatal vitamin, or a folic acid vitamin during the month before they became pregnant with their new baby. This question allows PRAMS to establish the number of mothers who take a daily multivitamin before pregnancy.

In 2016, 28.6% of mothers took a vitamin daily, down from 32.9% in 2015 (**Figure 12**). Mothers ages 18-24 years of age, those with a high school diploma and mothers who made \$20,000 or less were *more likely* to not take a multivitamin before their pregnancy compared to the other demographic groups (**Figure 13**).

Question 6: During the month before you got pregnant with your new baby, how many times a week did you take a multivitamin, a prenatal vitamin, or a folic acid vitamin?

Figure 12.

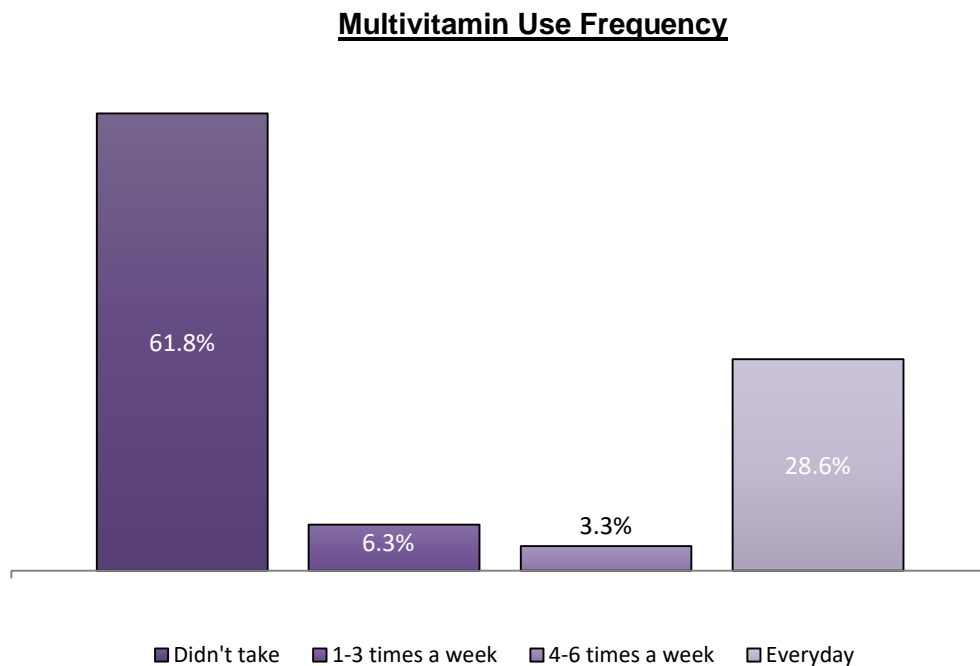
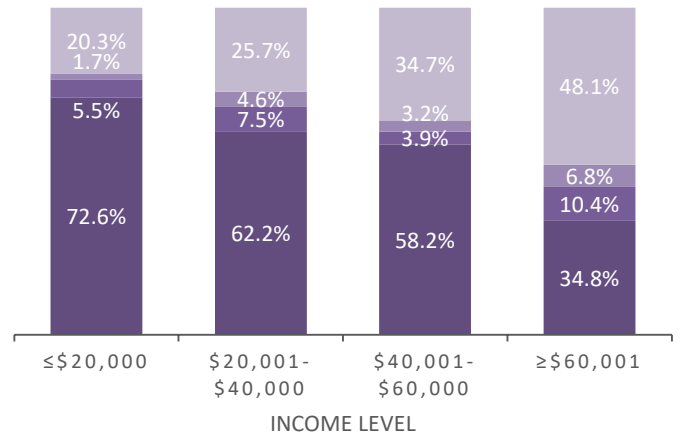
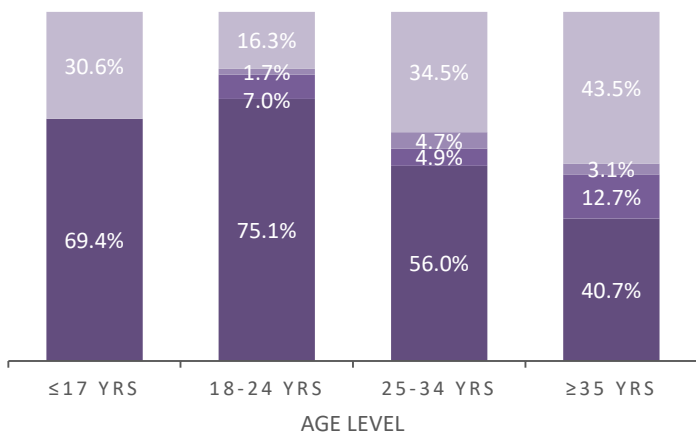
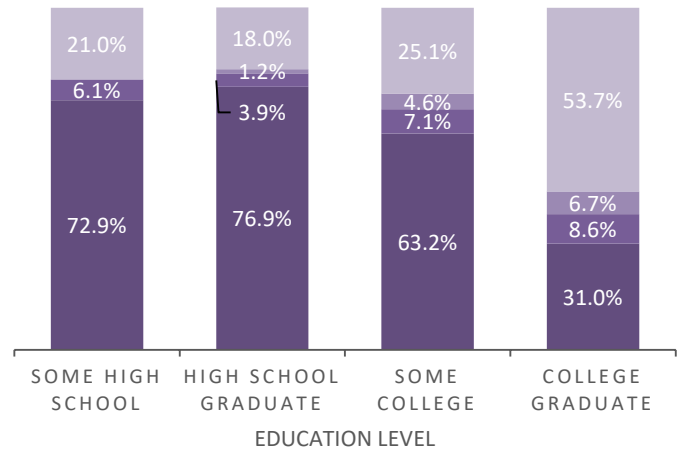
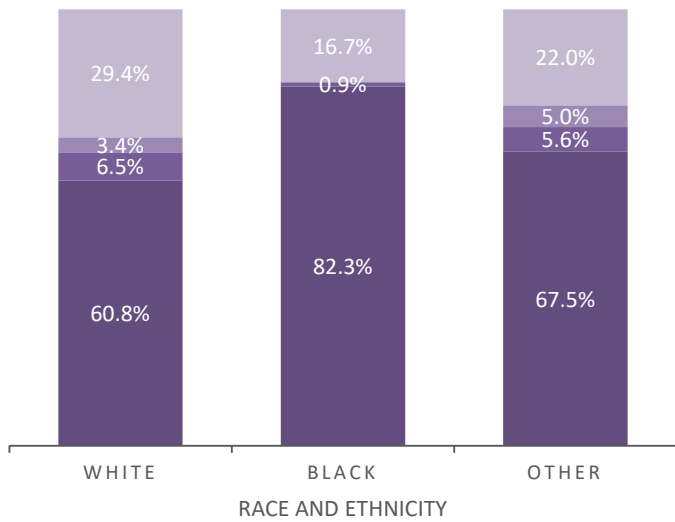


Figure 13.

Demographics of Mothers' Multivitamin Usage Prior to Pregnancy



Flu Vaccination

The CDC recommends pregnant mothers receive a flu shot during their pregnancy. Changes in the immune system, lungs and heart during pregnancy make mothers more susceptible to the flu. Research has shown that getting a flu shot during pregnancy helps protect the mother and baby and does not harm the fetus.

PRAMS asks mothers if a doctor, nurse or other health care worker offered them or recommended they get a flu shot and whether or not they received a flu shot before or during pregnancy. This allows PRAMS to determine the percentage of pregnant mothers who received a flu shot and then disseminate the data to health care providers.

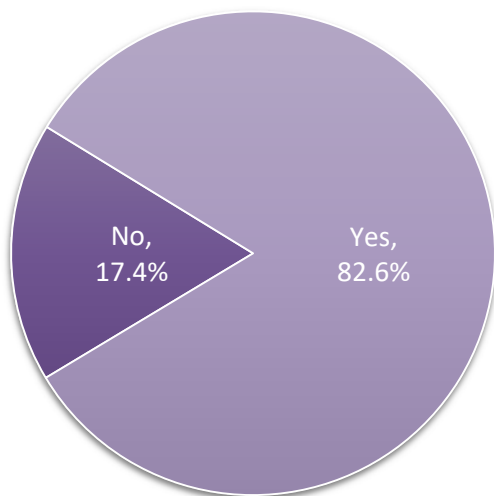
The rate of mothers in West Virginia who received a flu shot during pregnancy increased from 42.3% in 2015 to 45.7% in 2016. Around 82.6% stated that they were offered a flu shot or were told to get one in 2016, but only 8.8% received one before pregnancy (**Figure 14**). Mothers in the demographic groups ages 17 and younger, those with some high school education and mothers making \$20,000 or less were *least* likely to receive a flu shot during pregnancy in 2016 (**Figure 15**).

Question 21: During the 12 months before the delivery of your new baby, did a doctor, nurse, or other health care worker offer you a flu shot or tell you to get one?

Question 22: During the 12 months before the delivery of your new baby, did you get a flu shot?

Figure 14.

Mothers Who Were Offered a Flu Shot or Told to Get One



Mothers Who Received a Flu Shot Before or During Pregnancy

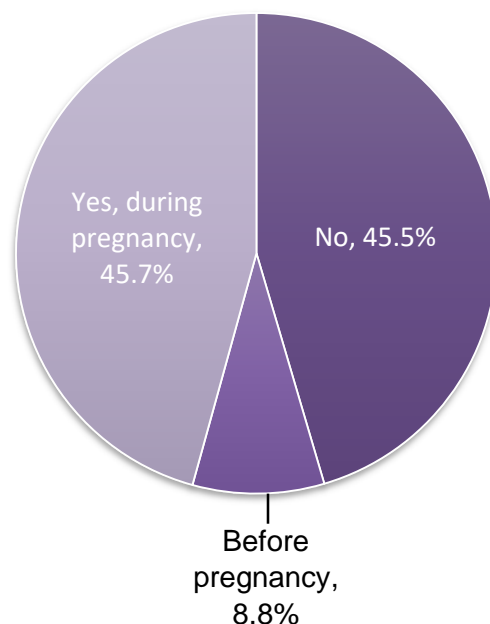
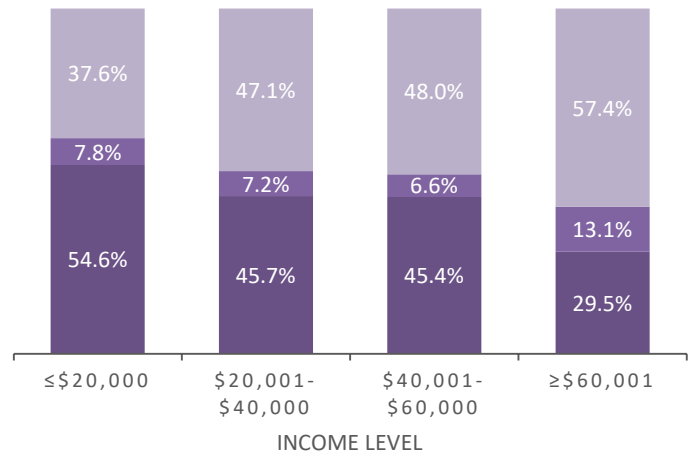
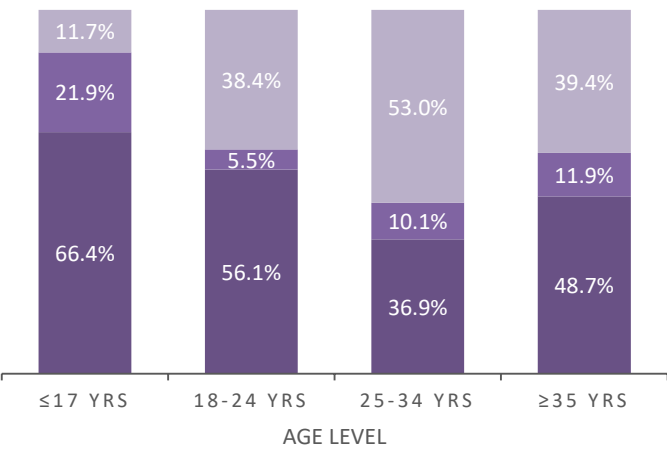
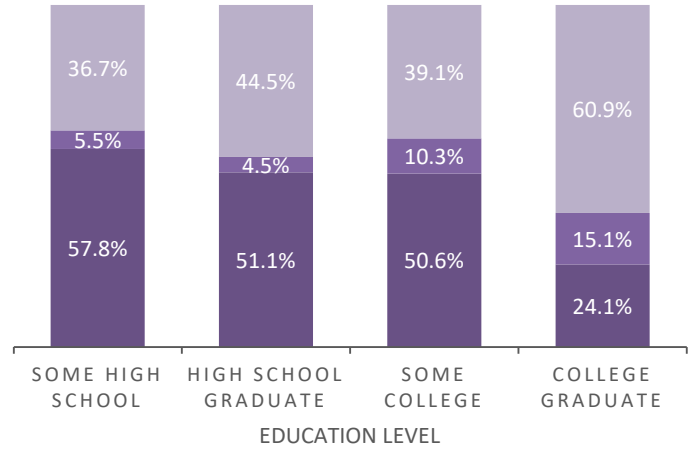
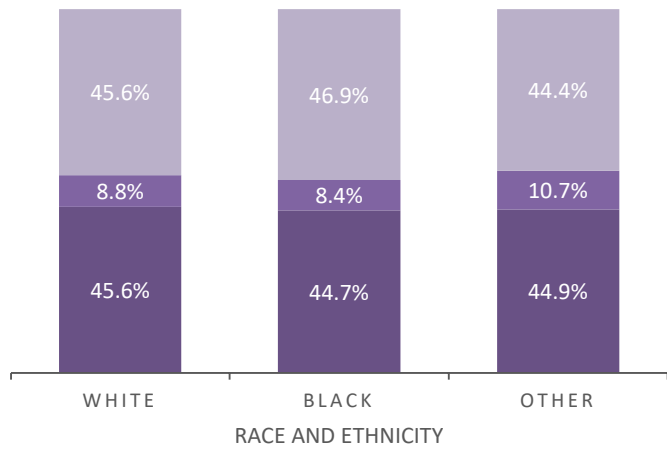


Figure 15.

Demographics of Mothers' Flu Vaccination

■ No ■ Yes, before pregnancy ■ Yes, during pregnancy



Pre-Pregnancy BMI

West Virginia has the highest rates of obesity in the United States² at 37.7% in 2016. Obesity contributes to other chronic health conditions including, but not limited to: high blood pressure, type 2 diabetes, coronary heart disease, stroke, and an overall lower quality of life.

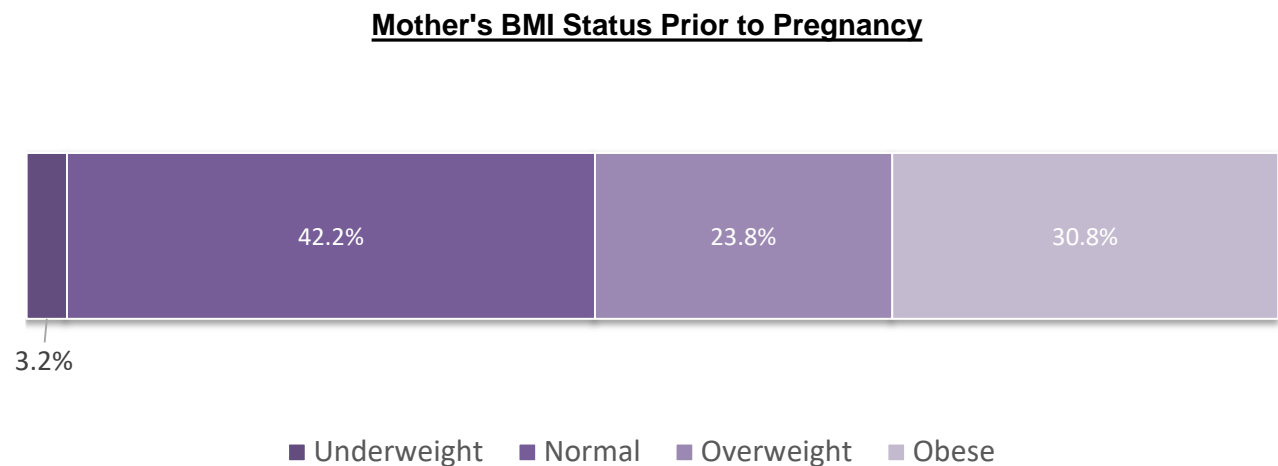
PRAMS asks mothers how much they weighed and how tall they are without shoes to determine their body mass index (BMI). The BMI helps determine if they are underweight, normal weight, overweight, or obese.

The obesity rate among pregnant mothers in West Virginia in 2015 was 30.3%, with 23.1% being overweight. That obesity rate increased slightly in 2016 to 30.8%, and the rate of overweight mothers slightly increased to 23.8% (**Figure 16**). Mothers 35 and older, those with some college education and mothers making \$20,001-\$40,000 per year were *most likely* to be obese before pregnancy (**Figure 17**).

Question 1: How tall are you without shoes?

Question 2: Just before you got pregnant with your new baby, how much did you weigh?

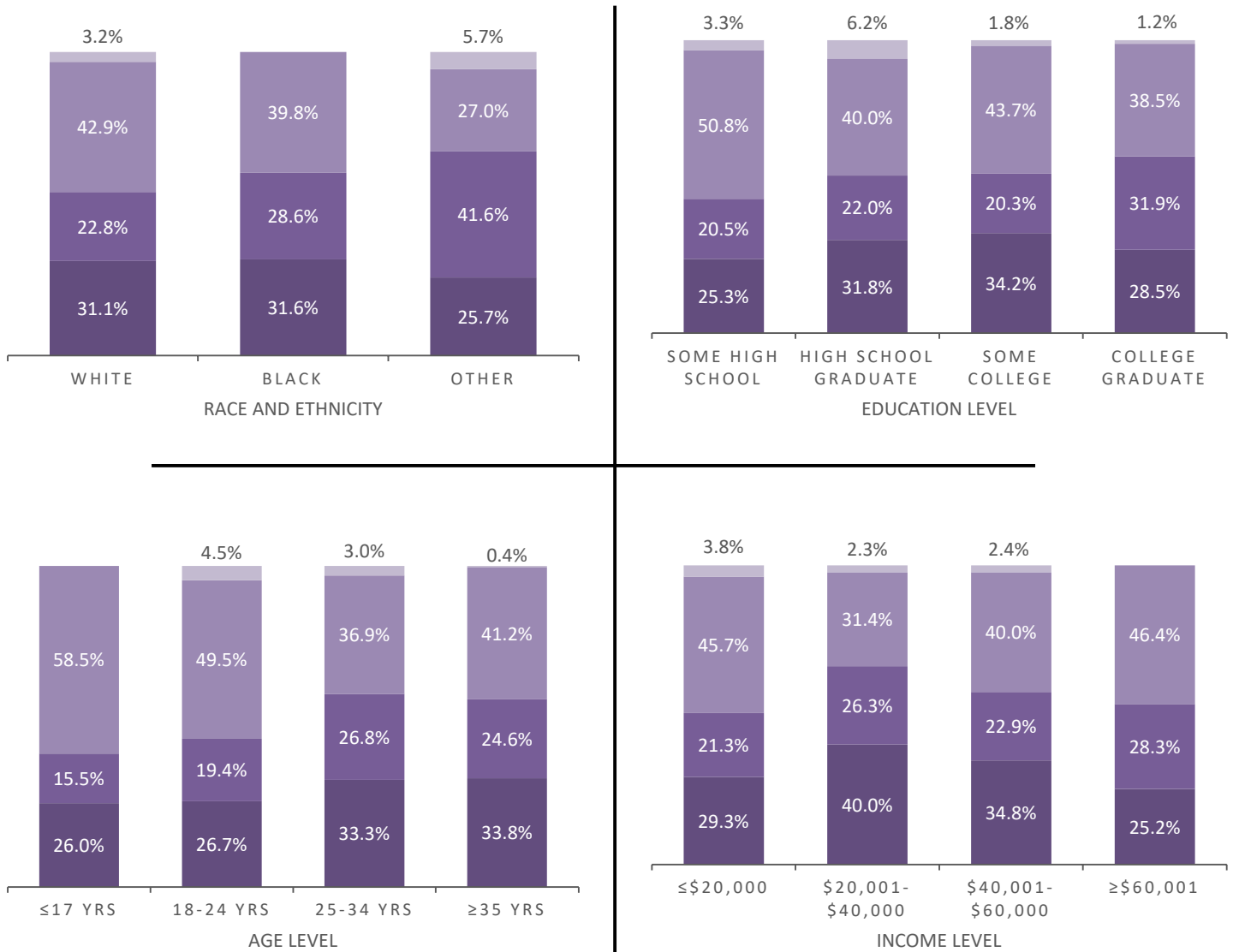
Figure 16.



² Centers for Disease Control and Prevention: <http://www.cdc.gov/obesity/data/prevalence-maps.html>

Figure 17.

BMI Demographics Among Mothers Prior to Pregnancy



Perinatal Risk Factors



Maternal Drug Usage

According to a CDC study, West Virginia has the highest rate of Neonatal Abstinence Syndrome (NAS) in the United States as of 2013.³ The use of illicit drugs such as opioids and amphetamines during their pregnancy can lead to the infant developing NAS. Infants with NAS suffer from a wide array of different physical symptoms such as irritability, tremors, feeding issues and sleeping problems.

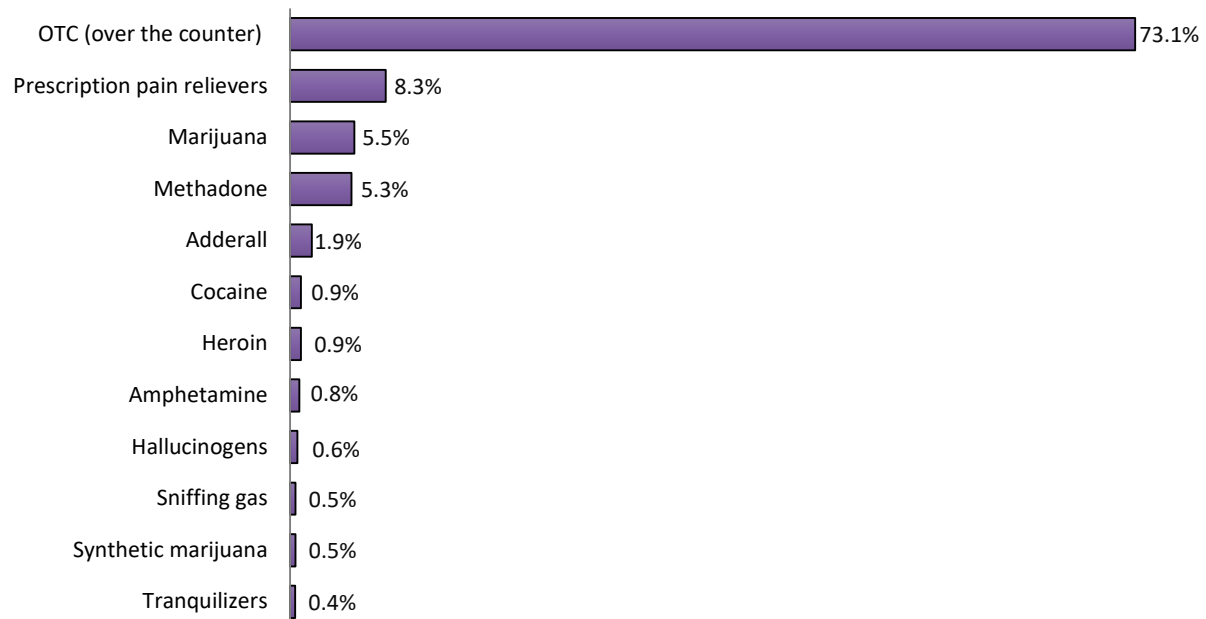
In 2016, West Virginia has the highest prescription drug overdose death rate in the United States.⁴ This increased rate correlates to the state's high rate of NAS. PRAMS asks mothers what type of drug, if any, were used during their most recent pregnancy.

Among mothers in West Virginia, 73.1% used over the counter medicine such as aspirin, Aleve or Tylenol. However, 8.3% of mothers used prescription pain relievers such as hydrocodone, oxycodone or codeine during their most recent pregnancy (**Figure 18**). Mothers *more likely* to report prescription pain reliever usage during pregnancy had some high school education, were 17 years of age or younger and made less than or equal to \$20,000 (**Figure 19**).

Question 68. During your most recent pregnancy, did you take or use any of the following drugs for any reason?

Figure 18.

Drugs Used During Pregnancy



³ <https://www.cdc.gov/mmwr/volumes/65/wr/mm6531a2.htm>

⁴ <https://www.drugabuse.gov/drugs-abuse/opioids/opioid-summaries-by-state/west-virginia-opioid-summary>

Figure 19.

Demographics of Mothers' Prescription Pain Reliever Usage During Pregnancy

■ Yes ■ No



Maternal Smoking Habits

Pregnant mothers face additional risks associated with smoking. They are more likely to have miscarriages, stillbirths, preterm labor and premature babies than mothers who do not smoke. Additionally, babies born to smoking mothers may be low birthweight and have slow physical growth and mental development. Smoking makes children more prone to allergies, colds, asthma, lung problems and can contribute to sudden unexplained infant death (SUID) if their mother smokes.

West Virginia has the highest prevalence of pregnant smokers in the nation. According to the CDC, in 2016 25.1% of West Virginia mothers smoked during their pregnancy.⁵ This rate is nearly three times the national average. PRAMS wanted to examine the smoking habits of mothers before, during and after pregnancy. Respondents were asked if they had smoked any cigarettes in the past two years. Those mothers who responded that they smoked within that time were asked additional questions about their smoking habits during the perinatal period.

Among mothers in West Virginia, 34.3% reported smoking three months before pregnancy in 2016 (**Figure 20**). Roughly 22.8% of mothers in West Virginia smoked during the last three months of pregnancy in 2016 (**Figure 21**). Nearly 27.4% of mothers smoked after pregnancy in 2016 (**Figure 22**). Only 59.5% of mothers reported having a doctor, nurse or health care worker talk about how smoking during pregnancy could affect their baby in 2016 (**Figure 23**).

Question 35: Have you smoked any cigarettes in the past 2 years?

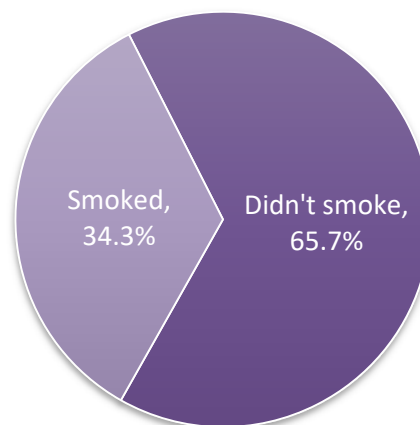
Question 36: In the three months before you got pregnant, how many cigarettes did you smoke on an average day?

Question 37: In the last three months during your pregnancy, how many cigarettes did you smoke on an average day?

Question 40: How many cigarettes do you smoke on an average day now?

Figure 20.

Smoking Status of All Mothers Three Month's Prior to Pregnancy



⁵. Centers for Disease Control: <https://www.cdc.gov/nchs/products/databriefs/db305.htm>

Figure 21.

Smoking Status of All Mothers Last Three Months of Pregnancy

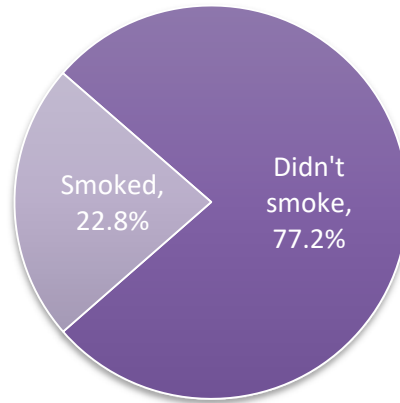


Figure 22.

Smoking Status of All Mothers After Pregnancy

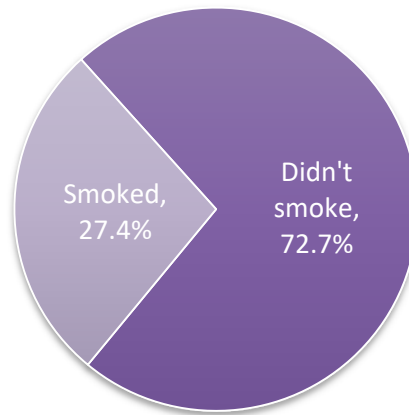
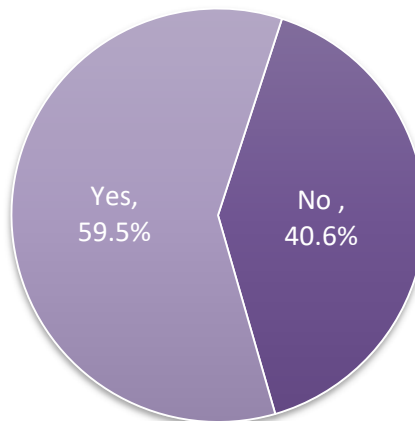


Figure 23.

Health Care Worker Discussed How Smoking During Pregnancy Can Affect a Baby



Among mothers who received prenatal care (PNC), only 79.5% of mothers reported they were advised to quit smoking in 2016 (**Figure 24**). About 91.2% of mothers who smoked stated that smoking is *not* allowed anywhere in the home in 2016, where a little more than 1% stated smoking *is* allowed anywhere (**Figure 25**).

Question 32: During any of your prenatal care visits, did a doctor, nurse or other health care worker advise you to quit smoking?

Figure 24.

Mothers Who Were Advised to Quit Smoking During Pregnancy

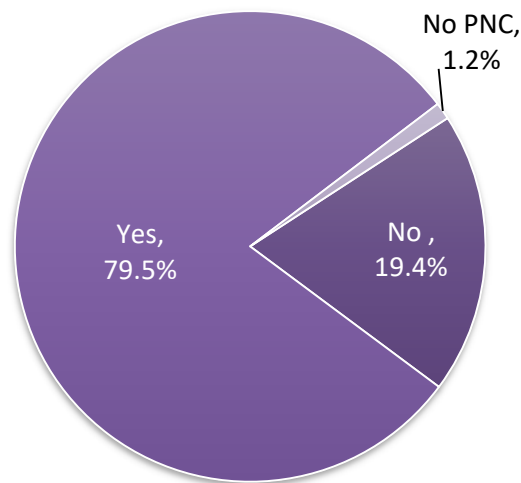
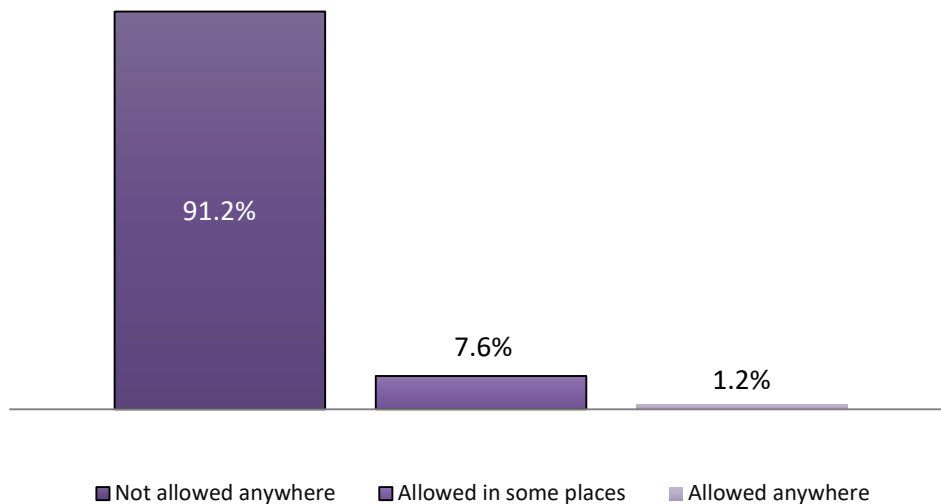


Figure 25.

Percentage of Smoking Allowed in Home of the Infant



In 2016, questions focused on e-cigarette or electronic nicotine product usage were added to the survey. Among all mothers, 12.7% used e-cigarettes in the past two years leading up to their pregnancy (**Figure 26**). During the three months before their pregnancy, 8.1% of mothers admitted use, compared to 4.1% who used during the last three months of their pregnancy (**Figure 27**).

- Question 37. Have you used any of the following products in the *past 2 years*?**
- Question 38. During the *3 months before* you got pregnant, on average, how often did you use e-cigarettes or other electronic nicotine products?**
- Question 39. During the *last 3 months* of your pregnancy, on average, how often did you use e-cigarettes or other electronic nicotine products?**

Figure 26.

Percentage of Tobacco Products Used Two Years Prior to Pregnancy

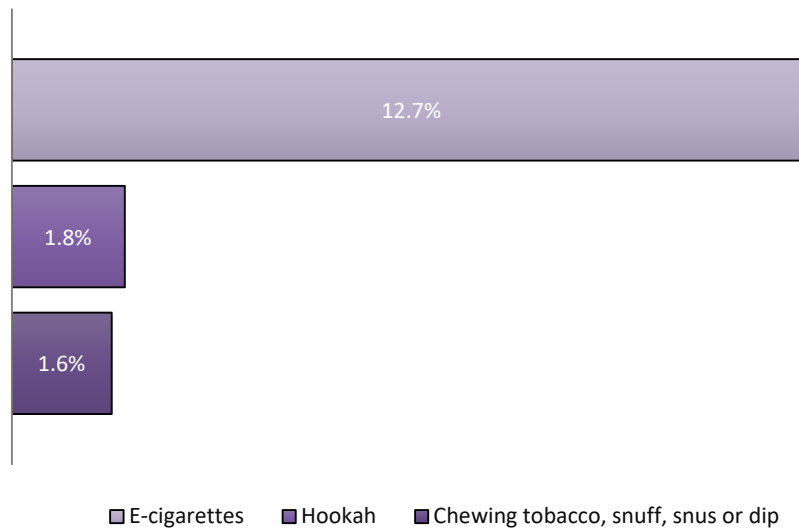
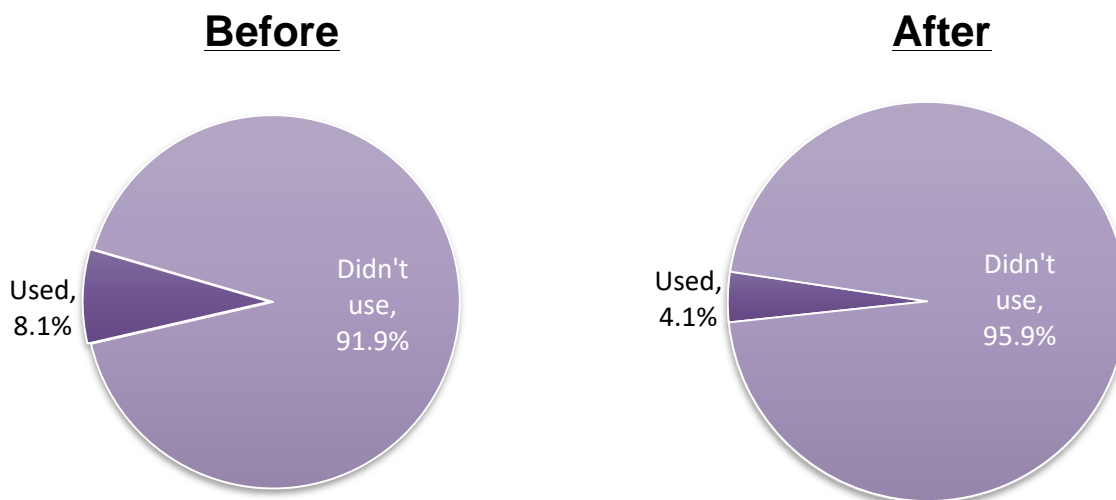


Figure 27.

E-cigarette Usage Three Months Before and Last Three Months of Pregnancy



Maternal Alcohol Consumption

Alcohol consumption is not recommended if a woman is planning on becoming pregnant, and during pregnancy. If a woman is unaware she is pregnant and consumes alcohol, her baby may be at risk for many adverse health outcomes including: abnormal facial features, smaller than normal head size, poor memory, low body weight, learning disabilities, vision or hearing problems, and problems with the heart, kidney or bones.

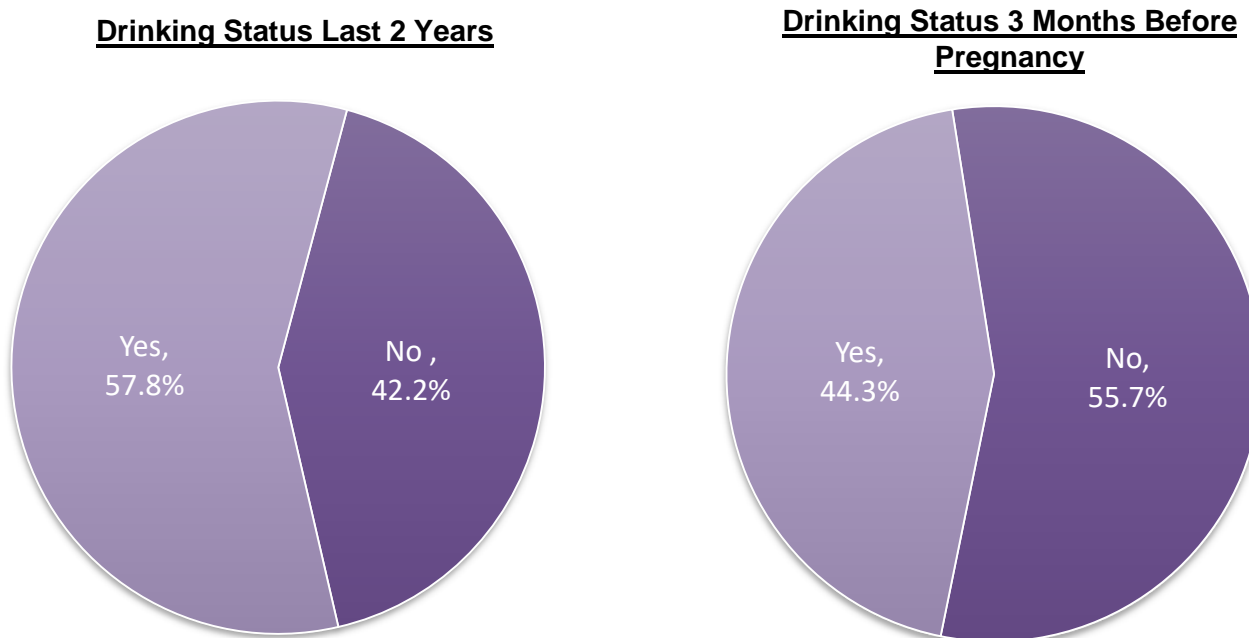
PRAMS asks mothers if they drank alcoholic drinks in the past two years, if they answered yes then the mothers were asked if they drank during three months before pregnancy.

Among mothers in West Virginia, 57.8% did not drink in the two years prior to pregnancy and 55.7% did not drink during the three months before pregnancy in 2016 (**Figure 28**).

Question 40: Have you had any alcoholic drinks in the *past 2 years*?

Question 41: During the 3 months *before* you got pregnant, how many alcoholic drinks did you have in an average week?

Figure 28.



Diabetes --- Pre-pregnancy and Gestational

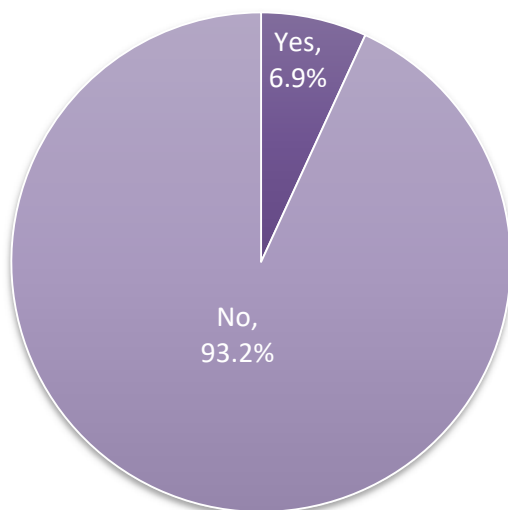
West Virginia has the 2nd highest rate of diabetes among adults in the United States at 15.0%, which is significantly higher than the national average of 9.4%.^{6,7} Factors that can contribute to diabetes are obesity and lack of exercise. Diabetes that occurs during pregnancy is called gestational diabetes, and usually sets in between 24 and 28 weeks of pregnancy. Gestational diabetes generally goes away after the baby is born, but the mother is more likely to develop type 2 diabetes later in life.

PRAMS asks mothers if they had type 1 or type 2 diabetes before pregnancy and if their doctor told them if they had gestational diabetes. Because gestational diabetes can have some harmful effects on the mother and baby, it is very important that the mother control her blood sugar levels during pregnancy.

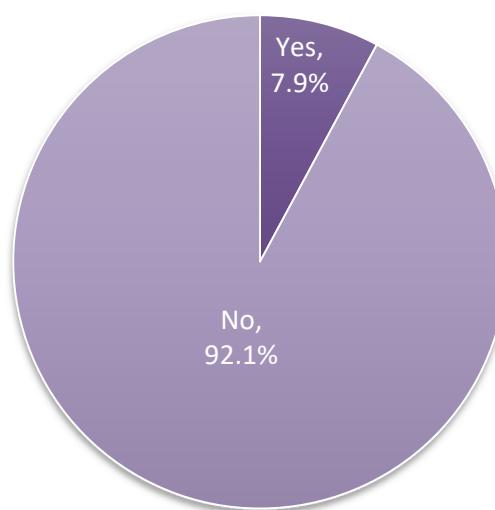
Among mothers in West Virginia, 6.9% stated that they had type 1 or type 2 diabetes before pregnancy in 2016. However, 7.9% of mothers reported developing gestational diabetes during pregnancy in 2016 (**Figure 29**). Mothers 17 years of age or younger, those with at least a high school diploma and those who made less than \$60,000 were more likely to be diagnosed with gestational diabetes. (**Figure 30**).

Figure 29.

Percentage of Mothers with Pre-pregnancy Diabetes



Percentage of Mothers with Gestational Diabetes



⁶ WV Department of Health and Human Resources: https://dhhr.wv.gov/hpcd/data_reports/Pages/Fast-Facts.aspx

⁷ Centers for Disease Control: <https://www.cdc.gov/diabetes/library/index.html>

Figure 30.

Demographics Among Mothers' Gestational Diabetes

■ Yes ■ No



Healthcare Coverage and Home Visitation



Source of Payment Before Pregnancy

Access to healthcare is essential to be able to have the best health outcomes before, during and after pregnancy. However, because many mothers in West Virginia live in rural areas, access to health care may be limited. Having proper insurance coverage is an important factor in obtaining adequate health care.

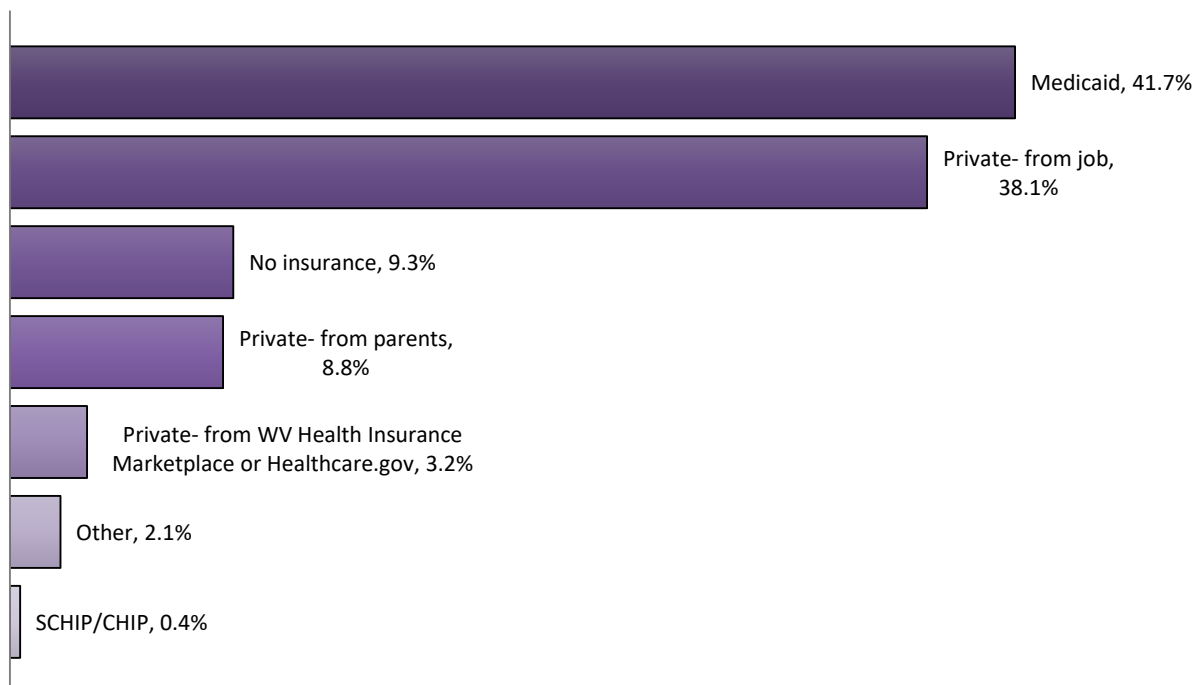
PRAMS asks mothers what their health care coverage status was before, during, and after pregnancy. Mothers are able to select one or multiple types of health care coverage. This information will allow PRAMS to determine the number of mothers who do not have health care coverage, particularly if they qualified for Medicaid.

Among mothers in West Virginia in 2016, 41.7% had Medicaid, 38.1% had insurance through their own or their husband/partner's job and 9.3% had no insurance, *before* pregnancy. (**Figure 31**).

Question 12. During the *month before* you got pregnant with your new baby, what kind of health insurance did you have?

Figure 31.

Type of Health Insurance Coverage Prior to Pregnancy



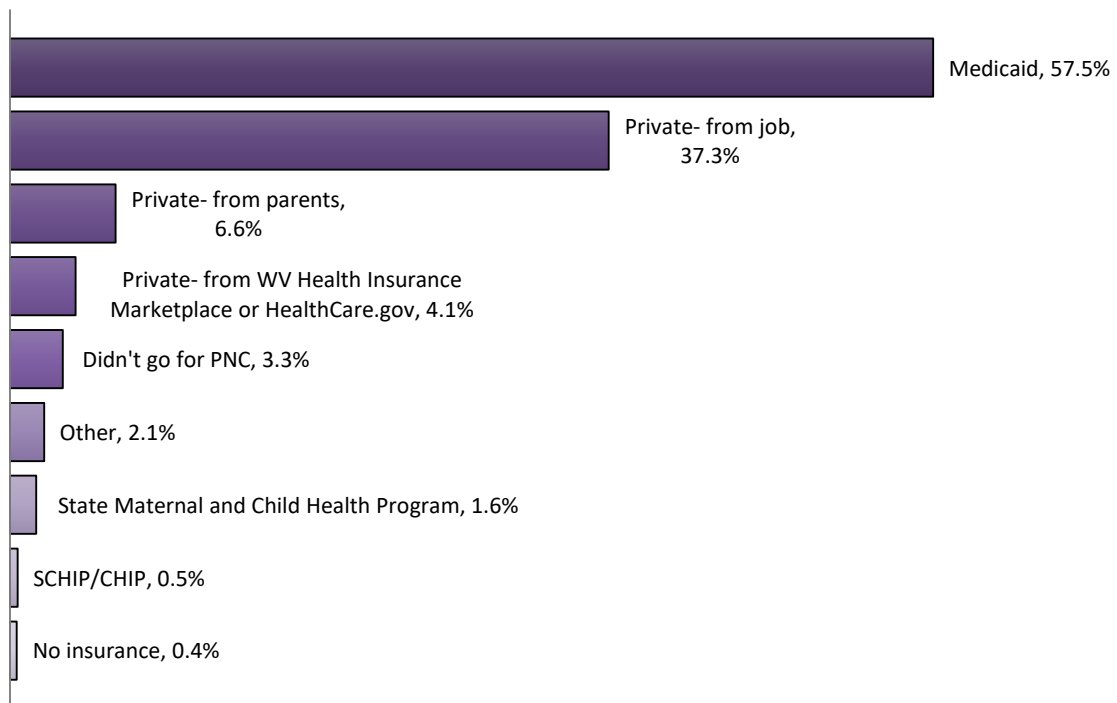
Source of Payment for Prenatal Care

Among mothers in West Virginia in 2016, 37.3% had insurance through their own or their husband's/partner's job, 57.5% had Medicaid and 0.4% had no insurance, *during* pregnancy. (Figure 32).

Question 13. During your most recent pregnancy, what kind of health insurance did you have for your prenatal care?

Figure 32.

Type of Health Insurance Coverage During Pregnancy



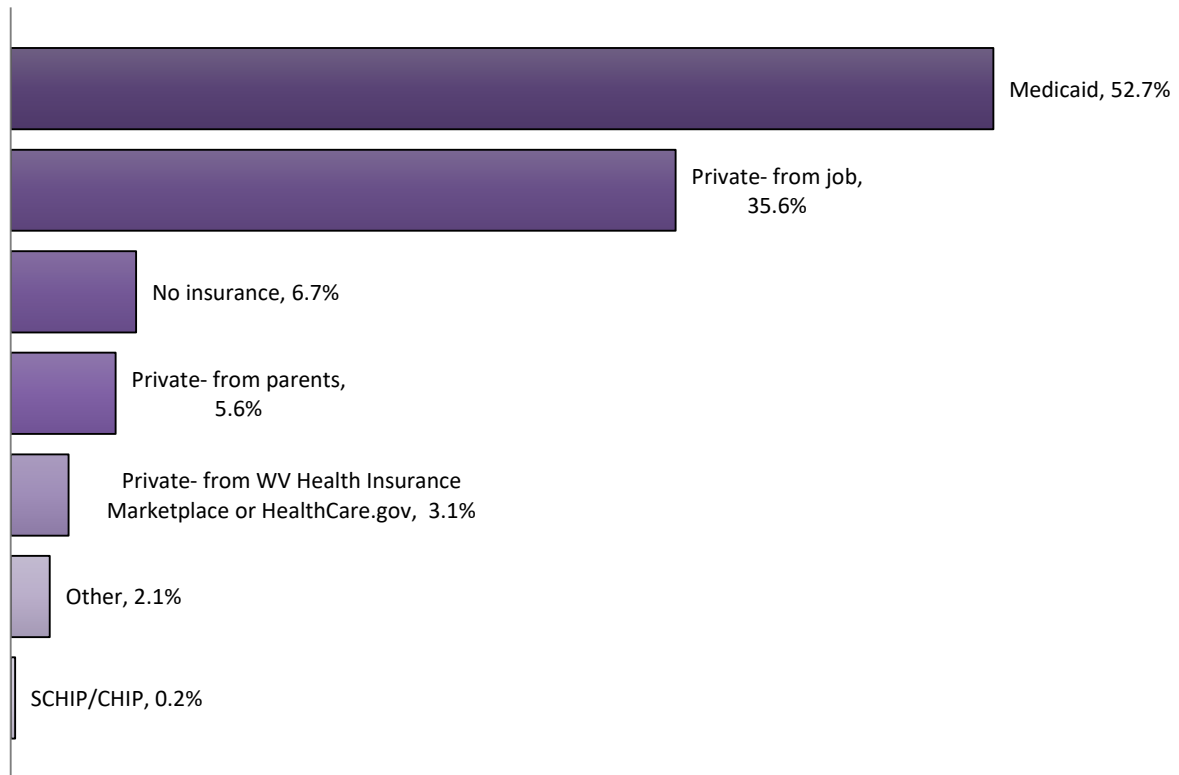
Source of Current Insurance Coverage

Among mothers in West Virginia in 2016, 35.6% had insurance through their own or their husband's/partner's job, 52.7% had Medicaid, and 6.7% had no insurance, *after* pregnancy. (Figure 33).

Question 14. What kind of health insurance do you have now?

Figure 33.

Type of Health Care Insurance Coverage After Pregnancy



Home Visiting: During and After Pregnancy

Home visitation services are available to eligible mothers during and after pregnancy through the Home Visitation Program in the Office of Maternal, Child and Family Health. More often, pregnancy and motherhood are new for many mothers. These services allow for mothers to receive help and guidance in preparing and taking care of themselves and their baby.

PRAMS asks mothers if a home visitor came to their home during or after their pregnancy. This data allows PRAMS to determine how well the program is being utilized and provides the opportunity to modify it as needed.

Among mothers in West Virginia in 2016, only 8.7% received home visitation services during their pregnancy. The rate of home visitation service utilization increased slightly after pregnancy to 11.1% (Figure 34). Mothers 17 years of age or younger, those with some high school education and those who made less than \$20,000 per year were *more likely* to utilize home visitation services during pregnancy, however after pregnancy the age level changed to mothers ages 18-24 (Figure 35, 36).

Question 27. During your most recent pregnancy, did a home visitor come to your home to help you prepare for your new baby?

Question 60. Since your new baby was born, has a home visitor come to your home to help you learn how to take care of yourself or your new baby?

Figure 34.

Mothers Who Received Home Visitation Services During and After Pregnancy

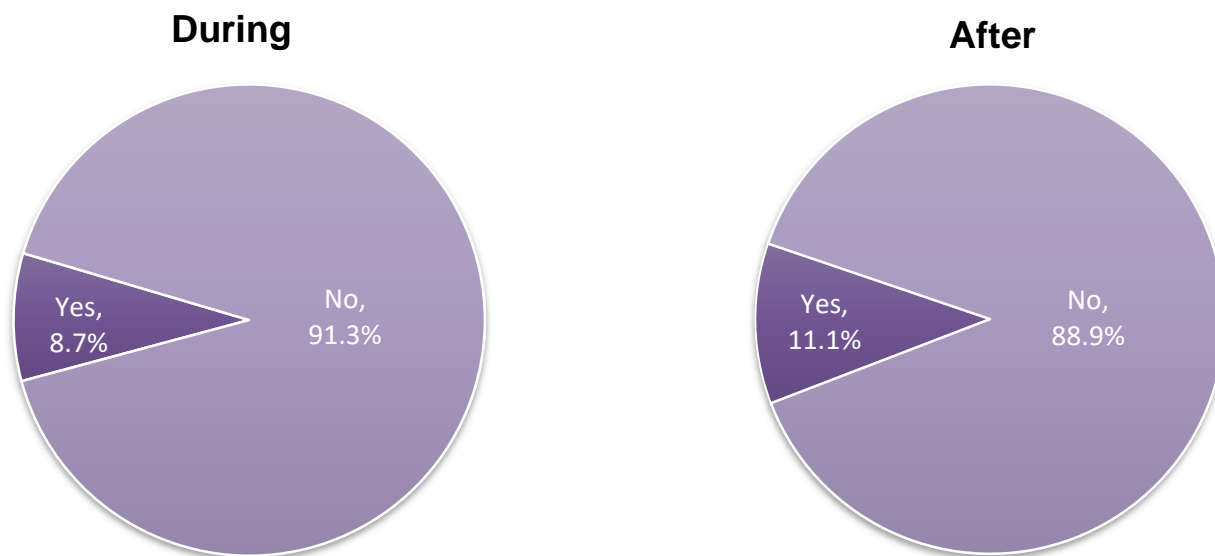


Figure 35.

Demographics Among Mothers with a Home Visitation During Pregnancy



Figure 36.

Demographics Among Mothers with a Home Visitation After Pregnancy



Maternal and Infant Health



Maternal Oral Health

Oral health is a key indicator of overall health and well-being for mothers and is particularly important prior to conception and during pregnancy. Maintaining good oral health during pregnancy is beneficial to the mother and the baby. Access to routine dental care during the perinatal period can reduce the risk of negative birth outcomes and promote good health for mother and baby after delivery.

PRAMS asks questions concerning oral health and hygiene before and during pregnancy. Mothers were first asked if they had ever had their teeth cleaned. Those that responded yes were then asked if they had their teeth cleaned during and after pregnancy. Moreover, mothers were asked if their doctor talked about visiting a dentist before pregnancy.

Among mothers in West Virginia, 50.5% had their teeth cleaned before pregnancy and nearly 31% had their teeth cleaned during pregnancy in 2016 (**Figure 37**). In 2016, only 42.5% of mothers stated that their doctors talked to them about oral health care prior to pregnancy and 88.7% of mothers knew the importance of taking care of their teeth and gums during pregnancy (**Figure 38, 39**). In 2016, 28.2% of mothers couldn't afford to go to a dentist and 18% couldn't find a dentist taking Medicaid patients (**Figure 40**).

Question 24. This question is about other care of your teeth during your most recent pregnancy. For each item, check **No if it is not true or does not apply to you or **Yes** if it is true.**

Question 26. Did any of the following things make it hard for you to go to a dentist or dental clinic during your most recent pregnancy

Figure 37.

Mothers Who had Their Teeth Cleaned Before and During Pregnancy

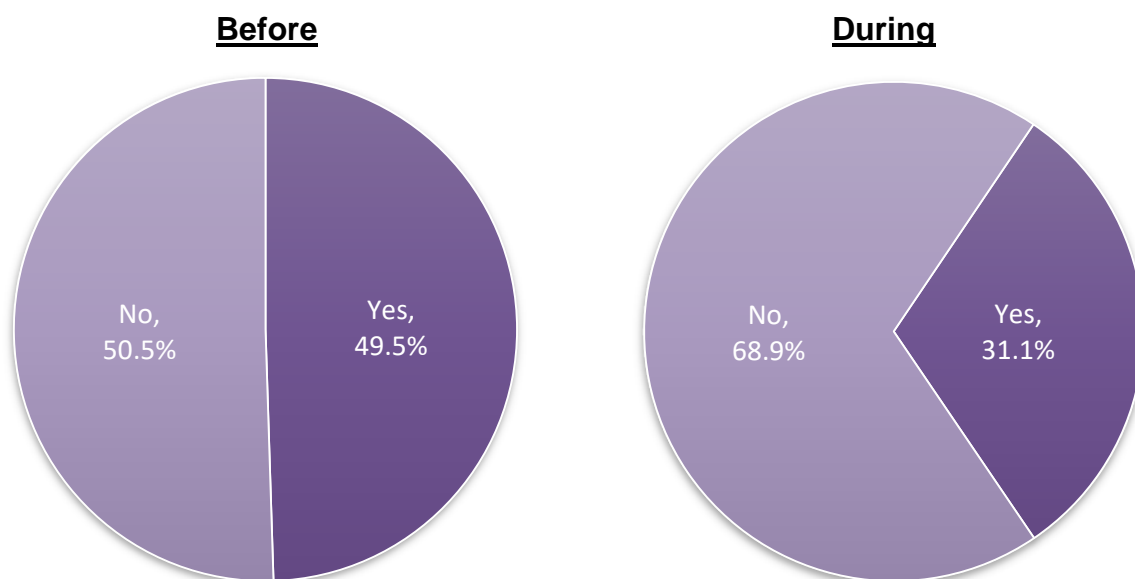


Figure 38.

Doctor or Health Care Worker (HCW) Talked About Oral Health Care Prior to Pregnancy

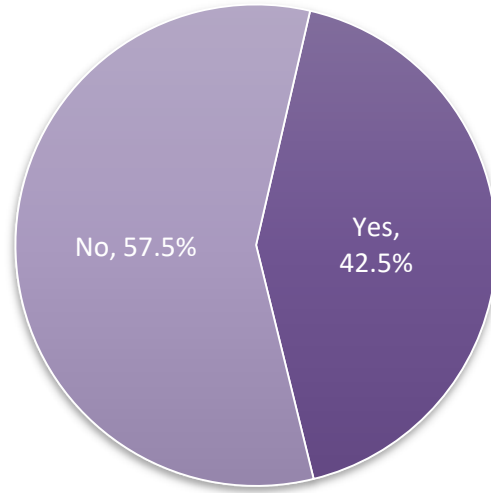


Figure 39.

Importance of Oral Health Knowledge During Pregnancy

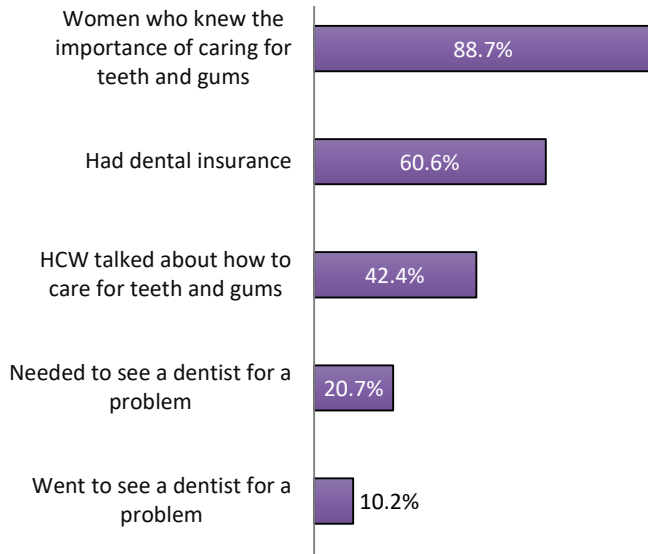
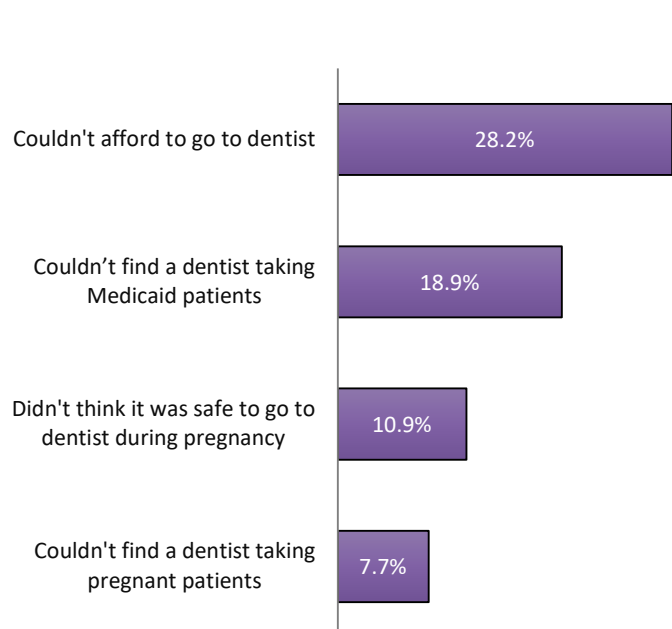


Figure 40.

Dental Barriers Encountered During Pregnancy



Postpartum Health and Care

Postpartum health is just as important to mothers as prenatal health. A woman's overall health during this time period can affect the risk of chronic diseases later in life, influence the health and outcome of future pregnancies, influence family functioning and affect the well-being of the infant and other family members.

Mothers should receive a postpartum checkup six weeks after delivery to identify and address any health concerns. During the checkup, providers perform a physical and gynecological exam. Additionally, providers can use the opportunity to discuss postpartum birth control, update vaccinations and screen for postpartum depression.

The postpartum period is quite stressful to mothers. Physical, emotional and lifestyle changes can trigger mood changes. It is not uncommon for mothers to experience "baby blues" mood swings and crying spells that fade quickly after childbirth. However, mothers may develop a more severe form of depression called postpartum depression. It is essential that mothers be screened for signs and symptoms of postpartum depression during the six-week checkup.

PRAMS asks mothers if they had a postpartum checkup after their baby was born. Mothers were also asked if certain topics were discussed by their doctor during their postpartum checkup. To identify potential postpartum depression symptoms, mothers were asked to rate their feelings of being down or depressed, hopelessness and slowed down on a scale of 1-5 (1 = never and 5 = always). Mothers who reported a 4 or higher in all three categories were identified as having possible postpartum depression symptoms.

In 2016, 72.2% of mothers reported their doctor discussed what to do if they were depressed during or after pregnancy (**Figure 41**). Around 87.2% reported their doctor discussed birth control methods to use after giving birth, while only 21.2% reported testing for diabetes (**Figure 42**). Roughly 87.5% of mothers reported having a postpartum checkup (**Figure 43**). Mothers between the ages of 25-34, were a college graduate, and made between \$40,001-\$60,000 were *more likely* to go for a postpartum checkup in 2016 (**Figure 44**).

Question 19i. *During any of your prenatal visits, did a doctor, nurse or other health care worker talk with you about any of the things listed below?*

Question 64. *Since your new baby was born, have you had a postpartum checkup for yourself?*

Question 65. *During your postpartum checkup, did a doctor, nurse or other healthcare worker do any of the following things?*

Figure 41.

Percentage of Health Care Professionals that Discussed What to do if Mothers Were Depressed During or After Pregnancy

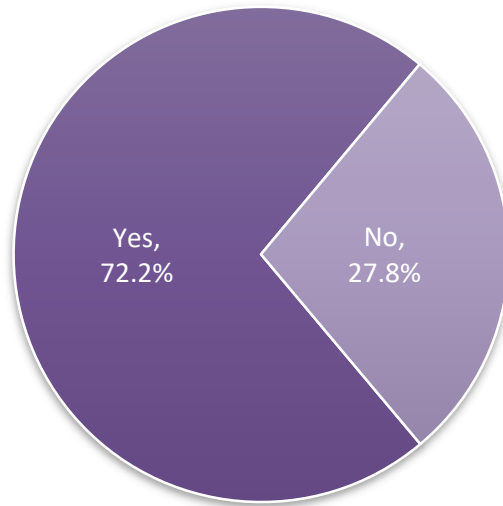


Figure 42.

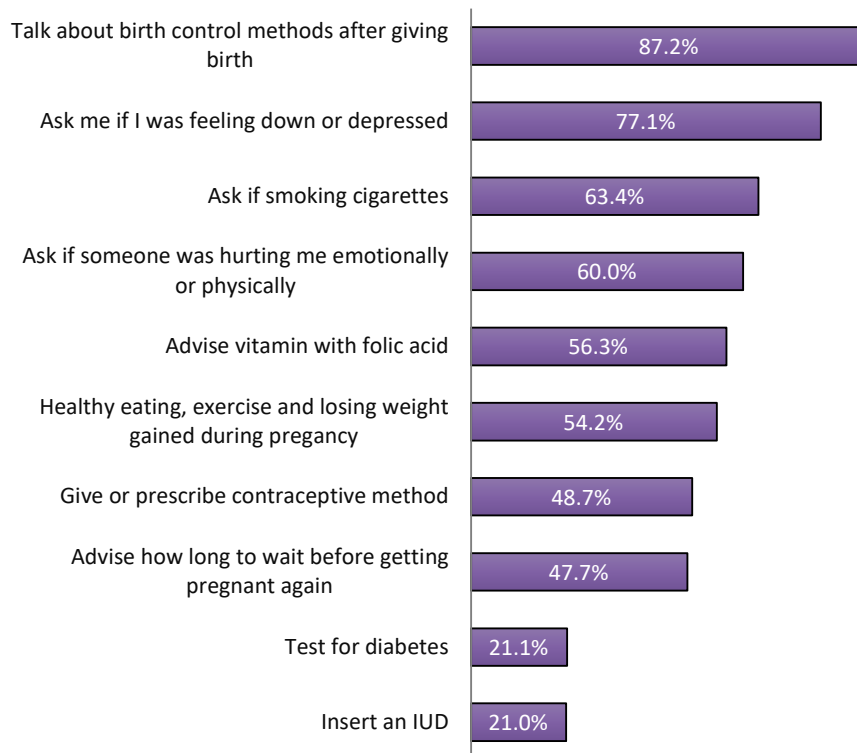


Figure 43.

Percentage of Mothers Who Went for Postpartum Visit

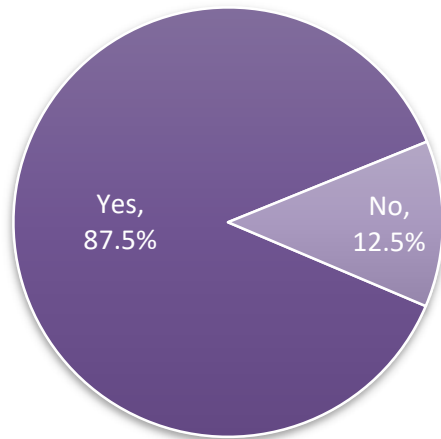


Figure 44.

Demographics of Mothers' Postpartum Checkup



Among mothers in West Virginia in 2016, 56.6% stated they had some sort of postpartum depression, with 10.5% of those stating they often or always felt depressed (**Figure 45**). In 2016, 10.1% of mothers stated they often or always had little interest or pleasure in doing things (**Figure 46**).

Question 66: *Since your new baby was born, how often have you felt down, depressed, or hopeless?*

Question 67: *Since your new baby was born, how often have you had little interest or little pleasure in doing things?*

Figure 45.

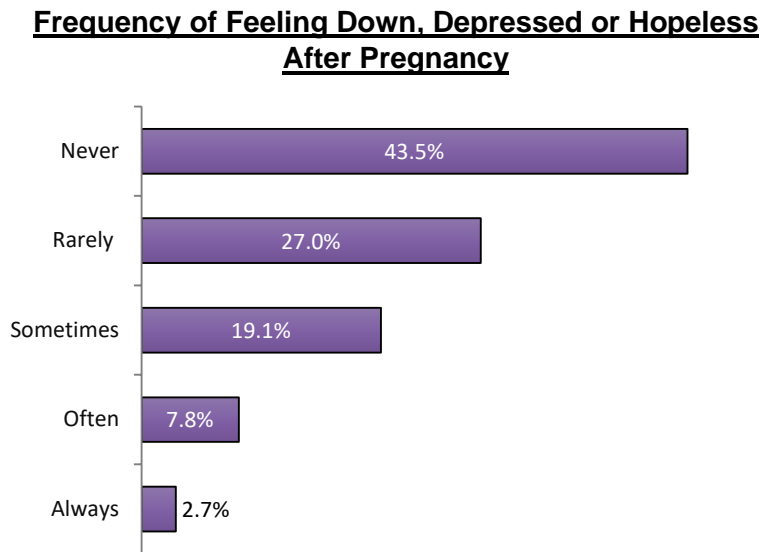
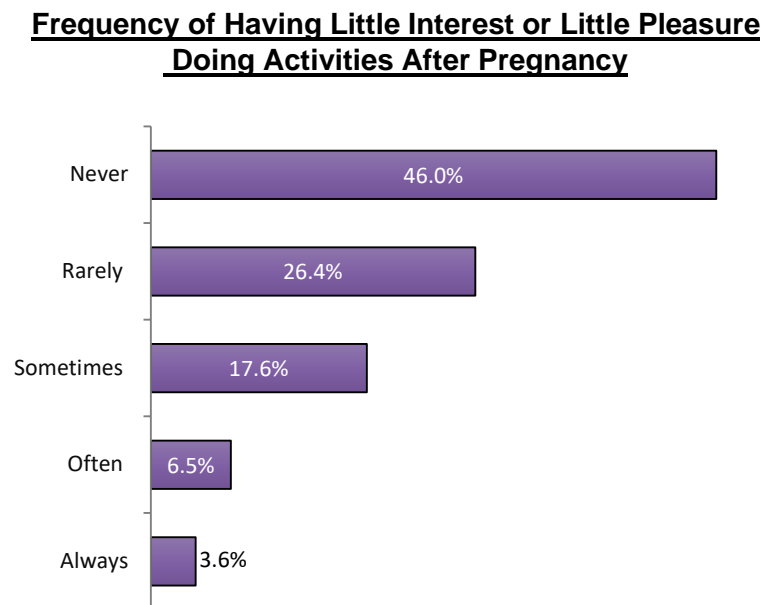


Figure 46.



Infant Safe Sleep: Position and Environment

Providing a safe sleep environment for infants is extremely important. According to the CDC, about 3,500 US infants die of sudden unexpected infant death (SUID)⁸. Although the exact cause of death of many of these babies is never determined, most occur while the infants are in an unsafe sleep environment. The American Academy of Pediatrics recommends the following for a safe sleep environment: infants should sleep on their backs and should never sleep with anyone else; the infant's bed should be an approved crib with a firm mattress and free of soft bedding or other soft items.

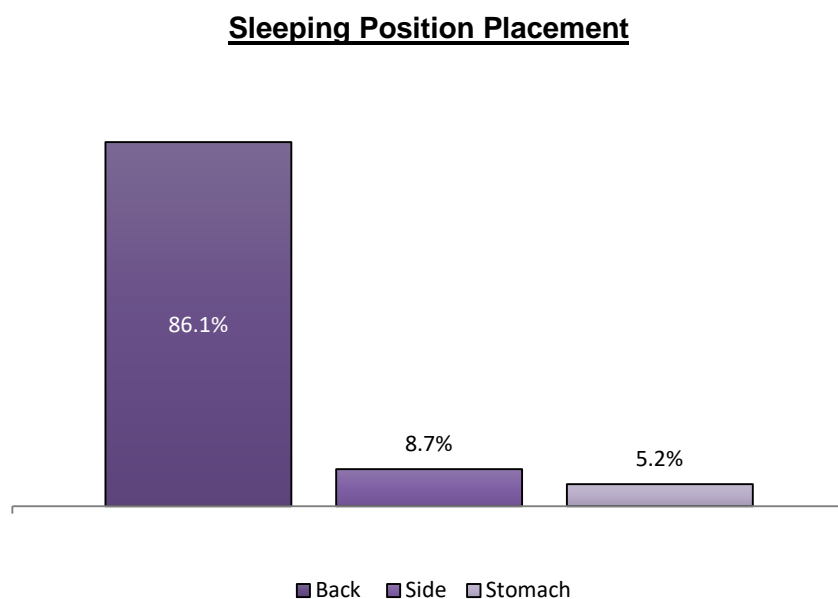
PRAMS asks mothers about their new baby's sleep position and co-sleeping habits. PRAMS wanted to know how infants were most often put to sleep (i.e., side, stomach, back, etc.) and how often the baby slept in the same bed with the mother or someone else. Furthermore, in 2012, PRAMS added additional questions about the sleep environment in the Phase 7 survey.

Among mothers in West Virginia, 86.1% placed their babies to sleep on their back, 8.7% on their sides, and 5.2% on their stomach in 2016 (**Figure 47**). Mothers ages 18-24, with a high school graduate, and those whose annual household income was less than or equal to \$20,000 were *least likely* to lay their baby down to sleep on their backs in 2016 (**Figure 48**).

Question 54: In which *one* position do you most often lay your baby down to sleep now?

Question 58: Did a doctor, nurse, or other health care worker tell you any of the following things? For each thing, check **No if they did not tell you or **Yes** if they did.**

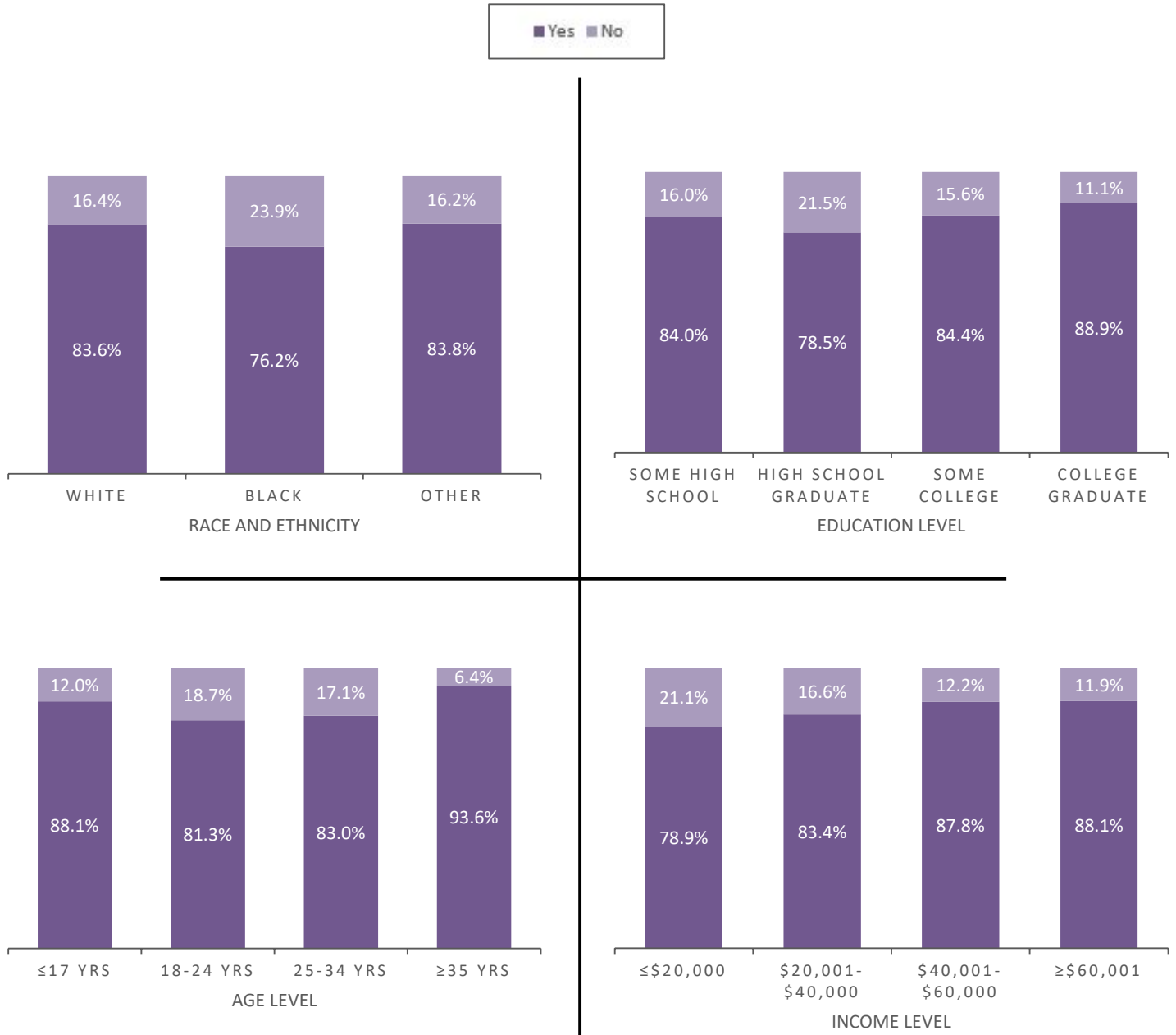
Figure 47.



⁸ CDC SUID: <http://www.cdc.gov/sids/aboutsuidandsids.htm>

Figure 48.

Demographics of Mothers' Infant Back Sleep Placement



More than 97% of mothers received education on how to lay their baby down to sleep and where to place their infant’s crib or bed in 2016 (**Figure 49**). Surprisingly, more than 79% of mothers say their infant sleeps in the same room as them (**Figure 50**). However, 9.1% of mothers say that their baby *never* sleeps alone in his or her own crib or bed (**Figure 51**). More than 90% of mothers say their infant sleeps in a crib, bassinet or pack and play (**Figure 52**).

Question 55: In the past 2 weeks, how often has your new baby slept alone in his or her own crib or bed?

Question 56. When your new baby sleeps alone, is his or her crib or bed in the same room where you sleep?

Question 57: Listed below are some more things about how babies sleep. How did your new baby *usually* sleep in the past 2 weeks? For each item, check **No** if your baby did not *usually* sleep like this or **Yes** if he or she did.

Figure 49.

Sleeping Environment and Placement Discussions

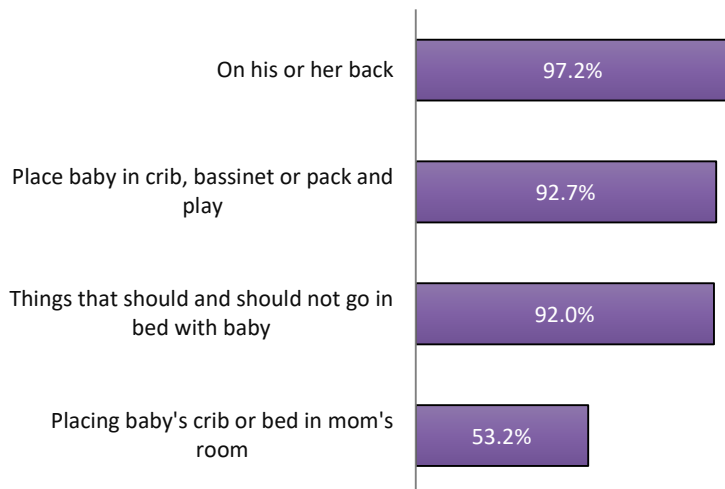


Figure 50.

Infant Sleeps in Same Room as Mom

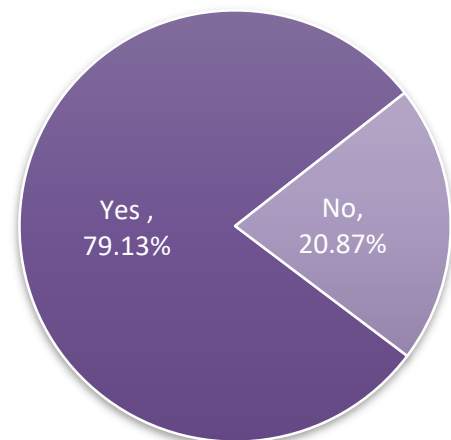


Figure 51.

Frequency of the Amount of Time Infant Sleeps Alone in His or Her Own Crib or Bed

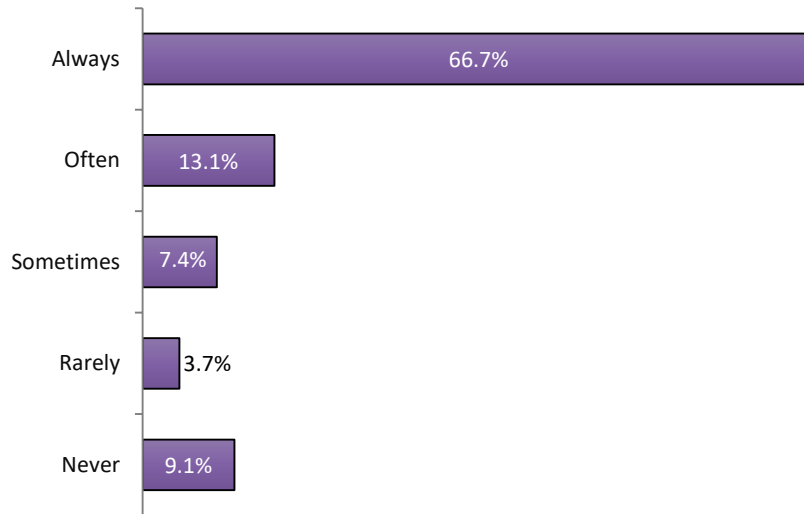
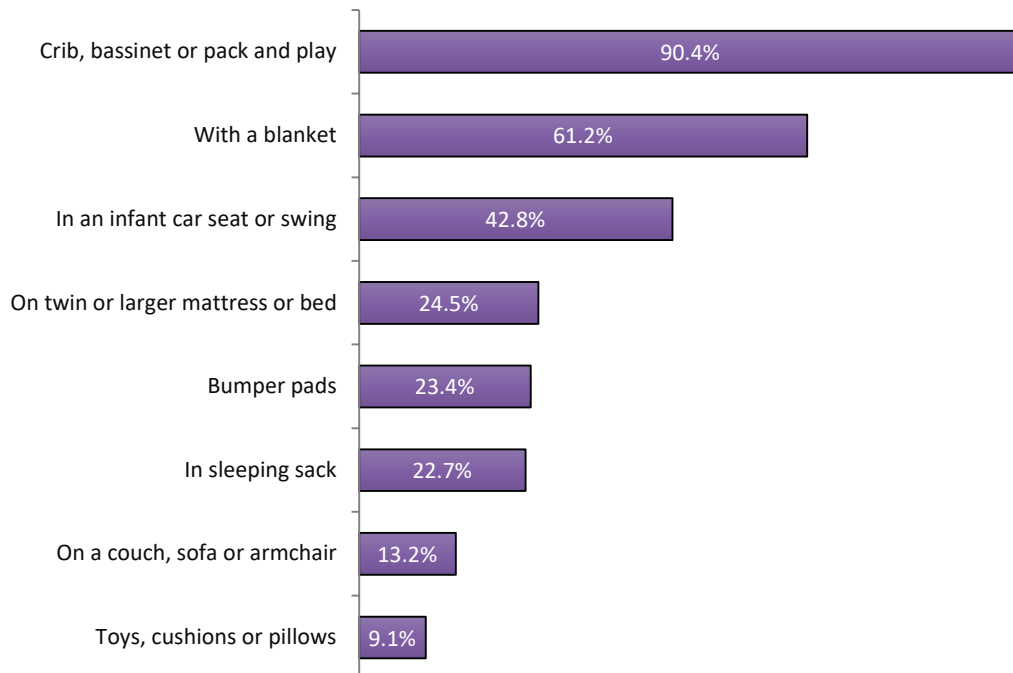


Figure 52.

Infant's Sleep Environment



Breastfeeding

The benefits of breastfeeding are numerous for both mother and baby. Human breast milk provides the ideal nutrition for infants and is more easily digested than formula. It also contains antibodies and other substances that are needed for healthy immune system and can reduce an infant's risk of developing other illness later during childhood.

PRAMS asks mothers about breastfeeding initiation and duration. The PRAMS survey asked mothers if they had ever breastfed or pumped breast milk to feed their babies after delivery. Mothers who indicated they did not breastfeed or pump breast milk were further asked why they did not do so.

According to PRAMS data, 86.3% of West Virginia mothers reported receiving breastfeeding education during prenatal care in 2016 (**Figure 53**). However, only 75% of mothers reported they had at least tried breastfeeding or pumped breast milk for their babies (**Figure 54**). Mothers 17 years of age or younger, with some high school education or less, or made less than \$20,000 per year were *least likely* to have ever tried breastfeeding in 2016 (**Figure 55**).

Question 19. 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? [b. breastfeeding my baby]

Question 49. Did you ever breastfeed or pump breast milk to feed your new baby, even for a short period of time?

Figure 53.

Mothers Who Discussed Breastfeeding with a Health Care Professional Before Pregnancy

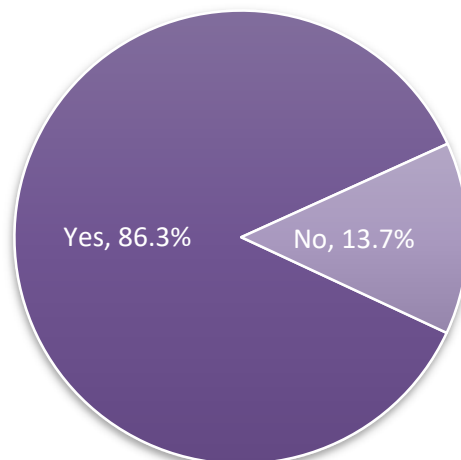


Figure 54.

Mothers Who Ever Breastfed

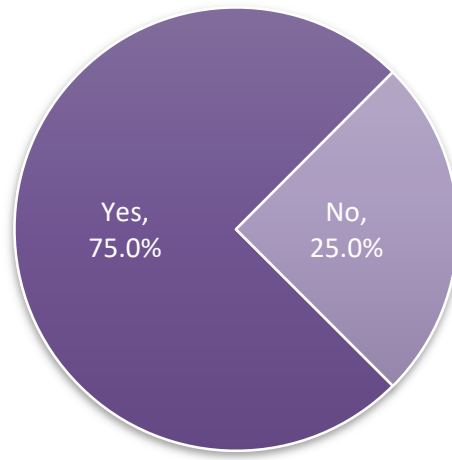
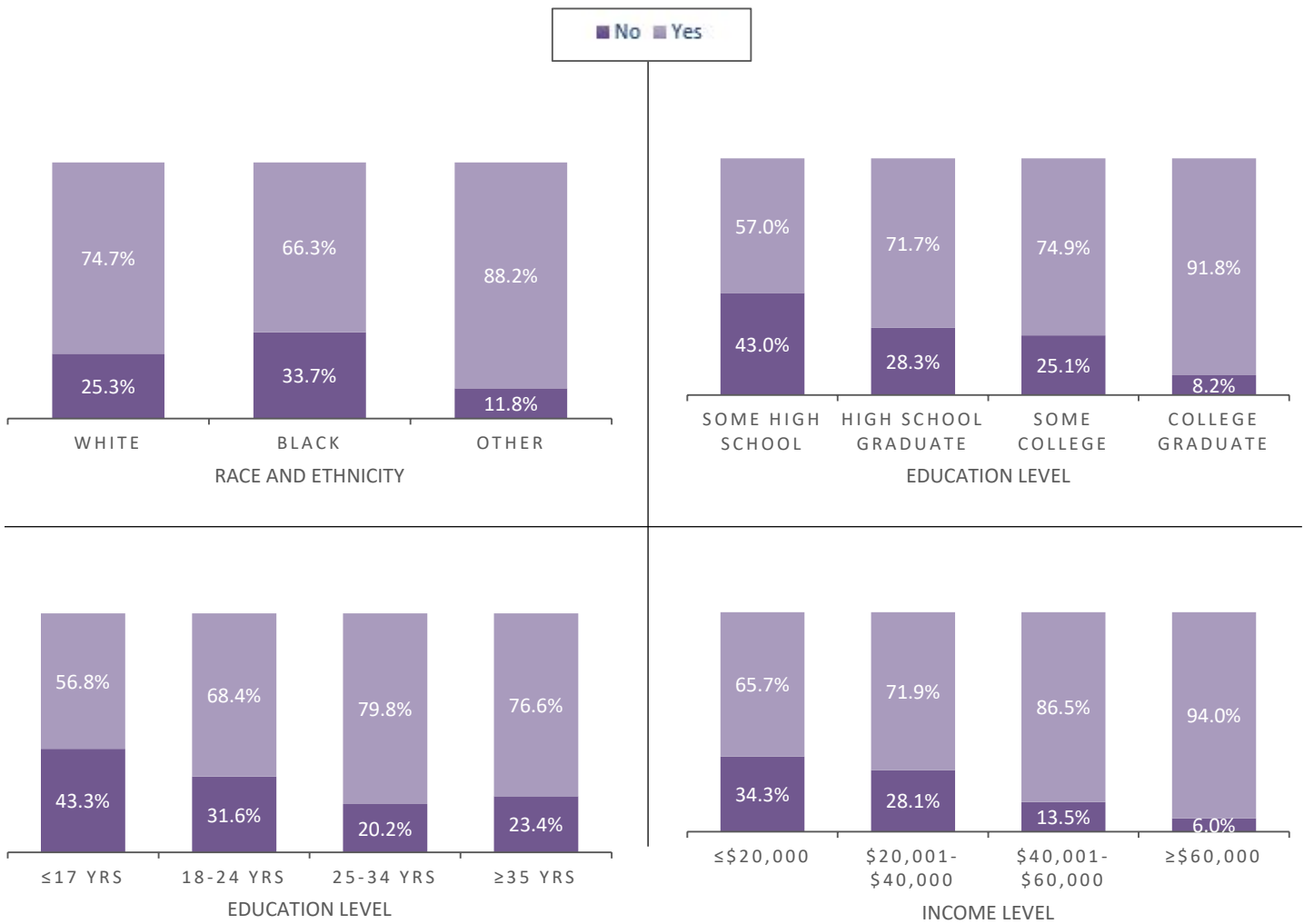


Figure 55.

Demographics of Mothers Who Ever Breastfed



About 43.0% of mothers in West Virginia who reported ever breastfeeding, reported exclusively breastfeeding their baby at the time they took the survey (generally between 4 to 9 months after delivery) in 2016 (Figure 59). However, 19.3% of the mothers that had stopped breastfeeding by the time they took the survey had only breastfed for less than 1 week, while 31.5% had breastfed greater than 8 weeks in 2016 (Figure 60).

Question 50: Are you currently breastfeeding or feeding pumped milk to your new baby?

Question 51: How many weeks of months did you breastfeed or feed pumped milk to your baby?

Figure 56.

Mothers Who Are Still Breastfeeding at Time of Survey

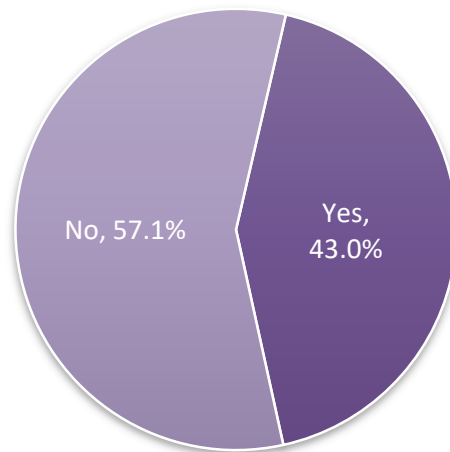


Figure 57.

Breastfeeding Length of Mothers Who Had Stopped Breastfeeding at Time of Survey

