

NORTH CAROLINA PRAMS FACT SHEET

June 2012



North Carolina Teen Mothers' Maternal Health 2005–2009 N.C. Pregnancy Risk Assessment Monitoring System (N.C. PRAMS)

This fact sheet focuses on teen births, behaviors and risk factors in North Carolina and compares them with mothers over the age of 20. Teen birth data in this report includes women ages 13 through 19 who delivered a live born infant from 2005–2009. First, we present live birth data in order to provide a comprehensive summary of teen births in the state. In the remainder of the report, we examine North Carolina Pregnancy Risk Assessment Monitoring System (N.C. PRAMS) survey data for teen mothers.

Teenage birth rates have declined substantially over the last decade throughout the United States and in North Carolina.¹ As shown in **Figure 1**, in 2009, North Carolina's teenage (ages 13 to 19) birth rate was 32.3 births per 1,000 females. This figure was approximately 25 percent lower than the 2000 rate of 43 teen births per 1,000 females age 13 to 19.²

Characteristics of Teenage Births in North Carolina

During the period 2005–2009, a total of 74,005 babies were born to mothers ages 19 and younger; representing 11.6 percent of all North Carolina resident live births. The majority of teenage births were to older teens ages 18 and 19 (67.7%). Of the North Carolina teenagers who gave birth to a live baby, 41.3 percent were non-Hispanic white, 36.6 percent were non-Hispanic black, 3.6 percent were Non-Hispanic other races and 18.5 percent were Hispanic/Latina (**Figure 2**). In comparison, as shown in **Figure 3**, a greater proportion of births to mothers ages 20 and over were non-Hispanic white (57.6%), with fewer being non-Hispanic black (21.7%) and Hispanic/Latina (16.1%).²

Figure 1.
**North Carolina Resident Birth Rates for
Teens Ages 13–19, 2000–2009**

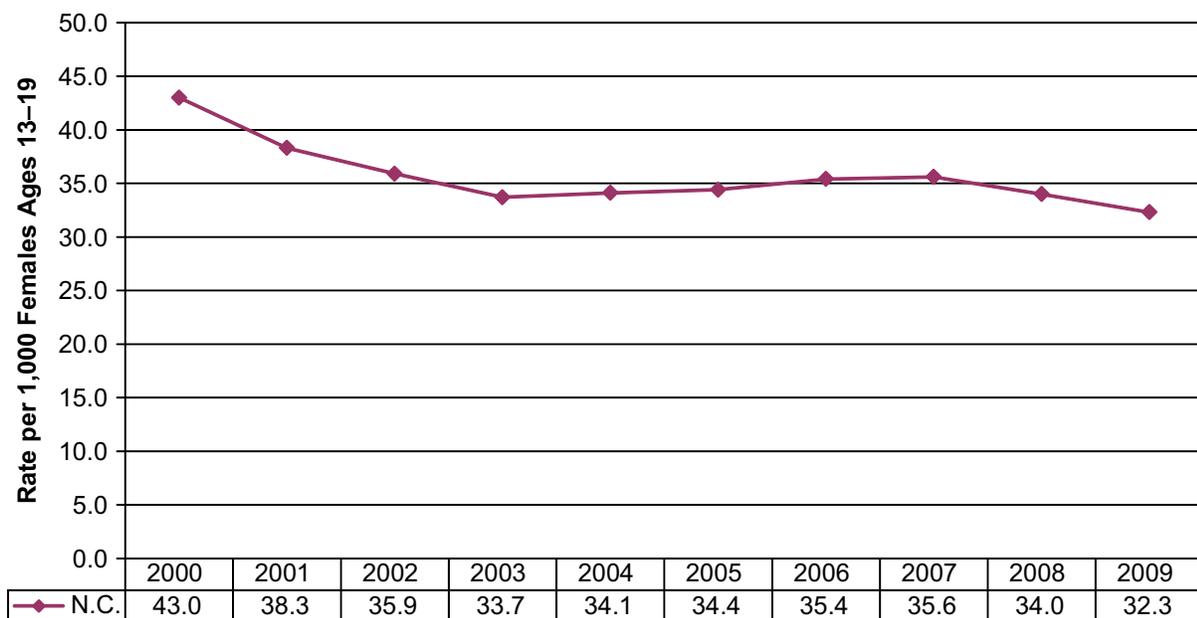


Figure 2.
2005–2009 North Carolina Resident
Births for Teens Ages 13–19,
Percentage by Race and Ethnicity

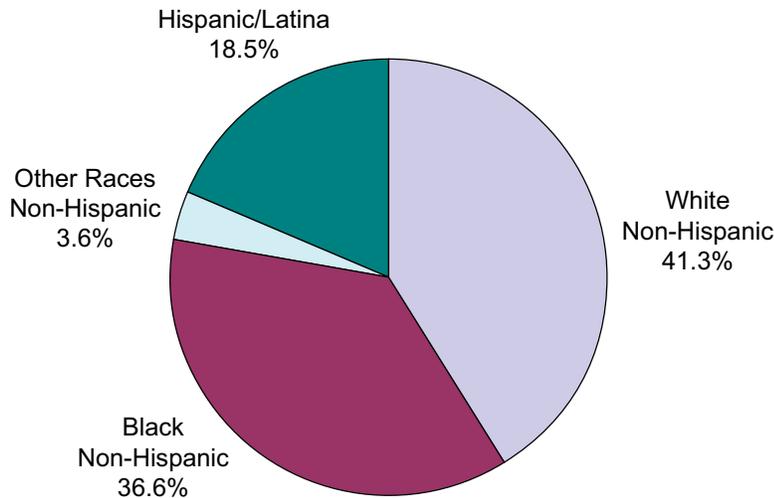


Figure 4 presents 2005–2009 live birth rates for this age group by race and ethnicity. During this time period, North Carolina’s teen birth rates have remained relatively unchanged for most racial groups. However, the birth rate for Hispanic/Latina teen mothers fell 29 percent during the five year period, from 105.8 per 1,000 females in 2005 to 75.1 per 1,000 in 2009. Thus, the decline in births to Hispanic/Latina teens has likely had the greatest impact on reductions in the overall teen birth rate in North Carolina during this time period.²

Due to their younger age, teenage mothers often deliver children while enrolled in high school. Having a baby as a teenager may compromise their ability to stay enrolled and complete coursework necessary to graduate from high school.³ North Carolina birth certificate data reveal that approximately 30 percent of teen mothers had less than 12 years of education at the time that they delivered their baby. About 70.4 percent of teenage mothers had 12 years or more education, compared to 93.7 percent of women ages 20 and older.²

Birth Outcomes

Infants born to teenage mothers are at higher risk of being born premature (prior to 37 weeks gestation), being a low birth weight (<2,500 grams) and other serious health problems, compared with infants born to older mothers.⁴ During 2005–2009, a total of 11,334 babies were born prematurely to teen mothers in North

Carolina, representing 15.3 percent of all teen births. In comparison, 13.1 percent of births to non-teenage age mothers were premature during this same time period. From 2005–2009, 11.1 percent of infants born to teenage mothers were low birth weight (n=8,205). For mothers ages 20 and over, 8.9 percent of all births were low birthweight.²

Prenatal Indicators

Prenatal Care—Timing

Research suggests that ideally prenatal care should begin during the first trimester for early detection of problems and sufficient care.⁵ N.C. PRAMS asks the following question regarding prenatal care timing: “Did you get prenatal care as early in your pregnancy as you wanted?” Overall, 35.1 percent of teen mothers reported that they did not receive prenatal care as early as they wanted. N.C. PRAMS also includes a question regarding how many weeks or months into the pregnancy mothers began prenatal care. As presented in **Figure 5**, Hispanic/Latina teen mothers were most likely to report that they received late prenatal care (after the first trimester) or no prenatal care (53.6%), followed by non-Hispanic black women (50.6%) and other races (50.4%). Non-Hispanic white teen mothers were least likely to receive late (after the 1st trimester) or no prenatal care (37.4%).

Figure 3.
2005–2009 North Carolina Resident
Births for Ages 20 and Over,
Percentage by Race and Ethnicity

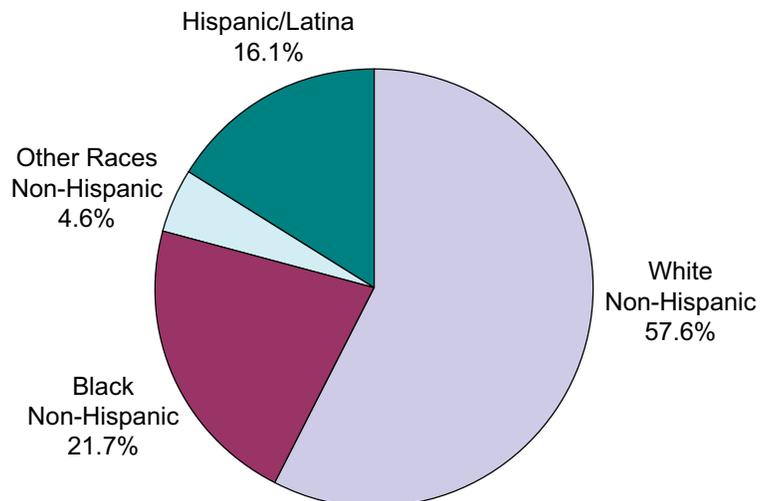
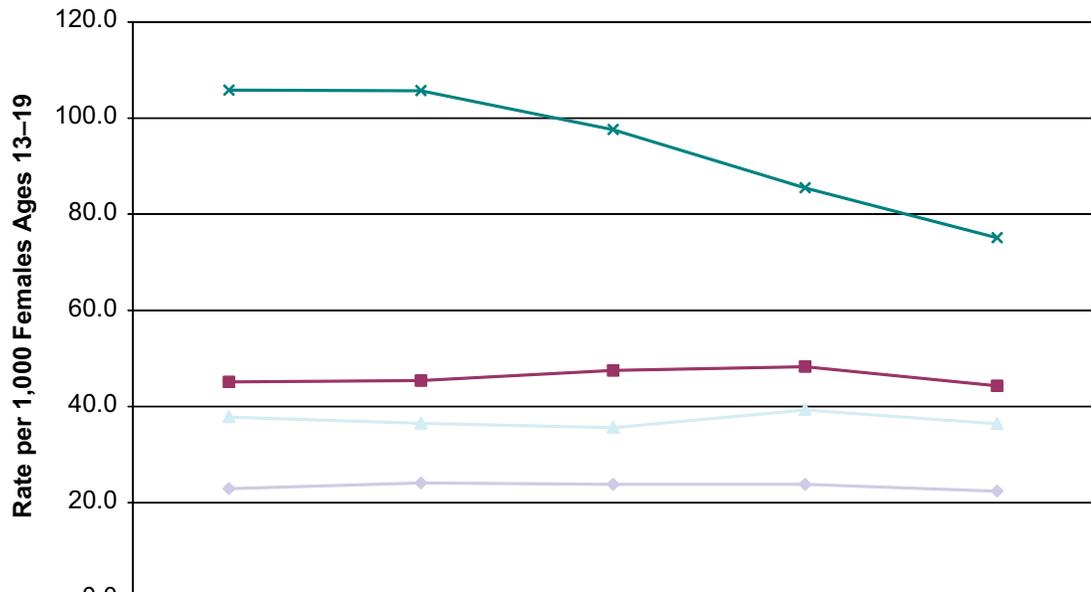
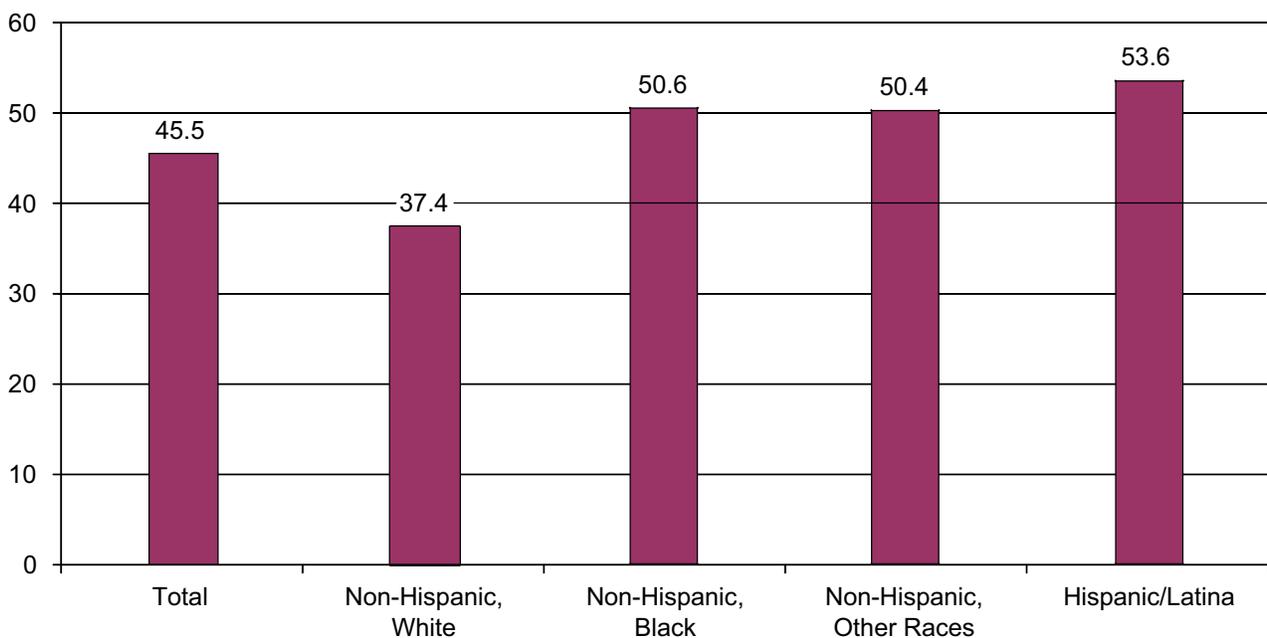


Figure 4.
2005–2009 North Carolina Resident Birth Rates for
Teens Ages 13–19, by Race and Ethnicity



	2005	2006	2007	2008	2009
◆ Non-Hispanic, White	22.9	24.1	23.8	23.8	22.4
■ Non-Hispanic, Black	45.1	45.4	47.5	48.3	44.3
▲ Non-Hispanic, Other Races	37.8	36.5	35.6	39.3	36.4
✕ Hispanic/Latina	105.8	105.7	97.6	85.5	75.1

Figure 5.
Late or No Prenatal Care Reported by North Carolina
Teen Mothers (Ages 13–19), North Carolina PRAMS 2005–2009



Prenatal Care—Barriers

Overall, 36 percent of mothers of all ages reported at least one barrier to obtaining prenatal care. Among the common barriers for North Carolina teen mothers were: not having enough money (13.0%), not having a Medicaid card (12.0%) and not being able to get an appointment as early as they wanted (15.0%). Teen mothers were also statistically significantly more likely to report that they did not want their pregnancy known (12.0%) as a reason why they did not have early prenatal care, compared with 5.7 percent of mothers in the older age group. In an attempt to keep their pregnancy a secret, pregnant teens may delay prenatal care until late in pregnancy which may put the health of their baby at risk.⁶

Prenatal Care—Health Education

The N.C. PRAMS survey also asks mothers whether a doctor, nurse or other health care provider talked with them during any prenatal care visit about a number of topics. Statistically significantly more teen mothers than older mothers reported

getting counseled on breastfeeding (91.5% vs. 85.1%), postpartum birth control (90.9% vs. 84.8%), second hand smoking (90.3% vs. 71.6%), smoking or tobacco use (87.2% vs. 72.6%), drinking (84.8% vs. 74.0%), drug use (82.6% vs. 66.6%) and depression (80.2% vs. 71.3%). Older mothers reported that they were more likely to be counseled on birth defects (90.8% vs. 82.2%) and bacteria beta strep that they can pass to their newborn (64.9% vs. 50.9%). Seatbelt use and emotional and physical abuse were the topics that were least likely to be discussed among mothers of all ages.

Medicaid and WIC Enrollment

Teen mothers were more likely to report that they were enrolled in publicly-funded programs (Medicaid and WIC) during pregnancy compared with older mothers (**Figure 6**). Among mothers ages 20 and over, enrollment in Medicaid and WIC during pregnancy was approximately 40 percent. Medicaid and WIC enrollment among teens ages 13–19 was twice as high (80.4%).

Figure 6.
Medicaid and WIC Status of North Carolina Mothers During Pregnancy by Age Group, North Carolina PRAMS 2005–2009

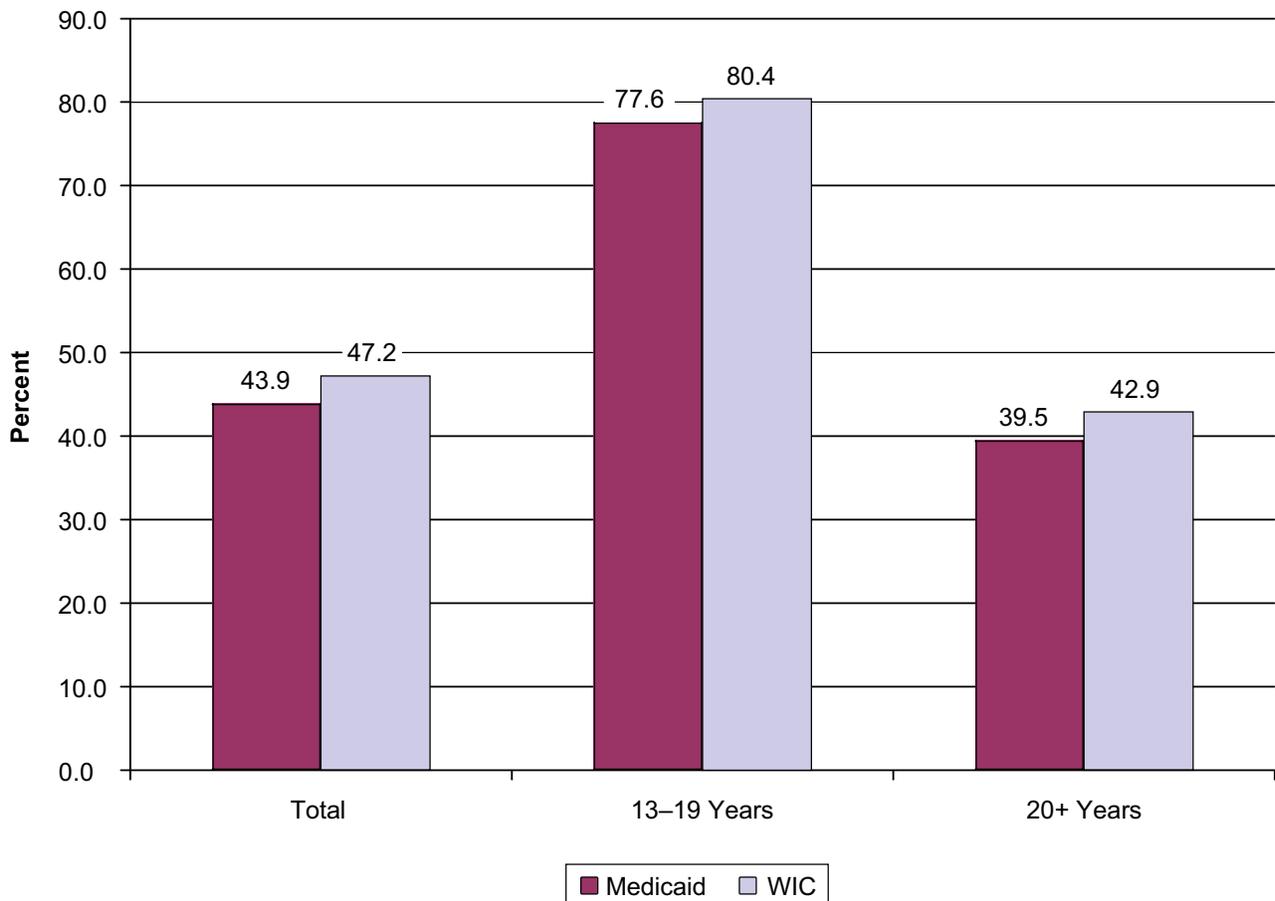
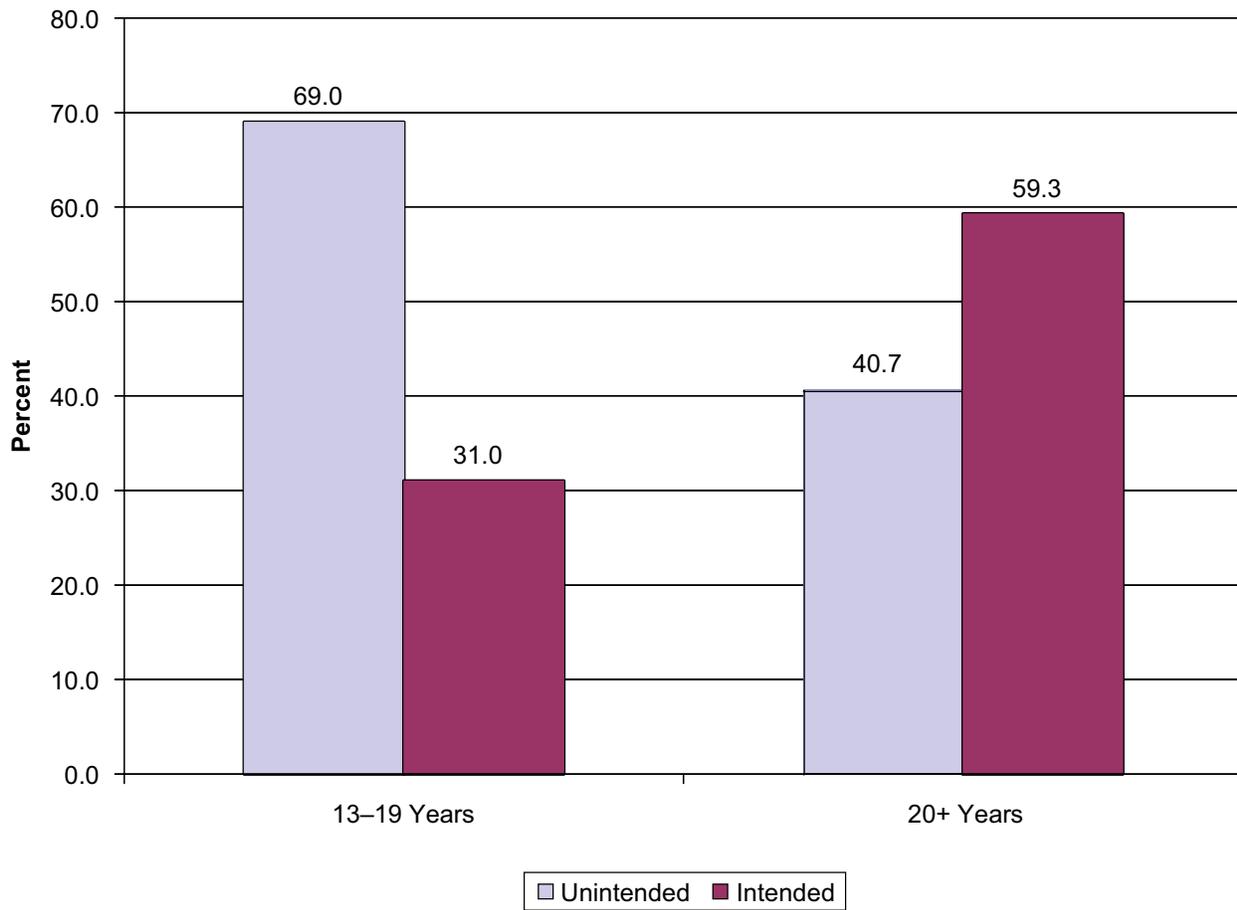


Figure 7.
Unintended Pregnancies among North Carolina Mothers
by Age Group, North Carolina PRAMS 2005–2009



Pregnancy Intention

Research has shown that unintended, unplanned pregnancies may be associated with poor birth outcomes.^{7,8} North Carolina’s teenage mothers are more likely to report that their pregnancy was unintended compared with older mothers. As shown in **Figure 7**, during 2005–2009, 69.0 percent of teenage mothers responding to the N.C. PRAMS survey reported that they did not want to become pregnant at the time of conception, compared to 40.7 percent of older mothers. It was reported by 67.7 percent of non-Hispanic white teen mothers and 79.8 percent of non-Hispanic black teen mothers that their pregnancy was unintended. Hispanic/Latina teenagers were the least likely to report that their pregnancy was unintended (54.2%).

Smoking and Drinking

Smoking during pregnancy poses a serious risk for certain pregnancy complications.⁹ According to N.C. PRAMS, teen mothers were slightly more likely to report that they smoked three months before pregnancy (26.1%) compared with older

mothers (23.1%). Additionally, slightly more teenagers (14.1%) than older mothers (13.0%) reported smoking during the last three months of pregnancy. However, in neither case were the difference in smoking rates between teen mothers and older mothers statistically significant. (**Figure 8**)

With regard to alcohol use, N.C. PRAMS data reveal that fewer teenagers (26.3%) than older mothers (48.1%) reported drinking alcohol three months prior to pregnancy. Similarly, fewer teenagers reported drinking during pregnancy. Nearly 8 percent of mothers in the older age group reported drinking alcohol during the last three months of their pregnancy compared to 3.3 percent of teenage mothers.

Birth Control

Statistics from the national PRAMS dataset indicated that about 50 percent of teenagers whose pregnancies were unintentional stated that they were not using any form of birth control at the time of conception.¹⁰ As presented in **Figure 9**, among North Carolina teens who reported that their pregnancy was unintentional, 60.1 percent indicated that they were not

Figure 8.
Alcohol and Smoking Reported by North Carolina Mothers
by Age Group, North Carolina PRAMS 2005–2009

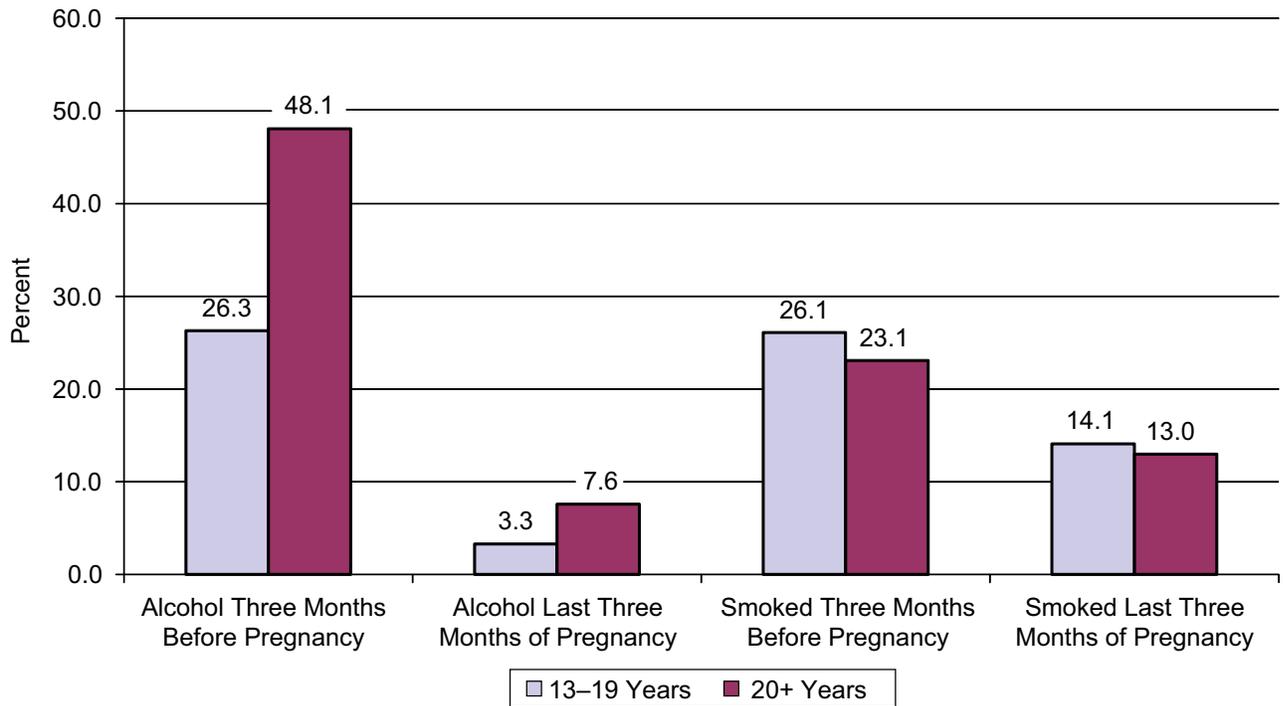
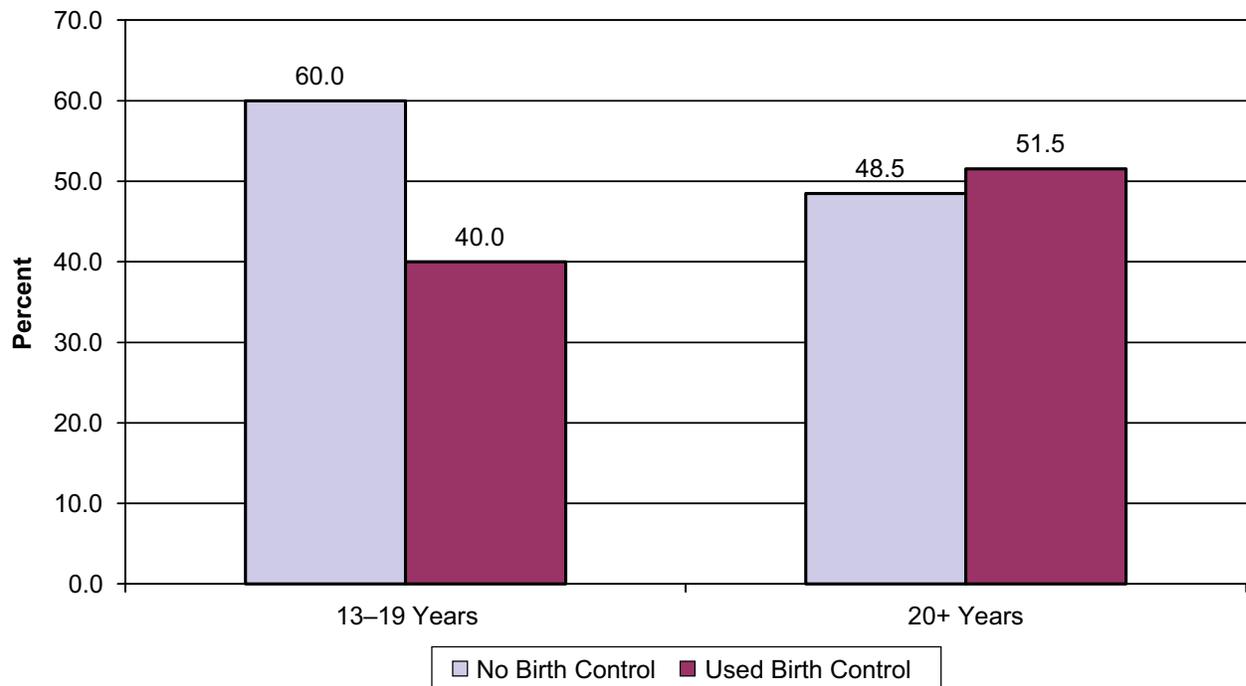


Figure 9.
Birth Control Use among Unintentional Pregnancies at the Time of Conception
by Age Group, North Carolina PRAMS 2005–2009



using any birth control to prevent their pregnancy. When asked why they did not use birth control, the top reason cited was that their husband/partner did not want to use anything (36.6%). In contrast, older mothers were most likely to report that they did not mind getting pregnant at that time (40.4%). Another frequent response of the teenage group was that they thought they could not get pregnant at that time (36.6%), compared to older mothers (28.9%). However this difference was not statistically significant. In contrast, older mothers were significantly more likely to cite side effects as a reason why they did not use birth control (10.5%), compared to teenagers (6.7%).

Confirmation of Pregnancy

Confirming pregnancy in the first trimester allows mothers to take the necessary steps to ensure a healthy pregnancy.⁶ As **Figure 10** shows, North Carolina teen mothers are more likely to delay confirming their pregnancy compared to older mothers. Teen mothers are significantly less likely (27.3%) to find out about their pregnancy during the first month than older mothers (41.9%). Among teenagers, 24 percent found out about their pregnancy in or after the 13th week while only 7 percent of older mothers delayed confirming pregnancy until after the 13th week.

Stressful Life Events

Maternal stress during pregnancy can be associated with adverse maternal and child outcomes.¹¹ The N.C. PRAMS survey asks new mothers whether they experienced any of 13 stressful life events during the 12 months prior to delivery. Teenage mothers were statistically significantly more likely than older mothers to report that they moved (44.1% vs. 34.6%), argued more often (36.7% vs. 25.0%) and that someone in their lives had a problem with drinking or drugs (20.3% vs. 11.9%). Significantly more teen mothers reported social stress due to someone close to them who had died (23.1%) compared to older mothers (17.5%). However, older mothers (24.2%) were significantly more likely than teenage mothers (16.1%) to report having bills they could not pay during their pregnancy. Teenage mothers were almost twice as likely (23.0%) than older mothers (12.0%) to report being emotionally upset due to treatment based on her race in the 12 months prior to pregnancy.

Physical Abuse

Studies suggest that teens are at heightened risk of physical abuse compared to older women during pregnancy.¹² Among teenagers and adult women, the percentage of mothers reporting physical abuse during pregnancy was lower than

Figure 10.
Weeks at Pregnancy Confirmation for North Carolina Mothers
by Age Group, North Carolina PRAMS 2005–2009

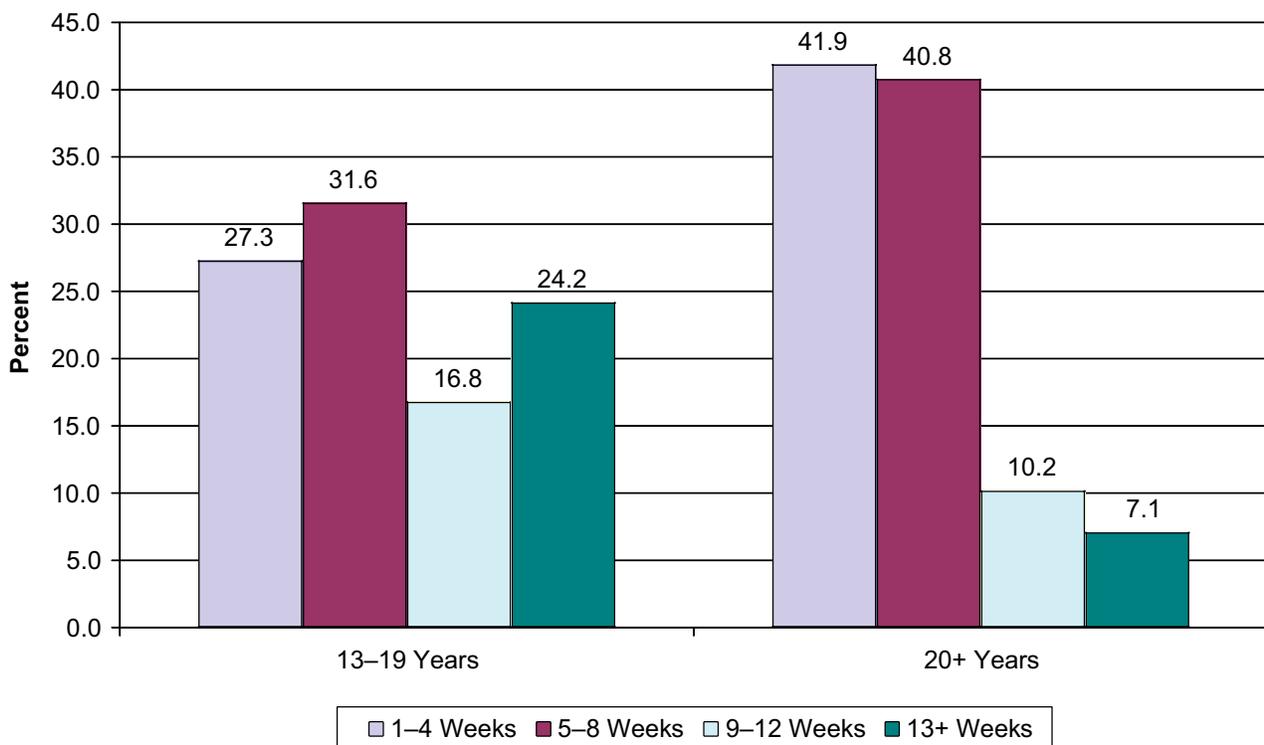
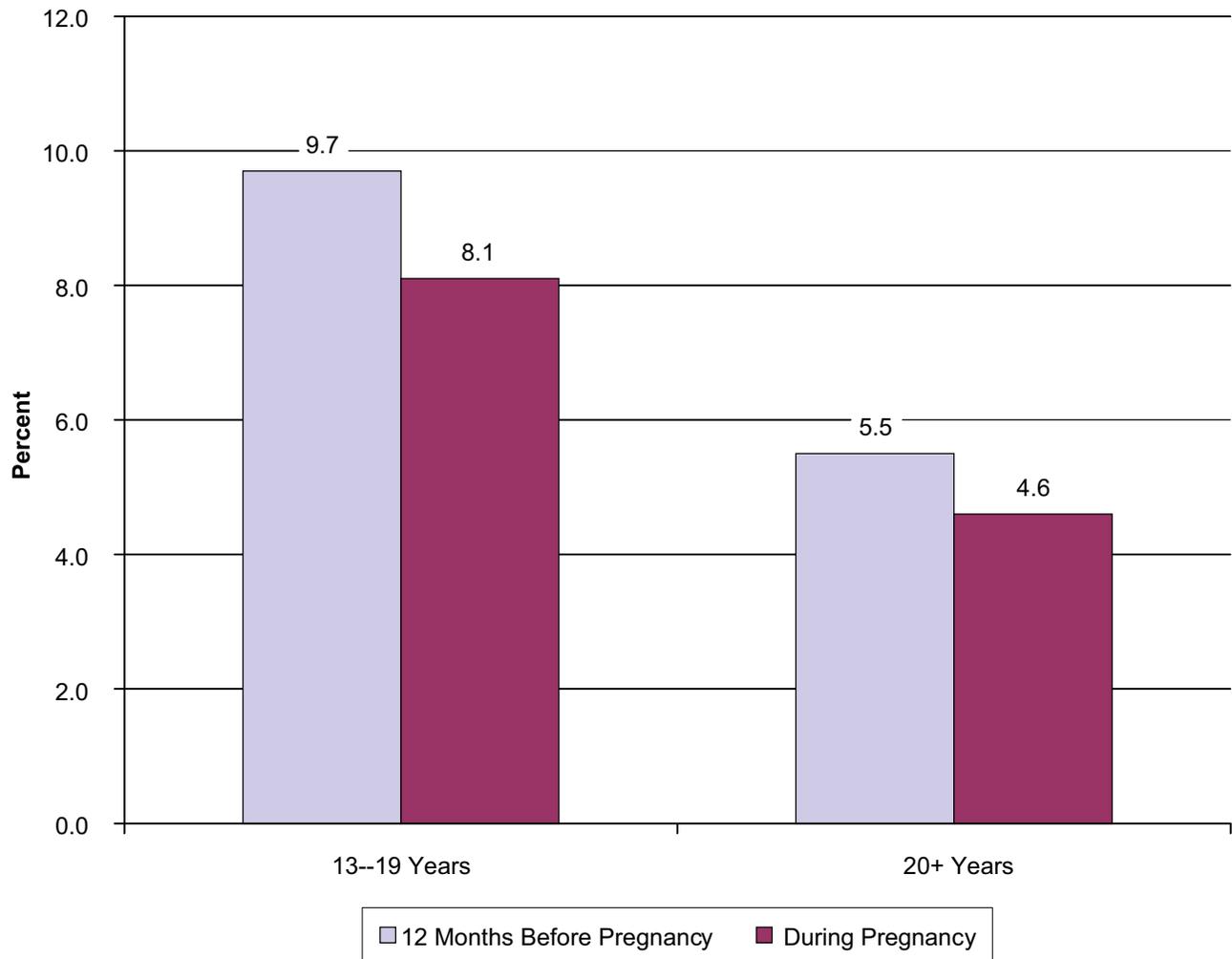


Figure 11.
Physical Abuse Reported by North Carolina Mothers
by Age Group, North Carolina PRAMS 2005–2009



abuse during the period before pregnancy. Significantly more teenagers reported that their husband or partner physically abused them (8.1%) during pregnancy than older moms (4.6%). More teen mothers (9.7%) than older mothers (5.5%) reported physical abuse during the 12 months before pregnancy and the difference was statistically significant (**Figure 11**).

Physical Activity

Healthy pregnant women may exercise moderately for at least 30 minutes a day, three to four times a week.¹³ The 2005–2009 N.C. PRAMS survey asked new mothers about their exercise frequency three months before they became pregnant and during the last three months of pregnancy. Overall 46.6 percent of new mothers reported that they exercised one to four days a week prior to their pregnancy. Statistically significantly fewer teen mothers exercised one to four days per week during the three months before their pregnancy than mothers over age 19

(37.8% vs. 47.7%). Teen mothers were more likely to report exercising one to four days per week during the last three months of pregnancy compared with mothers over age 19. However, this difference was not statistically significant.

About 16.9 percent of teen mothers reported exercising five or more days per week before pregnancy while 12.6 percent of older mothers were physically active during this period. This difference was not significant. Only 7.2 percent of older mothers exercised five or more days per week compared to 11.1 percent of teen mothers who exercised while pregnant.

Multivitamin Use

Women who take multivitamins before becoming pregnant are less likely to give birth to premature babies and babies with certain birth defects.^{14,15} During 2005–2009, teen mothers

were statistically significantly more likely (75.3%) to report that they did not consume a daily prenatal multivitamin before pregnancy compared with mothers over age 19 (53.1%). Beginning in 2009, a new question was added to the N.C. PRAMS survey which asks mothers if they were taking multivitamins at the time of the survey (postpartum). Statistically significantly more teen mothers (50.6%) reported that they were not taking multivitamins postpartum compared with mothers in the older age group (29.3%).

Postpartum Behaviors

Infant Sleep Position

Placing infants to sleep on their backs reduces the risk of Sudden Infant Death Syndrome (SIDS)—one of the leading causes of infant death.¹⁶ According to 2005–2009 N.C. PRAMS survey, 70.4 percent of mothers ages 20 and over reported that they put their infant on their back to sleep compared to 59.8 percent of teenage mothers.

Breastfeeding

Substantial research suggests that breastfeeding can have health benefits for both the infant and the mother.¹⁷ The 2005–2009 N.C. PRAMS survey reveals that teenagers are significantly less likely to both initiate and continue breastfeeding compared to older mothers. During this time period, 58.3 percent of

teenage mothers reported initiating breastfeeding compared to 76.3 percent of mothers in the older age group. Among the teenagers who initiated breastfeeding, 48.7 percent continued breastfeeding eight weeks after delivery, compared to 69.2 percent of older mothers.

Postpartum Contraception

The majority of North Carolina's mothers (87.1%) reported that they used some method of contraception following the birth of their baby. The most common postpartum contraceptive methods used among both teenagers and older mothers were condoms, oral contraceptives ("the pill") and Depo-Provera. Teenage mothers were slightly more likely to report using condoms (36.9%) compared with older mothers (29.5%). Teen mothers were also more likely to report taking the contraceptive pill (35.1%) than non-teenage mothers (28.6%). The Depo-Provera shot is a hormone injection birth control method that is administered every three months. Approximately one in five teenage mothers reported using Depo-Provera postpartum (19.7%), compared with less than one in 10 mothers ages 20 and over (8.4%).

Note: Throughout this report, N.C. PRAMS estimates used SAS callable SUDAAN software to estimate 95 percent confidence intervals. SAS Version 9.2 was used for all birth certificate file analysis.

Comments from Teen Mothers Who Participated in the North Carolina PRAMS Survey:

- ▶ *During pregnancy tell yourself you're beautiful. It really helps. Even if your relationship doesn't work your baby will give you all the love and happiness you need.*
- ▶ *I thought my doctors should have given me more information while I was pregnant about the baby.*
- ▶ *My family didn't want me on birth control because they didn't know I was sexually active.*
- ▶ *Why some babies are born more healthy than others are that the mothers don't care. As soon as I found out I was pregnant I was scared and didn't care as soon as I should have. But I then realized everyone needs a healthy start at life. So then I did everything I could to make sure she was as healthy as she could be.*
- ▶ *All the teens out there in this world wait to have sex. Because you could be like me and get pregnant at 13 when you least expect it. It is not easy to be 13 and have to pretty much raise a child alone. And if you get pregnant young, there is a high chance that you will be a single parent for a while.*

References

1. Ventura SJ, Hamilton BE. U.S. teenage birth rate resumes decline. *NCHS Data Brief*. Feb 2011;58. Available at: www.cdc.gov/nchs/data/databriefs/db58.htm. Accessed on April 2, 2012.
2. North Carolina State Center for Health Statistics. North Carolina Live Birth Certificate Data. Special Data run Retrieved on April 2, 2012.
3. Perper K, Petersen K, Manlove J. Diploma Attainment Among Teen Mothers. Child Trends Fact Sheet. Jan 2010. Available at: www.childtrends.org/Files/ChildTrends-2010_01_22_FS_DiplomaAttainment.pdf. Accessed on April 5, 2012.
4. Northwestern University, Feinberg School of Medicine, Center for Healthcare Equity. Teen Pregnancy. Available at: www.chicagohealth77.org/teen-pregnancy. Accessed on March 28, 2012.
5. NC Healthy Start: Pregnancy—Get early prenatal care. Available at: www.nchealthystart.org/public/pregnancy/prenatal.htm. Accessed on April 2, 2012
6. Lee SH, Grubbs LM. Pregnant teenagers' reasons for seeking or delaying prenatal care. *Clinical Nursing Research*. 1995 Feb;4(1):38–49.
7. March of Dimes. Medical resources. Teenage Pregnancy Available at: www.marchofdimes.com/professionals/medicalresources_teenpregnancy.html. Accessed on April 2, 2012.
8. Klein, JD and the Committee on Adolescence. American Academy of Pediatrics Adolescent Pregnancy: Current Trends and Issues. *Pediatrics*. 2005;116(1):281–6. Available at: www.pediatricsdigest.mobi/content/116/1/281.full. Accessed on April 2, 2012.
9. CDC—Pregnant? Don't Smoke! Available at: www.cdc.gov/features/pregnantdontsmoke. Accessed on April 2, 2012.
10. Prepregnancy Contraceptive Use Among Teens with Unintended Pregnancies Resulting in Live Births—Pregnancy Risk Assessment Monitoring System (PRAMS), 2004–2008. *MMWR*. 2012;61(02)25–9. Available at: www.cdc.gov/mmwr/preview/mmwrhtml/mm6102a1.htm?s_cid=mm6102a1_w. Accessed on April 2, 2012.
11. Dunkel SC, Tanner L. Anxiety, depression and stress in pregnancy: implications for mothers, children, research, and practice. *Curr Opin Psychiatry*. 2012 Mar;25(2):141–8. Abstract available at: www.ncbi.nlm.nih.gov/pubmed/22262028.
12. Curry MA, Perrin N, Wall E. Effects of abuse on maternal complications and birth weight in adult and adolescent women. *Obstetrics and Gynecology*. 1998;92(4):530–4.
13. American Congress of Obstetricians and Gynecology (ACOG), Committee on Obstetric Practice. Exercise During Pregnancy and the Postpartum Period. Number 267, January 2002 (Reaffirmed 2009).
14. Centers for Disease Control and Prevention. CDC Features. Folic Acid Helps Prevent Neural Tube Defects. Available at: www.cdc.gov/Features/FolicAcid. Accessed on April 2, 2012.
15. Vahratian A, Siega-Riz AM, Savitz DA, Thorp JM Jr. Multivitamin use and the risk of preterm birth. *American Journal of Epidemiology*. 2004 Nov 1;160(9):886–92.
16. Centers for Disease Control and Prevention. New Infant Safe Sleep Recommendations. Available at: www.cdc.gov/sids/Parents-Caregivers.htm. Accessed on April 2, 2012.
17. Eidelman et al. American Academy of Pediatrics. Breastfeeding and the Use of Human Milk. *Pediatrics*. 2012 Mar 1;129(3):e827–41. Available at: <http://pediatrics.aappublications.org/content/129/3/e827.full>. Accessed on April 2, 2012.

What is PRAMS?

The Pregnancy Risk Assessment Monitoring System (PRAMS), funded by the Centers for Disease Control and Prevention, is an ongoing, state specific, population-based surveillance system of maternal behaviors and experiences before, during, and after pregnancy. Developed in 1987, PRAMS was designed to supplement vital records by providing state-specific data on maternal behaviors and experiences to be used for planning and assessing perinatal health programs. Currently conducted in 39 states and New York City, PRAMS collects data representative of 75 percent of U.S. births.

N.C. PRAMS is a random, stratified, monthly mail/telephone survey of North Carolina women who recently delivered a live-born infant. Data collection began in North Carolina on July 1, 1997, providing us with six months of data for 1997. Since 1997, PRAMS data have been collected every year. Each month around 150–180 women are selected from the Provisional Live Birth File and are interviewed approximately three to six months after giving birth. All estimates are weighted to reflect the entire population of North Carolina women who gave birth in each year.

For more information about this publication, contact:

Fatma Simsek at (919) 855-4495
or
e-mail: fatma.simsek@dhhs.nc.gov

PRAMS website:
www.schs.state.nc.us/schs/prams

For a list of other publications by the State Center for Health Statistics call:

(919) 733-4728
or
check the website at:
www.schs.state.nc.us/SCHS

The North Carolina Department of Health and Human Services does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provision of services.

Department of Health and Human Services
State Center for Health Statistics
1908 Mail Service Center
Raleigh, NC 27699-1908
(919) 733-4728

State of North Carolina
Beverly Eaves Perdue, Governor
www.ncgov.com

**Department of Health
and Human Services**
Albert A. Delia, Acting Secretary
www.ncdhhs.gov



Division of Public Health
Laura Gerald, MD, MPH
State Health Director
www.publichealth.nc.gov

Chronic Disease and Injury Section
Ruth Petersen, MD, MPH, Section Chief



State Center for Health Statistics
Karen L. Knight, MS, Director