MATERNAL AND WOMEN'S HEALTH

Georgia Title V Needs Assessment

Georgia Department of Public Health

Maternal and Women's Health

GEORGIA TITLE V NEEDS ASSESSMENT

INTRODUCTION

Improving maternal health outcomes, morbidity and mortality is an important priority for Georgia. As such, maternal well-being is indicative of many outcomes – including the well-being of children, families, and future generations. Many of the health indicators assessed in this section can determine the health, wellness and quality of life for mothers, children, and families. This section will explore the following indicators and compare them to Healthy People 2020 objectives whenever possible:

- Pregnancy behaviors such as prenatal care, vitamins use and flu vaccination
- Delivery methods
- Intended pregnancy and contraception use
- Chronic disease – both during pregnancy and in life
- Health issues such as overweight and obese
- Domestic violence
- STD rates and testing
- Mortality and morbidity

As such, this section focuses on pregnancy behaviors and health issues due to the fact that pregnancy can be an opportunity to prevent future health risks. Additionally, assessing these indicators can help states better determine program priorities and develop more cost-efficient, and culturally-sensitive interventions to address disparities by race, ethnicity, age, and education level.

The data sources are: Pregnancy Risk Assessment Monitoring System (PRAMS), Behavioral Risk Factor Surveillance System (BRFSS), Vital Statistics, Cancer Registry, OASIS, and STD Surveillance Program. This section will conclude with recommendations to help guide the planning for 2016 to 2020.

CONTRACEPTION AND PREGNANCY INTENTION

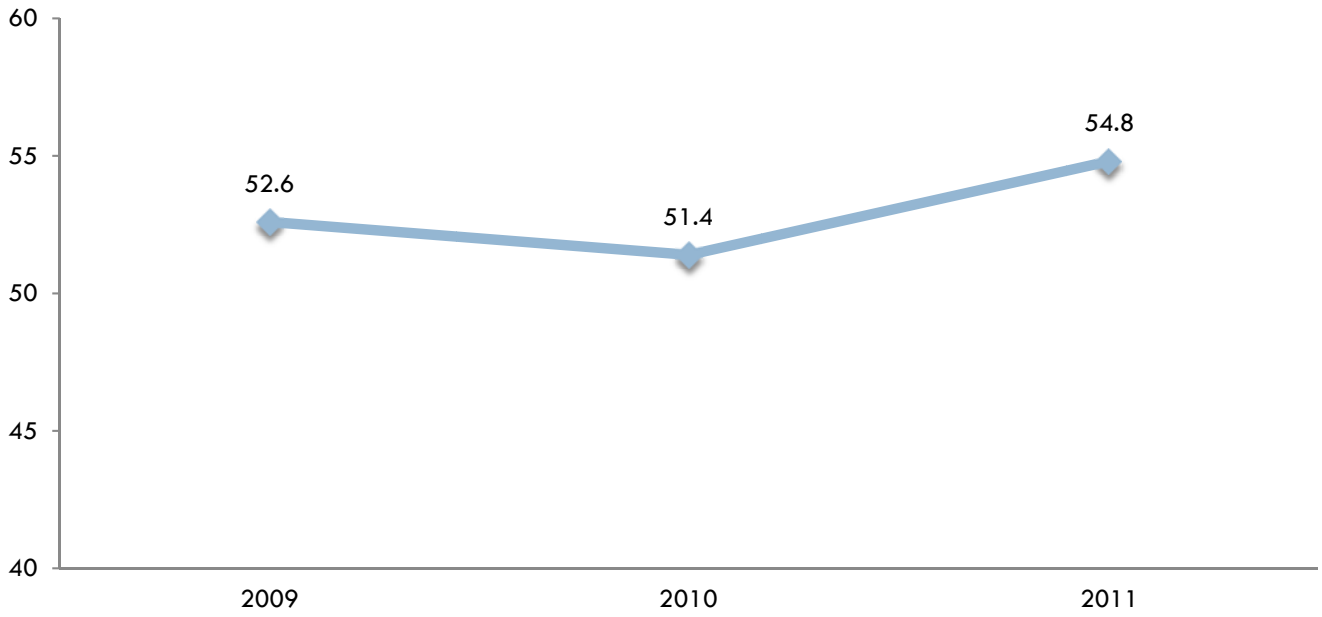
Pregnancy Intention

Healthy People 2020 Goal

FP-1: Increase the proportion of pregnancies that are intended to 56.0%

Unintended pregnancies in the United States remains around 60% annually. In Georgia, the percent of unintended pregnancies over a three year period (2009 to 2011) was consistently lower than the national average. The percent of unintended pregnancies in Georgia varies annually, with Georgia experiencing its lowest rate in 2010, followed by its highest rate during the subsequent year, 2011.

Percent of reported unintended pregnancies by year, Georgia, 2009 to 2011



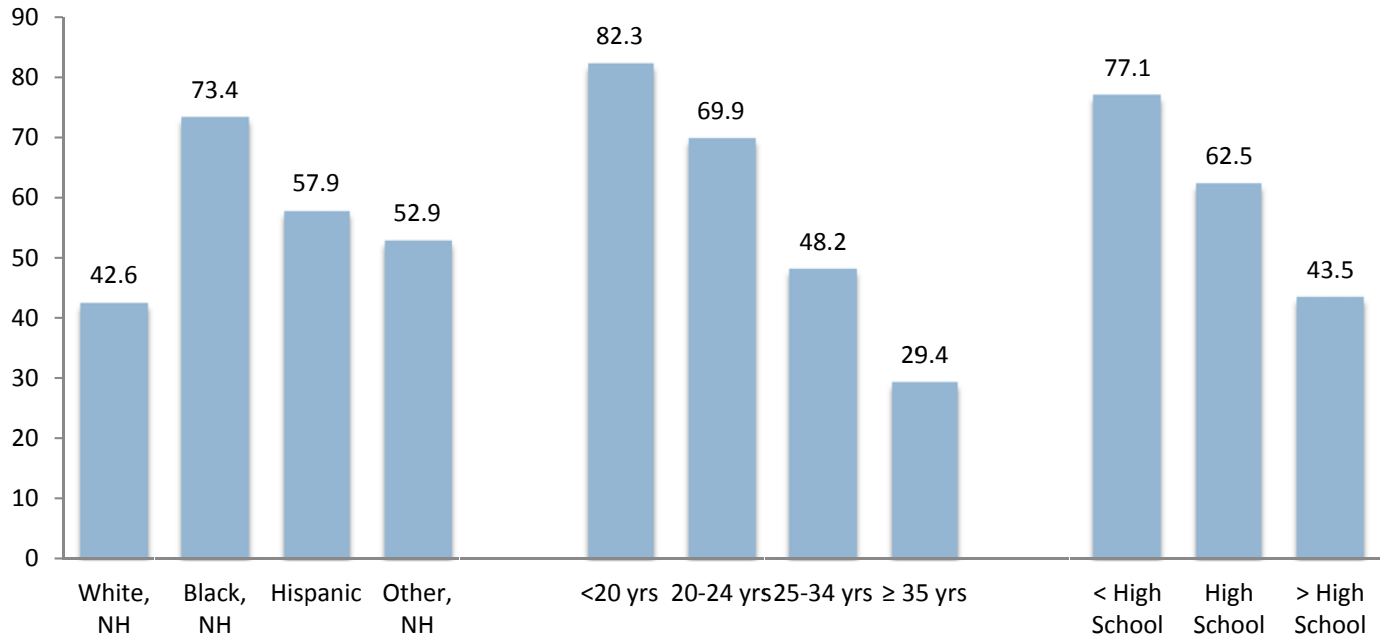
Source: PRAMS 2009-2011

Focusing solely on 2011, disparities exist by race/ethnicity. Non-Hispanic Blacks were the most likely to experience unplanned pregnancies, at 25% higher than the state average; while Non-Hispanic Whites were the least likely to have unplanned pregnancies. The percent in the Hispanic and "Other" groups were on par with the state average in 2011.

The percent of unintended pregnancies decreased as age increased, with teenagers most likely to experience an unintended pregnancy (83%) compared to women 35 years and older who experience unintended pregnancies less than 30% of the time.

Education reduces the likelihood that women will have an unintended pregnancy. In Georgia, we note that women with less than a high school education are 23% more likely to have an unintended pregnancy compared women who graduated high school, and 77% more likely than women with more than a high school education.

Percent of unintended pregnancies in by race/ethnicity, maternal age and education, Georgia, 2011

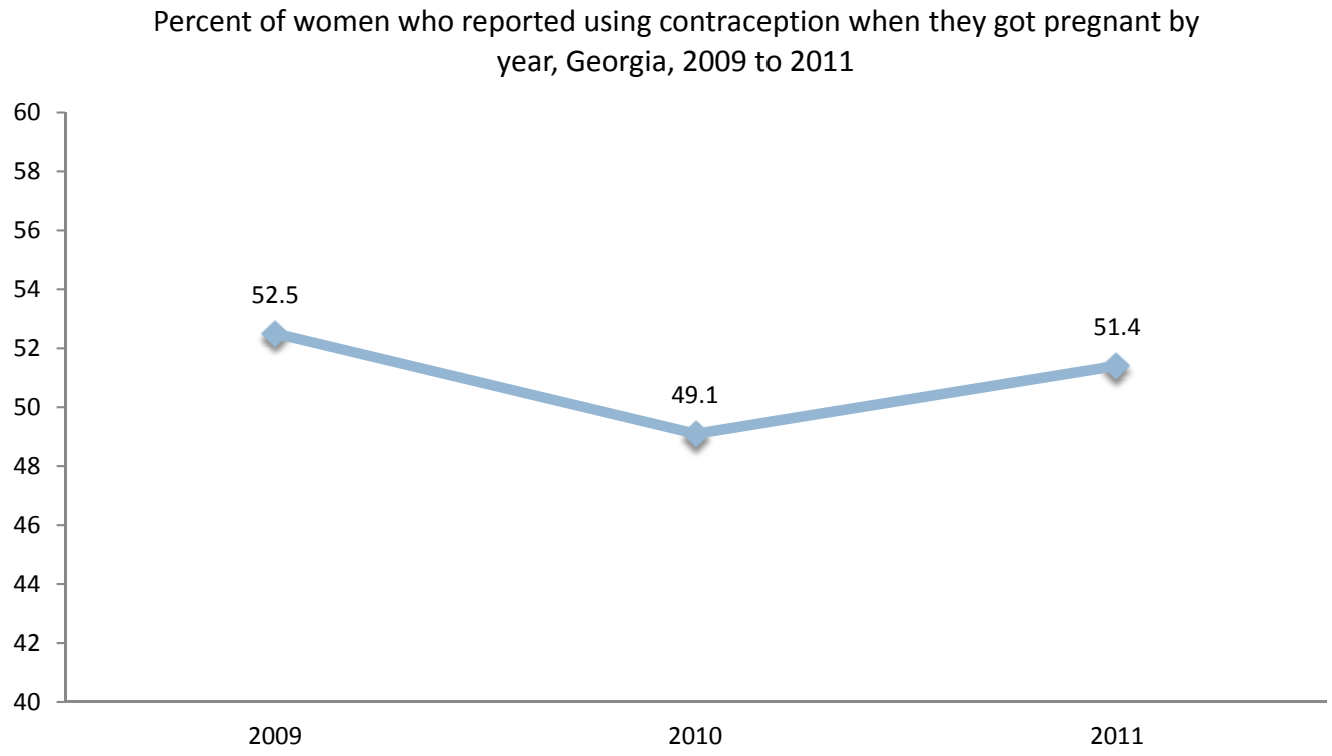


Source: PRAMS 2009-2011

"Non-Hispanic, Other" includes Asian, American Indian, Hawaiian, Alaskan Native, Mixed Race, and Other

Contraception at Conception

The percent of women who reported using contraception at the time of conception hovered around 50% from 2009-2011.



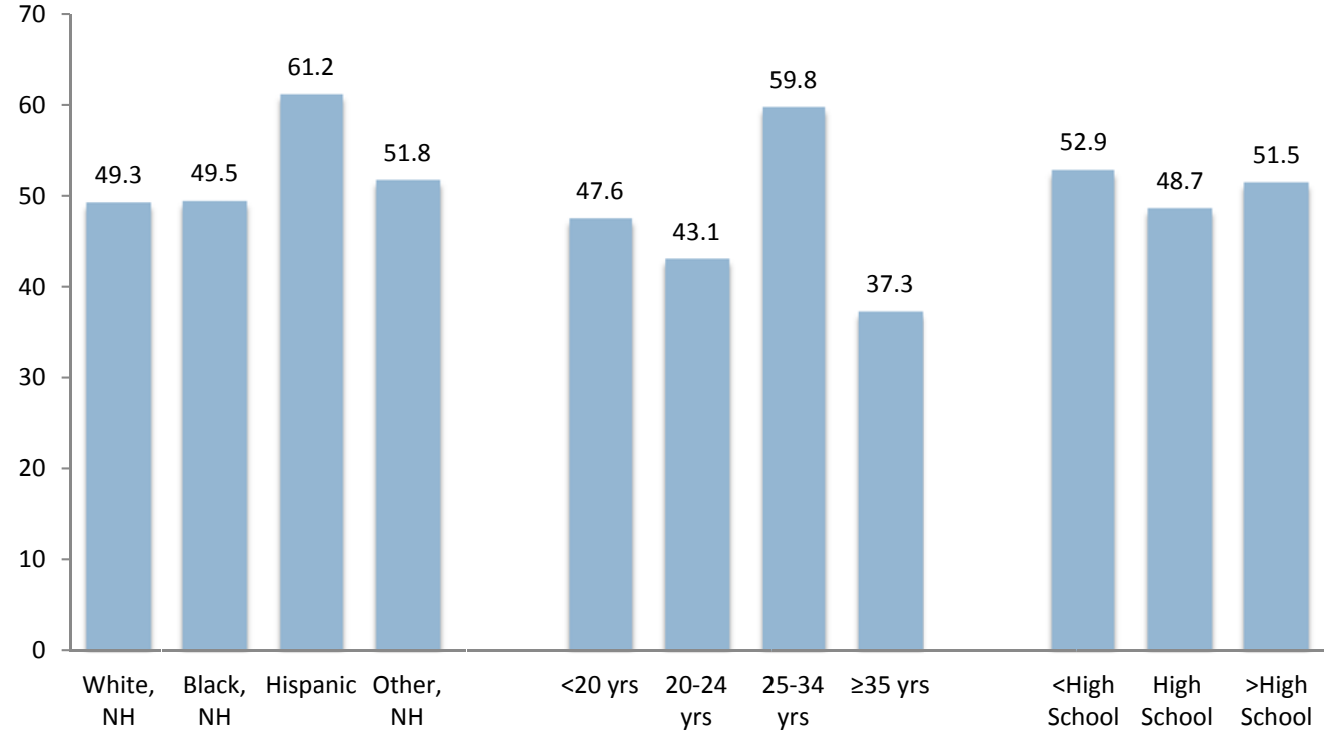
Source: PRAMS 2009-2011

When examining disparities that may exist by race/ethnicity, we note that Hispanic women were (22%) more likely to report using contraception when they got pregnant. All other races hovered around 50%.

In 2011, nearly 60% of Georgian women between the ages of 25 to 34 reported using contraception at conception, followed by women in their teen years at 47.6%, lower than the state average during that year. Women 35 years of age and older were the least likely to report using contraception at conception, at only 37%.

Education level did not seem to have a great impact on women's report of contraception at conception, with less than an eight percent difference between women who did not complete high school, at 52.9%, and high school graduates, at 48.7%.

Percent of women who using contraception when they got pregnant by race/ethnicity, maternal age and education, Georgia, 2011

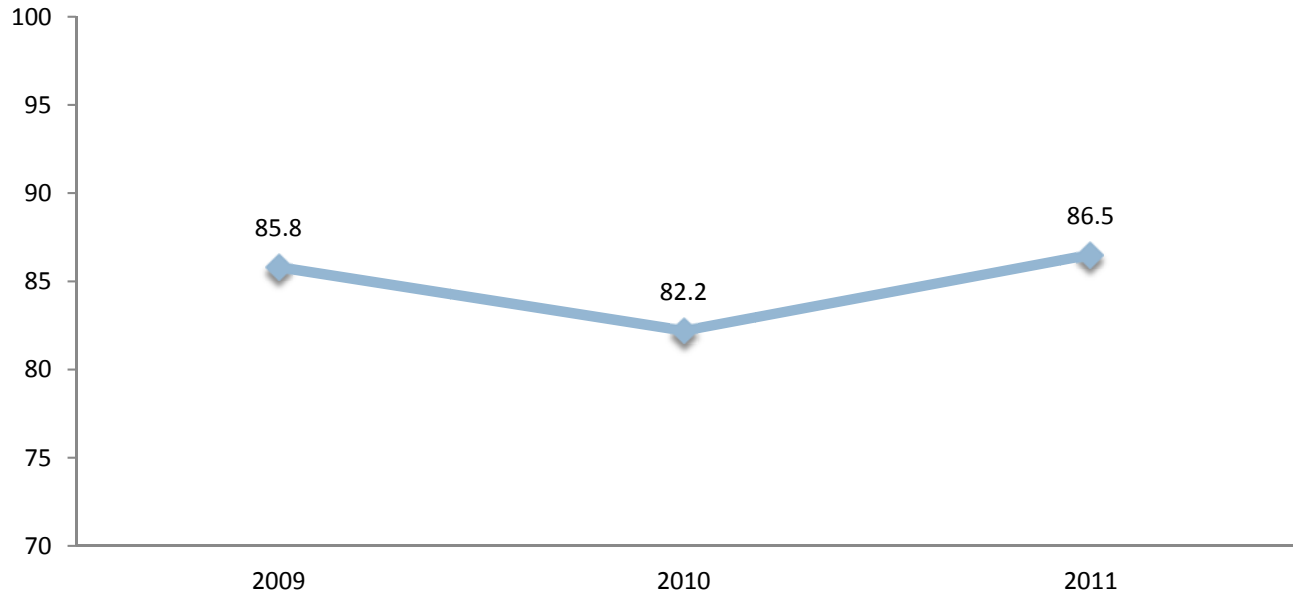


Source: PRAMS 2009-2011
"Other, Non-Hispanic" includes Asian, American Indian, Hawaiian, Alaskan Native, Mixed Race, and Other

Postpartum Contraception Use

Postpartum is the period of time immediately after birth. The percent of women using birth control during the post-partum period has remained above 80% during the three years of data represented below, with the lowest rate in 2010 of 82.2% and the highest rate in 2011 of 86.5%.

Percent of women who reported using birth control postpartum by year, Georgia, 2009-2011

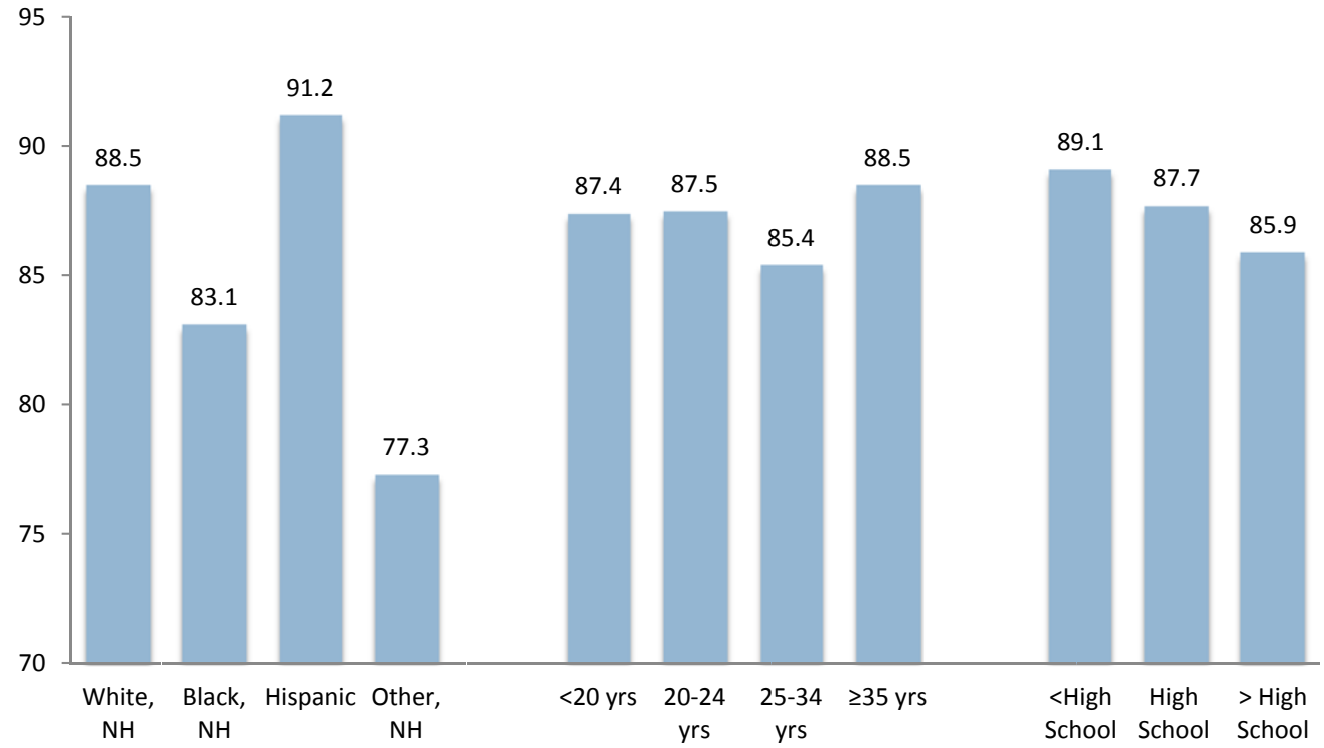


Source: PRAMS 2009-2011

Women characterized as "Other" in terms of race, were the least likely to report using birth control during the postpartum period at 77.3%. However, differences were seen among all race/ethnic groups with Hispanics (91.2%) and Whites (88.5%) reporting postpartum contraception usage at a rate higher than the state average in 2011.

The percent of postpartum contraception use does not vary much by age when focused solely on Georgia women in 2011. The lowest use was among 25 to 34 year olds at 85.4% and the highest use was among women 35 years of age and older at 88.5%. Disparities also do not exist in terms of educational status.

Percent of women who reported using birth control postpartum by race/ethnicity, maternal age, and education, Georgia, 2011

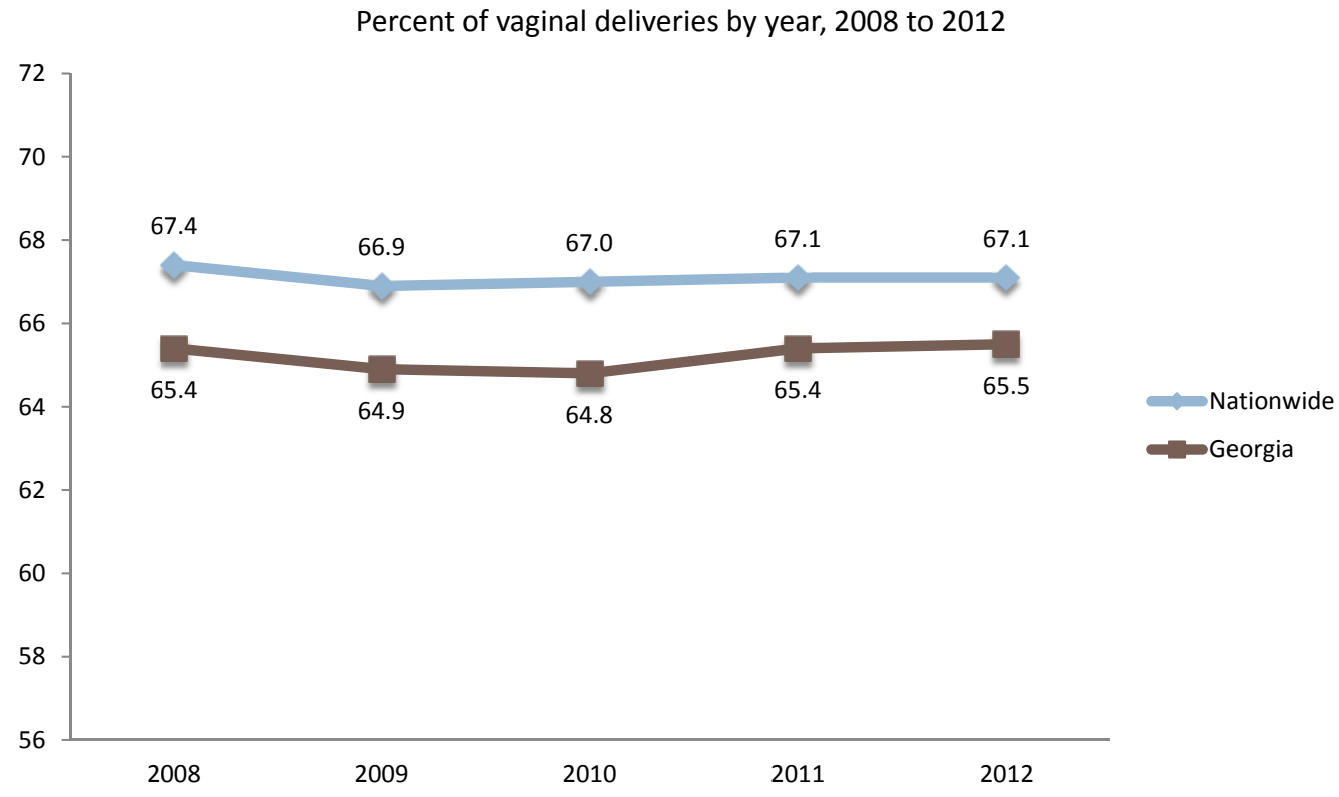


Source: PRAMS 2009-2011

DELIVERY METHOD

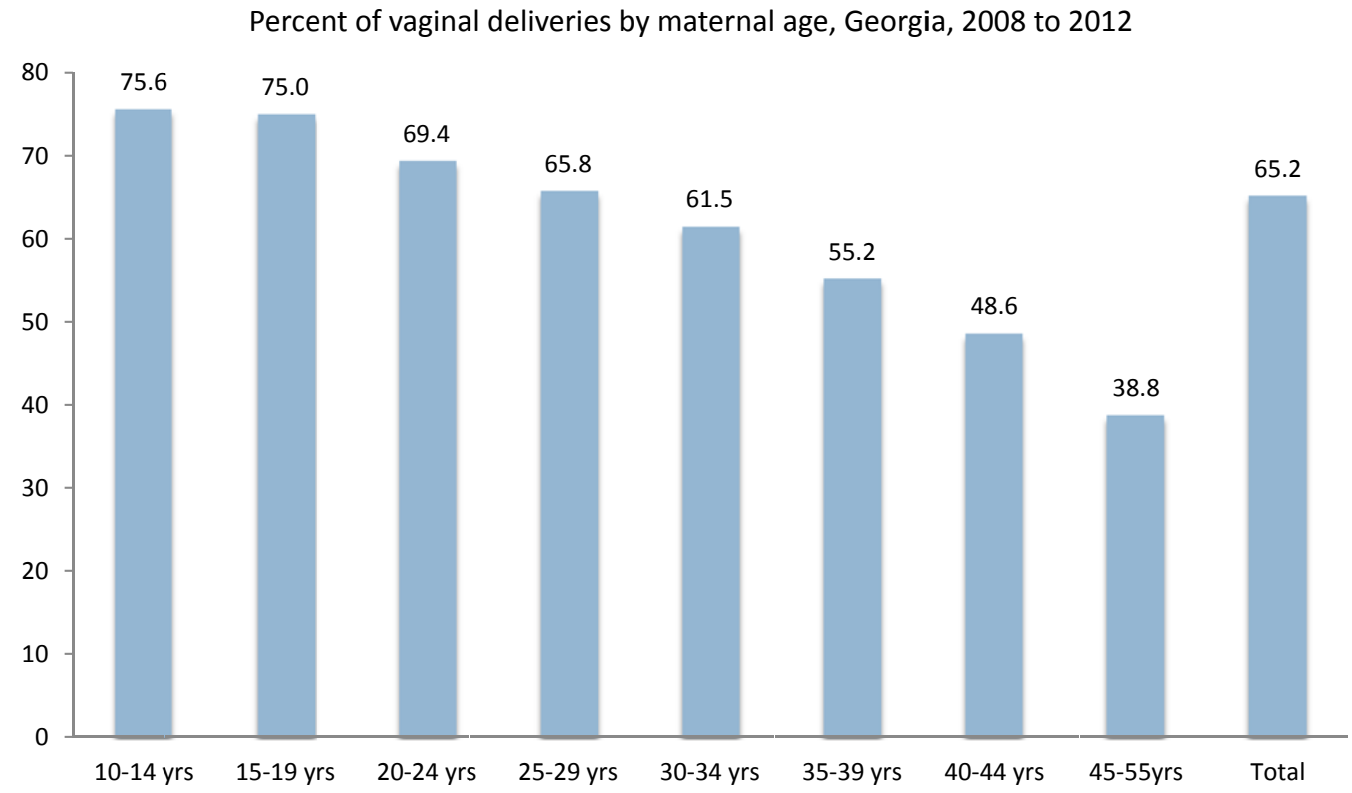
Vaginal Deliveries

Both nationally and in Georgia, the percent of vaginal deliveries has remained relatively stable from 2008 to 2012. During this time period, Georgia has consistently lagged behind the nation, but by only two percentage points.



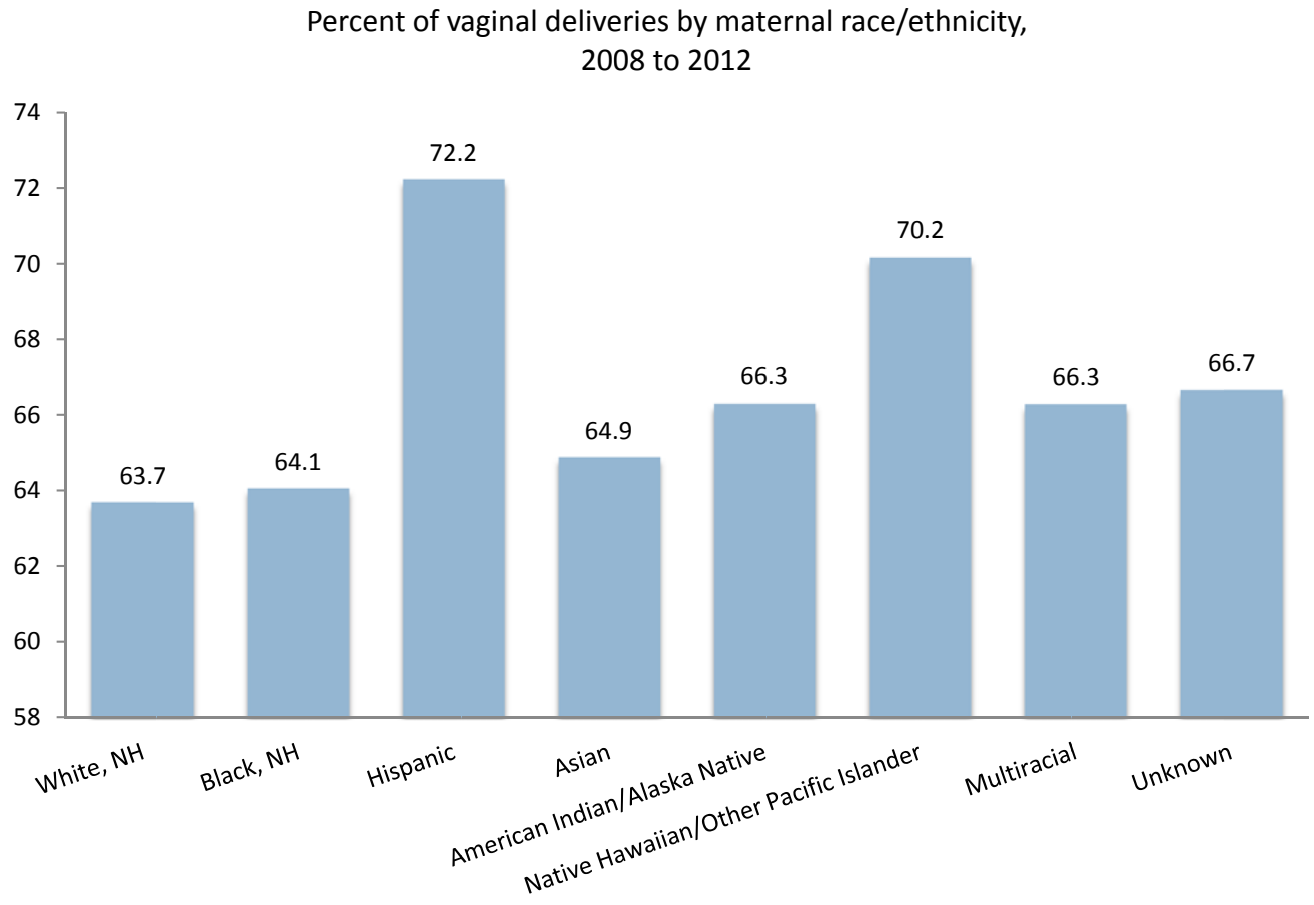
Source: Vital Records 2008-2012

In Georgia, as maternal age increases, the likelihood of a vaginal delivery decreases; ranging from a high of 75.6% among mothers ages 10 to 14 to a low of 38.8% for mothers ages 45 to 55. This may point to a medical necessity for cesarean delivery among women of older maternal age. Women under the age of 30 were the most likely to experience vaginal deliveries at a higher percentage than the state average during this time period.



Source: Vital Records 2008-2012

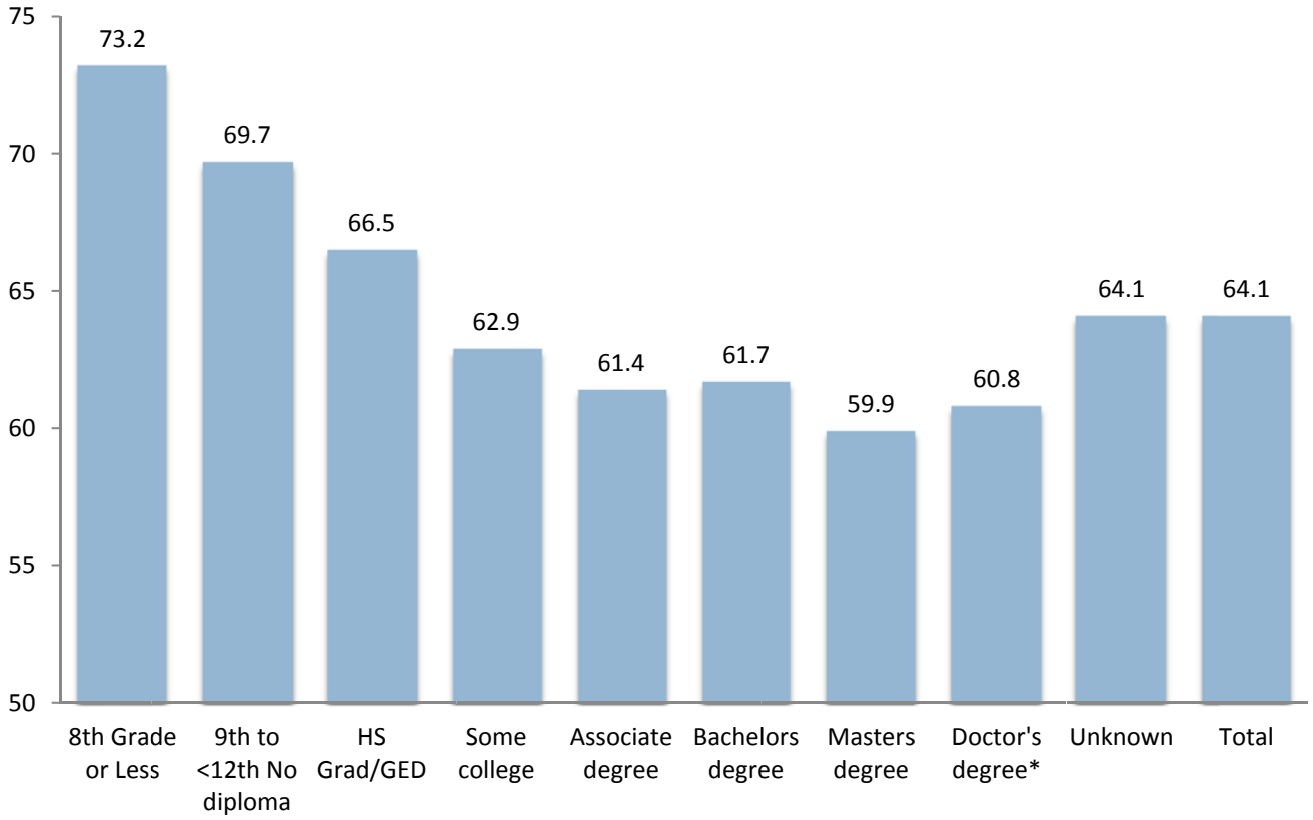
The gap in vaginal deliveries by race/ethnicity is relatively small in Georgia, ranging from 63.7% to 72.2% during this five year time period. Whites (63.7%), Blacks (64.1%), and Asians (64.9%) reported virtually the same percentage of vaginal deliveries. The highest percent of vaginal deliveries among women with known racial data was among Hispanics at 72.2%



Source: Vital Records 2008-2012

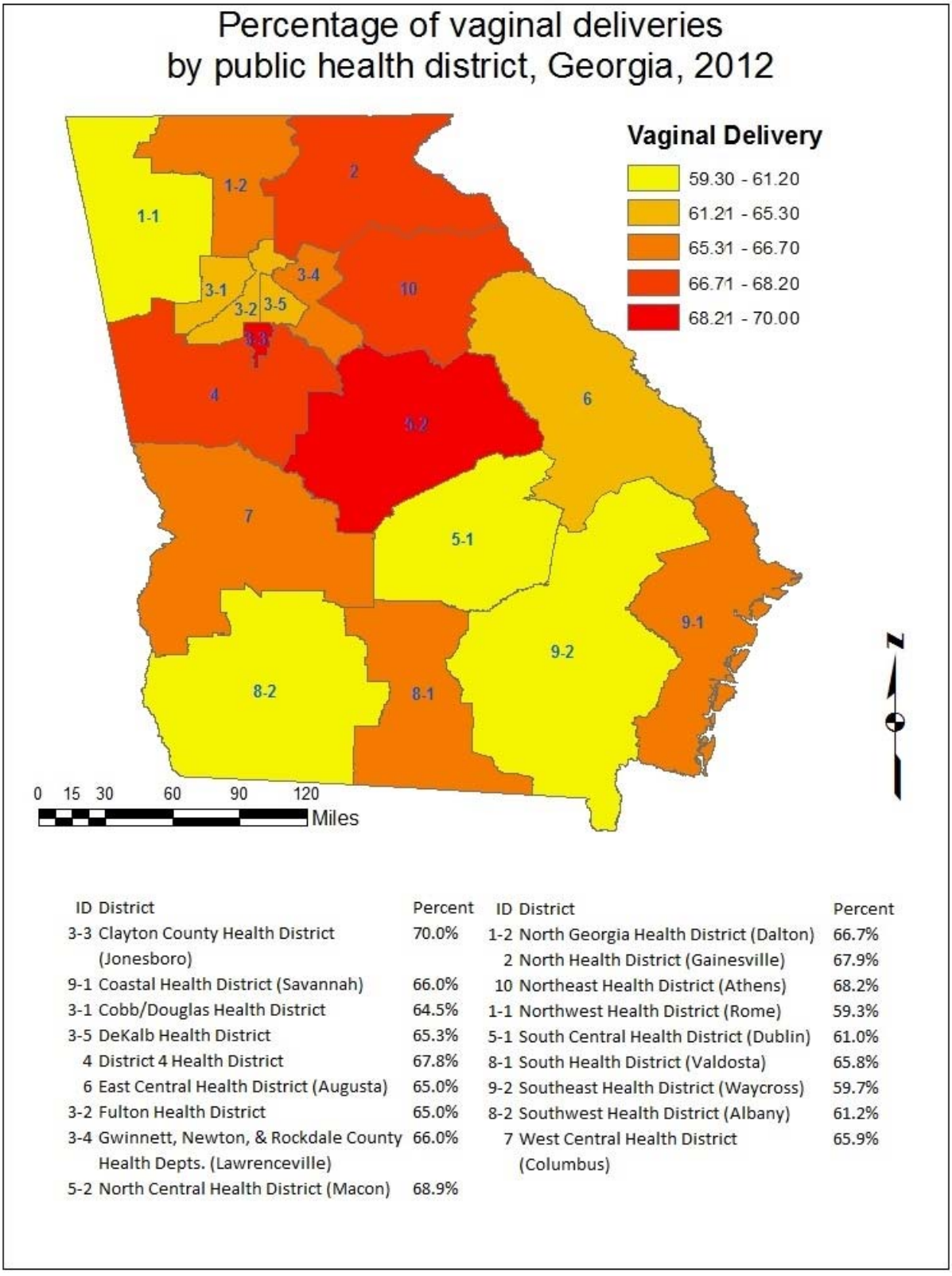
As education increases, we see a gradual decline in the percent of vaginal births. This is interesting and may need further information to investigate the causes. A possible explanation for this could be that as education increases, so does age. In an earlier graph we saw that as age increases, so does the risk of cesarean delivery. It could also be a function of socioeconomic status. Studies have shown that higher income women are more likely to have a cesarean section when compared to lower income women. It has been hypothesized that insurance status plays a role, as cesarean status is related to length of stay, and private insurances may reimburse at a more profitable rate for a longer length of stay then public insurance. There is no additional data from Georgia that can help us interpret this data, but it does provide many questions and begs for further investigation.

Percent of vaginal deliveries by education, Georgia, 2008 to 2012



Source: Vital Records 2008-2012
*small numbers and data maybe unreliable

There are also geographic differences in vaginal deliveries in Georgia. The highest rate of vaginal deliveries are in the Clayton County Health District followed by the North Central District. The lowest prevalence of vaginal deliveries are in the Northwest Health District and the South Central Health District.



ID	District	Percent
3-3	Clayton County Health District (Jonesboro)	70.0%
9-1	Coastal Health District (Savannah)	66.0%
3-1	Cobb/Douglas Health District	64.5%
3-5	DeKalb Health District	65.3%
4	District 4 Health District	67.8%
6	East Central Health District (Augusta)	65.0%
3-2	Fulton Health District	65.0%
3-4	Gwinnett, Newton, & Rockdale County Health Depts. (Lawrenceville)	66.0%
5-2	North Central Health District (Macon)	68.9%

ID	District	Percent
1-2	North Georgia Health District (Dalton)	66.7%
2	North Health District (Gainesville)	67.9%
10	Northeast Health District (Athens)	68.2%
1-1	Northwest Health District (Rome)	59.3%
5-1	South Central Health District (Dublin)	61.0%
8-1	South Health District (Valdosta)	65.8%
9-2	Southeast Health District (Waycross)	59.7%
8-2	Southwest Health District (Albany)	61.2%
7	West Central Health District (Columbus)	65.9%

Source: Vital Records 2008-2012

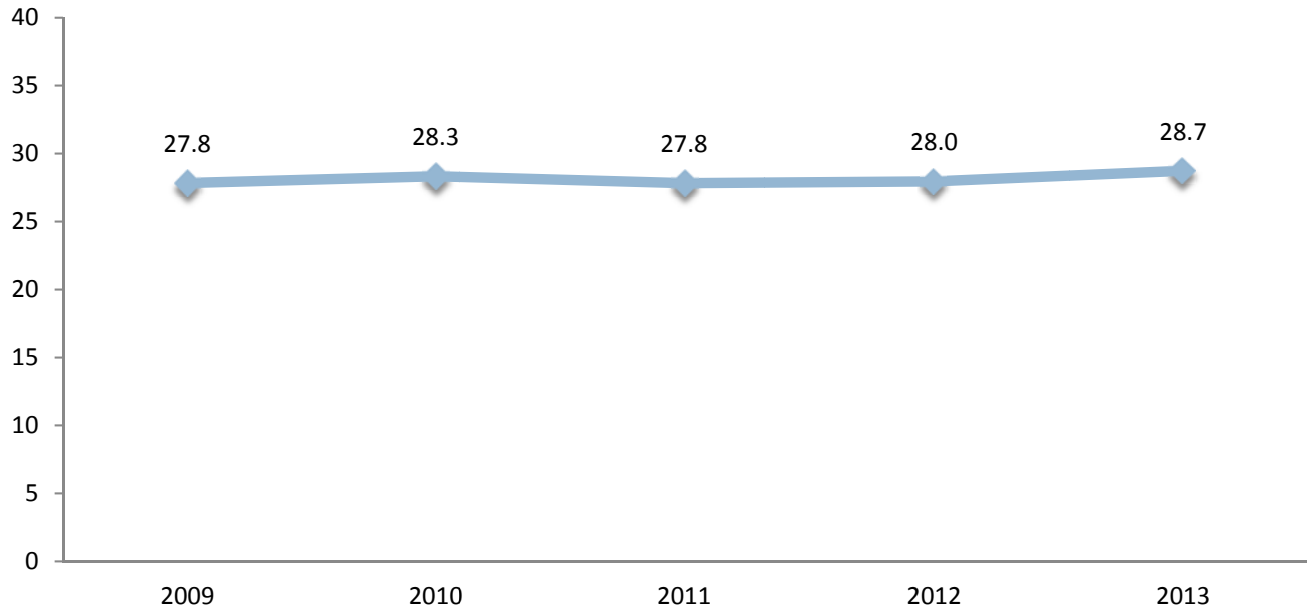
Cesarean Deliveries

Healthy People 2020 Goal

MICH-7.1: Reduce cesarean births among low-risk women with no prior cesarean births to 23.9%

The percent of low-risk cesarean section deliveries has remained relatively stable from 2009 to 2013. The slope has increased slightly from 2011 to2013, and should be watched closely to ensure that low-risk cesarean sections do not increase in Georgia. Based on 2013 data, Georgia would need to see a decrease of nearly five percentage points over the next seven years to meet the HP2020 goal.

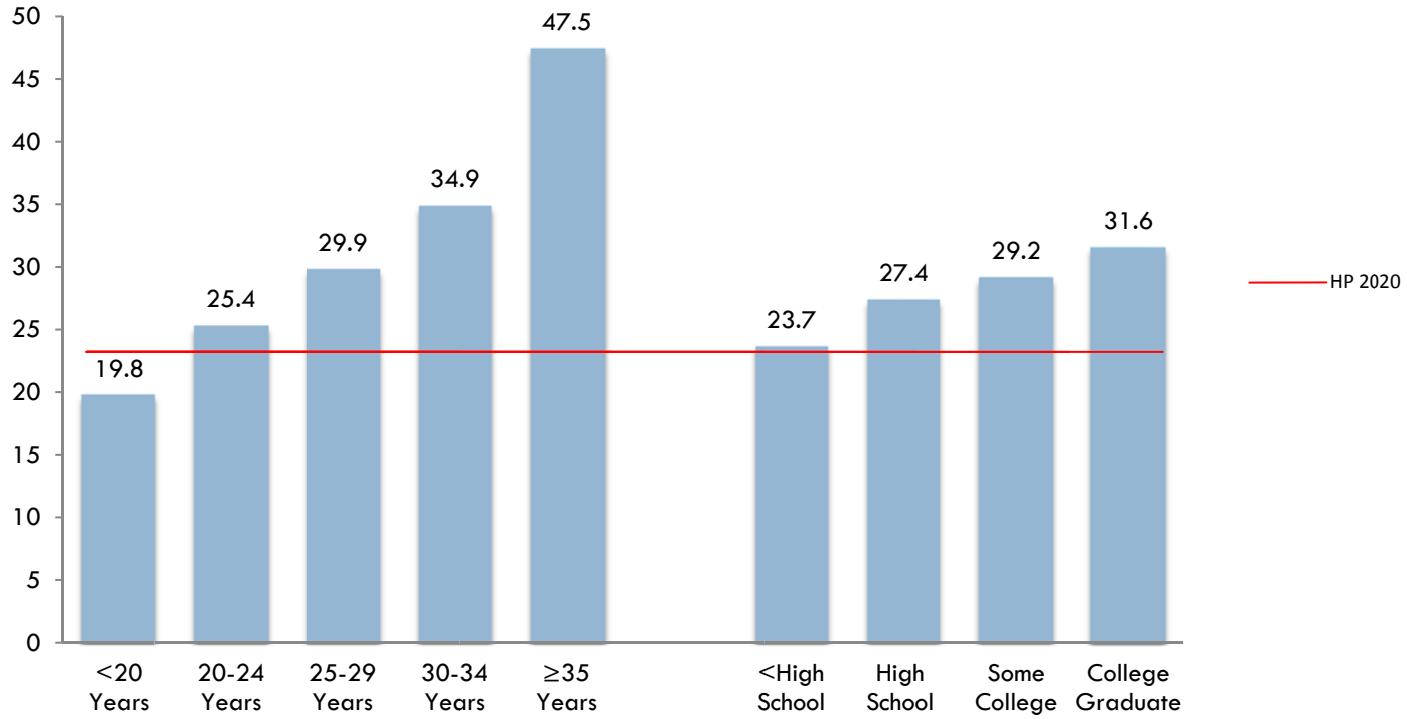
Percent of low-risk cesarean deliveries by year, Georgia, 2009 to 2013



Source: National Vital Statistics System, Vital Records 2009-2013

The percent of cesarean section deliveries increases with maternal age and education level. Specifically, women over 35 years of age were 58% more likely to have a cesarean section compared to women less than 20 years. As discussed above, research indicates that increased maternal age lends itself to a higher rate of cesarean section delivery, due to a number of possible causes, including private insurance status, socioeconomic status, and complications during pregnancy.

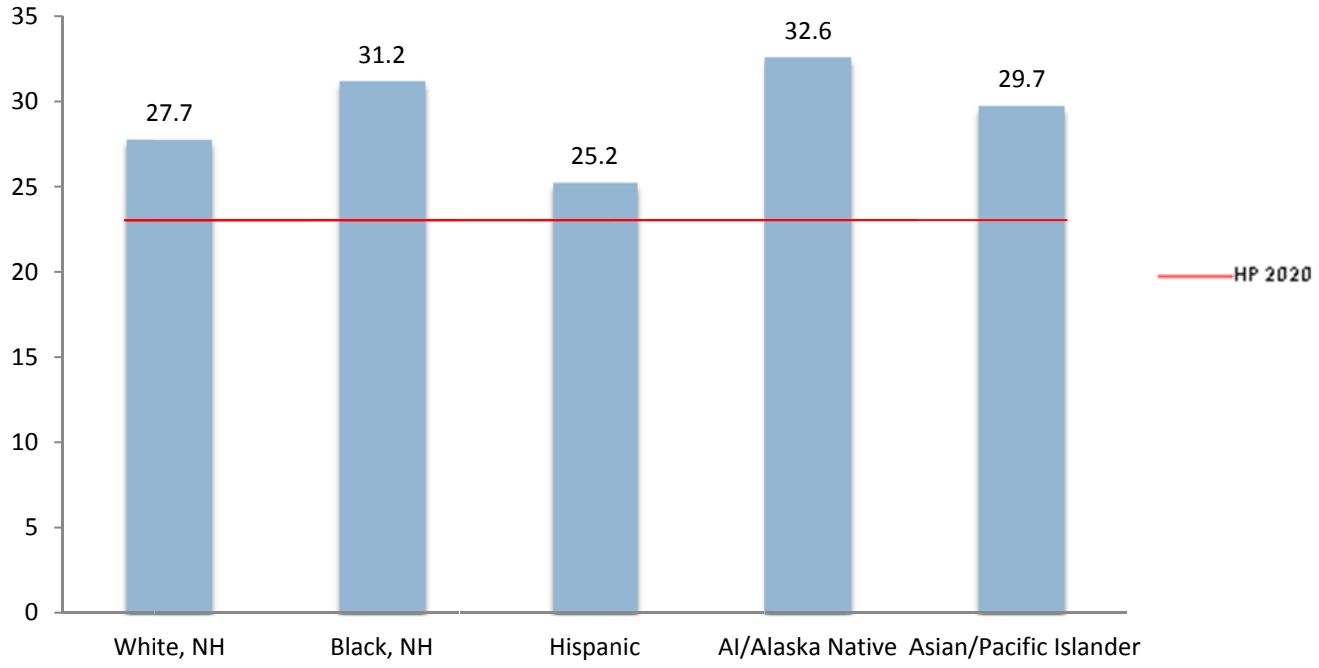
Percent of low-risk cesarean deliveries in Georgia, by maternal age and education level, 2013



Source: National Vital Statistics System, Vital Records 2013

When stratified by race and ethnicity, not many disparities are revealed. As such, the percent of low-risk cesarean deliveries are between 25% to 32% across all races and ethnicities.

Percent of low-risk cesarean deliveries by maternal race/ethnicity, Georgia, 2013

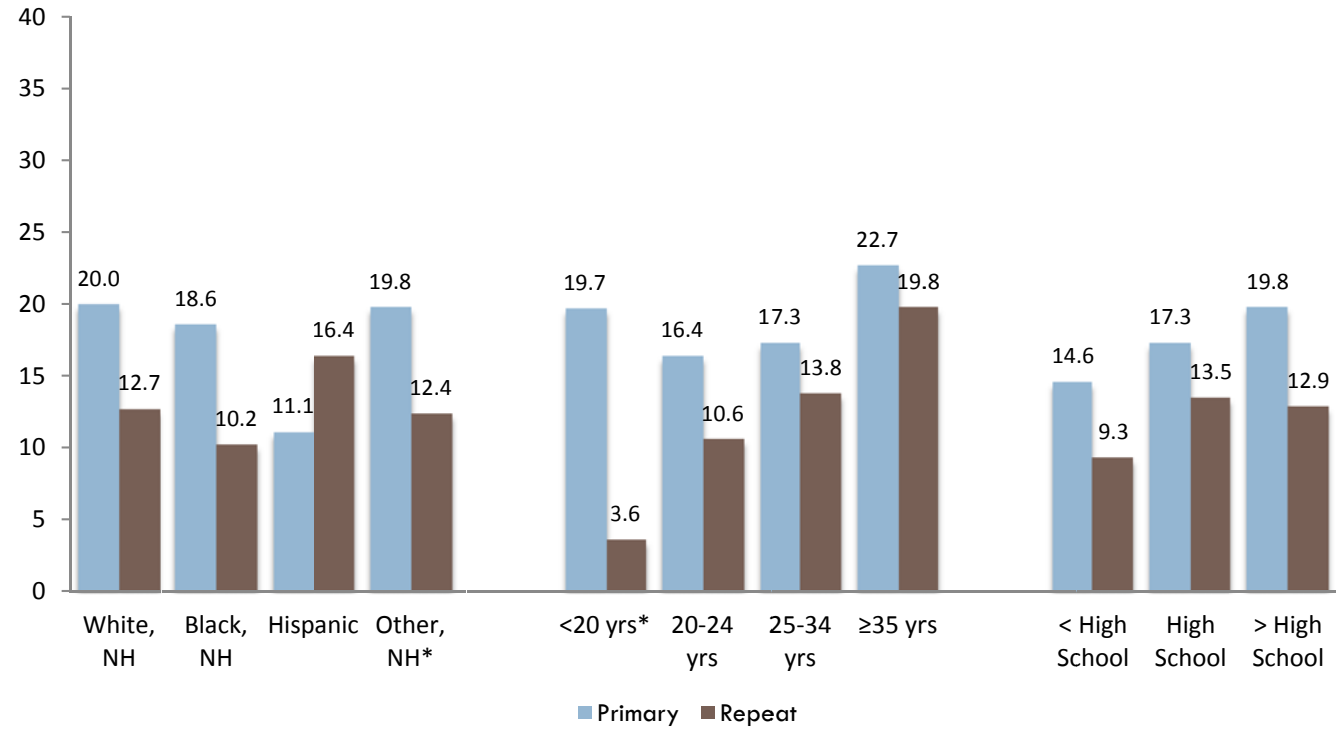


Source: National Vital Statistics System, Vital Records 2013

Upon analyzing primary cesarean sections and repeat cesarean sections, we learn that primary cesarean sections are more prevalent than repeat cesarean sections at every age and educational level, with only 3.6% of women under 20 years experienced a repeat cesarean section compared to 19.8% of women 35 and older. Similarly, 9.3% of those with less than a high school degree had a repeat cesarean section compared to 12.9 % of those with greater than a high school education.

Finally, when stratified by race, it is evident that disparities exist in both the prevalence of primary and repeat cesarean sections. As such, Black women were the least likely to have a repeat cesarean section at 10.2% while 16.4% of Hispanic women had repeat cesarean sections. While Hispanics were least likely to have a primary cesarean section.

Percent of births delivered by cesarean section by race/ethnicity, maternal age and education, Georgia, 2009 to 2011



Source: PRAMS 2011
* small numbers and data maybe unreliable

Reasons for Cesarean Delivery

It is important to understand reasons why women have cesarean sections, specifically to focus on reducing primary low-risk cesarean sections and early elective deliveries. In Georgia, nearly 40% of women stated that their reason for having their current cesarean section was having had a previous cesarean section. Failed induction was the fourth reason. Encouraging spontaneous vaginal deliveries may have the ability to reduce Georgia's cesarean section rate by 55%. Less than 2% of women with a recent cesarean section stated they had one due to scheduling reasons or an aversion to vaginal birth.

Causes of cesarean sections, Georgia, 2011	
Reason for cesarean section	**Percent**
I had a previous Cesarean section	39.7
My baby was in the wrong position	17.0
I had a medical condition	15.1
Labor inducement didn't work	15.0
Labor was taking too long	13.9
Baby had problems during labor	13.2
My health care provider worried that my baby was too big	9.1
I was past my due date	6.1*
Wanted to schedule delivery	1.6*
Didn't want to have baby vaginally	1.0*

Source: PRAMS 2011

*small numbers and data maybe unreliable

HEALTH ISSUES DURING PREGNANCY

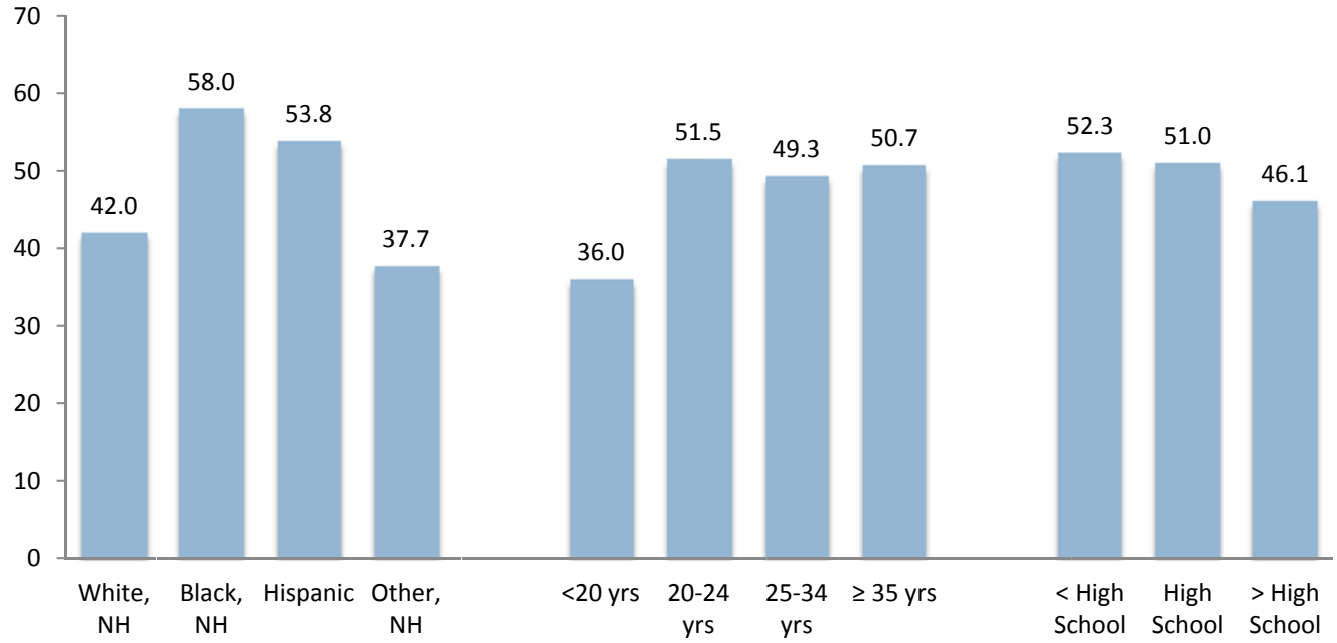
Maternal Weight

Healthy People 2020 Goal

MICH-16.5: Increase the proportion of women delivering a live birth who had a healthy weight prior to pregnancy to 53.4%

On average, nearly 50% of women in Georgia are entering pregnancy with a BMI that places them in the overweight or obese categories (BMI greater than or equal to 25.0). Excess maternal weight has been linked to conditions that can affect women during pregnancy, like diabetes, hypertension and adverse maternal and infant outcomes, such as, maternal, fetal, and infant death. High maternal BMI was most prevalent among Black (58%) and Hispanic (53.8%) women during 2009 to 2011. Efforts should be made to encourage women to begin pregnancy at a healthy weight.

Percent of women entering pregnancy overweight or obese by race/ethnicity, maternal age and education level, Georgia
2009 to 2011



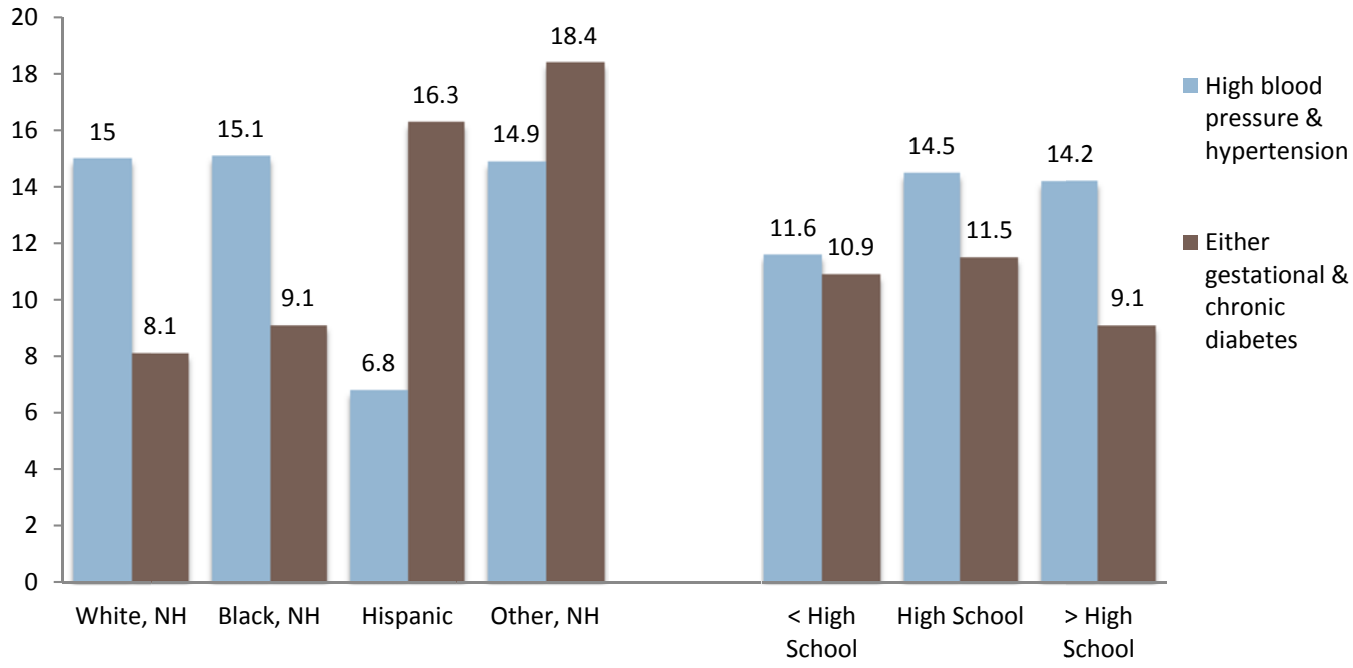
Source: PRAMS 2009-2011

The risk of beginning pregnancy with a BMI in the overweight or obese category was highest in women over the age of 20, and remained relatively stable from 20 years old throughout the remainder of childbearing age, at around 50%. Increasing education had a small impact on the prevalence of overweight and obesity in women of childbearing age.

Chronic Diseases

There are a few racial and ethnic disparities among women who report chronic disease during pregnancy such as high blood pressure, hypertension, preeclampsia, toxemia or diabetes. As such, White mothers had the lowest rate (8.1%) of either gestational or chronic diabetes compared to "Other" and Hispanic mothers, at 18.4% and 16.3%, respectively. It is important to explore whether these higher rates can be reduced. On another note, Hispanic mothers had the lowest rate of hypertension at only 6.8% while other racial groups were approximately 15%.

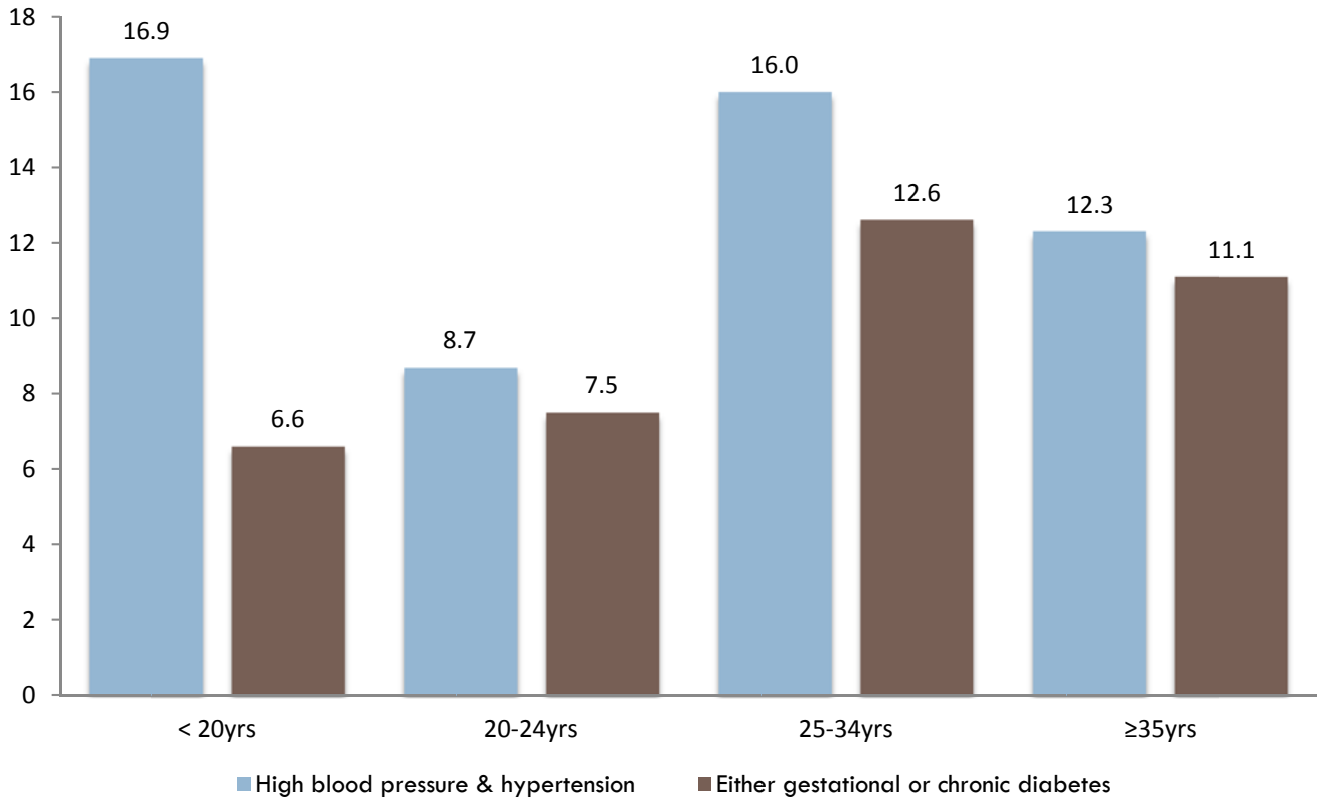
Percent of women reporting high blood pressure, hypertention, preeclampsia, toxemia or diabetes during pregnancy by race/ethnicity and education, Georgia, 2009 to 2011



Source: PRAMS 2009-2011

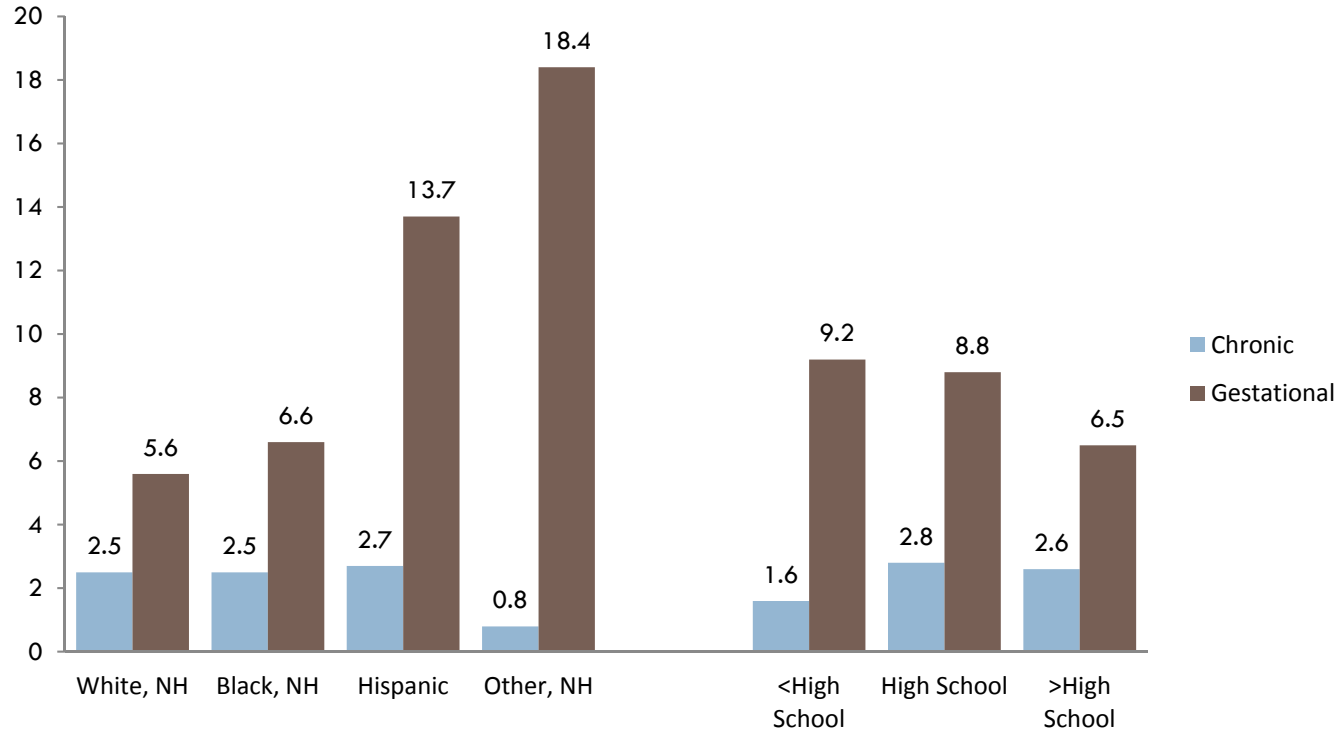
When looking at only diabetes during pregnancy, there is a further explanation of the high rates among "Other" and Hispanic mothers. As such, 18.4% of "Other" women and 13.7% of Hispanic women reported gestational diabetes during pregnancy compared to only 5.6% of Whites ad 6.6% of Blacks. This explains that the racial disparity exists solely with respect to gestational diabetes and suggests that special culturally-specific health awareness campaigns should be targeted toward these groups to reduce the disparities. When stratifying by age, there is no clear disparity. Women under 20 and those between 25 to 34 years reported the highest rate of high blood pressure and hypertension (more than 16%).

Percent of women reporting high blood pressure, hypertension, preeclampsia, toxemia or diabetes during pregnancy by maternal age, Georgia, 2009 to 2011



Source: PRAMS 2009-2011

Percent of women who reported gestational and chronic diabetes by race/ethnicity & education, Georgia, 2009 to 2011

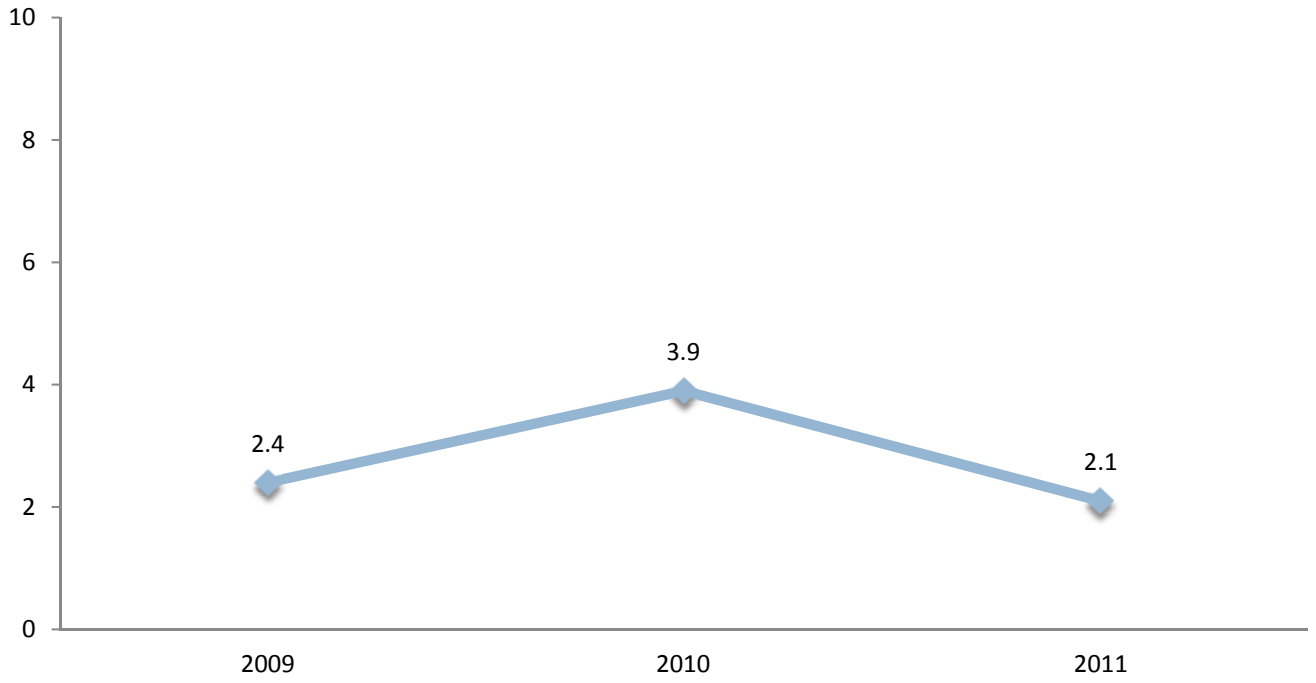


Source: PRAMS 2009-2011

Physical Abuse

According to the CDC, 4 to 8% of women nationally report being abused during pregnancy. In Georgia, the prevalence was lower than the national average in 2009 and 2011. A peak was seen in 2010, bringing Georgia close to the national average.

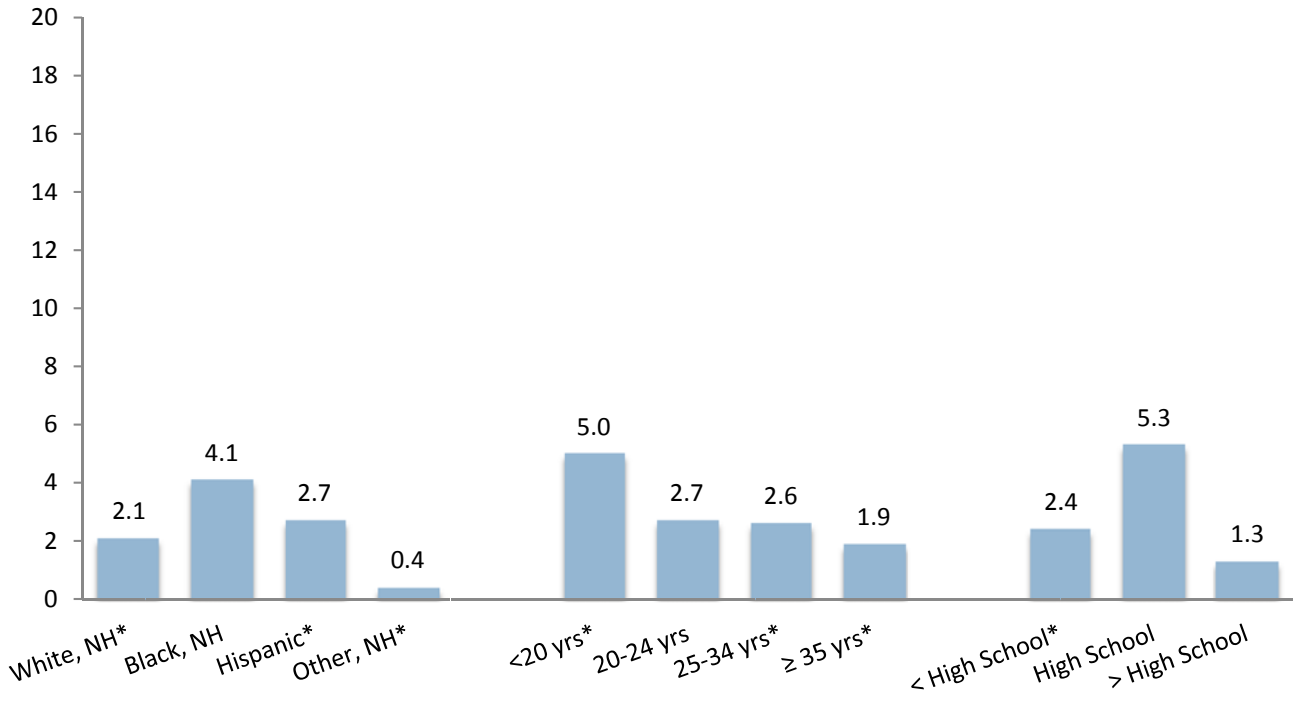
Percent of women who reported experiencing physical abuse during pregnancy by year, Georgia, 2009 to 2011



Source: PRAMS 2009-2011

Black women were twice as likely as White women to experience physical abuse during pregnancy. Women of "Other" race reported experiencing physical abuse at the lowest percentage, 0.4%. It may be interesting to explore whether this low rate is aligned with actual reality, or whether it is a function of culturally-specific barriers to reporting, as research indicates that communities of color have a tendency to report domestic and sexual violence crimes less than other communities.

Percent of women who reported experiencing physical abuse during pregnancy by race/ethnicity, maternal age and educatin level, Georgia, 2009 to 2011



Source: PRAMS 2009-2011
*small numbers and data maybe unreliable

Pregnant women in Georgia younger than 20 years old reported being victims of physical abuse at nearly 2.5 times more than the state average in 2011. Pregnant women 35 years and older reported the lowest prevalence of physical abuse.

When stratified by education, the results are varied. As such, high school graduates were the most likely to report experiencing physical abuse, nearly 5 times that of pregnant women with more than a high school education.

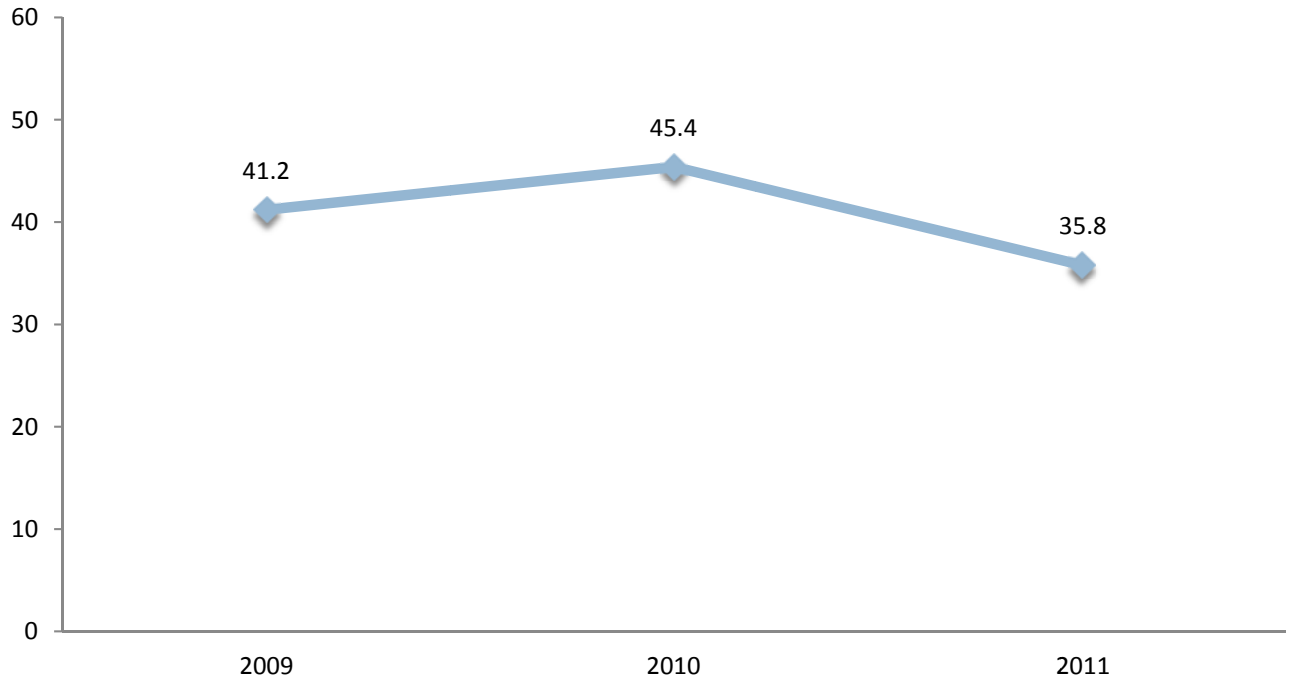
Vaccines and Vitamins

Healthy People 2020 Goal

IID-12.10: Increase the proportion of pregnant women who are vaccinated against seasonal influenza to 80%

The vaccination of pregnant women against influenza, reached a peak in 2010, according to the three years of data presented below. This may be a result of the push to vaccinate pregnant women against H1N1. In 2011, a marked decrease is present, with the prevalence of vaccination decreasing from 45.4% to 35.8%, more than a 20% decrease.

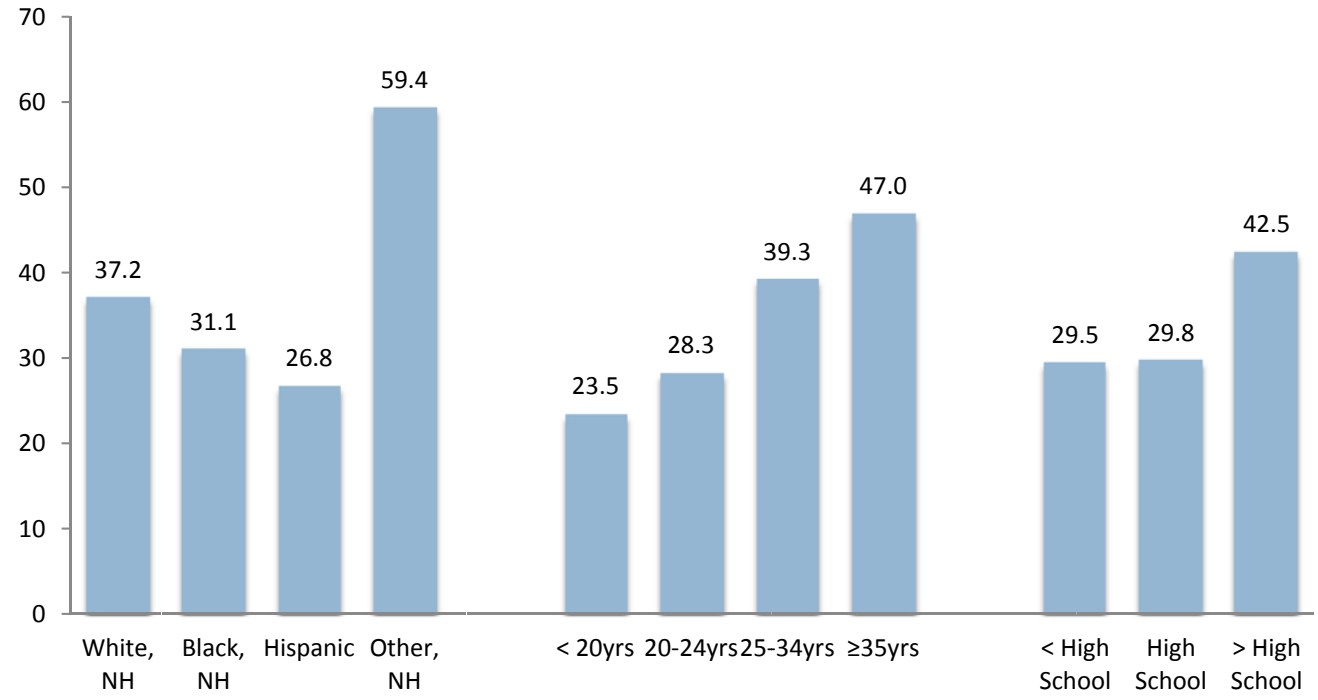
Percent of women receiving the flu vaccine during pregnancy, by year, Georgia, 2009 to 2011



Source: PRAMS 2009-2011

During 2011 in Georgia, the pregnant women most likely to receive a flu vaccination during pregnancy were those 25 years old and older, with 39.3% of women 25 to 34 years receiving the flu vaccine and 47% of those older than 35 years. The prevalence of pregnant women 35 years old and older receiving vaccinations was nearly 25% higher than the state average during that time.

Percent of women receiving the flu vaccine during pregnancy by race/ethnicity, maternal age and education, Georgia, 2011



Source: PRAMS 2009-2011

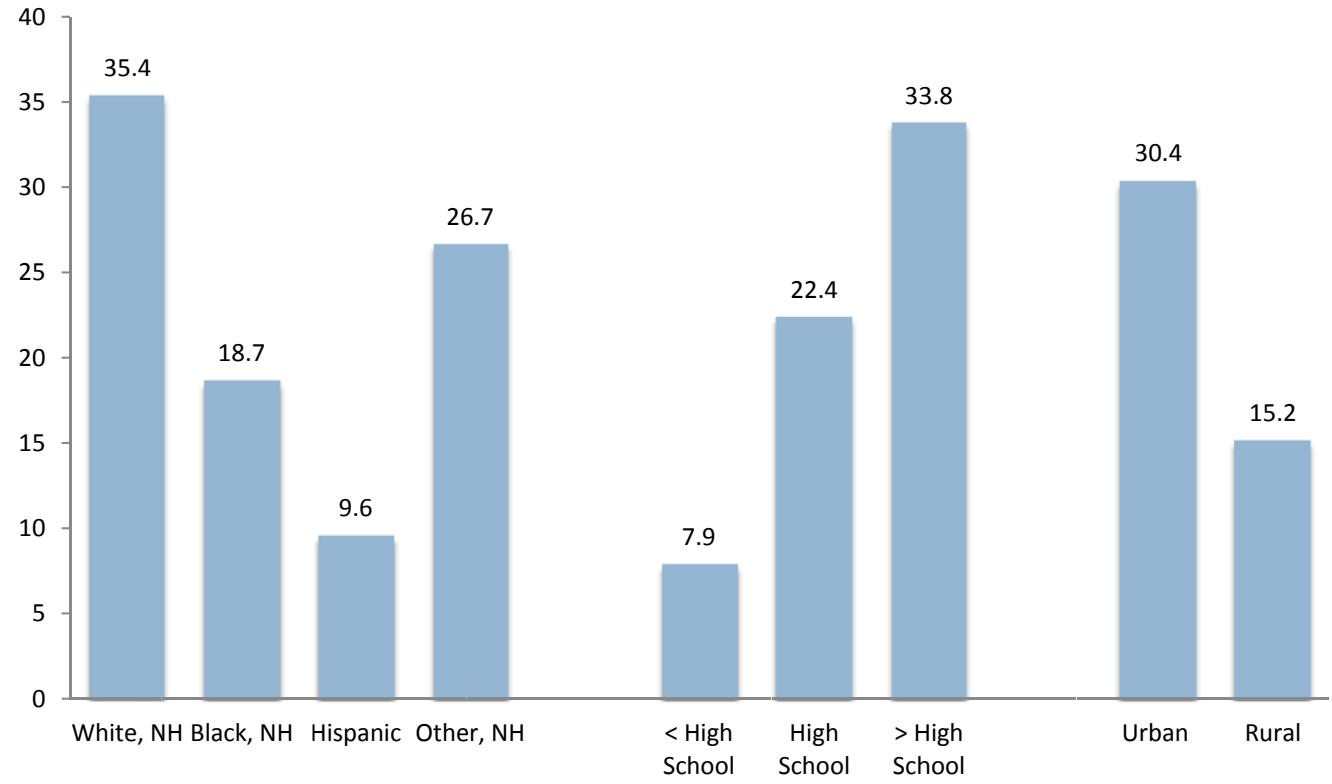
Healthy People 2020 Goal

MICH-16.2: Increase the proportion of women delivering a live birth who took multivitamins/folic acid prior to pregnancy to 33.1%

In Georgia, only 26.3% of women reported daily folic acid for a month prior to pregnancy. Looking over a three year period, the data varied greatly by year with no clear trend. In order to reach the 2020 goal, increases of 25% need to be seen over the next seven years. In 2001, White pregnant women were more than 3.5 times as likely to take folic acid every day for at least one month prior to conception when compared to Hispanic pregnant women, and about twice as likely when compared to Black pregnant women. As expected, as education increased, so did the prevalence of folic acid usage.

Clear disparities exist by both race and ethnicity when examining uptake of the flu vaccination and taking folic acid. Concerning the Flu vaccine, pregnant women of "Other" race reported receiving the vaccination two times more than Hispanics and 60% more than White pregnant women. The prevalence of flu vaccination receipt was nearly the same for those without a high school degree and those with a high school degree. A major increase was seen among pregnant women with more than a high school degree.

Percent of mothers who reported using folic acid every day one month prior to conception by race/ethnicity, education and urban vs. rural, Georgia, 2011



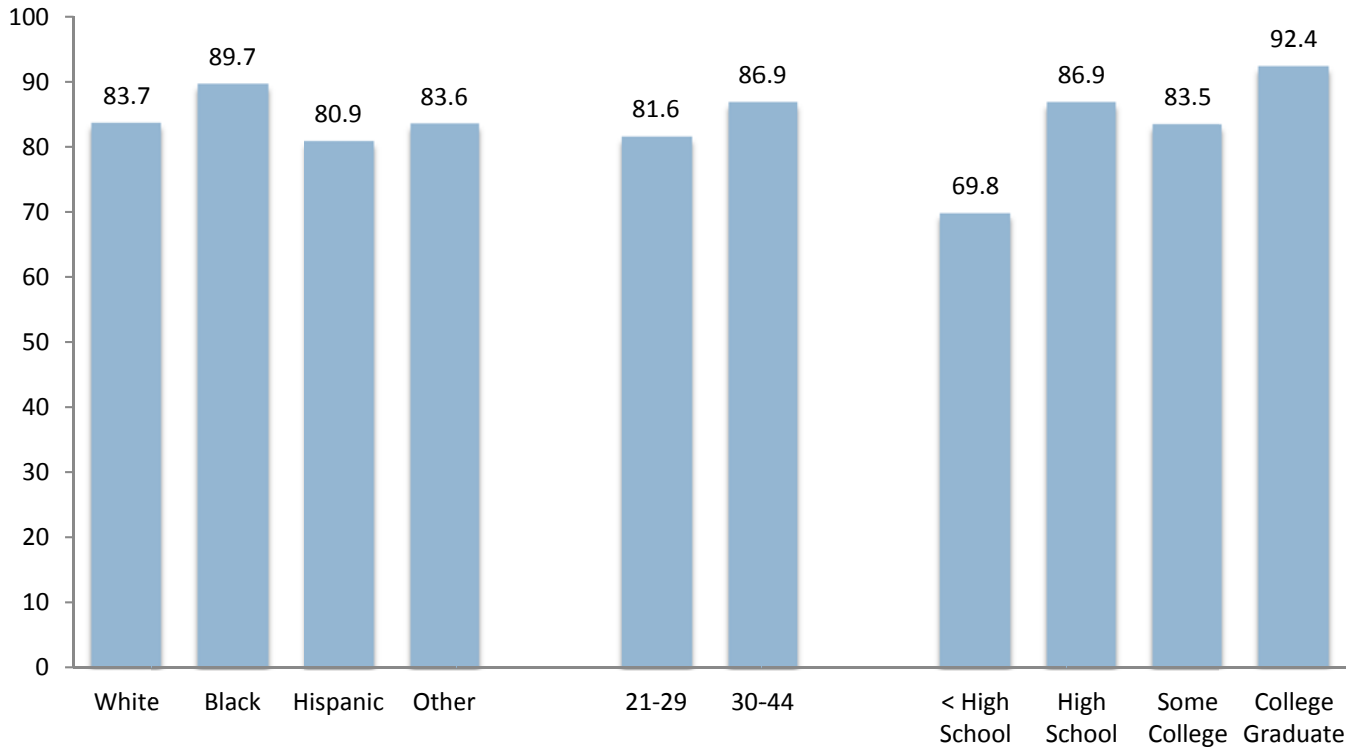
Source: PRAMS 2009-2011

Based on data from pregnant women in Georgia in 2011, women in urban areas (30.4%) were twice as likely as women in rural areas (15.2%) to take folic acid daily, one month prior to pregnancy. Clinicians recommend that all women of child bearing years take 400mcg of folic acid daily.

Preventive Care

Over 85% of women in Georgia between the ages of 18 and 44 reported having had a Pap smear within the last three years. Little variation was seen by race. Only Black women exceeded the state average by nearly 90% reporting having received a pap smear within the last three years. Older women (ages 30 to 44) were marginally more likely to get a Pap smear when compared to women age 21 to 29. Major disparities were seen when the data were stratified by educational status. Women with less than a high school degree were 32% less likely to get a pap smear when compared to women with a college degree.

Percent of women ages 18 to 44 who reported a Pap smear in the preceding three years, by race/ethnicity, age and education, Georgia, 2012 to 2013



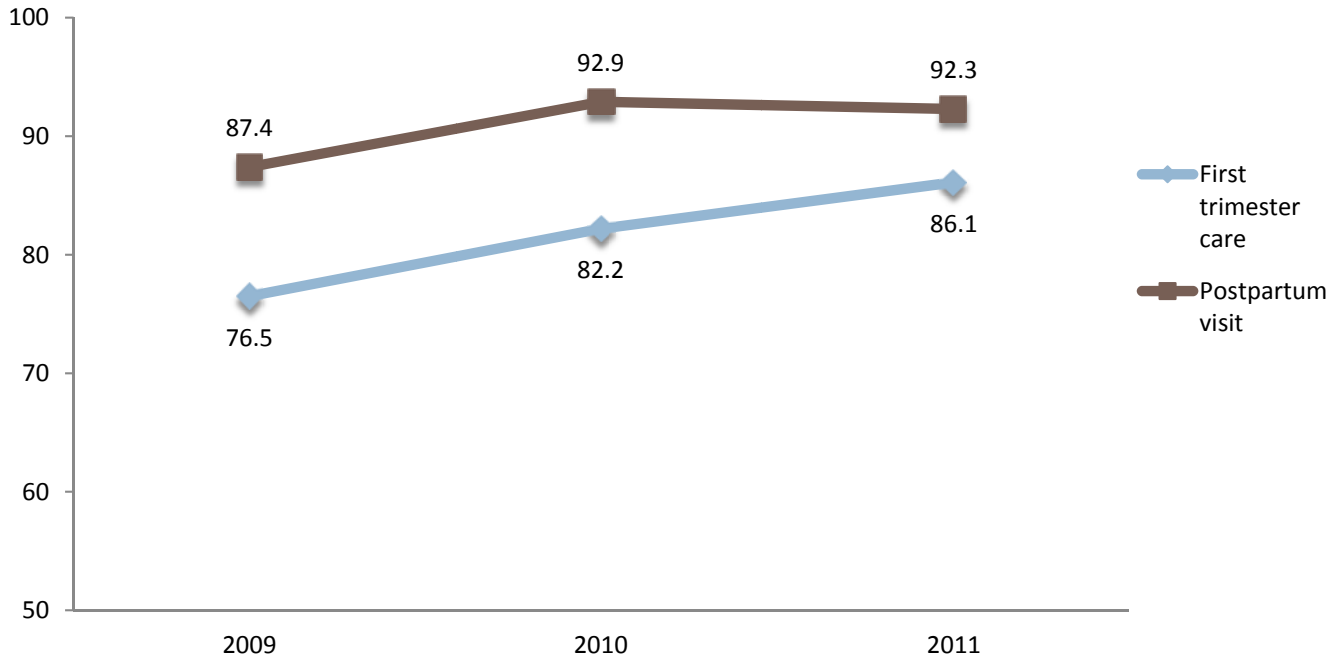
Source: BRFSS 2012-2013

Healthy People 2020 Goal

MICH-10.1: Increase the proportion of pregnant women who receive prenatal care beginning in the first trimester to 77.9%

The percent of pregnant women in Georgia who received prenatal care in their first trimester has exceeded the HP2020 goal since 2010, and the data are trending upward. By 2011, Georgia exceeded the HP2020 goal by 10%.

Percent of mothers who recieved first trimester care and percent of mothers who recieved a postpartum visit, in Georgia, 2009 to 2011



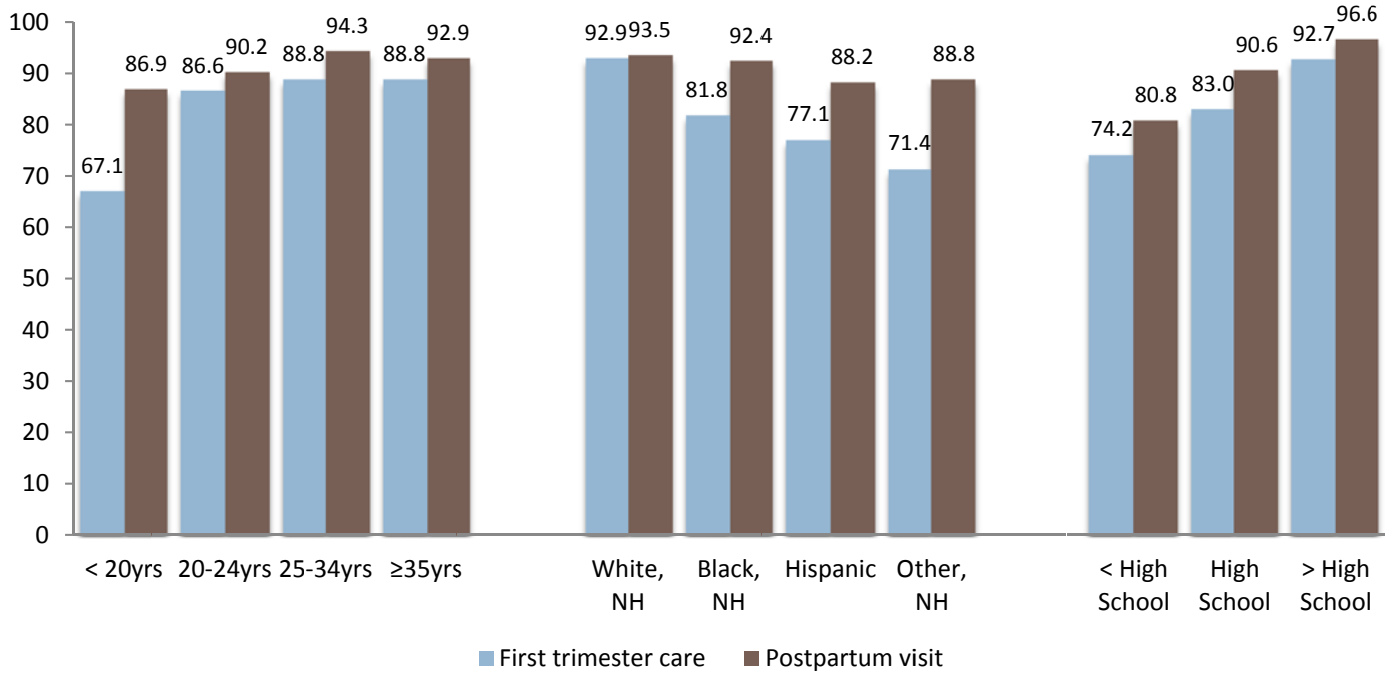
Source: PRAMS 2009-2011

When evaluating the percent of new mothers who attend their postpartum visit, as of 2010, nearly all women (92%) were attending their postpartum visit.

Focusing on 2011 data, we note that receipt of first trimester prenatal care varied by maternal age, race/ethnicity, and education. While the state average in 2011 was 86.1% of pregnant women started prenatal care in the first trimester, teenage moms were by far the least likely to enter prenatal care early (67.1%). Hispanic women (77.1%) and women of "Other" races (71.4%) also lagged behind the state average and HP2020 goal. Pregnant women with less than a high school degree (74.2%) were also less likely to start prenatal care early, when compared to 92.7% of women who had more than a high school degree. While Georgia has surpassed the HP2020 goals as early as 2010, efforts can still be made to promote early prenatal care among teens, Hispanics, and women of "Other" races, and among women with limited formal education.

Marginal differences were seen in receipt of postpartum visits when we viewed the data by age and ethnicity. However, when we evaluated educational status, disparities were found. As education increases in Georgia, so does the likelihood of women receiving their postpartum check-up. When comparing women with the least education to women with the most education, we see that women who don't have a high school degree were nearly 20% less likely to see a provider for a postpartum check-up.

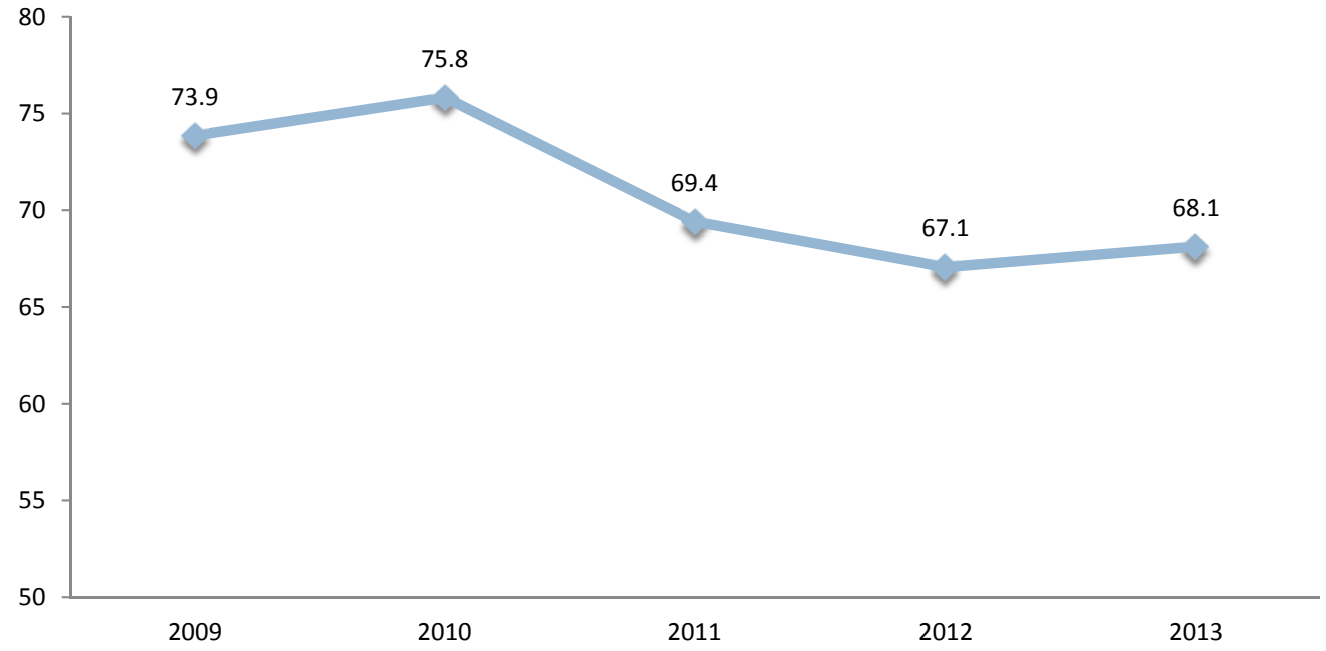
Percent of mothers who received first trimester care and percent of mothers who recieved a postpartum visit in Georgia by maternal age, race/ethnicity, and education level, 2011



Source: PRAMS 2011

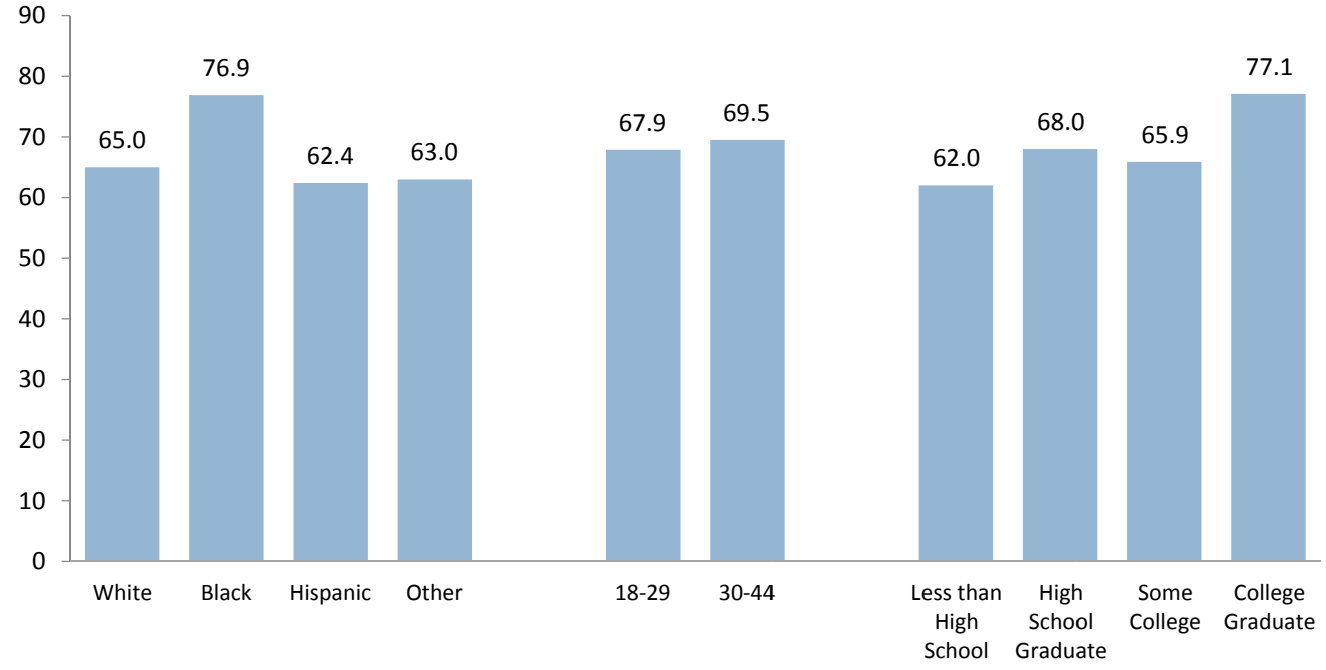
During 2009 to 2013, women in Georgia were asked if they visited a medical provider for a preventive visit within the last 12 months, nearly 69% of women did in 2013. Black women were the most likely to visit a have a preventive health visit, with almost 77% reporting having seen a provider. While Hispanic women were the least likely to attend such a visit with only 62.4% reporting. Differences were not seen by age, but were seen by education. Women with less than a high school education reported the lowest prevalence of preventive health visits at 62%, while women with more than a high school education reported a preventive health visit at 77.1%.

Percent of women (18 to 44 years) who received a preventive visit in the last 12 months by year, Georgia, 2009 to 2013



Source: BRFSS 2009-2013

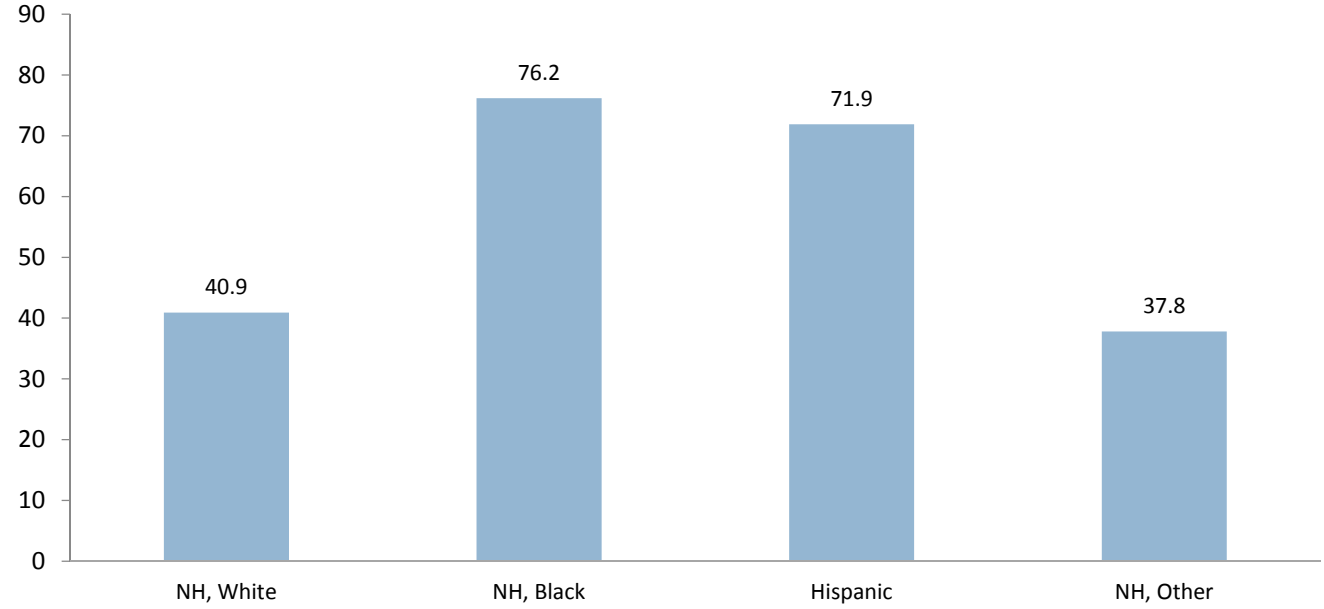
Percent of women (18 to 44 years) who received a preventive visit in the last 12 months by race/ethnicity, age and education level, Georgia, 2012 to 2013



Source: BRFSS 2012-2013

A larger portion of Black (76.2%) and Hispanic (71.9%) women utilize the Supplemental Nutrition Program for Women, Infants, and Children (WIC) in Georgia. More than twice as many Blacks use this program in comparison to women of "Other" races.

Percent of women who reported being on WIC during their most recent pregnancy by race/ethnicity, in Georgia, 2009 to 2011

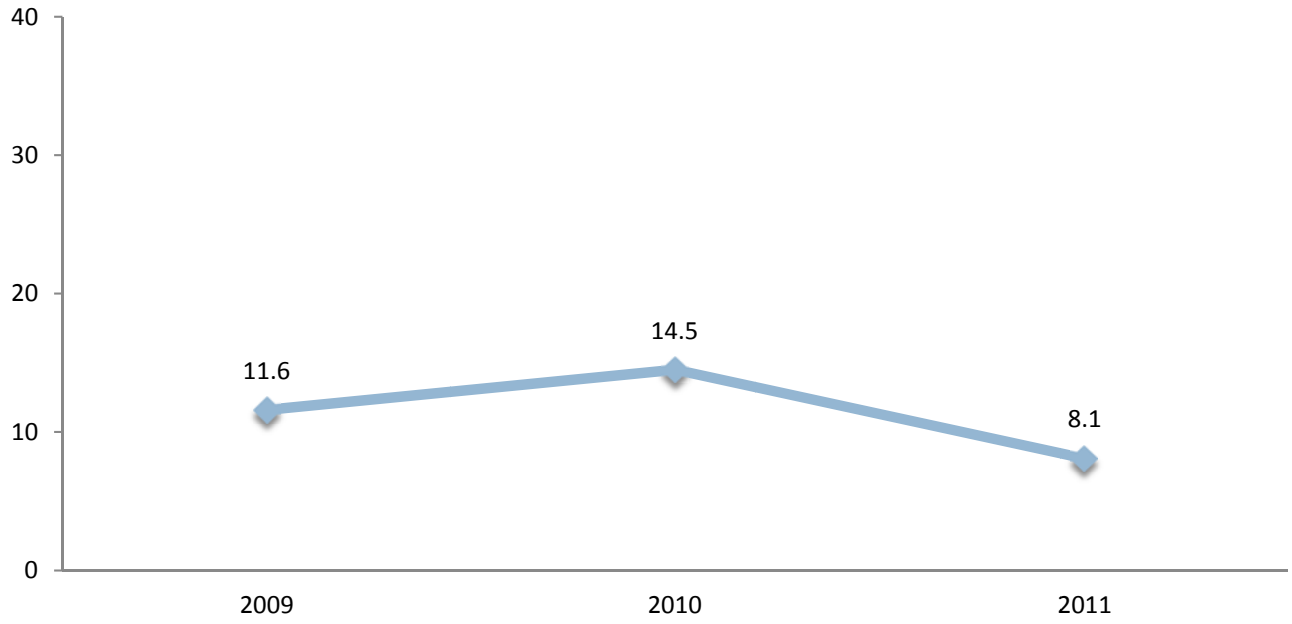


Source: PRAMS 2009-2011

Mental Health

Over a three year period from 2009-2011, postpartum depression among recently pregnant moms in Georgia ranged from a low of 8.1% to a high of 14.5%. While the most recent year of data shows a marked decline, it is not clear if rates will continue to decline.

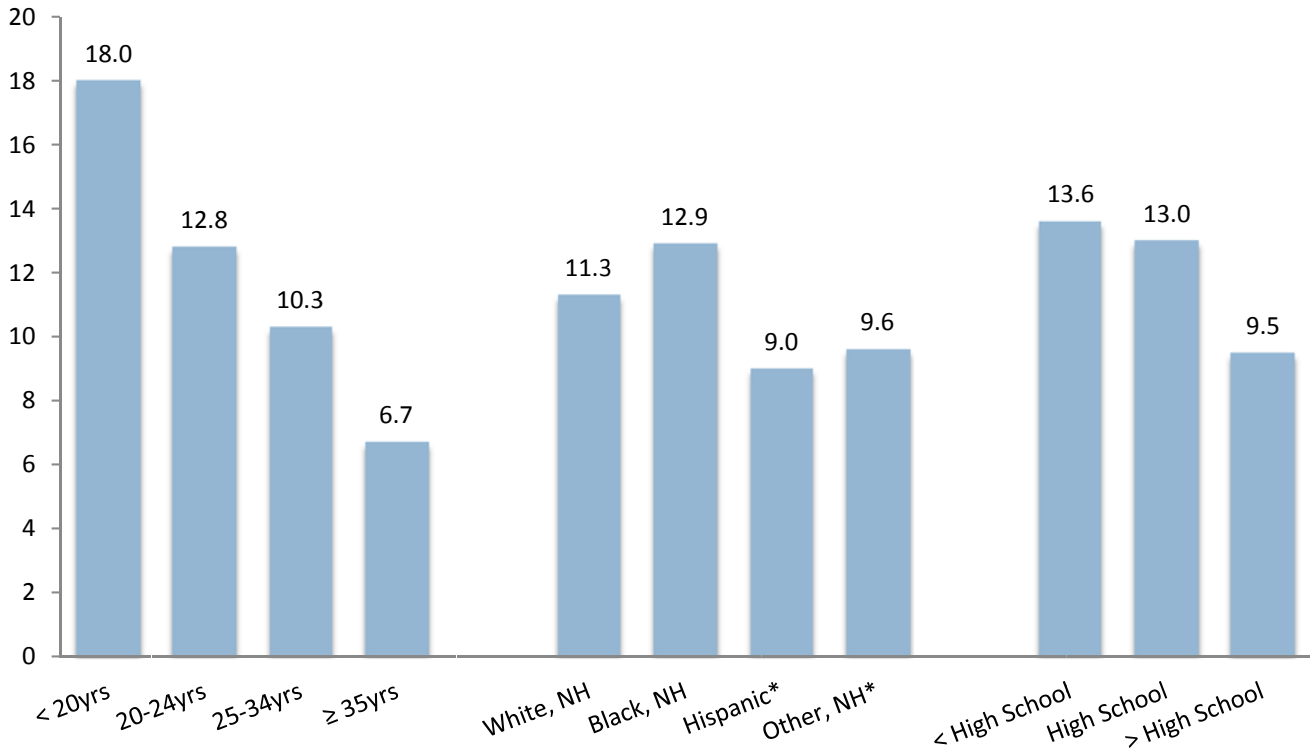
Percent of mothers who reported postpartum depression symptoms, Georgia, 2009 to 2011



Source: PRAMS 2009-2011

Postpartum depression was most prevalent among teen mothers who were three times as likely to experience postpartum depression when compared to mothers aged 35 and older. Blacks reported a higher prevalence of postpartum depression in comparison to other races/ethnicities, ranging from 25 to 30% higher than Hispanics and women of "Other" races. Having more than a high school education proved to be protective against postpartum depression, with women reporting it nearly 30% less than those with high school degrees or less.

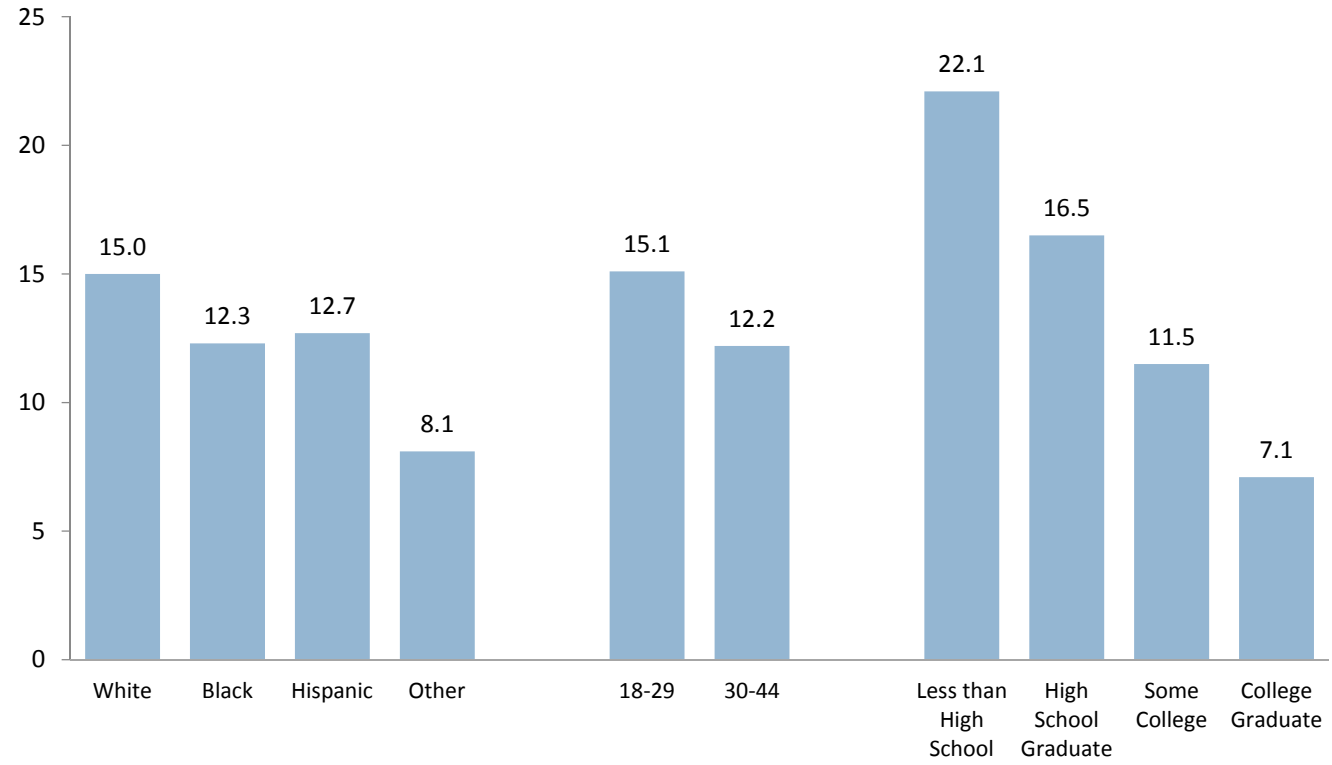
Percent of mothers who reported postpartum depression symptoms in Georgia, by maternal age, race/ethnicity, and education level, 2009 to 2011



Source: PRAMS 2009-2011
*small numbers and data maybe unreliable

About 13% of women in Georgia reported experiencing mental distress. Disparities were seen by maternal race/ethnicity, age and education. White women reported experiencing the greatest proportion of mental distress, nearly twice as must as reported by women of "Other" race. Patterns were seen for age and education, as age and education increased, the proportion of women reporting mental distress decreased. Women with less than a high school degree experienced mental distress three times more than women with a college degree.

Percent of women 18 to 24 years who experience mental distress, Georgia, 2009 to 2013



Source: BRFSS 2009-2013

SEXUALLY TRANSMITTED INFECTIONS

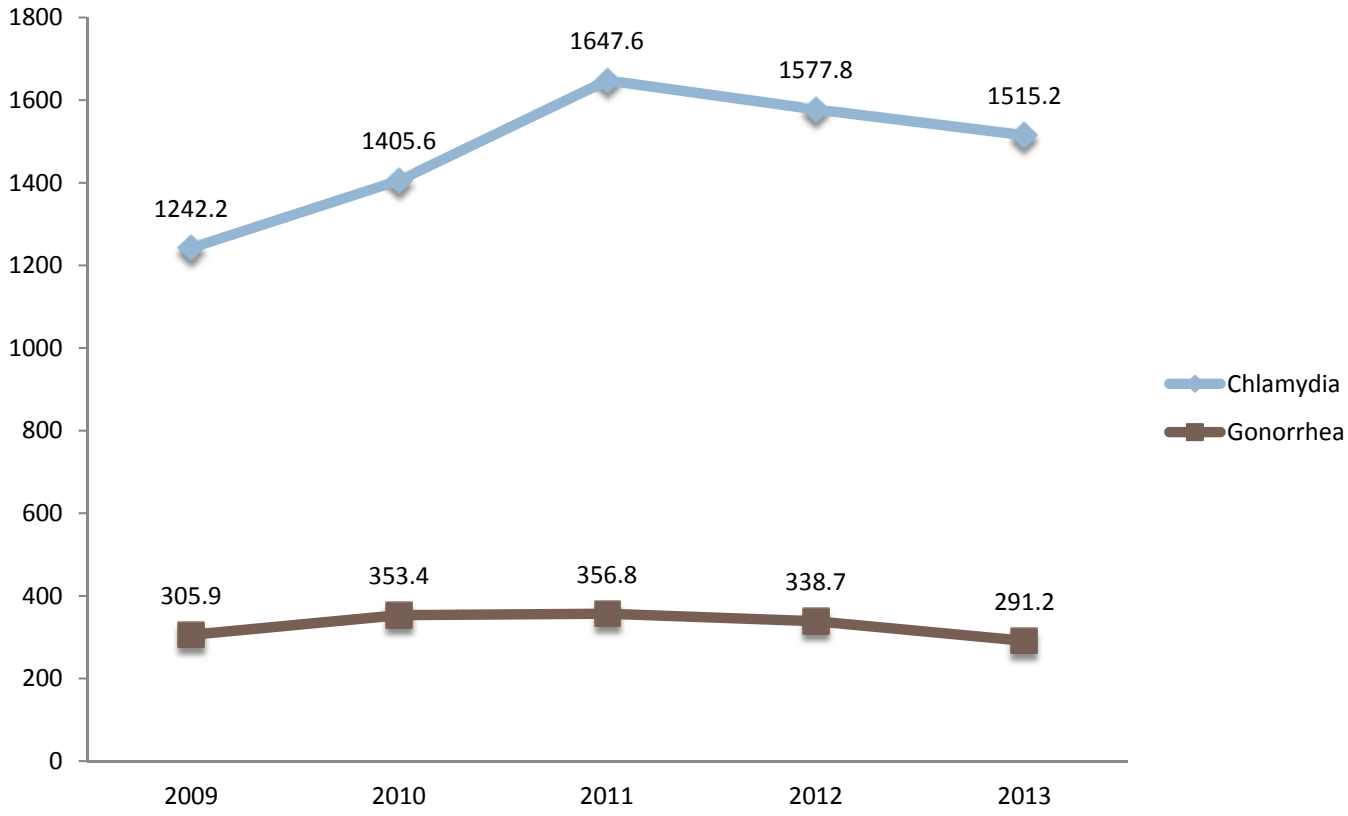
Chlamydia and Gonorrhea

Healthy People 2020 Goal

STD-6.1:Reduce gonorrhea rates among females aged 15 to 44 years to 251.9 new cases per 100,000 population

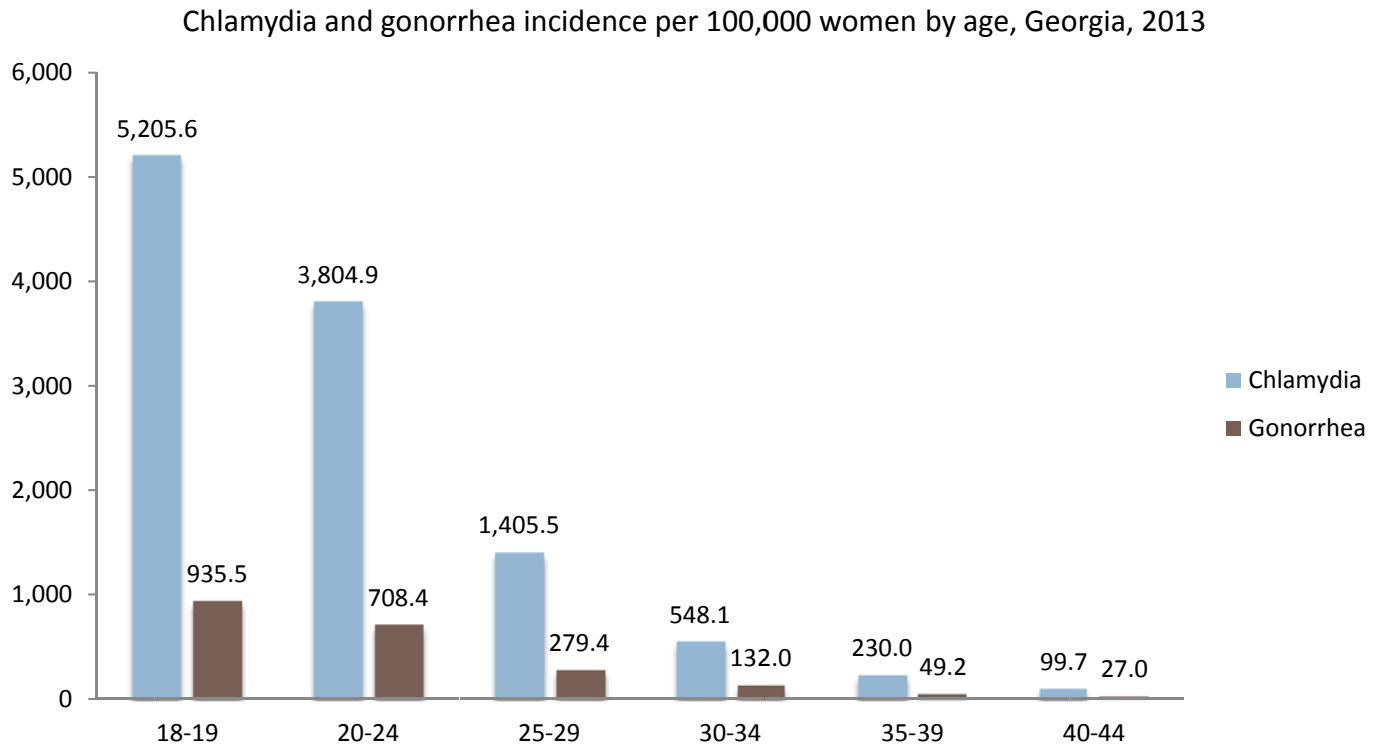
Chlamydia may be the most prevalent STI among women in Georgia, with women reporting having had chlamydia about five times more than gonorrhea. Both chlamydia and gonorrhea have been on the decline, after peaking in 2011. The data below cannot be directly compared to the HP2020 goal as the age groups are different and in Georgia, the epidemic is driven mainly by the high rates of disease in the younger population.

Chlamydia and gonorrhea incidence per 100,000 women by year, Georgia, 2009 to 2013



Source: STD Surveillance Program 2009-2013

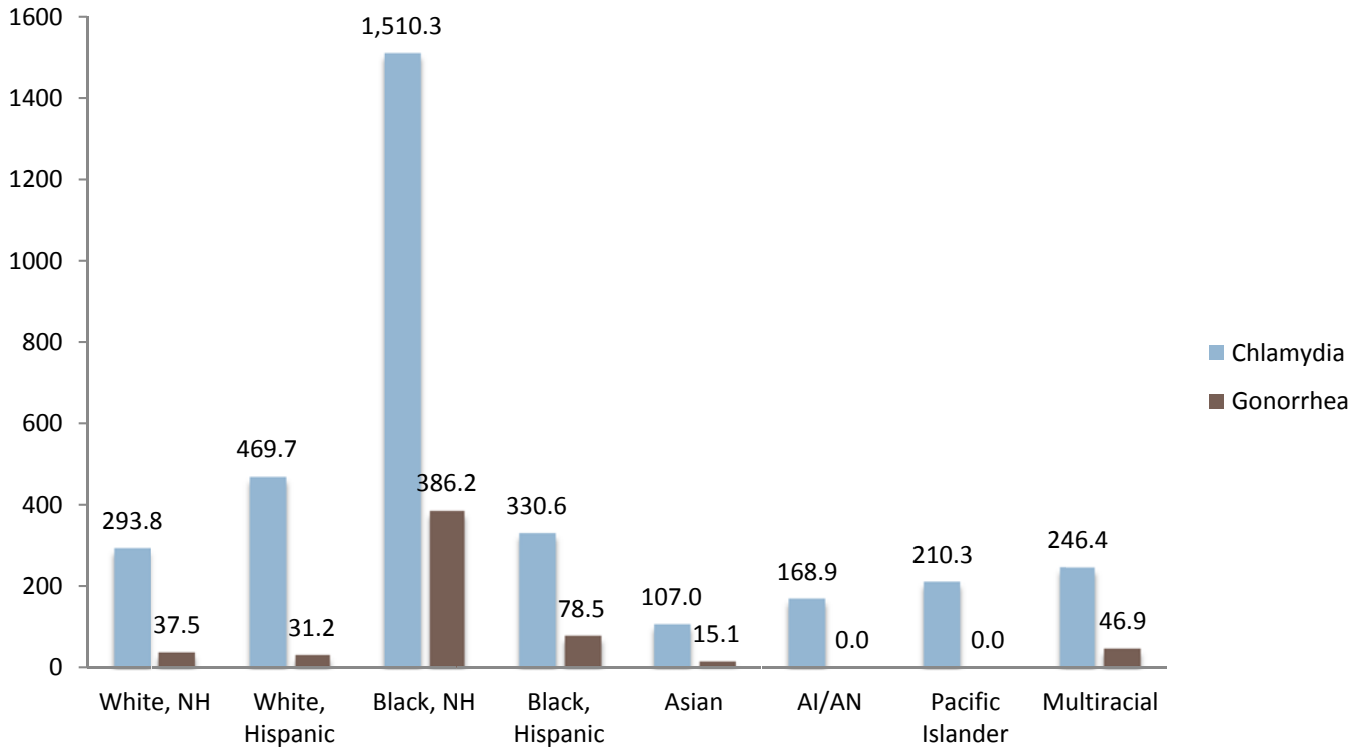
As such, the rates of chlamydia and gonorrhea are highest among women ages 18 to 24. The lowest rates are among women 35 and older, with almost no incidence of gonorrhea among women ages 40 to 44.



Source: STD Surveillance Program 2009-2013

Upon stratifying by race, we learn that Black, non-Hispanic women have a significantly higher rate of both chlamydia and gonorrhea compared to all other women.

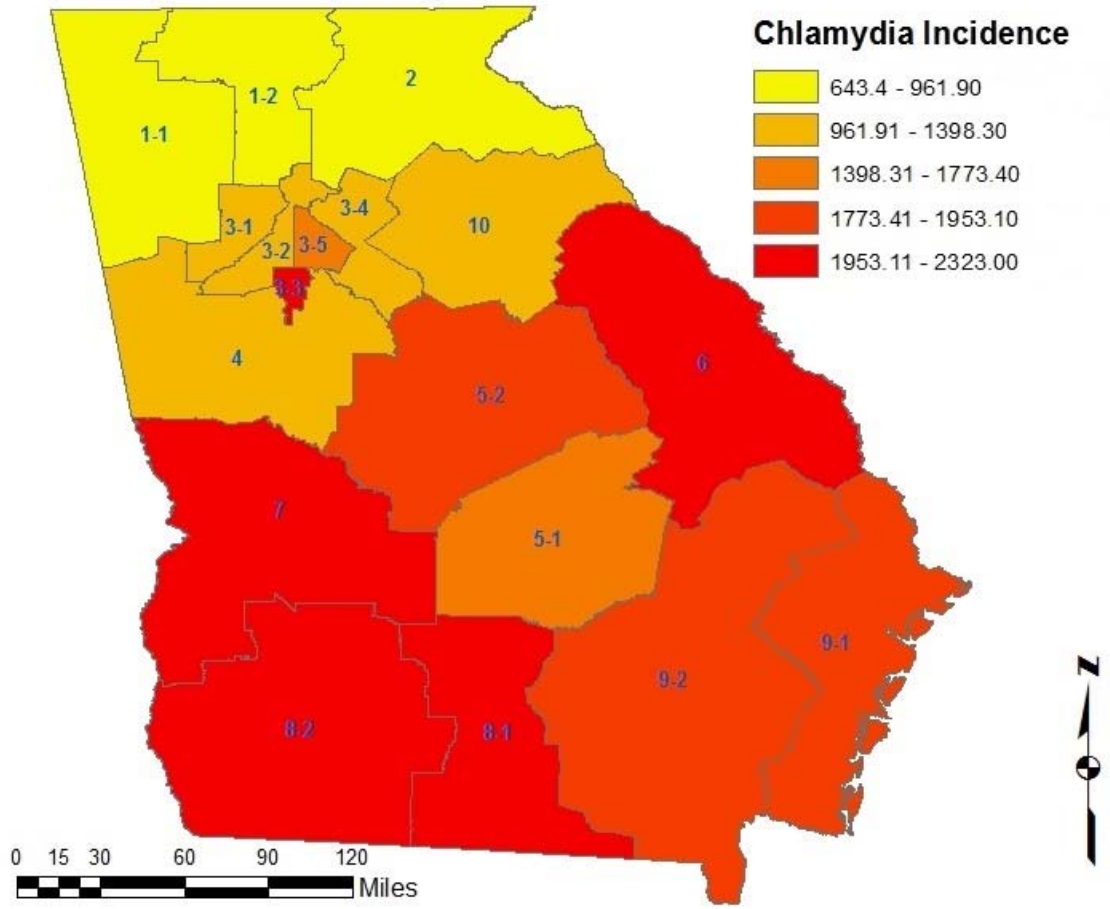
Chlamydia and gonorrhea incidence per 100,000 women ages 18 to 44 by race/ethnicity, Georgia, 2013



Source: STD Surveillance Program 2009-2013

Upon stratifying by public health district, the highest rate of Chlamydia was in the Southwest Health District (Albany) followed by the West Central and East Central Health Districts. The highest rate of gonorrhea was in the West Central Health District.

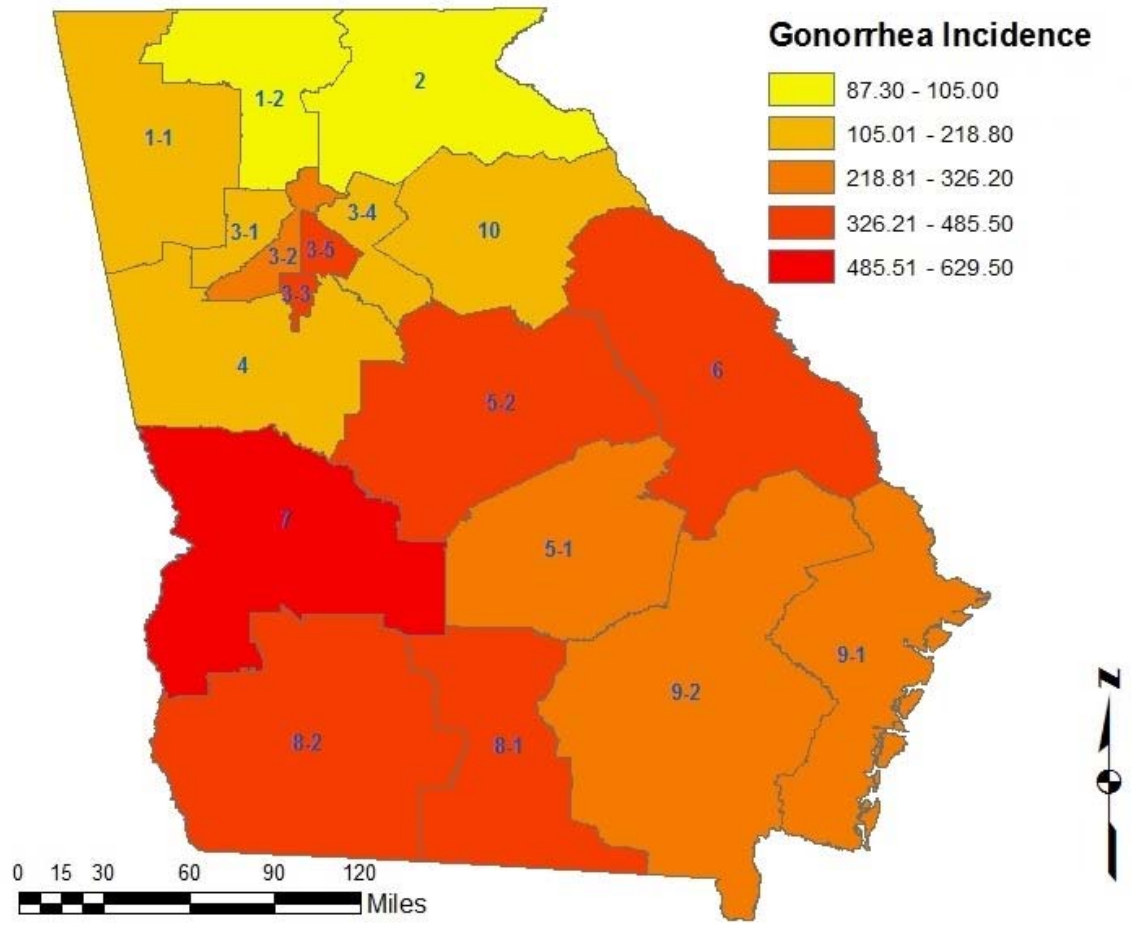
Chlamydia incidence per 100,000 women age 18-44 years by public health district, Georgia, 2013



ID	District	Rate	ID	District	Rate
3-3	Clayton County Health District (Jonesboro)	2154	1-2	North Georgia Health District (Dalton)	795
9-1	Coastal Health District (Savannah)	1932	2	North Health District (Gainesville)	643
3-1	Cobb/Douglas Health District	1179	10	Northeast Health District (Athens)	1379
3-5	DeKalb Health District	1773	1-1	Northwest Health District (Rome)	962
4	District 4 Health District	1209	5-1	South Central Health District (Dublin)	1698
6	East Central Health District (Augusta)	2287	8-1	South Health District (Valdosta)	2184
3-2	Fulton Health District	1398	9-2	Southeast Health District (Waycross)	1874
3-4	Gwinnett, Newton, & Rockdale County Health Depts. (Lawrenceville)	1225	8-2	Southwest Health District (Albany)	2323
5-2	North Central Health District (Macon)	1953	7	West Central Health District (Columbus)	2282

Source: STD Surveillance Program 2013

Gonorrhea incidence per 100,000 women age 18-44 years by public health district, Georgia, 2013



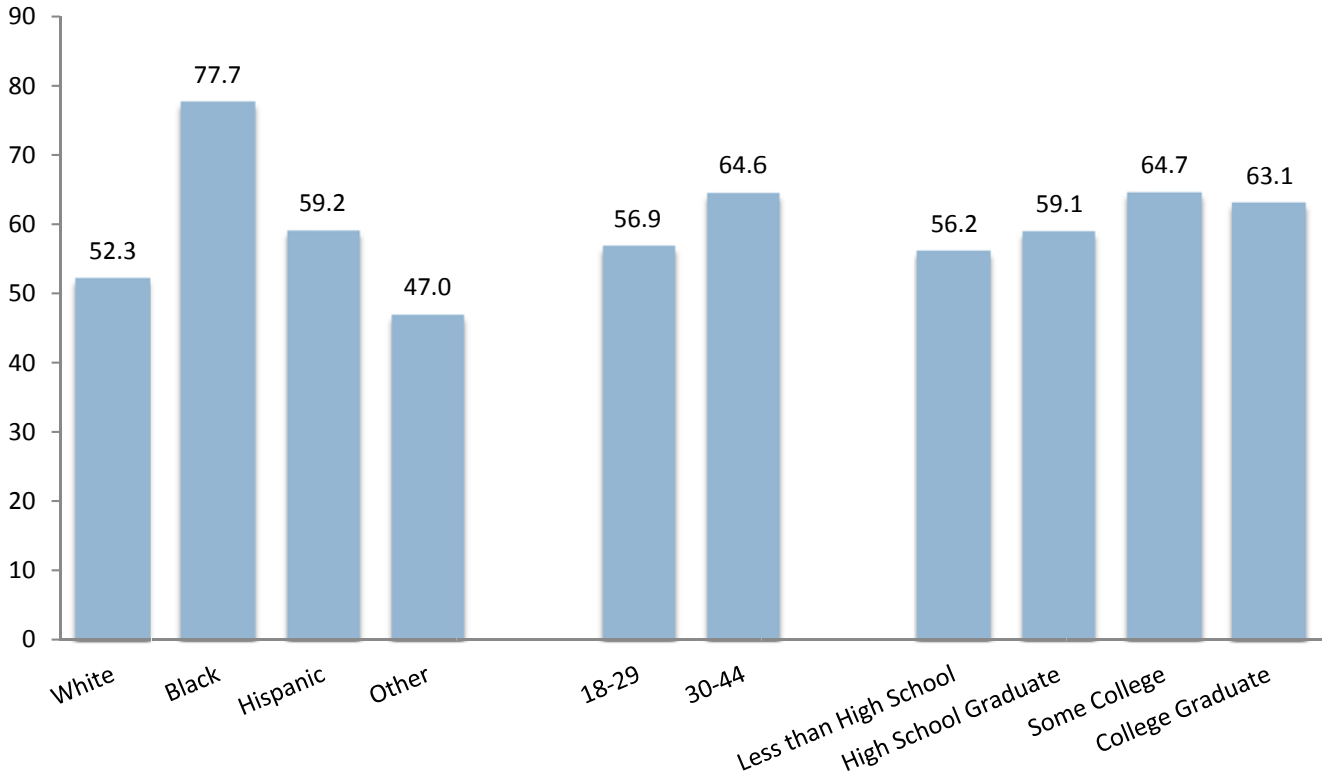
ID	District	Rate
3-3	Clayton County Health District (Jonesboro)	486
9-1	Coastal Health District (Savannah)	251
3-1	Cobb/Douglas Health District	176
3-5	DeKalb Health District	448
4	District 4 Health District	217
6	East Central Health District (Augusta)	481
3-2	Fulton Health District	326
3-4	Gwinnett, Newton, & Rockdale County Health Depts. (Lawrenceville)	197
5-2	North Central Health District (Macon)	409
1-2	North Georgia Health District (Dalton)	105
2	North Health District (Gainesville)	87
10	Northeast Health District (Athens)	219
1-1	Northwest Health District (Rome)	177
5-1	South Central Health District (Dublin)	264
8-1	South Health District (Valdosta)	426
9-2	Southeast Health District (Waycross)	267
8-2	Southwest Health District (Albany)	459
7	West Central Health District (Columbus)	630

Source: STD Surveillance Program 2013

HIV

Black women report taking an HIV test more often than any other race/ethnicity, with over 75% of Black women 18-44 reporting having taken a test. Additionally, the rate of reporting increases with age and with education, which is not surprising, as increased age typically indicates greater sexual experience and increased education indicates greater awareness of the importance of STI testing.

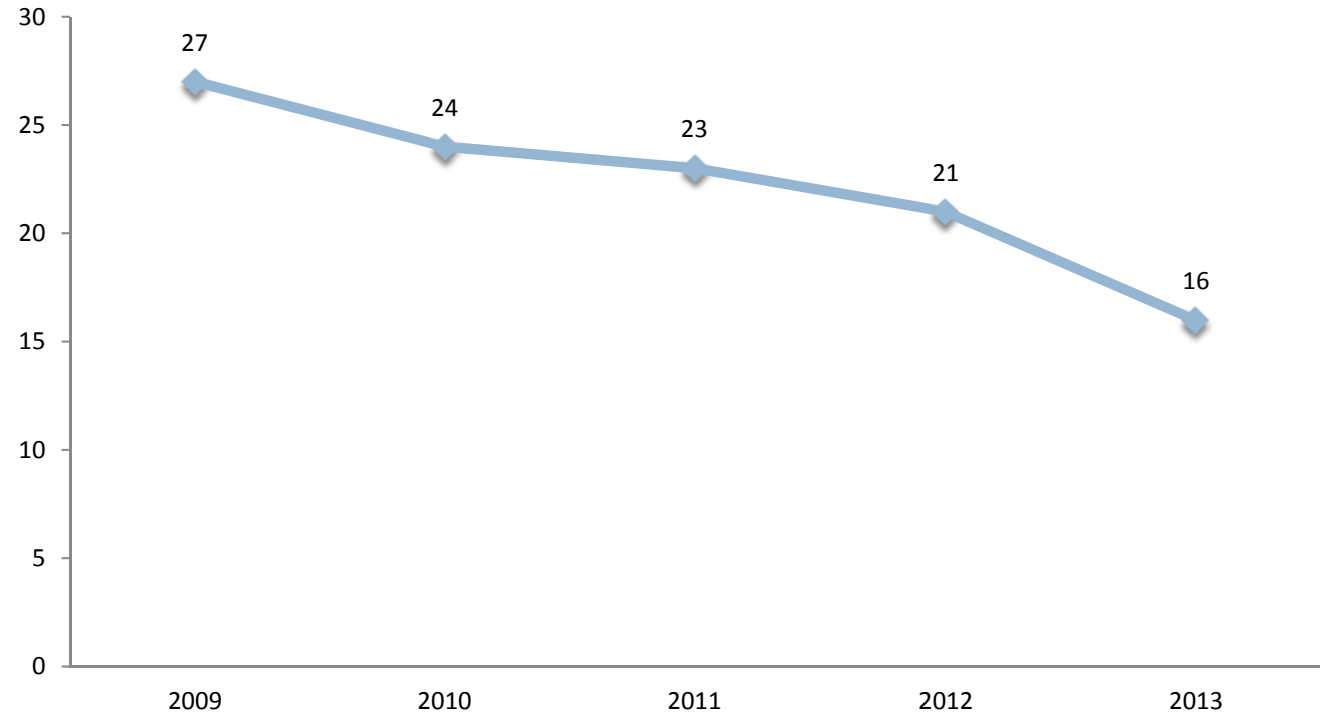
Percent of women ages 18-44 years who reported ever having taken an HIV test by race/ethnicity, age, and education, Georgia, 2009 to 2013



Source: HIV Surveillance Program 2009-2013

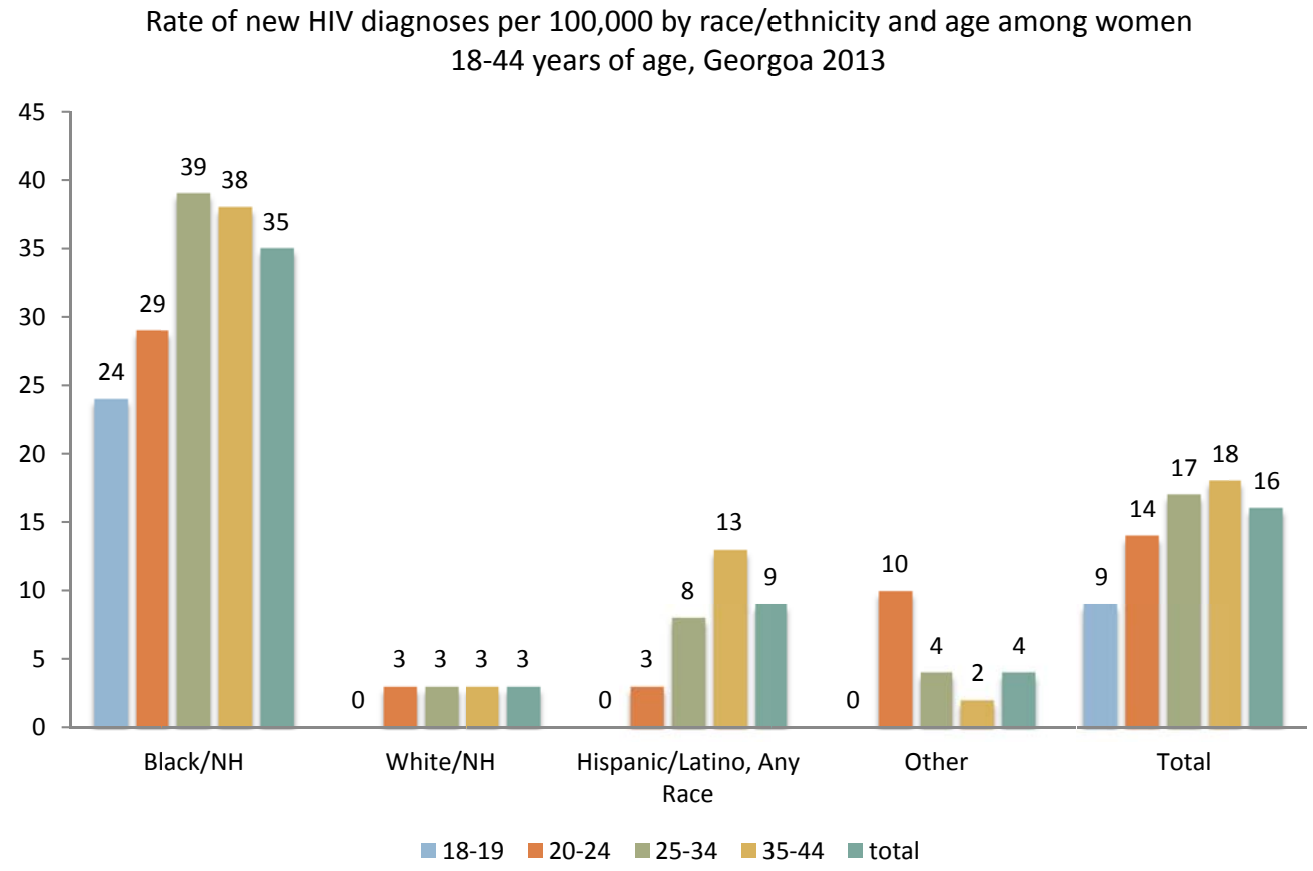
The rate of new HIV diagnoses per 100,000 among women 18 to 44 has been on the decline in Georgia from 2009 to 2013. As such, in 2009, the rate of new diagnoses was 27 per 100,000 women while in 2013, it dropped to 16 per 100,000.

Rate of new HIV diagnoses per 100,000 among women 18-44 years of age by year, Georgia, 2009 to 2013



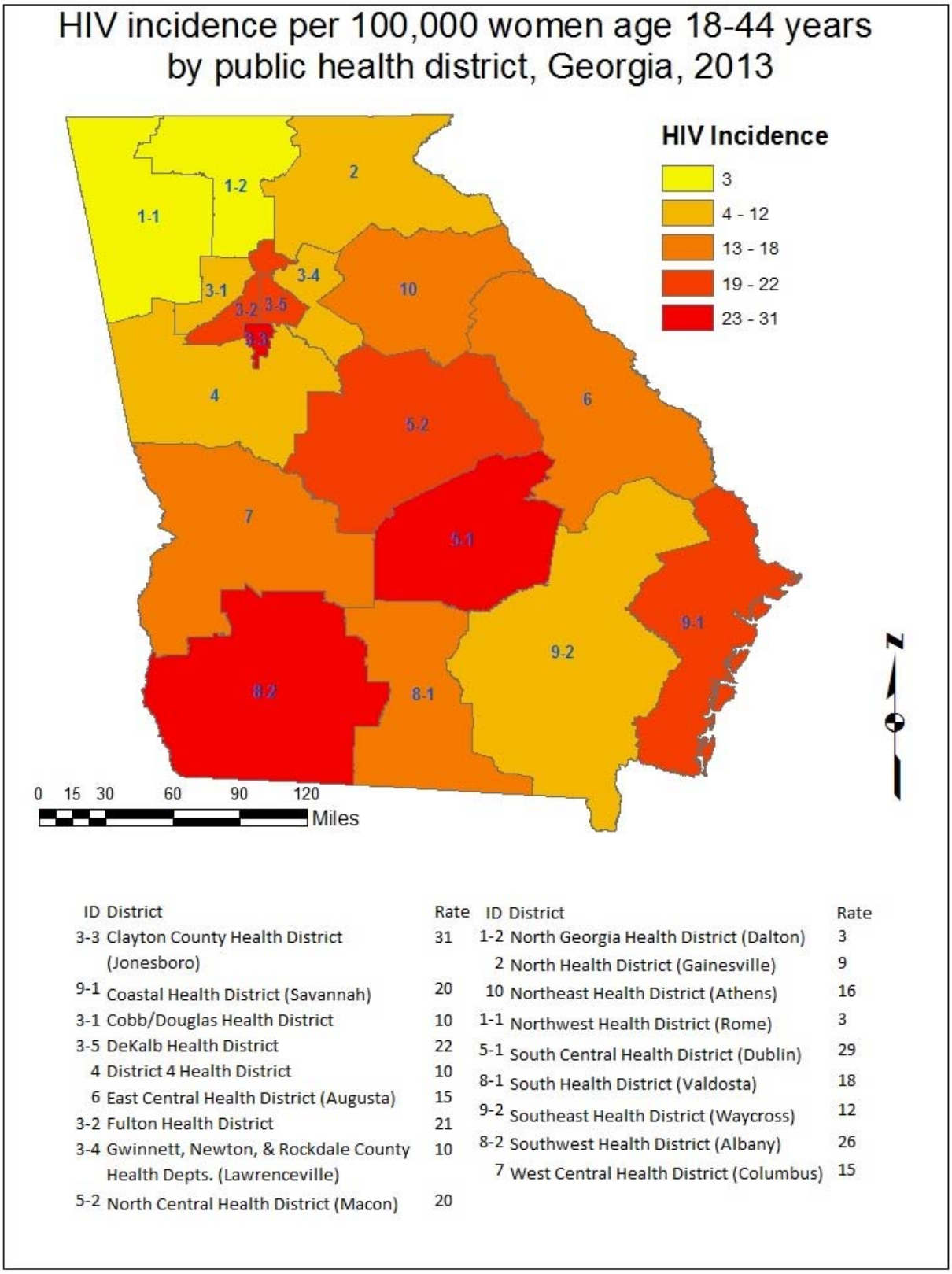
Source: HIV Surveillance Program 2009-2013

Black, non-Hispanic women, in all age groups, had the highest rates of new HIV diagnoses per 100,000 among women 18 to 44 years of age, compared to any other race or age group. This reveals a significant racial disparity that is worth investigating and increasing education efforts.



Source: HIV Surveillance Program 2009-2013

The highest rates of new HIV diagnoses occurred in Clayton followed by South Central and Southwest public health districts.



ID	District	Rate
3-3	Clayton County Health District (Jonesboro)	31
9-1	Coastal Health District (Savannah)	20
3-1	Cobb/Douglas Health District	10
3-5	DeKalb Health District	22
4	District 4 Health District	10
6	East Central Health District (Augusta)	15
3-2	Fulton Health District	21
3-4	Gwinnett, Newton, & Rockdale County Health Depts. (Lawrenceville)	10
5-2	North Central Health District (Macon)	20
1-2	North Georgia Health District (Dalton)	3
2	North Health District (Gainesville)	9
10	Northeast Health District (Athens)	16
1-1	Northwest Health District (Rome)	3
5-1	South Central Health District (Dublin)	29
8-1	South Health District (Valdosta)	18
9-2	Southeast Health District (Waycross)	12
8-2	Southwest Health District (Albany)	26
7	West Central Health District (Columbus)	15

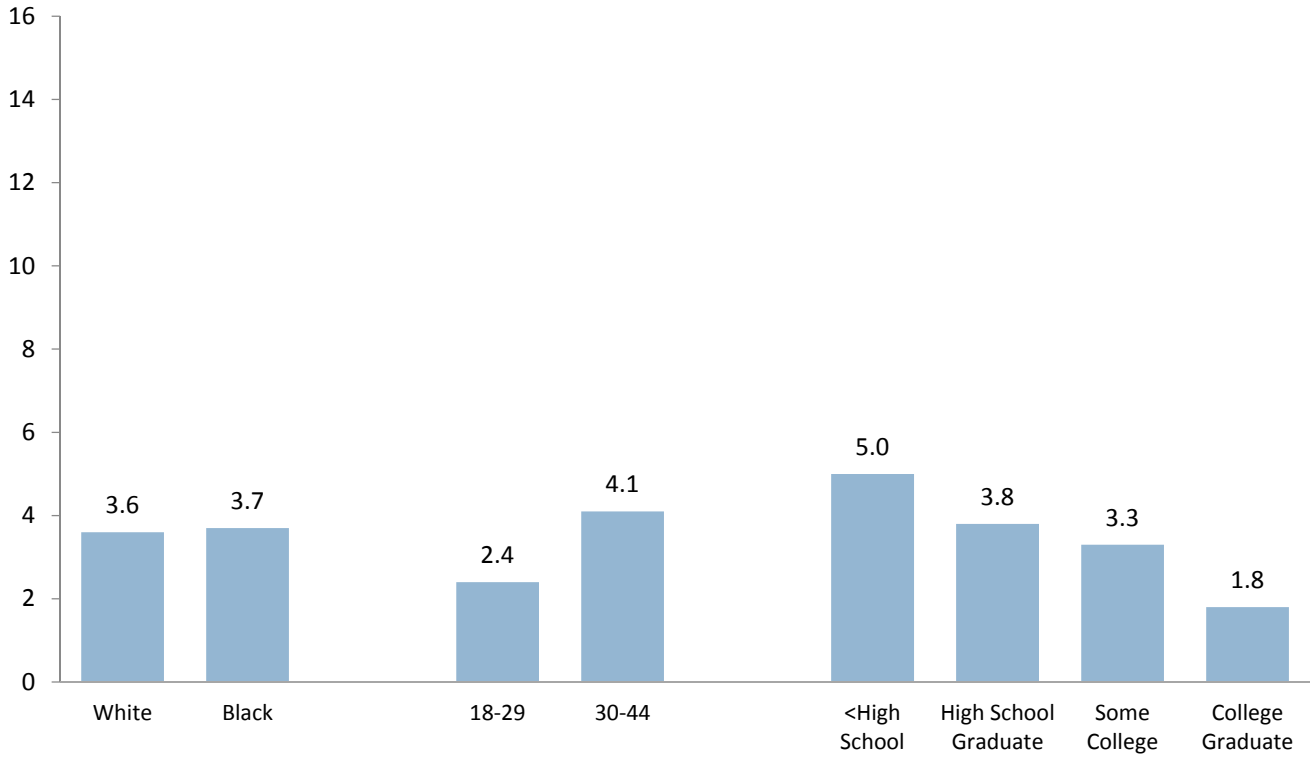
Source: HIV Surveillance Program 2009-2013

CHRONIC DISEASES AND MORTALITY

Chronic Diseases

There were no notable disparities in the percent of women with diabetes in Georgia, with the exception of age and education level. As such, those with less than a high school education were 2.5 times more likely to have diabetes than those with a college education, while those in the 30-44 year age group were twice as likely to have diabetes.

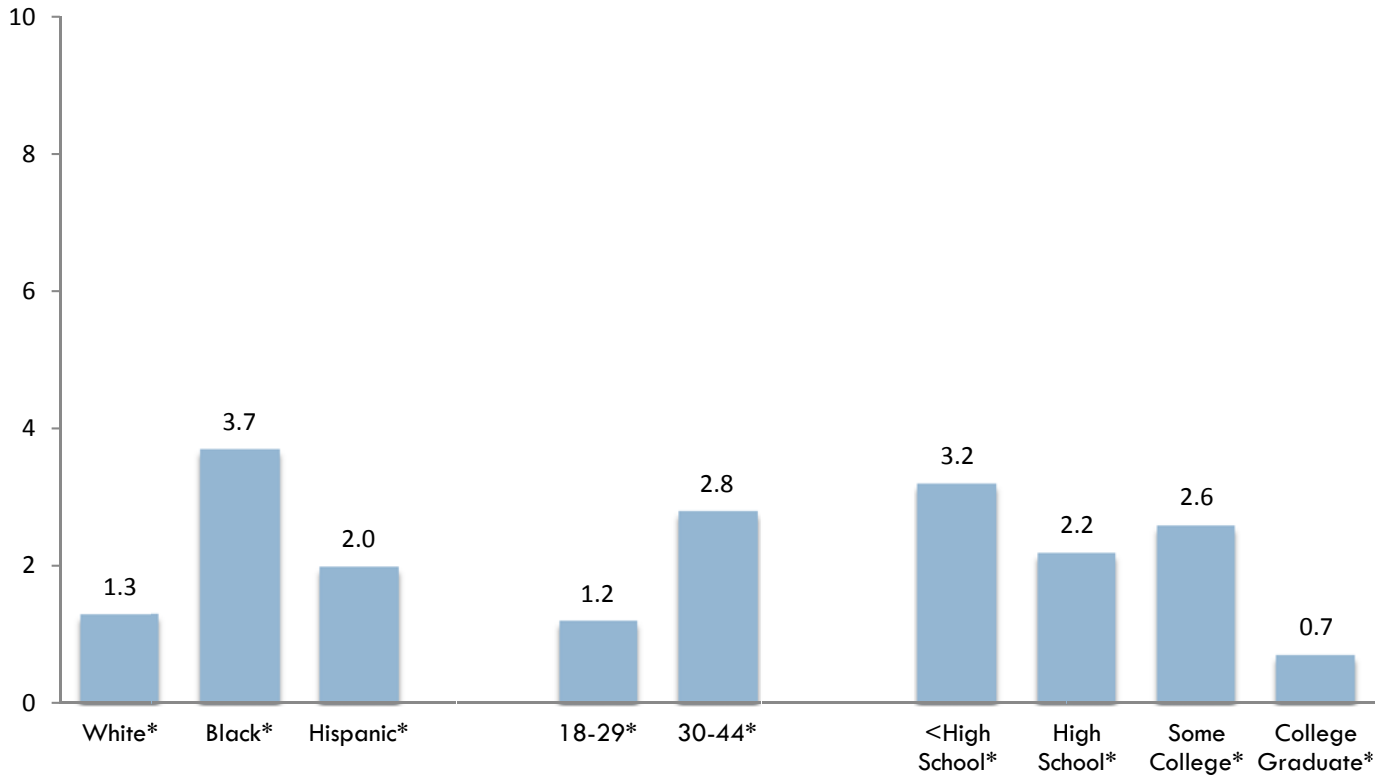
Percent of women with diabetes in Georgia by race/ethnicity, age, and education level, Georgia, 2012 to 2013



Source: BRFSS 2012-2013

While looking at cardiovascular disease, some disparities are revealed. Once again, 3.2% of those women with less than a high school degree had cardiovascular disease compared to 0.71% of women with a college degree. Similarly, twice as many women in the 30-44 years age group had cardiovascular disease compared to those in the 18-29 years age group. This is not surprising as many chronic diseases are diagnosed later in life. Finally, Black women were the most likely to have cardiovascular disease (3.7%) compared to only 1.3% of White women and 2% of Hispanic women.

Percent of women with cardiovascular disease by race/ethnicity, age, and education level, Georgia, 2012 to 2013

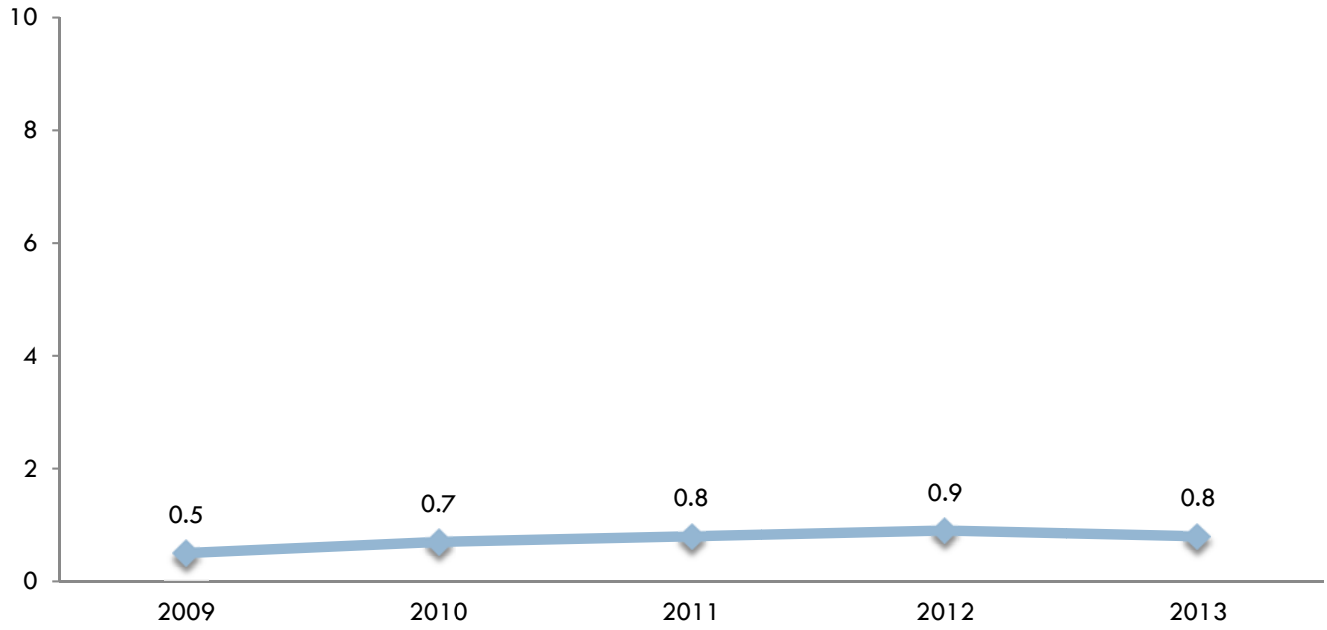


Source: BRFSS 2012-2013
*small numbers and data maybe unreliable

Mortality

Mortality from cervical cancer was on the rise from 2009-2012, with a decline beginning in 2012 to 2013. This is surprising since the rate of women having had pap smears is more than 85%. It is important to explore what was causing such an increase, and how to sustain the decline.

Mortality rate from cervical cancer for women (18 to 44 years) per 100,000, Georgia, 2009 to 2013



Source: Cancer Registry 2009-2013

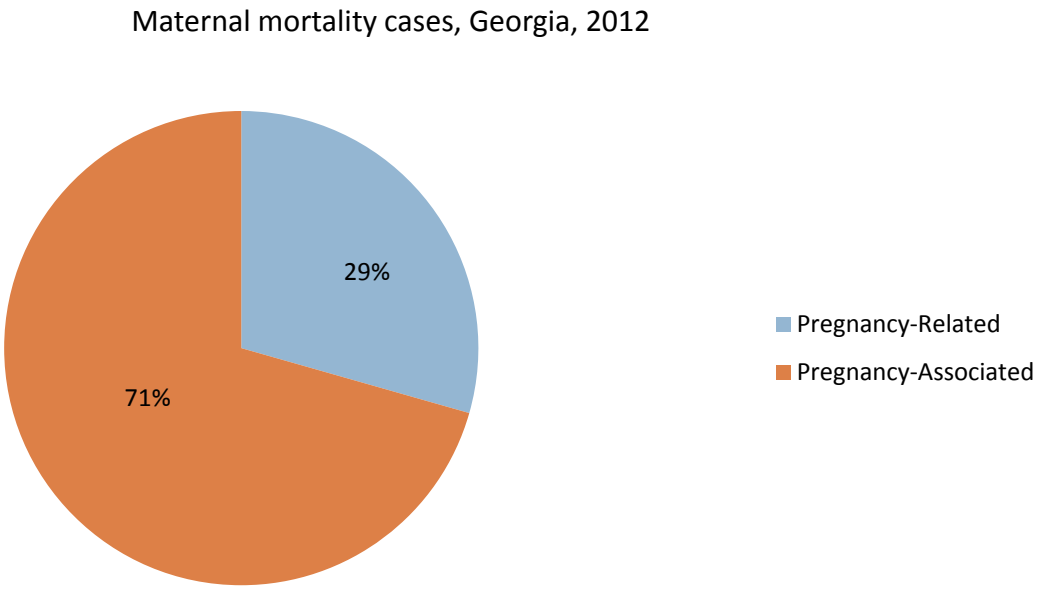
The top ten causes of death for women ages 18 to 44 in Georgia are listed below. As such, motor vehicle crashes are the top cause for women ages 18-34. However, from 35-44 years, the top cause of death is accidental poisoning and exposure to noxious substances. Also notable is that malignant neoplasm of the breast and heart disease – two chronic diseases – are the second and third cause of death for women 35 and up.

Top 10 causes of death for women 18 to 44 years of age, Georgia, 2009-2013				
Rank	**18-19 years**	**20-24 years**	**25-34 years**	**35-44 years**
1	Motor Vehicle Crashes (63)	Motor Vehicle Crashes (163)	Motor Vehicle Crashes (266)	Accidental Poisoning and Exposure to Noxious Substances (479)
2	Assault (Homicide) (23)	Accidental Poisoning and Exposure to Noxious Substances (79)	Accidental Poisoning and Exposure to Noxious Substances (266)	Malignant Neoplasm of the Breast (383)
3	Accidental Poisoning and Exposure to Noxious Substances (15)	Assault (Homicide) (77)	Intentional Self-Harm (Suicide) (166)	Ischemic Heart and Vascular Disease (250)
4	Intentional Self-Harm (Suicide) (15)	Intentional Self-Harm (Suicide) (61)	Assault (Homicide) (138)	Motor Vehicle Crashes (247)
5	All Other Endocrine, Nutritional and Metabolic Diseases (7)	All Other Diseases of the Nervous System (35)	Human Immunodeficiency Virus (HIV) Disease (100)	Intentional Self-Harm (Suicide) (243)
6	All Other Diseases of the Nervous System (7)	Pregnancy, Childbirth and the Puerperium (33)	All Other Diseases of the Nervous System (82)	Essential (Primary) Hypertension and Hypertensive Renal, and Heart Disease (211)
7	Pregnancy, Childbirth and the Puerperium (7)	All Other Endocrine, Nutritional and Metabolic Diseases (20)	Pregnancy, Childbirth and the Puerperium (80)	Cerebrovascular Disease (204)
8	Diseases of the Musculoskeletal System and Connective Tissue (6)	Cerebrovascular Disease (18)	Malignant Neoplasm of the Breast (71)	Human Immunodeficiency Virus (HIV) Disease (189)
9	Congenital Malformations, Deformations and Chromosomal Abnormalities (6)	All Other Unintentional Injury (16)	Diabetes Mellitus (67)	Malignant Neoplasm of the Cervix Uteri, Uterus, and Ovary (183)
10	Septicemia (5)	Congenital Malformations, Deformations and Chromosomal Abnormalities (14)	Cerebrovascular Disease (64)	All Other Diseases of the Nervous System (158)

Source: OASIS Community Health Needs Assessment Dashboard 2009-2013

Maternal Mortality

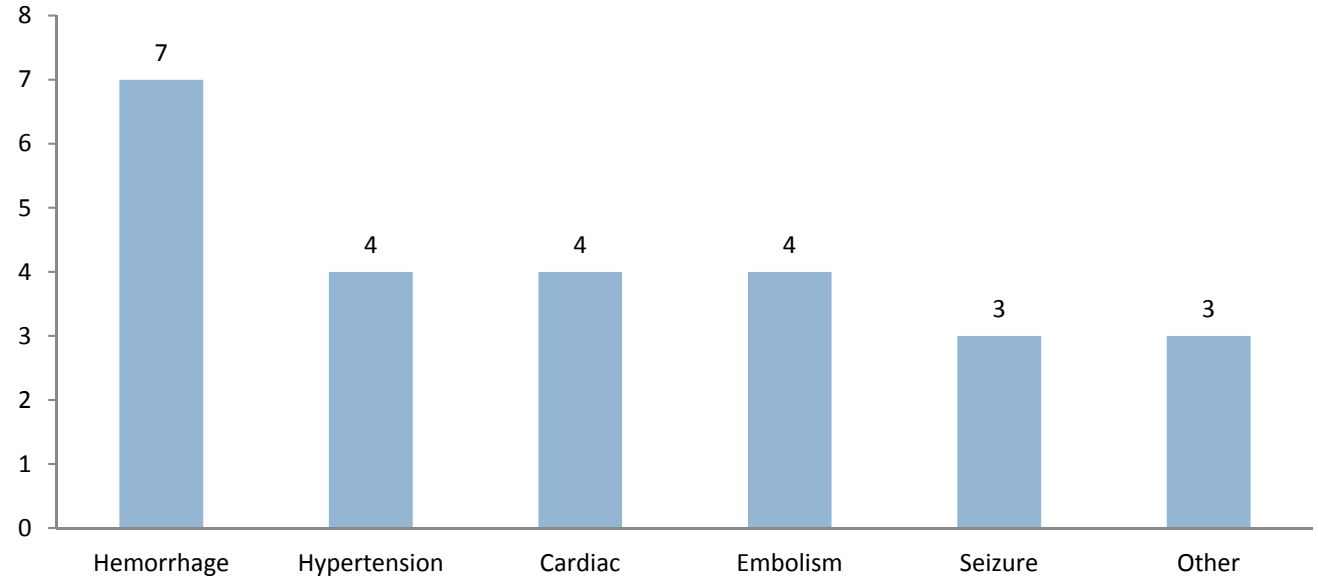
Georgia recently implemented a maternal mortality review committee. The purpose of the committee is to identify pregnancy-related and pregnancy-associated cases of maternal mortality. Pregnancy-associated deaths are the death of a woman while pregnant or within one year of the end of pregnancy, irrespective of the cause of death. Pregnancy-related deaths are defined as the death of a woman while pregnant or within one year of the end of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by her pregnancy or its management, but not from accidental or incidental causes. In 2012, the review committee identified 85 maternal mortality cases. 25 cases were determined to be pregnancy-related and 60 were pregnancy-associated.



Source: Georgia Maternal Mortality Review Committee 2012

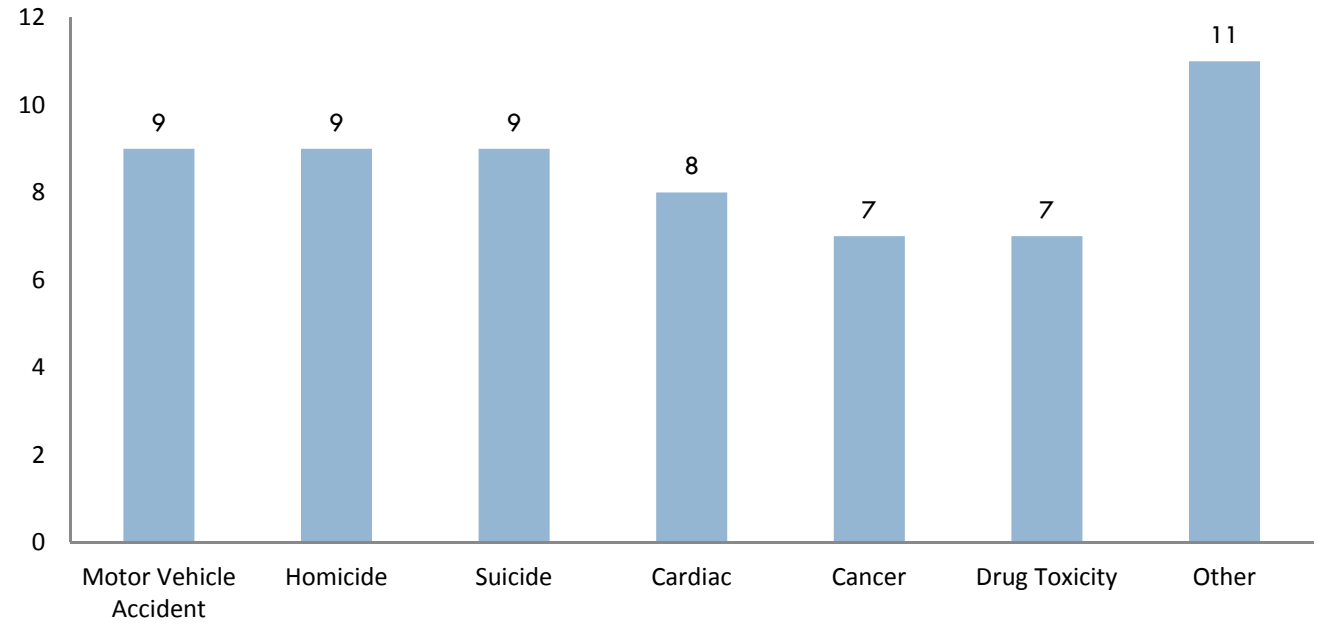
The most common cause of death among pregnancy-related cases was hemorrhage. Hypertension, cardiac conditions and embolism were each the causes of death for four cases, highlighting the importance of managing chronic conditions prior to pregnancy. Motor vehicle accidents, homicide and suicide were the most common cause of death among pregnancy-associated cases.

Number of pregnancy-related deaths by cause of death, Georgia, 2012



Source: Georgia Maternal Mortality Review Committee 2012

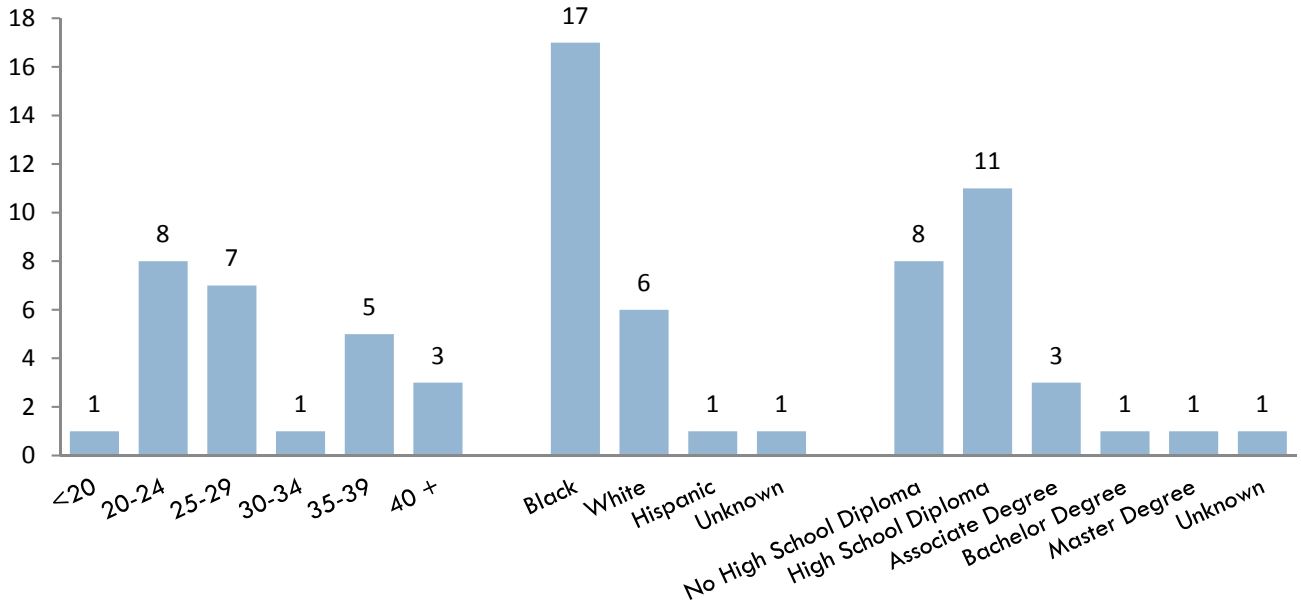
Number of pregnancy-associated deaths by cause of death, Georgia, 2012



Source: Georgia Maternal Mortality Review Committee 2012

Disparities also exist by age, with the highest number of cases occurring among women between the ages of 20 to 29. The majority of pregnancy-related cases occurred among Black women. A higher number of cases were also seen among women without any form of college education.

Pregnancy-related maternal mortality cases by age, race/ethnicity and education, Georgia, 2012



Source: Georgia Maternal Mortality Review Committee 2012

CONCLUSION

Maternal health has been a priority for states across the nation for decades. As such, Georgia has proven to be a leader in some areas, while does need to improve in other areas. This paper explored the various indicators and metrics states use to assess the status of maternal health of women in Georgia.

- Pregnancy behaviors. It is crucial to continue to raise awareness about the importance of healthy pregnancy behaviors such as flu vaccination and folic acid use. As such, the disparity among women reporting folic acid use in rural areas compared to women in urban areas is significant and indicates a need for greater education and awareness efforts targeting women in rural areas.
- Chronic disease. We discovered a number of racial and ethnic disparities with respect to chronic disease during pregnancy. In particular, women who identified as "Other" and "Hispanic" reported a much higher rate of experiencing gestational diabetes compared to White and Black women. This indicates a need for further investigation to explore what is causing or contributing to this disparity, and also necessitates the need for increased health education using culturally-sensitive approaches in order to successfully reduce these rates.
- Alcohol use during pregnancy. While the overall rate of reporting alcohol use during pregnancy still remains low, the increase from 2009-2011 is significant and suggests the need for further investigation. As such, alcohol use is higher among women older than 35 and those with higher education, and so education efforts should be targeted toward those groups.
- Physical abuse during pregnancy. Physical abuse during pregnancy is highest among mothers who are very young, under 20 years, Blacks, and those with less than a high school education. Specific social services and domestic violence awareness efforts should be made to target these three groups, as well as target their partners to create healthier families.
- Vaginal vs caesarean deliveries. Racial disparities existed with respect to those women who had primary and repeat cesarean deliveries. For example, Hispanic women were most likely to have repeat cesarean sections while Black women were the least likely. This suggests the need for increased education probably using a culturally-sensitive approach, on the effectiveness and benefits of vaginal birth after cesarean (VBAC) deliveries.
- Contraception. Use of contraceptives before pregnancy was similar between racial and ethnic groups as well as among educational status. Postpartum contraceptive use is exceptionally high in Georgia with small amounts of variation between racial and ethnic groups.
- Sexually transmitted infections. While the rate of many STIs is on the decline in Georgia, the rate of all STIs – Chlamydia, Gonorrhea, and HIV were highest among Black, non- Hispanic women between the ages of 18-44. This indicates the need for targeted education on contraception, STIs, and testing in order to reduce these rates. There was also geographic variation and rates of STIs indicating a need to consider focusing in particular geographic regions of the state.