Florida Life Course Indicator Report
Reproductive Life Experiences

Life Course Theory looks at health as an integrated continuum where biological, behavioral, psychological, social and environmental factors interact to shape health outcomes across the course of a person's life. The adoption of the Life Course Theory into public health practice requires movement away from isolated efforts and encourages broader thinking about the factors impacting health. Instead of concentrating on one health disease or condition at a time, the Life Course Theory looks to social, economic and environmental factors as underlying causes of persistent inequalities in health.

The indicators in the report were calculated according to guidelines published by the Association of Maternal and Child Health Programs. For each indicator, a brief description of the topic and definition, connection to the Life Course Theory, and data source are provided in the report. When possible, a state-level estimate for each indicator was calculated with 95% confidence intervals (CI) and Florida's status was compared to the nation. The indicators were then stratified by race/ethnicity when available and appropriate.

This section details the following life course indicators related to **reproductive life experiences:**

- **LC-49.** Diabetes During Pregnancy (Gestational Diabetes)
- **LC-50.** Early Sexual Intercourse
- **LC-51.** HIV Prevalence
- **LC-52.** Postpartum Contraception
- **LC-53.** Subsequent (Repeat) Teen Birth
- **LC-54.** Teen Birth
- **LC-55.** Preterm Birth
- **LC-56.** Stressors during Pregnancy

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LC-49: Diabetes during Pregnancy (Gestational Diabetes)

Pregnant women, who have never had diabetes before, but experience high blood sugar during pregnancy, are considered to have gestational diabetes[1]. Although the exact causes are unknown, it is well believed that hormones produced during pregnancy block the body's ability to effectively use insulin.[1] Ineffective use of insulin by the body results in abnormal blood sugar levels for the mother and infant. Infants born to mothers with gestational diabetes are at increased risk of macrosomia (large for gestational age).[2] Macrosomia (a birth weight greater than 8 pounds, 13 ounces or 4,000 grams) places infants at increased risk for injuries during birth and at increased risk of health problems after birth. Mothers with gestational diabetes are at increased risk of pre-eclampsia, premature rupture of the membranes, cesarean section and preterm delivery.[2] Additionally, women who develop gestational diabetes are more likely to develop Type II diabetes after pregnancy.[3]

Data source: Pregnancy Risk Assessment Monitoring System (PRAMS), 2009-2011
Numerator: Total women with gestational diabetes (diabetes that started during the most recent pregnancy)
Denominator: Total population of women with a recent live birth

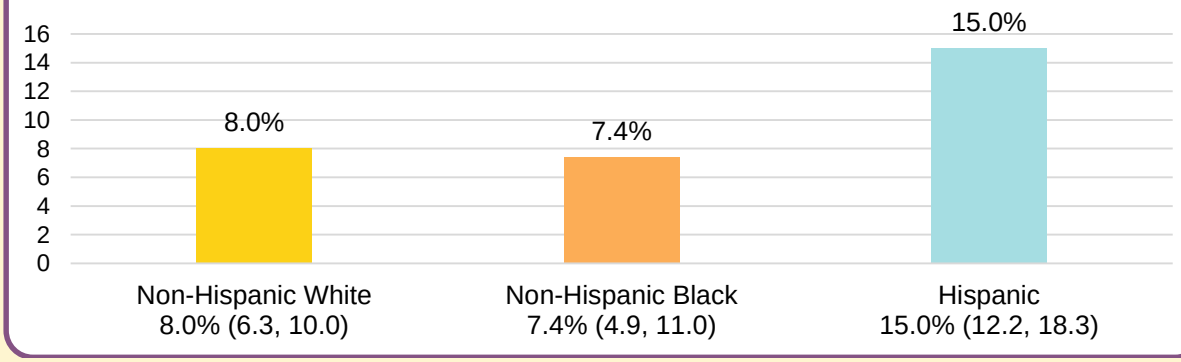
Table 1: Percent (95% CI) of Women with a Recent Live Birth with Gestational Diabetes During Most Recent Pregnancy, 2009-2011

Nation[4]*	Florida[5]
9.2% (9.2, 9.3)	9.8% (8.7, 10.9)

*The national average is derived from states participating in the CDC's CPONDER data system between 2009 and 2011. To be included in the system, states must have greater than 65% response rate on their PRAMS survey. Florida was not included in the national estimate. The numbers reported here may not be directly comparable.

The percentage of women with a recent live birth with self-reported gestational diabetes was similar between Florida and the nation for 2009-2011 (Table 1). Women over 35 years old had a higher percent of reporting gestational diabetes during their most recent pregnancy when compared to other age groups in Florida.[5]

Figure 1: Percent (95% CI) of Women with a Recent Live Birth with Gestational Diabetes in Florida, by Race/Ethnicity 2012-2013[5]



During 2012-2013, the most recent data years available, the percent of gestational diabetes among new mothers was 10.5% (95% CI: 9.1-12.1).[5] Hispanic mothers reported the highest percent of gestational diabetes during their most recent pregnancy (Figure 1). This prevalence may not be comparable due to 2009-2011 Florida PRAMS Survey due to differences in survey questions.

Research Spotlight

To assess the burden of gestational diabetes in Florida, a comprehensive surveillance report was completed during 2013. This reports details five data sources, each identifying a different population of women, that can be used provide an estimate of gestational diabetes. The full report can be accessed at: http://c.ymcdn.com/sites/chronicdisease.site-ym.com/resource/resmgr/Womens_Health_Council_GDM/Florida_GDM_Data_report_fina.pdf

LC-50: Early Sexual Intercourse

Early sexual intercourse is associated with increased likelihood of risky sexual behaviors and associated outcomes such as sexually transmitted infections (STIs) and teen pregnancy.[6] Those who experience early initiation of sexual intercourse are more likely to have multiple sexual partners, been involved in a pregnancy, forced a partner to have sex and had sex under the influence of alcohol or drugs.[6]

Increasing the proportion of adolescents aged 17 years and under who have never had sexual intercourse is a *Healthy People 2020* objective.[7] Reducing early sexual intercourse can help decrease sexual risk behaviors and unintended pregnancies among adolescents. Research has shown that positive youth development is an important component of early sexual education and will help early adolescents make informed decisions about sexual activity and postpone early sexual intercourse.[8]

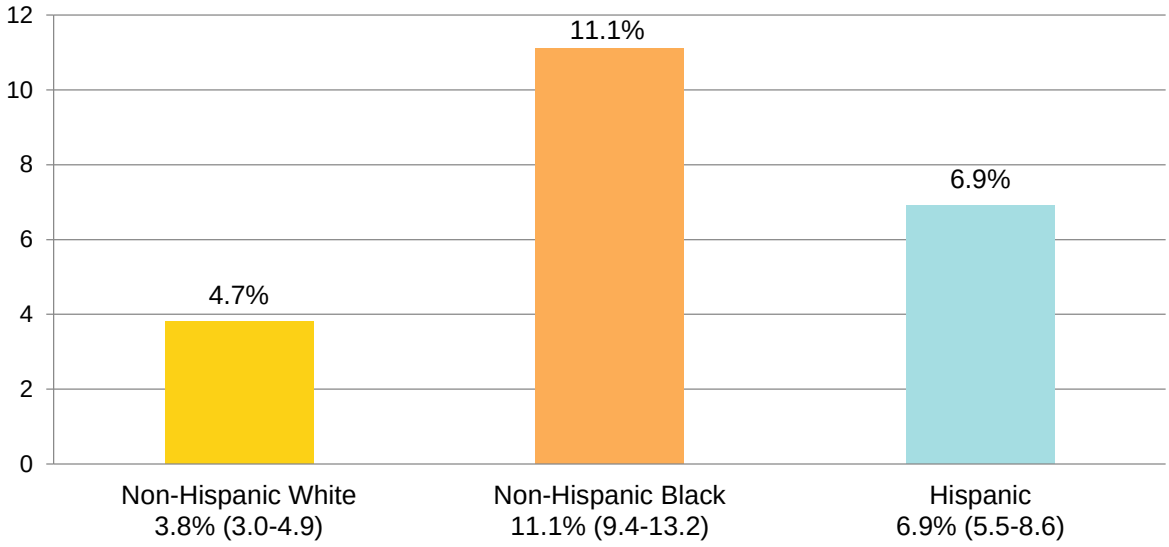
Data source: Youth Risk Behavior Survey (YRBS), 2013
Numerator: Total 9th through 12th graders who initiate sexual intercourse before age 13 years (early sexual intercourse)
Denominator: Total population of 9th through 12th graders

Table 2: Percent (95% CI) of High School Students Who Report Early Sexual Intercourse, 2013

Nation[9]	Florida[10]
5.6% (4.9-6.5)	6.7% (5.8, 7.6)

The percent of high school students who engage in early sexual intercourse in Florida is higher than the national average (Table 2). Early sexual intercourse varies by gender. Male students (9.5%) had a higher percent of early sexual intercourse than female students (3.8%) in Florida.

Figure 2: Percent (95% CI) of Early Sexual Intercourse Among High School Students in Florida, by Race/Ethnicity 2013[10]



Non-Hispanic Black students had a higher percent of early sexual intercourse when compared to non-Hispanic White and Hispanic students (Figure 2).

Program Spotlight

The Florida Department of Health's Sexual Risk Avoidance (SRA) initiative has the goal of decreasing sexual activity among adolescents aged 11-19 in Florida. Through funding provided by the U.S. Department of Health and Human Services, the SRA initiative has 14 grantees serving 18 counties with evidence-based curricula. Education subjects included goal-setting, negotiation skills, healthy-relationship building, sexually transmitted diseases and strategies for delaying sexual activity. In the 2015-2016 grant year the SRA initiative will serve approximately 10,000 Florida youth.

LC-51: HIV Prevalence

HIV stands for Human Immunodeficiency Virus and it is a lifelong infection that attacks critical parts of your immune system.[11] HIV is spread through direct contact with bodily fluid such as blood, semen, vaginal fluids, and breast milk.[11] Certain populations are at greater risk of acquiring HIV including men who have sex with men, injection drugs users, and those who have multiple sex partners. Research also shows that in the United States, non-Hispanic Black people continue to have the most severe burden of HIV and that Hispanic people are disproportionately affected by new HIV infections.[12]

The economic burden associated with HIV is high; the average lifetime cost to treat one person with HIV is estimated to be $380,000.[13] While expensive, HIV treatment interventions extend both the quality and length of lives for HIV positive persons. Prevention of new HIV cases relies on safe sex practices such as proper condom use as

well as increased testing and awareness of HIV status. According to the CDC, almost 1 in 7 people or 14% are unaware of their infection status.[12]

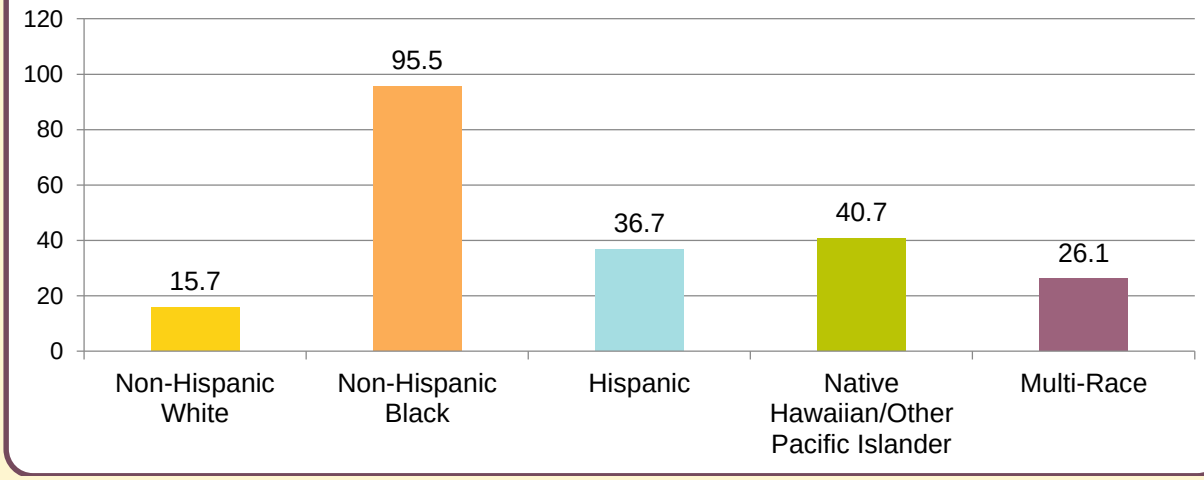
Pregnant women should be tested for HIV at their initial prenatal care appointment and again at 28-32 weeks gestation. There is a less than 2 percent chance of HIV being transmitted to the unborn baby if medication adherence is strictly observed during the pregnancy, labor and delivery and the neonatal period.

Data source: CDC National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention Atlas, 2013
Numerator: Total diagnosed HIV cases
Denominator: Total population

Table 3: HIV Diagnosis Rate per 100,000, 2013[14]	
Nation	**Florida**
17.9	32.1

Florida's HIV diagnosis rate in 2013, was more than one and half times higher than the national average, with 30.8 HIV diagnoses per 100,000 people (Table 3). The HIV diagnosis rate is higher among men (50.9 per 100,000) than women (14.5 per 100,000) in the state of Florida. There have been 1,208 perinatally acquired HIV infection cases born in Florida from 1979 to 2013. Florida ranks second only to New York and accounts for 17% of all the pediatric HIV infections in the US through 2011, the most recent year national data are available.[15]

Figure 3: HIV Diagnosis Rate per 100,000 in Florida, by Race/Ethnicity 2013[14]



HIV diagnosis rate varies by race/ethnicity in Florida (Figure 3). Non-Hispanic Black people have the highest HIV diagnosis rate, which is more than three times the total HIV diagnosis rate. HIV diagnosis rates are lowest among non-Hispanic White people, Asians, and American Indians/Alaskan Natives in Florida.

LC-52: Postpartum Contraception

Access to contraception in the postpartum period is critical to establishing optimal birth spacing. Timing between one pregnancy and the next can have an effect on the risk of pregnancy complications and adverse birth outcomes. In general, a subsequent pregnancy less than 18 months of the previous pregnancy increases the risk of preterm birth, low birth weight, and small for gestational age.[16] Research suggests that interpregnancy intervals are a potentially modifiable risk factor for these adverse outcomes and that attention should be given to the importance of family planning in the postpartum period.[17]

Access to contraception and choice of contraception can be influenced by income level. However, the passage of the Patient Protection and Affordable Care Act (ACA) expanded insurance coverage to previously uninsured populations and assured that all insurance plans in the new marketplace must cover Food and Drug Administration (FDA)-approved contraceptive methods and counseling for women.[18]

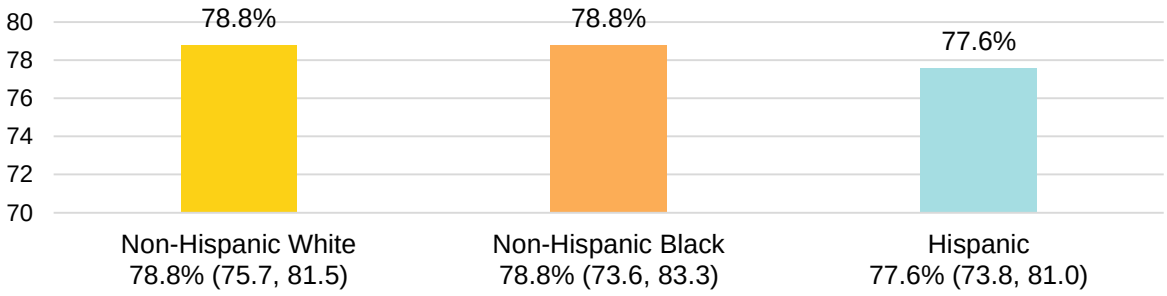
Data source: Florida Pregnancy Risk Assessment Monitoring System (PRAMS), 2009-2011
Numerator: Total women who reported that they or their husbands or partners were currently doing something to keep from getting pregnant
Denominator: Total population of women with a recent live birth

Table 4: Percent (95% CI) of Women with a Recent Live Birth who are Using Postpartum Birth Control, 2009-2011	
Nation[4]	**Florida[5]**
84.2% (84.1, 84.2)	84.0% (82.6, 85.3)

*The national average is derived from states participating in the CDC's CPONDER data system. To be included in the system, states must have greater than 65% response rate on their PRAMS survey. Florida was not included in the national estimate. The numbers reported here may not be directly comparable.

Overall, 84.0% of women with a recent live birth in Florida used some form of postpartum birth control. This is similar with the national average for 2009-2011 (Table 4).

Figure 4: Percent (95% CI) of Women with a Recent Live Birth Using Postpartum Contraception in Florida, by Race/Ethnicity 2012-2013[5]



During 2012-2013, the most recent data years available, the percent of new mothers using some form of postpartum birth control was 78.0% (95% CI: 75.9, 79.9).[5] This percent did not vary by race/ethnicity (Figure 4). This prevalence may not be comparable to the estimate from the 2009-2011 Florida PRAMS due to differences in survey questions.

LC-53: Subsequent (Repeat) Teen Birth

Subsequent or repeat teen birth is the 2nd or more pregnancy ending in a live birth to a mother before age 20 years.[19] Subsequent teen birth makes it more difficult for a teen to further their education and achieve financial self-sufficiency, changing her life course trajectory. Some research shows that a subsequent teen pregnancy increases the risk of low birth weight, preterm delivery and infant mortality.[20] Furthermore, rapid repeat pregnancy at any maternal age reduces the time and resources spent on the first child and may influence growth and development.[20]

Subsequent teen birth may be prevented by counseling teens that additional pregnancies can be avoided by not having sex as well as helping teen mothers gain information and use effective birth control methods, such as long-acting reversible contraceptives.[20] Connecting teen mothers to social support services, such as home visiting, have been shown to have an impact on preventing subsequent teen births. Education has also been shown to be a protective factor against subsequent teen pregnancy; teen mothers who are able to obtain their high school diploma or GED are less likely to have a second teen birth.[21]

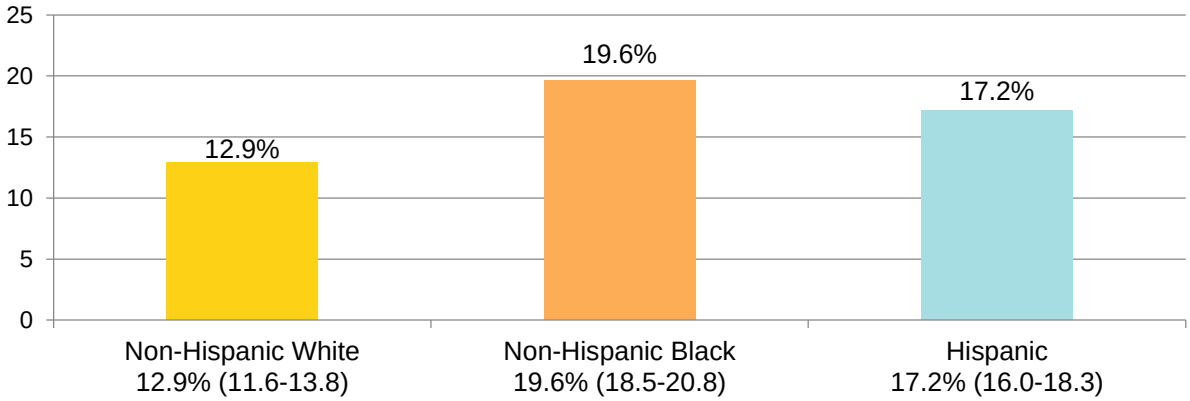
Data source: National Vital Statistics System
Numerator: Number of subsequent live births to females aged 15-19 years
Denominator: Number of live births to females aged 15-19 years

Table 5: Percent (95% CI) of Subsequent Teen Births	
Nation[4], 2011	**Florida[22], 2013**
17.8% (17.6, 17.9)	16.4% (15.7, 17.0)

*Florida estimates were derived using 2013 birth certificate data from the Bureau of Vital Statistics at the Florida Department of Health. Thus, they may not be directly comparable to estimates derived from the NVSS. The national estimates provided by NVSS are only representative of those states implementing the 2003 revision of the birth certificate in that year; however, Florida was using the 2003 birth certificate version in 2013 and thus its data were included when calculating the national estimate.

The percent of repeat teen births was lower in Florida than the national average, although this percent may not be directly comparable due to differences in years (Table 5).

Figure 5: Percent (95% CI) of Subsequent Teen Birth in Florida, by Race/Ethnicity 2013[22]



Subsequent teen birth varies by race/ethnicity in Florida (Figure 5). Non-Hispanic Black mothers had the highest percent of repeat teen birth, followed by Hispanic mothers.

LC-54: Teen Birth

Teen birth is associated with adverse outcomes for both mother and infant. The educational attainment and financial independence of teen mothers is often times restricted when compared to their peers. Only 50% of teen mothers received a high school diploma by age 22, compared to 90% of women who did not have a teen birth.[23] Lower education and socioeconomic status puts mother and child at risk for adverse health outcomes.

Children born to teen mothers are more likely to experience the following[23]:

- Have fewer skills and be less prepared for kindergarten
- Have behavioral problems and chronic medical conditions
- Be incarcerated
- Drop out of high school
- Give birth as a teenager

Nationally, teen birth rates are highest among non-Hispanic Black, Hispanic, and American Indian/Alaskan native women. However, teen birth rates are high in all racial and ethnic groups among those are who socioeconomically disadvantage.[24] Preventing and reducing teen pregnancy should be a multi-faceted approach incorporating education, access to contraception, and youth development.[24]

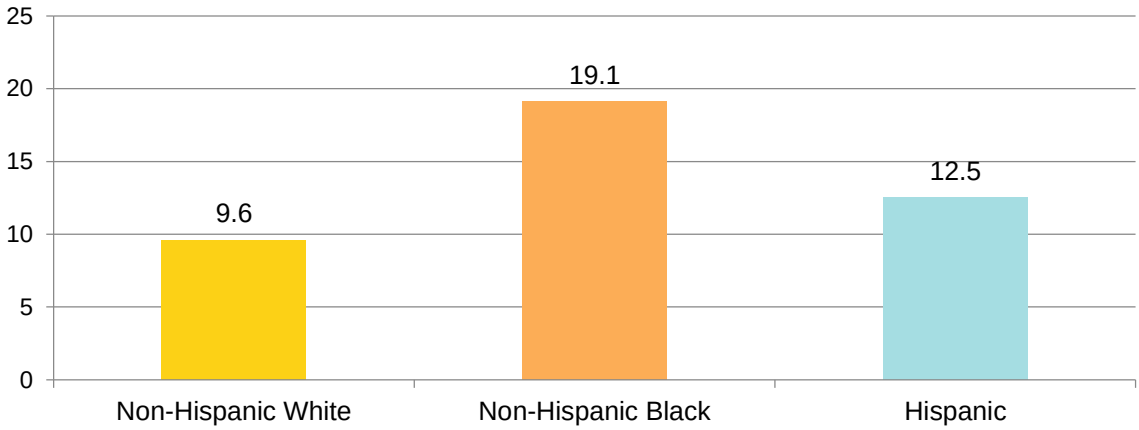
Data source: National Vital Statistics System
Numerator: Number of live births born to females 10-19 years old
Denominator: Number of women aged 10-19 years

Table 6: Teen Birth Rate per 1000 U.S. Women Aged 10-19 Years, 2013	
Nation[4]	**Florida[22]**
13.6	12.3

*Florida estimates were derived using 2013 birth certificate data from the Bureau of Vital Statistics at the Florida Department of Health. Thus, they may not be directly comparable to estimates derived from the NVSS. The national estimates provided by NVSS are only representative of those states implementing the 2003 revision of the birth certificate in that year; however, Florida was using the 2003 birth certificate version in 2013 and thus its data were included when calculating the national estimate.

The 2013 teen birth rate in Florida was lower than the 2013 national average (Table 6) with 12.3 births per 1,000 US women aged 10-19 years.

Figure 6: Teen Birth Rate per 1000 Women Aged 10-19 Years in Florida, by Race/Ethnicity 2013[22]



The teen birth rate varies by race/ethnicity in Florida (Figure 6). The teen birth rate was highest among non-Hispanic Black teens in 2013.

Program Spotlight

The Teenage Pregnancy Prevention Tier I Grant from the Office of Adolescent Health provides positive youth development education classes to 9th grade students in public high schools. The certified facilitators deliver 25 weekly classes to the students, who also participate in 20 hours of community service learning activities. In FY 2013-2014, 7,546 youth were served by this program. In an effort to reinforce healthy behaviors, positive attitudes & reduce risk-taking behaviors, Positive Youth Development Adult programs were also delivered to 2,154 parents and guardians during the FY 2013-2014.

Additionally, the 160 family planning program clinic sites statewide work towards all clients having an effective form of birth control.

More information can be found at:
http://www.floridahealth.gov/programs-and-services/young-adults/index.html

LC-55: Preterm Birth

Preterm birth is the birth of an infant prior to 37 weeks gestation. In 2012, 1 in 9 infants were born preterm in the United States.[25] Preterm birth is a large contributor to infant death (death prior to infant's first birthday) and can be associated with long-term health

problems such as cerebral palsy, developmental delay, vision problems, and hearing impairment.[25] The factors associated with preterm birth are diverse and interrelated such as low maternal income, Black race, high blood pressure, substance use, stress, and a prior preterm birth.[25] Additionally social determinants of health, such as education and access to health care, can have a large impact on reproductive health outcomes such as preterm birth.

There exists a vast racial disparity in preterm birth and infant mortality between White and Black mothers in the United States. In 2013, the rate of preterm birth among non-Hispanic Black mothers was 16.3% compared to 10.2% for non-Hispanic White and 11.3% for Hispanic mothers.[26] Preterm-related causes accounted for more than half of the difference seen between non-Hispanic Black and non-Hispanic White infant mortality rates.[27]

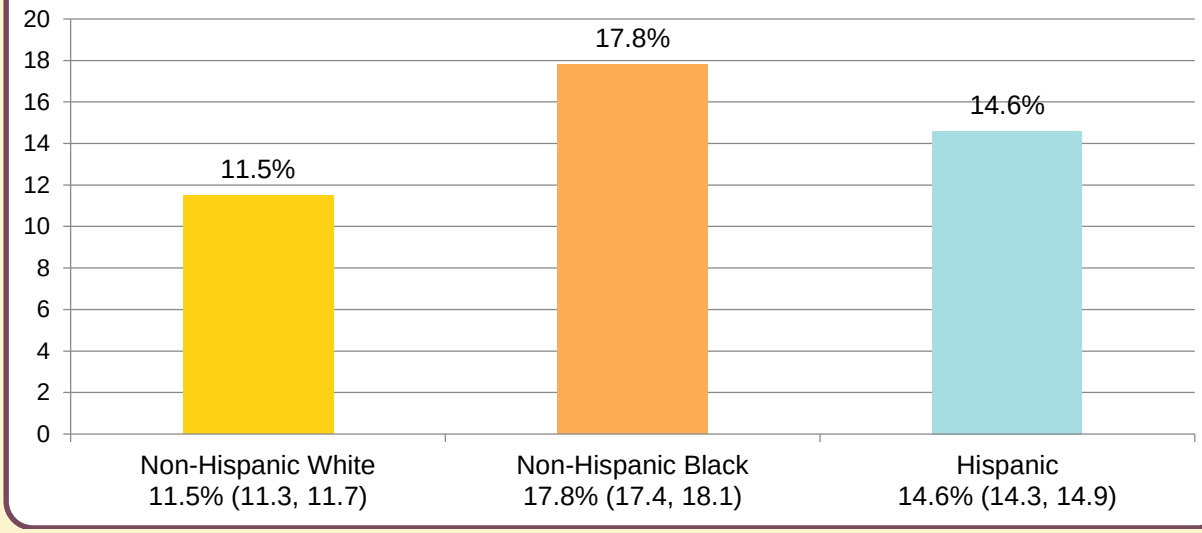
Data source: National Vital Statistics System, 2013
Numerator: Number of live births born prior to 37 weeks gestation
Denominator: Total number of live births

Table 7: Percent (95% CI) of Preterm Birth, 2013	
Nation[26]	**Florida[22]***
11.4%	14.0% (13.9, 14.2)

*Florida estimates were derived using 2013 birth certificate data from the Bureau of Vital Statistics at the Florida Department of Health[6]. Thus, they may not be directly comparable to estimates derived from the NVSS. The national estimates provided by NVSS are only representative of those states implementing the 2003 revision of the birth certificate in that year; however, Florida was using the 2003 birth certificate version in 2013 and thus its data were included when calculating the national estimate.

The percent of preterm birth was higher in Florida than the national average in 2013 (Table 7). This difference was not tested for significance.

Figure 7: Percent (95% CI) of Preterm Birth in Florida, by Race/Ethnicity 2013[22]



Percent of preterm birth differs by race/ethnicity in Florida (Figure 7). The percent of preterm birth was higher among non-Hispanic Black and Hispanic infants when compared to non-Hispanic White infants in 2013.

LC-56: Stressors during Pregnancy

Pregnancy is a critical and sensitive period in the life course of a woman and has a direct impact on the life courses of her children. In particular, experiencing psychological distress during pregnancy has been shown to increase the likelihood of both spontaneous preterm birth[28] and low birth weight.[29] In addition to the effect of stress itself, the ways in which pregnant women cope with stress can cause adverse birth outcomes, including tobacco, alcohol, and drug use. Experiencing stress during pregnancy has also been linked to the general intellect and language development of toddlers, where greater levels of prenatal stress result in poorer intellectual and language functioning.[30]

It is important that all pregnant women be screened for stressors during pregnancy and to be connected to services that can help them manage their stress in a healthful way. Women shown to have a higher percent of stressful life events in the year prior to their child's birth include those who are younger, unmarried, on Medicaid, and have less education.[31]

Data source: Pregnancy Risk Assessment Monitoring System (PRAMS), 2009-2011
Numerator: Total women with two or more stressors during their most recent pregnancy
Denominator: Total population of women with a recent live birth

Women who responded to the survey were asked if they experienced any of the following 13 stressful life events in the 12 months before the birth of their most recent infant:

- A close family member was very sick and had to go into the hospital
- I got separated or divorced from my husband or partner
- I moved to a new address
- I was homeless
- My husband or partner lost his job
- I lost my job even though I wanted to go on working
- I argued with my husband or partner more than usual
- My husband or partner said he didn't want me to be pregnant
- I had a lot of bills I couldn't pay
- I was in a physical fight
- My husband or partner or I went to jail
- Someone very close to me had a problem with drinking or drugs
- Someone very close to me died

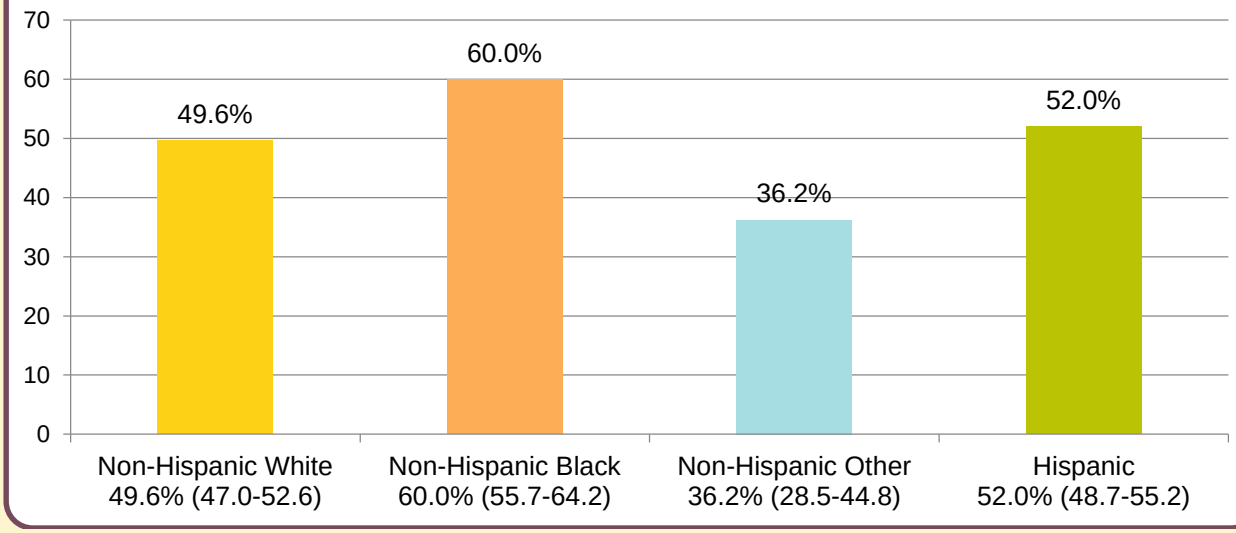
Those responding "yes" to two or more of the stressful life events were counted as having stressors during pregnancy for the purposes of this indicator.

Table 8: Percent (95% CI) of Women with a Recent Live Birth Reporting Two or More Stressors During Pregnancy, 2009-2011	
Nation[4]*	**Florida[5]**
45.9% (45.8, 45.9)	51.6% (49.8, 53.4)

*The national average is derived from states participating in the CDC's CPONDER data system. To be included in the system, states must have greater than 65% response rate on their PRAMS survey. Florida was not included in the national estimate. The numbers reported here may not be directly comparable.

Approximately half of the women with a recent live birth in Florida experienced stressors during pregnancy (Table 8). The percent of these women with two or more stressors during pregnancy was higher in Florida when compared to the nation in 2009-2011.

Figure 8: Percent (95% CI) of Women with a Recent Live Birth Experiencing Two or More Stressors During Pregnancy in Florida, by Race/Ethnicity 2009-2011[5]



Non-Hispanic Black mothers had a higher percent of reporting two or more stressors during pregnancy when compared to non-Hispanic White, non-Hispanic other and Hispanic mothers in Florida (Figure 8). The following groups were combined into the non-Hispanic other category due to small numbers: Asian, American Indian, Native Hawaiian, Alaskan Native, multi-race, and other. These data were not reported for the 2012-2013 Florida PRAMS survey due to differences in survey questions used to define the indicator.

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