

## MATERNAL AGE

Adverse perinatal outcomes, including low birth weight, preterm birth, birth defects, and infant mortality, are generally higher for births to teenagers and women aged 35 and older.<sup>55,56</sup> According to preliminary data for 2012, there were 48.3 births per 1,000 women aged 35–39 years, a birth rate higher than those for teens aged 15–19 years (29.4 per 1,000 women), representing a reversal from just one to two decades earlier. However, birth rates were highest among women aged 25–29 years (106.5 births per 1,000 women), followed by those aged 30–34 years (97.3 births per 1,000 women).

In 2012, according to preliminary data, the overall fertility rate among women aged 15–44

years was 63.0 births per 1,000 women—the lowest level ever reported. Only birth rates among women aged 30 years and older are higher now than in 1990, and those for 40- to 44-year-olds increased from 5.5 in 1990 to 10.4 per 1,000 in 2011. Conversely, birth rates among teenagers aged 15–19 years and young women aged 20–24 years reached historic lows in 2012 (29.4 and 83.1 per 1,000 women, respectively).

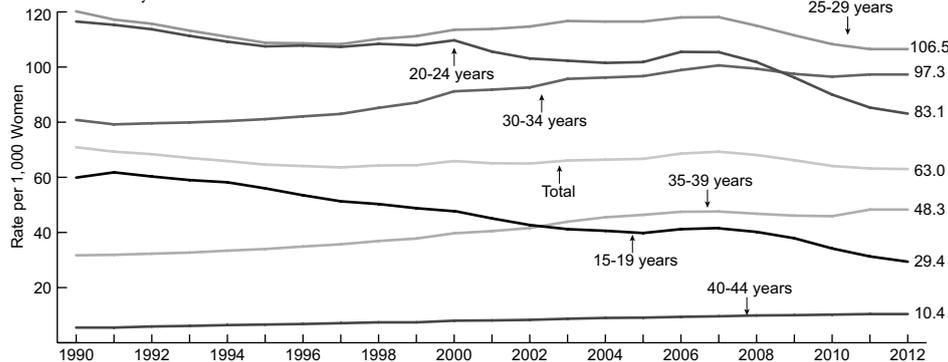
A general decline in teen birth rates began after 1991, with rates having dropped in half since then. Although recent declines have been greater for teens from minority racial and ethnic groups, disparities persist. Birth rates among Hispanic and non-Hispanic Black teens aged 15–19 years (46.3 and 43.9 per 1,000, respectively) are more

than twice that of non-Hispanic White teens (20.5 per 1,000) and over 4 times as high as that of Asian/Pacific Islander teens (9.7 per 1,000).

Birth rates for older women aged 35–39 and 40–44 years were highest among Asian-Pacific Islander women (68.1 and 16.1 per 1,000, respectively) and Hispanic women (51.5 and 13.2 per 1,000, respectively). Reflecting the racial/ethnic differences in age patterns of childbearing, birth rates peaked among 20- to 24-year-olds for non-Hispanic Black and American Indian/Alaska Native women (109.0 and 81.7 births per 1,000, respectively), compared to 25- to 29-year-olds for Hispanics and non-Hispanic Whites (119.6 and 104.4 per 1,000, respectively), and 30- to 34-year-olds for Asian/Pacific Islanders (121.4 per 1,000).

### Live Births per 1,000 Women, by Age, 1990–2012\*

Source (II.1): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Data for 2012 are preliminary.

### Live Births per 1,000 Women, by Age and Race/Ethnicity, 2012\*

Source (II.1): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

Race/Ethnicity	Total	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-44 Years
Total	63.0	29.4	83.1	106.5	97.3	48.3	10.4
Non-Hispanic White	58.7	20.5	70.2	104.4	100.5	46.8	9.1
Non-Hispanic Black	65.0	43.9	109.0	101.7	75.1	38.9	9.6
Hispanic	74.4	46.3	111.4	119.6	94.3	51.5	13.2
American Indian/Alaska Native**	47.0	34.9	81.7	73.9	49.7	23.3	5.5
Asian/Pacific Islander***	62.2	9.7	41.4	95.8	121.4	68.1	16.1

\*Data are preliminary. \*\*Includes Hispanics. †Separate data for Asians and Other Pacific Islanders are not available.

## UNINTENDED PREGNANCY AND CONTRACEPTION USE

An unintended pregnancy is one that is mistimed (occurred too soon) or unwanted (occurred when the woman wanted no future pregnancies) at the time of conception. Unintended pregnancies that result in births are associated with both short- and long-term negative outcomes for both mother and child, including delayed prenatal care, reduced likelihood of breastfeeding, maternal depression, increased risk for intimate partner violence, and poor developmental and educational outcomes for children.<sup>57</sup> However, in 2006–2010, women reported that 37.1 percent of live births occurring in the past 5 years were unintended at the

time of conception. This includes 13.8 percent of pregnancies that were unwanted and 23.3 percent that were mistimed. Fourteen percent of all births were reported by the mother to have occurred 2 or more years too soon (data not shown). Overall, the proportion of births reported to be unintended did not change significantly between 1982 and 2010.<sup>58</sup>

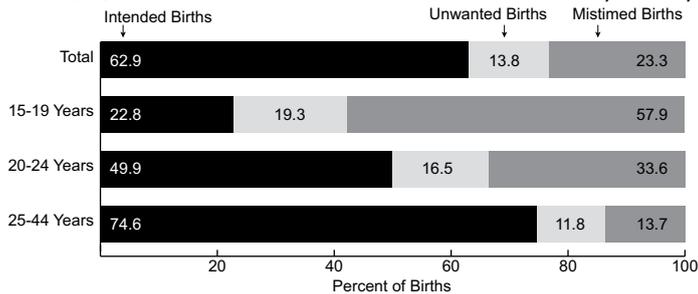
Unintended pregnancy varies by a variety of factors, including maternal age, race/ethnicity, poverty and education. In 2006–2010, over three-quarters of births in the past 5 years to mothers aged 15–19 years were reported to be unintended at the time of conception. The same was true for half of births to women aged 20–24 years and one-quarter to women aged

25–44 years. Births to non-Hispanic Black and Hispanic women were more likely than those to non-Hispanic White women to have been unintended (53.5 and 42.9 versus 30.7 percent, respectively; data not shown).<sup>59</sup>

Unintended pregnancies can be averted with proper use of effective contraceptives. In 2006–2010, 4.7 million, or 11.0 percent, of women at risk of unintended pregnancy—who were having intercourse and not sterile, pregnant, postpartum, or trying to get pregnant—reported that they were not using contraception. Non-Hispanic Black women were more likely than women of other race or ethnic groups to not use contraception while at risk of pregnancy (17.2 percent).

### Intendedness of Births at Conception\* Among Women Aged 15–44 Years, by Age, 2006–2010

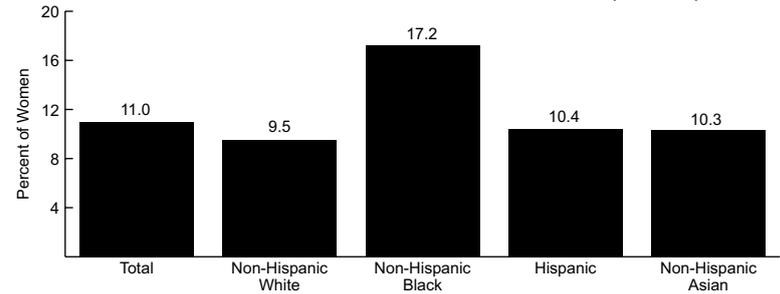
Source (II.2): Centers for Disease Control and Prevention, National Survey of Family Growth



\*Limited to births occurring in the 5 years before the interview. Percentages may not add to 100 due to rounding.

### No Current Contraceptive Use Among Women Aged 15–44 Years, at Risk of Unintended Pregnancy,\* by Race/Ethnicity,\*\* 2006–2010

Source (II.3): Centers for Disease Control and Prevention, National Survey of Family Growth



\*At risk of unintended pregnancy is defined as having had intercourse in the last 3 months among those who were not currently pregnant, postpartum, trying to get pregnant, or sterile for health reasons.

\*\*Estimates for other racial/ethnic groups were not available.

## PREGNANCY SPACING

The amount of time between a live birth and the beginning of the next pregnancy, or the interpregnancy interval (IPI), can impact the health of both mother and infant. Short IPIs (generally defined as less than 18 months)<sup>57,60</sup> have been associated with adverse perinatal outcomes, including preterm birth, low birth weight, and small size for gestational age<sup>61</sup> as well as adverse maternal outcomes including uterine rupture among women attempting a vaginal birth after a cesarean, placental abruption and placenta previa.<sup>62</sup>

In 2006-2010, 33.1 percent of pregnancies among females aged 15-44 years were conceived

within 18 months of a previous live birth. This includes 6.4 percent that were conceived within less than 6 months of a previous live birth, 12.2 percent that were conceived between 6 and 12 months of a previous live birth, and 14.5 percent that were conceived between 12 and 18 months of a previous live birth. The remaining 66.9 percent of pregnancies were conceived at least 18 months after a previous live birth.

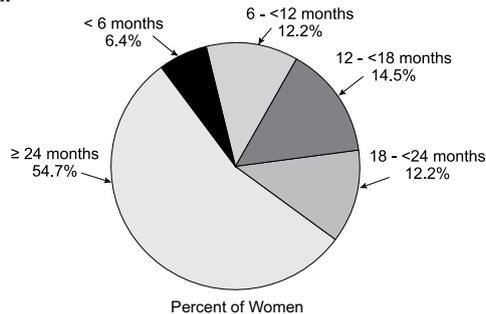
Few differences were observed among women with respect to the proportion who conceived within 18 months of a previous live birth. Hispanic women were less likely than non-Hispanic White and non-Hispanic Black females to conceive a pregnancy within 18 months of a previ-

ous live birth (25.3 percent compared to 35.5 and 39.0 percent, respectively) as were women with incomes at or above 100% of poverty (30.9 percent) compared to those with incomes below poverty (38.5 percent; data not shown).

Non-Hispanic Black women were more likely than non-Hispanic Whites to conceive within 6 months of a previous birth (10.3 percent versus 5.4 percent) as were those living in poverty (10.9 percent) compared to those with incomes at or above poverty (4.6 percent), and those with less than a high school education (11.3 percent) compared to those with some college (5.3 percent; data not shown).

### Pregnancy Spacing Among Women Aged 15-44 Years with a Previous Live Birth,\* 2006-2010

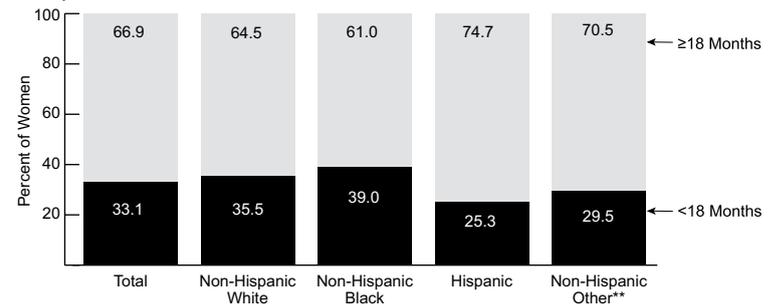
Source (II.4): Centers for Disease Control and Prevention, National Survey of Family Growth



\*Limited to births occurring in the 5 years before the interview. Percentages may not add to 100 due to rounding.

### Pregnancy Spacing Among Women Aged 15-44 Years with a Previous Live Birth,\* by Race/Ethnicity, 2006-2010

Source (II.4): Centers for Disease Control and Prevention, National Survey of Family Growth



\*Limited to births occurring in the 5 years before the interview. Percentages may not add to 100 due to rounding. \*\*Includes individuals of two or more races.

## PRECONCEPTION HEALTH

Efforts to improve pregnancy outcomes and the health of mothers and infants should begin prior to conception, whether before a first or subsequent pregnancy.<sup>63</sup> As many women are not aware of being pregnant at first, it is important to establish healthy behaviors and achieve optimal health well before pregnancy. Key indicators of preconception health include not smoking or abusing alcohol prior to pregnancy, taking a daily multi-vitamin, and maintaining a healthy weight.<sup>64</sup>

Frequent use of alcohol, especially early in pregnancy, can cause fetal alcohol syndrome and alcohol-related birth defects.<sup>63,65</sup> Smoking also increases the risk of pregnancy complications, preterm birth, and low birth weight.<sup>63</sup> In 2009–2010, about one in four recent mothers in a 30-state area reported binge drinking (consuming 4 or more drinks in a sitting) at least once within 3 months prior to pregnancy (26.6 percent) and 24.2 percent reported smoking during the same time period. Smoking prior to pregnancy varied by maternal education, ranging from 9.6 percent of mothers with 16 or more years of education to 34.3 percent of mothers with 12 years of education. Binge drinking was most common among mothers with 13–15 years of education (31.9 percent), and least common among those who had less than 12 years (16.3 percent). Binge drinking and smoking in the

three months prior to pregnancy also tend to be more common among younger mothers. For example, among 20- to 24-year-old women, 31.1 percent reported binge drinking in the 3 months prior to pregnancy and 35.3 percent reported smoking, compared to 18.6 and 13.3 percent, respectively, among women aged 35 and older (data not shown).

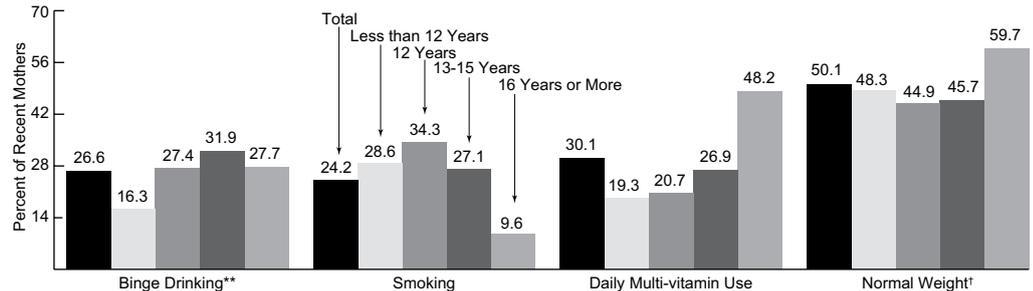
Daily use of multi-vitamins containing folic acid can reduce the risk of neural tube defects in infants by two-thirds.<sup>28</sup> In 2009–2010, only 30.1 percent of recent mothers reported daily multi-vitamin use in the month prior to pregnancy. With regard to maternal education, half (48.2 percent) of women with 16 or more years of education reported taking a daily multi-vitamin in

the month prior to pregnancy compared to about 20 percent of women with 12 years or less.

Women should also attain a healthy weight prior to pregnancy to prevent complications, such as diabetes and hypertension, which may increase the risk of preterm delivery.<sup>63</sup> About half of new mothers (50.1 percent) reported a healthy pre-pregnancy weight. This proportion varied by maternal age, with teenage mothers being the most likely to have had a normal pre-pregnancy weight (58.7 percent; data not shown). With respect to race and ethnicity, Non-Hispanic Asian mothers were most likely to have a healthy pre-pregnancy weight (66.2 percent, as compared to mothers of all other racial and ethnic groups (data not shown).

### Selected Preconception Health Indicators Among Recent Mothers, by Maternal Education, 2009–2010\*

Source (II.5): Centers for Disease Control and Prevention, Pregnancy Risk Assessment Monitoring System



\*Includes data from a total of 30 states and New York City; 25 states contributed both years. Mothers completed surveys between 2 and 9 months postpartum. \*\*Defined as drinking 4 or more alcohol drinks in one sitting at least once in the 3 months prior to pregnancy.

†Defined as a pre-pregnancy body mass index (ratio of weight to height) between 18.5 and 24.9.

## SMOKING DURING PREGNANCY

Smoking during pregnancy can have a negative impact on the health of women, infants, and children by increasing the risk of fertility problems and pregnancy complications, as well as preterm birth, low birth weight, some birth defects, and sudden infant death syndrome.<sup>66</sup> Secondhand smoke exposure during pregnancy has also been associated with increased risk for low birth weight.<sup>67</sup>

In 2009–2010, 11.6 percent of recent mothers in a 30-state area reported that they had smoked in the last 3 months of pregnancy. Smoking in the last 3 months of pregnancy varied significantly by race and ethnicity. About one-quarter of non-Hispanic American Indian/

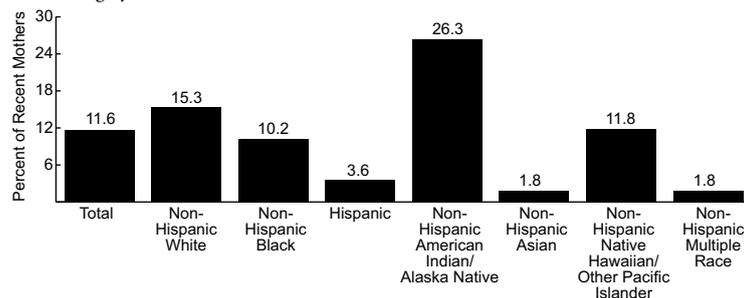
Alaska Native mothers (26.3 percent) reported having smoked in the last 3 months of pregnancy, while fewer than 5 percent of non-Hispanic Asian and Hispanic mothers reported doing so (1.8 and 3.6 percent, respectively). Smoking in the last 3 months of pregnancy also varied by maternal education, and was least common (2.0 percent) among mothers with at least 16 years of education. This behavior also tends to be more common among younger mothers: among 20- to 24-year-old women, 17.8 percent reported smoking during the last 3 months of pregnancy, compared to 6.1 percent among women aged 35 years and older (data not shown).

Due to awareness of the neonatal health consequences of smoking, pregnancy may be

a period of heightened motivation to quit. In 2009–2010, 52.9 percent of recent mothers who reported smoking in the 3 months prior to pregnancy had not smoked in the last 3 months of pregnancy. Prenatal smoking cessation increased with maternal education, ranging from 39.1 percent of mothers with less than 12 years of education to 80.0 percent of mothers with at least 16 years of education. Non-Hispanic Asian and Hispanic mothers had the highest rates of perinatal smoking cessation at 74.0 and 71.6 percent, respectively, as compared to mothers of all other racial and ethnic groups (data not shown). In addition to clinical screening and counseling,<sup>68</sup> increases in state tobacco taxes and smoke-free laws have been shown to improve prenatal smoking cessation.<sup>69</sup>

### Cigarette Smoking in the Last 3 Months of Pregnancy, by Race/Ethnicity, 2009–2010\*

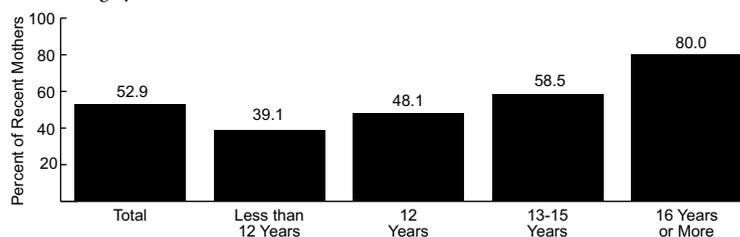
Source (II.5): Centers for Disease Control and Prevention, Pregnancy Risk Assessment Monitoring System



\*Includes data from a total of 30 states and New York City; 25 states contributed both years. Mothers completed surveys between 2 and 9 months postpartum.

### Smoking Cessation During Pregnancy,\* by Maternal Education, 2009–2010\*\*

Source (II.5): Centers for Disease Control and Prevention, Pregnancy Risk Assessment Monitoring System



\*Defined as the proportion of mothers who reported not smoking in the last 3 months of pregnancy among those who reported smoking in the three months prior to pregnancy. \*\*Includes data from a total of 30 states and New York City; 25 states contributed both years. Mothers completed surveys between 2 and 9 months postpartum.

## ALCOHOL USE DURING PREGNANCY

Drinking alcohol, in any amount, is not recommended for women who are pregnant or may become pregnant.<sup>70</sup> When a pregnant woman consumes alcohol, the alcohol passes across the placenta to the fetus and can increase the risks of miscarriage, stillbirth, and serious and lifelong disorders known as fetal alcohol spectrum disorders (FASDs). Children with FASD may experience delayed development, poor muscle tone, heart defects, and malformation in their faces.<sup>71</sup> In order to prevent FASD, a woman should not drink alcohol during pregnancy, when she is trying to conceive, or if she is sexually active and not using effective contraception.<sup>72</sup>

In 2009-2010, any alcohol use during the last three months of pregnancy was reported

by 6.8 percent of mothers. The proportion of mothers reporting alcohol use during the last trimester of pregnancy increased with maternal age, ranging from 2.4 percent of those aged 19 years or younger to about 10 percent of women aged 30 years or older. With respect to maternal education, drinking during the last trimester of pregnancy was more common among mothers with 16 years or more of education (11.4 percent) and least common among those with less than 12 years of education (3.5 percent) (data not shown).

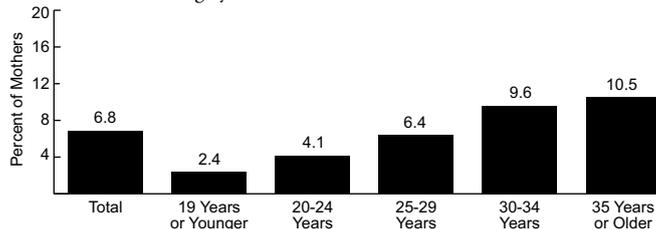
Cessation of alcohol use during pregnancy is a key public health issue, as more than half (52.8 percent) of mothers reported that they had consumed alcohol during the three months prior to pregnancy (data not shown). Among those who had consumed alcohol prior to pregnancy, 87.5

percent reported that they did not drink during their third trimester. Non-Hispanic Asian mothers (81.7 percent) were significantly less likely to stop consuming alcohol as compared to mothers of all other racial and ethnic groups. The proportion of mothers to report cessation of alcohol use varied by maternal age, with cessation more common among younger mothers (data not shown).

Some women may need professional help in order to overcome dependency on alcohol. The Centers for Disease Control and Prevention recommends that women contact their doctors, Alcoholics Anonymous, or a local alcohol treatment center.<sup>72</sup> The Substance Abuse and Mental Health Services Administration (SAMHSA) has a treatment facility locator (<http://findtreatment.samhsa.gov/>).

### Any Alcohol Use During the Last 3 Months of Pregnancy, by Maternal Age, 2009-2010\*

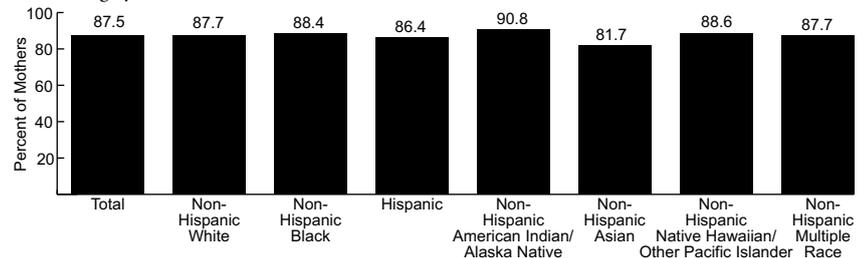
Source (II.5): Centers for Disease Control and Prevention, Pregnancy Risk Assessment Monitoring System



\*Includes data from a total of 30 states and New York City; 25 states contributed both years; mothers completed surveys between 2 and 9 months postpartum.

### Cessation of Alcohol Use Prior to the Last 3 Months of Pregnancy, by Race/Ethnicity, 2009-2010\*,\*\*

Source (II.5): Centers for Disease Control and Prevention, Pregnancy Risk Assessment Monitoring System



\*Includes data from a total of 30 states and New York City; 25 states contributed both years; mothers completed surveys between 2 and 9 months postpartum. \*\*Includes data from mothers who reported alcohol use prior to pregnancy.

## WEIGHT GAIN DURING PREGNANCY

Gaining too much or too little weight during pregnancy can produce immediate and long-term health risks to a woman and her infant.<sup>73</sup> Excessive weight gain may increase the risk of pregnancy complications, cesarean delivery, larger infant birth weight, and postpartum weight retention that may lead to obesity and other related health risks in subsequent pregnancies. Although inadequate weight gain poses little health risk to mothers, it may result in small or growth-restricted infants, which increases the risk for infant mortality and developmental delays.<sup>73</sup>

Recommendations regarding gestational weight gain vary based on a woman's pre-pregnancy body mass index—a ratio of weight to

height. According to the Institute of Medicine, women of normal weight are recommended to gain between 25 and 35 pounds while those who are underweight should gain slightly more and those who are overweight or obese at the beginning of pregnancy should gain significantly less. Weight gains below these recommended levels may be considered inadequate, while those above may be excessive. Among women in a 30-state reporting area who delivered singleton infants at 37+ weeks' gestation in 2009–2010, only about 1 in 3 or 31.8 percent gained the recommended amount of weight and nearly half (47.8 percent) gained an excessive amount of weight during pregnancy. About one in five women (20.5 percent) gained an inadequate amount of weight in pregnancy.

Compared to women of other racial and ethnic groups, non-Hispanic Asian women were most likely to gain the recommended amount of weight (39.3 percent) and least likely to gain an excessive amount (33.3 percent). Excessive weight gain exceeded 50 percent among non-Hispanic Native Hawaiian/Other Pacific Islander and non-Hispanic women of multiple races, with rates that were significantly higher than those for non-Hispanic Black, Hispanic and non-Hispanic Asian women. Conversely, about 1 in 4 Hispanic, non-Hispanic Black, and non-Hispanic Asian women had inadequate weight gain. Prenatal care appointments provide an important opportunity to monitor weight gain and receive counseling for dietary and physical activity modifications to meet recommended levels.<sup>73</sup>

### Recommended Total Gestational Weight Gain (Pounds), by Pre-Pregnancy Weight,\* Institute of Medicine, 2009

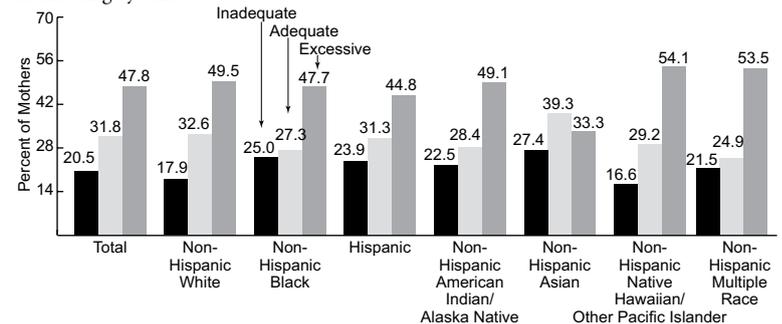
Source (II.6): Institute of Medicine

Pre-pregnancy Weight*	Inadequate	Adequate	Excessive
Underweight	<28	28-40	>40
Normal Weight	<25	25-35	>35
Overweight	<15	15-25	>25
Obese	<11	11-20	>20

\*Underweight is defined as having a Body Mass Index (BMI) of less than 18.5; Normal Weight is defined as having a BMI between 18.5 and 24.9; Overweight is defined as having a BMI between 25.0 and 29.9; Obesity is defined as having a BMI of 30.0 or more; recommendations for total weight gain apply to women delivering singleton infants at term (37+ weeks' gestation).

### Gestational Weight Gain Adequacy\*, by Race/Ethnicity, 2009-2010\*\*

Source (II.5): Centers for Disease Control and Prevention, Pregnancy Risk Assessment Monitoring System



\*Defined according to IOM gestational weight gain recommendations for women delivering singleton infants at term (37+ weeks' gestation). \*\*Includes data from a total of 30 states and New York City; 25 states contributed all 3 years. Mothers completed surveys between 2 and 9 months postpartum.

## STRESS DURING PREGNANCY

The health and emotional well-being of a woman, both before and during her pregnancy, can impact the future health of her child. Experiencing stressful events or environmental hardships, such as financial instability, the death of a loved one, or divorce, while pregnancy can place an additional strain on a woman and increase her likelihood of adverse birth outcomes, including preterm birth and low birthweight.<sup>74,75</sup> Pregnant women are encouraged to utilize their support

networks to help manage stress and to speak with their provider if they experience depression.<sup>76</sup>

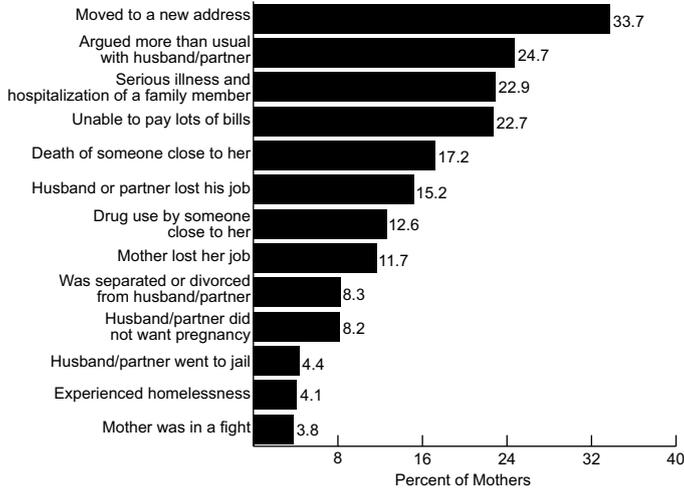
In 2009-2010, nearly three-fourths of recent mothers in a 30-state area reported that they had experienced at least one stressful event in the 12 months prior to delivery of their child. The most commonly reported stressful events were moving to a new address (33.7 percent), arguing with husband or partner more than usual (24.7 percent), serious illness and hospitalization of a family member (22.9 percent), and inability to pay

lots of bills (22.7 percent).

The proportion of mothers reporting that they had experienced at least one stressful event ranged from 80.1 percent among Non-Hispanic American Indian/Alaska Native women to 56.4 percent among non-Hispanic Asian women. Experiencing six or more stressful events was most common among non-Hispanic American Indian/Alaska Native mothers (13.6 percent), and least common among non-Hispanic Asian mothers (1.0 percent).

### Stressful Events Experienced During the 12 Months Prior to Delivery, 2009-2010\*

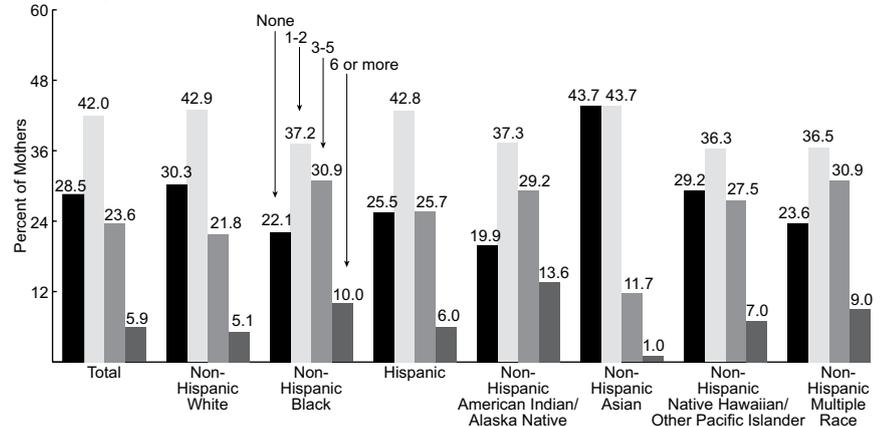
Source (II.5): Centers for Disease Control and Prevention, Pregnancy Risk Assessment Monitoring System



\*Includes data from a total of 30 states and New York City; 25 states contributed both years. Mothers completed surveys between 2 and 9 months postpartum.

### Mothers Experiencing Stressful Events\* During the 12 Months Prior to Delivery, by Number of Events and Race/Ethnicity, 2009-2010\*\*

Source (II.5): Centers for Disease Control and Prevention, Pregnancy Risk Assessment Monitoring System



\*Total number of stressful events experienced by the mother from the following: moved to a new address, argued more than usual with husband/partner, serious illness and hospitalization of a family member, unable to pay lots of bills, death of someone close to her, husband/partner lost job, drug use by someone close to her, lost job, was divorced or separated, husband/partner did not want job, experience homeless, husband/partner went to jail, was in a fight. \*\*Includes data from a total of 30 states and New York City; 25 states contributed both years. Mothers completed surveys between 2 and 9 months postpartum.

## INTIMATE PARTNER VIOLENCE AND PREGNANCY

In 2009-2010, 3.9 percent of women with a recent live birth in a 30-state area reported that they had been pushed, hit, slapped, kicked, choked or physically hurt in some other way by an intimate partner in the 12 months prior to becoming pregnant, and 3.2 percent reported experiencing this type of abuse during their most recent pregnancy. Intimate partner violence (IPV), including physical, sexual, and psychological abuse, before and during pregnancy has been associated with adverse maternal and infant outcomes, including preterm birth and low birth weight.<sup>77</sup>

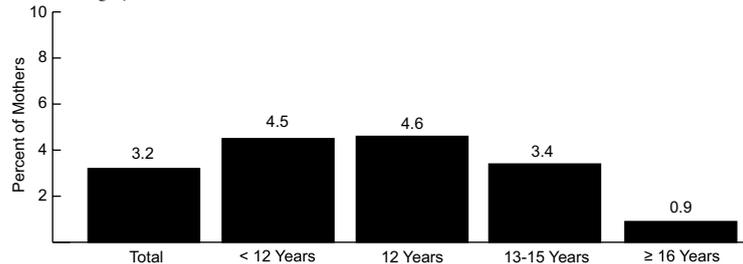
The prevalence of IPV during pregnancy among women with a recent live birth varied by maternal characteristics. Teen mothers were more

likely than older mothers to have experienced physical abuse by an intimate partner during their pregnancy. Nearly 7 percent of teen mothers reported IPV during pregnancy, compared to 5.0 percent of mothers aged 20-24 years, 2.7 percent of those aged 25-29 years, and less than 2 percent of those 30 and older (data not shown). Rates of IPV during pregnancy were similar for mothers with 12 years of education or less (approximately 4.5 percent) while less than 1.0 percent of women with 16 or more years of education experienced such abuse. Non-Hispanic American Indian/Alaska Native and non-Hispanic Black women were most likely to experience IPV during pregnancy (6.5 and 5.8 percent, respectively) while non-Hispanic Asian mothers were least likely (1.5 percent; data not shown).

IPV in the year prior to pregnancy was also more common among younger mothers and mothers with less education. In 2009-2010, more than 7 percent of teen mothers reported experiencing physical abuse in the year prior to their pregnancy, compared to less than 2 percent of mothers aged 35 years and older. Similarly while approximately 5.6 percent of mothers with 12 years of education or less reported past-year abuse, the same was true for 1.0 percent of women with 16 years of education or more (data not shown). Experience of past-year abuse remained highest among non-Hispanic American Indian/Alaska Native and non-Hispanic Black women (7.6 and 6.1 percent, respectively), compared to 3.1 percent of non-Hispanic White mothers and 4.8 percent of Hispanic mothers (data not shown).

### Intimate Partner Violence\* During Pregnancy, by Maternal Education, 2009-2010\*\*

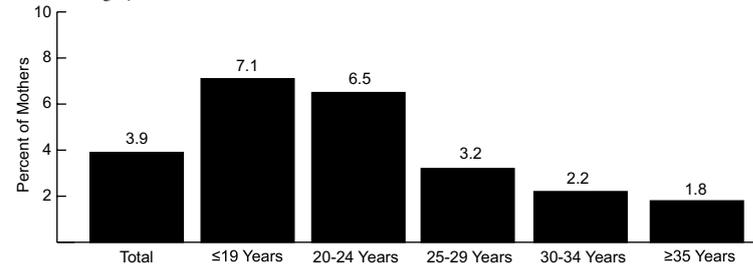
Source (II.5): Centers for Disease Control and Prevention, Pregnancy Risk Assessment Monitoring System



\*Defined as having been pushed, hit, slapped, kicked, choked or physically hurt in some other way by an intimate partner. \*\*Includes data from a total of 30 states and New York City; 25 states contributed both years. Mothers completed surveys between 2 and 9 months postpartum.

### Intimate Partner Violence\* During 12 Months Prior to Pregnancy, by Maternal Age, 2009-2010\*\*

Source (II.5): Centers for Disease Control and Prevention, Pregnancy Risk Assessment Monitoring System



\*Defined as having been pushed, hit, slapped, kicked, choked or physically hurt in some other way by an intimate partner. \*\*Includes data from a total of 30 states and New York City; 25 states contributed both years. Mothers completed surveys between 2 and 9 months postpartum.

## BREASTFEEDING

Breastfeeding has been shown to promote the health and development of infants, as well as their immunity to disease. It also confers a number of maternal benefits, such as a decreased risk of breast and ovarian cancers and other chronic conditions, including cardiovascular disease.<sup>78,79</sup> Among infants born in 2009, 76.9 percent were reported to have ever been breastfed, representing a significant increase over the 70.9 percent of infants ever breastfed in 2000.<sup>80</sup> The American Academy of Pediatrics Section on Breastfeeding recommends exclusive breastfeeding—with no supplemental food or liquids—through the first 6 months of life, and continued supplemental breastfeeding through at least the first year.<sup>81</sup> Studies have indicated that if 90 percent of US

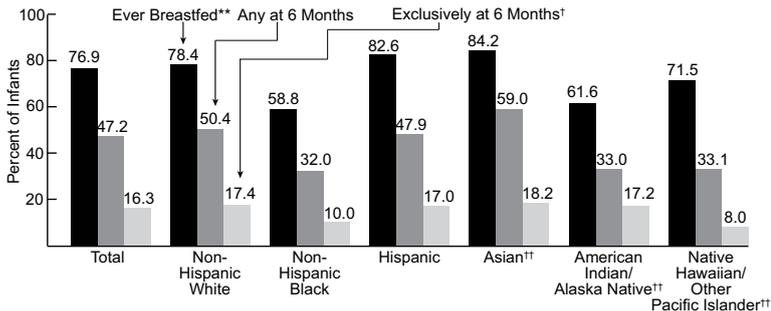
newborns breastfed exclusively for their first 6 months, direct medical costs could be reduced by \$2.2 billion annually.<sup>82</sup> Breastfeeding practices vary considerably by maternal race/ethnicity, education, age, and income. With respect to race and ethnicity, the proportion of infants to have ever been breastfed was higher among Asian, Hispanic, and non-Hispanic White infants (84.2, 82.6, and 78.4 percent, respectively) as compared to non-Hispanic Black infants (58.8 percent). The proportion of infants to breastfeed was highest among those born to mothers with at least a college education (89.0 percent) as compared to mothers of all other educational levels. Children born to mothers aged 30 years or older were the most likely to have been breastfed (81.7 percent), while children born to mothers aged

less than 20 years were the least likely to (55.4 percent; data not shown).

Overall, less than half (47.2 percent) of infants born in 2009 were fed breastmilk for the first six months of life and 16.3 percent were exclusively breastfed. The proportion of infants to exclusively breastfeed was highest among those born to mothers with at least a college education (21.3 percent) as compared to mothers all other educational levels. Common barriers to exclusive breastfeeding include maternal employment, pain related to breastfeeding, and unsupportive hospital policies.<sup>83</sup> The Patient Protection and Affordable Care Act requires most health insurance plans to provide breastfeeding support, counseling, and equipment to pregnant and nursing women (see page 41).<sup>84</sup>

### Infants\* Who Are Breastfed by Race/Ethnicity and Duration, 2009

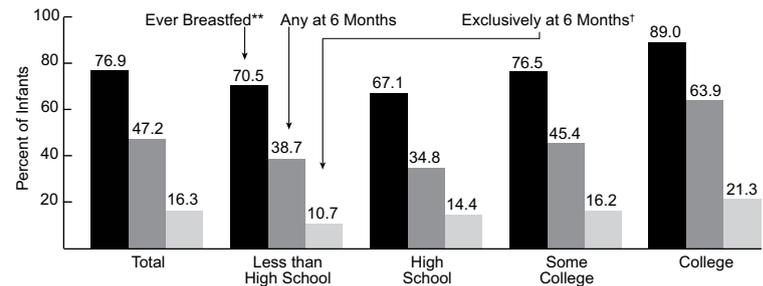
Source (II.7): Centers for Disease Control and Prevention, National Immunization Survey



\*Includes only infants born in 2009; data are preliminary. \*\*Reported that child was ever breastfed or fed human breastmilk. †Exclusive breastfeeding is defined as only human breastmilk—no solids, water, or other liquids. ††Includes Hispanics.

### Infants\* Who Are Breastfed by Maternal Education and Duration, 2009

Source (II.7): Centers for Disease Control and Prevention, National Immunization Survey



\*Includes only infants born in 2009; data are preliminary. \*\*Reported that child was ever breastfed or fed human breastmilk. †Exclusive breastfeeding is defined as only human breastmilk—no solids, water, or other liquids.

## SAFE SLEEP BEHAVIORS

Safe sleep behaviors are practices that reduce the risk of Sudden Infant Death Syndrome (SIDS) and sleep-related suffocation. SIDS and other sleep-related infant deaths, sometimes called Sudden Unexpected Infant Deaths (SUID), accounted for 15 percent of all infant deaths in 2010 (see page on SIDS/SUID).

To reduce the risk of SIDS and other sleep-related infant deaths, the American Academy of Pediatrics (AAP) recommends that all infants be placed on their backs (known as supine position) by their caregiver for every sleep until 1 year of age.<sup>85</sup> In 2009-2010, 70.5 percent of recent mothers reported that their infant was laid down to sleep on his or her back most of the

time. The proportion of mothers reporting this safe sleep behavior was highest among non-Hispanic White, non-Hispanic American Indian/Alaska Native, and non-Hispanic Asian mothers (76.4, 77.0, and 76.5 percent, respectively) and was lowest among non-Hispanic Black mothers (52.3 percent).

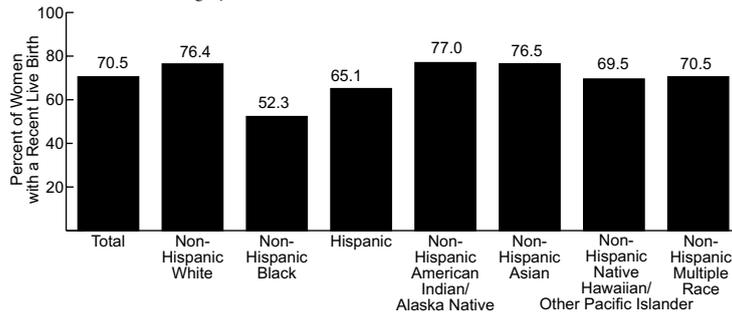
It is also recommended that infants sleep on a firm sleep surface, without loose bedding, in the same room but not the same bed or sleep surface as parents or other persons.<sup>85</sup> Bed-sharing can increase the risk of SIDS and suffocation. The proportion of mothers reporting that they never practiced bed-sharing was highest among non-Hispanic White mothers (44.9 percent) and lowest among non-Hispanic Black and Asian

mothers (19.1 and 19.9 percent, respectively). Conversely, non-Hispanic Black, non-Hispanic Asian and non-Hispanic Native Hawaiian/Other Pacific Islander mothers were the most likely to report that they always or often shared a bed with their infant (37.6, 41.4 and 39.2 percent, respectively), while non-Hispanic White women were least likely to do so (16.5 percent).

Resources to educate caregivers regarding ways to reduce the risk for SIDS and other sleep-related causes of infant death are provided by the Safe to Sleep® campaign (previously known as the Back to Sleep campaign).<sup>86</sup> This collaborative effort was renamed and expanded in 2012 to reflect the AAP's broader recommendations and to address all sleep-related infant deaths.

### Women with a Recent Live Birth Who Reported That Their Infants Were Usually Placed on Their Backs to Sleep, by Maternal Race/Ethnicity, 2009-2010\*

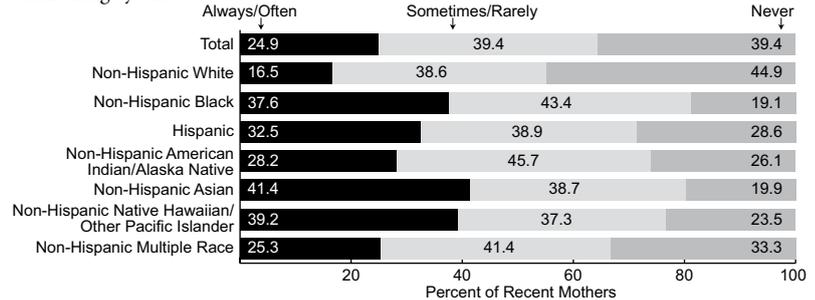
Source (II.5): Centers for Disease Control and Prevention, Pregnancy Risk Assessment Monitoring System



\*Includes data from 30 states and New York City; 25 states contributed both years. Mothers completed surveys between 2 and 9 months postpartum.

### Bed-Sharing Among Recent Mothers, by Maternal Race/Ethnicity, 2009-2010\*

Source (II.5): Centers for Disease Control and Prevention, Pregnancy Risk Assessment Monitoring System



\*Includes data from 16 states; 13 states contributed both years. Mothers completed surveys between 2 and 9 months postpartum.

## IMPAIRED FECUNDITY AND INFERTILITY SERVICES

Infertility generally refers to difficulties in becoming pregnant after trying for 1 year, whereas impaired fecundity includes problems either in becoming pregnant or carrying a pregnancy to term.<sup>87</sup> Factors that can increase a woman's risk of infertility or impaired fecundity include older age, smoking, excessive alcohol use, being severely over- or underweight, a history of sexually transmitted infections, and certain health conditions such as polycystic ovarian syndrome (PCOS) which can interfere with ovulation.<sup>87</sup>

In 2006–2010, 10.9 percent of women aged 15–44 had impaired fecundity (data not shown). Among nulliparous women—those without a

previous birth—prevalence of impaired fecundity increased with age from 6.4 percent of women aged 15–24 to 30.2 percent of women aged 40–44. In contrast, impaired fecundity did not vary greatly with age among women with a previous birth, ranging from 9 to 12 percent across age groups. Among women with a previous birth, the proportion who are surgically sterile (i.e., tubal ligation or hysterectomy) increases to 55.4 percent of women by age 40–44, and thus a smaller proportion are at risk of impaired fecundity (data not shown).

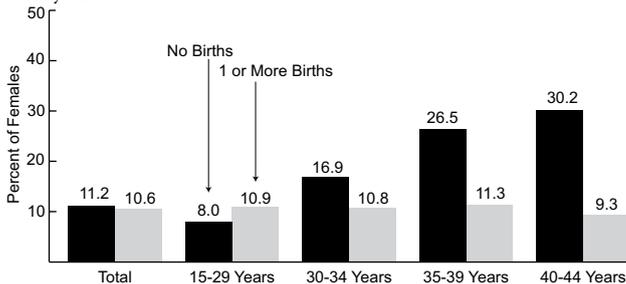
Difficulties having a baby can be addressed with medicines, surgery, artificial insemination, and assisted reproductive technology (ART).<sup>87</sup> In 2006–2010, 11.9 percent of women aged 15–44 years reported that they or their spouses or part-

ners had ever received some form of infertility service and 4.9 percent had received medical help to prevent a miscarriage (data not shown). The most common type of infertility service received was advice (6.5 percent), followed by infertility testing (5.0 percent) and medications to improve ovulation (4.0 percent). Between one-fifth and one-quarter of nulliparous women aged 35–39 and 40–44, respectively, had ever received infertility services.

Between 2000–2009, the number of ART treatment cycles (or fertility treatments in which both eggs and sperm are handled) performed in the U.S. increased from 99,629 to 146,244 and the resulting number of infants born more than doubled (from 35,025 to 60,190).<sup>88</sup>

### Impaired Fecundity\* Among Females Aged 15–44 Years, by Age and Parity, 2006–2010

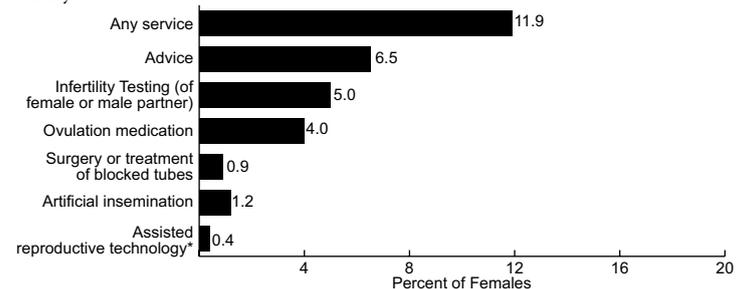
Source (II.8): Centers for Disease Control and Prevention, National Survey of Family Growth



\*Impaired fecundity is defined as having problems getting pregnant or carrying a baby to term, for reasons unrelated to surgical sterility.

### Types of Infertility Services Received by Females Aged 15–44 Years, 2006–2010

Source (II.8): Centers for Disease Control and Prevention, National Survey of Family Growth



\*Assisted reproductive technology (ART) includes all fertility treatments in which both eggs and sperm are handled outside of the body. Generally, ART procedures involve surgically removing eggs from a woman's ovaries, combining them with sperm in the laboratory, and returning them to the woman's body or donating them to another woman.