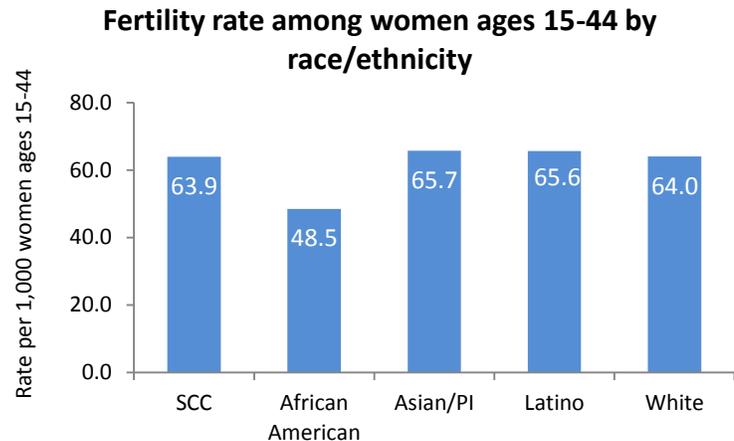


**Maternal, infant, and child health**

Health issues of mothers and their infants and children are an important focus of the Santa Clara County Public Health Department’s prevention and intervention efforts. This brief examines indicators of maternal, infant, and child health including: birth rate, teen birth rate, infant mortality, low birth weight births, preterm births, short interval births, prenatal care, breastfeeding, and immunization coverage, highlighting racial/ethnic disparities.

**Fertility rate**

The fertility rate measures the number of births occurring per 1,000 women ages 15 to 44 in a particular year. This rate is an important factor in determining the rate of population growth and planning for the needs of children and families. Tracking racial/ethnic trends in fertility also provides information on the divergent needs of different population groups.



Source: California Department of Public Health, 2012 Vital Statistics

In 2012, there were 24,308 live births among Santa Clara County residents. The number of live births was relatively stable from 1997 to 2012.

There were 63.9 live births per 1,000 women ages 15 to 44 in the county in 2012. This rate has remained between 62.3 and 72.5 since 1997. In 2012, the rate was slightly higher among Asian/Pacific Islanders (65.7) and Latinas (65.6) compared to other racial/ethnic groups.

**Comparison of maternal, infant, and child health outcomes and Healthy People 2020**

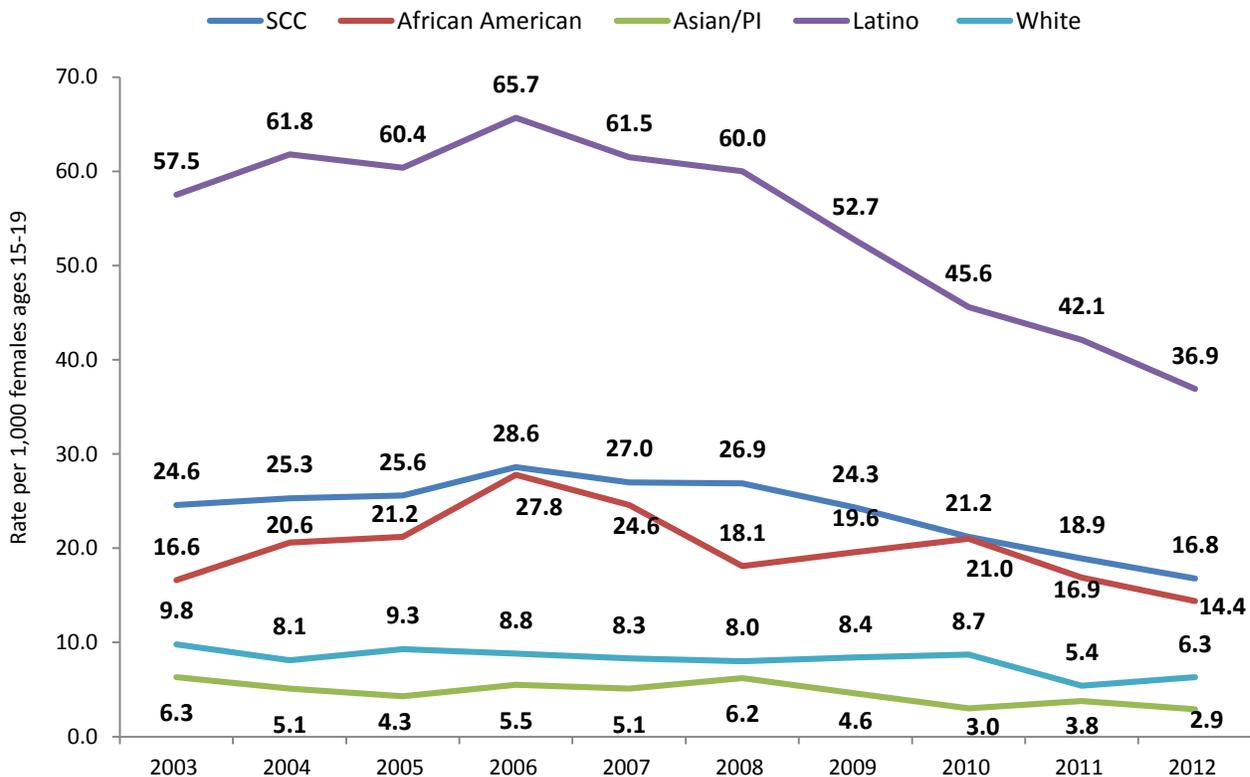
Healthy People 2020 targets met		
Indicator	Santa Clara County	Healthy People 2020
Percentage of mothers receiving early prenatal care	85.7%	77.9%
Percentage of preterm births	8.9%	11.4%
Percentage of low birth weight births	6.8%	7.8%
Infant mortality rate (deaths per 1,000 live births)	3.2	6.0
Percentage of infants ever breastfed	88.0%	81.9%
Healthy People 2020 targets not met		
Indicator	Santa Clara County	Healthy People 2020
Percentage of women receiving early and adequate prenatal care	73.8%	77.6%
Percentage of infants breastfed at 6 months	52.1%	60.6%
Percentage of infants breastfed at 12 months	27.4%	34.1%

Source: Santa Clara County Public Health Department, 2012 Birth Statistical Master File; Santa Clara County Public Health Department, 2013 Behavioral Risk Factor Survey; U.S. Department of Health and Human Services, Health People 2020

**Teenage live birth rate**

The teenage live birth rate can be an indicator of many risk factors, including low income, low maternal education, lack of access to or effective use of contraception or family planning practices, and the initiation of sexual activity at a young age. If a pregnancy occurs before age 17, it is likely to either end or limit a teen's education and subsequently her options for financial success as an adult. Among females ages 15 to 19 in Santa Clara County, the teenage live birth rate decreased from 24.6 per 1,000 in 2003 to 16.8 per 1,000 in 2012, although the rate increased from 2004 to 2006. The teenage live birth rate decreased among all racial/ethnic groups during the same time period. In 2012, the Latina teen birth rate (36.9 per 1,000 females ages 15 to 19) was more than twice as high as the African American teen birth rate (14.4) and 6 times higher than the White teen birth rate (6.3). Asian/Pacific Islanders had the lowest teen birth rate (2.9).

**Teenage live birth rate by race/ethnicity, ages 15-19, 2003-2012**



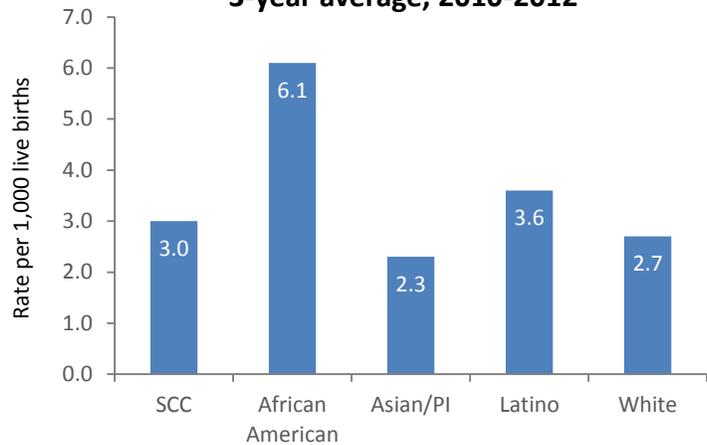
Source: California Department of Public Health, 2003-2012 Vital Statistics

**Infant mortality rate**

The infant mortality rate is a measure of the number of deaths of infants under 1 year old in a given year per 1,000 live births. It serves as a general measure of the overall health and well-being of a population. It can be an indicator of risk factors such as prematurity, low birth weight, birth defects, maternal tobacco, alcohol and substance use, poor maternal nutrition, inadequate prenatal care, and maternal mental or physical health issues.

The infant mortality rate has decreased since 2001 for the county as a whole and for all racial/ethnic groups. However, the rate among African Americans continues to be 2 to 3 times higher than that of any other racial/ethnic group. From 2010 to 2012 (3-year average), the infant mortality rate for African Americans was 6.1 deaths per 1,000 live births; this rate did not achieve the Healthy People 2020 target of 6.0 deaths per 1,000 live births.

**Infant mortality rate by race/ethnicity, 3-year average, 2010-2012**



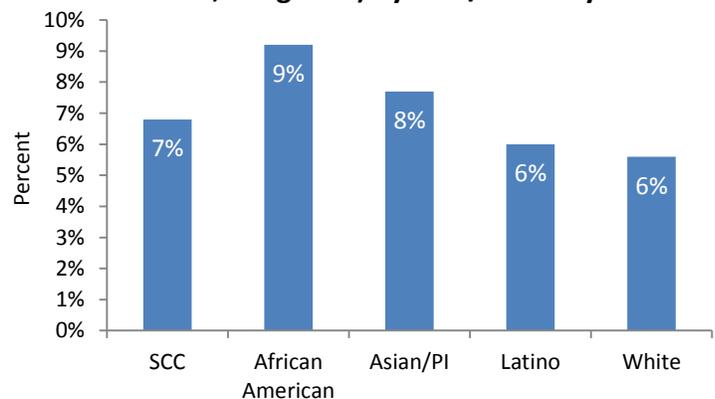
Note: Rates are based on a 3-year average of infant mortality.  
Source: California Department of Public Health, 2010-2012 Vital Statistics

**Low birth weight**

Achieving a healthy weight is critical for a newborn’s health. Low birth weight (less than 2,500 grams) can cause serious problems for infants during their development and can contribute to infant mortality. Low birth weight infants are at greater risk of long-term physical and developmental complications than infants of normal birth weight. Low birth weight is associated with many risky behaviors by mothers such as smoking and substance use, especially during pregnancy.

The percentage of low birth weight births in 2012 in Santa Clara County was 6.8%, lower than the HP 2020 target of 7.8%. The percentage of low birth weight births was stable from 1997 to 2012 (between 6% and 7%). From 1997 to 2012, the prevalence of low birth weight births among African Americans was generally higher than among all other racial/ethnic groups. In 2012, 9% of African American births and 8% of Asian/Pacific Islander births had low birth weight.

**Percentage of low birth weight births (less than 2,500 grams) by race/ethnicity**



Source: California Department of Public Health, 2012 Vital Statistics

**Preterm births**

Preterm birth is the birth of an infant before 37 weeks of pregnancy. Preterm birth is the leading cause of infant mortality and preterm infants are at higher risk of long-term neurological problems, cardiovascular complications, infections, and many other health issues. In 2012, 9% percent of live

births in Santa Clara County were preterm, which achieves the Healthy People 2020 target of 11.4%. African American women had a higher rate of preterm births (11%) than Whites (9%), Latinas (9%), and Asian/Pacific Islander women (8%).

**Prenatal care**

Prenatal care is crucial for early diagnosis of pregnancy complications and fetal developmental problems. Prenatal care plays an important role in reducing maternal and infant death, miscarriages, birth defects, low birth weight, and other preventable problems among mothers and infants.

In 2012, prenatal care was initiated in the 1<sup>st</sup> trimester as recommended for 86% of live births, which is higher than the HP 2020 target of 77.6%. Births to African American women (82%) and Latinas (79%) had lower rates of prenatal care initiated during the 1<sup>st</sup> trimester compared to births to Asian/Pacific Islander (88%) and White (91%) women.

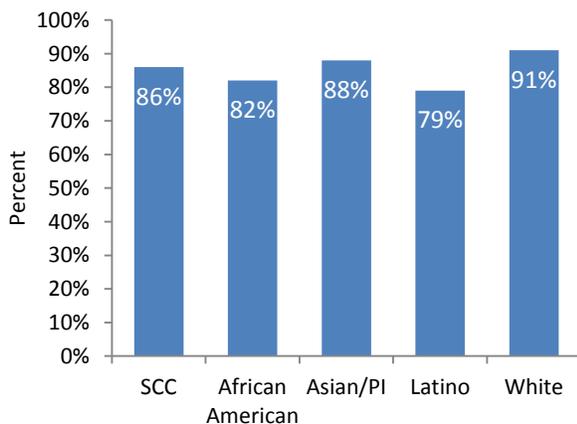
**Late (3<sup>rd</sup> trimester) or no prenatal care**

- In 2012, 14% of births in Santa Clara County occurred to women who reported receiving late or no prenatal care.
- Latina (21%) and African American (18%) women were more likely to receive late or no prenatal care than Whites (9%) and Asian/Pacific Islanders (12%).

Source: Santa Clara County Public Health Department, 2012 Birth Statistical Master File

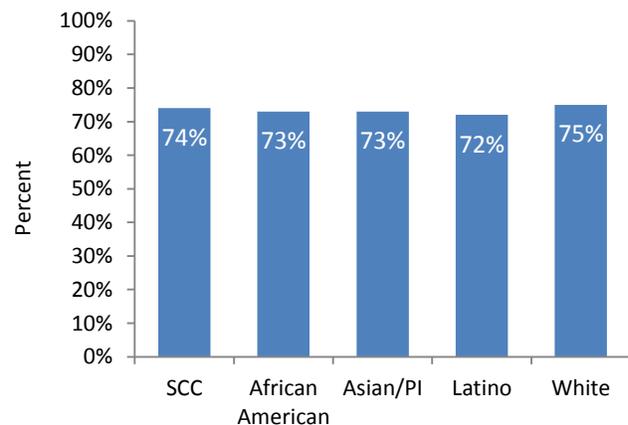
The Adequacy of Prenatal Care Utilization Index (also known as the Kotelchuck index) assesses adequacy of prenatal care by measuring when prenatal care was initiated (adequacy of prenatal care initiation) and the number of prenatal care visits received (adequacy of received services). A woman is considered to have received adequate care if prenatal care was started early (before the 4<sup>th</sup> month) and if 80% or more of expected visits were received (for the period between when care began and the delivery date). In 2012, 74% of women delivering a live birth in Santa Clara County received early and adequate prenatal care. This is below the Healthy People 2020 target of 77.6%. The rate has fluctuated between 71% and 86% since 1997. In 2012, the percentage of women receiving early and adequate prenatal care was similar across racial/ethnic groups.

**Percentage of women receiving early prenatal care (1st trimester) by race/ethnicity**



Source: Santa Clara County Public Health Department, 2012 Birth Statistical Master File

**Percentage of women meeting the Adequacy of Prenatal Care Utilization Index (Kotelchuck) threshold by race/ethnicity**



Source: Santa Clara County Public Health Department, 2012 Birth Statistical Master File

**Breastfeeding**

Breast milk is rich with nutrients and antibodies that help to boost an infant’s immune system. Breast milk changes over time to meet infants’ needs as they grow and develop. Infants who are not breastfed have a higher risk for impairments in the growth and development of the brain and nervous system and are more susceptible to infections.

In Santa Clara County in 2013-14, 88% of infants had ever been breastfed. The percentage ever breastfed (81%) and breastfed at 6 months (43%) was lowest among Latino infants. In 2013-14, two-thirds of infants (62%) were first fed formula before they were 3 months old, 15% at ages 3 to 5 months, and 14% at ages 6 to 11 months (14%).

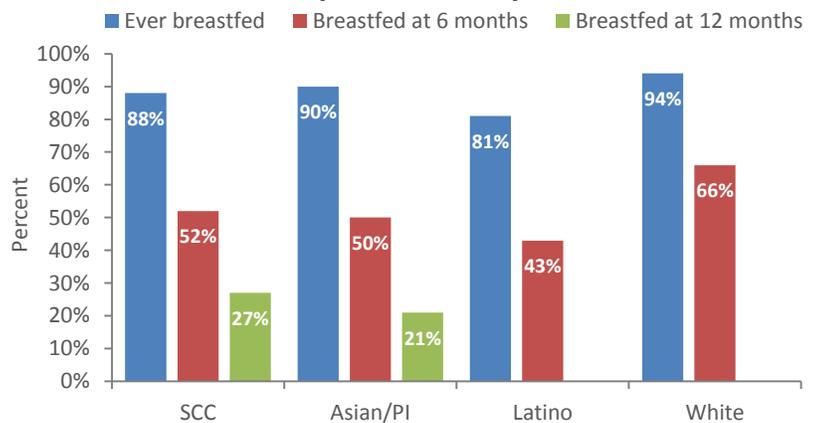
**Immunization coverage**

School vaccination requirements ensure children are protected from vaccine-preventable diseases when they enter kindergarten. Maintaining a sufficiently high level of vaccination coverage among individuals contributes to “herd immunity”; when a critical portion of a community is immunized against a contagious disease, most members of the community are protected against that disease because there is little opportunity for an outbreak. In 2010, the estimated immunization coverage of the 4:3:1 vaccine series (4 or more doses of diphtheria, tetanus, and pertussis (DTaP), 3 or more doses of polio, and 1 or more doses of measles, mumps, and rubella (MMR)) among kindergarten students at 24 months of age in Santa Clara County was 80%. Immunization coverage was highest among Asians (83%) and lowest among Latinos (79%).

**Reference**

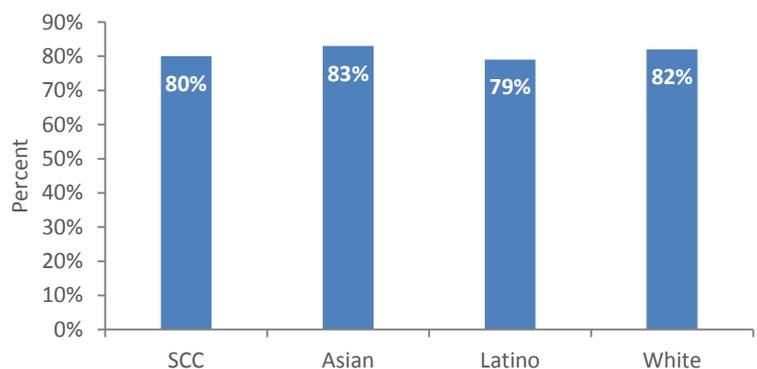
Kotelchuk, M. Overview of Adequacy of Prenatal Care Utilization Index. September 1994. Accessed June 2014 from: [http://www.mchlibrary.info/databases/HSNRCPDFs/Overview\\_APCUIIndex.pdf](http://www.mchlibrary.info/databases/HSNRCPDFs/Overview_APCUIIndex.pdf).

**Percentage of infants who were breastfed by race/ethnicity**



Note: Percentages for some indicators for Latinos and Whites and for all indicators for African Americans not reportable due to insufficient sample size and/or a relative standard error of greater than 30%.  
Source: 2013 Behavioral Risk Factor Survey

**Immunization coverage (4:3:1 series) among kindergarten students at age 24 months by race/ethnicity**



Note: Percentage for African Americans not reportable due to insufficient sample size and/or a relative standard error greater than 30%.  
Source: California Department of Public Health, Immunization Branch, 2010 Kindergarten Retrospective Survey