

PURPOSE

This report is the annual update of information about pregnancies among females under age 20. The data for 2009 is placed in a temporal context by comparing it with the data from the preceding years. Earlier reports are available online at <http://www.azdhs.gov/plan/report/tp/index.htm> .

METHODS AND SOURCES

In this report, pregnancies are measured as the sum of three components: live births, fetal deaths (or stillbirths) and reported abortions to Arizona resident women, unless otherwise specified. Not included are spontaneous fetal losses that occur at less than 20 weeks of gestation. Induced terminations of pregnancy do not include those performed out-of-state to Arizona residents, since they are not reported in Arizona. Pregnancy statistics for Arizona are not available on a sub-county level.

Teens are defined as 10-14 year old preadolescents and adolescents 15-19 years of age. Where possible, the data presented distinguishes 18-19 year old teenagers from those aged 15-17 and girls less than 15 years of age.

The primary source documents for the data are the certificates of live births, certificates of fetal deaths and reports of induced terminations of pregnancy filed with the Arizona Department of Health Services.

Several data sources were utilized in producing the population denominators for Arizona's resident females, used to calculate rates. The denominators for 2000 are the actual census enumerations from the U.S. Census Bureau. The denominators for 1999 and 2001-2009 are population estimates of Arizona resident females aged 10-19 years. Detailed information about the assumptions and specific data sources is available online at <http://www.azdhs.gov/plan/menu/info/pd.htm> .

The pregnancy rates for 1996-1999 were revised in the 1996-2006 edition of the report using the population denominators that are consistent with both the 1990 and the 2000 census. The population projected previously from the 1990 census underestimated the growth of the Hispanic population during the 1990s. According to the 2000 census, there were 118,490 Hispanic females 19 years or younger in Arizona, 37.5 percent more than the number of 86,203 estimated by the Census Bureau in 1999. The revised denominators for 1996-1999 were derived from the "Bridged-race intercensal population estimates for July 1, 1990-July 1, 1999, by year, county, single-year of age, Hispanic origin, and sex" provided by NCHS. These estimates also are available online at http://www.cdc.gov/nchs/nvss/bridged_race.htm .

The population denominators used to compute the rates for 2008 - 2009 will most likely also be revised in the future. It is not only because they are based on the quite outdated 2000 Census enumerations, but they have not been adjusted for the effects of the economic downturn or changes in the law penalizing the illegal immigration. Unlike after the 2000 Census, these revisions are likely to show that there were fewer Arizonans in 2008 and 2009 than there were in 2007. According to the 2010 Census enumerations released on 12/21/2010, there were 6,392,017 residents of the State in 2010, 203,761 fewer than the Census Bureau estimate of 6,595,778 for 2009, and fewer than the estimated number of Arizonans in 2007.

Under the circumstances, it is important to treat the 2008 and 2009 birth and pregnancy rates (particularly for Hispanics) with caution. Perhaps these rates have not declined; rather the population denominators used to calculate them, did (see the footnote on the next page).

DATA ORGANIZATION

Tables 1-16 present annual numbers and rates of pregnancy, fertility, and abortion by year from 1999 to 2009, age group, and race/ethnicity for Arizona teens. Temporal trends and changes may be assessed from this data. Proportional contribution of teen births to all births is shown in Table 10 by area of residence and race/ethnic group in Arizona from 1999 to 2009. Table 11 compares birth rates in Arizona to those in the United States. The annual numbers of repeat pregnancies among teenage mothers are shown by age and year from 1999 to 2009 in Table 12.

Table 14 presents teen pregnancy rates by race/ethnicity and age group by year from 1999 to 2009. It includes revised pregnancy rates for 1999. Table 15 provides information about the incidence of sexually transmitted infections among females 10-14 and 15-19 years old in Arizona in 1999-2009. Table 16 shows the incidence rates by year from 1999 to 2009.

Frequency counts, proportions and rates in tables 17-32 all apply to the 2009 data. Tables 17-18 and 20-22 provide data by county of residence. Table 19 presents pregnancy rates by single year of age among females 19 and younger. Live births to teenage mothers are also reported in Tables 23-30 by marital status, education, previous pregnancies, trimester of entry into prenatal care, source of payment for labor and delivery and tobacco and alcohol use during pregnancy. The 2009 population denominators for Arizona resident females by age group and race/ethnicity, as well as by age group and county of residence are presented in Table 31 and Table 32. The *Appendix* demonstrates "How to compute the rates of first and repeat childbearing" using the annual data for 2000-2009

COMPARATIVE NATIONAL AND STATE DATA

Timely, comparable, and reliable teen pregnancy statistics for other States and the Nation are not easily available. **"Health, United States, 2009"**, the premier annual publication of The Department of Health and Human Services, contains no information about pregnancies. The latest available (preliminary) national teenage birth rates for 2008 were published in May, 2010. No national abortion or fetal death data have been available since the 2006 calendar data year. The report, **"U.S. Teenage Pregnancies, Births and Abortions: National and State Trends and Trends by Race and Ethnicity"*** was published by the Alan Guttmacher Institute in January 2010. The authors combine the complete count of births provided by every state to the NCHS with the estimated numbers of abortions, early miscarriages, and fetal deaths. The number of abortions is estimated from surveys the Alan Guttmacher Institute conducts of known abortion providers (i.e. these data are by the place of occurrence and not by the woman's place of residence). The fetal loss estimates – including early miscarriages before 20 weeks of gestation (and estimated as 20% of live births plus 10% of abortions) – are from pregnancy history information collected by the National Survey of Family Growth (NFSG). Unlike vital statistics reports of fetal losses occurring at gestations of 20 weeks or more, NFSG include all gestations. Since the majority of fetal losses occur early in pregnancy before the reporting requirements for fetal deaths are in effect, their inclusion dramatically raises both the fetal loss rate and the pregnancy rate. The National Survey of Family Growth data are not state-specific. The pregnancy rates for Arizona teens cannot be compared with the rates for their peers nationally.

No comparable state-by-state teen pregnancy data for 2007 – 2009 are available at this time.

KEY FINDINGS

The following section presents some illustrative findings contained in the figures and tables of the report. It is not intended to be an exhaustive analysis of the tabulated data.

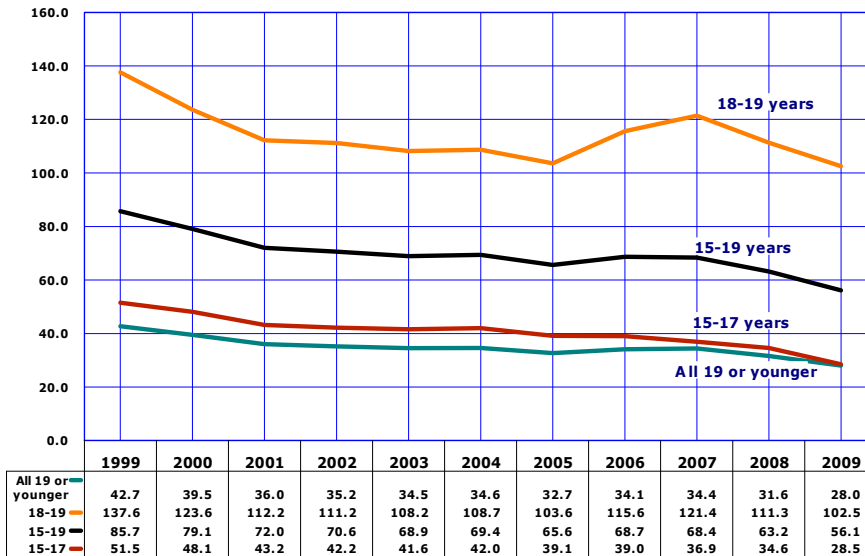
- **In 2009, the pregnancy rate of 28.0 pregnancies per 1,000 females 19 years or younger was 34.4 percent lower than the rate of 42.7/1,000 in 1999.**
- **The annual pregnancy rates in 2000 -2007 were lower than the 1999 rate of 42.7/1,000. In contrast, the number of pregnancies increased from 14,095 in 1999 to 15,038 in 2007. In is only since 2007 that the reduction in the number of teen pregnancies was accompanied by an equally impressive decline in pregnancy rates.**
- **From 2007 to 2009, the number of teen pregnancies declined particularly steeply for Asian (-22.8 percent), and Hispanic or Latino females (-19.3 percent).**
- **From 2007 to 2009, Arizona's Hispanic or Latino women of all ages experienced a major decrease of 15.8 percent in the number of pregnancies, 1.7 times the magnitude of the overall decline of 9.3 percent. Among Hispanic females 19 years old or younger the number of births declined by and unprecedented 18.5 percent, and the number of pregnancies declined by 19.3 percent. There is a reason to believe that there were fewer births (and pregnancies) among Hispanics of all ages, as well as teenagers, because there were fewer Hispanic or Latino residents in Arizona in 2009, than there were in 2007.****
- **The first birth rate for childless teenagers has dropped 27.1 percent from 57.1 first-time births per 1,000 females 15-19 years old in 2000, to 41.6/1,000 in 2009.**
- **The repeat birth rates for teenagers who had already had a child decreased by 14.5 percent from 181.3 in 2000 to 155.0 per 1,000 females 15-19 years old in 2009 who had a previous birth.**
- **The total number of births to mothers 19 years or younger increased by 12.0 percent from 9,775 in 1999 to 10,952 in 2009. In contrast, the number of teen births paid for by the Arizona Health Care Cost Containment System (AHCCCS, the State's Medicaid program) increased by 35.1 percent from 6,756 in 1999 to 9,124 in 2009.**
- **Unwed mothers have accounted for an increasing annual proportion of births throughout the 1980s and 1990s. In 2009, nonmarital births accounted for 87.7 percent of births to mothers 19 years or younger.**
- **The proportion of non-surgical abortions to females 19 years or younger increased for the 4th consecutive year from 25.1 percent in 2005 to 44.3 percent in 2009**

* Available at www.guttmacher.org/pubs/USTrends.pdf

**Hispanics, unlike any other race/ethnic group in the State faced in 2008 and 2009 not only the economic recession (shared by all), but also additional challenges such as the employer-sanction law (a penalty on employers hiring illegal immigrant), and a widespread practice of E-verify (checking the legal-residence status of those seeking employment. In fact, using the 2007 pregnancy rate (the number of pregnancies per 1,000 Hispanic females under the age of 20); we can estimate the number of Hispanic teens who by 2009 left the State at approximately 30,000. (The 2007 teen pregnancy for Hispanic or Latinos was 55.3/1,000. It was based on 8,545 pregnancies among the estimated number of 154,592 Hispanic females. In 2009, the number of pregnancies among Hispanic females aged 10-19 years declined to 6,896. If the denominator declined proportionately to 124,702, the 2009 pregnancy rate would remain unchanged at 55.3/100,000. The difference between the 2007 and 2009 denominators (154,592 – 124,702 = 29,890).

KEY FINDINGS

Figure 1
Pregnancy Rates by Age Group and Year among
Females 19 or Younger, Arizona, 1999-2009



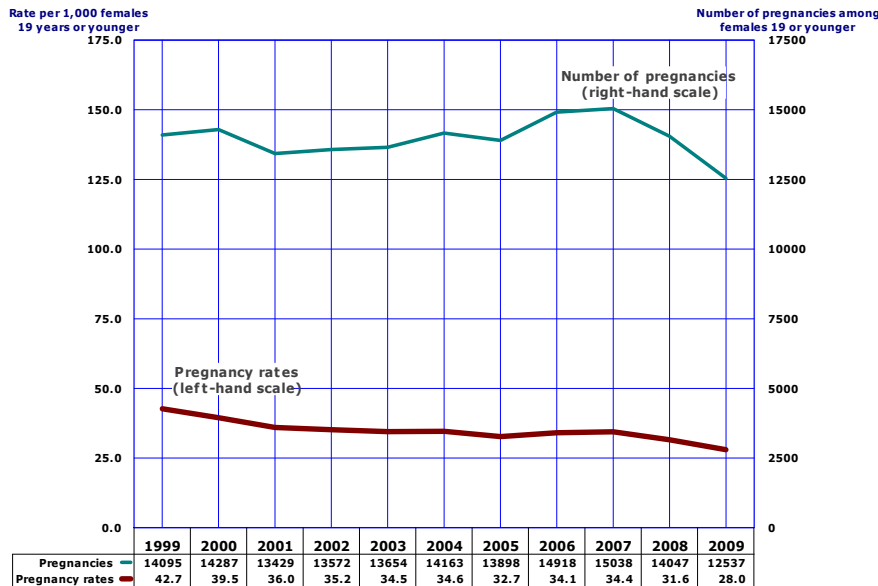
Note: All rates are per 1,000 females in specified group.

Teenage pregnancy rates dropped 34.4 percent overall from 1999 to 2009. **Figure 1, Table 2**). The declines in teenage pregnancy have been much steeper for younger than for older teenagers. The rate for teenagers 15-17 years dropped steeply by 44.7 percent from 51.5 per 1,000 in 1999 to 28.5 in 2009 (**Figure 1, Table 2**). The rate for older teenagers fell as well, by 25.5 percent beginning in 1999, from 137.6 to 102.5.

All components of the pregnancy rates for teenagers 19 years old or younger (births, abortions, and fetal losses) declined from 2007 to 2009 (**Table 1**).

While the decrease in the frequency counts reflects a reality, all the rates in this report are based on the assumption that the population denominators – projected from the 2000 census – continued to increase after 2007. This assumption most likely is wrong.

Figure 2
Trends in the Number of Pregnancies and Pregnancy Rates
among Females 19 or Younger, Arizona, 1999-2009



Pregnancy rate = the number of pregnancies per 1,000 females in specified group.

Trends in the number of pregnancies to teenage women do not always parallel the pregnancy rate. The teen pregnancy rate measures the proportion of teenagers becoming pregnant in a given year; in other words, the relative “risk for pregnancy” in a population “at risk”. The number of pregnancies is, however, also determined by the size of the population “at risk”: or in this case by the number of teenage females in the population.

The annual pregnancy rates in 2000 - 2007 were lower than the 1999 rate of 42.7/1,000. In contrast, the number of pregnancies increased from 14,095 in 1999 to 15,038 in 2007. It is only since 2007 that the reduction in the number of teen pregnancies was accompanied by an equally impressive decline in pregnancy rates (**Figure 2, Table 1**).

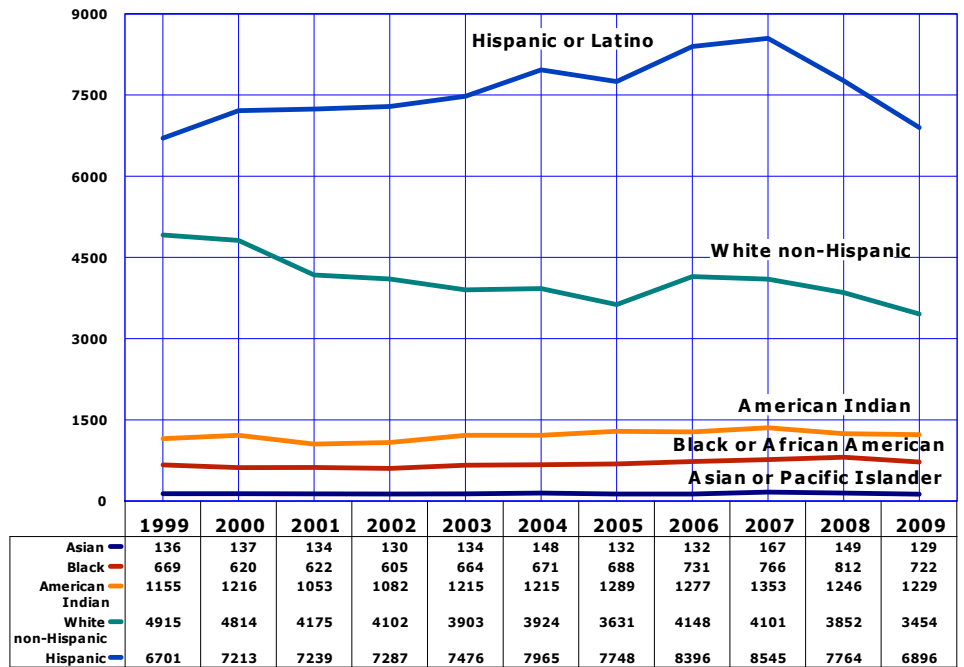
The 2007 teen pregnancy rate of 34.4/100,000 was based on 15,038 pregnancies occurring among 437,239 females aged 10-19 years. If, compared to 2007, the 2009 denominator also declined proportionately by 16.6 percent, the pregnancy rate would not have changed. We may be overestimating the 2009 “population at risk” by approximately 72,790 females aged 10-19 years.

KEY FINDINGS

Figure 3
Trends in the Number of Pregnancies* by Race/Ethnicity among Females 19 or Younger, Arizona, 1999-2009

The number of pregnancies to Hispanic females aged 19 years or younger exceeded the number of pregnancies among white non-Hispanic peers in every year since 1994 (Figure 3 and Table 8 in this report show only the data for 1999-2009). In 2009, Hispanic or Latino females accounted for 55.0 percent of all pregnancies in this age group, followed by White non-Hispanics (27.6 percent). Black or African American, Asian or Pacific Islander, American Indian, and females of other race aged 19 years or younger accounted for a similar share of pregnancies in 2009 (17.4 percent) than they did in 1999 (17.6 percent).

From 2007 to 2009, the number of teen pregnancies declined particularly steeply for Asian (-22.8 percent), and Hispanic or Latino females (-19.3 percent).



The sum of live births + induced abortions + spontaneous fetal deaths.

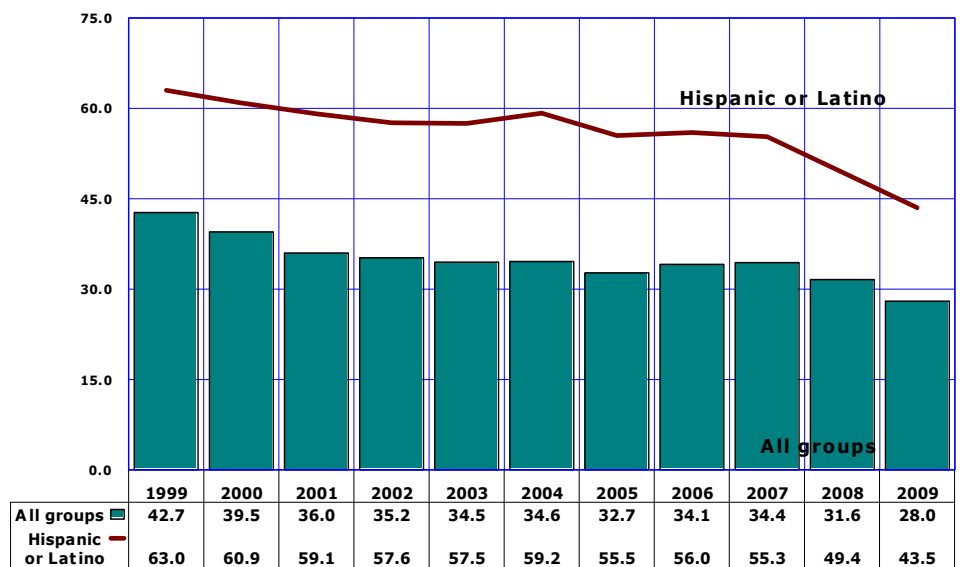
Figure 4
Comparison of Pregnancy Rates by Year among Hispanic or Latinos and all Females 19 or Younger, Arizona, 1999-2009

The teen pregnancy rates for all race and ethnic groups were lower in 2009 than in 1999 (Figure 1). However, the temporal trends in annual teen pregnancy rates differed considerably by race/ethnicity.

Figures 4, 5, 6, 7 and 8 reveal race/ethnicity-specific trends in teen pregnancy rates in Arizona in 1999-2009.

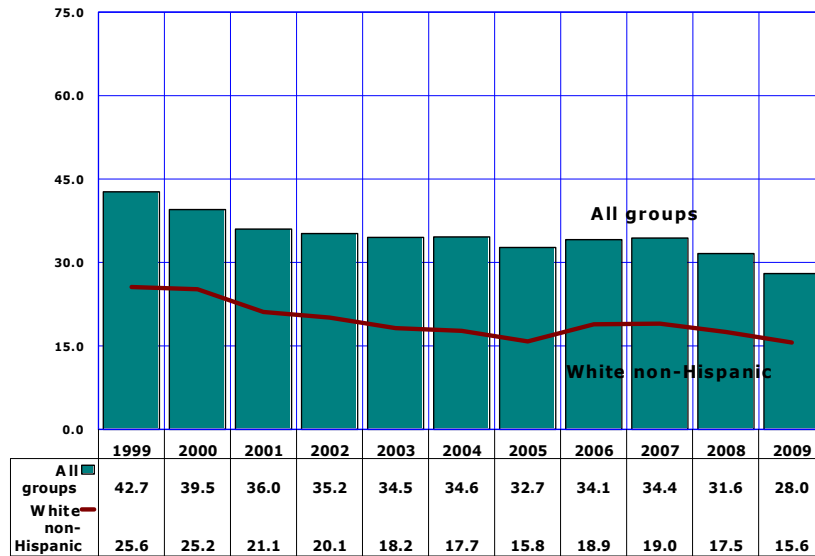
The pregnancy rate fell 8.7 percent for Hispanic or Latino females 19 years or younger in 1999-2003 and then increased in 2004 and 2006. From 2006 to 2009 the pregnancy rate of Hispanic or Latino females fell by 22.3 percent (Figure 4).

In each year from 1998 to 2008, the pregnancy rates of Hispanic or Latino females were consistently greater than the average rates for all females 19 years or younger in Arizona. In 2009, the Hispanic rate exceeded the average rate for all groups by 55.4 percent.



Note: All rates are per 1,000 females in specified group.

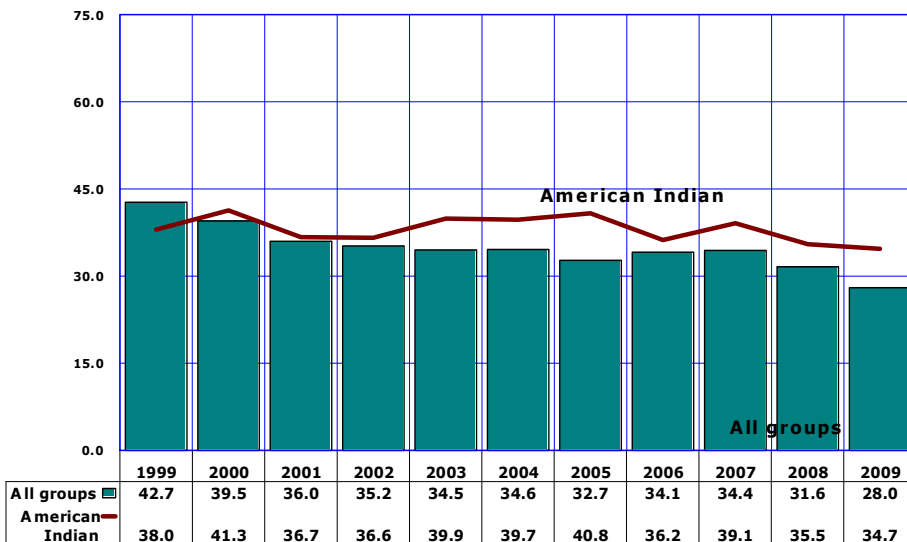
Figure 5
Comparison of Pregnancy Rates by Year among White non-Hispanics and all Females 19 or Younger, Arizona, 1999-2009



The pregnancy rate for White non-Hispanics sharply increased by 19.6 percent in 2006 (Figure 5). The rate remained essentially unchanged at 19.0 in 2007 and then fell by 17.9 percent to 15.6/1,000 in 2009. In each year from 1999 to 2009, the pregnancy rates for White non-Hispanic females were lower than the average rates for all females 19 years or younger in Arizona.

Note: All rates are per 1,000 females in specified group.

Figure 6
Comparison of Pregnancy Rates by Year among American Indian or Alaska Natives and all Females 19 or Younger, Arizona, 1999-2009



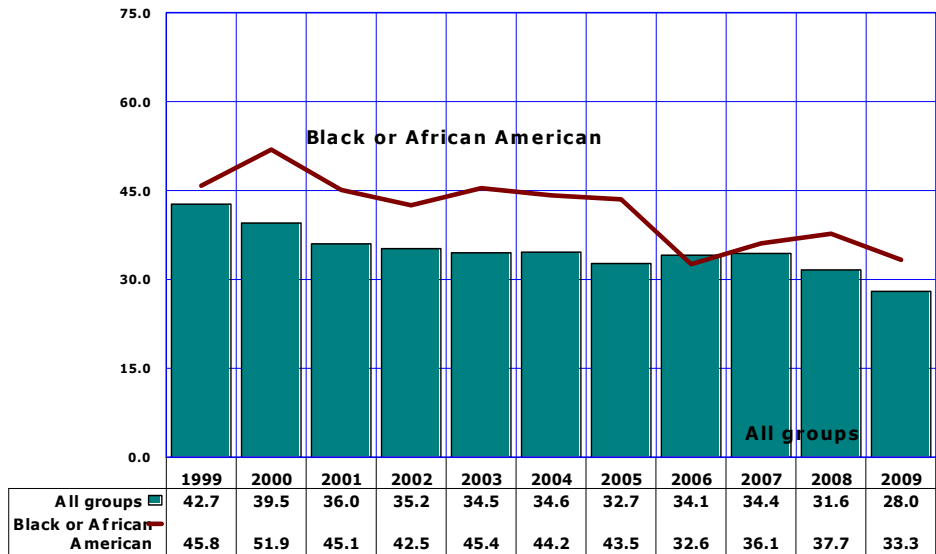
Despite some of the decreases noted between 2001 and 2002, the annual pregnancy rates among American Indian females 19 years or younger erratically varied from year to year (Figure 6). The American Indian rates were lower than the average in 1999 a, but higher in 2000-2009.

Note: All rates are per 1,000 females in specified group.

KEY FINDINGS

Figure 7
Comparison of Pregnancy Rates by Year among Black or African Americans and all Females 19 or Younger, Arizona, 1999-2009

The pregnancy rates for Black or African American females 19 years or younger increased from 45.8/1,000 in 1999 to 51.9/1,000 in 2000 (**Figure 7**). Except 2006, the pregnancy rates for Black or African American teenagers exceeded in 1999-2006 and 2007-2009 the pregnancy rate for all groups.

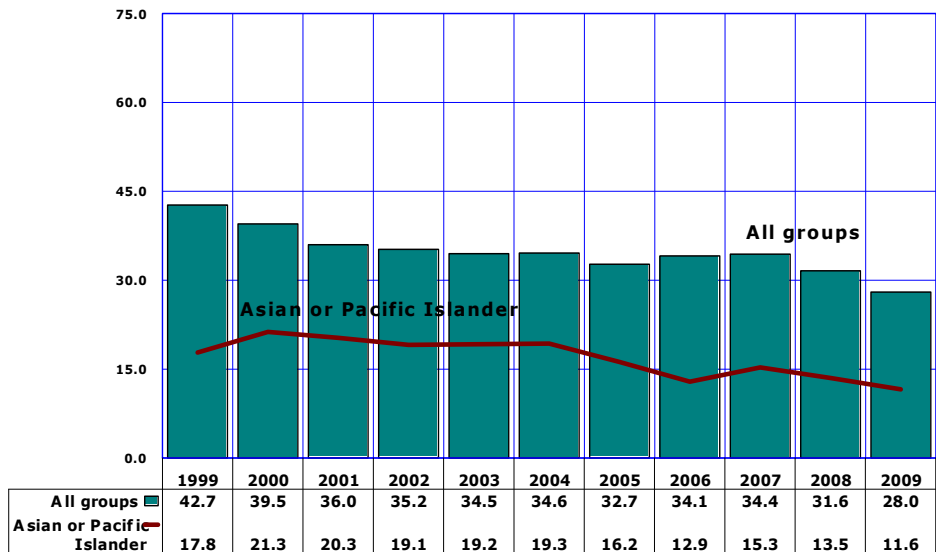


Note: All rates are per 1,000 females in specified group.

Figure 8
Comparison of Pregnancy Rates by Year among Asian or Pacific Islanders and all Females 19 or Younger, Arizona, 1999-2009

In each year from 1998 to 2008, the pregnancy rates for Asian or Pacific Islander females 19 years or younger were substantially lower than the average rates among all females 19 years or younger in Arizona (**Figure 8**). In 2009, the Asian rate (11.6/1,000) was 58.6 percent lower than the rate for all groups (28.0/1,000).

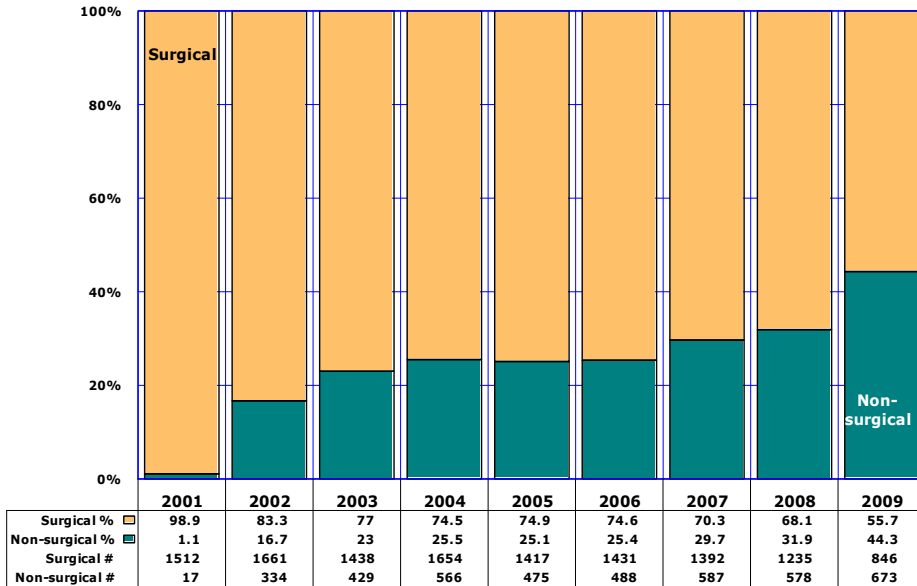
If the 2009 "risk for pregnancy" of Asian teens (i.e., their pregnancy rate) applied to all Arizona females 19 years or younger, the number of teen pregnancies in the State would have been reduced from 12,537 to approximately 5,200.



Note: All rates are per 1,000 females in specified group.

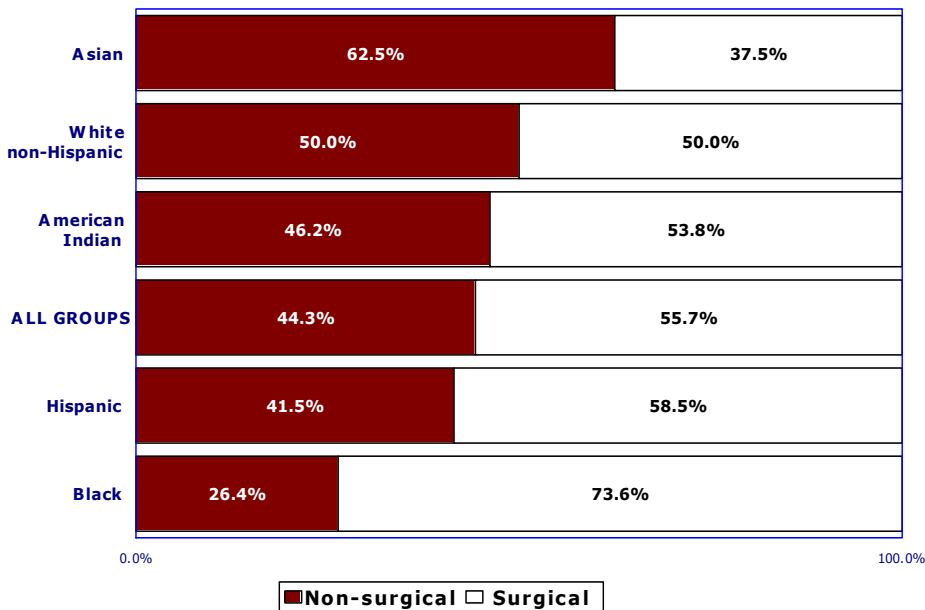
KEY FINDINGS

Figure 9
Proportional Contribution of Surgical and Non-Surgical Abortions
by Year among Females 19 or Younger, Arizona, 2001-2009



The proportion of non-surgical abortions to females 19 years or younger increased for the 4th consecutive year from 25.1 percent in 2005 to 44.3 percent in 2009 (Figure 9).

Figure 10
Proportional Contribution of Non-Surgical and Surgical Abortions by
Race/Ethnicity among Females 19 or Younger, Arizona, 2009

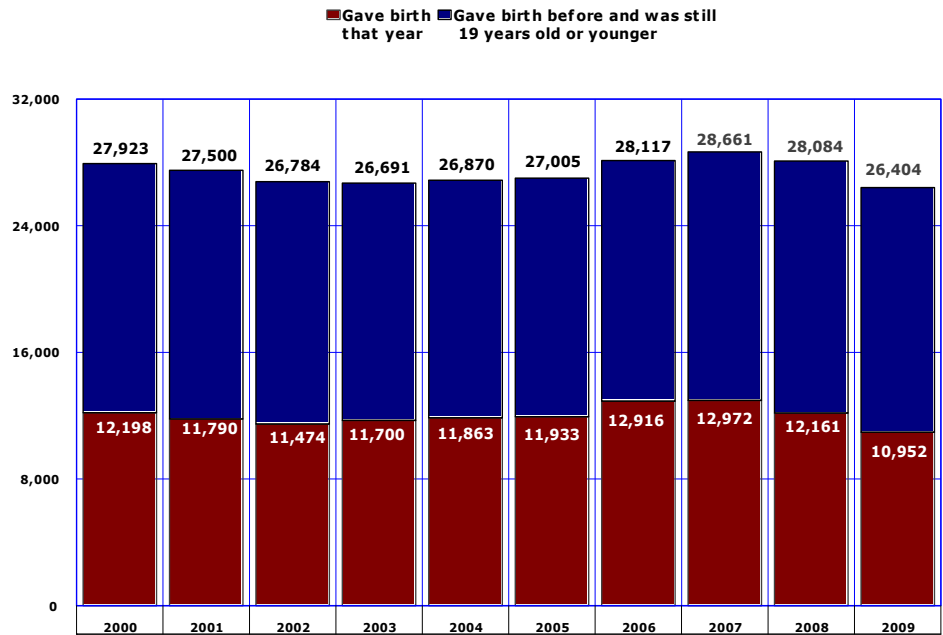


Among Asian, White non-Hispanic and American Indian teens the proportion of non-surgical abortions exceeded the average for all groups (Figure 10). The ratios of reported non-surgical abortions among Hispanic and Black females were the lowest among ethnic groups.

Non-surgical: Mifepristone, Methotrexate, RU486, etc.

KEY FINDINGS

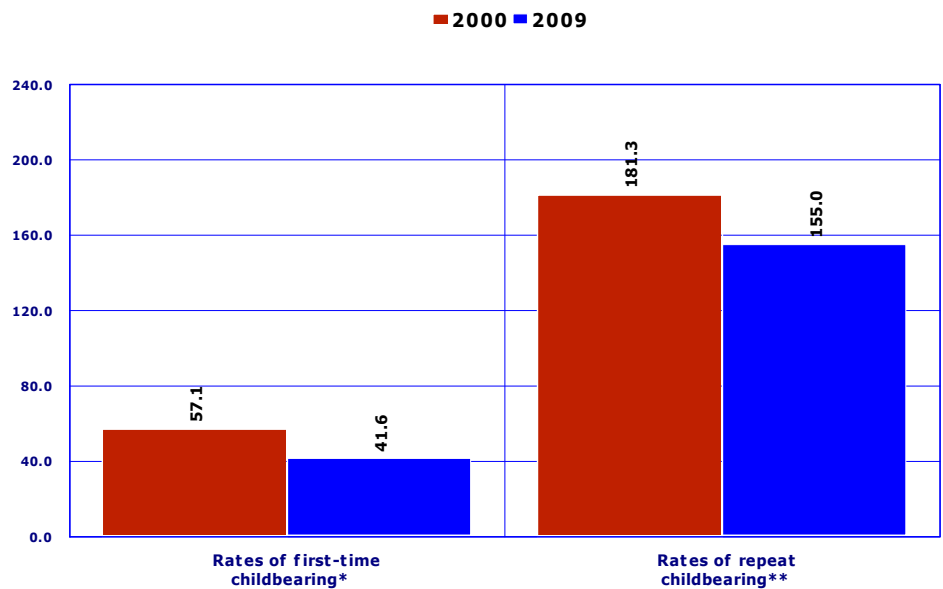
Figure 11
Cumulative Number of Mothers who were 19 or Younger in Arizona by Year, 2000-2009



There were approximately 26,404 mothers under age 20 in Arizona in 2009, the lowest number since 1999. Among them there were the 10,952 who gave birth that year and the 15,452 who gave birth prior to 2009 and were still 19 years old or younger (Figure 11, Table 13). The cumulative number of mothers who were 19 years or younger in Arizona decreased by 7.9 percent from 28,661 in 2007.

*See Table 13 for more details.

Figure 12
Rates of First and Repeat Births to Females 15-19 Years, Arizona, 2000 and 2009

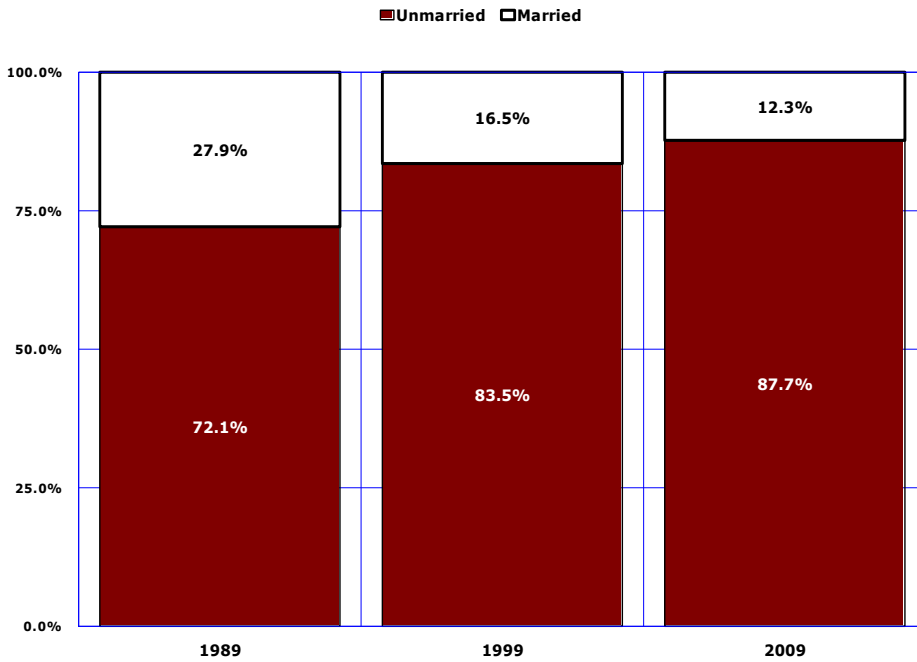


The first birth rate for childless teenagers has dropped 27.1 percent from 57.1 first-time births per 1,000 females 15-19 years old in 2000, to 41.6/1,000 in 2009 (Figure 12).

The repeat birth rates for teenagers who had already had a child decreased by 14.5 percent from 181.3 in 2000 to 155.0 per 1,000 females 15-19 years old in 2009 who had a previous birth (Figure 12).

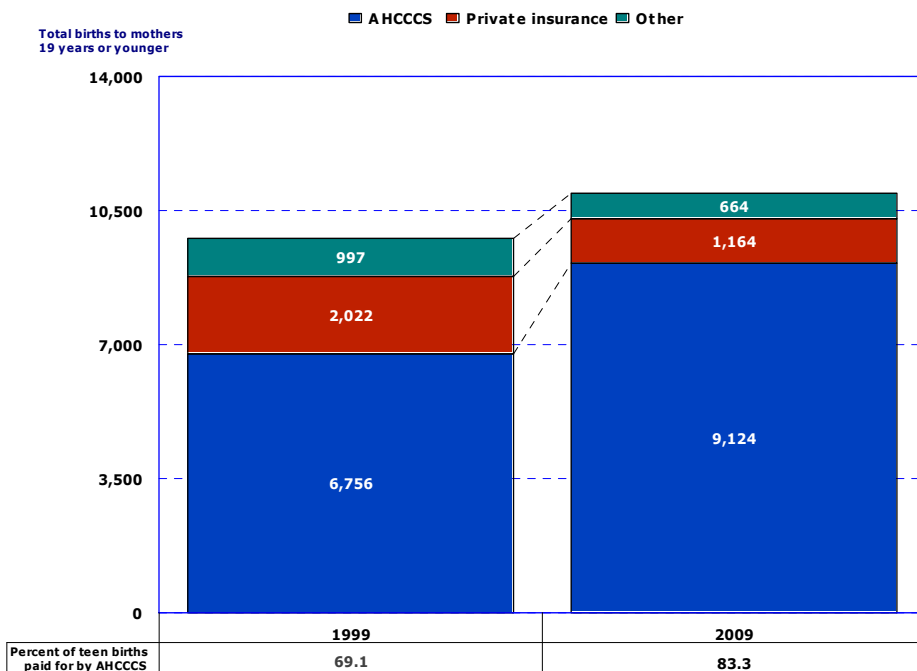
* Number of first births per 1,000 females 15-19 years old who have not had a birth.
 **Number of repeat births per 1,000 females 15-19 years old who have had a previous birth.
 See Appendix "How to compute rates of first and repeat childbearing."

Figure 13
Births to Mothers 19 or Younger by Marital Status,
Arizona, 1989, 1999 and 2009



Unwed mothers have accounted for an increasing annual proportion of births throughout the 1980s and 1990s. Two decades ago, approximately 7 out of 10 teenage mothers were unmarried (**Figure 13**). In 2009, nonmarital births accounted for 87.7 percent of births to mothers 19 years or younger.

Figure 14
Number of Births to Mothers 19 or Younger by Payee,
Arizona, 1999 and 2009



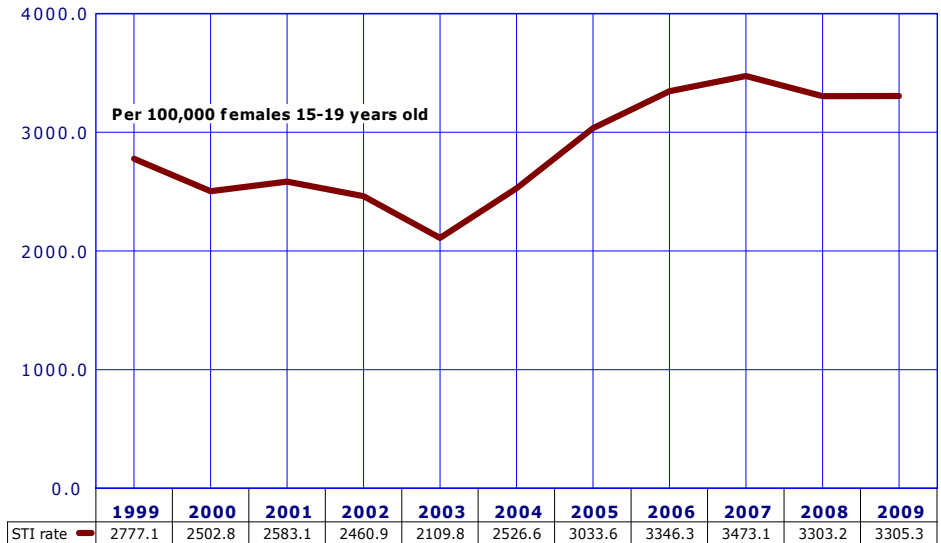
The total number of births to mothers 19 years or younger increased by 12.0 percent from 9,775 in 1999 to 10,952 in 2009 (**Table 1**). In contrast, the number of teen births paid for by the Arizona Health Care Cost Containment System (AHCCCS, the State's Medicaid program) increased by 35.1 percent from 6,756 in 1999 to 9,124 in 2009.

In 2009, the Arizona Health Care Cost Containment System paid for 83.3 percent of the deliveries to mothers 19 or younger (**Table 23**), compared to 69.1 percent in 1999 (**Figure 14**).

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Figure 15
Trends in the Incidence of Sexually Transmitted Infections* among Females 15-19 Years, Arizona, 1999-2009

In each year from 2006 to 2009, the total number of sexually transmitted infections (STI) among females aged 19 or younger exceeded 7,400 (Table 15) compared to approximately 4,300 reported in 2003. Females aged 15-19 years accounted for 96.7 percent of all sexually transmitted infections in 2009. The rate of STI among females 15-19 years old increased by 64.7 percent from 2109.8 cases per 100,000 in 2003 to 3473.1/100,000 in 2007 and then declined to a rate of 3303.2/100,000 in 2008. The 2009 rate of 3305.3 was not significantly higher from the 2008 rate.



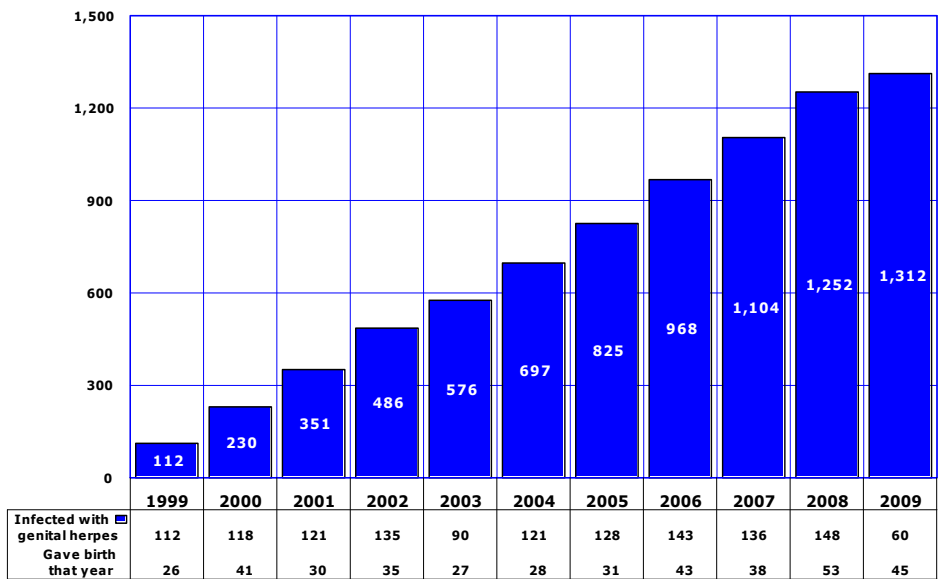
These STIs include *chlamydia* and *syphilis*. *Chlamydia* can cause sterility in the affected mother and eye infections and pneumonia in the newborn. *Syphilis* can cause blindness, maternal and/or infant death.

* The sum of annually reported cases of gonorrhea, chlamydia, genital herpes, and early syphilis. Source: Bureau of Epidemiology and Disease Control Services, Office of Infectious Disease Services.

Figure 16
Cumulative Number of Cases of Genital Herpes among Females 15-19 Years, Arizona, 1999-2009

Unlike gonorrhea or chlamydia, genital herpes cannot be cured. Since genital herpes is not a fatal disease, new cases arising each year may add to the pool of people infected with the disease who can then transmit the disease to others.

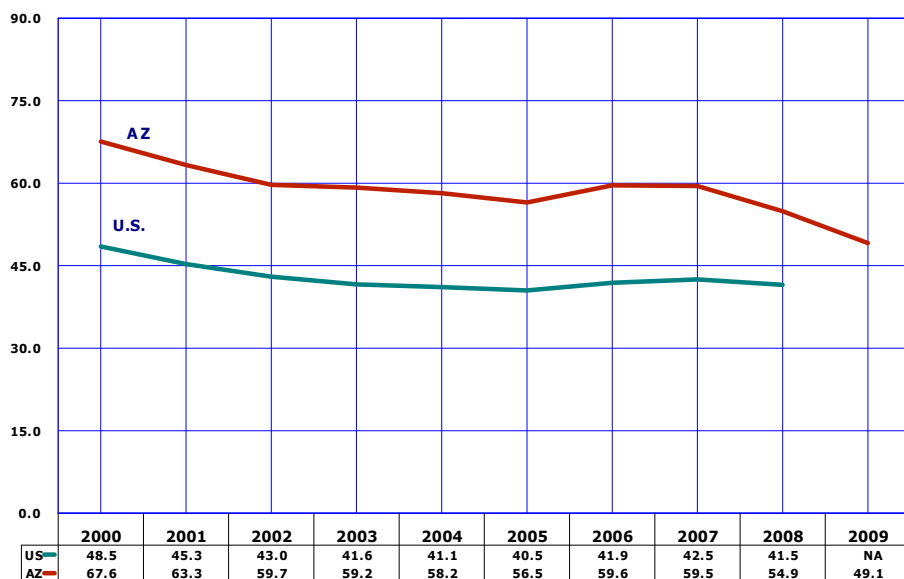
Assuming that females 15-19 years old reported with genital herpes since 1999 have not died or left the State, the 2009 prevalence of this diseases based on 1,312 accumulated cases (Figure 16) would be 594.9/100,000. In other words, one in every 168 females aged 15-19 years may be infected.



Genital herpes also is a threat to newborns. Out of 60 females aged 15-19 years who were diagnosed with genital herpes in 2009, 45 (or 75.0 percent) also gave birth that year (Figure 16, Table 15).

KEY FINDINGS

Figure 17
Birth Rates for Teenagers 15-19 Years Nationally, 2000-2008 and in Arizona, 2000-2009



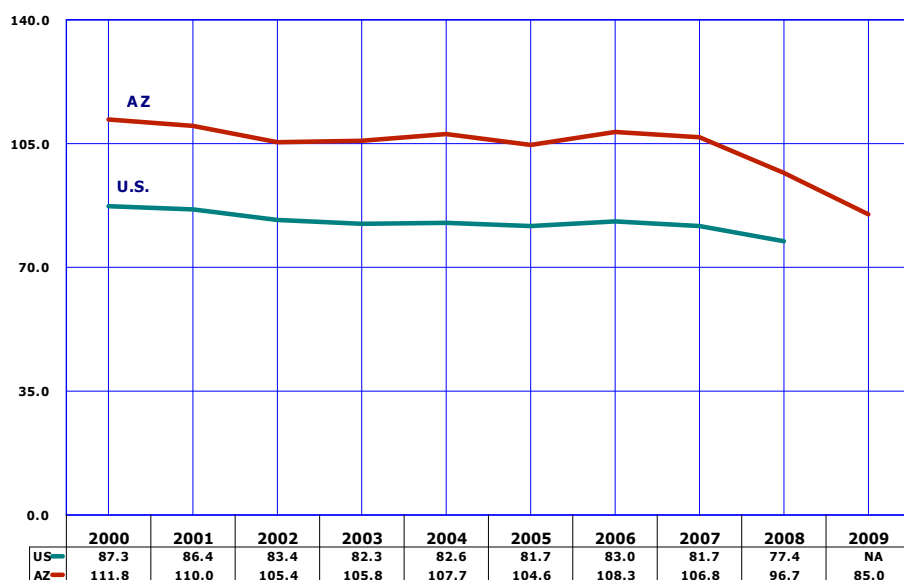
In each year from 2000 to 2006 birth rates for Arizona teenagers 15-19 years old exceeded by no less than 32.3 percent the rates of their national peers (**Figure 17, Table 11**; the 2008 rate is the latest one available nationally).

In Arizona, Hispanic or Latino females 15-19 years old, a high-fertility group, accounted for 33.4 percent of females aged 15-19 years in 2009; twice their proportional representation of 16.8 percent nationally.* A high proportional representation of Hispanic or Latino females in Arizona puts upward pressure on the overall teen birth rate.

*Based on data in Table 4 in: Kristin Anderson Moore, Teen Births: examining the Recent Increase. The national campaign to Prevent Teen and Unplanned Pregnancy. October 2008. Available online at: www.thenationalcampaign.org/resources/birthdata

The number of births per 1,000 females 15-19 years old.

Figure 18
Birth Rates for Hispanic or Latino Teenagers 15-19 Years Nationally, 2000-2008 and in Arizona, 2000-2009



In 2008, Hispanics or Latinos aged 15-19 years disproportionately accounted for 58.8 percent of births to mothers in this age group in Arizona (7,057 out of 12,000; see **Table 6** and **Table 7**) compared to 33.3 percent nationally.*

In her analysis of the recent (2006) increase in teen births, Kristin Anderson Moore points out that "given high levels of immigration from Mexico and teen birth rates in Mexico of 80.6 in 2006 (...), immigration from Mexico represents a possible explanation".** Teen birth rate in Mexico, quoted above, is similar to the U.S. rates for Hispanic or Latino teenagers. What is puzzling is that the birth rates of Arizona Hispanic teens exceed, consistently and substantially, not only the corresponding U.S. rates but also the teen birth rate in Mexico.

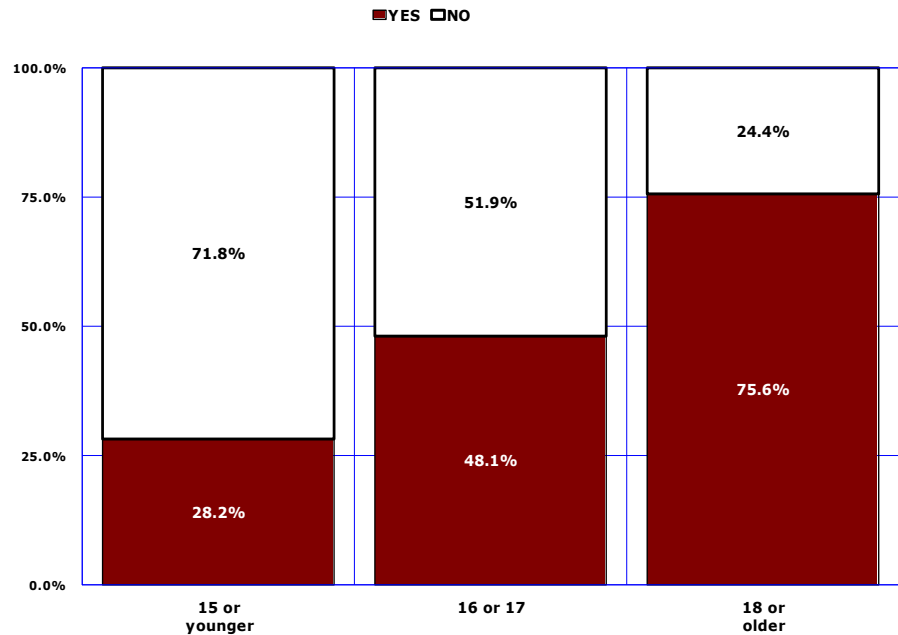
* Births: Final Data for 2008 available at http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_01.pdf

** Page 4 in: Kristin Anderson Moore, Teen Births: examining the Recent Increase. The National Campaign to Prevent Teen and Unplanned Pregnancy. October 2008.

The number of births per 1,000 females 15-19 years old.

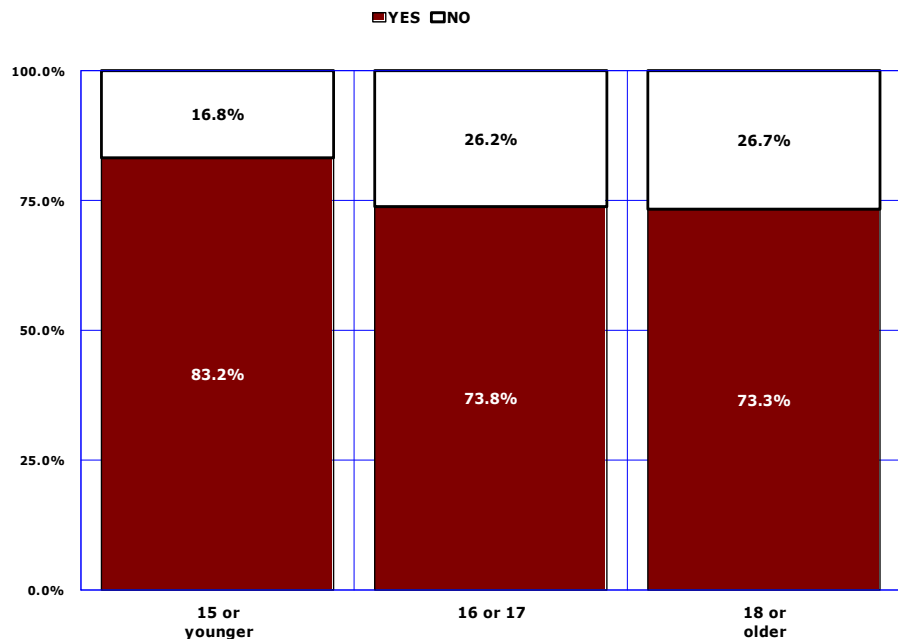
KEY FINDINGS

Figure 19
Percentage of Female High School Students Who Ever Had Sexual Intercourse, Arizona, 2009



Based on the results of the 2009 Arizona Youth Risk Behavior Survey. For more details see <https://www.azed.gov/sa/health/whatsnew.asp#ResultsFrom2009>

Figure 20
Percentage of Female High School Students Who Used Specified Method of Contraception The Last Time They Had Sexual Intercourse, Arizona, 2009



Percent of female students who ever had sexual intercourse. Based on the results of the 2009 Arizona Youth Risk Behavior Survey. For more details see <https://www.azed.gov/sa/health/whatsnew.asp#ResultsFrom2009>

Patterns in sexual activity such as the age at first intercourse and the frequency of intercourse are among the factors for both pregnancy rate and the incidence of sexually transmitted infections.

The age-specific proportions of female high school students (including charter schools) who ever had sexual intercourse in **Figure 19** are from the latest Arizona Youth Behavior Survey conducted in 2009.

The 2009 Arizona Youth Behavior Survey results for female high school students asked whether they used a specified method of contraception the last time they had sexual intercourse (**Figure 20**) reveal that compared to younger teens, older teens were less likely to use any method of contraception.

Perhaps, not a small fraction of older teens who were sexually active but not using contraception in 2009 were not so much placing themselves at a risk of unintended pregnancy but intentionally trying to have a baby?