



Arizona
Department of
Health Services

SEXUALLY TRANSMITTED DISEASES AMONG ARIZONA YOUTH, 2011

STD rates among Arizona youth continue to rise. They are approximately 5 times higher than the overall Arizona rates. Left untreated, these diseases can lead to significant health problems, including pelvic inflammatory disease and ectopic pregnancies. Continued vigilance among providers, clinics, schools and community agencies is imperative to mitigate the effects and transmission of these preventable diseases.

*The Impact of
Chlamydia,
Gonorrhea, and
Syphilis on Arizona
Youth, 2011*



Division of Public Health Services

Office of the Assistant Director

Public Health Preparedness Services

150 N. 18th Avenue, Suite 140

Phoenix, Arizona 85007-3237

(602) 364-4666

(602) 364- 2119 FAX

JANICE K. BREWER, GOVERNOR

WILL HUMBLE, DIRECTOR

December 3, 2012

Dear Community Stakeholder:

The Arizona Department of Health Services STD Control Program is pleased to provide this updated report on the impact of sexually transmitted diseases (STDs) among Arizona youth. The subsequent information, as depicted in the 2011 graphs and tables herein, highlights the continuing STD epidemic affecting our state's young adult population. These data demonstrate the need for targeted education and prevention resources that will enable all Arizona youth to make healthy decisions regarding sexual activity.

Untreated STDs can cause significant health problems among those who become infected. For instance, untreated chlamydia and gonorrhea can lead to pelvic inflammatory disease (PID). Young women may suffer ectopic pregnancies and chronic pelvic pain. Worse still, sexually transmitted diseases can lead to infertility or can be transmitted to unborn infants during pregnancy and/or delivery.

As demonstrated in this report, chlamydia and gonorrhea rates are highest among Arizona youth while syphilis rates are lower among Arizona youth. Cases of herpes are thought to be underreported as this highly prevalent disease is not reportable by laboratories. Thus, the major focus of this report is on chlamydia and gonorrhea. These diseases are more frequently diagnosed in young females than in young males. There are several reasons for this disparity. First, women seek healthcare with more regularity than men. Second, national chlamydia screening guidelines recommend annual testing (that includes a test for gonorrhea) among sexually active women aged 25 years and younger. Similar screening guidelines do not exist for men. Finally, STDs are frequently asymptomatic in both men and in women and, thus; may go undetected. Arizona law permits minors to seek treatment for STDs without parental or guardian consent (*ARS § 44-132.01*).

New statutory language (*ARS §32-1401 (27) (ss) (v)*) makes legal the practice of Expedited Partner Therapy (EPT) for STDs. Specifically, medical providers can dispense an extra dose(s) of an antimicrobial medication, or write a separate prescription, to their patient to deliver to their patient's partner(s). This practice is currently supported for the treatment of partners of patients with chlamydia and/or gonorrhea. Implementation of this new public health tool has demonstrated promise in providing treatment to asymptomatic partners and preventing re-infection.

We recommend continued vigilance among providers, clinics, schools, and community/government agencies serving young adult populations as it relates to STD testing and comprehensive sex education. We hope this information can be used to further efforts to increase awareness of this important health issue facing Arizona youth. Please do not hesitate to contact us with further questions regarding STD education, prevention, and screening opportunities.

Sincerely,
Roxanne Ereth, MPH

STD Control Program Manager
Roxanne.Ereth@azdhs.gov

Sexually Transmitted Diseases Among Arizona Youth

The Impact of Chlamydia, Gonorrhea, and Syphilis on Arizona Adolescents, 2011

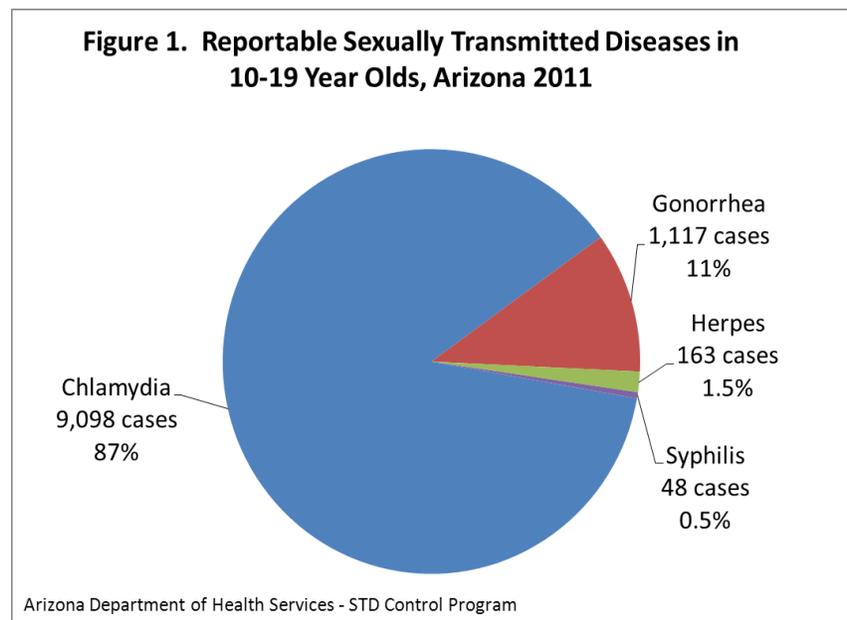
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Chlamydia

Chlamydia is the most frequently reported bacterial sexually transmitted disease in the United States. The Centers for Disease Control and Prevention (CDC) states that 1.3 million chlamydial infections were reported in the United States in 2010. In Arizona 9,098 chlamydial infections were reported in 2011 among 10–19 year olds. This count corresponds to 87% of the reportable sexually transmitted diseases (Chlamydia, Gonorrhea, Herpes, and Syphilis) recorded in Arizona in 2011 (Fig 1).

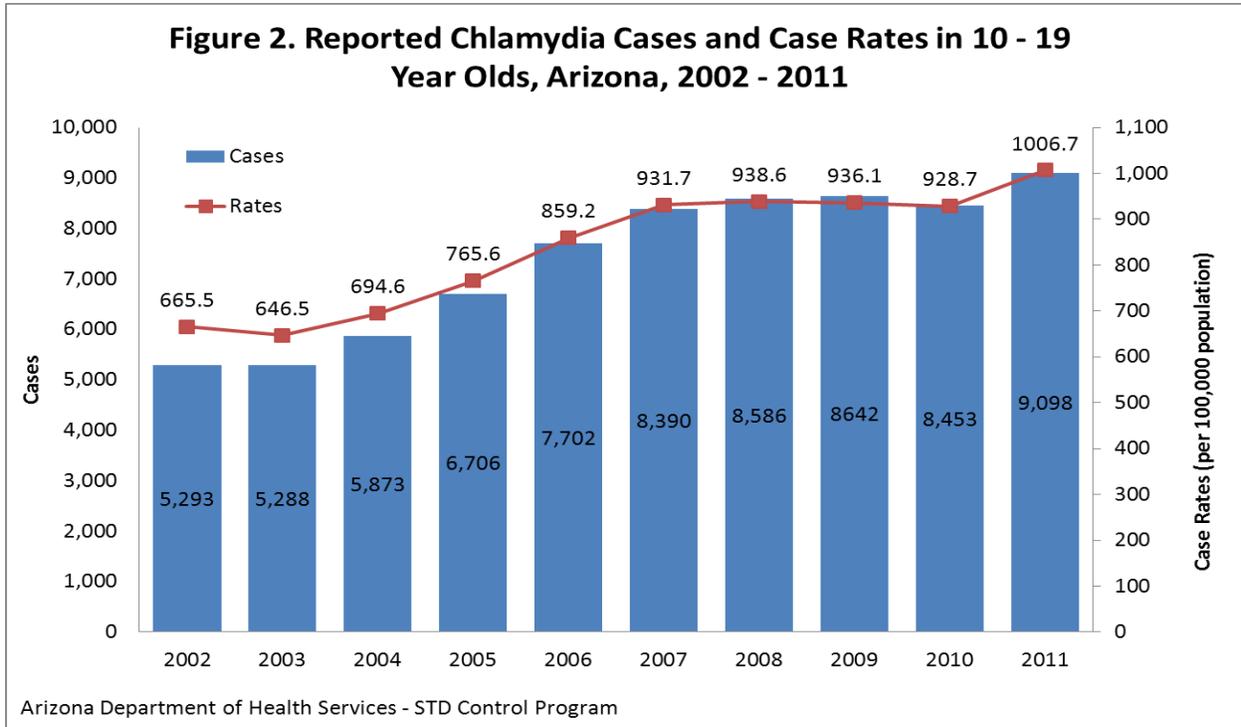
Among Arizona adolescents ages 10–19, the number of reported chlamydia cases has increased nearly 72% from 2002 to 2011 (Fig. 2). This increase in reported cases has resulted in a 51% increase in the rate (per 100,000 population) of chlamydia among 10–19 year olds in the same time frame. The



Arizona Department of Health Services (ADHS) STD surveillance system recorded 9,098 cases of chlamydia in adolescents ages 10–19 in 2011, compared to 8,642 in 2009 and 8,453 in 2010. The 9,098 cases reported in 2011 is the highest number of cases reported in the previous 10 years.

Reported cases and case rates of Chlamydia vary widely based on Gender, Age Group, and County. The highest numbers of cases for 2011 were reported by Maricopa County and Pima County for both men and women (Table 1 and Table 3). Due to incomplete reporting, there are a large number of cases for which a county of residence has not been established. Various efforts are employed by ADHS to increase the number of cases with a known county. The largest effort entails mailing a message to health care providers explaining their duty to report complete demographic information when submitting communicable disease report forms, along with a line list of their chlamydia, gonorrhea and syphilis patients for whom county of

residence and race/ethnicity are missing. Case counts and case rates based on Gender, Age Group and County can be seen in Tables 1 through 4. Please note that case rates based on a number of cases less than 5 should be considered unreliable.



Chlamydia cases reported among 10–19 year olds in Arizona accounted for nearly 31% of all cases reported in 2011. The three age groups with the highest number of reported cases and case rates are 20–24 year olds, followed by 15-19 year olds, and 25–29 year olds (Fig. 3). The age group 10–14 has a much lower case count and case rate than 15–19 year olds.

Table 1. Reported Male Chlamydia Cases by Age Group and County, Arizona, 2011

| Age Group | Apache | Cochise & Santa Cruz | Coconino | Gila, Graham & Greenlee | La Paz & Mohave | Maricopa | Navajo | Pima | Pinal | Yavapai | Yuma | Unknown | Arizona |
|--------------|--------|----------------------|----------|-------------------------|-----------------|----------|--------|------|-------|---------|------|---------|---------|
| 10 - 14 | * | * | * | * | * | 19 | * | * | * | * | * | 0 | 33 |
| 15 - 19 | 18 | 33 | 40 | 23 | 25 | 1034 | 39 | 210 | 78 | 16 | 42 | 0 | 1784 |
| 20 - 24 | 26 | 69 | 74 | 27 | 26 | 1707 | 76 | 438 | 102 | 28 | 95 | 0 | 2960 |
| 25 - 29 | 31 | 42 | 34 | 15 | 14 | 890 | 36 | 216 | 53 | 8 | 42 | 0 | 1559 |
| 30 - 34 | 9 | 8 | 13 | * | * | 498 | 24 | 93 | 31 | 6 | 22 | 0 | 799 |
| 35 - 39 | 10 | * | 11 | * | * | 254 | 9 | 46 | 12 | * | 12 | 0 | 413 |
| 40 - 44 | * | * | * | * | * | 160 | * | 26 | 8 | * | * | 0 | 238 |
| 45 - 49 | * | * | * | * | * | 111 | * | 14 | * | * | * | 0 | 151 |
| 50 - 54 | * | * | * | * | * | 43 | * | 6 | * | * | * | 0 | 57 |
| 55 - 59 | * | * | * | * | * | 21 | * | * | * | * | * | 0 | 27 |
| 60 - 64 | * | * | * | * | * | 6 | * | * | * | * | * | 0 | 11 |
| 65 and Older | * | * | * | * | * | 13 | * | * | * | * | * | 0 | 15 |
| Total | 102 | 159 | 180 | 73 | 77 | 4758 | 193 | 1057 | 289 | 63 | 220 | 0 | 8052 |

*Denotes case counts <6

Arizona Department of Health Services - STD Control Program

Table 2. Reported Male Chlamydia Case Rates by Age Group and County, Arizona, 2011

| Age Group | Apache | Cochise & Santa Cruz | Coconino | Gila, Graham & Greenlee | La Paz & Mohave | Maricopa | Navajo | Pima | Pinal | Yavapai | Yuma | Unknown | Arizona |
|--------------|--------|----------------------|----------|-------------------------|-----------------|----------|--------|--------|-------|---------|--------|---------|---------|
| 10 - 14 | *0 | *0 | *23 | *0 | *15 | 13.3 | *22 | *9 | *15 | *0 | *13 | N/A | 14.3 |
| 15 - 19 | 537.8 | 459.6 | 641.8 | 638.4 | 396.3 | 738.3 | 869.8 | 611.4 | 645.0 | 259.3 | 484.1 | N/A | 767.3 |
| 20 - 24 | 998.5 | 1098.6 | 875.4 | 815.7 | 480.4 | 1191.6 | 2000.5 | 1085.7 | 819.6 | 501.9 | 1045.8 | N/A | 1230.4 |
| 25 - 29 | 1470.6 | 690.4 | 680.3 | 462.7 | 256.7 | 624.1 | 1129.9 | 628.4 | 354.4 | 165.4 | 580.1 | N/A | 680.5 |
| 30 - 34 | 439.5 | 151.0 | 311.2 | *167 | *96 | 363.8 | 786.1 | 299.5 | 192.7 | 127.1 | 346.1 | N/A | 366.7 |
| 35 - 39 | 521.9 | *99 | 287.2 | *37 | *0 | 195.5 | 309.6 | 159.8 | 79.2 | *44 | 216.6 | N/A | 201.1 |
| 40 - 44 | *193 | *40 | *131 | *33 | *52 | 119.3 | *68 | 90.0 | 59.8 | *20 | *69 | N/A | 113.4 |
| 45 - 49 | *171 | *0 | *0 | *32 | *44 | 86.2 | *117 | 45.3 | *16 | *16 | *17 | N/A | 72.2 |
| 50 - 54 | *0 | *0 | *23 | *0 | *0 | 35.2 | *29 | 18.4 | *0 | *13 | *18 | N/A | 27.6 |
| 55 - 59 | *0 | *0 | *24 | *0 | *0 | 20.4 | *0 | *6 | *10 | *0 | *0 | N/A | 14.7 |
| 60 - 64 | *0 | *0 | *0 | *0 | *0 | 6.3 | *32 | *7 | *0 | *0 | *0 | N/A | 6.3 |
| 65 and Older | *0 | *0 | *0 | *0 | *0 | 6.0 | *0 | *0 | *0 | *0 | *0 | N/A | 3.6 |
| Total | 296.1 | 175.2 | 270.7 | 143.7 | 68.9 | 247.7 | 357.9 | 217.0 | 144.0 | 60.6 | 216.3 | N/A | 249.8 |

*Denotes rounded rates due to case counts <6

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Table 3. Reported Female Chlamydia Case Rates by Age Group and County, Arizona, 2011

| Age Group | Apache | Cochise & Santa Cruz | Coconino | Gila, Graham & Greenlee | La Paz & Mohave | Maricopa | Navajo | Pima | Pinal | Yavapai | Yuma | Unknown | Arizona |
|--------------|--------|----------------------|----------|-------------------------|-----------------|----------|--------|------|-------|---------|------|---------|---------|
| 10 - 14 | * | * | * | * | * | 99 | 14 | 23 | 12 | * | 7 | 0 | 208 |
| 15 - 19 | 103 | 192 | 214 | 104 | 122 | 3986 | 203 | 937 | 284 | 100 | 207 | 0 | 7073 |
| 20 - 24 | 158 | 208 | 226 | 86 | 139 | 4546 | 210 | 1209 | 292 | 87 | 308 | 0 | 8070 |
| 25 - 29 | 86 | 71 | 90 | 31 | 45 | 1800 | 87 | 487 | 101 | 35 | 107 | 0 | 3166 |
| 30 - 34 | 35 | 36 | 47 | 25 | 22 | 777 | 52 | 197 | 58 | 7 | 49 | 0 | 1421 |
| 35 - 39 | 17 | 19 | 21 | 9 | 6 | 372 | 24 | 93 | 25 | 6 | 18 | 0 | 672 |
| 40 - 44 | 14 | 7 | * | * | 6 | 150 | 8 | 39 | 14 | * | 7 | 0 | 277 |
| 45 - 49 | 8 | * | * | * | * | 94 | * | 17 | * | * | * | 0 | 147 |
| 50 - 54 | 6 | * | * | * | * | 45 | * | * | * | * | * | 0 | 82 |
| 55 - 59 | * | * | * | * | * | 17 | * | * | * | * | * | 0 | 37 |
| 60 - 64 | * | * | * | * | * | 11 | * | * | * | * | * | 0 | 17 |
| 65 and Older | * | * | * | * | * | 6 | * | * | * | * | * | 0 | 13 |
| Total | 431 | 547 | 615 | 261 | 344 | 11906 | 605 | 3021 | 790 | 246 | 710 | 0 | 21196 |

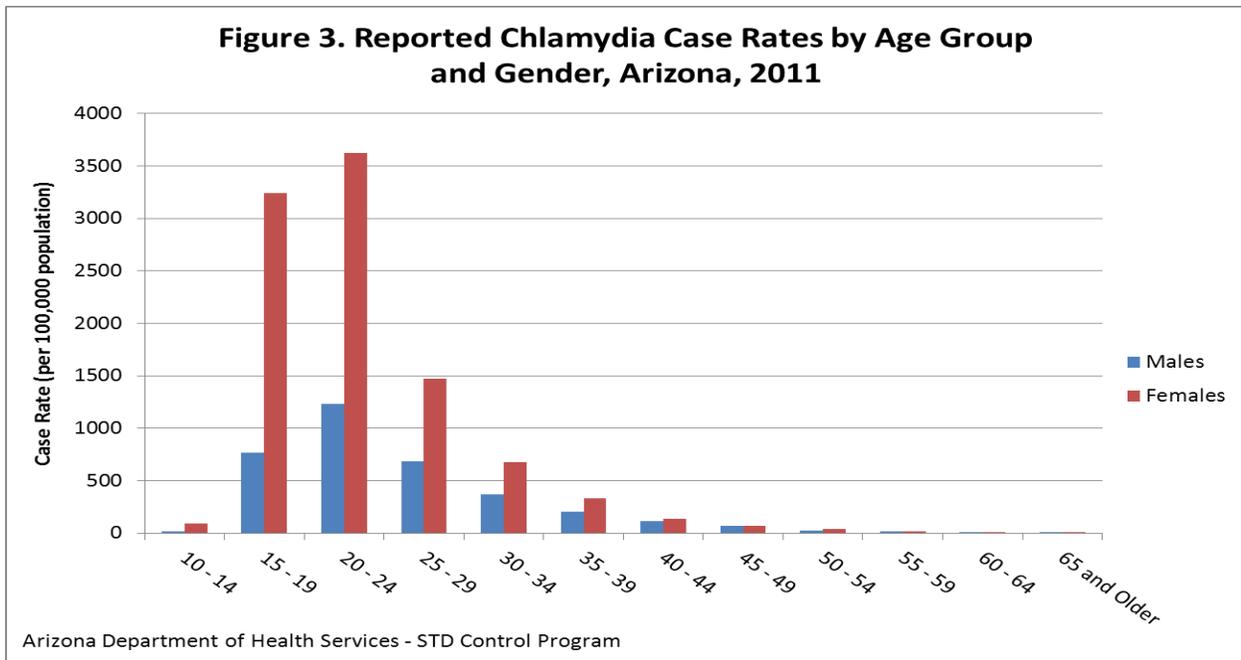
Table 4. Reported Female Chlamydia Case Rates by Age Group and County, Arizona, 2011

| Age Group | Apache | Cochise & Santa Cruz | Coconino | Gila, Graham & Greenlee | La Paz & Mohave | Maricopa | Navajo | Pima | Pinal | Yavapai | Yuma | Unknown | Arizona |
|--------------|--------|----------------------|----------|-------------------------|-----------------|----------|--------|--------|--------|---------|--------|---------|---------|
| 10 - 14 | *31 | *82 | *121 | *30 | *0 | 72.0 | 323.8 | 74.8 | 89.5 | *72 | 93.0 | N/A | 93.7 |
| 15 - 19 | 3185.9 | 3039.9 | 3090.7 | 3260.2 | 2062.6 | 3040.0 | 4834.5 | 2835.5 | 2595.0 | 1808.3 | 2654.2 | N/A | 3241.3 |
| 20 - 24 | 6677.9 | 4026.3 | 2536.2 | 2829.9 | 2657.7 | 3361.7 | 6191.0 | 3132.4 | 3228.7 | 1822.4 | 4357.1 | N/A | 3621.8 |
| 25 - 29 | 4312.9 | 1330.8 | 1965.5 | 1256.6 | 920.4 | 1308.6 | 3073.1 | 1488.7 | 875.5 | 771.3 | 1731.7 | N/A | 1475.2 |
| 30 - 34 | 1856.8 | 708.4 | 1158.2 | 1036.5 | 454.6 | 577.1 | 1877.9 | 647.6 | 449.1 | 157.1 | 865.6 | N/A | 679.5 |
| 35 - 39 | 898.0 | 394.1 | 585.4 | 405.0 | 126.1 | 285.7 | 875.9 | 326.5 | 211.8 | 126.8 | 316.6 | N/A | 334.4 |
| 40 - 44 | 691.7 | 136.5 | *134 | *78 | 105.2 | 113.3 | 268.3 | 134.1 | 132.8 | *73 | 118.6 | N/A | 134.8 |
| 45 - 49 | 346.8 | *18 | *72 | *72 | *14 | 72.2 | *59 | 54.1 | *29 | *15 | *33 | N/A | 70.0 |
| 50 - 54 | 240.5 | *63 | *43 | *30 | *24 | 35.2 | *81 | *14 | *0 | *12 | *70 | N/A | 37.9 |
| 55 - 59 | *134 | *31 | *23 | *0 | *11 | 15.0 | *57 | *15 | *0 | *0 | *0 | N/A | 18.3 |
| 60 - 64 | *0 | *17 | *0 | *0 | *0 | 10.3 | *0 | *12 | *0 | *10 | *0 | N/A | 8.7 |
| 65 and Older | *0 | *0 | *0 | *0 | *0 | 2.2 | *0 | *3 | *3 | *0 | *6 | N/A | 2.6 |
| Total | 1186.7 | 606.3 | 904.2 | 542.5 | 310.0 | 607.6 | 1131.6 | 601.1 | 433.3 | 227.8 | 716.2 | N/A | 650.5 |

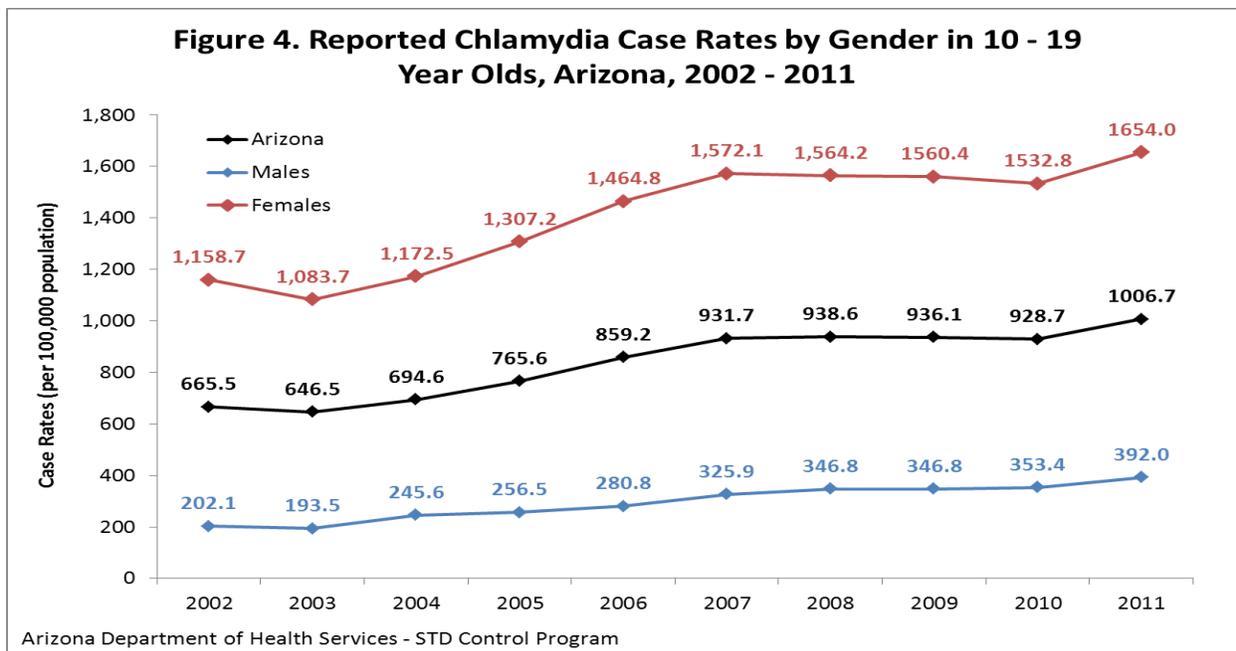
*Denotes rounded rates due to case counts <6

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Closer examination reveals chlamydia case rates that are disproportionately higher among females ages 10-19 than males of the same age (Fig. 4). Of the 9,098 total cases reported among Arizona adolescents, 7,281 were reported in females and 1,817 in males. This translates to a case rate approximately 4.2 times higher in females than in males in 2011. Several factors may account for the disparity. First, is the work performed on behalf of the Infertility Prevention Project (IPP). This nationwide program allows the ADHS STD Control Program to provide funding to specified clinics in Arizona to test all female patients under the age of 26 for chlamydia. This funding does not cover males under age 26. Second, are clinical recommendations set forth by the United States Preventive Services Task Force (USPSTF) that recommend chlamydia and gonorrhea testing for sexually active females younger than 26. Such testing for young men has not been determined to be efficacious. Finally, females tend to have more regular contact with physicians than do males, which may lead to more opportunities for testing.



While the gap between female and male rates remains large, it has narrowed slightly since 2006 when the case rate among women was approximately 5.2 times greater than the rates for males (Fig. 4). Part of the reason for this narrowing of the gap is the more rapid increase in the rate among men (a 40% increase) than among women (a 13% increase) from 2006 to 2011.



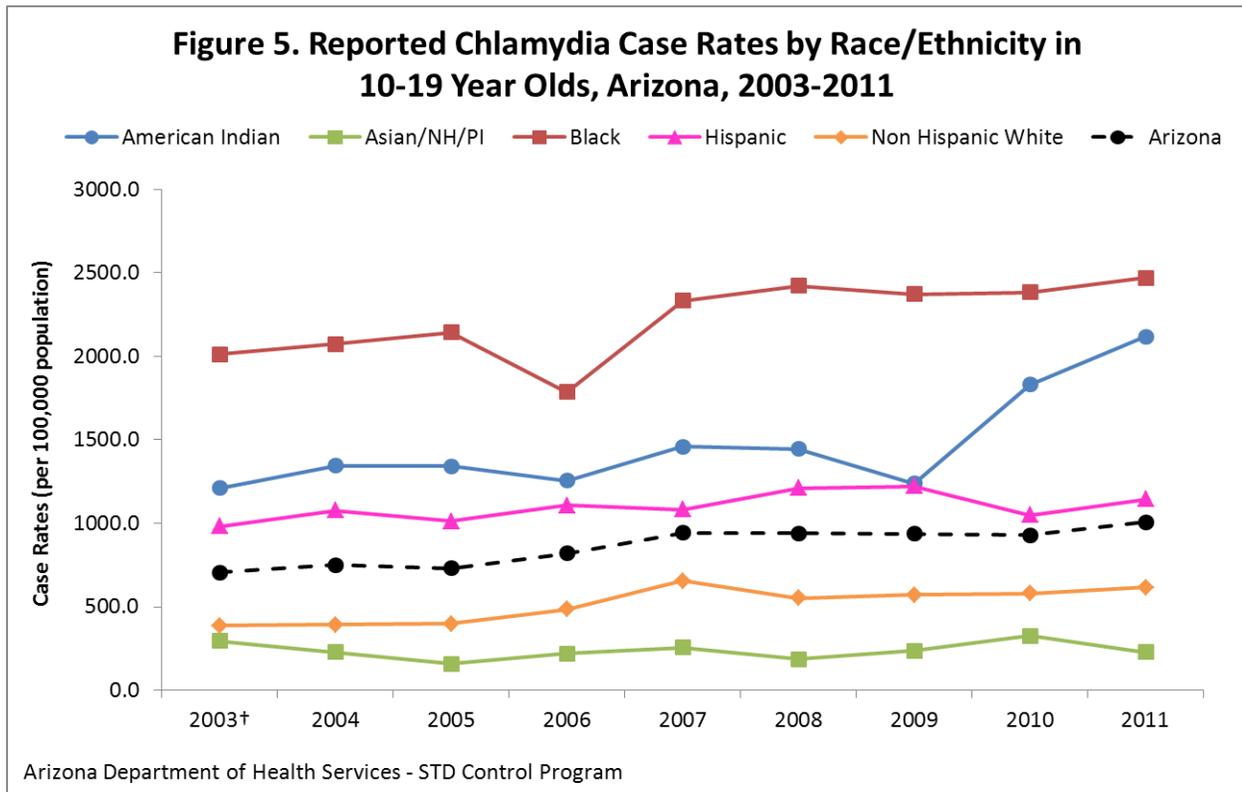
Over the past 8 years, a large disparity in the rate of chlamydia has existed among 10–19 year olds of different races in Arizona. Arizona 10–19 year olds that self-report as Black, Hispanic or American Indian all have higher rates of chlamydia when compared to individuals who self-report as Non-Hispanic White (Fig. 5). Blacks in Arizona have consistently had the largest rate disparity when compared to Non-Hispanic Whites. In 2011, the rate among Black 10–19 year olds in Arizona was 2,471.4 cases per 100,000 population compared to 616.6 among Non-Hispanic White 10–19 year olds. This results in a case rate among adolescent Blacks that is 4 times greater than among adolescent Non-Hispanic Whites. The disparity between the two races has closed slightly over the previous 8 years; however, this is a result of a sharper case rate increase among adolescent Non-Hispanic Whites than among adolescent Blacks (Fig. 5).

Among adolescent American Indians the chlamydia case rate nearly doubled from 2009 to 2011, after being steady from 2003 through 2008. In 2009, the case rate was 1237.9 cases per 100,000 population, 1830.2 in 2010 and 2117.6 in 2011. Part of this case rate increase can be explained by the fact that the population estimates for American Indians, 10–19 years of age have decreased each year from 2009 to 2011 while the number of reported cases has continued to rise.

The number of chlamydia cases reported among 10–19 year old Hispanics has risen steadily since 2003, resulting in a percent increase of 16.5% in the case rate of adolescent Hispanics from 2003 to 2011. This percent increase from 2003 to 2011 is the smallest seen

among the 4 adolescent groups previously discussed: Adolescent Non-Hispanic Whites, 59% increase; Adolescent Blacks, 23% increase; Adolescent American Indians, 75% increase.

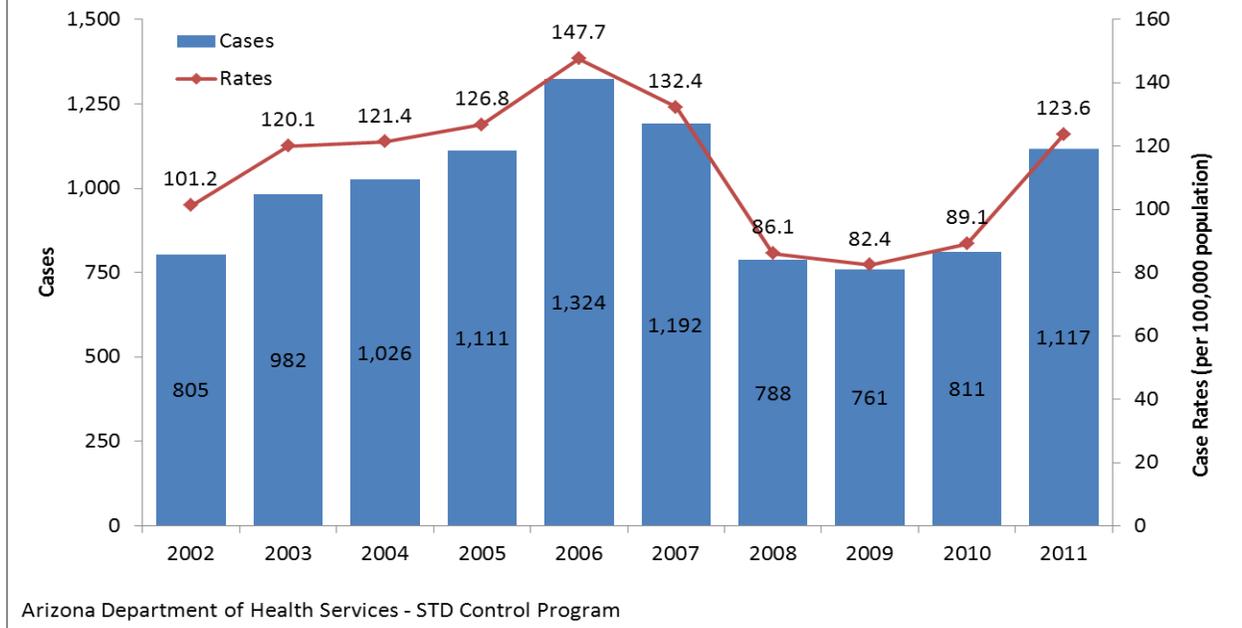
For this report, Asians, Native Hawaiians, and Pacific Islanders are grouped together. This group has experienced a relatively stable rate of chlamydia that is consistently below the rate seen in adolescent Whites.



Gonorrhea

Unlike the steady climb of reported chlamydia cases over the previous decade, the number of gonorrhea cases reported in this time frame has fluctuated. From 2002 to 2006 the number of reported gonorrhea cases among 10–19 year olds increased from 805 cases to 1,324 cases respectively, with a concurrent rise in the case rate (Fig. 6). The number of reported gonorrhea cases among this population then dropped for 3 consecutive years to a low of 761 cases in 2009, with the case rate falling accordingly. In 2010, the number of reported cases rose to 811 and to 1,117 in 2011. The two year rise in reported cases beginning with 2010 and going through 2011 represents a 47% increase over the number of cases reported in 2009.

Figure 6. Reported Gonorrhea Cases and Case Rates in 10 - 19 Year Olds, Arizona, 2002 - 2011



As seen with chlamydia, the number of reported gonorrhea cases and case rates vary based on demographics. Among all age groups combined, the highest number of gonorrhea cases in 2011 comes from Maricopa County and Pima County for both men and women. The methods discussed in the chlamydia section of this report are also used to deal with the large number of gonorrhea cases with unknown county. Case counts and case rates based on Gender, Age Group and County can be seen in Tables 5 through 8. Please note that case rates based on a number of cases less than 5, should be considered unreliable.

Table 5. Reported Male Gonorrhea Cases by Age Group and County, Arizona, 2011

| Age Group | Apache | Cochise & Santa Cruz | Coconino | Gila, Graham & Greenlee | La Paz & Mohave | Maricopa | Navajo | Pima | Pinal | Yavapai | Yuma | Unknown | Arizona |
|--------------|--------|----------------------|----------|-------------------------|-----------------|----------|--------|------|-------|---------|------|---------|---------|
| 10 - 14 | * | * | * | * | * | * | * | * | * | * | * | 0 | * |
| 15 - 19 | * | 6 | * | * | * | 274 | 18 | 29 | 14 | * | * | 0 | 394 |
| 20 - 24 | 10 | * | 10 | * | * | 534 | 26 | 69 | 13 | * | 19 | 0 | 751 |
| 25 - 29 | * | * | * | * | * | 308 | 8 | 36 | 6 | * | 9 | 0 | 415 |
| 30 - 34 | * | * | * | * | * | 199 | * | 20 | 15 | * | * | 0 | 278 |
| 35 - 39 | * | * | * | * | * | 117 | 6 | 17 | * | * | * | 0 | 162 |
| 40 - 44 | * | * | * | * | * | 118 | * | 6 | * | * | * | 0 | 151 |
| 45 - 49 | * | * | * | * | * | 86 | * | 8 | * | * | * | 0 | 105 |
| 50 - 54 | * | * | * | * | * | 39 | * | * | * | * | * | 0 | 44 |
| 55 - 59 | * | * | * | * | * | 23 | * | * | * | * | * | 0 | 28 |
| 60 - 64 | * | * | * | * | * | * | * | * | * | * | * | 0 | 6 |
| 65 and Older | * | * | * | * | * | 9 | * | * | * | * | * | 0 | 11 |
| Total | 22 | 19 | 25 | 6 | 10 | 1715 | 72 | 188 | 55 | * | 38 | 0 | 2350 |

*Denotes case counts <6

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Table 6. Reported Male Gonorrhea Case Rates by Age Group and County, Arizona, 2011

| Age Group | Apache | Cochise & Santa Cruz | Coconino | Gila, Graham & Greenlee | La Paz & Mohave | Maricopa | Navajo | Pima | Pinal | Yavapai | Yuma | Unknown | Arizona |
|--------------|--------|----------------------|----------|-------------------------|-----------------|----------|--------|-------|-------|---------|-------|---------|---------|
| 10 - 14 | *0 | *0 | *0 | *0 | *0 | *2 | *22 | *0 | *7 | *0 | *0 | 0.0 | *2 |
| 15 - 19 | *30 | 83.6 | *80 | *56 | *32 | 195.6 | 401.4 | 84.4 | 115.8 | *0 | *46 | 0.0 | 169.5 |
| 20 - 24 | 384.0 | *64 | 118.3 | *60 | *55 | 372.8 | 684.4 | 171.0 | 104.5 | *36 | 209.2 | 0.0 | 312.2 |
| 25 - 29 | *142 | *66 | *60 | *31 | *37 | 216.0 | 251.1 | 104.7 | 40.1 | *62 | 124.3 | 0.0 | 181.2 |
| 30 - 34 | *146 | *19 | *120 | *0 | *0 | 145.4 | *164 | 64.4 | 93.2 | *0 | *63 | 0.0 | 127.6 |
| 35 - 39 | *157 | *20 | *52 | *0 | *20 | 90.1 | 206.4 | 59.1 | *20 | *0 | *18 | 0.0 | 78.9 |
| 40 - 44 | *97 | *20 | *0 | *33 | *34 | 88.0 | *170 | 20.8 | *0 | *0 | *0 | 0.0 | 71.9 |
| 45 - 49 | *0 | *0 | *0 | *0 | *0 | 66.8 | *0 | 25.9 | *8 | *0 | *17 | 0.0 | 50.2 |
| 50 - 54 | *0 | *0 | *0 | *0 | *0 | 31.9 | *29 | *6 | *9 | *0 | *0 | 0.0 | 21.3 |
| 55 - 59 | *0 | *17 | *0 | *0 | *0 | 22.3 | *30 | *0 | *10 | *0 | *0 | 0.0 | 15.2 |
| 60 - 64 | *0 | *0 | *0 | *0 | *0 | *5 | *32 | *0 | *0 | *0 | *0 | 0.0 | 3.4 |
| 65 and Older | *0 | *7 | *0 | *0 | *0 | 4.2 | *0 | *1 | *0 | *0 | *0 | 0.0 | 2.6 |
| Total | 63.9 | 20.9 | 37.6 | 11.8 | 8.9 | 89.3 | 133.5 | 38.6 | 27.4 | *5 | 37.4 | 0.0 | 72.9 |

*Denotes rounded rates due to case counts <6

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Table 7. Reported Female Gonorrhea Case Rates by Age Group and County, Arizona, 2011

| Age Group | Apache | Cochise & Santa Cruz | Coconino | Gila, Graham & Greenlee | La Paz & Mohave | Maricopa | Navajo | Pima | Pinal | Yavapai | Yuma | Unknown | Arizona |
|--------------|--------|----------------------|----------|-------------------------|-----------------|----------|--------|------|-------|---------|------|---------|---------|
| 10 - 14 | * | * | * | * | * | 13 | * | * | * | * | * | 0 | 27 |
| 15 - 19 | 7 | 12 | 10 | * | * | 491 | 30 | 52 | 22 | * | 8 | 0 | 691 |
| 20 - 24 | 7 | 20 | 11 | * | * | 534 | 30 | 87 | 21 | * | 21 | 0 | 795 |
| 25 - 29 | 10 | 6 | * | * | * | 226 | 12 | 28 | 7 | * | 6 | 0 | 335 |
| 30 - 34 | 7 | * | * | * | * | 109 | * | 20 | * | * | * | 0 | 170 |
| 35 - 39 | * | * | * | * | * | 55 | * | * | * | * | * | 0 | 76 |
| 40 - 44 | * | * | * | * | * | 34 | 6 | 9 | * | * | * | 0 | 52 |
| 45 - 49 | * | * | * | * | * | 22 | * | * | * | * | * | 0 | 31 |
| 50 - 54 | * | * | * | * | * | 12 | * | * | * | * | * | 0 | 16 |
| 55 - 59 | * | * | * | * | * | 7 | * | * | * | * | * | 0 | 9 |
| 60 - 64 | * | * | * | * | * | * | * | * | * | * | * | 0 | * |
| 65 and Older | * | * | * | * | * | * | * | * | * | * | * | 0 | * |
| Total | 34 | 46 | 27 | 12 | 10 | 1511 | 90 | 206 | 57 | 11 | 41 | 0 | 2212 |

*Denotes case counts <6

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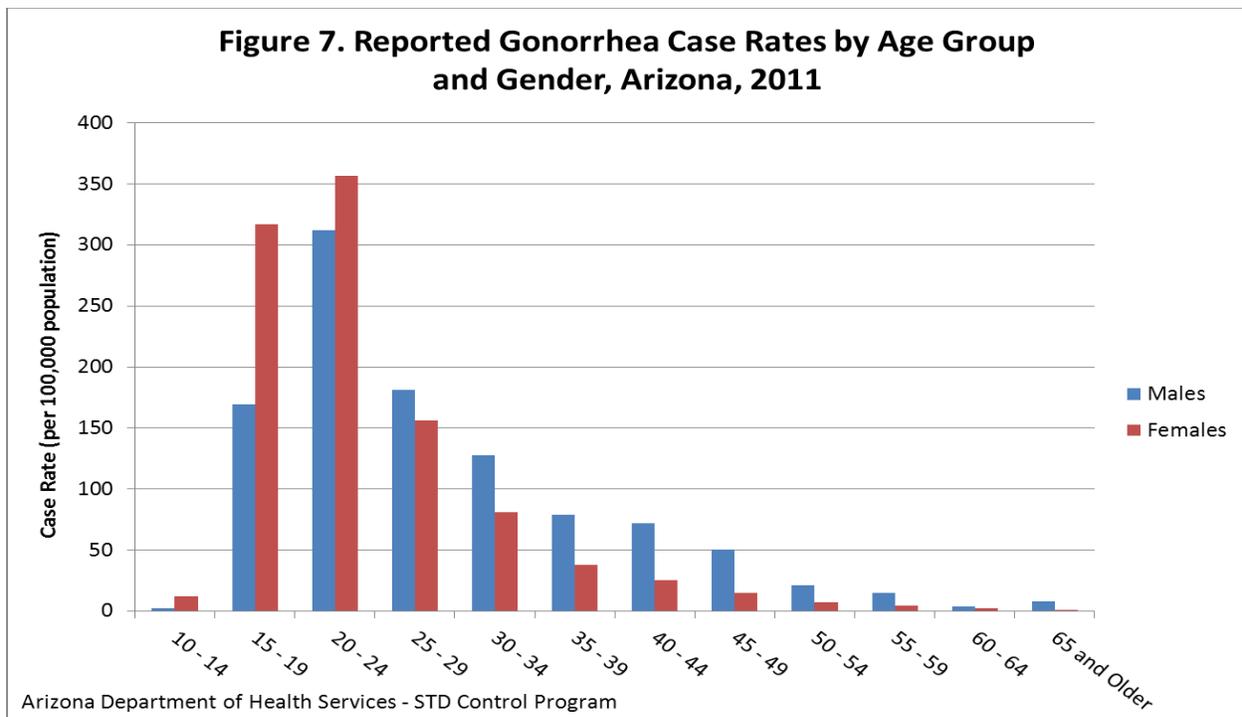
Table 8. Reported Female Gonorrhea Case Rates by Age Group and County, Arizona, 2011

| Age Group | Apache | Cochise & Santa Cruz | Coconino | Gila, Graham & Greenlee | La Paz & Mohave | Maricopa | Navajo | Pima | Pinal | Yavapai | Yuma | Unknown | Arizona |
|--------------|--------|----------------------|----------|-------------------------|-----------------|----------|--------|-------|-------|---------|-------|---------|---------|
| 10 - 14 | *0 | *16 | *0 | *0 | *0 | 9.5 | *93 | *13 | *0 | *0 | *13 | 0.0 | 12.2 |
| 15 - 19 | 216.5 | 190.0 | 144.4 | *125 | *34 | 374.5 | 714.5 | 157.4 | 201.0 | *72 | 102.6 | 0.0 | 316.7 |
| 20 - 24 | 295.9 | 387.1 | 123.4 | *165 | *76 | 394.9 | 884.4 | 225.4 | 232.2 | *105 | 297.1 | 0.0 | 356.8 |
| 25 - 29 | 501.5 | 112.5 | *22 | *122 | *20 | 164.3 | 423.9 | 85.6 | 60.7 | *22 | 97.1 | 0.0 | 156.1 |
| 30 - 34 | 371.4 | *98 | *49 | *0 | *21 | 81.0 | *108 | 65.7 | *39 | *0 | *53 | 0.0 | 81.3 |
| 35 - 39 | *158 | *0 | *56 | *0 | *21 | 42.2 | *73 | *14 | *8 | *21 | *18 | 0.0 | 37.8 |
| 40 - 44 | *0 | *0 | *0 | *0 | *18 | 25.7 | 201.2 | 31.0 | *0 | *0 | *0 | 0.0 | 25.3 |
| 45 - 49 | *0 | *18 | *0 | *0 | *0 | 16.9 | *88 | *3 | *10 | *0 | *0 | 0.0 | 14.8 |
| 50 - 54 | *0 | *16 | *0 | *0 | *0 | 9.4 | *0 | *3 | *0 | *0 | *18 | 0.0 | 7.4 |
| 55 - 59 | *0 | *0 | *23 | *0 | *0 | 6.2 | *0 | *0 | *0 | *0 | *0 | 0.0 | 4.5 |
| 60 - 64 | *0 | *0 | *0 | *0 | *0 | *5 | *0 | *0 | *0 | *0 | *0 | 0.0 | *3 |
| 65 and Older | *0 | *0 | *0 | *0 | *0 | *0 | *0 | *0 | *0 | *0 | *0 | 0.0 | *0 |
| Total | 93.6 | 51.0 | 39.7 | 24.9 | 9.0 | 77.1 | 168.3 | 41.0 | 31.3 | 10.2 | 41.4 | 0.0 | 67.9 |

*Denotes rounded rates due to case counts <6

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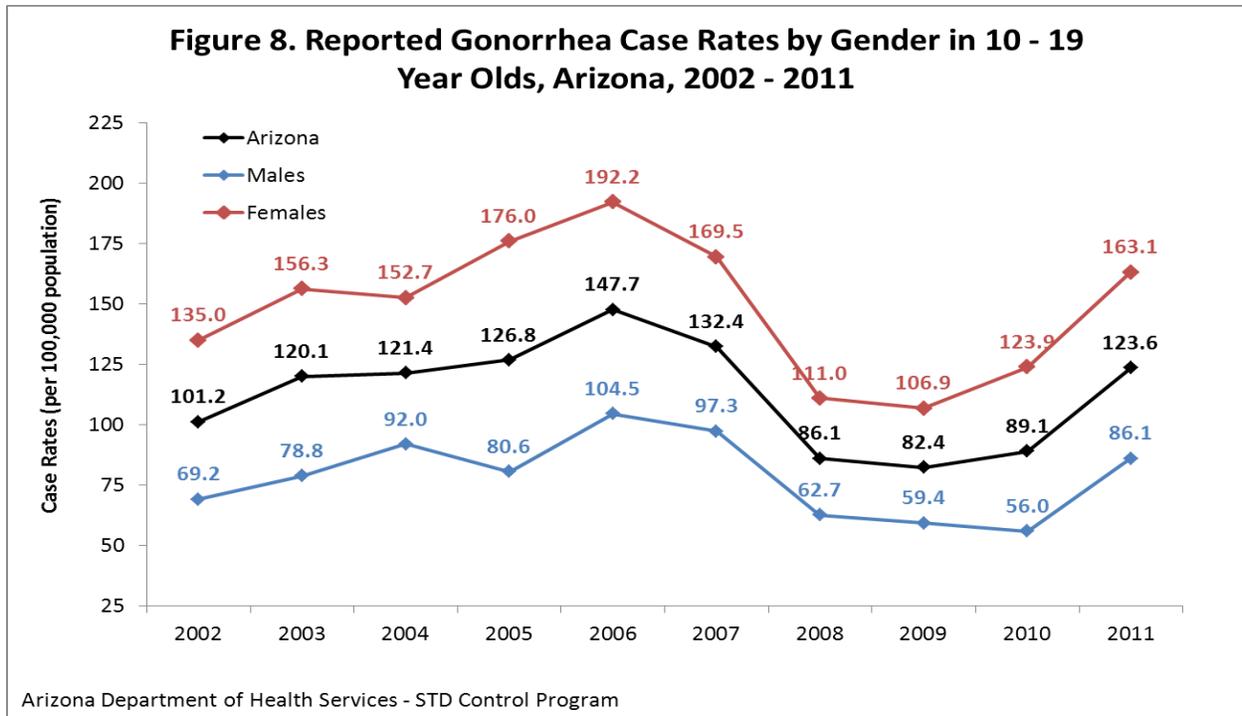
Gonorrhea cases reported among 10–19 year olds in Arizona accounted for nearly 24.5% of all reported cases in 2011. The three age groups with the highest number of reported cases and case rates are 20–24 year olds, followed by 15-19 year olds, and 25–29 year olds. The age group 10–14 has a much lower case count and case rate than 15–19 year olds. Among the age groups encompassing 10–24 year olds, females have a higher gonorrhea case rate than males (Fig. 7). However, for the age groups encompassing those aged 25 and older, the opposite is true. These statistics may provide evidence that the efforts of the IPP and the recommendations of the USPSTF are resulting in more testing among adolescent females. For example, even though the IPP only pays for chlamydia testing, the health care provider may be recommending gonorrhea testing concurrently while the patient is on site.



When examining only the age group 10–19, we see that the case rates among females are consistently higher than the rates among males from 2002 to 2011 (Fig. 8). Since 2002, the case rate for females ages 10–19 has been about 2 times higher than that for males ages 10–19, with very little fluctuation between years.

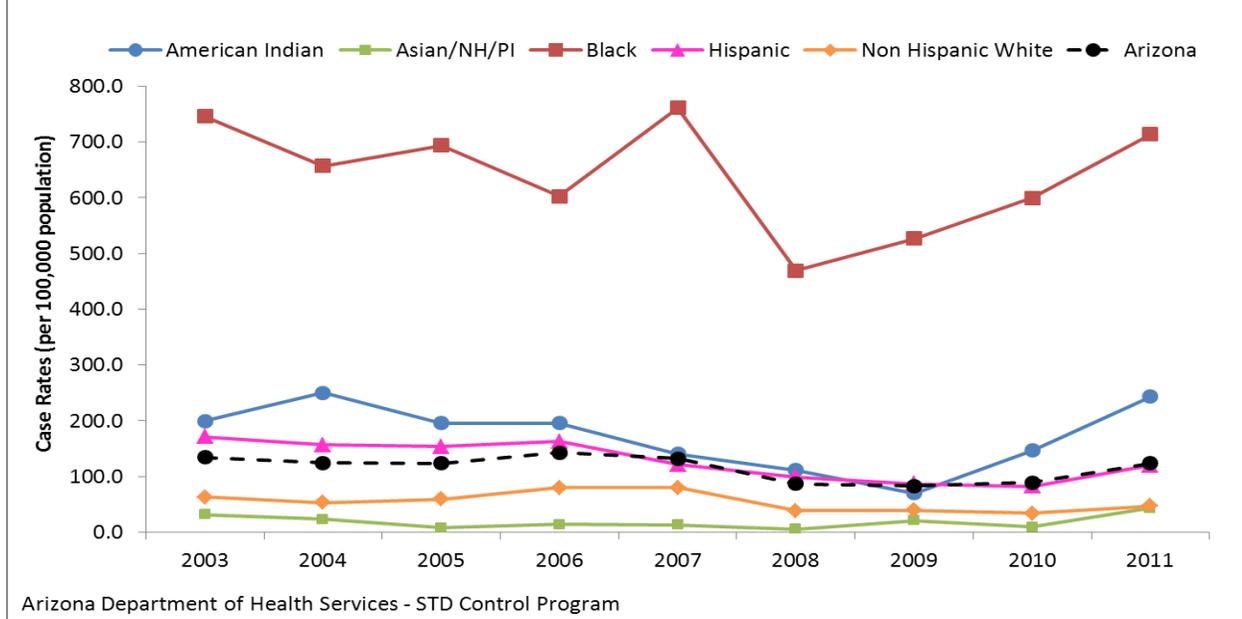
Gonorrhea rates among Arizona Black adolescents have greatly exceeded those seen for the other race/ethnicity categories from 2003 through 2011 (Fig. 9). In 2008, the rate of gonorrhea recorded among Black adolescents was nearly 12 times higher than among Non-Hispanic White adolescents. By 2011, the rate of gonorrhea had increased to 15 times higher in

adolescent Blacks (713.8 cases per 100,000 population) over adolescent Non-Hispanic Whites (46.8 cases per 100,000 population). From 2008 through 2011, the rate of gonorrhea among Black adolescents increased from 469.0 to 713.8, representing a 52% increase in this time frame.



To a lesser degree, the rates of gonorrhea among adolescent American Indians (242.9 cases per 100,000 population) and adolescent Hispanics (119.9 cases per 100,000 population) are also higher than that seen among adolescent Non-Hispanic Whites (Fig. 9). This difference in rate between American Indians and Non-Hispanic Whites narrowed from 2004 to 2009 as the rate among American Indians decreased. However, in 2010 and 2011 the rate among adolescent American Indians increased once again, creating a 5 fold difference in rate between the two race/ethnicity categories by 2011. The rates of gonorrhea among adolescent Hispanics have remained relatively steady from 2003 to 2011.

Figure 9. Reported Gonorrhea Case Rates by Race/Ethnicity in 10-19 Year Olds, Arizona, 2003-2011



Syphilis

The rate of syphilis (primary, secondary, early latent, latent - unknown duration, and late latent) among 10–19 year olds in Arizona has decreased over the previous decade (Fig. 10). By 2005, the rate reached a decade low of 3.4 cases per 100,000 population. However, two years later the rate had increased to 6.6 cases per 100,000 population and steadily decreased to a rate of 5.3 by 2011. Of the three diseases discussed in this report, only syphilis displayed a rate decrease among 10–19 year olds, from 2010 to 2011.

The demographics of reported syphilis cases differ from those of gonorrhea and chlamydia in at least two important categories. First, reported cases among 10–19 year olds account for 31% and 24.5% of all reported chlamydia and gonorrhea cases, respectively. Syphilis cases among 10–19 year olds account for only 5% of all reported syphilis cases. The reason for this difference is unknown, however, the Centers for Disease Control and Prevention have noted a shift in the age distribution, at the national level, of Primary and Secondary (P&S) syphilis from 2002-2010. From 2002–2006 men aged 35–39 years had the highest rates of P&S syphilis, followed by men aged 25–29 years in 2007, and men aged 20–24 from 2008–2010. Second, in 2010 and 2011 the rate of syphilis per 100,000 population was greater among 10–19 year old males than 10–19 year old females. The inverse is true for chlamydia and gonorrhea. Case counts and case rates based on Gender, Age Group and County can be seen in Tables 9

through 12. Please note that case rates based on a number of cases less than 5, should be considered unreliable.

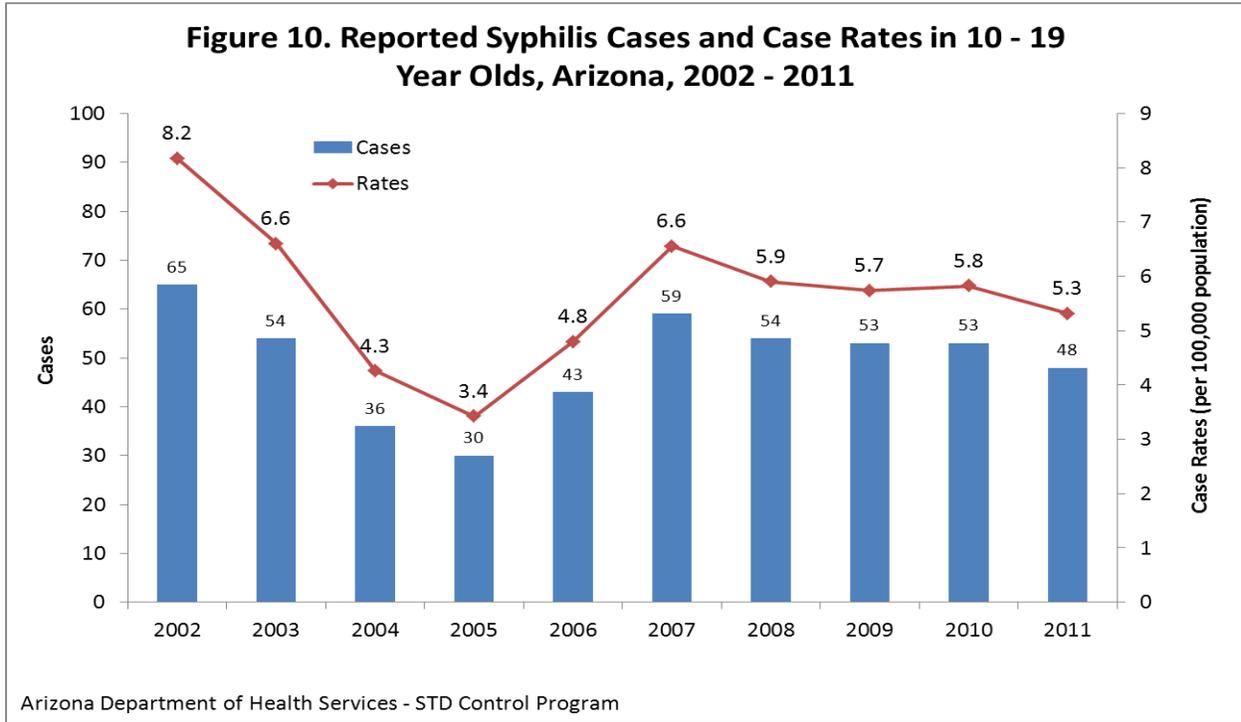


Table 9. Reported Male Syphilis Cases by Age Group and County, Arizona, 2011

| Age Group | Apache | Cochise & Santa Cruz | Coconino | Gila, Graham & Greenlee | La Paz & Mohave | Maricopa | Navajo | Pima | Pinal | Yavapai | Yuma | Unknown | Arizona |
|--------------|--------|----------------------|----------|-------------------------|-----------------|----------|--------|------|-------|---------|------|---------|---------|
| 10 - 14 | * | * | * | * | * | * | * | * | * | * | * | 0 | * |
| 15 - 19 | * | * | * | * | * | 22 | * | * | * | * | * | 0 | 30 |
| 20 - 24 | * | * | * | * | * | 82 | * | 16 | * | * | * | 0 | 112 |
| 25 - 29 | * | * | * | * | * | 93 | * | 17 | * | * | * | 0 | 129 |
| 30 - 34 | * | * | * | * | * | 86 | * | 9 | * | * | * | 0 | 107 |
| 35 - 39 | * | * | * | * | * | 63 | * | 13 | * | * | * | 0 | 87 |
| 40 - 44 | * | * | * | * | * | 74 | * | * | * | * | * | 0 | 87 |
| 45 - 49 | * | * | * | * | * | 57 | * | 10 | * | * | * | 0 | 74 |
| 50 - 54 | * | * | * | * | * | 30 | * | * | * | * | * | 0 | 40 |
| 55 - 59 | * | * | * | * | * | 14 | * | * | * | * | * | 0 | 16 |
| 60 - 64 | * | * | * | * | * | 6 | * | 6 | * | * | * | 0 | 13 |
| 65 and Older | * | * | * | * | * | 6 | * | * | * | * | * | 0 | 9 |
| Total | * | * | * | * | * | 534 | * | 85 | 9 | * | 17 | 0 | 705 |

*Denotes case counts <6

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| Age Group | Apache | Cochise & Santa Cruz | Coconino | Gila, Graham & Greenlee | La Paz & Mohave | Maricopa | Navajo | Pima | Pinal | Yavapai | Yuma | Unknown | Arizona |
|--------------|--------|----------------------|----------|-------------------------|-----------------|----------|--------|------|-------|---------|------|---------|---------|
| 10 - 14 | * | * | * | * | * | * | * | * | * | * | * | 0 | * |
| 15 - 19 | * | * | * | * | * | 22 | * | * | * | * | * | 0 | 30 |
| 20 - 24 | * | * | * | * | * | 82 | * | 16 | * | * | * | 0 | 112 |
| 25 - 29 | * | * | * | * | * | 93 | * | 17 | * | * | * | 0 | 129 |
| 30 - 34 | * | * | * | * | * | 86 | * | 9 | * | * | * | 0 | 107 |
| 35 - 39 | * | * | * | * | * | 63 | * | 13 | * | * | * | 0 | 87 |
| 40 - 44 | * | * | * | * | * | 74 | * | * | * | * | * | 0 | 87 |
| 45 - 49 | * | * | * | * | * | 57 | * | 10 | * | * | * | 0 | 74 |
| 50 - 54 | * | * | * | * | * | 30 | * | * | * | * | * | 0 | 40 |
| 55 - 59 | * | * | * | * | * | 14 | * | * | * | * | * | 0 | 16 |
| 60 - 64 | * | * | * | * | * | 6 | * | 6 | * | * | * | 0 | 13 |
| 65 and Older | * | * | * | * | * | 6 | * | * | * | * | * | 0 | 9 |
| Total | * | * | * | * | * | 534 | * | 85 | 9 | * | 17 | 0 | 705 |

*Denotes case counts <6

Arizona Department of Health Services - STD Control Program

| Age Group | Apache | Cochise & Santa Cruz | Coconino | Gila, Graham & Greenlee | La Paz & Mohave | Maricopa | Navajo | Pima | Pinal | Yavapai | Yuma | Unknown | Arizona |
|--------------|--------|----------------------|----------|-------------------------|-----------------|----------|--------|------|-------|---------|------|---------|---------|
| 10 - 14 | * | * | * | * | * | * | * | * | * | * | * | 0 | * |
| 15 - 19 | * | * | * | * | * | 8 | * | * | * | * | * | 0 | 17 |
| 20 - 24 | * | * | * | * | * | 11 | * | 8 | * | * | * | 0 | 26 |
| 25 - 29 | * | * | * | * | * | 27 | * | * | * | * | * | 0 | 36 |
| 30 - 34 | * | * | * | * | * | 19 | * | * | * | * | * | 0 | 24 |
| 35 - 39 | * | * | * | * | * | 8 | * | 6 | * | * | * | 0 | 19 |
| 40 - 44 | * | * | * | * | * | 9 | * | 6 | * | * | * | 0 | 17 |
| 45 - 49 | * | * | * | * | * | 10 | * | * | * | * | * | 0 | 15 |
| 50 - 54 | * | * | * | * | * | * | * | * | * | * | * | 0 | 6 |
| 55 - 59 | * | * | * | * | * | * | * | * | * | * | * | 0 | * |
| 60 - 64 | * | * | * | * | * | * | * | * | * | * | * | 0 | * |
| 65 and Older | * | * | * | * | * | * | * | * | * | * | * | 0 | * |
| Total | * | * | * | * | * | 102 | * | 36 | 10 | * | 8 | 0 | 173 |

*Denotes case counts <6

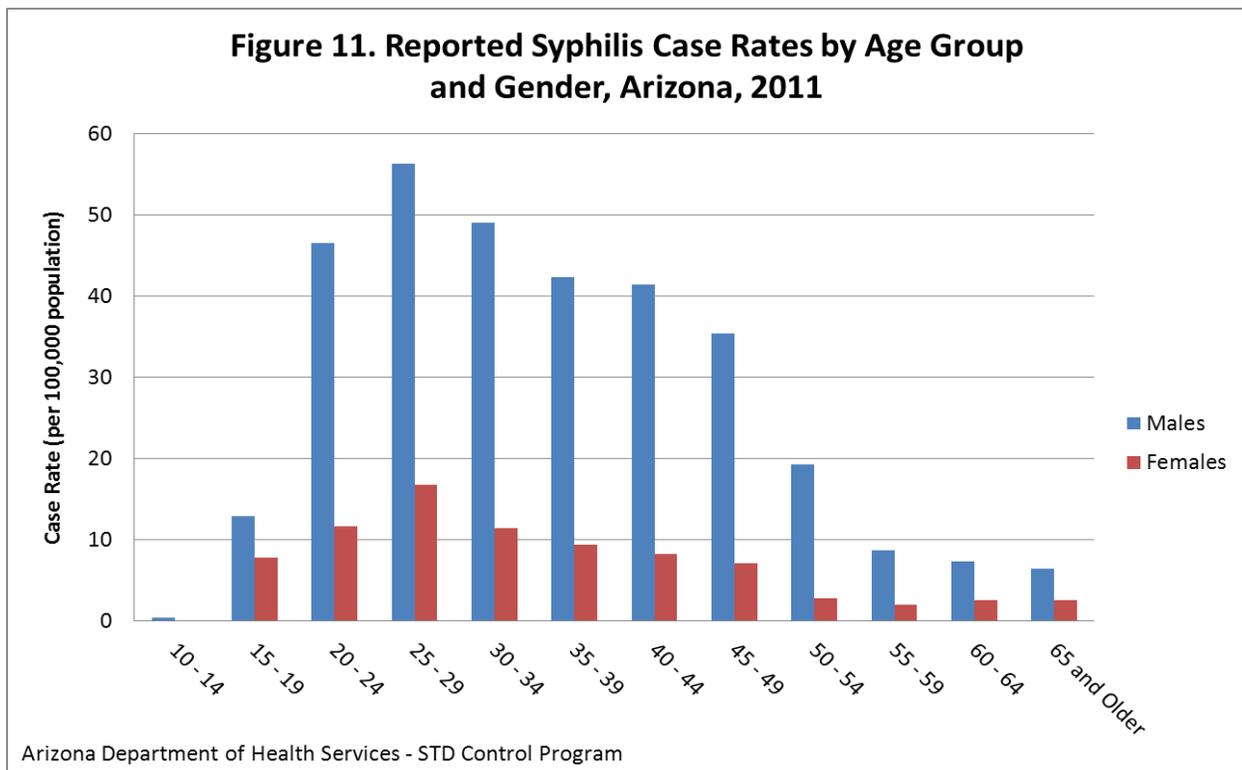
Arizona Department of Health Services - STD Control Program

| Age Group | Apache | Cochise & Santa Cruz | Coconino | Graham & Greenlee | La Paz & Mohave | Maricopa | Navajo | Pima | Pinal | Yavapai | Yuma | Unknown | Arizona |
|--------------|--------|----------------------|----------|-------------------|-----------------|----------|--------|------|-------|---------|------|---------|---------|
| 10 - 14 | *0 | *0 | *0 | *0 | *0 | *0 | *0 | *0 | *0 | *0 | *0 | 0.0 | *0 |
| 15 - 19 | *0 | *0 | *0 | *31 | *17 | 6.1 | *0 | *3 | *18 | *0 | *13 | 0.0 | 7.8 |
| 20 - 24 | *0 | *19 | *0 | *0 | *0 | 8.1 | *0 | 20.7 | *44 | *0 | *28 | 0.0 | 11.7 |
| 25 - 29 | *0 | *0 | *0 | *0 | *0 | 19.6 | *0 | *15 | *9 | *0 | *49 | 0.0 | 16.8 |
| 30 - 34 | *0 | *20 | *0 | *0 | *0 | 14.1 | *0 | *10 | *0 | *0 | *0 | 0.0 | 11.5 |
| 35 - 39 | *0 | *0 | *0 | *45 | *0 | 6.1 | *36 | 21.1 | *0 | *0 | *18 | 0.0 | 9.5 |
| 40 - 44 | *0 | *19 | *0 | *0 | *0 | 6.8 | *0 | 20.6 | *0 | *0 | *0 | 0.0 | 8.3 |
| 45 - 49 | *0 | *0 | *24 | *0 | *0 | 7.7 | *0 | *3 | *10 | *0 | *17 | 0.0 | 7.1 |
| 50 - 54 | *0 | *0 | *0 | *0 | *0 | *2 | *0 | *9 | *0 | *0 | *0 | 0.0 | 2.8 |
| 55 - 59 | *0 | *0 | *0 | *0 | *0 | *2 | *0 | *3 | *9 | *0 | *0 | 0.0 | *2 |
| 60 - 64 | *0 | *0 | *29 | *0 | *0 | *3 | *0 | *3 | *0 | *0 | *0 | 0.0 | *3 |
| 65 and Older | *0 | *0 | *0 | *0 | *0 | *1 | *0 | *1 | *3 | *0 | *0 | 0.0 | *1 |
| Total | *0 | *3 | *3 | *4 | *1 | 5.2 | *2 | 7.2 | 5.5 | *0 | 8.1 | 0.0 | 5.3 |

*Denotes rounded rates due to case counts <6

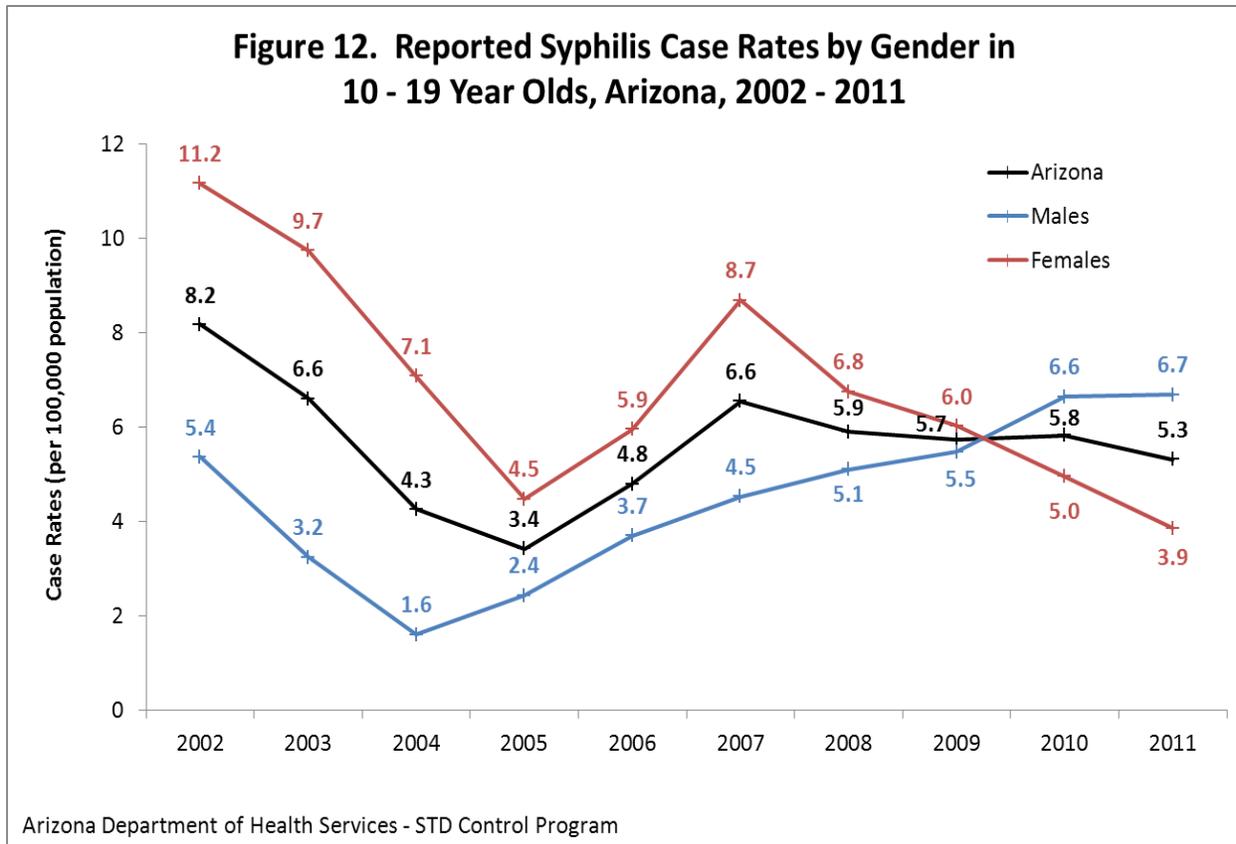
Arizona Department of Health Services - STD Control Program

In 2011, 25–29 year old males had the highest rate of syphilis (56.3 cases per 100,000 population), followed by 30–34 year old males (49.1 cases per 100,000 population) and 20–24 year old males (46.6 cases per 100,000 population) (Fig. 11). Among females, 25–29 year olds had the highest rate of syphilis (16.8 cases per 100,000 population), followed by 20–24 year olds (11.7 cases per 100,000 population) and 30–34 year olds (11.5 cases per 100,000 population) (Fig 11).



From 2002–2009 the case rate of syphilis was higher among 10–19 year old females than 10–19 year old males in Arizona (Fig. 12). Over that 7 year time frame the difference in rate between males and females narrowed until 2010 when the case rate of syphilis was higher among adolescent males than among adolescent females. In 2011, this new trend continued and the difference in the rate by gender increased again. Several factors may be contributing to this new trend among Arizona adolescents. The increasing percentage of male P&S syphilis cases that identify as men who have sex with men may be playing a role as transmission of syphilis may be occurring more often between men and less often between men and women. A second possible factor is a Maricopa County Board of Health order that requests providers test women for syphilis during the third trimester and that requires providers test again at delivery. The

Maricopa County Board of Health order was first imposed in 2003 and has been renewed in each subsequent year. These orders are in addition to Arizona statutes that mandate maternal syphilis testing be performed at the first prenatal visit.



The rate of syphilis among the 10-19 year olds of various race/ethnicity categories in Arizona has varied widely from 2002–2011. Non-Hispanic White 10–19 year olds have experienced an overall decrease in the rate (per 100,000 population) of syphilis from 2002-2011 with small fluctuations throughout (Fig. 13). Hispanic 10-19 year olds have also experienced a decrease in the rate (per 100,000 population) of syphilis over the same time frame. This decrease in rate has narrowed the rate disparity between Hispanic and Non-Hispanic 10-19 year olds. In 2009, the rate of syphilis among 10-19 year old Hispanics was 12.4 cases per 100,000 population and the rate among 10–19 year old Non-Hispanic Whites was 1 case per 100,000 population. By 2011 the rate among 10-19 year old Hispanics had fallen to 6 cases per 100,000 population while the rate among 10–19 year old Non-Hispanic Whites had risen to 1.8 cases per 100,000 population.

Among Blacks and American Indians, ages 10–19, both the rate (per 100,000 population) of syphilis and the difference in rate when compared to Non-Hispanic Whites aged 10–19 have increased. The rate of syphilis among 10–19 year old American Indians reached a 10 year high (33.2 cases per 100,000 population) in 2007 as a Southwest Arizona Indian Nation experienced an outbreak of syphilis. By 2009, the rate had fallen to a 10 year low of 3.2 cases per 100,000 population. As of 2011, the rate had climbed to 19.3 cases per 100,000 population, which calculates to a rate over 10 times higher than that seen in 10–19 year old Non-Hispanic Whites.

Black Arizonans ages 10-19 experienced a decrease in the rate of syphilis from 2003 (13.4 cases per 100,000 population) to 2008 (5.2 cases per 100,000 population). This was followed by consecutive increases in the rate of syphilis in this group in from 2009–2011. As of 2011, the rate of syphilis among adolescent Blacks reached 17.3 cases per 100,000 population, which calculates to a rate 9.6 times higher than that seen in adolescent Non-Hispanic Whites.

No cases of syphilis have been reported in Asians, Native Hawaiians, or Pacific Islanders, ages 10–19 years, from 2003–2011.

