



Division of Public Health Services

*Office of HIV/STD/Hepatitis C Services
Sexually Transmitted Disease Control Program*

150 N. 18th Avenue, Suite 140
Phoenix, Arizona 85007-3237
Telephone: (602) 364-4666
Fax: (602) 364-2119

JANET NAPOLITANO, GOVERNOR
JANUARY CONTRERAS, ACTING DIRECTOR

October 8, 2008

Dear Arizona Stakeholder:

The Arizona Department of Health Services (ADHS), STD Control Program, is pleased to provide the 2007 Arizona STD Annual Report. The report highlights the impact of sexually transmitted diseases (STDs) among the residents of Arizona. The subsequent information, as depicted in the narrative, graphs, and tables herein, highlights the increasing numbers of STDs affecting our state. All 2007 data are from the ADHS STD Surveillance system as of March 30, 2008 and first half 2008 data are subject to change until final full year 2008 data are available.

Sexually transmitted diseases can cause significant health problems among those who become infected. For instance, untreated chlamydia and gonorrhea can lead to pelvic inflammatory disease (PID). PID can become recurrent among young women and girls often leading to expensive health complications. Other young women may suffer ectopic pregnancies and chronic pelvic pain. Worse still, sexually transmitted diseases can lead to infertility.

Unfortunately, young people, racial/ethnic minorities, and men who have sex with men, bear a disproportionate burden of STDs in Arizona. The ADHS STD Control Program is working to address these health disparities by collaborating with internal partners as well as local/county/tribal health departments, community based organizations, the Indian Health Service, the Centers for Disease Control and Prevention, and countless Arizona medical providers to promote STD prevention and intervention statewide.

Through this report, we hope to disseminate useful and pertinent data to the Arizona public and community leaders. It is our belief that this information can promote dialogue about disease prevention, promote medical treatment and services, and improve the sexual health of all Arizonans. This is in keeping with our mission:

Strengthening Sexually Transmitted Disease prevention, intervention, and control in Arizona through education, surveillance, collaboration, and program development.

Please do not hesitate to contact us with further questions regarding STD education, prevention, and screening opportunities.

Sincerely,

Alfonso Urquidi, Jr., MPA
STD Program Manager

Table of Contents

Table of Contents **ii**
List of Figures..... **iii**
List of Tables **iv**
A. Executive Summary **1**
B. CSPS..... **2**
 Background and Need..... 2
 Epidemiological Profile 3
 Behavioral Trends 29
 Program Overview 29
 Outbreak Response Plan 34

List of Figures

Figure 1. Primary and Secondary Syphilis Cases and Case Rates per 100,000 Population, Arizona 2002-2007	4
Figure 2. Primary and Secondary Syphilis Case Rates per 100,000 Population by County of Residence, Arizona 2002-2007	5
Figure 3. Primary and Secondary Syphilis Case Rates per 100,000 Population by Race / Ethnicity, Arizona 2002-2007.....	6
Figure 4. Primary and Secondary Syphilis Case Rates per 100,000 Population by Gender, Arizona 2002-2007	8
Figure 5. Primary and Secondary Syphilis Case Rates per 100,000 Population in All Males and Men Having Sex with Men (MSM), Maricopa and Pima Counties, 2002-2007	9
Figure 6. Primary and Secondary Syphilis Cases by Gender and Sexual Preference, Maricopa County 2002-2007	10
Figure 7. Primary and Secondary Syphilis Cases by Gender and Sexual Preference, Pima County 2002-2007	11
Figure 8. Primary and Secondary Syphilis Rates per 100,000 Population by Age Group, Arizona, 2007.....	12
Figure 9. Early Syphilis Cases and Case Rates by Stage per 100,000 Population, Arizona 2002-2007.....	14
Figure 10. Congenital Syphilis Cases and Case Rates per 100,000 Live Births by Birth Year, Arizona and United States, 2002-2007	16
Figure 11. Congenital Syphilis (by Birth Year) Cases by County, Arizona 2002-2007	17
Figure 12. Congenital Syphilis (by Birth Year) Cases by Race / Ethnicity, Arizona 2002-2007	18
Figure 13. Chlamydia Cases and Case Rates per 100,000 Population, Arizona 2002-2007	19
Figure 14. Chlamydia Rates per 100,000 Population by Age Group, Arizona, 2007	20
Figure 15. Chlamydia Case Rates per 100,000 Population by Gender, Arizona 2002-2007	22
Figure 16. Chlamydia Case Rates per 100,000 Population by Race / Ethnicity, Arizona 2002-2007.....	23
Figure 17. Gonorrhea Cases and Case Rates per 100,000 Population, Arizona 2002-2007.....	24
Figure 18. Gonorrhea Rates per 100,000 Population by Age Group, Arizona, 2007.....	25
Figure 19. Gonorrhea Case Rates per 100,000 Population by Gender, Arizona 2002-2007	27
Figure 20. Gonorrhea Case Rates per 100,000 Population by Race / Ethnicity, Arizona 2002-2007.....	28

List of Tables

Table 1. Sexually Transmitted Diseases: Cases & Rates per 100,000 Population by County, Arizona 1H2008.....	2
Table 2. P&S Syphilis Cases by Age Category and Gender, Arizona, 2003-2007	13
Table 3. Male Primary and Secondary Syphilis Cases in Maricopa and Pima Counties, Arizona, 1H2008.....	13
Table 4. Female Primary and Secondary Syphilis Cases in Maricopa and Pima Counties, Arizona, 1H2008.....	13
Table 5. EL Cases by Age Category and Gender, Arizona, 2003-2007	15
Table 6. Chlamydia Cases by Age Category and Gender, Arizona, 2003-2007	21
Table 7. Gonorrhea Cases by Age Category and Gender, Arizona, 2003-2007	26
Table 8. Comparison of reported case numbers for P&S, EL, Congenital Syphilis, Gonorrhea, and Chlamydia, Arizona 1H2007 and 1H2008.....	28

A. Executive Summary

In detailed sections of this report, Arizona STD morbidity and incidence are presented in a general discussion organized into three geographical areas. These areas include: Maricopa County, Pima County, and the remainder of the state. Maricopa and Pima are the two most populous counties in the state and account for most of Arizona's disease morbidity. Each section provides six year trends for chlamydia, gonorrhea, and syphilis incidence and prevalence. Comparisons between 2007 and previous yearly data are explained in the relevant section as are comparisons between first-half 2007 and first-half 2008 data.

All data presented in this report are derived from the ADHS NATP STD database. In addition, the population denominators used in this report were obtained from the Arizona Department of Health Services Vital Statistics Division (<http://www.azdhs.gov/plan/index.htm>). All case rates presented herein are per 100,000 population. This report highlights morbidity trends by significant demographic factors. In addition, notable factors that impact STD prevention are discussed. Finally, this annual report details aspects of community involvement and collaboration germane to STD prevention and intervention in the state.

Table 1 provides the Arizona sexually transmitted diseases cases and rates by county for 2007. As depicted in Table 1, a majority of Arizona STD morbidity occurs in Maricopa and Pima counties. However, two rural counties with significant Native American populations, Apache and Navajo, have high case rates for both chlamydia and gonorrhea. Moreover, reported cases from Pinal County, the fast growing county in Arizona (US Census, 2006), have begun to increase over the last several years.

The overall chlamydia and gonorrhea cases and rates reflect an upward trend in morbidity from 2002 to 2007. However, a decline in the number of gonorrhea cases and case rates occurred from 2006 to 2007. Meanwhile, the rate for early syphilis decreased steadily from 2002 to 2005, the rate increased dramatically from 2005 to 2007. In fact, the case rate of early syphilis increased by 65% during this time period. Similarly, while the alarming rate of congenital syphilis that impacted Arizona in 2005 (29.2 cases per 100,000 live births) decreased to a much lower rate in 2006 (15.7 cases per 100,000 live births), the rate increased higher in 2007 to 21.5 per 100,000 live births. Racial and ethnic minorities continue to bear a disproportionate burden of STD morbidity. Additionally, men who have sex with men continue to account for a large number of early syphilis cases

Arizona Department of Health Services
STD Control Program
2007 Annual Report

Table 1. Sexually Transmitted Diseases: Cases & Rates per 100,000 Population by County, Arizona 2007

	P&S Syphilis		EL Syphilis		Cong Syph		Gonorrhea		Chlamydia	
	Cases	Rates	Cases	Rates	Cases	Rates*	Cases	Rates	Cases	Rates
Apache	2	2.6	5	6.6	1	88.7	25	33.1	435	575.4
Cochise	0	---	3	2.2	0	---	101	73.3	340	246.9
Coconino	9	6.7	4	3.0	0	---	71	52.6	533	394.6
Gila	0	---	3	5.4	0	---	14	25.1	141	252.8
Graham	1	2.8	0	---	0	---	13	35.8	113	311.5
Greenlee	0	---	0	---	0	---	1	12.1	21	254.3
La Paz	0	---	0	---	0	---	8	36.7	41	188.3
Maricopa	185	4.8	152	3.9	19	28.8	3,160	81.5	14,481	373.3
Mohave	1	0.5	0	---	0	---	28	13.9	311	154.2
Navajo	1	0.9	3	2.6	0	---	85	73.7	530	459.5
Pima	72	7.2	63	6.3	2	14.5	660	65.7	3,682	366.8
Pinal	3	1.0	10	3.4	0	---	157	53.5	698	238.0
Santa Cruz	0	---	0	---	0	---	4	8.6	128	275.0
Yavapai	3	1.4	0	---	0	---	22	10.0	311	141.3
Yuma	0	---	1	0.5	0	---	109	54.1	490	243.3
Unknown	8	---	12	---	0	---	585	---	2,497	---
Arizona	285	4.4	256	4.0	22	21.5	5,043	78.4	24,752	384.8

* Rates calculated using Arizona live births for 2007.

B. CSPS

Background

As in most other states in the country, sexually transmitted diseases account for the bulk of communicable diseases reported to the state health department. Each year, the Arizona Department of Health Services receives an increasing number of reports for chlamydia; however, the number of disease reports for gonorrhea and syphilis vary from one year to the next. Nevertheless, the burden of sexually transmitted diseases continues to affect the health outcomes of many Arizona residents. Racial and ethnic minorities, adolescents, and men who have sex with other men (MSM) continue to bear a disproportionate burden of sexually transmitted disease morbidity.

The increased incidence of STDs in Arizona can be partially attributed to the increasing population of the state. For most of this decade, Arizona's population increase has been among the top five of the fastest growing states in the United States (U.S. Census, 2006 & 2007). In fact, Arizona was the fastest growing state in 2006 and the second fastest growing state in 2007 (U.S. Census, 2007). Although many people consider Arizona to be a haven for the retired – it is, the state's population is relatively young with a median age of 34.6 (U.S. Census, 2008).

There are only two free standing full time STD clinics in the entire state; one clinic is in Phoenix (Maricopa County) and the other is in Tucson (Pima County). The other counties operate one-day STD clinics on a monthly or weekly basis, sub-contract clinical services to medical

providers in their areas, or simply do not provide STD clinical services, nor do they provide testing.

Unfortunately, the lack of available public STD clinics is made worse by the vast size of the state. At 113,634.57 square miles, access to health services in some areas can be extremely limited. Considering the lack of public health funding for STDs and the limited access to health services, it is not surprising that the United Health Foundation ranked Arizona as the 33rd healthiest state in its 2007 *America's Health Ranking* report.

As such, the counties rely heavily on the ADHS STD Control Program for prevention, education, intervention, control services, and guidance. To that end, the ADHS STD Control Program conducts partner services for 12 of the counties, provides STD education and training to county public health department staff, and offers ongoing technical assistance to all 15 county public health departments as well. The ADHS STD Control Program directly funds Maricopa and Pima counties via CSPA funding to provide assistance with STD program management, surveillance, data entry, and partner services. From 2004 through 2008, the program provided CSPA funds to Yuma County and four other rural counties to cover a small portion of the cost of STD service provision in those areas. Since state budget cuts terminated funding for STD intervention in three counties in 2008, the ADHS STD Control Program will attempt to fund those additional three counties beginning with 2009 CSPA funds.

Native American peoples, culture, and history have been and continue to be an integral part of Arizona's cultural and social landscape. In fact, the state has 22 American Indian (AI) Nations within its geographical borders and ranks among the top three states in population size of Native Americans (U.S. Census, 2007). Therefore, the ADHS STD Control Program collaborates with tribal health departments and the Indian Health Service (IHS) to enhance STD prevention and control efforts. Specifically, the ADHS STD Control Program offers clinical provider guidance and training, technical/capacity building assistance, and coordinates partner services management among several AI Nations in the state. For many years, STD cases and rates have been disproportionately high among Arizona's AI population. Indeed, there have been several syphilis outbreaks among various tribes in different areas of the state over the last ten year period. In an effort to address this significant health disparity, the ADHS STD Control Program continues its partnerships with tribal health departments, IHS, and the department's Native American Liaison in efforts to address the significant disease burden. Additionally, the program has agreed to provide the Inter-Tribal Council of Arizona Epi Center with STD aggregate surveillance data on a monthly basis for review and dissemination to member tribes.

Epidemiological Profile

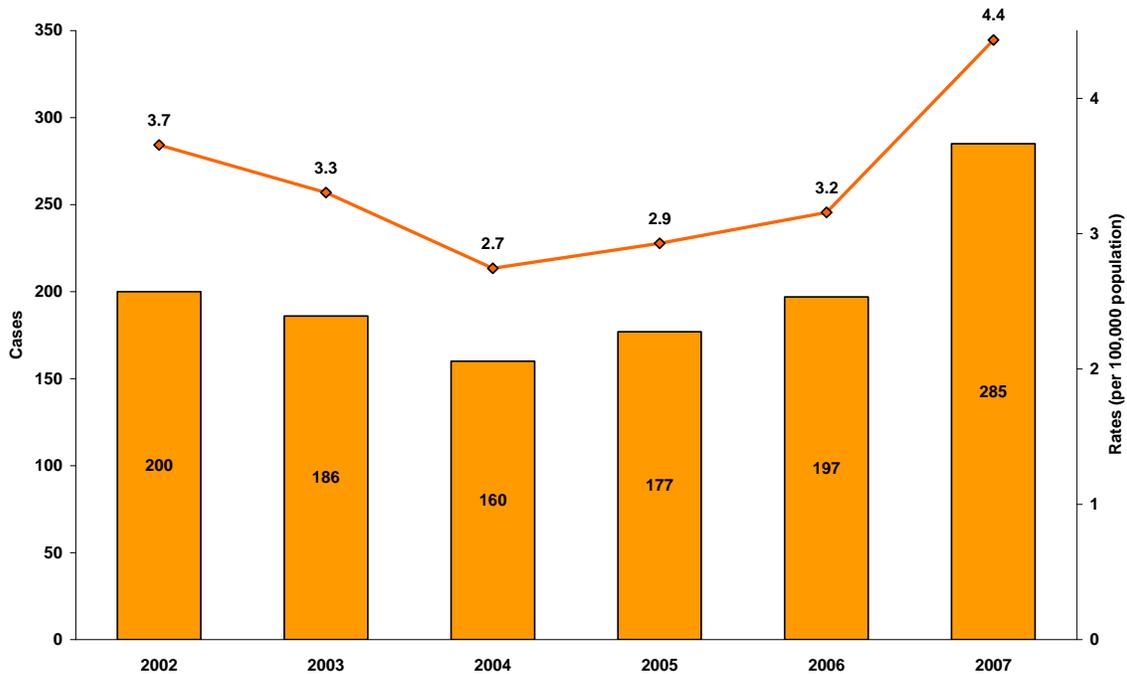
Primary and Secondary Syphilis

As the most infectious stages of syphilis, the ADHS STD Control Program prioritizes all primary and secondary syphilis (P&S) cases in the state. Likewise, Maricopa and Pima counties direct the greatest proportion of their resources for treatment and to conduct partner services for these

Arizona Department of Health Services
STD Control Program
2007 Annual Report

cases. Figure 1 depicts the number of P&S syphilis cases as well as corresponding case rates for Arizona from 2002 to 2007.

Figure 1. Primary and Secondary Syphilis Cases and Case Rates per 100,000 Population, Arizona 2002-2007



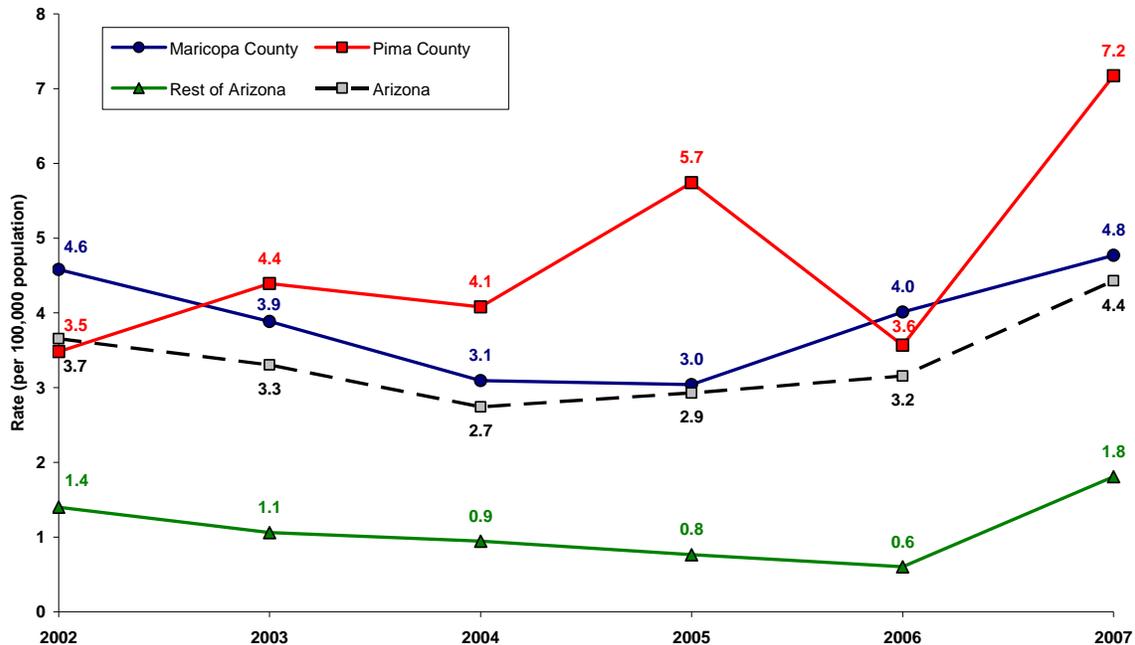
As seen in Figure 1, from 2002 to 2004 the number of primary and secondary (P&S) syphilis cases declined in Arizona statewide. The accompanying case rate reflected a 27% drop. However, from 2004 to 2006, cases climbed steadily, especially from 2005 to 2006 with 197 P&S syphilis cases reported in 2006. Then, in 2007, P&S syphilis cases increased dramatically from 2006 representing 45% more cases and a 2007 case rate 38% greater than that in 2006.

Much of the increase in P&S syphilis from 2006 to 2007 occurred at a time when Arizona experienced a major syphilis outbreak among Native Americans in the state. Other factors contributing to the increase included endemic syphilis among men who have sex with men (MSM) in Maricopa County, and a rise in cases in rural Arizona counties.

Maricopa and Pima counties are the most populous in the state of Arizona and account for about 76% of the state's residents. Although the other 13 counties are primarily rural, Pinal and Yuma counties have experienced substantial population growth in the last decade. Nonetheless, an overwhelming majority of P&S syphilis cases are attributable to Arizona's two most populous counties, Maricopa and Pima, respectively. Figure 2 presents a geographical breakdown of P&S syphilis case rates for Maricopa and Pima counties separately and also presents the rate for the other areas of the state.

Arizona Department of Health Services
STD Control Program
2007 Annual Report

Figure 2. Primary and Secondary Syphilis Case Rates per 100,000 Population by County of Residence, Arizona 2002-2007



As Figure 2 illustrates, the remainder of the state had a relatively low P&S syphilis case rate for most of the decade up to 2006. The 2006 case rate of 0.6 per 100,000 was substantially less than the case rate of 1.4 in 2002. But in 2007, the rate in the remaining 13 counties of Arizona tripled to 1.8, or what was a 200% increase from 2006 to 2007. Part of this increase was due to a syphilis outbreak among Native Americans in the northern Arizona county of Coconino in early 2007. Although this increase in the case rate was substantial, the rest of Arizona, which is predominantly rural, accounted for 20 cases out of 285 in 2007.

Meanwhile, from 2003 to 2005, the P&S syphilis case rate in Pima County increased significantly, from 4.4 to 5.7. Yet, from 2005 to 2006, the P&S syphilis case rate in Pima County decreased by nearly 37% from 5.7 to 3.6 (Figure 2). By 2007, however, the P&S syphilis rate for Pima County rose dramatically to a five year high of 7.2, doubling the 2006 case rate. As previously noted, a syphilis outbreak on the Tohono O’odham Nation (TON) in southern Arizona impacted this number as increases in syphilis screening and greater knowledge of the disease led to the identification and diagnosis of additional cases.

In Maricopa County, the case rate decreased significantly to 3.0 in 2005 (Figure 2). However, by 2006, the P&S case rate in Maricopa County surged by 33% to a rate of 4.0. Not surprisingly, Maricopa County was designated as a High Morbidity Area (HMA) at the outset of the Syphilis Elimination Project in 1999 and continues to be classified as such. Endemic P&S syphilis among MSM in Maricopa County continue to impact the increasing case rates as well. As with MSM, racial and ethnic minorities continue to bear the greatest STD burden in the state.

Arizona Department of Health Services
 STD Control Program
 2007 Annual Report

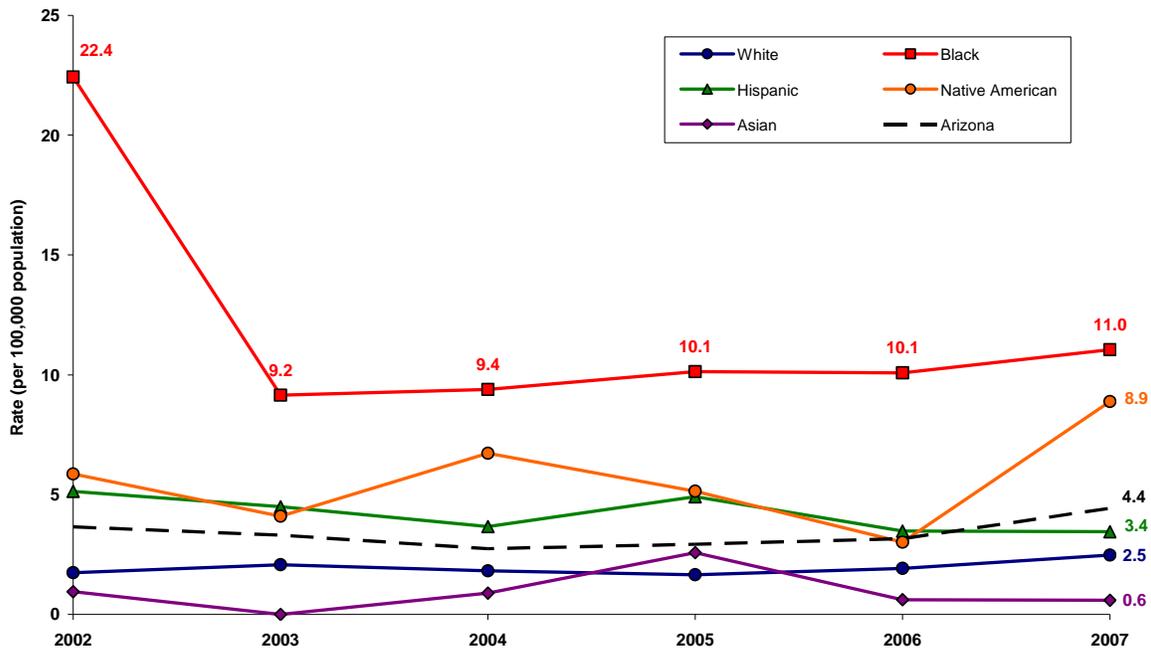
Figure 3 presents P&S syphilis case rates by race and ethnicity from 2002 to 2007. Clearly, the P&S syphilis case rate among all racial and ethnic groups, except for Asians, has been higher than that of whites for most of the decade. Racial and ethnic minorities in Arizona have profound health disparities in almost all disease groups. STDs are no exception.

After dramatically high P&S syphilis case rates among blacks in the early part of the decade (2001 to 2002), the case rate among this group decreased significantly in 2003 to 9.2, as depicted in Figure 3. The case rate among blacks remained level from 2004 to 2006. However, case rate figures for 2007 indicated that the P&S syphilis case rate climbed slightly in this group.

In light of this upward trend, the ADHS STD Control Program has continued to work closely with Ebony House, a black community based organization, to promote outreach and testing in the black community to preemptively avoid a return to the alarming P&S rates of 2001 and 2002. Also, the ADHS STD Control Program works closely with the HIV prevention program to coordinate outreach and HIV/syphilis testing events among black community members whenever possible.

Meanwhile, the case rate among Native Americans spiked in 2004 and decreased through 2006. Yet, by 2007, the rate climbed to 8.9 or what represents a near triple increase from the previous year. This substantial increase highlights how several syphilis outbreaks among Native Americans impacted rates among this group.

Figure 3. Primary and Secondary Syphilis Case Rates per 100,000 Population by Race / Ethnicity, Arizona 2002-2007



Arizona Department of Health Services
STD Control Program
2007 Annual Report

The first outbreak occurred in northern Arizona. Most of the outbreak cases occurred among Navajo Nation tribal members. There were 7 cases total with 5 of these among Native Americans. An additional outbreak occurred on the Tohono O'odham Nation of southern Arizona. In this outbreak, all 58 cases were among Native Americans. Also in 2007, an outbreak of 31 syphilis cases affected the Gila River Indian Community in central Arizona.

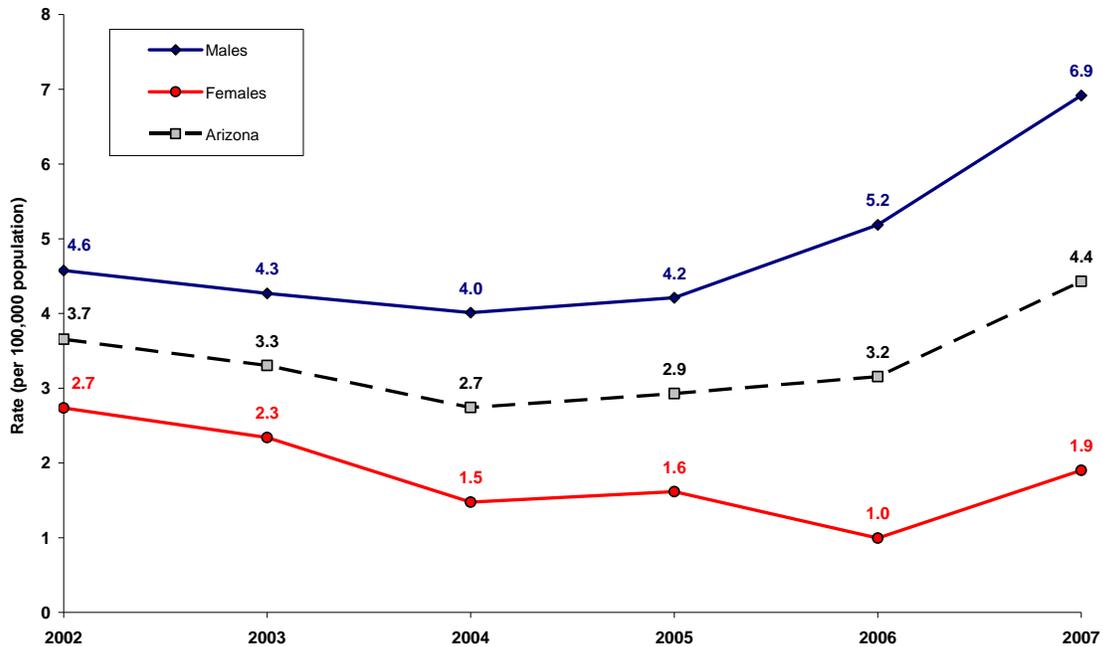
In order to address the multiple outbreak situations, the ADHS STD Control Program requested direct assistance from the CDC in the spring of 2007 and continues to work with county health departments, tribal health agencies, Indian Health Services (IHS), and tribal governments statewide to address the outbreaks comprehensively. In addition, the ADHS STD Control Program continues to provide resources and capacity building assistance statewide to enhance local efforts and outbreak response and control. The ADHS STD Control Program advocated for Governor's Health Crisis funds from the Arizona governor to be used for outbreak response. As collaboration and communication continue to build between the tribes, state, county, and IHS, the outlook remains positive that such high rates of P&S syphilis among Native Americans will decline in 2008.

The cases rates for Hispanics and Asians either decreased or remained constant, from 2005 to 2007 as demonstrated in Figure 3. A slight increase in the P&S case rate for whites has occurred since 2002 with the rate standing at 2.5 in 2007 (Figure 3). A greater number of P&S syphilis cases among white men who have sex with men (MSM), beginning in 2003, may be contributing to this increase (see P&S syphilis among MSM section narrative for additional details).

As has been the case for most of the decade, more male cases of P&S syphilis were reported than female cases, in 2007. This trend goes across all ethnic groups, except for Native Americans, where more cases occurred among females. In fact, in 2007, males accounted for 78% of P&S cases. Moreover, the rate of P&S syphilis among males was almost 4 times greater than the rate for females (Figure 4). The endemic nature of syphilis among MSM contributes significantly to this phenomenon. On the other hand, in 2007, the case rate among females almost doubled, from 1.0 in 2006 to 1.9 in 2007. Several syphilis outbreaks among Native Americans in 2007 included sizable numbers of infected females and may account for this marked increase in the female rate. Nonetheless, MSM P&S syphilis rates continue to drive syphilis morbidity, particularly in Maricopa County.

Arizona Department of Health Services
STD Control Program
2007 Annual Report

Figure 4. Primary and Secondary Syphilis Case Rates per 100,000 Population by Gender, Arizona 2002-2007

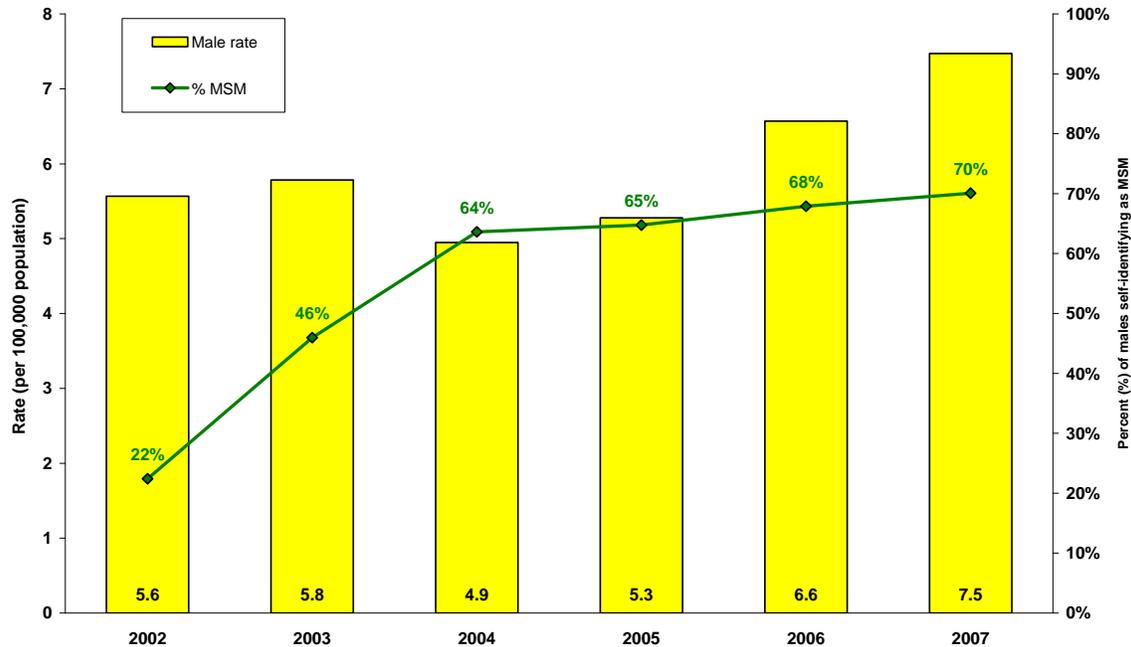


Data on MSM syphilis morbidity are only available for Maricopa and Pima counties. These are the two largest counties in Arizona, with approximately 76 percent of the state's population. As such, Figure 5 depicts the P&S case rates among all males residing in Maricopa and Pima counties from 2002 to 2007.

In recent years, the county and state health departments have improved their ability to capture risk factors and modes of STD transmission among those who interviewed for partner services. Still, under reporting and non-disclosure of MSM behavior among Hispanics and blacks may not present an accurate percentage of males who have sexual relations with other men. Consequently, the Arizona STD Program works with community-based organizations to reach black and Hispanic male populations to promote syphilis screening and education in venues where non-identifying MSM may access.

Arizona Department of Health Services
 STD Control Program
 2007 Annual Report

Figure 5. Primary and Secondary Syphilis Case Rates per 100,000 Population in All Males and Men Having Sex with Men (MSM), Maricopa and Pima Counties, 2002-2007

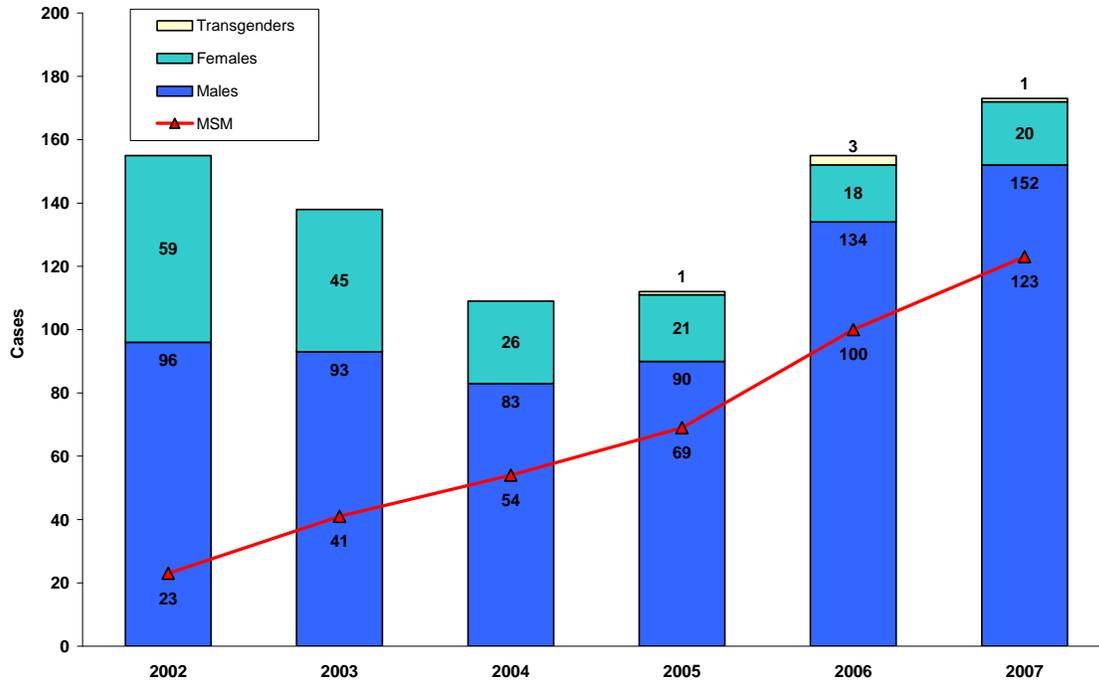


Furthermore, the ADHS STD Control Program is working closely with Maricopa County and the CDC to study and implement behavioral and community wide interventions that address the high rates of P&S syphilis among MSM. To that end, the ADHS STD Control Program applied for a CDC Public Health Prevention Specialist (PHPS) to assist with this endeavor. The PHPS began her work with the Arizona Department of Health Services in early October 2007. She has begun work on a surveillance project targeting HIV positive MSM at risk for syphilis infection and convened an MSM stakeholder group in April 2008. This group will assist in planning additional behavioral interventions for use among MSM in Maricopa County.

Figure 6 highlights that MSM accounted for about 71% of all P&S syphilis cases in Maricopa County in 2007; consequently, the ADHS STD Control Program will continue to prioritize this group. Finally, over the last several years, better interviewing and data capture techniques among partner services staff have allowed ADHS to document cases in the transgender community. In 2006, three P&S cases were reported among transgender (male to female) individuals in Maricopa County and in 2007 another case was also identified. Figure 6 highlights Maricopa County P&S syphilis cases by gender and sexual preference. Notably, P&S syphilis cases among females in Maricopa County remained almost level from 2005 to 2007.

Arizona Department of Health Services
 STD Control Program
 2007 Annual Report

Figure 6. Primary and Secondary Syphilis Cases by Gender and Sexual Preference, Maricopa County 2002-2007

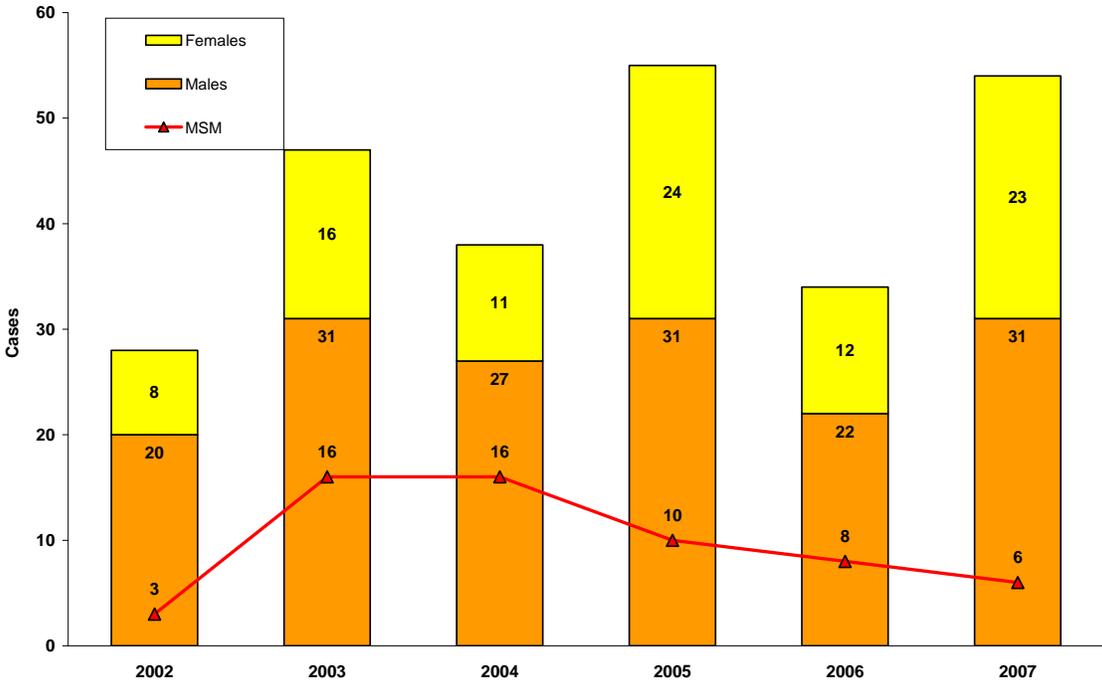


Conversely, Figure 7 shows that in Pima County, the number of cases among MSM steadily decreased since 2004. In 2007, only 6 cases were reported among MSM individuals. This significant reduction may have been prompted by the comprehensive educational and community media campaign implemented by Pima County from 2003 to 2005 among the Tucson GLBT (Gay, Lesbian, Bisexual, and Transgender) community. Meanwhile, the cases of P&S syphilis among females in Pima County increased from 2004 to 2005. ADHS and the Pima County Health Department assessed this situation and determined that heterosexual transmission accounted for most P&S syphilis in Pima County since 2005. Despite a decrease of 38% in cases from 2005 to 2006, the number of P&S syphilis cases increased once again in 2007. Yet again, a major syphilis outbreak on the TON (situated in Pima County) may have accounted for this rebound in case numbers.

In Arizona, a large majority of P&S syphilis cases occur among those individuals who are ages 25 to 44. To that end, Figure 8 presents case rates for P&S syphilis broken down by age category. Trend data for 2003 thru 2007 P&S syphilis cases are presented in Table 2.

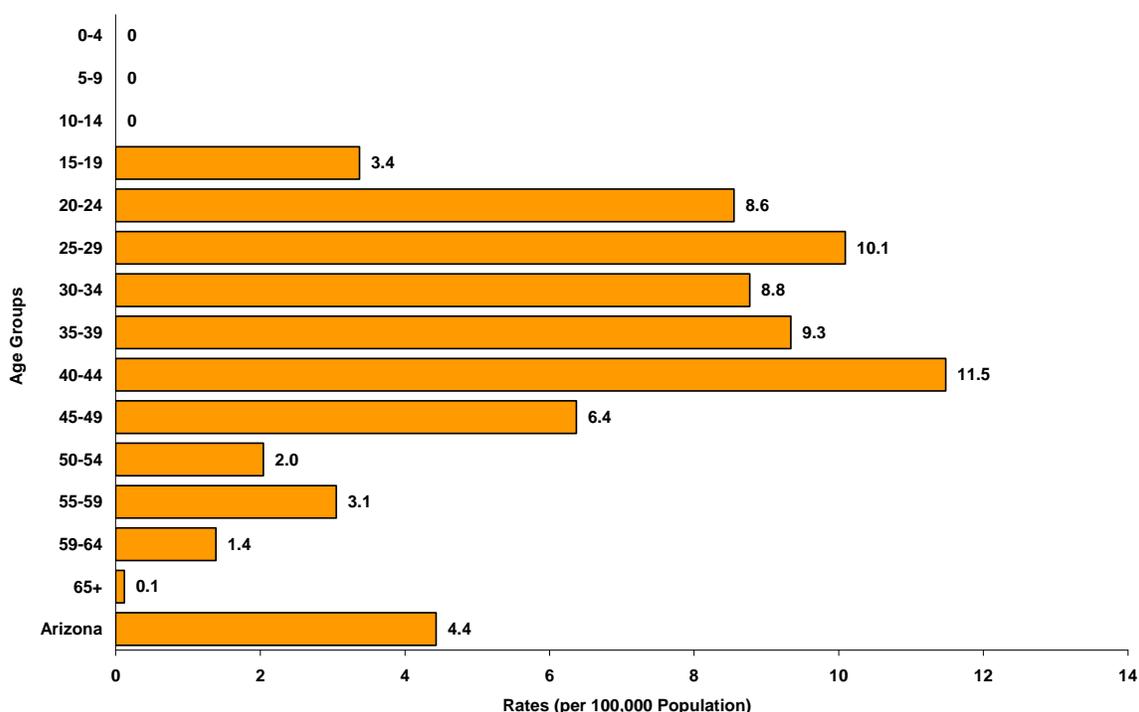
Arizona Department of Health Services
STD Control Program
2007 Annual Report

Figure 7. Primary and Secondary Syphilis Cases by Gender and Sexual Preference, Pima County 2002-2007



Arizona Department of Health Services
 STD Control Program
 2007 Annual Report

Figure 8. Primary and Secondary Syphilis Rates per 100,000 Population by Age Group, Arizona, 2007



As demonstrated in Table 2, P&S syphilis case numbers are broken down into age and gender categories for the period 2003-2007. Additionally, the table includes data for transgender individuals as well as instances when gender was unknown. The data reveal that most reported P&S syphilis occurred among those who are between the age of 25 and 44. While many cases were reported among those ages 40-44, specifically, during this time period, the number of cases among those ages 25 to 29 in 2007 accounted for a larger share of cases than in the four previous years.

P&S Syphilis and HIV Co-Infection

As previously indicated, significant co-morbidity exists for HIV and P&S syphilis, especially among MSM in Maricopa County. Not surprisingly, for the first 1H2008, nearly half of the 75 P&S cases among males occurred in HIV positive MSM, or a total of 32 cases. Additionally, 7 of the co-morbid cases occurred among MSM where HIV status was unknown. On the other hand, only one HIV/P&S syphilis co-morbid case was identified among MSM in Pima County and no cases among females in either county. Tables 3 and 4 depict a breakdown of P&S syphilis cases by gender and HIV status for Maricopa and Pima counties.

Arizona Department of Health Services
STD Control Program
2007 Annual Report

Table 2. P&S Syphilis Cases by Age Category and Gender, Arizona, 2003-2007

PS Age	2003			2004			2005				2006				2007				
	M	F	Total	M	F	Total	M	F	TG	Total	M	F	UNK	Total	M	F	UNK	TG	Total
<10	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
10-14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-19	4	13	17	1	8	9	2	5	0	7	6	5	0	11	7	8	0	0	15
20-24	20	13	33	15	8	23	14	9	0	23	19	8	2	29	26	12	0	0	38
25-29	16	9	25	11	2	13	24	11	1	36	23	5	2	30	36	13	0	0	49
30-34	21	7	28	19	11	30	22	7	0	29	25	4	0	29	30	8	0	1	39
35-39	21	8	29	31	7	38	26	8	0	34	29	4	0	33	33	8	0	0	41
40-44	13	11	24	16	2	18	13	6	0	19	29	4	0	33	45	6	0	0	51
45-49	12	4	16	11	2	13	15	1	0	16	25	2	0	27	25	3	0	0	28
50-54	8	1	9	5	0	5	6	1	0	7	6	1	0	7	5	3	0	0	8
>54	5	0	5	8	3	11	6	1	0	7	7	1	0	8	16	0	0	0	16
Total	120	66	186	117	43	160	128	49	1	178	169	35	4	208	223	61	0	1	285

Table 3. Male Primary and Secondary Syphilis Cases in Maricopa and Pima Counties, Arizona, 1H2008

Year	# of Cases	Cases with Partner Information	Total # of HIV +	Total # of HIV -	Total # with HIV Status Unknown	HIV+ and MSM	HIV- and MSM	HIV Status Unknown and MSM
Maricopa (Jan-June 2008)	75	27	34	24	17	32	16	7
Pima (Jan-June 2008)	21	9	2	14	5	1	5	1

Table 4. Female Primary and Secondary Syphilis Cases in Maricopa and Pima Counties, Arizona, 1H2008

Year	# of Cases	Cases with Partner Information	Total # of HIV +	Total # of HIV -	Total # with HIV Status Unknown	HIV+ and MSM	HIV- and MSM	HIV Status Unknown and MSM
Maricopa (Jan-June 2008)	12	10	0	8	4			
Pima (Jan-June 2008)	10	6	0	7	3			

Arizona Department of Health Services
STD Control Program
2007 Annual Report

Early Syphilis

Figure 9 highlights early syphilis cases and case rates for the period 2002 to 2007. Early syphilis cases include P&S cases as well as early latent cases. From 2003 to 2004, early latent syphilis cases accounted for the larger proportion of early syphilis cases. However, a change occurred in 2005 as P&S syphilis accounted for a larger proportion of early cases. Once again in 2006, P&S syphilis accounted for a greater proportion of early syphilis, even as both P&S and early latent cases increased. By 2007, both the number of cases for early latent (41% increase) and P&S syphilis increased strikingly, although P&S still accounted for a plurality of early cases. Clearly, the increasing incidence of P&S cases is concerning to the Arizona STD Control Program. At the same time, a higher proportion of P&S cases suggested appropriate diagnosis and staging which is encouraging for disease control.

Figure 9. Early Syphilis Cases and Case Rates by Stage per 100,000 Population, Arizona 2002-2007

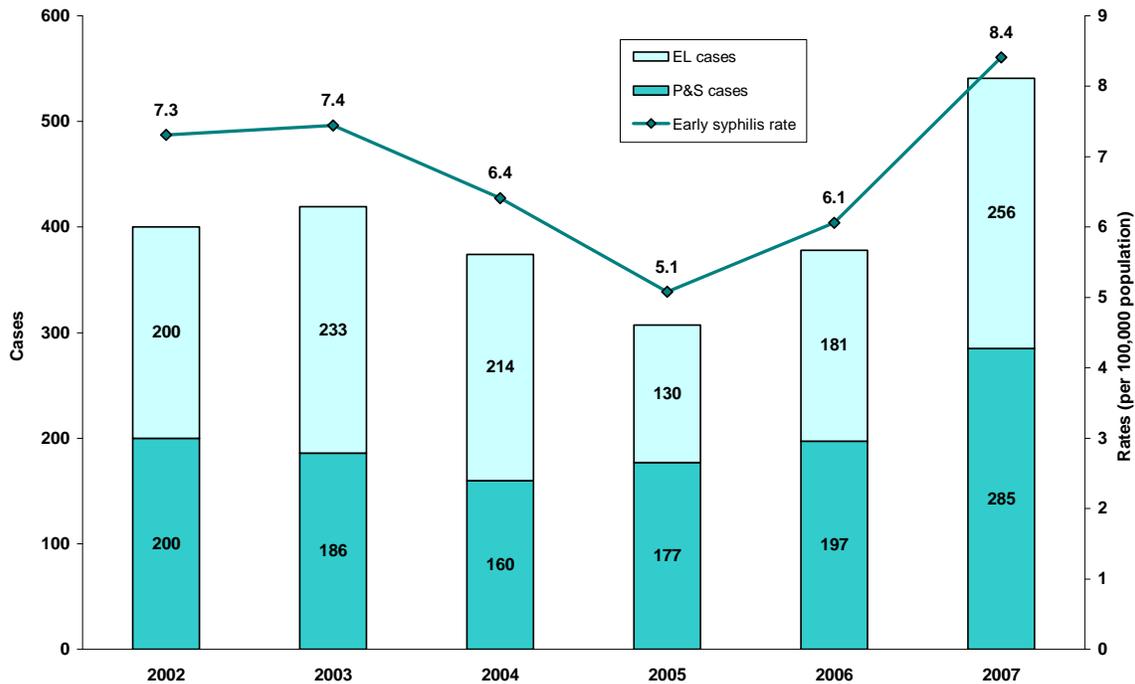


Table 5 depicts EL cases by age and gender categories for the period between 2003 thru 2007. This table includes categories for transgender and unknown gender as well. As detailed in Table 3, a majority of reported EL cases occurred among those individuals between the ages of 20 and 44. Since 2006, individuals ages 25 to 29 have represented the greatest proportion of all EL cases.

Arizona Department of Health Services
 STD Control Program
 2007 Annual Report

Table 5. EL Cases by Age Category and Gender, Arizona, 2003-2007

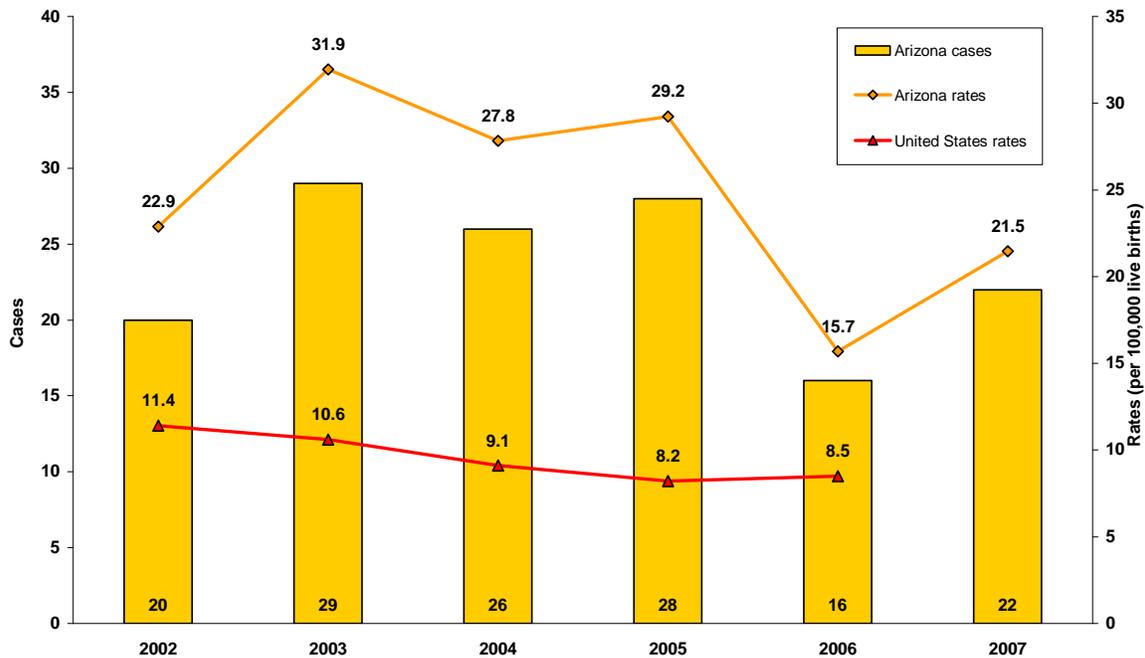
EL Age	2003			2004			2005			2006				2007			
	M	F	Total	M	F	Total	M	F	Total	M	F	UNK	Total	M	F	TG	Total
<10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
15-19	3	12	15	4	11	15	5	7	12	5	11	0	16	8	16	0	24
20-24	29	23	52	21	12	33	10	11	21	24	16	2	42	28	18	0	46
25-29	23	23	46	32	17	49	10	6	16	26	17	2	45	30	24	0	54
30-34	19	14	33	19	19	38	16	6	22	15	8	1	24	23	20	0	43
35-39	17	20	37	16	12	28	15	8	23	23	9	0	32	18	7	0	25
40-44	17	8	25	20	7	27	16	6	22	18	4	0	22	18	9	1	28
45-49	6	4	10	12	1	13	5	1	6	6	1	0	7	12	8	0	20
50-54	8	0	8	3	3	6	4	3	7	2	0	0	2	2	1	0	3
>54	7	0	7	3	2	5	3	0	3	3	1	0	4	13	4	0	17
Total	129	104	233	130	84	214	84	48	132	122	67	5	194	152	108	1	261

Arizona Department of Health Services
STD Control Program
2007 Annual Report

Congenital Syphilis

In 2007, Arizona continued to face the challenge of high congenital syphilis rates. The 2006 case rate of 15.7 far exceeded the U.S. rate of 8.5. Figure 10 presents congenital syphilis cases and rates by birth year per 100,000 live births in Arizona and in the United States for the period 2002 to 2007. National rates are not yet available for 2007. Nevertheless, it is clear that congenital syphilis continues to be a major concern for the ADHS STD Control Program, as the state had 22 cases in 2007. Although the case rate fell in 2006 in comparison to the time period of 2003 to 2005, the case rate climbed upwards in 2007. In response to a critical need to address the high number of cases, the ADHS STD Control Program requested Governor’s Health Crisis funds. In July 2007, the Governor proclaimed congenital syphilis as an urgent health crisis and directed the program to use \$100,000 in state funds to address the situation. The ADHS STD Control Program implemented a social marketing campaign in May 2008 that includes posters, billboards, radio spots, a television ad, and print ads. The STD Control Program expects that the campaign will be a powerful vehicle in helping to diminish the number of cases that occur in Arizona.

Figure 10. Congenital Syphilis Cases and Case Rates per 100,000 Live Births by Birth Year, Arizona and United States, 2002-2007



From 2002 to 2007, Maricopa County accounted for most of the congenital syphilis cases in Arizona (Figure 11). However, the number of congenital syphilis cases in Pima County jumped, from years (2002 to 2005) with no cases in 2002, to one case in 2003, six cases in 2004, and five cases in 2005 (Figure 11). The increase in congenital syphilis cases in Pima County mirrors that

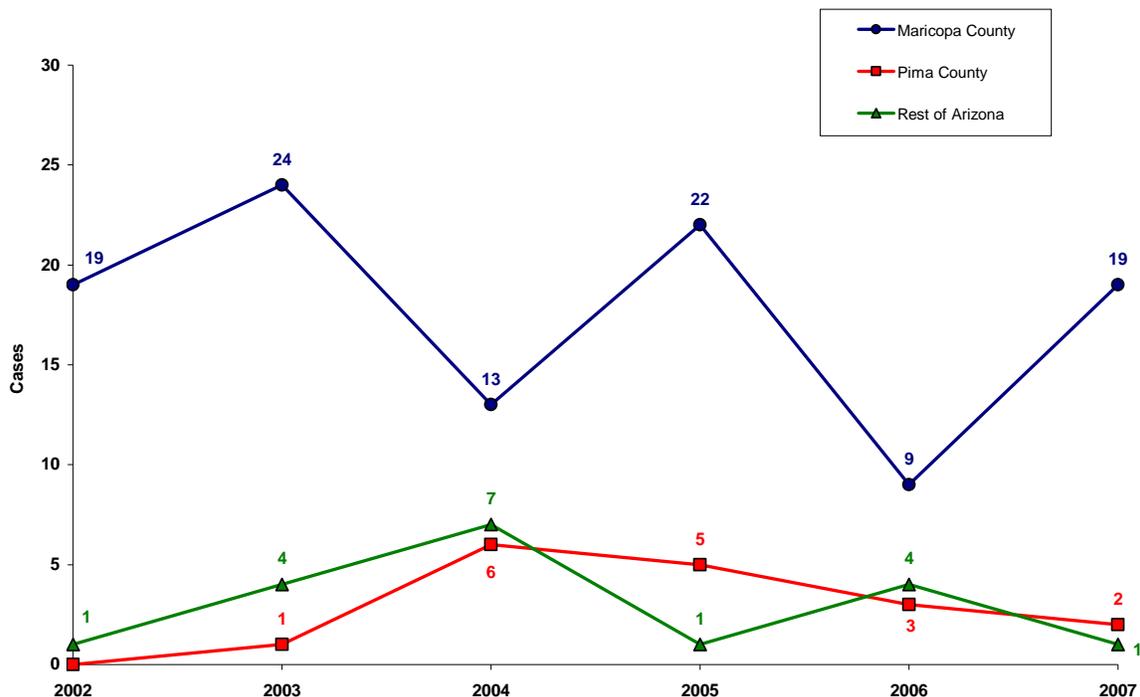
Arizona Department of Health Services
STD Control Program
2007 Annual Report

county's increase in P&S syphilis during the same period. On the other hand, the number of congenital syphilis cases in Pima County declined in 2006 and 2007.

At its highest for the decade, the rest of Arizona reported 7 cases in 2004. Then, in 2005, the number of cases outside of Maricopa and Pima counties dropped significantly, to only one case. In 2006, however, the number of congenital syphilis cases identified in the rest of Arizona increased to four and then dropped in 2007 to only one case. Nonetheless, additional informational campaigns about the disease burden of congenital syphilis may be needed in other counties throughout the state as a way to address the potential for additional cases in the future. Undoubtedly, the congenital syphilis social marketing campaign funded through Governor's Health Crisis Funds will be helpful in this regard.

In Maricopa, the Maricopa County Board of Public Health released a *Letter to Providers* requiring syphilis testing at the time of the first pre-natal visit and recommending testing at the beginning of the third trimester and may have impacted the reduction in the number of congenital syphilis cases in the county in 2006. Fortunately, the Board reauthorized this order in early 2008. Both the order and the congenital syphilis marketing campaign might prove instrumental in reducing the number of cases in Maricopa County as the county confirmed 19 cases in 2007, or an 111% increase from the previous year.

Figure 11. Congenital Syphilis (by Birth Year) Cases by County, Arizona 2002-2007

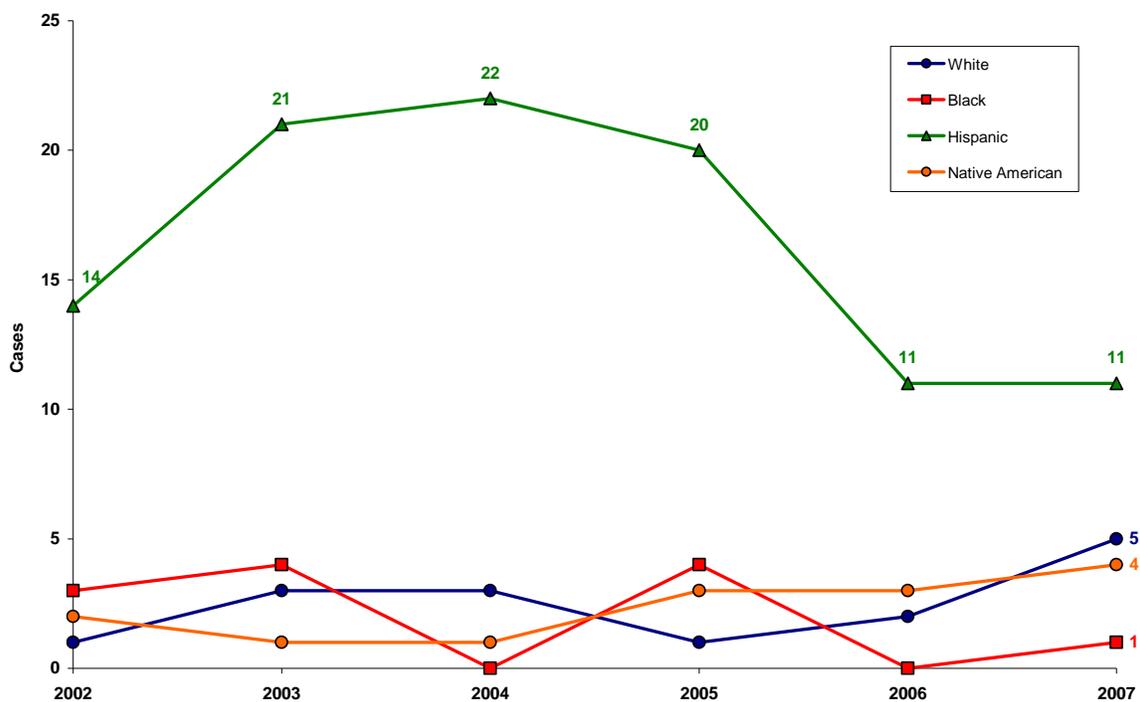


Yet again in 2007, more Hispanic babies were born with congenital syphilis than any other race/ethnicity (Figure 12). Indeed, since 2002, the number of cases among Hispanics has been considerably greater than in other racial/ethnic groups. For this decade, the greatest number of cases (22) among Hispanics occurred in 2004. Since then the number has decreased appreciably.

Arizona Department of Health Services
 STD Control Program
 2007 Annual Report

In 2006, the number of cases reflected a 50% decrease from the high number of cases in 2004. However, an equal number of cases, 11, were confirmed in 2007 among Hispanics. As previously noted, the congenital syphilis social marketing campaign targeted women of child bearing age. Much of the campaign has been presented in Spanish and the accompanying media buys focused heavily on Hispanic media outlets and community. Additionally, more cases occurred among whites and Native Americans in 2007 than in the previous year. While the cases among whites were surprising, the increase in cases among Native Americans paralleled the substantial increase in P&S syphilis among Native American females in 2007.

Figure 12. Congenital Syphilis (by Birth Year) Cases by Race / Ethnicity, Arizona 2002-2007



Chlamydia

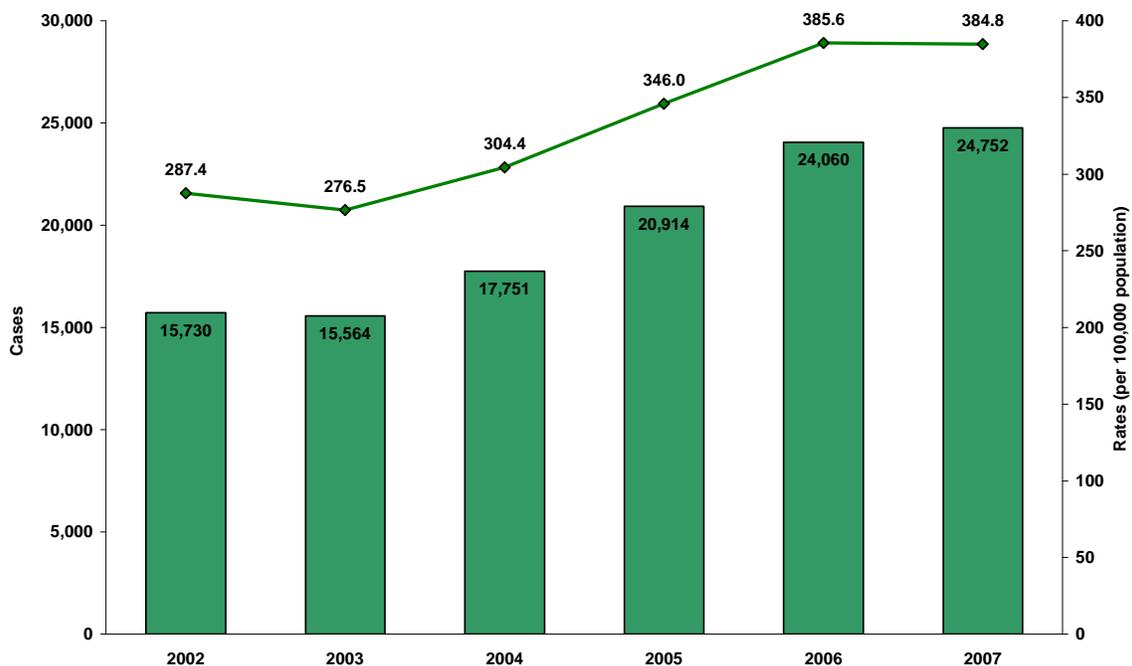
The Arizona STD Program collaborates with the Arizona Family Planning Council, the Maricopa County Public Health Laboratory, and the state health laboratories in Phoenix and Tucson to facilitate chlamydia-screening activities in Arizona. Due in part to this collaboration, chlamydia screening efforts have expanded in family planning clinics, STD clinics, and correctional health facilities through the Infertility Prevention Project (IPP). In Title X family planning clinics, screening focuses on sexually active women 25 years of age or younger, as well as symptomatic males, and those males with a history of exposure to an infected partner, a new partner, or multiple partners. Moreover, through CSPS funds, the Tucson and Phoenix state laboratories conduct chlamydia testing for local sexually transmitted disease programs in rural counties and an assortment of Arizona family planning clinics. IPP shares its chlamydia-screening data with the Regional Infertility Prevention Project in Region IX on a regular basis. These data are presented in their semiannual meetings.

Arizona Department of Health Services
STD Control Program
2007 Annual Report

As a result of these concerted chlamydia screening activities along with ever increasing private sector morbidity, the number of cases identified in Arizona increased from 15,730 cases reported in 2002 to 24,752 cases in 2007. Although better case finding may account for the increase in morbidity, it is likely that the incidence of chlamydia has grown as well, as seen nationally. On the other hand, increased screening has resulted in earlier detection and treatment of young females, particularly in family planning clinics and juvenile detention centers.

Figure 13 demonstrates trends from 2002 to 2007 and depicts a moderate decline in cases from 2002 to 2003 and a subsequent substantial increase in cases from 2003 to 2004. Since 2003, chlamydia rates and cases have grown considerably in Arizona. However, from 2006 to 2007, the chlamydia case rate dropped slightly while the number of cases increased from 24,060 to 24,752.

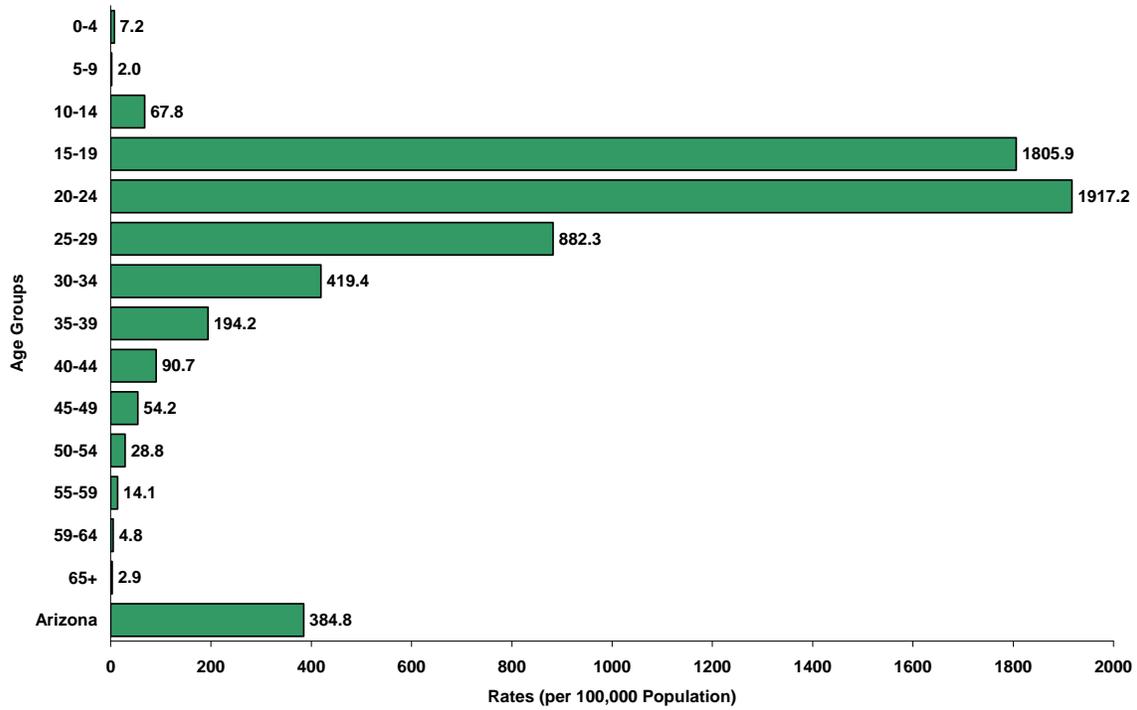
Figure 13. Chlamydia Cases and Case Rates per 100,000 Population, Arizona 2002-2007



Although the case rate may not be increasing as dramatically as the number of cases, a closer examination of chlamydia rates among young people ages 15-24 reveals extremely high rates. In 15-19 year olds, the chlamydia case rate rose from 1,700 per 100,000 in 2006 to 1,806 in 2007. Consequently, chlamydia rates for the general population may not reveal the true burden of disease. A breakdown of 2007 chlamydia rates by age group is presented in Figure 14.

Arizona Department of Health Services
STD Control Program
2007 Annual Report

Figure 14. Chlamydia Rates per 100,000 Population by Age Group, Arizona, 2007



Likewise, Table 6 presents a breakdown by age and gender categories for chlamydia from 2003 thru 2007. As reflected in Figure 14, the data highlight that for the time period in discussion, females between the ages of 15 and 29 bore the greatest burden of chlamydia morbidity.

Arizona Department of Health Services
 STD Control Program
 2007 Annual Report

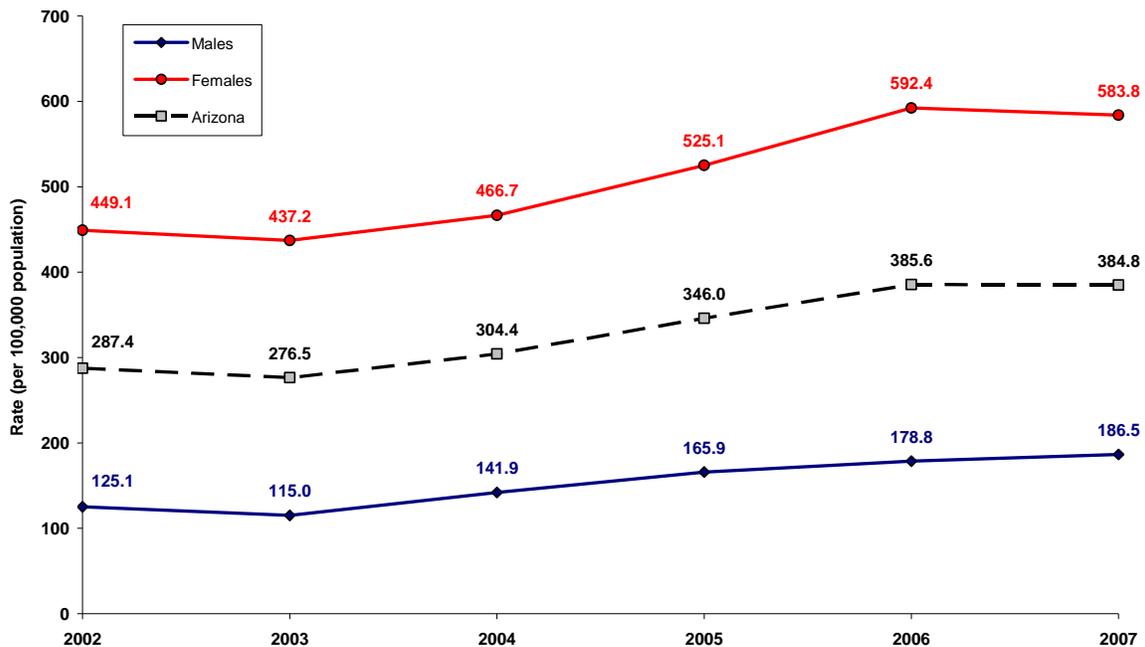
Table 6. Chlamydia Cases by Age Category and Gender, Arizona, 2003-2007

CT Age	2003				2004				2005				2006				2007					
	M	F	UNK	Total	M	F	UNK	Total	M	F	UNK	Total	M	F	UNK	TG	Total	M	F	UNK	TG	Total
<10	10	11	0	21	8	19	0	27	19	40	0	59	11	26	0	0	37	16	29	0	0	45
10-14	31	197	0	228	40	199	0	239	34	200	0	234	29	228	0	2	259	33	276	0	0	309
15-19	798	4242	3	5043	1031	4587	2	5620	1114	5337	0	6451	1292	6190	1	14	7497	1457	6574	2	0	8033
20-24	1163	4545	0	5708	1503	4990	5	6498	1770	5834	1	7605	1974	6767	3	4	8748	2123	6395	1	0	8519
25-29	598	1869	2	2469	760	2137	0	2897	1011	2561	3	3575	1222	3066	1	3	4292	1214	3068	1	2	4285
30-34	299	805	0	1104	401	936	1	1338	506	1081	0	1587	519	1263	0	2	1784	530	1335	0	0	1865
35-39	168	386	0	551	180	399	0	579	268	473	0	741	291	543	0	1	835	293	559	1	0	853
40-44	81	162	0	243	102	210	0	312	135	216	0	351	187	269	0	0	456	142	261	0	0	403
45-49	41	69	0	110	57	76	1	134	86	87	0	173	85	101	1	0	187	114	124	0	0	238
50-54	25	24	0	49	33	35	0	68	31	54	0	85	36	48	0	0	84	50	63	0	0	113
>54	16	16	0	32	26	20	0	46	33	32	0	65	44	52	0	1	97	39	50	0	0	89
Total	3227	12326	5	15558	4141	13608	9	17758	5007	15915	4	20926	5690	18553	6	27	24276	6011	18734	5	2	24752

Arizona Department of Health Services
STD Control Program
2007 Annual Report

From 2002 to 2006, Arizona chlamydia case rates have tended to be three to four times higher in females than in males (Figure 15). In 2007, the female chlamydia case rate was 3.1 times that of males (Figure 15). These divergent case rates can be attributed to IPP and CDC recommended screening guidelines that call for increased chlamydia screening among females when compared to males as well as differing healthcare access behavior and symptom experience between males and females.

Figure 15. Chlamydia Case Rates per 100,000 Population by Gender, Arizona 2002-2007



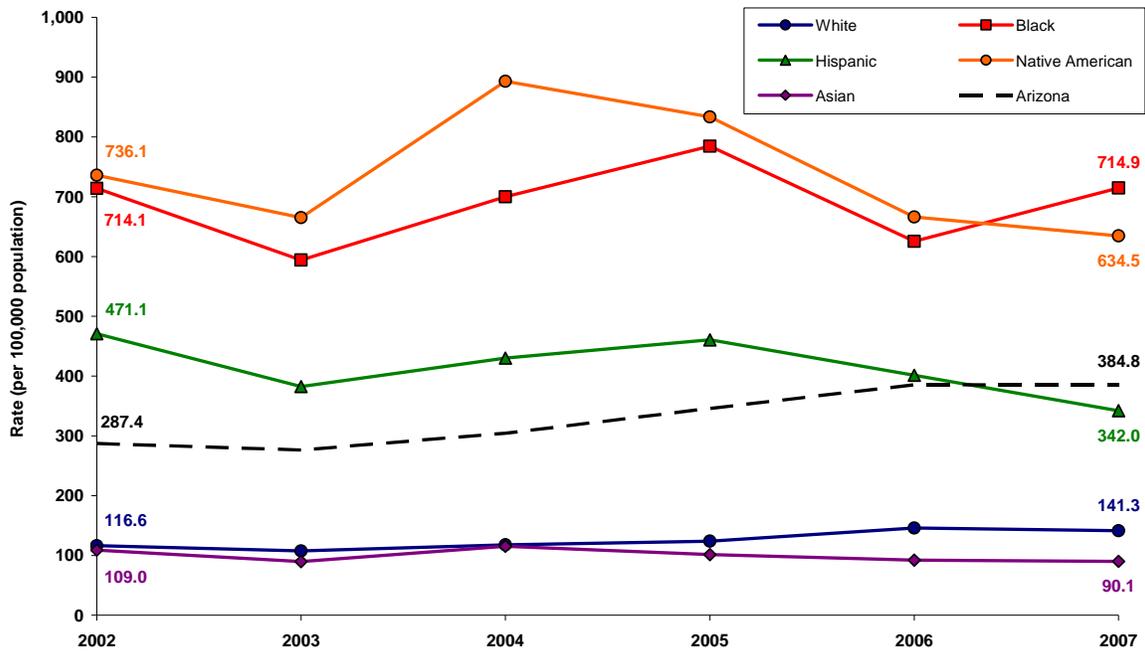
A noteworthy factor that may have affected the reported number of females cases in the early part of the decade occurred in 2004. At that time, an out-of-state consulting firm assumed the administration of the Maricopa County Adult Correctional Health Service (MCHS). The new Medical Director, an employee of the consulting firm, stopped chlamydia screening at the MCHS and allowed only diagnostic testing. Therefore, the Arizona IPP Project could no longer screen adult females in the Maricopa County jails. It was likely that this impacted case finding. However, since late 2005, Maricopa County replaced consultant staff with county staff. The STD Program has continued to negotiate with the new MCHS administration to reinstate routine screening where possible.

From 2004 to 2005, race-specific chlamydia rates in Arizona presented an upward trend in all race/ethnicity groups except Native Americans and Asians (Figure 16). Then, from 2005 to 2006, chlamydia rates for all race/ethnicity groups declined except among whites (Figure 16). Between 2006 and 2007, the rate increased in blacks, but the number of unknown race/ethnicity cases was higher than in 2006 (7,678 vs. 8,717). Over the period 2002 to 2006, race-specific rates were

Arizona Department of Health Services
STD Control Program
2007 Annual Report

generally much lower among non-Hispanic whites when compared to most minorities, i.e., Hispanics, blacks, and Native Americans. On the other hand, the chlamydia case rate among Asians for this time period remained similar to or below the rate for whites.

Figure 16. Chlamydia Case Rates per 100,000 Population by Race / Ethnicity, Arizona 2002-2007

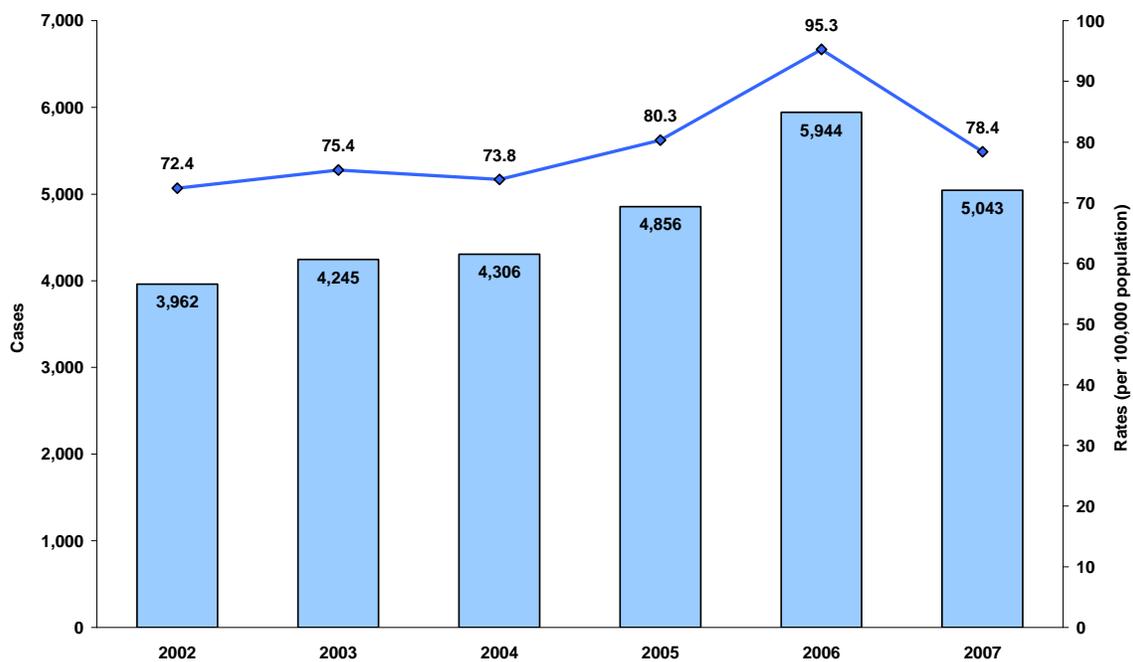


From 2002 to 2006, the rate among Native Americans represented the highest race-specific rate in the state. This may have been in part due to the aggressive and comprehensive chlamydia testing conducted by Indian Health Services in the state. On the other hand, the rising rate of chlamydia among blacks from 2003 to 2007 probably suggested a true increase in morbidity, especially since expanded screening efforts were not identified. The ADHS STD Control Program surveillance personnel regularly monitor the increasing rate of chlamydia among blacks and continuously implement additional surveillance measures accordingly. Among Hispanics, a decrease in the chlamydia rate from 2006 to 2007 was observed. While not conclusive, there may be a possibility that a growing number of Hispanics did not identify as Hispanic thereby contributing to the number of cases with unknown race/ethnicity out of fear of declaring their immigration status. Effective in January 2007, new state laws restricting health and public services to undocumented immigrants may have had an adverse impact on this number of Hispanics presenting for health care services; consequently, many Hispanics may not have been tested for common sexually transmitted diseases. Overall, the rates of chlamydia steadily increased from 2002 to 2006 and declined slightly in 2007, although the number of reported cases increased from the previous year (Figure 13).

Gonorrhea

In 2007 there were 5,043 gonorrhea cases reported in Arizona, with a corresponding case rate of 78.4 per 100,000 population. Figure 17 shows that the case rate for gonorrhea remained almost static from 2002 to 2004. Then in 2005, the gonorrhea case rate increased slightly to 80.3, or an almost 9% increase from the previous year. The increase in cases from 2004 can be partially explained by an increased use of nucleic acid amplification tests (NAAT) which have higher sensitivity and produce more positive results than traditional probe or culture tests.

Figure 17. Gonorrhea Cases and Case Rates per 100,000 Population, Arizona 2002-2007



By 2006, the gonorrhea case rate increased dramatically to 95.3. Yet, by 2007, the rate decreased considerably from 2006 to a rate of 78.4. This decrease is noteworthy since the incidence of gonorrhea had exhibited a modest increase during the previous two years. After careful review and analysis, the STD Control staff has determined preliminarily that the incidence of gonorrhea has truly decreased in Arizona. An important factor contributing to this determination is the likely fact that the epidemiology and etiology of gonorrhea in Arizona has remained distinct from neighboring western states. Specifically, while fluoroquinolone resistant gonorrhea has surged in other western states, the same cannot be said of gonorrhea in Arizona. Consequently, it is likely, although not conclusive, that gonorrhea infection may be decreasing through appropriate and adequate treatment.

Similar to chlamydia, the general gonorrhea case rate for 2007 may not reflect the population specific burden of disease in the state. Indeed, the case rate among younger people, especially those between the ages of 15-24, shows a much higher burden of disease. Figure 18 presents

Arizona Department of Health Services
STD Control Program
2007 Annual Report

gonorrhea case rates by age group for 2007 and demonstrates the impact of gonorrhea among Arizona adolescents and young adults.

Figure 18. Gonorrhea Rates per 100,000 Population by Age Group, Arizona, 2007

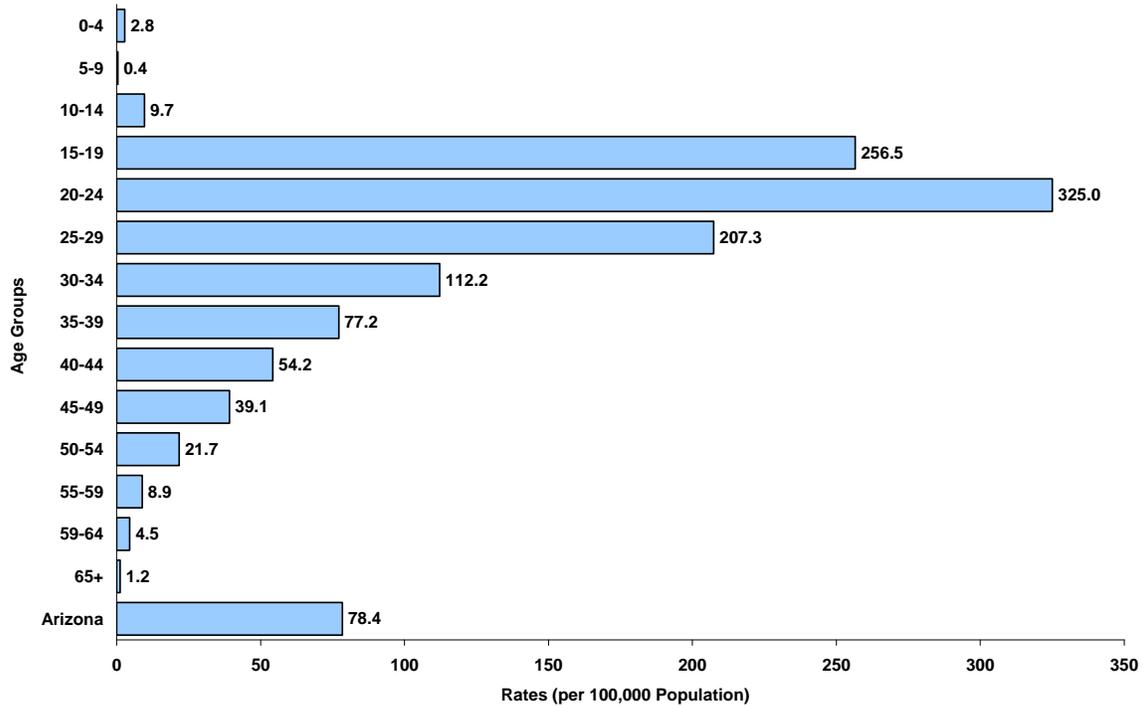


Table 7 depicts a breakdown of gonorrhea cases by age and gender categories from 2003 to 2007. As with chlamydia cases, young people ages 15-29 accounted for the majority of gonorrhea morbidity. A greater proportion of females versus males between the ages of 15 and 19 reported more cases. However, males ages 20-29 had similar levels of gonorrhea morbidity as females.

Arizona Department of Health Services
STD Control Program
2007 Annual Report

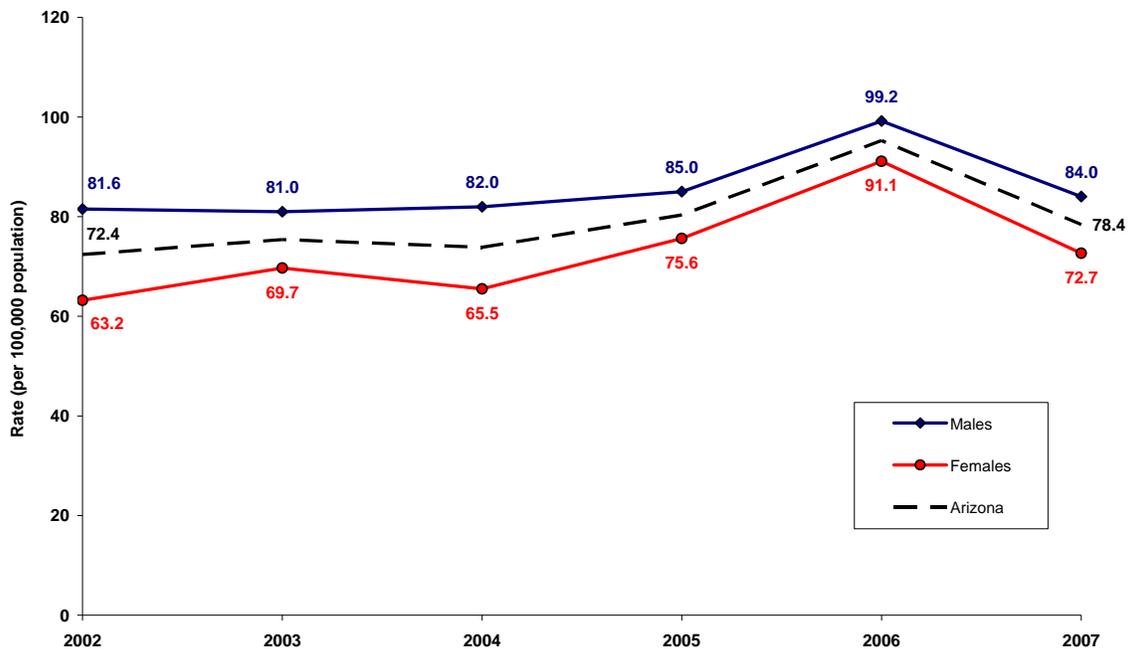
Table 7. Gonorrhea Cases by Age Category and Gender, Arizona, 2003-2007

GC Age	2003				2004				2005				2006				2007					
	M	F	UNK	Total	M	F	UNK	Total	M	F	UNK	Total	M	F	UNK	TG	Total	M	F	UNK	TG	Total
<10	2	5	0	7	1	8	0	9	6	7	0	13	4	6	0	0	10	7	9	0	0	16
10-14	12	41	0	53	10	37	0	47	10	41	0	51	8	41	0	1	50	13	31	0	0	44
15-19	326	598	0	924	392	587	0	979	355	707	0	1062	478	805	1	1	1285	433	708	0	0	1141
20-24	640	637	2	1279	646	630	1	1277	729	728	0	1457	844	904	2	1	1751	710	734	0	0	1444
25-29	445	300	0	745	478	280	1	759	518	388	1	907	644	579	0	0	1223	604	401	0	2	1007
30-34	285	182	1	468	302	162	0	464	337	183	0	520	388	235	0	0	623	286	213	0	0	499
35-39	241	101	0	342	215	89	1	305	230	113	0	343	287	149	0	0	436	229	110	0	0	339
40-44	163	60	0	223	170	71	1	242	186	74	0	260	203	84	0	0	287	179	62	0	0	241
45-49	80	24	0	104	86	35	0	121	99	33	0	132	124	47	0	0	171	135	37	0	0	172
50-54	45	8	0	53	57	9	0	66	43	14	0	57	76	12	0	0	88	67	18	0	0	85
>54	39	9	0	48	38	4	0	42	53	10	0	63	61	6	0	0	67	46	9	0	0	55
Total	2278	1965	2	4246	2395	1912	4	4311	2566	2298	1	4865	3117	2868	3	3	5991	2709	2332	0	2	5043

Arizona Department of Health Services
STD Control Program
2007 Annual Report

In general, gonorrhea morbidity is higher in males than in females. In 2007, the gonorrhea case rate for males stood at 84.0 per 100,000 and 72.7 per 100,000 for females. Figure 19 depicts gonorrhea case rates by gender from 2002 to 2007. The case rate for both males and females declined, by 15% and 20% respectively, from 2006 to 2007.

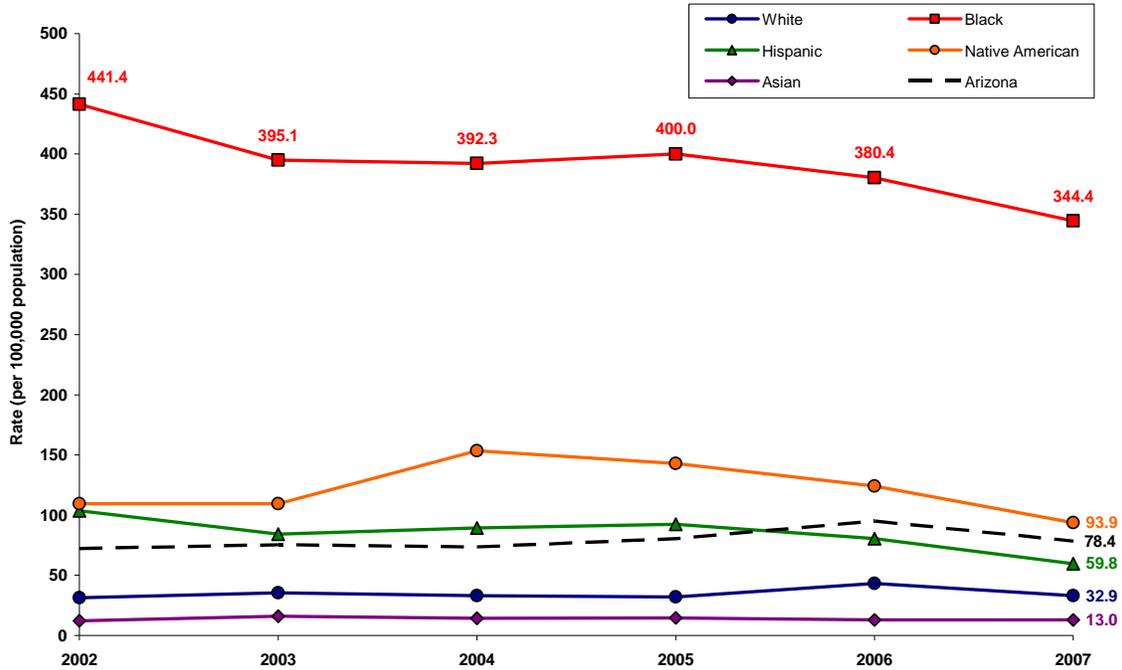
Figure 19. Gonorrhea Case Rates per 100,000 Population by Gender, Arizona 2002-2007



As depicted in Figure 20, race-specific rates in Arizona show a general decline for gonorrhea. Morbidity among blacks declined from a case rate high of 441.4 in 2002 to 344.4 in 2007 (Figure 20). Despite an overall decline in gonorrhea morbidity among blacks, rates remain high compared to other racial/ethnic groups (Figure 20). Among Native Americans, the case rate spiked in 2004, but declined since then. Overall, the 2007 gonorrhea case rate showed a decline from the previous two year period. For factors previously presented, gonorrhea incidence could be on the decline in Arizona.

Arizona Department of Health Services
STD Control Program
2007 Annual Report

Figure 20. Gonorrhea Case Rates per 100,000 Population by Race / Ethnicity, Arizona 2002-2007



Comparison 1H2007 to 1H2008 for reported P&S, EL, Congenital syphilis, Gonorrhea, and Chlamydia Cases

Table 8. Comparison of reported case numbers for P&S, EL, Congenital Syphilis, Gonorrhea, and Chlamydia, Arizona 1H2007 and 1H2008

Time Period	P&S	EL	Congenital Syphilis	Gonorrhea	Chlamydia
1H2007	81	82	5	2,493	11,918
1H2008	128	235	15	1,820	12,386

In comparison to 1H2007, a substantially greater number of P&S, EL, and Congenital syphilis cases have been reported in 1H2008. Most noteworthy, EL cases have risen 186% when comparing these time periods. Similarly, but somewhat less profound, there have been more chlamydia cases reported for the 1H2008. However, the number of reported gonorrhea cases in 1H2008 declined nearly 27% from 1H2007.

Behavioral Trends

Chlamydia/Gonorrhea

As reflected in other parts of the nation, Arizona young adults ages 15-29 bear a disproportionate burden of chlamydia and gonorrhea. Females account for an overwhelming majority of chlamydia cases, while males account for a greater proportion of gonorrhea cases. Often, these young adults report having multiple sex partners, use or abuse alcohol or drugs before intercourse, and do not consistently use condoms (Arizona, YRBSS, 2007). Not surprisingly, most public high schools do not provide any type of sexual health education, but if these schools do provide education, it is exclusively abstinence only in focus. In addition, state government and state health department upper management remain opposed to implementing broad public campaigns on sexual health education for young people in the state. Similarly, these decision makers have chosen not to invest significant resources for STD clinical services in the state. In fact, there are only two free standing STD clinics in the state. One clinic is in Phoenix (Maricopa County) and the other is in Tucson (Pima County). Until June 30, 2008, the state general fund provided \$26,300 for STD services in three rural counties. Due to state budget cuts, those funds will no longer be provided.

Case reports for chlamydia and gonorrhea come from multiple sources. A majority of cases for both diseases are reported by private providers, especially for chlamydia. Still, approximately 10 percent of reported chlamydia cases in Arizona come from the Maricopa County STD clinic, the Pima County STD clinic, and the Maricopa County Public Hospital system. Similarly, about 25 percent of gonorrhea cases are reported from these three facilities. In Arizona, males account for a majority of gonorrhea cases. Since males are more likely to exhibit symptoms when infected with gonorrhea, it is probable that they elect to obtain clinical services at established STD clinics. For both diseases, correctional facilities, both adult and juvenile, account for a notable number of cases as well.

Syphilis

By far, syphilis disproportionately impacts MSM communities in Arizona. As previously presented in the epidemiological profile, most syphilis occurs in men, especially those residing in Maricopa and Pima counties. Among females, syphilis disproportionately impacts Native Americans.

Surveillance data suggest several risk factors among MSM for being diagnosed with early syphilis. These include: having multiple sexual partners, having anonymous sex (especially via the internet), having unprotected sex, and using drugs. Unfortunately, case interview data suggest that the high proportion of MSM who use drugs before or during sex and their willingness to engage in anonymous sex make it difficult for case investigation staff to elicit contacts and to provide follow-up.

Program Overview

The ADHS STD Control Program is situated within the Office of HIV, STD, and Hepatitis C Services in the Bureau of Epidemiology and Disease Control. The program includes a program

Arizona Department of Health Services
STD Control Program
2007 Annual Report

manager, two CDC direct assistance personnel, a CDC public health prevention specialist, three epidemiologists, one data entry person, one full-time disease investigation specialist (communicable disease investigator{CDI}), and two part-time CDIs. More than 80% of the program's funding comes from the CDC.

The ADHS STD Control Program utilizes an Oracle based surveillance system. This system has been in use since 1997. Over the last two years, program personnel have worked with the agency ITS staff to make significant improvements to the system. Most recently, an electronic interface for the new and updated syphilis interview record form was created as a module in the morbidity screen of the system. The program provides Lan access to the surveillance system to Maricopa and Pima Counties so that county personnel can enter communicable disease reports (CDR) and syphilis interview records for each respective county. The ADHS STD Control Program enters all positive reported STD labs and enters CDRs for all other counties.

The ADHS STD Control Program receives morbidity reports from two sources: laboratories and medical providers. The redundancy is needed to enhance timeliness and completeness of reporting. Laboratory reports tend to be timelier and reflect morbidity better than disease reports submitted by medical providers; however, they usually lack critical treatment and contact information for follow-up purposes by local health departments and information for trend analysis by gender, race/ethnicity, sexual preference, and geographical location. The program relies on CDR forms submitted by medical providers for the information above. The Arizona Administrative Code (AAC) R9-6-201 requires that physicians and healthcare administrators report cases and or treatment of syphilis, gonorrhea, chlamydia, chancroid, lymphogranuloma venereum (LGV), and genital herpes to the appropriate local health department within five business days of diagnosis and treatment whereas AAC R9-6-202 requires submission of positive laboratory test findings on the above conditions also within five days to the state STD Program.

In order to secure accurate, complete and timely information, efforts are routinely made by the State and some local STD programs to encourage public and private medical providers and laboratories to comply with the Arizona Administrative Code requirements. Some of these efforts include: letters reminding providers that CDRs need to be submitted for every person that tests positive for reportable conditions, clinic visits, educational lectures on the importance of disease reporting for case management purposes, phone calls to providers with missing reports, frequent reminders to the local health departments (which include county, tribal health departments, and Indian Health Service units), as well as regular site visits to local health departments throughout Arizona.

Although the STD Control Program does not fund direct clinical services, it collaborates with and supports efforts by the Pima and Maricopa County STD clinics. These two clinics function as the only free standing, full-time STD clinics in the entire state. The Maricopa STD clinic provided services to 19,580 individuals in 2007 at little or no cost to the patient. People seeking services at the Maricopa STD clinic are not turned away; however, the clinic operates on a first come first served basis which invariably leads to long waits prior to the clinical examination. Often, people leave before seeing a clinician because they choose not to wait. The Pima County STD clinic provided services to 6,750 individuals in 2007. Ultimately all clients who show signs or symptoms are seen by clinicians when presenting to the clinic. Pima County clinic staff have

Arizona Department of Health Services
STD Control Program
2007 Annual Report

standing orders which allow for nurses to treat clients testing positive for infections not picked up during the exam phase and these clients are seen during non-clinic hours. Less than 1 percent of patients who present at the clinic fail to get care during any year.

Surveillance

The ADHS STD Oracle based central registry surveillance system has been in use since 1997. The system contains approximately 200,000 records for all reportable STDs in Arizona. STD Control Program staff personnel enter positive laboratory reports, update syphilis case histories, and enter communicable disease report information, including treatment, into the system. Variables such as name, sex and/or gender, race/ethnicity, age, address, zip code, telephone number, specimen collection date, and sexual orientation are contained for most records in the system. STD Control Program epidemiologists routinely extract data from the system and conduct in depth epidemiological analyses of disease incidence, geographical distribution of disease, and subpopulations with extensive STD morbidity.

The ADHS STD Control Program, along with its local health department partners, conduct partner services for all emergent syphilis cases. The program and its county partners follow up on treatment and provider reports for prioritized gonorrhea cases and follow up on all communicable disease reports that indicate inappropriate or inadequate treatment.

The *Arizona Administrative Code (AAC) R9-6-201* requires that physicians and healthcare administrators report cases and or treatment of syphilis, gonorrhea, chlamydia, chancroid, lymphogranuloma venereum (LGV), and genital herpes to the appropriate local health department within five business days of diagnosis and treatment whereas AAC R9-6-202 requires submission of positive laboratory test findings on the above conditions also within five days to the state STD Program. In 2008, the STD Control Program collaborated with the ADHS rules analyst to update communicable disease reporting guidelines and requirements. The new rules were sent out to relevant stakeholders like the Arizona Medical Association, county health departments, and laboratories for review and comment. They were approved by state government and are now officially in place.

In order to secure accurate, complete and timely information, efforts are routinely made by the State and some local STD programs to encourage public and private medical providers and laboratories to comply with the Arizona Administrative Code requirements. Some of these efforts include: letters reminding providers that CDRs need to be submitted for every person that tests positive for reportable conditions, clinic visits, educational lectures on the importance of disease reporting for case management purposes, phone calls to providers with missing reports, frequent reminders to the local health departments (which include county, tribal health departments, and Indian Health Service units), as well as regular site visits to local health departments throughout Arizona. Despite the comprehensive efforts to obtain morbidity reports from medical providers, the STD Control Program has had limited success in obtaining both a laboratory and medical provider report for each case.

In an effort to respond to potential STD outbreaks, the ADHS STD Control Program has created an outbreak response plan. The purpose of the *Arizona Sexually Transmitted Disease (STD)*

Arizona Department of Health Services
STD Control Program
2007 Annual Report

Outbreak Response Plan is to guide coordinated efforts between the Arizona STD Control Program (ASTDP), county and local health jurisdictions, tribal health jurisdictions, community-based organizations, and other government and non-government agencies in response to an outbreak of STDs in Arizona. While primarily developed to respond to syphilis outbreaks, the plan also is intended for use in responding to outbreaks of other STDs

Interventions

Although the STD Control Program does not fund direct clinical services, it collaborates with and supports efforts by the Pima and Maricopa County STD clinics. These two clinics function as the only free standing, full-time STD clinics in the entire state. The Maricopa STD clinic provided services to 19,580 individuals in 2007 at little or no cost to the patient. People seeking services at the Maricopa and Pima County STD clinics are not turned away; however, the clinics operate on a first come first served basis which invariably leads to long waits prior to the clinical examination.

Maricopa and Pima Counties employ Communicable Disease Investigators to provide syphilis case investigations and partner services to syphilis case-patients and their partners. County CDIs perform regular outreach activities targeting case-based venues to screen at-risk individuals. The Scopes of Work in county contracts using syphilis elimination funds stipulate case investigation performance measures related to interviewing case-patients and partner management. In addition to the county CDIs, the ADHS STD Control Program provides one CDI each to Maricopa and Pima Counties to assist in syphilis case investigations and partner services. Coconino and Yuma Counties also provide STD trained public health staff to perform follow-up on syphilis case-patients. ADHS STD Control Program staff provides case investigation and partner services to the other 11 Arizona counties and to tribal jurisdictions throughout the state.

In the spring of 2008, the ADHS STD Control Program partnered with the Maricopa County Public Health Department STD Program to staff three HIV provider clinics with an on-site disease investigation specialist. Early results point to the likelihood that this has enhanced timeliness of patient interviews, especially with patients who are HIV and syphilis co-morbid. Additionally, the program has worked with the Maricopa County STD Program to establish an “express” STD testing clinic for clients who are asymptomatic, not identified as a contact to a known case of disease. These clients will be screened immediately thereby expediting services for clients visiting the clinic.

Program Support Systems

In addition, the Arizona STD program integrated into the Arizona Department of Health Services Office of HIV, STD, and Hepatitis C Services. Currently, the newly integrated office is working to promote an integrated screening system for HIV/STD/Hepatitis C at testing sites throughout Arizona in which a comprehensive risk assessment tool would be used to determine an appropriate testing protocol for clients, thus establishing a “one-stop” testing opportunity for populations at risk for HIV, STDs, and Hepatitis C. In August 2008, the ADHS STD Control Program collaborated with the ADHS HIV Prevention Program in submitting an application for

Arizona Department of Health Services
STD Control Program
2007 Annual Report

supplemental HIV Prevention funds to study the utility of using partner services as a manner in prevention HIV and STDs among MSM in Maricopa County.

The Office of HIV, STD, and Hepatitis C Services is attempting to integrate data among the component programs in the office. To that end, the Office has asked for technical assistance from the CDC and its Program Collaboration and Service Integration (PCSI) project director. The technical assistance site visits will occur in the fall of 2008. Eventually, integrated data will permit the Office to assess the most at risk populations for HIV, STD, and Hepatitis C and to develop interventions best suited to address them.

Over the course of two years, the Arizona STD Control Program has pushed forward with program development and improvement. For instance, the STD Program Manager worked with STD program staff and Arizona Department of Health Services Information Technology Services (ITS) to make important revisions to the Arizona STD database. The updated database debuted in January 2007 after quality assurance tests were completed and after STD staff members (statewide) received training on the revisions. More importantly, the database revisions allow Arizona to create morbidities based on positive lab results for chlamydia and gonorrhea. Continuing in 2007, the ADHS STD Control Program worked with the in-house ITS to develop screens for the new CDC approved Interview Record and to better capture required variables. Slated for 2008, additional revisions/upgrades will include: a de-duplication algorithm for the STD database, the capacity to receive and process electronic lab reports, and the ability to create additional ad hoc reports.

Additionally, ADHS STD Control Program achievements and program enhancements include:

- Applied for and received \$100,000 in Arizona Governor's Health Crisis funds to create a social marketing campaign to prevent and reduce congenital syphilis cases in Arizona
- Applied for and received \$100,000 in Arizona Governor's Health Crisis funds to create a social marketing campaign to prevent and reduce the number of primary and secondary syphilis cases among MSM in Maricopa County
- Created a project for a CDC Public Health Prevention Specialist to study and implement behavioral and community wide interventions that address the high rates of P&S syphilis among MSM
- Promoted policy and statutory changes permitting the use of Expedited Partner Therapy to treat the partners of those infected with chlamydia and gonorrhea
- Received a Tucson Area Indian Health Service Award for the Tohono O'odham Nation syphilis outbreak response in 2007-2008

Lastly, the ADHS STD Control Program collaborates with many partners to achieve its efforts at STD prevention, intervention, and control. The program works with all 15 county health departments in the state, IHS, tribal health departments, and the Inter-Tribal Council of Arizona on case investigation, training, clinical training and updates, and surveillance gathering. Additionally, the program funds three community based organizations (Concilio Latino de Salud, Ebony House, and Southwest Center for HIV and AIDS) that provide syphilis outreach and

education to the Hispanic community, the black community, and the MSM community. These organizations also provide the ADHS STD Control Program with entrée into the local communities. Other collaborating partners include: the ADHS Bureau of Women's and Children's Health, the ADHS Office of Health Disparities, the ADHS State Laboratories, the Arizona Department of Education, the Arizona Department of Corrections, Arizona Department of Youth Corrections, the Maricopa County Correctional Health Services, the Arizona Family Planning Council, and the CDC.

Outbreak Response Plan

The ADHS STD Control Program developed a basic outbreak response plan in 2005 and since that time has revised the plan multiple times to incorporate ever clearer guidance for outbreak response. The purpose of the *Arizona Sexually Transmitted Disease (STD) Outbreak Response Plan* is to guide coordinated efforts between the Arizona STD Control Program (ASTDP), county and local health jurisdictions, tribal health jurisdictions, community-based organizations, and other government and non-government agencies in response to an outbreak of STDs in Arizona. While primarily developed to respond to syphilis outbreaks, the plan also is intended for use in responding to outbreaks of other STDs. The outbreak response plan is based on the Arizona Department of Health Services' [*Guide to Conducting Outbreak Investigations for Arizona*](#), relevant sections of the [*Arizona Administrative Code*](#), Arizona STD Program protocols, and the Centers for Disease Control and Prevention's (CDC) [*Program Operations Guidelines for STD Prevention*](#). The plan sets forth specific criteria for declaring an outbreak based on the outbreak disease and local area of the outbreak (e.g., county, urban, rural, tribal jurisdiction) and provides guidance on outbreak response, including information on reporting, developing response teams, laboratory, clinical and epidemiologic issues, and community and media mobilization. The plan has been used as the basic guidance for responding to three outbreaks in the state during 2007. The most recent version (January 2008) of the plan was distributed to county and tribal and IHS representatives during an annual statewide STD meeting in the spring of 2008. The plan will be reviewed at least annually and updated as needed. The plan is available on the ADHS STD website at <http://www.azdhs.gov/phs/oids/std/index.htm>.