

Allegheny County Health Department

STD/HIV Program

2014 Annual STD Report



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Data Supplied by:

Pennsylvania Department of Health (PA DOH)

Centers for Disease Control and Prevention (CDC)

Population data supplied by:

U.S. Census Bureau of Statistics

Pennsylvania State Data Center (Penn State Harrisburg) via PA DOH

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Executive Summary

Sexually transmitted diseases (STDs) continue to represent a major public health burden nationwide. There are an estimated 20 million new cases of STDs in the United States each year. The direct medical costs of STDs to our healthcare system are approximately \$16 billion. Serious long-term complications from STDs include reproductive health problems (e.g. infertility) and certain cancers (cervical, oral, liver). STDs passed from a mother to her newborn may cause serious illness to her infant. Infections with certain STDs increase an individual's risk for acquiring or transmitting Human Immunodeficiency Virus (HIV). STDs represent an important threat to the health of residents of Allegheny County and to individuals nationwide.

This report outlines the trends of four nationally notifiable STDs (Chlamydia, Gonorrhea, Syphilis and HIV/AIDS), providing an overview of the descriptive epidemiology of these infections in Allegheny County in 2014. The purpose of this report is to give health care providers, policy makers, residents, and other community partners information needed to understand the impact of STDs in Allegheny County.

Chlamydia continues to be the most commonly reported STD in Allegheny County with 5,710 cases reported in 2014. Following increases in chlamydial infections reported each year, declines in reported cases occurred in 2013 and 2014. The rate of 463.8 cases per 100,000 in 2014 represents a 6.3% decrease from 2013 and 11.5% decrease from 2012. While chlamydial infections disproportionately affect blacks, the rate of chlamydia among blacks in 2014 decreased 15% from 2013, while no decline was observed among whites. Approximately half of all cases of chlamydia are reported in young women between the ages of 15 and 24.

Reported gonococcal infections declined for the second year. In 2014, there were 2,084 cases of gonorrhea in Allegheny County, a reduction of 4% from 2013 and 13% from 2012. The decline in gonococcal infections occurred among blacks (7% decrease compared to 2013). The majority of reported cases were among the 15-24 year age group, accounting for 60% of reported cases.

The overall reported rate of early syphilis nearly doubled from 2013 to 2014 (5.1 cases in 2013 to 10.1 cases per 100,000 population in 2014). Of the 124 reported early syphilis cases, 111 (90%) were in males. Among all cases of early syphilis in 2014, 54 (44%) occurred in black males. Moreover, 35% of all early syphilis cases occurred in young black

males (less than 35 years old). Most males diagnosed with syphilis report having sex with men (MSM).

In 2014 there were 132 new HIV infections reported in Allegheny County, 9 more than in 2013 (10.7 versus 10.0 cases per 100,000 population). Similar to other sexually transmitted diseases, higher rates of new HIV infections were observed among black residents. Most (81%) new infections were diagnosed in males. Men who have sex with men represent the single largest risk group for new HIV infections.

Risk reduction strategies and earlier detection and treatment of STDs can lower the risk of acquiring or transmitting an STD. Recent increases in syphilis in Allegheny County and nationwide highlight the important need for strong public health efforts to combat STDs. Renewed effort by medical professionals, educators and community leaders is essential to increase public awareness and reduce the burden of STDs and HIV/AIDs in Allegheny County.

Harold Wiesenfeld, M.D.,C.M.

Director, STD Program

Allegheny County Health Department

Acronyms

ACHD	Allegheny County Health Department
AIDS	Acquired Immunodeficiency Syndrome
CDC	Centers for Disease Control and Prevention
CT	<i>Chlamydia trachomatis</i>
GC	<i>Neisseria gonorrhoeae</i>
HIV	Human Immunodeficiency Virus
IDU	Injection Drug User
MSM	Men who have sex with men
NAAT	Nucleic Acid Amplification Tests
PA	Pennsylvania
P&S	Primary and Secondary Syphilis
PID	Pelvic Inflammatory Disease
STD	Sexually Transmitted Diseases
U.S.	United States

Chlamydia

Chlamydia trachomatis (CT) is the most commonly reported notifiable bacterial STD both in Allegheny County and the United States. Nationwide in 2013, 1,401,906 chlamydia cases were reported to the CDC. It is estimated that nearly 3 million infections occur annually in the US, but most infections remain undetected and untreated because a large proportion of infected individuals are asymptomatic. Even though symptoms of chlamydia are usually mild or absent, if left untreated chlamydial infections can result in pelvic inflammatory disease (PID), which may lead to infertility, ectopic pregnancies and chronic pelvic pain. Pregnant women with chlamydia can pass the infection to their infants during delivery, potentially causing health issues such as ophthalmia neonatorum or pneumonia. Sexually active individuals may be at risk of acquiring chlamydia, and the highest incidence rates are seen in young women aged 15-24 years. Because of the large burden of disease and risks associated with infection, the Centers for Disease Control and Prevention (CDC) recommends that all sexually active women aged <25 years and under undergo annual chlamydia screening.

Nearly 3 million infections occur annually in the US- most infections remain undetected and untreated because a large proportion of infected individuals are asymptomatic

Incidence Rates of Chlamydia

The incidence of chlamydia in Allegheny County consistently increased every year from 2006- 2012, but declined in 2013 and 2014 (Figure 1). The rate of 463.8 cases per 100,000 represents a 6.3% decrease from 2013 and an 11.5% decrease from 2012. (Figures 1, 2, Tables 1, 2). There are several possible reasons for the observed decline in chlamydia cases after years of steady increases. It is possible that declining cases are the result of ongoing chlamydia screening programs that identify and treat individuals with chlamydia and prevent transmission. Alternatively, the decline in reported infections could represent the decreasing ability of existing screening programs to identify chlamydial infections.

In 2014 chlamydial infections in Allegheny County declined by 6.3% compared to 2013

Chlamydia Cases by Sex and Age

During 2014, 66.8% of reported chlamydia cases were in females (Figure 3, Table 3). The incidence rate among women (579.2 cases per 100,000 females) in Allegheny County was approximately 80% higher than the rate among men (318.8 cases per 100,000 males), reflecting a larger number of women screened for chlamydia in accordance with screening guidelines. While the number of reported cases in

Adolescents and young adults are at highest risk for acquiring chlamydia

females declined by 10% in 2014, there were 45 more cases reported in men in 2014 compared to 2013 (2.4% increase). Whether the increase in cases among men represents wider screening of men (e.g. MSM), improved partner services, or other factors remains to be determined.

In Allegheny County and nationwide, adolescents and young adults are at highest risk for acquiring chlamydia. Among women, the highest age-specific rates of reported chlamydia in 2014 were among those aged 15–24 years, accounting for 50% of all reported chlamydial infections (Figure 3 and Table 6). Age-specific rates among men, although substantially lower than the rates among women, were also highest in those aged 15–24 years. The disproportionate infection rates among younger women may be attributed to several factors, such as screening programs that target younger women, greater susceptibility of younger women to chlamydia and risky sexual behavior.

Chlamydia continues to infect thousands of persons in Allegheny County. As adolescents and young women have the highest rate of infection, all sexually active women age 25 and under should be screened annually for chlamydia, and more frequently if they have additional risk factors.

Chlamydia Cases by Race

Chlamydia incidence rates were highest among blacks in 2014 (Table 4). The rate among blacks (1877.2 cases per 100,000 population) was 13 times the rate among whites (138.7 cases per 100,000 population), and 54% of all cases were reported in blacks. In 2014, we continued a two-year reduction in the proportion of chlamydia cases among blacks (9% reduction each year from 2012 to 2014).

Black females in the 15-24-year age group are disproportionately affected, representing 28% of cases of chlamydia in 2014, but only 1.2% of the total population in Allegheny County (Table 6). Of the female cases in the 15-24 year age group, 55% were in black women. These findings are similar to those observed nationally. Understanding and addressing the STD disparities between blacks and whites, particularly among youth, is necessary in order to combat the high burden of STDs.

Chlamydia Screening in Allegheny County

As chlamydial infections are mostly asymptomatic, screening programs have been established to detect infections, particularly in females. Chlamydia is especially

Chlamydia incidence rates are 13 times higher in blacks than in whites

dangerous to young females of childbearing age because of the possible permanent damage to the reproductive system. Left undetected, chlamydia can cause PID, infertility, and ectopic pregnancy. The Allegheny County Health Department (ACHD) provides screening services at the STD Clinic and at several other community sites in the county. As screening programs are targeted towards females, females represent the majority of cases of chlamydia reported in Allegheny County. In 2014, the STD program screened 18,300 patients for chlamydia at the ACHD STD clinic and at affiliated screening sites countywide (Table 7). Overall, 9% of individuals screened through the ACHD STD Program tested positive for chlamydia.

Chlamydia Data Figures and Tables

Figure 1: Chlamydia Incidence Rates* in United States, Pennsylvania and Allegheny County, 2004-2014..

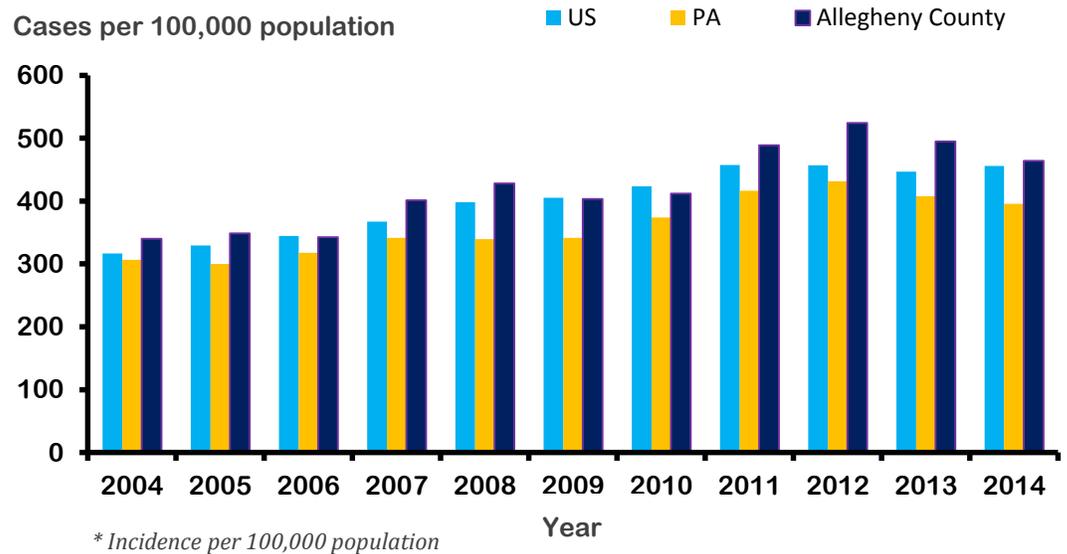


Figure 2: Number of Reported Chlamydia Cases in Allegheny County, 2004-2014.

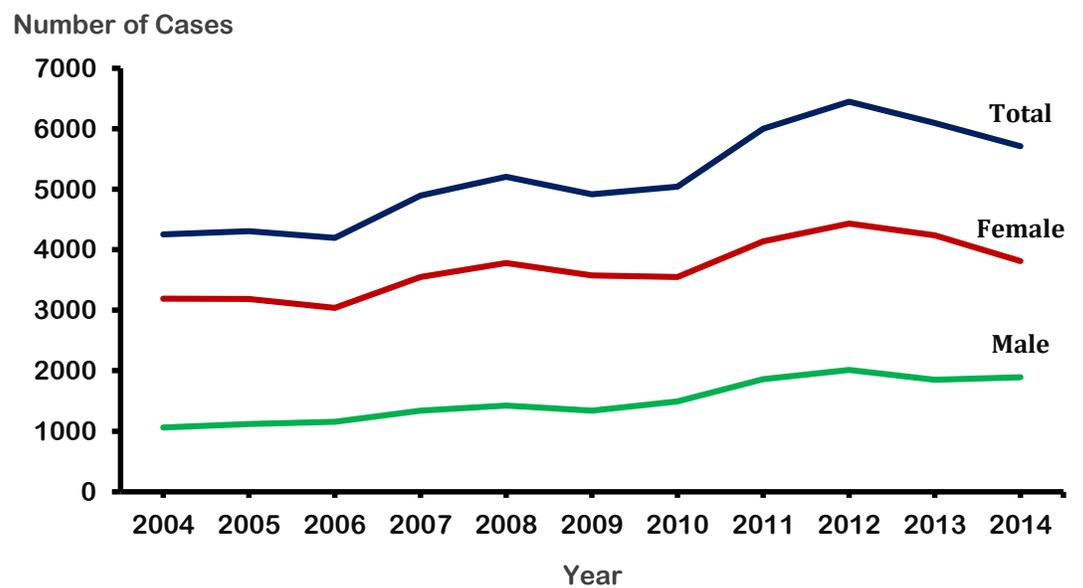
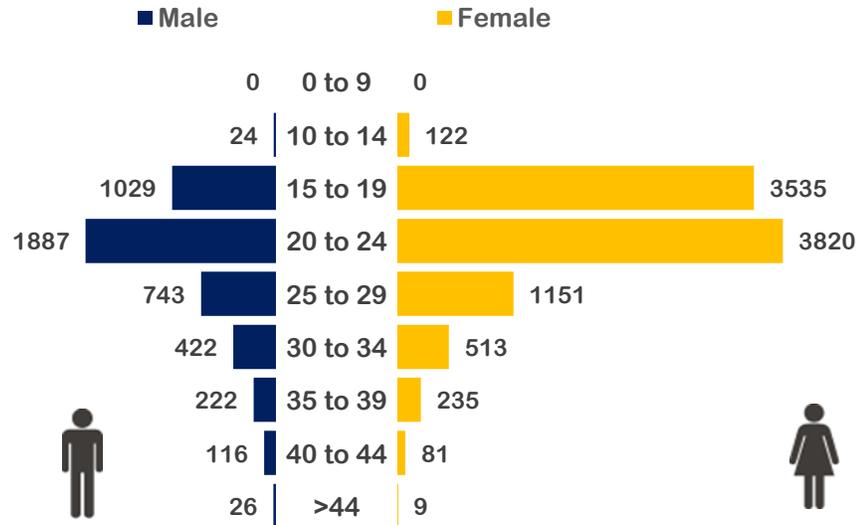


Figure 3: Incidence Rates* of Chlamydia by Age and Sex in Allegheny County, 2014.



* Incidence rate per 100,000 population

Table 1: Incidence Rates* of Chlamydia in United States, Pennsylvania and Allegheny County 2004-2014.

Year	United States#	Pennsylvania#	Allegheny County
2004	316.5	306.5	340.0
2005	329.4	299.8	348.4
2006	344.3	317.7	342.7
2007	367.5	341.6	401.3
2008	398.1	339.3	428.2
2009	405.3	341.7	403.4
2010	423.6	374.1	412.1
2011	457.6	416.3	489.0
2012	456.7	431.6	524.2
2013	446.6	407.8	494.9
2014	456.1	395.6	463.8

* Incidence per 100,000 population

Source: CDC STD Surveillance Reports

Table 2: Reported Cases and Incidence Rates* of Chlamydia in Allegheny County 2004-2014

Year	Number of Reported Cases	Estimated Population [∞]	Incidence Rate*
2004	4,253	1,250,867	340.0
2005	4,306	1,235,841	348.4
2006	4,193	1,223,411	342.7
2007	4,893	1,219,210	401.3
2008	5,203	1,215,103	428.2
2009	4,916	1,218,494	403.4
2010	5,042	1,223,348	412.1
2011	6,000	1,227,066	489.0
2012	6,444	1,229,338	524.2
2013	6,095	1,231,527	494.9
2014	5,710	1,231,255	463.8

*Incidence per 100,000 population

[∞]Based on U.S. Census Bureau estimated population data

Table 3: Reported Cases and Incidence Rates* of Chlamydia by Sex in Allegheny County, 2013-2014

Gender	2013			2014		
	Reported Cases	Estimated Population [∞]	Rate*	Reported Cases	Estimated Population [∞]	Rate*
Female	4,239	639,159	663.2	3,809	637,839	597.2
Male	1,849	592,368	312.1	1,892	593,416	318.8
Unknown	7			9		
Total	6,095	1,231,527	494.9	5,710	1,231,255	463.8

*Incidence per 100,000 population

[∞]Based on U.S. Census Bureau estimated population data

Table 4: Reported Cases and Incidence Rates* of Chlamydia by Race in Allegheny County, 2013-2014

Race	2013			2014		
	Reported Cases	Estimated Population [∞]	Rate*	Reported Cases	Estimated Population [∞]	Rate*
Black	3,665	164,316	2,230.5	3,148	164,611	1,912.4
White	1,347	1,001,635	134.5	1,383	997,557	138.6
Unknown /Other	1,083			1,179		
Total	6,095	1,231,527	494.9	5,710	1,231,255	463.8

*Incidence per 100,000 population

[∞]Based on U.S. Census Bureau estimated population data

Table 5: Reported Chlamydia Cases by Race in Allegheny County 2009-2014

Race	2009 Morbidity	2010 Morbidity	2011 Morbidity	2012 Morbidity	2013 Morbidity	2014 Morbidity
Black	3,091 (62.9%)	3,394 (67.3%)	3,784 (63.1%)	3,976 (61.7%)	3,665 (60.1%)	3,148 (55.1%)
White	1,150 (23.4%)	1,154 (22.9%)	1,338 (22.3%)	1,392 (21.6%)	1,347 (22.1%)	1,383 (24.2%)
Unknown/ Other	675 (13.7%)	494 (9.8%)	878 (14.6%)	1,076 (16.7%)	1,083 (17.8%)	1,179 (20.6%)
Total	4,916	5,042	6,000	6,444	6,095	5,710

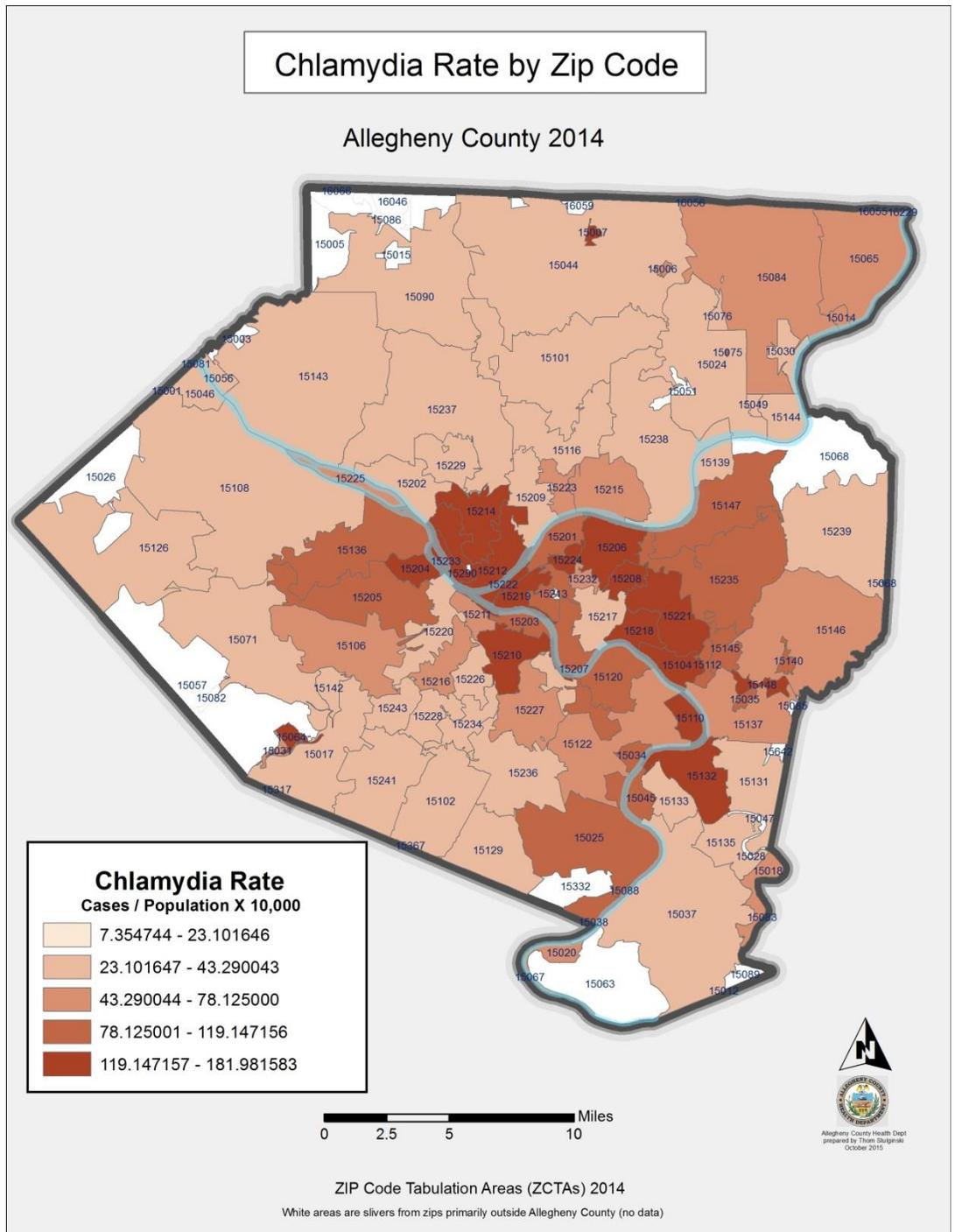
Table 6: Reported Cases of Chlamydia by Age, Race and Sex in Allegheny County- 2014

Age Group	Black		White		Unknown/ Other		Total		Totals
	Female	Male	Female	Male	Female	Male	Female	Male	
0-9	0	0	0	0	0	0	0	0	0
10-14	31	8	1	0	7	0	39	8	47
15-19	801	280	246	36	249	69	1296	385	1681
20-24	771	419	448	156	333	186	1552	761	2313
25-29	278	162	185	107	104	103	567	372	939
30-34	101	90	75	40	37	52	213	182	395
35-39	40	39	23	16	19	23	82	78	160
40-44	12	15	7	14	10	12	29	41	70
45 +	15	27	6	24	7	15	28	66	94
Total	2,049	1,040	991	393	766	460	3,806	1,893	5,699

Table 7: Chlamydia Screening- ACHD and Affiliated Facilities, Allegheny County - 2010-2014

Clinic	Males Screened	Number Positive	Positive %	Females Screened	Number positive	Positive %	Total* Screen	Total Positive	Positive %
2010 STD Clinic	6,801	816	12.0%	4,156	355	8.5%	10,957	1,171	10.7%
2010 All Others	1,966	272	13.8%	12,654	700	5.5%	14,640	972	6.6%
2010 Total	8,767	1,088	12.4%	16,810	1055	6.3%	25,597	2,143	8.3%
2011 STD Clinic	6,961	915	13.1%	4,179	389	9.3%	11,149	1,305	11.7%
2011 All Others	1,837	222	12.1%	8,970	603	6.7%	10,821	825	7.6%
2011 Total	8,798	1,137	12.9%	13,149	992	7.5%	21,947	2,130	9.7%
2012 STD Clinic	6,683	933	14.0%	3,993	365	9.1%	10,679	1,298	12.2%
2012 All Others	2,055	216	10.5%	8,510	596	7.0%	10,566	812	7.7%
2012 Total	8,738	1,149	13.1%	12,503	961	7.7%	21,245	2,110	9.9%
2013 STD Clinic	7,189	883	12.3%	4260	369	8.7%	11,475	1,257	11.0%
2013 All Others	2055	221	10.8%	9108	574	6.3%	11188	796	7.1%
2013 Total	9244	1104	11.9%	13368	943	7.1%	22663	2053	9.1%
2014 STD Clinic	6,151	760	12.4%	3,679	319	8.7%	9,834	1,079	11.0%
2014 All Others	1,363	147	10.8%	7,090	423	6.0%	8,466	570	6.7%
2014 Total	7,514	907	12.1%	10,769	742	6.9%	18,300	1,649	9.0%

Figure 4: Chlamydia Rate by Zip Code, Allegheny County 2014



Gonorrhea

Gonorrhea is the second most commonly reported notifiable disease in the United States and is caused by the bacterium *Neisseria gonorrhoeae*. The highest reported rates of infection are among sexually active African American teenagers and young adults aged 15-24 years. Common symptoms in men include a burning sensation when urinating and a milky discharge from the penis that usually appears 1 to 14 days after acquiring the infection. Symptoms in women include a painful or burning sensation when urinating, increased vaginal discharge, or vaginal bleeding between menstrual periods. Many men and women infected with gonorrhea are asymptomatic. Similar to chlamydia, untreated gonorrhea infections in women can cause PID, which may lead to infertility, ectopic pregnancies and chronic pelvic pain. In men, untreated infection may result in epididymitis which can lead to sterility.

Incidence Rates of Gonorrhea

From 1975 through 1997, the gonorrhea incidence rate in the United States declined 74.3% following the implementation of the national gonorrhea control program in the mid-1970s. Nationwide in 2014, 350,062 gonorrhea cases were reported to the CDC. This is a rate of 110.7 cases per 100,000, which represents an increase of 5.1% compared to 2013 (Figure 4, Table 8). In Pennsylvania, 12,710 cases were reported in 2014, 1164 fewer cases than in 2013 (Figure 4, Table 8).

In Allegheny County, the incidence rate of gonorrhea declined by 4% from 2013 to 2014

In Allegheny County, gonorrhea cases declined for the second year in a row (Figure 5). During 2014, 2,084 cases were reported, 4% fewer cases than in 2013 (Figure 5, Table 9). The incidence rate of gonorrhea also declined by 4% to 169.3 per 100,000 cases in 2014 (Figure 4, Table 9).

Gonorrhea by Sex and Age

In Allegheny County the gonorrhea incidence was higher in females than in males in 2014, with a rate of 172.6 cases per 100,000 compared to 165.7 cases per 100,000 among males (Table 10). Of reported cases, 52.8% were among women. Although females generally have higher rates of gonorrhea than males, the differences have not been as great as seen with chlamydia because a higher proportion of infections are symptomatic and detected. Of the female cases reported, 69.5% were in the 15-24 year age group (Figure 6, Table 13). Among men, 49.6% of cases were among 15-24 year olds (Figure 6, Table 13). Cases

among men increased by 11% from 2013 to 2014. Increased screening in males, both among MSM and men who have sex with women, may explain this increase.

Gonorrhea by Race

During 2014, 69.2% of reported gonorrhea cases were in the black population, a slight decline compared to 2013, and 19.5% were in the white population, a slight increase compared to 2013 (Table 11), while blacks comprise 13.3% of the county's population. The incidence rate among blacks was 21 times the rate among whites (858.4 and 40.4 cases per 100,000 population, respectively). Infections in young black women ages 15-24 years represent one-half of all female cases of gonorrhea reported in Allegheny County (Table 13). Education, outreach programs and effective targeted screening programs are important to decrease the morbidity in this population.

Gonorrhea Screening in Allegheny County

In 2014, ACHD screened 18,300 individuals for gonorrhea in the STD Clinic and at several other community sites in the county. Among those screened, 2.9% tested positive for gonorrhea (Table 14).

Gonorrhea Data Figures and Tables

Figure 5: Gonorrhea Incidence Rates* in United States, Pennsylvania, and Allegheny County, 2004-2014.

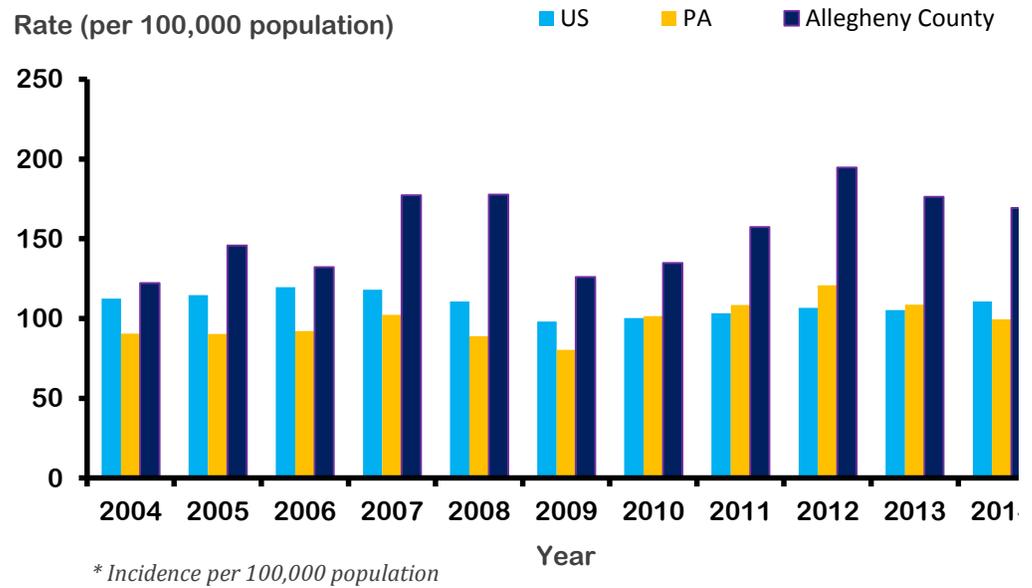


Figure 6: Number of Reported Gonorrhea Cases in Allegheny County, 2004-2014.

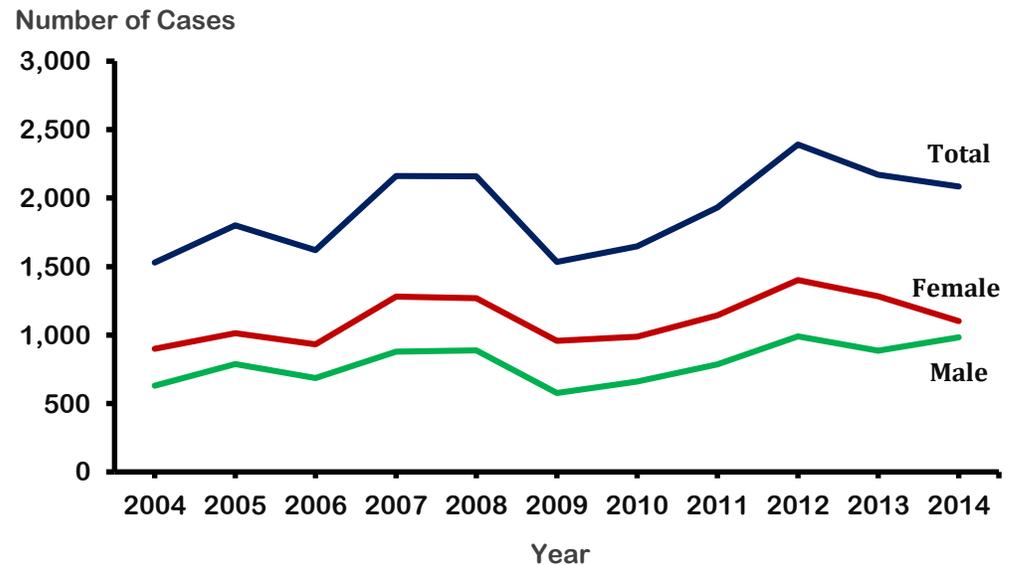
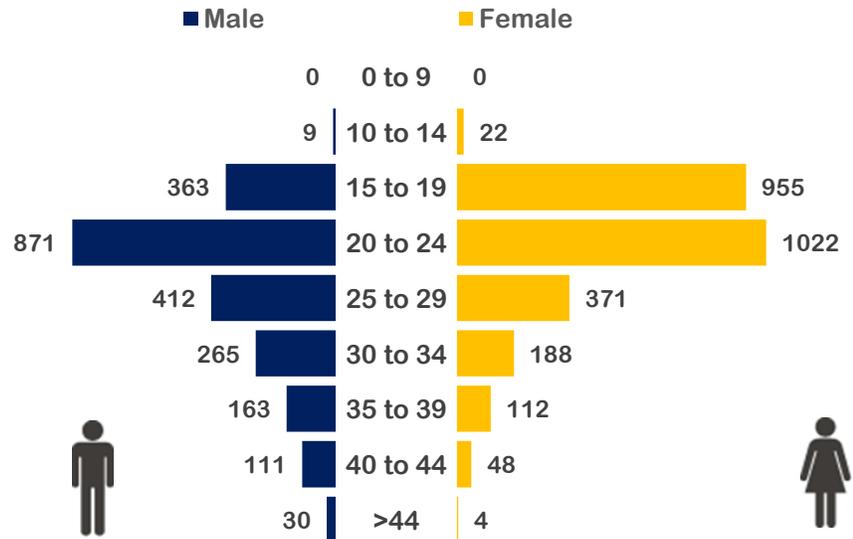


Figure 7: Incidence Rates* of Gonorrhea by Age and Sex in Allegheny County, 2014.



* Incidence per 100,000 population

Table 8: Incidence Rates* of Gonorrhea in United States, Pennsylvania and Allegheny County 2004-2014.

Year	United States#	Pennsylvania#	Allegheny County
2004	112.4	90.6	122.2
2005	114.6	90.3	145.8
2006	119.7	92.2	132.3
2007	118.0	102.2	177.2
2008	110.7	88.9	177.6
2009	98.1	80.4	126.0
2010	100.2	101.4	134.7
2011	104.2	108.4	157.4
2012	107.5	120.8	194.6
2013	106.1	108.7	176.2
2014	110.7	99.5	169.3

* Incidence per 100,000 population

Source: CDC STD Surveillance Reports

Table 9: Reported Cases and Incidence Rates* of Gonorrhea in Allegheny County 2004-2014

Year	Number of Reported Cases	Estimated Population [∞]	Incidence Rate*
2004	1,529	1,250,867	122.2
2005	1,802	1,235,841	145.8
2006	1,619	1,223,411	132.3
2007	2,161	1,219,210	177.2
2008	2,158	1,215,103	177.6
2009	1,535	1,218,494	126.0
2010	1,648	1,223,348	134.7
2011	1,931	1,227,442	157.4
2012	2,392	1,229,338	194.6
2013	2,170	1,231,527	176.2
2014	2,084	1,231,255	169.3

*Incidence per 100,000 population

[∞]Based on U.S. Census Bureau estimated population data

Table 10: Reported Cases and Incidence Rates* of Gonorrhea by Sex in Allegheny County, 2013-2014

Gender	2013			2014		
	Reported Cases	Estimated Population [∞]	Rate*	Reported Cases	Estimated Population [∞]	Rate*
Female	1,283	639,159	200.7	1,101	637,839	172.6
Male	886	592,368	149.6	983	593,416	165.7
Unknown	1					
Total	2,170	1,231,527	176.2	2,084	1,231,255	169.3

*Incidence per 100,000 population

[∞]Based on U.S. Census Bureau estimated population data

Table 11: Reported Cases and Incidence Rates* of Gonorrhea by Race in Allegheny County, 2013-2014

Race	2013			2014		
	Reported Cases	Estimated Population [∞]	Rate*	Reported Cases	Estimated Population [∞]	Rate*
Black	1,556	164,316	947.0	1,443	164,611	876.6
White	359	1,001,635	35.8	407	997,557	40.8
Unknown/Other	255			234		
Total	2,170	1,231,527	176.2	2,084	1,231,255	169.3

*Incidence per 100,000 population

[∞]Based on U.S. Census Bureau estimated population data

Table 12: Reported Gonorrhea Cases by Race in Allegheny County 2009-2014

Race	2009 Morbidity	2010 Morbidity	2011 Morbidity	2012 Morbidity	2013 Morbidity	2014 Morbidity
Black	1131 (73.7%)	1328 (80.6%)	1421 (73.6%)	1718 (71.8%)	1556 (71.7%)	1443 (69.2%)
White	277 (18.0%)	242 (14.7%)	324 (16.8%)	405 (16.9%)	359 (16.5%)	407 (19.5%)
Unknown /Other	127 (8.3%)	78 (4.7%)	186 (9.6%)	269 (11.2%)	255 (11.8%)	234 (11.2%)
Total	1535	1648	1931	2392	2170	2084

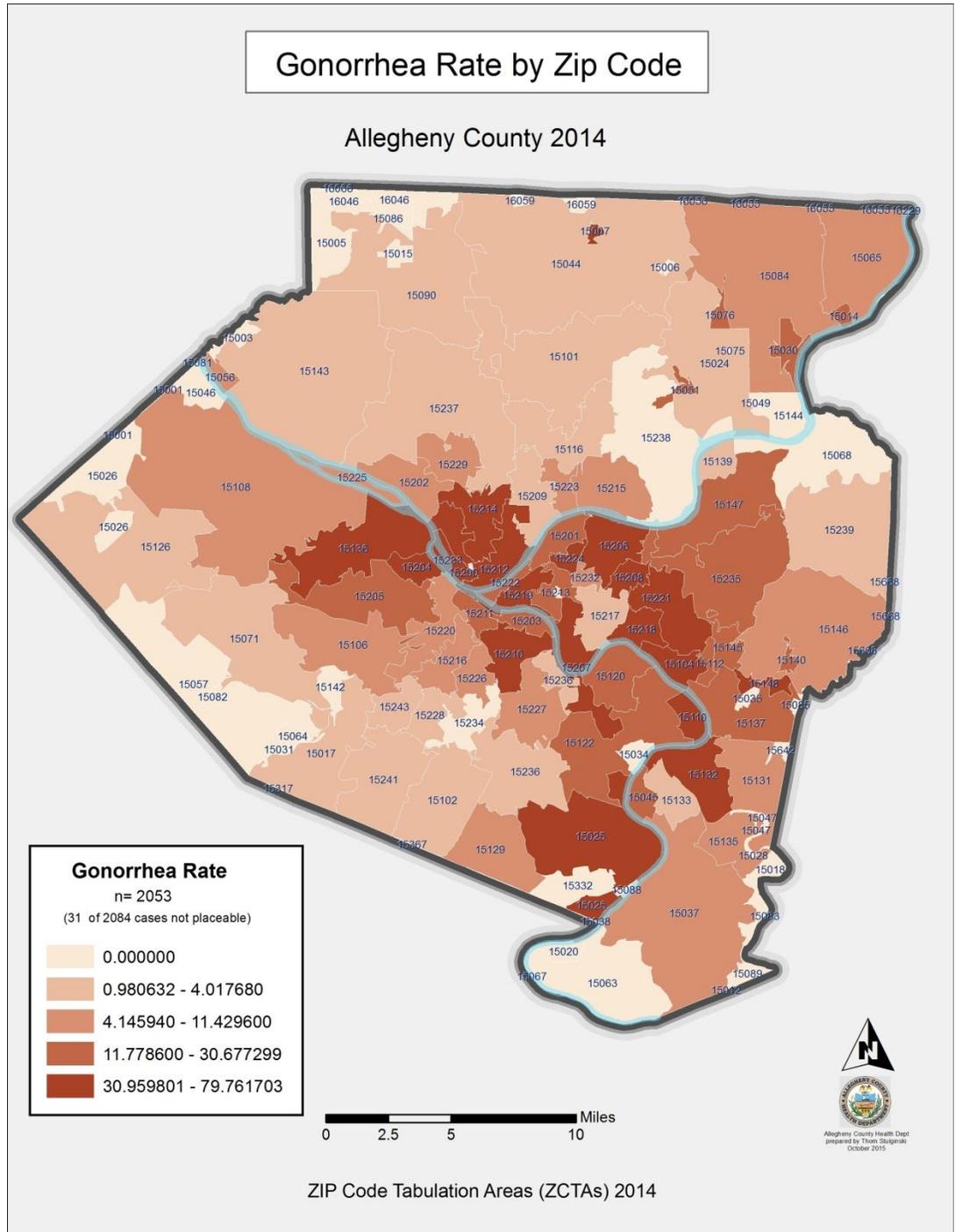
Table 13: Reported Cases of Gonorrhea by Age, Race and Sex in Allegheny County- 2014

Age Group	Black		White		Unknown/ Other		Total		Totals
	Female	Male	Female	Male	Female	Male	Female	Male	
0-9	0	0	0	0	0	0	0	0	0
10-14	7	3	0	0	0	0	7	3	10
15-19	264	105	41	11	45	20	350	136	486
20-24	285	246	83	66	47	39	415	351	766
25-29	122	130	46	48	15	28	183	206	389
30-34	48	68	23	20	7	26	78	114	192
35-39	26	36	11	12	2	9	39	57	96
40-44	8	22	5	11	4	6	17	39	56
45 +	7	36	4	22	1	17	12	75	87
Total	767	646	213	190	121	145	1,101	981	2,082

Table 14: Gonorrhea Screening, ACHD and Affiliated Facilities, Allegheny County 2010-2014

Clinic	Males Screened	Number Positive	Positive %	Females Screened	Number positive	Positive %	Total* Screen	Total Positive	Positive %	
2010	STD Clinic	6,801	402	5.9%	4,156	148	3.6%	10,968	551	5.0%
	All Others	1,829	77	4.2%	12,805	183	1.4%	14,461	261	1.8%
	2010 Total	8,630	479	5.6%	16,961	331	2.0%	25,429	812	3.2%
2011	STD Clinic	6,961	449	6.5%	4,180	141	3.4%	11,150	590	5.3%
	All Others	1,835	52	2.8%	8,971	128	1.4%	10,811	180	1.7%
	2011 Total	8,796	501	5.7%	13,151	269	2.0%	21,961	770	3.5%
2012	STD Clinic	6,683	497	7.4%	3,993	175	4.4%	10,679	672	6.3%
	All Others	2,055	58	2.8%	8,510	157	1.8%	10,566	216	2.0%
	2012 Total	8,738	555	6.3%	12,503	332	2.7%	21,245	888	4.2%
2013	STD Clinic	7,192	493	6.9%	4,262	159	3.7%	11,480	656	6.3%
	All Others	2,055	50	2.4%	9,110	167	1.8%	11,190	218	2.0%
	2013 Total	9,247	543	5.9%	13,372	326	2.4%	22,670	874	3.9%
2014	STD Clinic	6,151	289	4.7%	3,679	89	2.4%	9,834	379*	3.9%
	All Others	1,363	64	4.7%	7,090	87	1.2%	8,466	151	1.8%
	2014 Total	7,514	353	4.7%	10,769	176	1.6%	18,300	530	2.9%

Figure 8: Gonorrhoea Rate by Zip Code, Allegheny County 2014



Syphilis

Syphilis is caused by the bacterium *Treponema pallidum*. Syphilis is transmitted from person to person by direct sexual contact with an infected partner during vaginal, oral or anal sex, or during pregnancy from an infected mother to her fetus. Syphilis is divided into disease stages—primary, secondary, early latent (within 1 year of infection), late latent (more than 1 year after infection) and tertiary. The term “early syphilis” includes primary, secondary and early latent syphilis. The hallmark symptom of primary syphilis is a round, typically painless sore (in the genitals, rectum or mouth) called a chancre that usually disappears in about 3 to 6 weeks. In the secondary stage, the most common symptom is a rash on the palms of the hands and the soles of the feet. Without treatment, the infection may progress to the tertiary stage of syphilis which may cause damage to the central nervous system, heart or other organs. Vertical transmission of syphilis to newborns can result in stillbirth, anomalies and/or developmental delays.

Incidence Rate of Syphilis

The rate of primary and secondary (P&S) syphilis reported in the U.S. decreased during the 1990s, but in 2001 the rate of syphilis nationwide began to increase. Syphilis remains an important emerging problem nationwide, particularly in urban areas. In the U.S. the incidence rate of P&S syphilis was 6.3 cases per 100,000 population in 2014, an increase of 15.1% over 2013 (Figure 7, Table 15). In Pennsylvania, there were 532 P&S infections in 2014 [4.2 cases per 100,000 population], a 14% increase from 2013. In Allegheny County 68 cases of primary and secondary syphilis were reported in 2014 (5.5 cases per 100,000 population), compared to 28 cases in 2013 and 55 cases in 2012. There were a total of 124 cases of early syphilis (primary, secondary and early latent), a 97% percent increase in cases since 2013, and a 31% increase from 2012 (Figures 9, 10; Table 16).

Early syphilis cases have increased in Allegheny County by 31% from 2012 to 2014

2014, 90% of reported early syphilis cases in Allegheny County were in men

Early Syphilis incidence rate is 7.6 times higher in blacks than in whites

46% of individuals diagnosed with early syphilis were HIV positive

Syphilis by Age and Sex

In contrast to chlamydia and gonorrhea, syphilis is not commonly reported among adolescents. Of the 124 cases of early syphilis reported in 2014, 92% were older than 20 years of age. (Table 21). Syphilis is far more common in men than women, with 90% of early syphilis cases occurring in men. Further, syphilis cases are highest among men who have sex with men (MSM) (Table 22), with 88 male cases reporting sexual contact with males (MSM), accounting for 71% of all early syphilis cases. The incidence rate of syphilis in men (18.7 cases per 100,000 population) is over 9 times higher than the incidence rate of syphilis in women (2.0 cases per 100,000 population) (Table 17). Syphilis is particularly dangerous in pregnancy, as pregnant females can transmit the organism to their newborns, causing congenital syphilis. Congenital syphilis infections can cause stillbirths, deformities, developmental delays, blindness and other permanent damage to a fetus and newborn. Females who are pregnant should be screened for syphilis at the first prenatal visit and, if indicated, in the third trimester. Prenatal screening is extremely important, as treatment in pregnancy may prevent congenital syphilis. During 2014 there were no cases of congenital syphilis reported in Allegheny County. The last congenital syphilis case was reported in 2006.

Early reporting, intensive investigation and treatment of sex partners have been keys the control of syphilis. ACHD screens at designated sites throughout the county, focusing on at-risk individuals and pregnant women.

Syphilis by Race

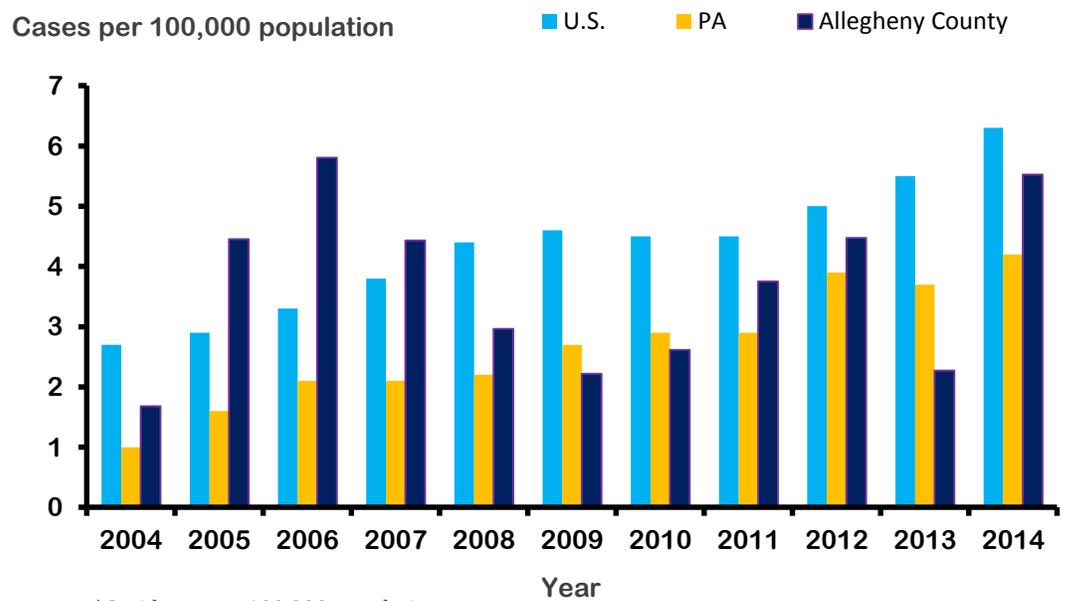
During 2014, 42% of reported early syphilis cases were in the white population and 52% were in the black population. (Table 18). The rate of early syphilis was 7.6 fold greater in blacks than whites (39.5 vs 5.2 cases per 100,000). The rise in syphilis in Allegheny County has been most notable in the black male population, with 44% of cases of early syphilis diagnosed among black males compared to 32% of cases in 2013 and 2012. Among all early syphilis cases in individuals between 20 and 34 years of age, 53% were among Black males, compared to 39% in 2013 and 38% in 2012

Syphilis and HIV

Of the 124 reported cases of early syphilis in Allegheny County in 2014, 45 individuals were also infected with HIV (36% coinfection rate). All of the coinfection cases were among males and 86% were among MSM. Education and effective prevention messages are needed to be targeted at this population to decrease the rate of coinfection.

Syphilis Data Tables and Figures

Figure 9: P&S Syphilis Incidence Rates* in United States, Pennsylvania and Allegheny County, 2004-2014.



* Incidence per 100,000 population

Table 15: Incidence Rates* of P&S Syphilis in United States, Pennsylvania and Allegheny County 2004-2014.

Year	United States#	Pennsylvania#	Allegheny County
2004	2.7	1.0	1.7
2005	2.9	1.6	4.5
2006	3.3	2.1	5.8
2007	3.8	2.1	4.4
2008	4.4	2.2	3.0
2009	4.6	2.7	2.2
2010	4.5	2.9	2.6
2011	4.5	2.9	3.7
2012	5.0	3.9	4.5
2013	5.5	3.7	2.3
2014	6.3	4.2	5.5

* Incidence per 100,000 population

Source: CDC STD Surveillance Reports

Figure 10: Number of Reported Early Syphilis[‡] Cases in Allegheny County, 2003-2013.

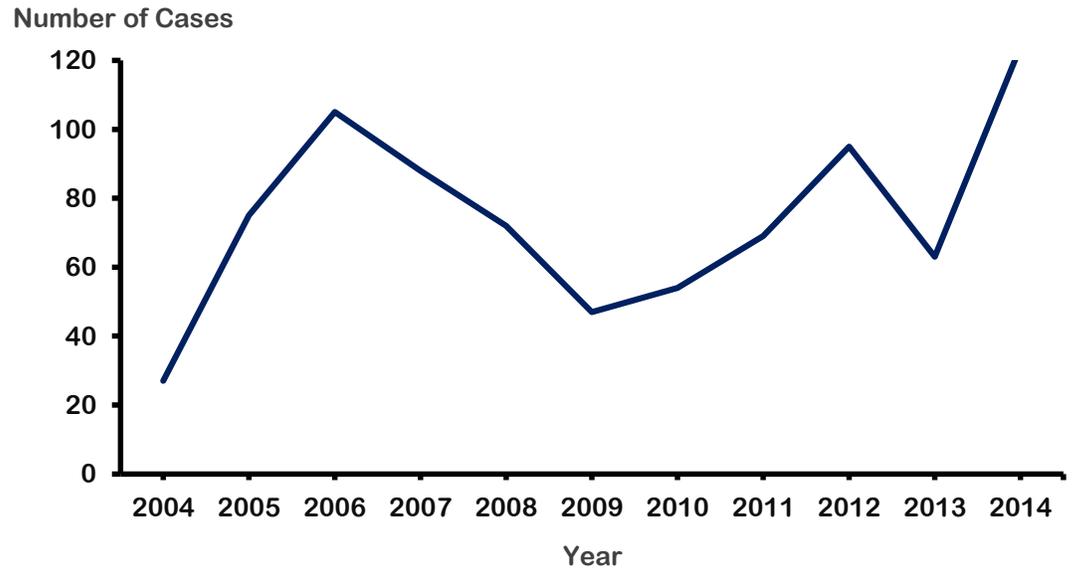
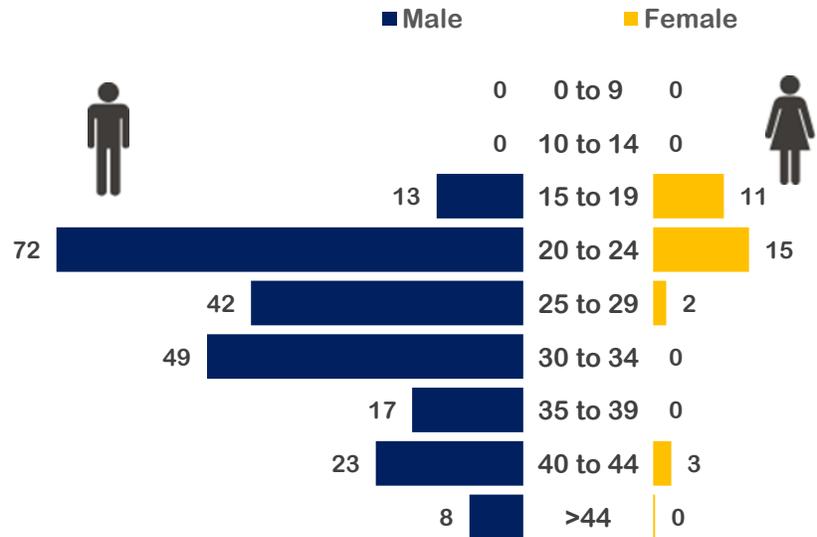


Figure 11: Incidence Rates* of Early Syphilis‡ by Age and Sex in Allegheny County, 2014.



* Incidence per 100,000 population

‡ Primary, Secondary and Early Latent Syphilis

Table 16: Reported Cases and Incidence Rates* of Early Syphilis[‡] in Allegheny County 2004-2014

Year	Number of Reported Cases	Estimated Population [⊘]	Incidence Rate*
2004	27	1,250,867	2.2
2005	75	1,235,841	6.1
2006	105	1,223,411	8.6
2007	88	1,219,210	7.2
2008	72	1,215,103	5.9
2009	47	1,218,494	3.9
2010	54	1,223,348	4.4
2011	69	1,227,442	5.6
2012	95	1,229,338	7.7
2013	63	1,231,527	5.1
2014	124	1,231,255	10.1

*Incidence per 100,000 population

[⊘]Based on U.S. Census Bureau estimated population data

[‡]Primary, Secondary and Early Latent Syphilis

Table 17: Reported Cases and Incidence Rates* of Early Syphilis[‡] by Sex in Allegheny County, 2013-2014

Gender	2013			2014		
	Reported Cases	Estimated Population [⊘]	Rate*	Reported Cases	Estimated Population [⊘]	Rate*
Female	7	639,159	1.1	13	637,839	2.0
Male	56	592,368	9.5	111	593,416	18.7
Total	63	1,231,527	5.1	124	1,231,255	10.1

*Incidence per 100,000 population

[⊘]Based on U.S. Census Bureau estimated population data

[‡]Primary, Secondary and Early Latent Syphilis

Table 18: Reported Cases and Incidence Rates* of Early Syphilis[‡] by Race in Allegheny County, 2013-2014

Race	2013			2014		
	Reported Cases	Estimated Population ^α	Rate*	Reported Cases	Estimated Population ^α	Rate*
Black	24	164,316	14.6	65	164,611	39.5
White	32	1,001,635	3.2	52	997,557	5.2
Unknown/ Other	7			7		
Total	63	1,231,527	5.1	124	1,231,255	10.1

*Incidence per 100,000 population

^αBased on U.S. Census Bureau estimated population data
Primary, Secondary and Early Latent Syphilis

Table 19: Early Syphilis[‡] Cases by Disease Category and Year of Diagnosis in Allegheny County

Year	Primary	Secondary	Early Latent	Totals
2004	8	13	6	27
2005	22	33	20	75
2006	21	50	34	105
2007	21	33	34	88
2008	6	30	36	72
2009	8	19	20	47
2010	7	25	22	54
2011	7	39	23	69
2012	17	38	40	95
2013	6	22	35	63
2014	24	44	56	124

[‡]Primary, Secondary and Early Latent Syphilis

Table 20: Early Syphilis[‡] Cases by Sex and Year of Diagnosis in Allegheny County

Year	Male	Female	Total
2004	17 (63%)	10 (37%)	27
2005	43 (57%)	32 (43%)	75
2006	79 (65%)	42 (35%)	121
2007	53 (60%)	35 (40%)	88
2008	55(76%)	17 (24%)	72
2009	38 (81%)	9 (19%)	47
2010	50(93%)	4 (7%)	54
2011	62 (90%)	7 (10%)	69
2012	87(92%)	8(8%)	95
2013	56(89%)	7(11%)	63
2014	111(90%)	13(10%)	124

[‡]Primary, Secondary and Early Latent Syphilis

Table 21: Reported Case of Early Syphilis[‡] by Age, Race and Sex in Allegheny County - 2014

Age Group	Black		White		Unknown /Other		Total		
	Female	Male	Female	Male	Female	Male	F	M	TOTAL
0-9	0	0	0	0	0	0	0	0	0
10-14	0	0	0	0	0	0	0	0	0
15-19	4	3	0	1	0	1	4	5	9
20-24	5	18	0	10	1	1	6	29	35
25-29	1	15	0	5	0	1	1	21	22
30-34	0	8	0	11	0	2	0	21	21
35-39	0	3	0	3	0	0	0	6	6
40-44	0	2	1	5	0	1	1	8	8
45 +	1	5	0	16	0	0	1	21	22
Total	11	54	0	51	1	6	13	111	124

[‡]Primary, Secondary and Early Latent Syphilis

Table 22: Risk Factors Associated with Syphilis[&] in Allegheny County - 2014

Exposure Category	Number of Cases		
	Female	Male	Total cases
Sex with female	0	18	18
Sex with male	11	88	99
Sex with MSM	1	87	88
Sex with HIV/AIDS infected person	0	15	15
Sex with anonymous person	3	46	49
Sex with person picked up from Internet	0	36	36
Multiple Sex partners	9	75	84
Non-injection drug (IDU) user	1	17	18
Previous History of STDs	8	44	52

[&]Data based on self-reporting

HIV/AIDS

Human immunodeficiency virus (HIV) is a retrovirus that causes acquired immune deficiency syndrome (AIDS), a disease characterized by progressive deterioration of the immune system. The diminished immune function places infected individuals at risk for opportunistic infections, which may lead to death.

In Allegheny County the cumulative number of HIV cases reported since 1981 to date is 4,599 (Table 23). In 2014 there were 132 new cases of HIV reported in Allegheny County, 9 more cases than reported in 2013 (Table 25). Since 2009, the number of new HIV infections ranged between 123 and 133 (Table 25). Most new infections occurred in males (81%), and while a similar number of male cases occurred in blacks and whites, the rate of new infections among black men was far greater than the rate observed in white men (64.5 versus 9.5 per 100,000 population) (Table 24). In women, 19 of the 25 new HIV infections were in blacks. Recent trends demonstrate increasing proportion of new infections among blacks, particularly black males, in Allegheny County. Thirty-seven percent of new infections in 2014 were observed in black males, while overall 31% of HIV infections ever reported in Allegheny County were in black males. Most new infections (78) occurred among men who have sex with men (MSM- Table 26). Only two people admitted to having sex with a known injection drug user. No cases of pediatric HIV were reported in Allegheny County in 2014.

In 2014 there were 56 cases of AIDS reported in Allegheny County, 20% fewer cases than in 2013 (Table 28). Forty-eight of these new AIDS cases are male (86%). The proportion of individuals reported with AIDS in 2014 who were white and black were 43% (24) and 52% (29), respectively. Overall there have been 3,129 cases of AIDS reported in Allegheny County.

HIV/AIDS Figures and Tables

HIV Data Figures and Tables

Figure 12: Number of Reported HIV Cases in Allegheny County, 2009-2014

Number of Cases

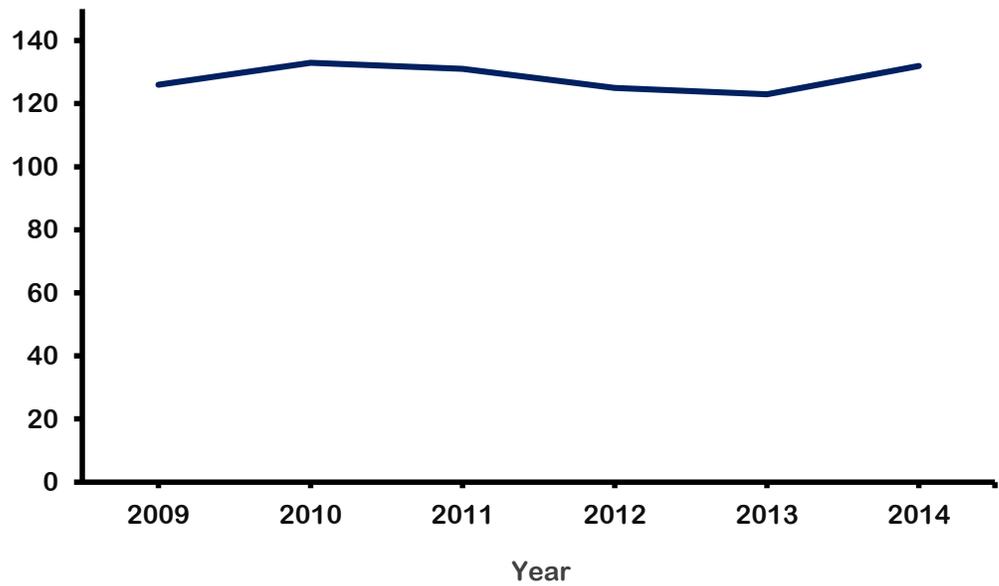


Figure 13: HIV Cases by Age and Sex in Allegheny County 2014

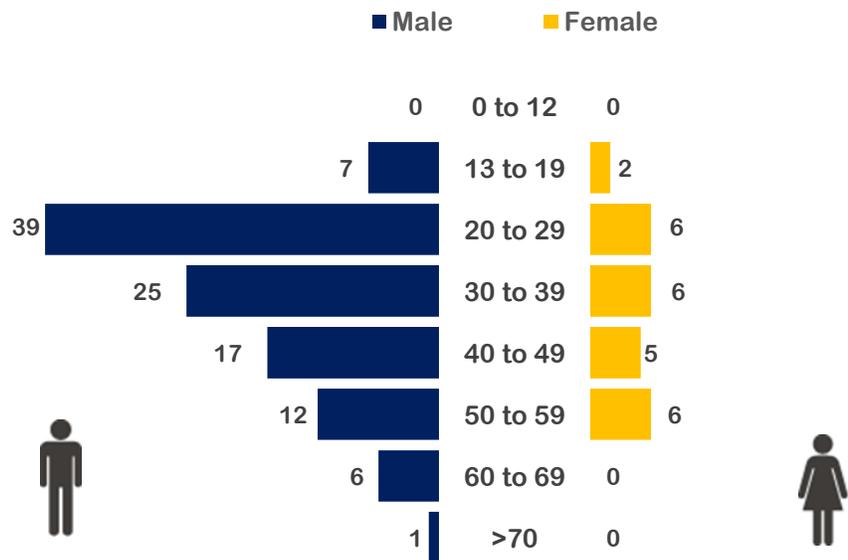


Table 23: Cumulative HIV Cases by Sex and Race in Allegheny County to 2014

Race	Male	Female	Total
Black	1,416	544	1,960
White	2,099	199	2,298
Unknown/Other	293	48	341
Total	3,808	791	4,599

Table 24: New Reported HIV Cases and Incidence Rates* by Sex and Race in Allegheny County – 2014

Race	Male	Estimated Population [∞]	Rate*	Female	Estimated Population [∞]	Rate*	Total Cases
Black	49	75,994	64.5	19	88,617	21.4	68
White	46	483,238	9.5	5	514,319	1.0	51
Unknown/Other	12			1			13
Total	107	593,416	18.0	25	637,839	3.9	132

*Incidence per 100,000 population

[∞]Based on U.S. Census Bureau estimated population data

Table 25: Reported HIV Cases and Incidence Rates* in Allegheny County, 2009-2014

Year	New Cases	Estimated Population [∞]	Incidence Rate*
2009	126	1,218,494	10.3
2010	133	1,223,348	10.9
2011	131	1,227,442	10.7
2012	125	1,229,338	10.2
2013	123	1,231,527	10.0
2014	132	1,231,255	10.7

*Incidence per 100,000 population

[∞]Based on U.S. Census Bureau estimated population data

Table 26: Common Identified Risk Factors[&], New Reported HIV Cases - 2014

Exposure Category	Number of Cases		
	Male	Female	Total
Sex with injection drug user	0	2	2
Sex with person who has documented HIV infection	7	2	9
Sex with female	46	0	46
Sex with male	78	24	102
Other	0	0	0

[&]Data based on self-reporting, cases may have multiple risk factors

AIDS Data Figures and Tables

Figure 14: Number of Reported AIDS Cases in Allegheny County, 2009-2014

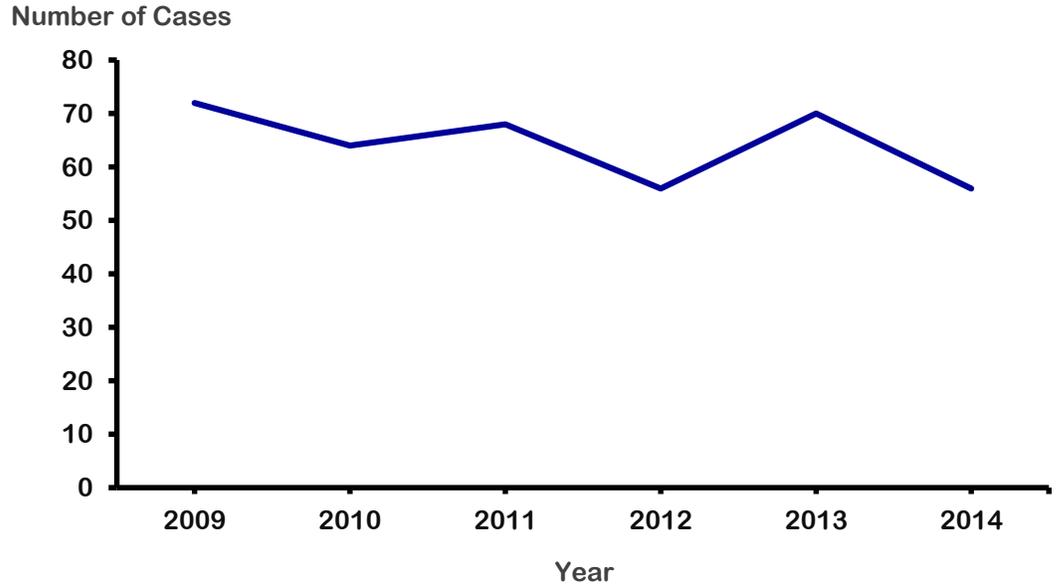


Table 27: 2014 AIDS Reported Cases and Incidence Rates* by Sex and Race in Allegheny County

Race	Male	Estimated Population [∞]	Rate*	Female	Estimated Population [∞]	Rate*	Total Cases
Black	23	75,994	30.3	6	88,617	6.8	29
White	23	483,238	4.8	1	514,319	0.2	24
Unknown/Other	2			1			3
Total	48	593,416	8.1	8	637,839	1.3	56

*Incidence per 100,000 population

[∞]Based on U.S. Census Bureau estimated population data

Table 28: Reported Adult AIDS Cases and Incidence Rates in Allegheny County, 2009-2014*

Year	Reported Cases	Estimated Population^α	Incidence Rate*
2009	73	1,218,494	6.0
2010	64	1,223,348	5.2
2011	68	1,227,442	5.5
2012	56	1,229,338	4.6
2013	70	1,231,527	5.7
2014	56	1,231,255	4.5

**Incidence per 100,000 population*

^αBased on U.S. Census Bureau estimated population data

Risk Reduction Guide

- To decrease your risk for STD infection follow the ABC method:
 - **A – ABSTAIN** from sex until married or in a long term committed relationship
 - **B – BE FAITHFUL** in marriage and long term committed relationships
 - **C – USE A CONDOM** consistently and correctly if neither A nor B is followed

- Avoid getting drunk or high in situations where sex may be a possibility. When people are under the influence of alcohol or other drugs, they are less likely to abstain from sex or to use condoms.

- People may get infected with STDs through vaginal intercourse, anal intercourse, or oral sex.

- Many individuals who are infected with an STD do not have any symptoms. It is best for all partners to get screened for STDs/HIV prior to any sexual activity.

- If you decide to have sex, use a new LATEX condom for each act of intercourse. The condom forms a barrier between you and your partners' sexual fluids that may transmit STD or HIV. Consistent and correct use of condoms provides a high level of protection.

- Do not share needles for any reason. Clean needles are available through the Prevention Point needle exchange program at the county health department and another site in the Hill District. (<http://www.pppgh.org/>). If you do share needles, learn how to disinfect them with bleach and water. Disinfection with bleach only reduces the risk of getting HIV, it doesn't eliminate the risk.

Glossary

ASYMPTOMATIC	Having no signs or symptoms of a disease. All STDs are asymptomatic at some time during the phase of the disease process. This makes it necessary for high-risk individuals and exposed sex partners to be tested.
INCIDENCE	The proportion of new cases of a disease occurring in a population during a specified time period, usually one year. Incidence is usually described as the number of cases per 100,000 individuals.
MORBIDITY	The number of people in a community who have a specified disease.
MORTALITY	The number of deaths caused by a disease.
PID	Pelvic Inflammatory Disease. Inflammation of the female pelvic organs; usually the result of gonococcal or chlamydia infection. Treatment of PID may require hospitalization. PID is a major cause of involuntary sterilization in females.
POPULATION	The population statistics used in this report are from the U.S. Census Bureau and the Pennsylvania State Data Center (Penn State Harrisburg) via PA DOH
PREVALENCE	The number of existing cases of a disease in a given population at a specific time.
PRIMARY SYPHILIS	Primary syphilis is the most infectious stage of the disease. The first clinical sign is the chancre, or lesion, usually on the genitals. Primary syphilis is defined by the presence of the initial syphilitic lesion. The lesion will disappear without treatment within a matter of weeks.
SECONDARY SYPHILIS	Symptoms of secondary syphilis usually occur two to four months after infection, and about a month after the lesions have disappeared. Secondary syphilis can cause a broad spectrum of skin conditions including various rashes, mucous patches, and loss of hair. These symptoms will also disappear. Secondary syphilis is also an infectious stage of the disease.
EARLY LATENT SYPHILIS	An asymptomatic infectious stage within one year of the initial infection.

LATE LATENT
SYPHILIS

Late latent syphilis is the stage in which no clinical signs or symptoms are present. This stage is defined as being over one year and can extend beyond 20 years.

CONGENITAL
SYPHILIS

Syphilis in the newborn. Infants are infected by their mothers during pregnancy. This is a preventable condition, which is extremely serious and results in syphilitic stillbirth approximately 40% of the time. Pregnant females in Pennsylvania are required to have a syphilis blood test performed on their first prenatal visit and they should be rescreened in the third trimester if indicated. If detected early enough, the mother's infection can be easily treated, resulting in a healthy pregnancy and baby.

ALLEGHENY COUNTY HEALTH DEPARTMENT

Sexually Transmitted Disease, HIV/AIDS Clinic

3441 Forbes Avenue (Oakland)

Pittsburgh, PA 15213

412-578-8081

Walk-In, Free, Confidential Testing and Treatment

Clinic Hours

Monday	8:30 AM to 3:30 PM
Tuesday	8:30 AM to 3:30 PM
Wednesday	12:30 PM to 7:30 PM
Thursday	8:30 AM to 3:30 PM
Friday	8:30 AM to 3:30 PM

Closed on Holidays