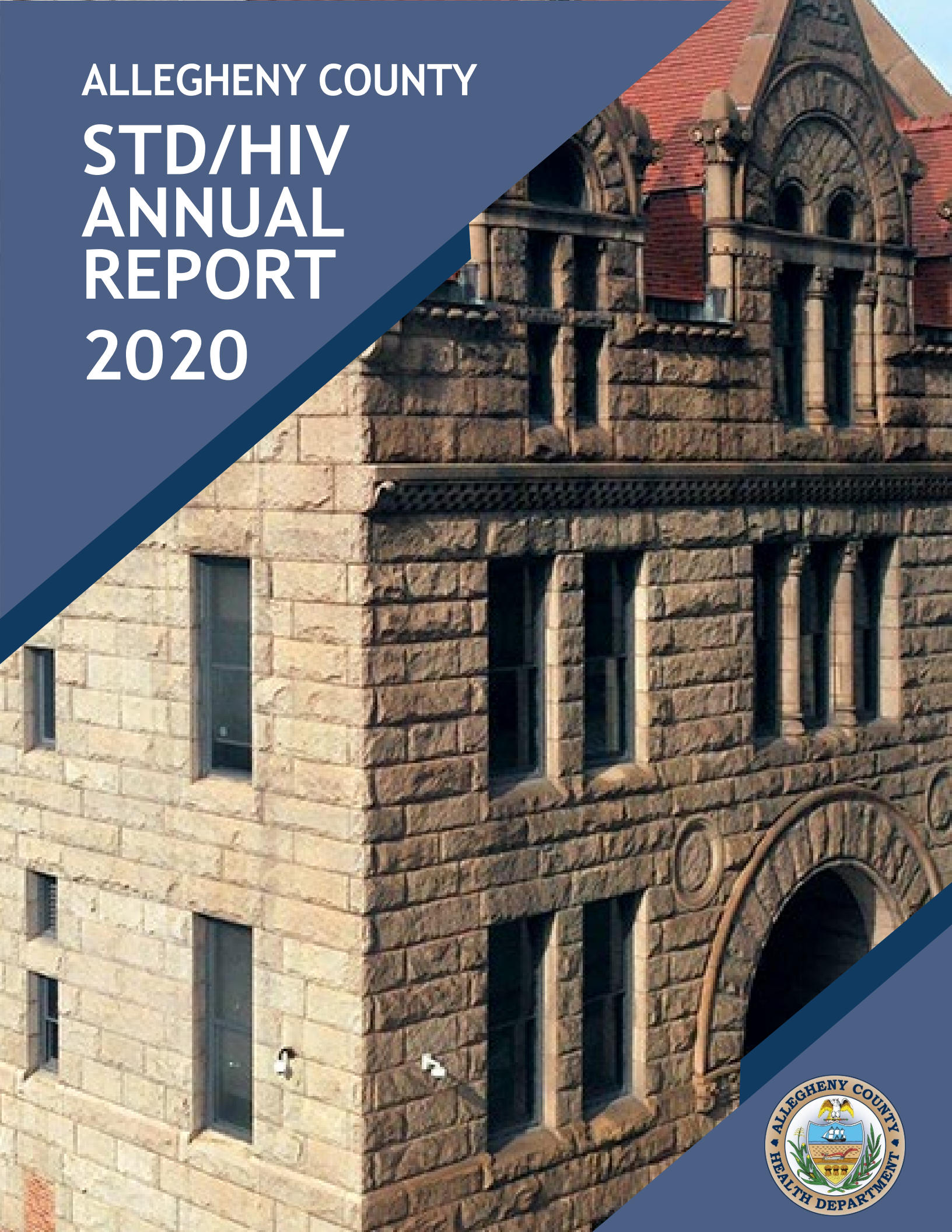
ALLEGHENY COUNTY

STD/HIV ANNUAL REPORT 2020



ALLEGHENY COUNTY HEALTH DEPARTMENT

ALLEGHENY COUNTY STD/HIV ANNUAL REPORT 2020

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STD data supplied by
Pennsylvania Department of Health (PA DOH)
and
Centers for Disease Control and Prevention (CDC)

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Population data supplied by
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EXECUTIVE SUMMARY

Executive Summary

Sexually transmitted diseases (STDs) continue to pose a major public health burden nationwide. The Centers for Disease Control and Prevention (CDC) estimates that over 26 million new STDs occur in the United States each year.[1] Serious long-term complications from STDs include reproductive health problems (e.g. infertility) and several cancers (cervical, oral, liver). STDs passed from a mother to the newborn may cause serious illness to the infant. Infections with certain STDs increase an individual's risk for acquiring or transmitting human immunodeficiency virus (HIV).

This report outlines the trends in four nationally notifiable STDs (chlamydia, gonorrhea, syphilis and HIV/AIDS) in Allegheny County in 2020, giving health care providers, policy makers, residents, and other community partners information to understand the impact of STDs in Allegheny County. Chlamydia continues to be the most reported STD in Allegheny County with 5,791 cases in 2020. The rate of 476.2 cases per 100,000 in 2020 represents an 8% decrease from 2019. Chlamydia disproportionately affects Black persons with a rate 11 times that of white persons among cases with known race. Over 40% of all cases of chlamydial infection are reported in women between the ages of 15 and 24 years.

In 2020, there were 2,251 cases of gonorrhea reported in Allegheny County for a rate of 185.1 per 100,000 population, an 18% increase compared to 2019. The rate of gonorrhea was nearly 12 times greater among Black persons than among white persons (among cases with known race). Over 60% of reported infections were in individuals 15-29 years old.

The rate of syphilis in the U.S. has been increasing over the past decade. After a few years of decrease or no change, the rate of primary and secondary syphilis in Allegheny County increased in 2019 and 2020. In 2020, the rate of syphilis increased by 98% compared with 2019 (11.5 cases per 100,000 population), with 95% of reported cases among males. The rate of early syphilis (primary, secondary and early latent) also increased by 59% from 2019 to 2020 (24.1 cases to 15.2 cases per 100,000 population).

In 2020 there were 79 new HIV infections reported in Allegheny County, 5 more than 2019 but a decline from the peak of 139 cases reported in 2015. Most new infections occurred in males, and the incidence among Black men exceeded that among white men (51.2 versus 5.2 per 100,000 population). Approximately 17% of individuals with early syphilis and 6% of those with gonorrhea were co-infected with HIV, highlighting the importance of STD control to prevent the acquisition of HIV.

Disease occurrence in 2020 was heavily influenced by the COVID-19 pandemic, which may have changed sexual and care-seeking behaviors. New strategies for risk reduction and earlier detection and treatment may be needed to lower the risk for acquiring or transmitting an STD. Renewed efforts by medical professionals, educators and community leaders to raise awareness is essential for the control of STDs and HIV/AIDS in Allegheny County.

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Director, STD Program
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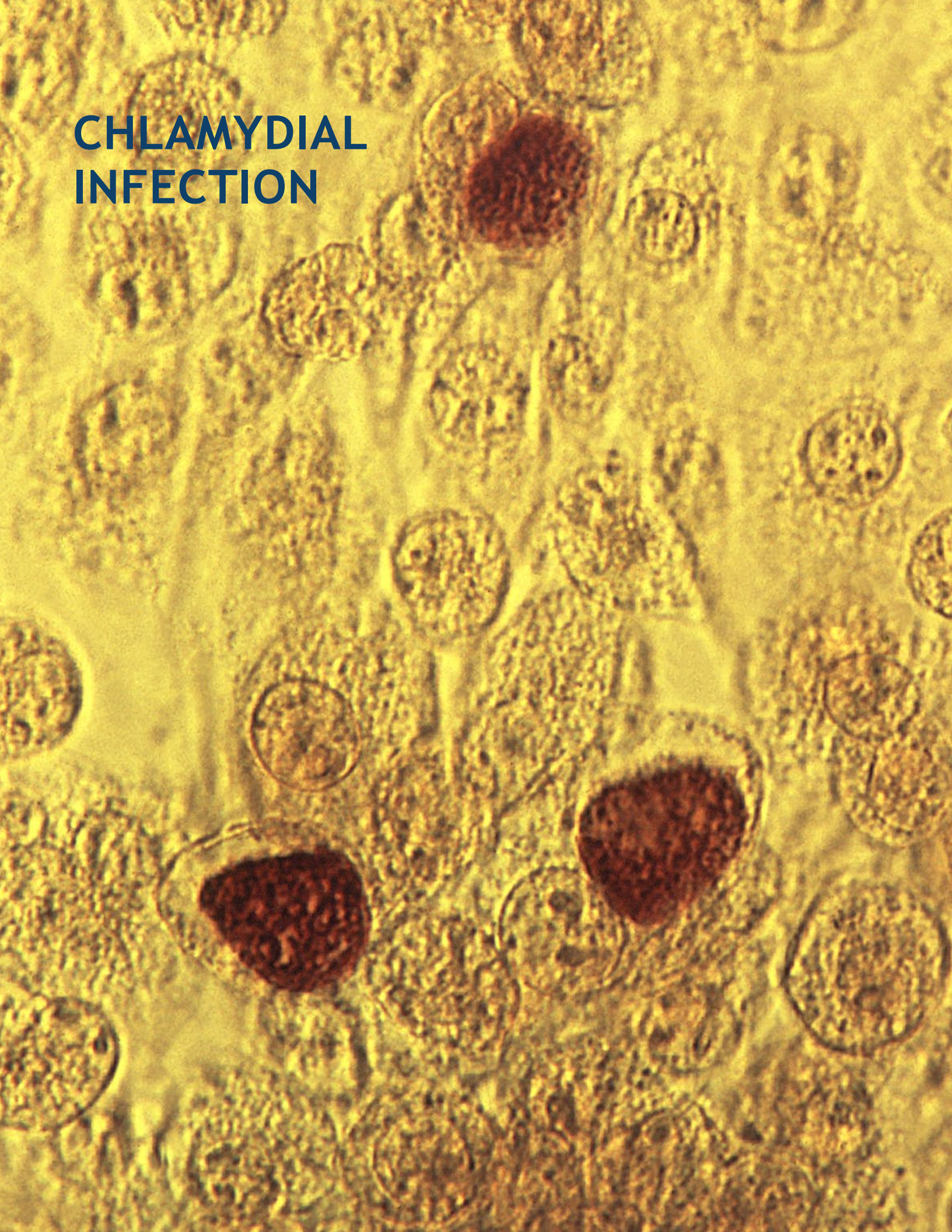
Abbreviations

ACHD	Allegheny County Health Department
AIDS	Acquired Immunodeficiency Syndrome
CDC	Centers for Disease Control and Prevention
CT	*Chlamydia trachomatis*
GC	*Neisseria gonorrhoeae*
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

CHLAMYDIAL INFECTION



CHLAMYDIAL INFECTION

Chlamydial Infection

Chlamydia trachomatis is the most frequently reported notifiable bacterial STD in both Allegheny County and the United States. At the time of writing, the CDC has not yet released national STD data for 2020. It is estimated that nearly 4 million infections occur annually in the US, but many infections remain undetected and untreated because they are asymptomatic.[1] Symptoms of chlamydia are often mild or absent, but 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 ophthalmia neonatorum or pneumonia. The highest incidence rates of chlamydia are seen in sexually active 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 undergo annual chlamydia screening.[2]

MANY CHLAMYDIAL 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 decreased in 2020 (Figure 1). The rate of 476.2 cases per 100,000 in 2020 represents an 8.1% decrease from 518.2 per 100,000 in 2019 (Figure 1, Tables 1, 2).

Chlamydia Cases by Sex and Age Group

During 2020, 61.6% of reported chlamydia cases were in females (Figure 2, Table 3). The incidence rate among females (568.3 cases per 100,000 females) in Allegheny County was approximately 32.7% higher than the rate among men (376.6 cases per 100,000 males), reflecting a larger number of females screened for chlamydia in accordance with screening guidelines.[2]

Adolescents and young adults are at highest risk for acquiring chlamydia. Among females, the highest age-specific rates of reported chlamydial infection in 2020 were among those aged 15–24 years, accounting for 70.0% of all reported chlamydial infections in females (Figure 2 and Table 6). Among men, reported infections were highest in those aged 20–29 years, accounting for 54.7% of all male cases. The disproportionate infection rates among younger females may be attributed to several factors, such as screening programs focusing on younger women, greater biologic susceptibility of younger women to chlamydial infection and sexual risk behavior.

ADOLESCENTS AND YOUNG ADULTS ARE AT HIGHEST RISK FOR ACQUIRING CHLAMYDIA.

Chlamydia cases by race and zip code of residence

Chlamydia incidence rates were highest among Black persons in 2020 (Table 4). For reported cases with known race, the rate among Black persons (1668.4 cases per 100,000 population) was over 11 times the rate among white persons (150.5 cases per 100,000 population). For most cases of chlamydia, gonorrhea, and syphilis, ethnicity is unknown and not included in this report.

Black females in the 15-24-year age group are disproportionately affected by chlamydial infection, representing 20.5% of all cases in 2020 but only 1% of the total population in Allegheny County (Table 6). Understanding and addressing the STD disparities, particularly among youth, is necessary in order to combat the high burden of STDs.

Rates of reported chlamydial infection by ZIP code of residence are shown in Figure 3. The three ZIP codes with highest rates of chlamydial infection were 15110 (Duquesne), 15208 (Point Breeze/Homewood), and 15112 (Chalfant/East Pittsburgh).

Chlamydia Screening in Allegheny County

As chlamydial infections are mostly asymptomatic, screening programs have been established to detect infections, particularly in females and in men who have sex with men. The Allegheny County Health Department (ACHD) provides screening services at the STD Clinic and in partnership with community sites in the county. In 2020, 5,282 patients were screened for chlamydia at the ACHD STD clinic and 1,503 at affiliated screening sites countywide (Table 7). The fewer number of persons screened for chlamydia at these sites in 2020 compared to 2019 and 2018 might reflect changes to clinical services and preventive health care due to the COVID-19 pandemic. Among those screened at the STD clinic, 12% tested positive for chlamydia, and at affiliated community sites, 11% tested positive (Table 7). We do not have data on screening rates across the county. ACHD only receives screening results when chlamydia is detected.

Chlamydia Data Figures and Tables

Figure 1: Number of Reported Chlamydia Cases in Allegheny County, 2011-2020

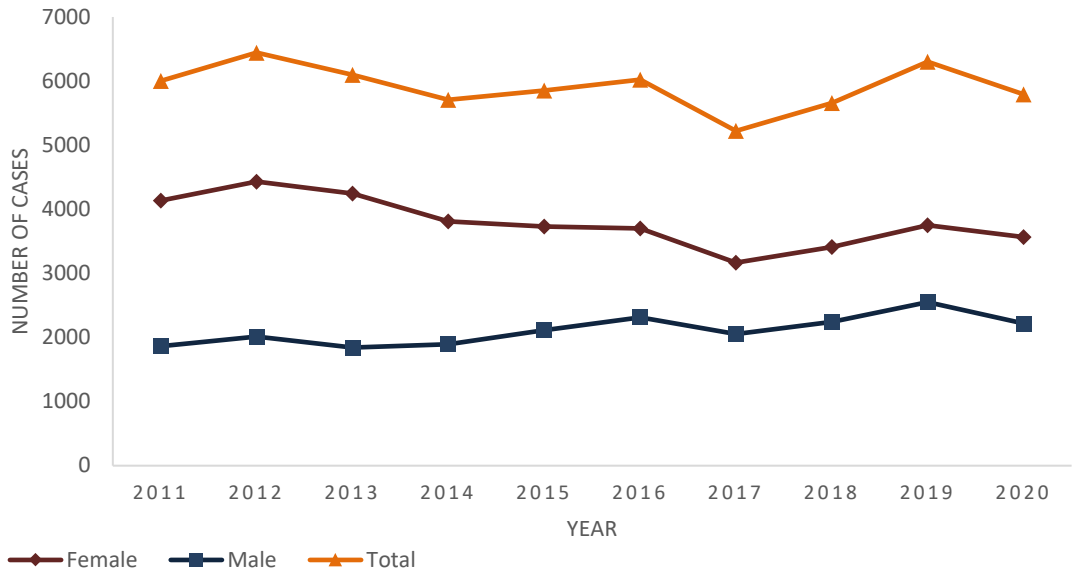


Figure 2: Incidence Rates* of Chlamydial Infection by Age Group and Sex in Allegheny County, 2020

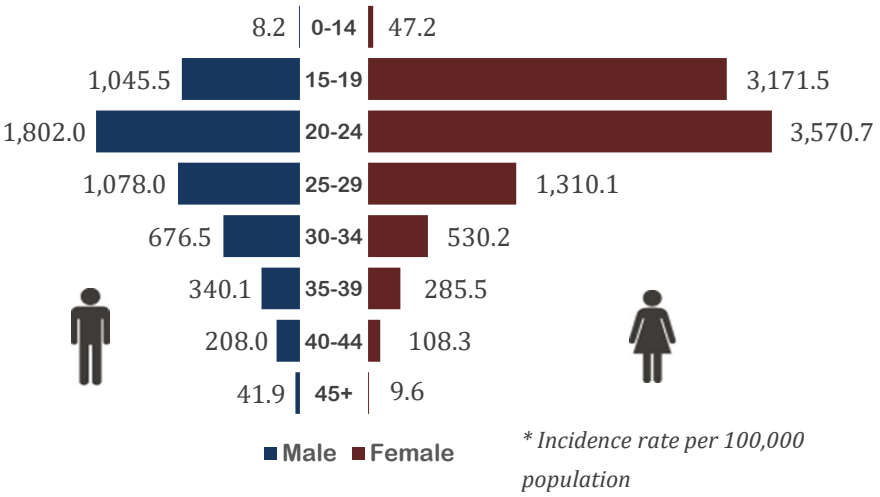


Table 1: Incidence Rates* of Chlamydial Infection in United States, Pennsylvania and Allegheny County, 2011-2020

Year	United States#	Pennsylvania#	Allegheny County
2011	457.6	416.3	488.7
2012	456.7	431.6	523.5
2013	446.6	407.8	494.0
2014	452.2	395.6	462.9
2015	475.0	418.1	475.9
2016	494.7	444.7	489.3
2017	524.6	441.5	424.7
2018	539.9	463.4	464.1
2019	552.8	482.2	518.2
2020	n/a	n/a	476.2

** Incidence per 100,000 population based on U.S Census Bureau estimated population data*
 # Source: CDC STD Surveillance Reports
n/a = not available

Table 2: Reported Cases and Incidence Rates* of Chlamydia Infection in Allegheny County, 2011-2020

Year	Number of Reported Cases	Estimated Population	Incidence Rate*
2011	6,000	1,227,767	488.7
2012	6,444	1,230,870	523.5
2013	6,095	1,233,892	494.0
2014	5,710	1,233,480	462.9
2015	5,854	1,230,052	475.9
2016	6,020	1,230,360	489.3
2017	5,222	1,229,605	424.7
2018	5,655	1,218,452	464.1
2019	6,302	1,216,045	518.2
2020	5,791	1,216,045	476.2

**Incidence per 100,000 population based on U.S Census Bureau estimated population data*

Table 3: Reported Cases and Incidence Rates of Chlamydial Infection by Sex in Allegheny County, 2018-2020

Sex	2018		2019		2020	
	Reported Cases	Incidence Rate*	Reported Cases	Incidence Rate*	Reported Cases	Incidence Rate*
Female	3,407	**541.2**	3,749	**597.3**	3,567	**568.3**
Male	2,243	**380.9**	2,551	**433.5**	2,216	**376.6**
Unknown	5	**n/a**	2	**n/a**	8	**n/a**
Total	5,655	**464.1**	6,302	**518.2**	5,791	**476.2**

**Incidence per 100,000 population based on U.S Census Bureau estimated population data (per demographic variable); n/a= not available*

Table 4: Reported Cases and Incidence Rates of Chlamydial Infection by Race in Allegheny County, 2018-2020

Race	2018		2019		2020	
	Reported Cases	Incidence Rate*	Reported Cases	Incidence Rate*	Reported Cases	Incidence Rate*
Black	2,549	**1,620.2**	3,047	**1,864.8**	2,726	**1,668.4**
White	1,387	**142.8**	1,636	**168.5**	1,462	**150.5**
Other	102	**113.5**	474	**581.7**	407	**499.5**
Unknown	1,617	**n/a**	1,145	**n/a**	1,196	**n/a**
Total	5,655	**464.1**	6,302	**518.2**	5,791	**476.2**

**Incidence per 100,000 population based on U.S Census Bureau estimated population data (per demographic variable); n/a= not available*

Table 5: Reported Chlamydia Cases by Race in Allegheny County, 2016-2020

Race	2016	2017	2018	2019	2020
Black	2,944	2,637	2,706	3,047	2,726
	48.9%	50.5%	47.8%	48.3%	47.1%
White	1,699	1,509	1,579	1,636	1,462
	28.2%	28.9%	27.9%	26.0%	25.2%
Other	441	367	402	474	407
	7.3%	7.0%	7.1%	7.5%	7.0%
Unknown	936	709	968	1,145	1,196
	15.5%	13.6%	17.1%	18.2%	20.7%
Total	**6,020**	**5,222**	**5,655**	**6,302**	**5,791**

Table 6: Reported Cases of Chlamydial Infection by Age Group, Race and Sex in Allegheny County, 2020

Age Group	Black		White		Unknown		Other		Total		
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Total
0-14	31	6	9	0	1	2	3	0	44	8	**52**
15-19	615	224	257	30	176	100	81	25	1,129	379	**1,508**
20-24	571	316	396	127	285	203	110	42	1,362	688	**2,050**
25-29	307	223	169	129	111	118	37	53	624	523	**1,147**
30-34	110	131	75	101	37	68	14	13	236	313	**549**
35-39	51	52	39	35	12	30	5	11	107	128	**235**
40-44	14	27	12	30	9	10	1	3	36	70	**106**
45 +	12	35	10	43	6	21	1	7	29	106	**135**
Total	**1,711**	**1,014**	**967**	**495**	**637**	**552**	**252**	**154**	**3,567**	**2,215**	**5,782 ***

**There were 9 individuals who were of unknown sex and thus not included in this table.*

Figure 3: Rate of reported Chlamydial Infections by ZIP code of residence, Allegheny County, 2020

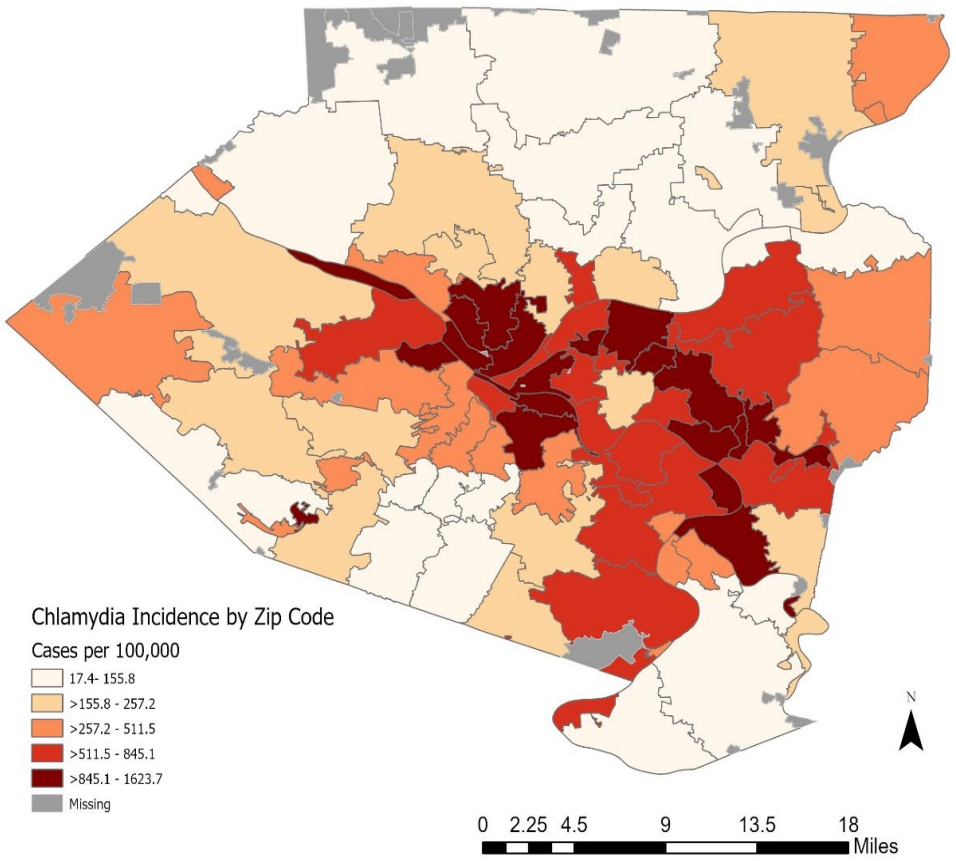
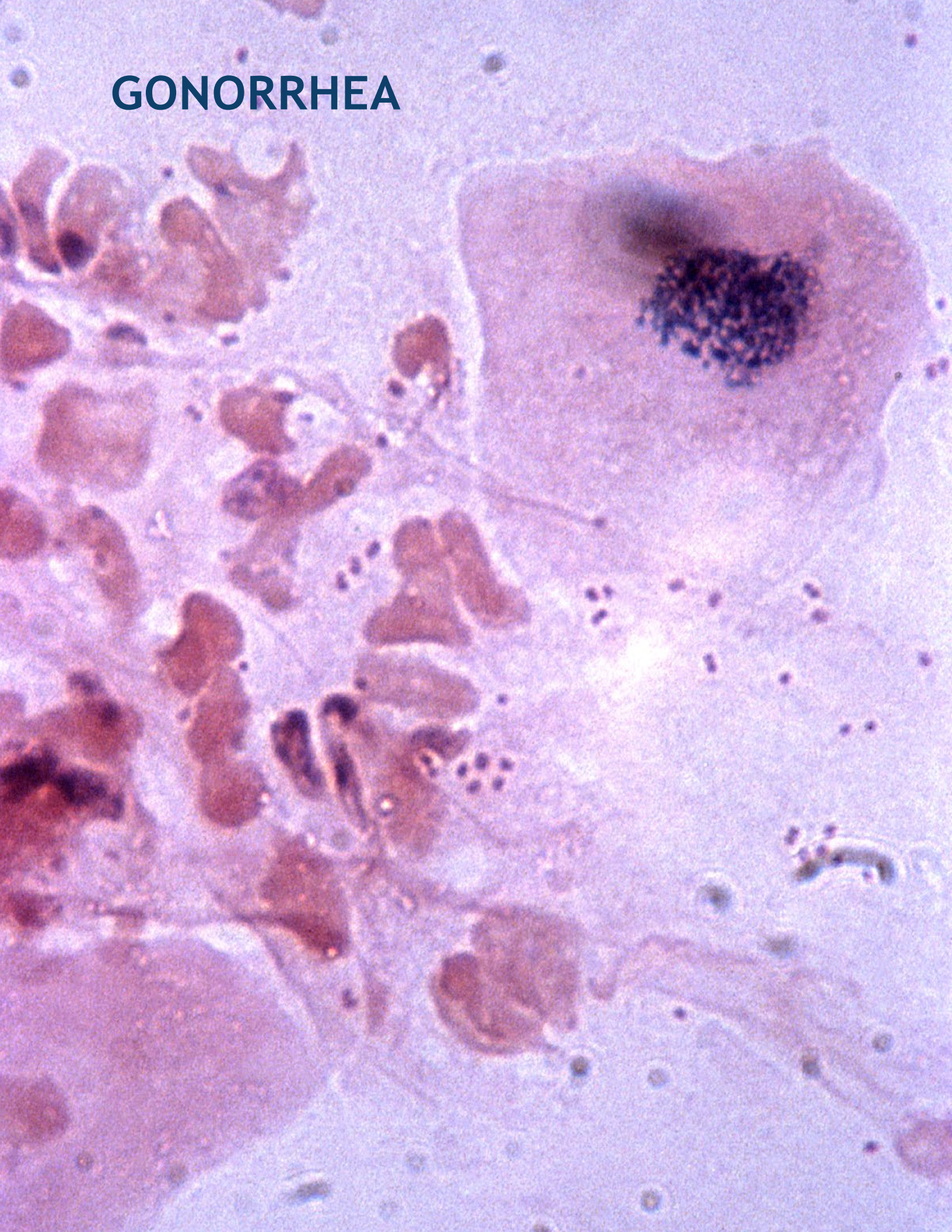


Table 7: Chlamydia Screening- ACHD and Affiliated Facilities, Allegheny County, 2015-2020

Year	Clinic	Total* Screened	Total Positive	Positive %
2015	STD Clinic	7,154	805	11.3%
	Partner Sites	11,050	756	6.8%
	2015 Total	**18,204**	**1,561**	**8.6%**
2016	STD Clinic	9,065	990	10.9%
	Partner Sites	5,493	433	7.9%
	2016 Total	**14,558**	**1,423**	**9.8%**
2017	STD Clinic	9,232	987	10.7%
	Partner Sites	4,120	316	7.7%
	2017 Total	**13,352**	**1303**	**9.8%**
2018	STD Clinic	7,053	752	10.7%
	Partner Sites	3,116	270	8.7%
	2018 Total	**10,169**	**1,022**	**10.1%**
2019	STD Clinic	7,096	721	10.2%
	Partner Sites	3,111	265	8.5%
	2019 Total	**10,207**	**986**	**9.7%**
2020	STD Clinic	5,282	658	12.5%
	Partner Sites	1,503	165	11.0%
	2020 Total	**6,785**	**823**	**12.1%**

** Screening rates are not representative of testing throughout entire county*

GONORRHEA



GONORRHEA

Gonorrhea

Gonorrhea is the second most reported notifiable disease in the United States and is caused by the bacterium *Neisseria gonorrhoeae*. 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 do not have symptoms. Like chlamydial infections, untreated gonococcal 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. Antimicrobial resistance of *Neisseria gonorrhoeae* continues to be a global concern. Gonorrhea prevention and control is essential to limit the spread of the organism and prevent antibiotic resistance.

IN ALLEGHENY COUNTY, THE INCIDENCE RATE OF GONORRHEA INCREASED BY **18%** FROM 2019 TO 2020.

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. However, rates of reported gonorrhea in the U.S. have been increasing since 2009. At the time of writing, the CDC has not yet released national STD data for 2020.

In Allegheny County, gonorrhea cases increased from 2019 to 2020. (Figure 4, Table 9). During 2020, 2,251 cases were reported for a rate of 185.1 per 100,000 population, 18% higher than the 2019 rate of 157.4 cases per 100,000 population (Tables 8,9).

Gonorrhea by Sex and Age Group

In Allegheny County in 2020, 62% of cases reported occurred in males. Gonorrhea incidence among males was 238.8 cases per 100,000 compared with 134.5 cases per 100,000 among females (Table 10). Gonorrhea incidence rates were highest among those 20-34 years of age for males and 15-29 years for females (Figure 5).

Gonorrhea by Race and ZIP Code

In Allegheny County in 2020, 1,175 (52%) reported cases of gonorrhea were in the Black population (Table 11); the incidence rate among Blacks persons was nearly 12 times the rate among white persons (719.1 and 61.4 cases per 100,000 population, respectively). However, incidence rates increased among both the Black and white populations from 2019 to 2020. From 2016 through 2020, the number of cases among white persons has increased, whereas cases among Black persons have decreased (Table 12).

Rates of reported gonococcal infection by ZIP code of residence are shown in Figure 6. The three ZIP codes with highest rates of gonococcal infection were 15208 (Point Breeze/Homewood), 15214 (Perry South/Northview Heights/ Summer Hill/Allegheny Observatory), and 15110 (Duquesne).

Gonorrhea Screening in Allegheny County

In 2020, 5,282 individuals were screened for gonorrhea in the STD Clinic and 1,503 were screened at other community sites supported by the ACHD's STD program. The fewer number of persons screened for gonorrhea at these sites in 2020 compared to 2019 and 2018 might reflect changes to clinical services and preventive health care due to the COVID-19 pandemic. Among those screened at the STD clinic, 6% tested positive for gonorrhea, and at affiliated community sites, 3% tested positive for gonorrhea (Table 14).

Gonorrhea Data Figures and Tables

Figure 4: Number of Reported Gonorrhea Cases in Allegheny County, 2011-2020

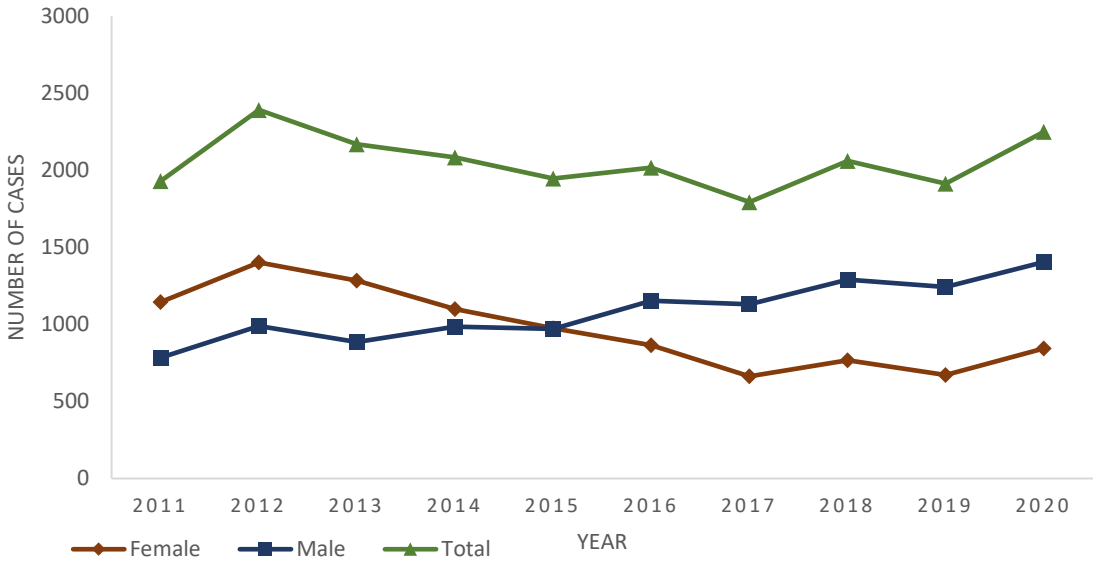
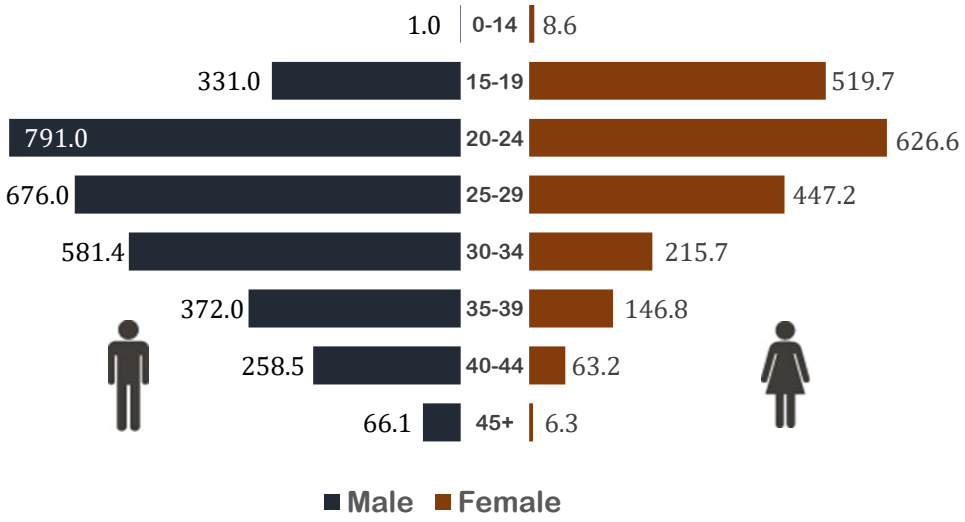


Figure 5: Incidence Rates* of Gonorrhea by Age Group and Sex in Allegheny County, 2020



** Incidence rate per 100,000 population*

Table 8: Incidence Rates* of Gonorrhea in United States, Pennsylvania and Allegheny County 2011-2020

Year	United States#	Pennsylvania#	Allegheny County
2011	103.3	108.4	157.3
2012	106.7	120.8	194.3
2013	105.3	108.7	175.9
2014	109.8	99.4	169.0
2015	123.0	99.9	158.2
2016	145.0	114.2	164.0
2017	170.6	119.0	145.9
2018	179.1	124.1	168.8
2019	188.4	125.6	157.4
2020	n/a	n/a	185.1

** Incidence per 100,000 population based on U.S. Census Bureau estimated population data*

 # Source: CDC STD Surveillance Reports

n/a = not available

Table 9: Reported Cases and Incidence Rates* of Gonorrhea in Allegheny County, 2011-2020

Year	Number of Reported Cases	Estimated Population	Incidence Rate*
2011	1,931	1,227,767	157.3
2012	2,392	1,230,870	194.3
2013	2,170	1,233,892	175.9
2014	2,084	1,233,480	169.0
2015	1,946	1,230,052	158.2
2016	2,018	1,230,360	164.0
2017	1,794	1,229,605	145.9
2018	2,057	1,218,452	168.8
2019	1,914	1,216,045	157.4
2020	2,251	1,216,045	185.1

* *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, 2018-2020

Sex	2018		2019		2020	
	Reported Cases	Incidence Rate*	Reported Cases	Incidence Rate*	Reported Cases	Incidence Rate*
Female	767	**121.8**	671	**106.9**	844	**134.5**
Male	1,288	**218.7**	1,243	**211.2**	1,405	**238.8**
Unknown	2	**n/a**	0	**n/a**	2	**n/a**
Total	2,057	**168.8**	1,914	**157.4**	2,251	**185.1**

**Incidence per 100,000 population based on U.S. Census Bureau estimated population data (per demographic variable); n/a= not available*

Table 11: Reported Cases and Incidence Rates of Gonorrhea by Race in Allegheny County, 2018-2020

Sex	2018		2019		2020	
	Reported Cases	Incidence Rate*	Reported Cases	Incidence Rate*	Reported Cases	Incidence Rate*
Female	1,089	**692.2**	1,000	**612.0**	1,175	**719.1**
Male	548	**56.4**	592	**61.0**	596	**61.4**
Unknown	49	**54.5**	138	**169.4**	153	**187.8**
Total	371	**n/a**	184	**n/a**	327	**n/a**

**Incidence per 100,000 population based on U.S. Census Bureau estimated population data (per demographic variable); n/a= not available*

Table 12: Reported Gonorrhea Cases by Race in Allegheny County, 2016-2020

Race	2016	2017	2018	2019	2020
Black	1,248 61.8%	1,053 58.7%	1,119 54.3%	1,000 52.2%	1,175 52.2%
White	471 23.3%	444 24.7%	580 28.2%	592 30.9%	596 26.5%
Other	153 7.6%	156 8.7%	142 6.9%	138 7.2%	153 6.8%
Unknown	147 7.3%	141 7.9%	216 10.5%	184 9.6%	327 14.5%
Total	**2,019**	**1,794**	**2,057**	**1,914**	**2,251**

Table 13: Reported Cases of Gonorrhea by Age Group, Race and Sex in Allegheny County, 2020

Age Group	Black		White		Unknown		Other		Total		
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Total
0-14	6	1	2	0	0	0	0	0	8	1	**9**
15-19	128	89	33	3	6	5	18	23	185	120	**306**
20-24	137	151	53	82	18	24	31	43	239	302	**540**
25-29	125	151	53	85	13	32	22	58	213	328	**541**
30-34	60	111	26	93	0	27	10	37	96	269	**365**
35-39	28	65	21	45	2	12	4	17	55	140	**195**
40-44	7	38	10	30	1	5	3	13	21	87	**108**
45 +	6	70	4	56	1	8	8	32	19	167	**186**
Total	**497**	**676**	**202**	**394**	**41**	**112**	**104**	**223**	**844**	**1,405**	**2,249**

Figure 6: Rate of reported gonococcal infection by ZIP code of residence, Allegheny County, 2020

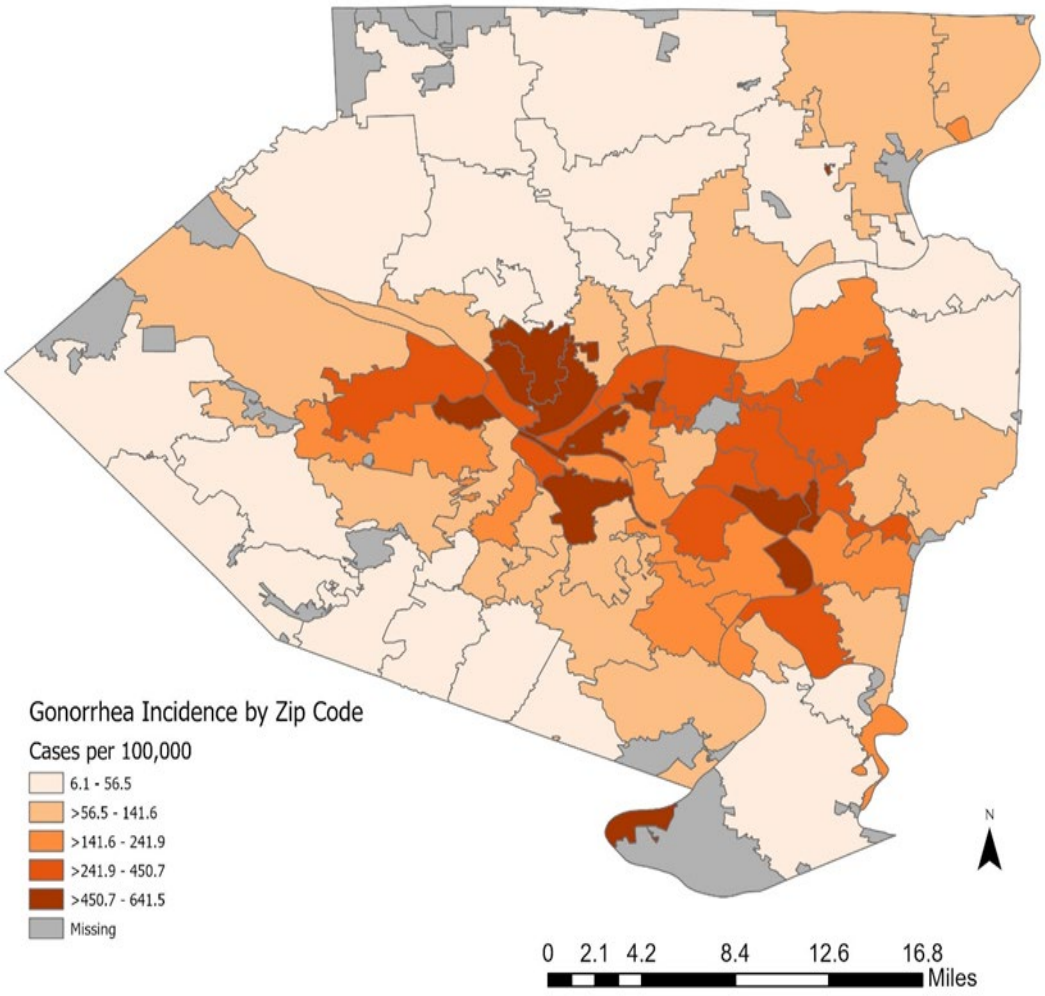
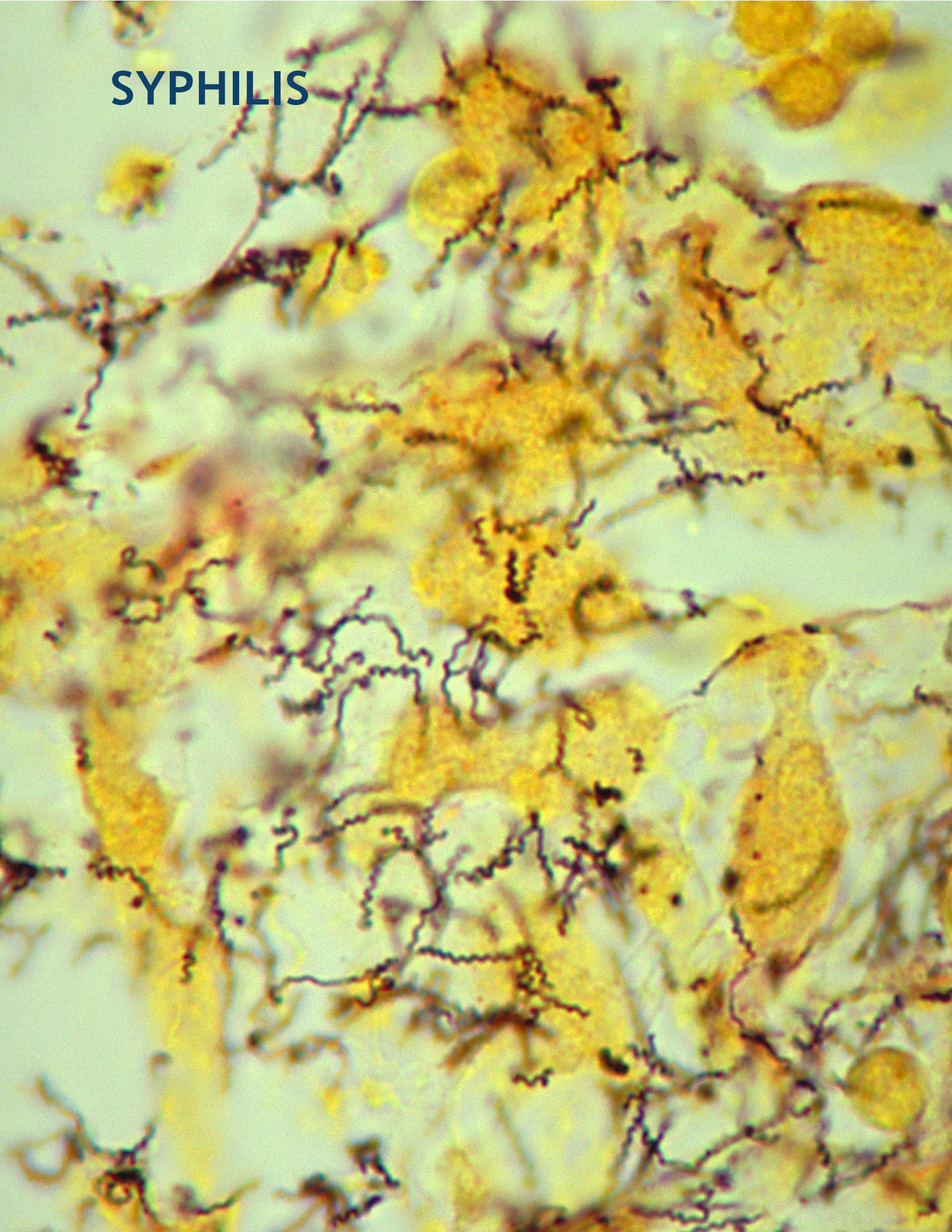


Table 14: Gonorrhea Screening, ACHD and Affiliated Facilities, Allegheny County 2015- 2020

	Clinic	Total Screened	Total Positive	Positive %
2015	STD Clinic	7,154	368	5.1%
	Partner Sites	11,050	169	1.5%
	2015 Total	**18,204**	**537**	**3.0%**
2016	STD Clinic	9,065	474	5.2%
	Partner Sites	5,493	119	2.2%
	2016 Total	**14,558**	**593**	**4.1%**
2017	STD Clinic	9,232	443	4.8%
	Partner Sites	4,120	83	2.0%
	2017 Total	**13,352**	**526**	**3.9%**
2018	STD Clinic	7,053	368	5.2%
	Partner Sites	3,116	65	2.1%
	2018 Total	**10,169**	**433**	**4.3%**
2019	STD Clinic	7,096	282	4.0%
	Partner Sites	3,111	75	2.4%
	2019 Total	**10,207**	**357**	**3.5%**
2020	STD Clinic	5,282	329	6.2%
	Partner Sites	1,503	44	2.9%
	2020 Total	**6,785**	**373**	**5.5%**

SYPHILIS



SYPHILIS

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.

Primary and Secondary 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 increasing problem nationwide, particularly in urban areas. The U.S. incidence rate has increased almost every year since 2000. At the time of writing, the CDC had not yet released national STD data for 2020. In Allegheny County, syphilis cases reached the highest peak in 10 years in 2020, with 140 cases of primary and secondary syphilis reported (11.5 cases per 100,000 population) (Figure 7, Table 15). This is almost double the 71 cases observed in 2019, as the rate increased 98% from 5.8 cases per 100,000.

IN 2020, 95% OF REPORTED PRIMARY AND SECONDARY SYPHILIS CASES IN ALLEGHENY COUNTY WERE IN MEN.

Primary and Secondary Syphilis by Age, Sex, and Race

Syphilis is far more common in men than women, with 133 (95%) of 140 P&S syphilis cases occurring in men in 2020 (Table 16). The incidence rate of primary and secondary syphilis in men (22.6 cases per 100,000 population) is more than 20 times higher than the incidence rate in females (1.1 cases per 100,000 population). Of 137 primary and secondary syphilis cases with known race in 2020, 60 (43.8%) were in white persons (Table 17), a decrease from the 55.1% cases in white persons reported in 2019. Both Black and white persons had a large increase in cases from 2019 to 2020, with 40 additional cases among Black persons and 22 additional cases among white persons. In contrast to chlamydia and gonorrhea, syphilis is not commonly reported among adolescents. Of the 140 cases of P&S syphilis reported in 2019, only 5 were younger than 20 years of age (Table 18).

Early Syphilis

Early syphilis includes all cases of syphilis that are primary, secondary or early latent. In Allegheny County in the past 10 years, early syphilis reached a new peak in 2020 at 293 cases (24.1 cases per 100,000 population) (Table 19). The rate of early syphilis in 2020 was a 59% increase over the 2019 incidence rate of 15.2 cases per 100,000 population (Tables 19,20). Incidence rates of early syphilis were highest in men who were between 20 and 34 years old (Figure 8).

Risk Factors Associated with Syphilis

Risk factors reported by individuals with early syphilis and primary and secondary syphilis are presented in Table 21. The most common risk factor for early syphilis reported among males was sex with a MSM in the past 12 months (78%). Among females, the most common risk factors for early syphilis reported were sex with a male (91%). Risk factors have remained relatively consistent since 2015.

Early Syphilis Cases by ZIP code

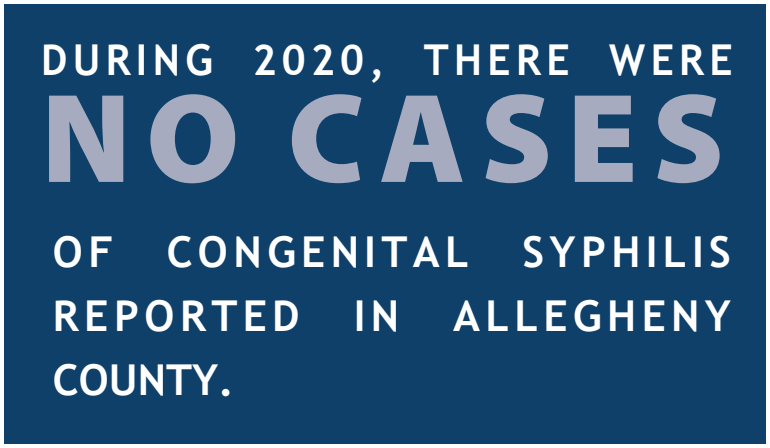
Early syphilis cases by zip code of residence are shown in Figure 9. Each dot represents a case but is placed randomly within the ZIP code of residence (not at the actual address).

Congenital Syphilis

Pregnant persons infected with syphilis can transmit the organism to their newborns, causing congenital syphilis. Congenital syphilis infections can cause stillbirths, deformities, developmental delays, blindness and other permanent consequences to a fetus and newborn. The Pennsylvania Department of Health recommends that persons in high-risk areas who are pregnant be screened for syphilis three times: at the first prenatal visit, in the third trimester, and at the time of delivery. Prenatal screening is extremely important, as treatment in pregnancy may prevent congenital syphilis. During 2020, there were no cases of congenital syphilis reported in Allegheny County. One case of congenital syphilis case was reported in 2019.

Syphilis Screening in Allegheny County

Early detection, reporting, and treatment of persons with syphilis, and identification and treatment their sexual partners are keys in the control of syphilis. ACHD coordinates syphilis screening at the Public Health Clinic and at designated sites throughout the county. At the STD clinic in 2020, 5,424 syphilis tests were performed with 212 (3.9%) positive.



Syphilis Data Tables and Figures

Table 15: Incidence Rates* of P&S Syphilis in United States, Pennsylvania and Allegheny County 2011-2020

Year	United States Incidence#	Pennsylvania Incidence#	Allegheny County Incidence# (Case #)
2011	4.5	2.9	3.7 (46)
2012	5.0	3.9	4.5 (55)
2013	5.5	3.7	2.3 (28)
2014	6.3	4.2	5.5 (68)
2015	7.5	5.1	10.3 (127)
2016	8.7	5.9	7.0 (85)
2017	9.2	6.2	4.6 (57)
2018	10.8	6.2	4.8 (58)
2019	11.9	7.8	5.8 (71)
2020	n/a	n/a	11.5 (140)

** Incidence per 100,000 population*
n/a = not available

 # Source: CDC STD Surveillance Reports

Figure 7: Number of Reported Syphilis Cases in Allegheny County, 2011-2020

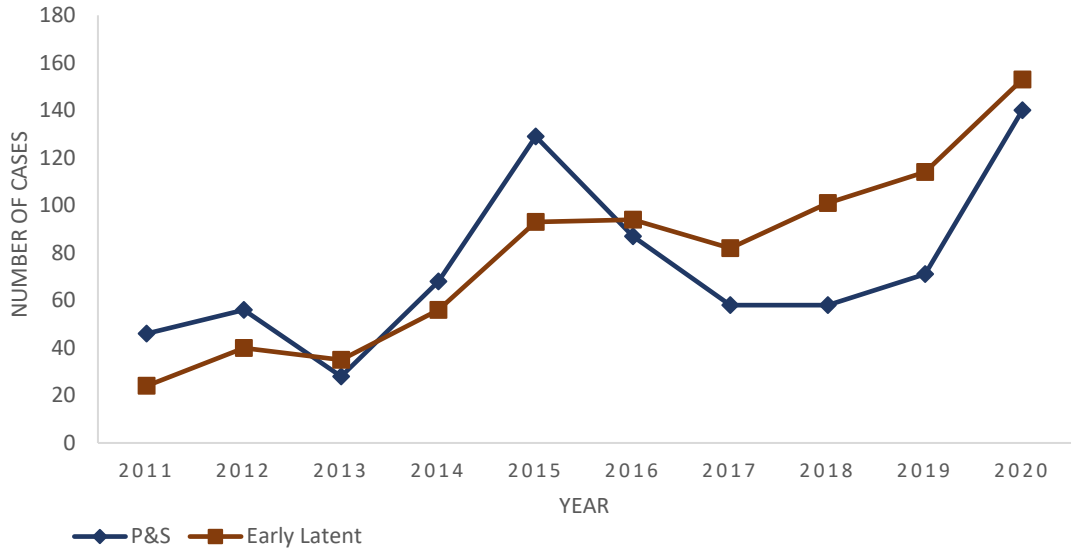


Table 16: Reported Cases and Incidence Rates of P&S Syphilis by Sex in Allegheny County, 2018-2020

Gender	2018		2019		2020	
	Reported Cases	Incidence Rate*	Reported Cases	Incidence Rate*	Reported Cases	Incidence Rate*
Female	4	**0.6**	2	**0.3**	7	**1.1**
Male	54	**9.2**	69	**11.7**	133	**22.6**
Total	58	**4.8**	71	**5.8**	140	**11.5**

**Incidence per 100,000 population based on U.S. Census Bureau estimated population data (per demographic variable)*

Table 17: Reported Cases and Incidence Rates of P&S Syphilis by Race in Allegheny County, 2018-2020

Race	2018		2019		2020	
	Reported Cases	Incidence Rate*	Reported Cases	Incidence Rate*	Reported Cases	Incidence Rate*
Black	8	**4.9**	26	**15.9**	66	**40.4**
White	39	**4.0**	38	**3.9**	60	**6.2**
Other	6	**7.6**	5	**6.1**	11	**13.5**
Unknown	5	**n/a**	2	**n/a**	3	**n/a**
Total	58	**4.8**	71	**5.8**	140	**11.5**

**Incidence per 100,000 population based on U.S. Census Bureau estimated population data (per demographic variable); n/a=Not available*

Table 18: Reported Case of P&S Syphilis by Age Group, Race and Sex in Allegheny County - 2020

Age Group	Black		White		Other		Unknown		Total		
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Total
0-14	0	0	0	0	0	0	0	0	0	0	0
15-19	1	3	0	1	0	0	0	0	1	4	5
20-24	1	16	0	10	0	4	0	0	1	30	31
25-29	0	16	0	13	0	2	0	1	0	32	32
30-34	0	11	1	7	0	4	0	0	1	22	23
35-39	1	7	0	10	0	0	0	1	1	18	19
40-44	0	3	0	2	0	1	0	0	0	6	6
45 +	2	5	1	15	0	0	0	1	3	21	24
Total	**5**	**61**	**2**	**58**	**0**	**11**	**0**	**3**	**7**	**133**	**140**

Table 19: Reported Cases and Incidence Rates* of Early Syphilis¥ in Allegheny County 2011-2020

Year	Number of Reported Cases	Estimated Population	Incidence Rate*
2011	70	1,227,442	5.6
2012	96	1,229,338	7.8
2013	63	1,231,527	5.1
2014	124	1,231,255	10.1
2015	222	1,230,459	18.0
2016	181	1,230,360	14.7
2017	140	1,229,605	11.4
2018	159	1,218,452	13.0
2019	185	1,216,045	15.2
2020	293	1,216,045	24.1

**Incidence per 100,000 population based on U.S. Census Bureau estimated population data (per demographic variable)*

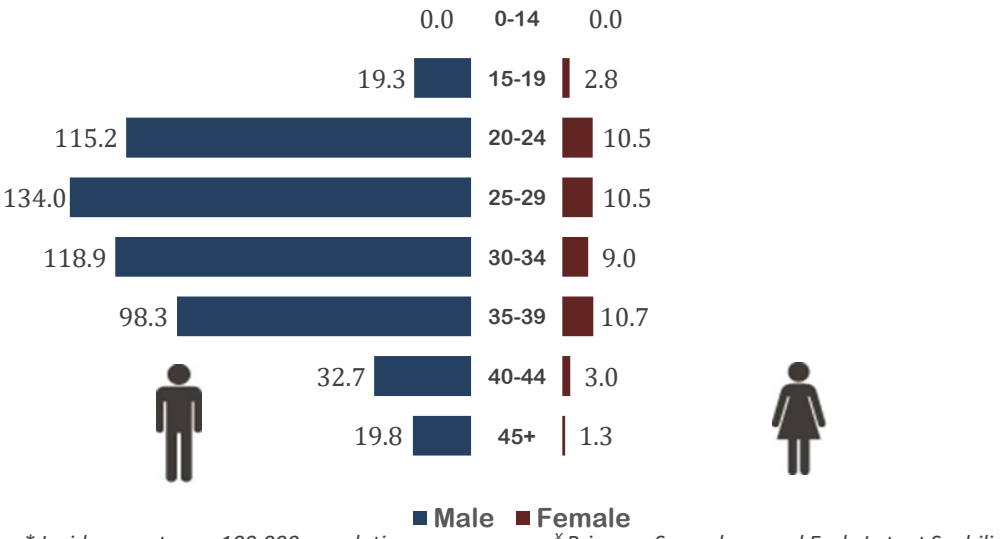
¥Primary, Secondary and Early Latent Syphilis

Table 20: Early Syphilis¥ Cases by Disease Category and Year of Diagnosis in Allegheny County, 2011-2020

Year	Primary	Secondary	Early Latent	Totals
2011	7	39	24	70
2012	17	39	40	96
2013	6	22	35	63
2014	24	44	56	124
2015	40	89	93	222
2016	24	63	94	181
2017	19	39	82	140
2018	13	45	101	159
2019	29	42	114	185
2020	42	98	153	293

¥*Primary, Secondary and Early Latent Syphilis*

Figure 8: Incidence Rates* of Early Syphilis¥ by Age Group and Sex in Allegheny County, 2020



** Incidence rate per 100,000 population*

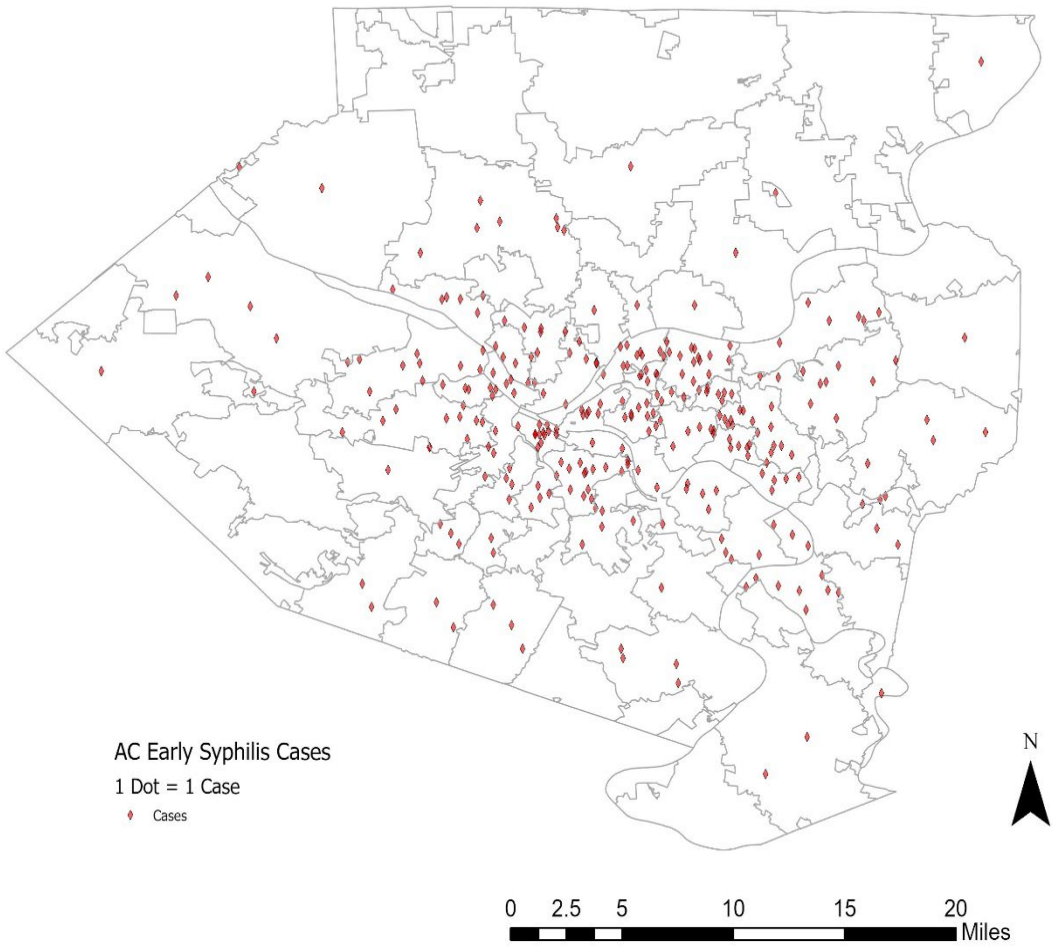
¥ Primary, Secondary, and Early Latent Syphilis

Table 21: Risk factors associated with Early Syphilis[&] in Allegheny County - overall and by sex - 2020

Risk Factor	Early Latent (n=153)	Primary & Secondary (n=140)	Total Male (n=269)	Total Female (n=23)
Sex with a male (last 12 months)	117	114	209	21
Sex with men who have sex with men in the last 12 months	105	107	211	0
Sex- oral (last 12 months)	109	105	195	18
Past history of STDs	105	87	180	11
Sex- anal (last 12 months)	92	91	179	3
Multiple (>1) sex partners (last 12 months)	86	83	155	13
Sex with an anonymous partner (last 12 months)	59	55	112	1
Use of non-injection drugs (last 12 months)	57	54	98	12
Taking pre-exposure prophylaxis (PrEP)	55	38	92	0
Sex with partner picked-up on internet (last 12 months)	54	56	105	4
Sex while high/intoxicated on drugs/alcohol	14	11	24	1
Sex- vaginal (last 12 months)	28	28	35	21
Sex with a partner infected with HIV/AIDS (last 12 months)	19	16	35	0
Sex with a female (last 12 months)	17	22	38	1
Use of sexual enhancement drugs (last 12 months)	6	8	14	0
Self-identified/physical gender different from gender at birth	4	3	5	1
Use of injection drugs (last 12 months)	7	6	13	0
Sex with an injection drug user (last 12 months)	4	3	7	0

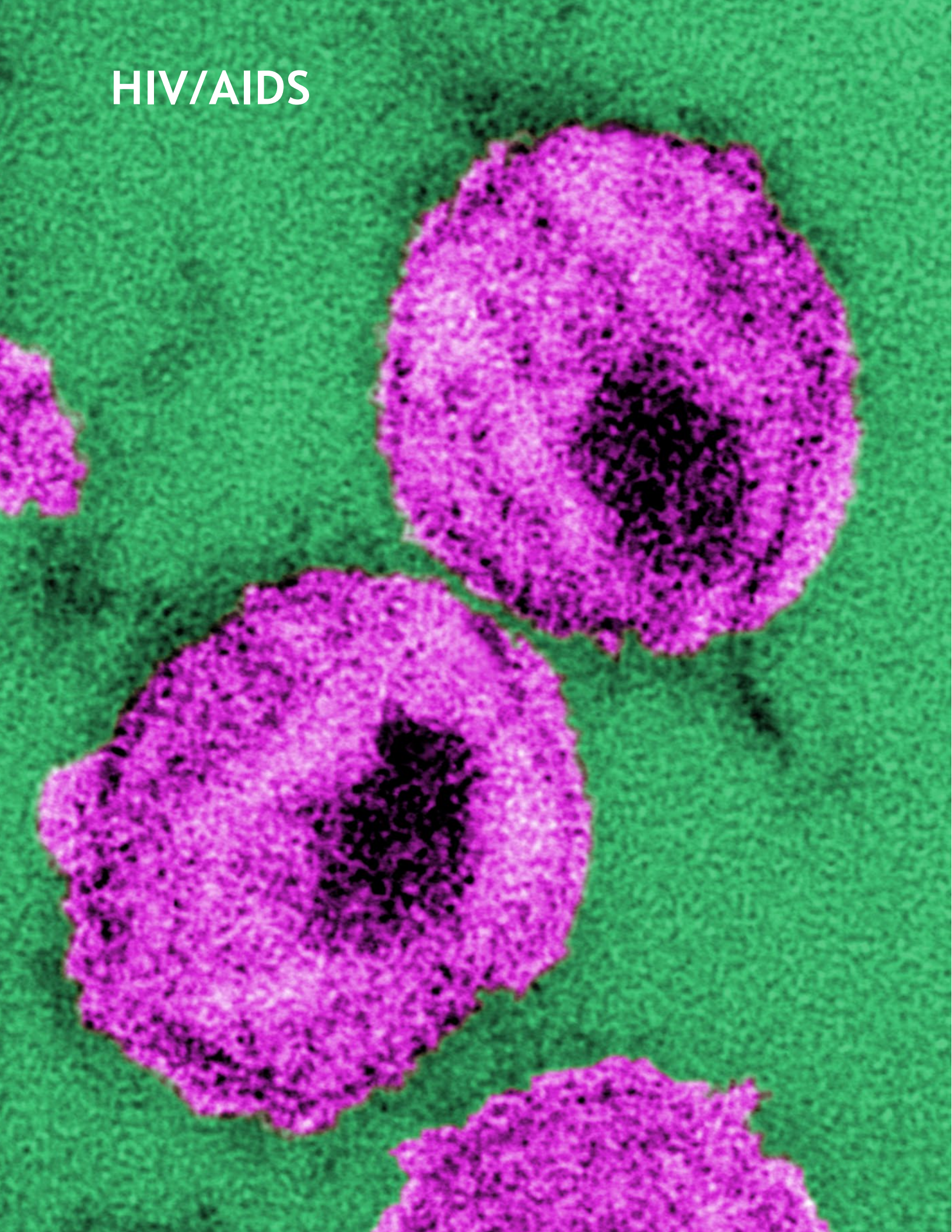
[&]*Data based on self-reporting, sex unknown for 1 case*

Figure 9: Early Syphilis cases by ZIP code of residence, Allegheny County, 2020*



**Note; dots placed randomly inside individual zip codes.*

HIV/AIDS



HIV/AIDS

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. Treatment with antiretroviral therapy (ART) can prevent or delay the onset of symptoms of AIDS for many years. By reducing the amount of HIV in a person's blood, ART can reduce or prevent the transmission of HIV to others.

HIV Incidence

In 2020, there were 79 newly diagnosed cases of HIV reported in Allegheny County, 5 more than reported in 2019 but a decline of 60 from the recent peak of 139 cases reported in 2015 (Figure 10, Table 22). Most (86%) newly diagnosed infections occurred in males (Table 23); specifically, 49% of cases among males occurred in those 20-29 years of age, while 91% of cases among females occurred in those over 40 years of age (Figure 11). The incidence rate among Black men was far greater than the rate observed in white men (51.2 versus 5.2 per 100,000 population) (Table 23). Most new infections (63%) occurred among men who have sex with men (including those who also were using injection drugs), 1% among persons with a history of intravenous drug use (IDU), and 27% among heterosexual persons (Table 24). One perinatal case of HIV was reported in Allegheny County in 2020 (Figure 11).

Concurrent HIV/AIDS Incidence

Concurrent HIV/AIDS diagnoses represent individuals who receive a diagnosis of AIDS within 90 days after an HIV diagnosis. In 2020 in Allegheny County, 21 of the 79 (26.6%) newly diagnosed cases of HIV were concurrently diagnosed with AIDS, a decrease from 28 (37.8%) concurrently diagnosed HIV/AIDS cases reported in 2019 (Table 25). Among males 40-49 years old, 67% of new HIV cases were concurrently diagnosed with AIDS, and 50% of HIV cases among males 50+, females 40-49, and females 50+ were concurrently diagnosed with AIDS. Of new concurrent cases, 13 (62%) were in Black persons, compared to 8 (38%) among white persons. In 2020, 28.3% of HIV cases in Black persons were concurrently diagnosed with AIDS and 29.6% of HIV cases in white persons were concurrently diagnosed with AIDS (Table 26). Additionally, 45% of HIV cases among females were concurrently diagnosed with AIDS, almost double the percentage in males (24%).

HIV/AIDS Figures and Tables

Figure 10: Number of Reported HIV Cases in Allegheny County, 2011-2020

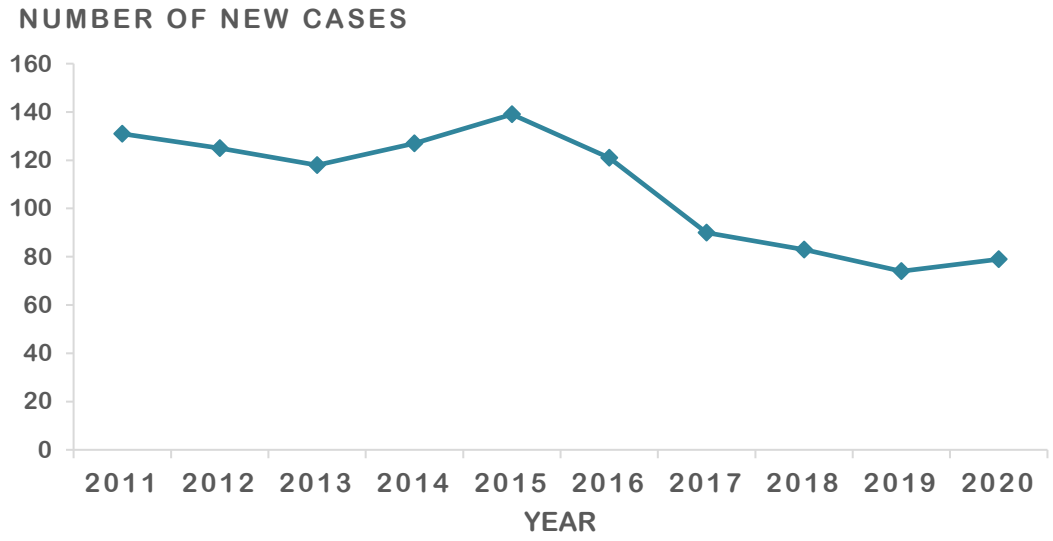


Table 22: Reported HIV Cases and Incidence Rates* in Allegheny County, 2011- 2020

Year	New Cases	Estimated Population∝	Incidence Rate*
2011	131	1,227,442	10.7
2012	125	1,229,338	10.2
2013	118	1,231,527	9.6
2014	127	1,231,255	10.3
2015	139	1,230,459	11.3
2016	124	1,230,360	10.1
2017	91	1,229,605	7.4
2018	82	1,218,452	6.7
2019	74¥	1,216,045	6.1
2020	79¥	1,216,045	6.5

**Incidence per 100,000 population based on U.S. Census Bureau estimated population data (per demographic variable)*

¥Starting in 2019, HIV cases previously diagnosed in a foreign country were no longer reported as new cases in Allegheny County

Note: HIV cases include those concurrently or subsequently diagnosed with AIDS

Table 23: Newly Reported HIV Cases and Incidence Rates* by Sex and Race/Ethnicity in Allegheny County, 2020

Race/ Ethnicity	Male	Estimated Population∝	Rate*	Female	Estimated Population∝	Rate*	Total Cases
Black (non- Hispanic)	38	74,166	**51.2**	8	86,170	**9.3**	**46**
White (non-Hispanic)	24	461,206	**5.2**	3	488,598	**0.6**	**27**
Hispanic	0	13,947	**0.0**	0	13,605	**0.0**	**0**
Other	6	38,987	**15.4**	0	39,366	**0.0**	**6**
Total	68	588,306	**11.6**	11	627,739	**1.6**	**79**

**Incidence per 100,000 population based on U.S. Census Bureau estimated population data (per demographic variable)*

∝Based on U.S. Census Bureau estimated population data

Figure 11: HIV Cases by Age Group and Sex in Allegheny County, 2020

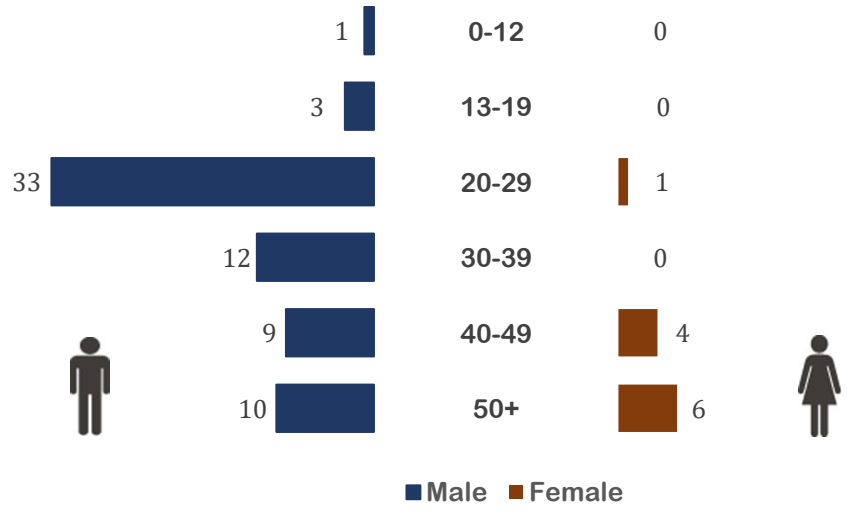


Table 24: Risk Factors in Newly Reported[&] HIV Cases, 2020 (n=79)

Category	Males n (%)	Females n (%)	Total n (%)
Men who have sex with men (MSM)	49 (72.1)	0 (0)	49 (62.0)
Injecting drug user (IDU)	1 (1.5)	0 (0)	1 (1.3)
Heterosexuality	11 (16.2)	10 (90.9)	21 (26.6)
MSM & IDU	3 (4.4)	0 (0)	3 (3.8)
Pediatric	1 (1.5)	0 (0)	1 (1.3)
Unknown	3 (4.4)	1 (9.1)	4 (5.1)

[&]*Data based on self-reporting*

Table 25: Reported Concurrent* HIV/AIDS Diagnoses in Allegheny County, 2015-2020

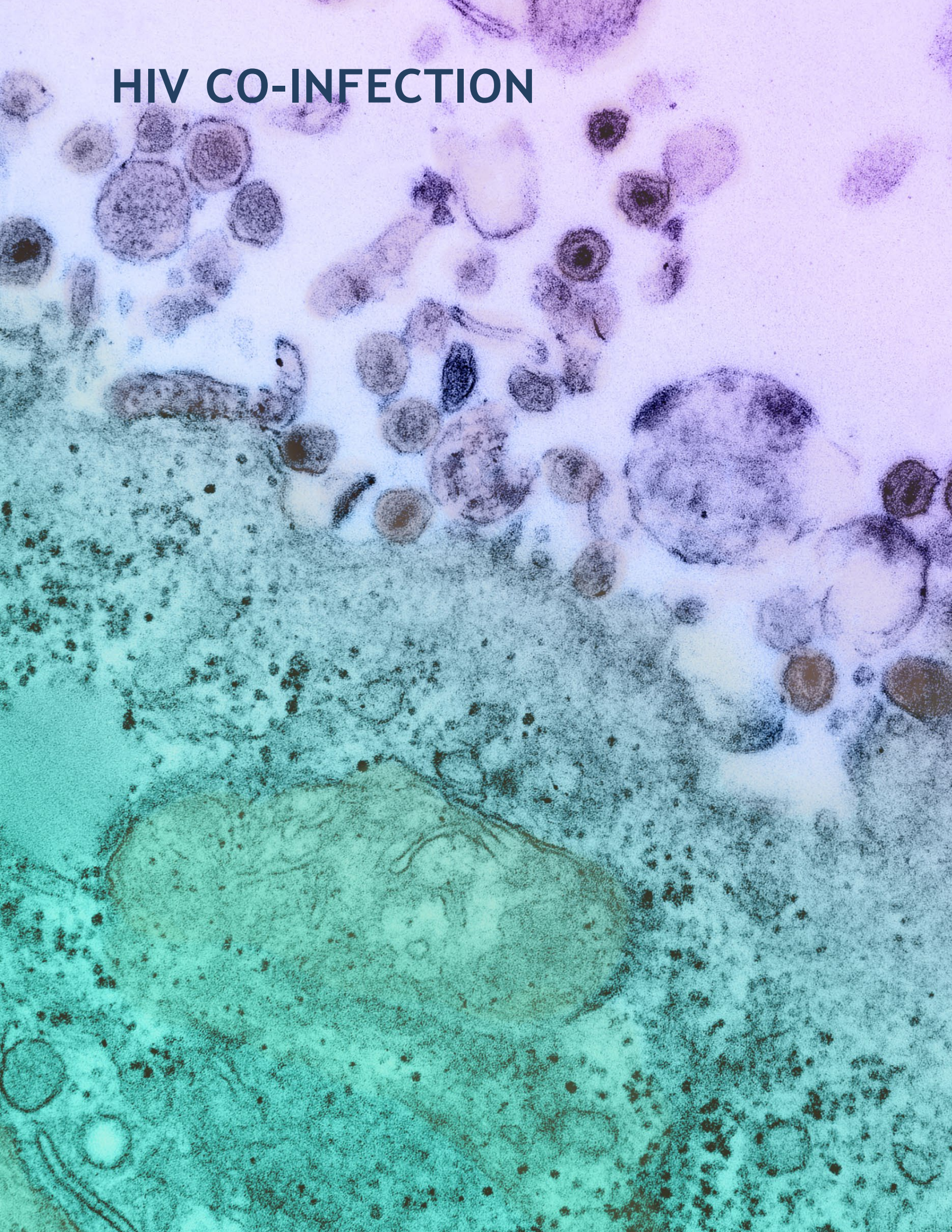
Year	Reported Cases	Reported Concurrent HIV/AIDS Cases	Percent HIV Cases Diagnosed Concurrently
2015	139	38	27.3%
2016	121	34	28.1%
2017	90	18	20.0%
2018	83	18	21.7%
2019	74	28	37.8%
2020	79	21	26.6%

**Concurrent defined as receiving AIDS diagnosis within 90 days after HIV diagnosis*

Table 26: Number of Reported Concurrent HIV/AIDS Cases by Race and Sex in Allegheny County, 2020

Demographic	Reported HIV Cases	Reported Concurrent HIV/AIDS Cases	Percent Concurrent HIV Diagnoses
Race: Black	46	13	28.3%
Race: White	27	8	29.6%
Race: Other	6	0	0.0%
Sex: Male	68	16	23.5%
Sex: Female	11	5	45.5%

HIV CO-INFECTION



HIV/STD CO-INFECTION

HIV/STD Co-infection

For all newly diagnosed cases of chlamydia, gonorrhea, and syphilis, individuals with either an existing or new HIV diagnosis are considered co-infected.

The percentage of newly diagnosed chlamydia cases with HIV co-infection during the past five years peaked at 3.1% in 2018 (Table 27). In 2020, 1.5% of chlamydia cases were co-infected with HIV. Co-infection among new gonorrhea cases is higher than among new chlamydia cases but decreased from 8.2% in 2019 to 6.0% in 2020 (Table 27). HIV co-infection among new syphilis cases is higher than for other STDs, with 17.4% of those with early syphilis in 2020 being co-infected with HIV. However, co-infection with HIV among those with early syphilis has generally been on the decline during the past 5 years (with slight year-to-year variation); in 2016, 44.8% of early syphilis cases were co-infected with HIV. Co-infection rates could be underreported, as individuals with STDs might not have been screened for HIV.

The high rates of HIV co-infection among people with STDs carries important health concerns. Having HIV and another STD may increase the risk of HIV transmission to HIV-uninfected sexual partners. Safer sexual behaviors, including reducing the number of sexual partners, avoidance of sex under the influence of alcohol or drugs, and consistent condom use are important steps to reduce to risk of STDs and HIV. Pre-exposure prophylaxis (PrEP) is an important tool to reduce the risk of acquiring HIV (see Risk Reduction Guide).

HIV/STD Co-infection Figures and Tables

Table 27: Percentage of those with Chlamydia, Gonorrhea, and Syphilis co-infected with HIV in Allegheny County, 2016-2020

Disease	2016	2017	2018	2019	2020
Chlamydia	2.4%	2.6%	3.1%	2.1%	1.5%
Gonorrhea	6.7%	8.3%	7.7%	8.2%	6.0%
Early Syphilis¥	44.8%	31.9%	34.6%	34.4%	17.4%

¥*Primary, Secondary and Early Latent Syphilis*

RISK REDUCTION GUIDE

SCREENING

- Get tested for HIV and other STDs on a regular basis. A brief overview of STD testing recommendations can be found at: https://www.cdc.gov/std/prevention/screeningreccs.htm.
- The CDC recommends that everyone between the ages of 13 and 64 get tested for HIV at least once as part of routine health care. For those with specific risk factors, the CDC recommends getting tested for HIV at least once a year. Risk factors include a sex partner with HIV, more than one sex partner, injection drug use, sex for money or drugs, STD or TB evaluation/diagnosis, and sex with someone with HIV risk factors.
- Free, confidential HIV and STD screening is available at the ACHD STD health clinic and other organizations throughout the County:

  https://www.alleghenycounty.us/Health-Department/Health-Services/STD-and-HIV-AIDS-Program/index.aspx

  http://www.aidsfreepittsburgh.org/hivtesting.php

PREVENTION

Use Condoms

- If you decide to have sex, use a new latex condom and lubricant for each act of intercourse. The condom forms a barrier between you and your partners' sexual fluids that may transmit HIV or other STDs. Consistent and correct use of condoms provides a high level of protection.
- Free condoms are available for community organizations through the ACHD Condom Distribution Program https://www.alleghenycounty.us/Health-Department/Health-Services/STD-and-HIV-AIDS-Program/Condom-Distribution-Program.aspx and can be obtained at the ACHD Public Health Clinic, emailing CDP@alleghenycounty.us or calling **412-578-8343**.

PrEP to Prevent HIV

- Pre-Exposure Prophylaxis (PrEP) is a medication that is taken daily to lower chances of getting HIV. It is designed for individuals who are at high risk for getting HIV. Taking PrEP before you are exposed to HIV can reduce your risk of contracting the disease.
- Taking PrEP daily reduces the risk of getting HIV from sex by more than 90%. Among people who inject drugs, it reduces the risk by more than 70%. Your risk of getting HIV from sex can be even lower if you combine PrEP with condoms and other prevention methods.
- For more information on PrEP, visit the PrEP Pittsburgh website http://preppgh.com or contact the ACHD STD/HIV Health Educator by calling **412- 578-8343**.

Use Sterile Syringes and Works

- People who use drugs can access sterile injection supplies through Prevention Point Pittsburgh's syringe exchange program at various sites in Allegheny County 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.

TREATMENT

- HIV: In recent years, an overwhelming body of clinical evidence has firmly established that individuals diagnosed with HIV taking antiretroviral therapy (ART) as prescribed cannot transmit HIV to their sexual partners by achieving an undetectable viral load. An undetectable viral load means that there are low levels of the virus in the blood. This concept is known as Undetectable=Untransmittable, or U=U (https://www.nih.gov/news-events/news-releases/science-clear-hiv-undetectable-equals-untransmittable). The research supporting U=U strengthens the reason why it is important for individuals diagnosed with HIV to seek medical care. In Allegheny County, there are several clinics and/or agencies that receive Ryan White funding that cover ART medications and other ancillary services for People Living with HIV (PLWH). Treatment is available at most HIV clinics regardless of ability to pay.
- Other STDs: Most STDs are curable, and all are treatable! If you or your partner are infected with an STD that can be cured, it is important that each person start treatment immediately and notify their sexual partners to avoid re-infection. The Allegheny County Health Department has a Partner Services department that can confidentially contact recent sexual partners to notify them of a recent HIV or STD exposure. The Partner Services staff can educate recent partners about reinfection and provide resource for additional HIV/STD testing and treatment.

REFERENCES

1. Kreisel KM, Spicknall IH, Gargano JW, Lewis FM, Lewis RM, Markowitz LE, Roberts H, Satcher Johnson A, Song R, St. Cyr SB, Weston EJ, Torrone EA, Weinstock HS. Sexually transmitted infections among US women and men: Prevalence and incidence estimates, 2018. Sex Transm Dis 2021; in press.
2. CDC. Screening Recommendations and Considerations Referenced in Treatment Guidelines and Original Sources. Atlanta, GA: Department of Health and Human Services; September 2021.

GLOSSARY

ASYMPTOMATIC Having no signs or symptoms of a disease. Many STDs are asymptomatic at some time during the phase of the disease process.

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 infertility 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's Enterprise Data Dissemination Informatics Exchange (EDDIE).

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 with or 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 initial lesions have disappeared. Secondary syphilis can cause a broad spectrum of skin conditions including various rashes, mucous patches, and loss of hair. Secondary syphilis will also disappear with or without treatment. 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 and at delivery. If detected early enough, the mother's infection can be easily treated, resulting in a healthy pregnancy and baby.

ALLEGHENY COUNTY HEALTH DEPARTMENT

Blakey Center Public Health Clinic

1908 Wylie Avenue (Middle Hill), Pittsburgh, PA 15219

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 the following holidays: New Year's Day, Martin Luther King Day, Presidents' Day, Primary Election Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day, Christmas Day