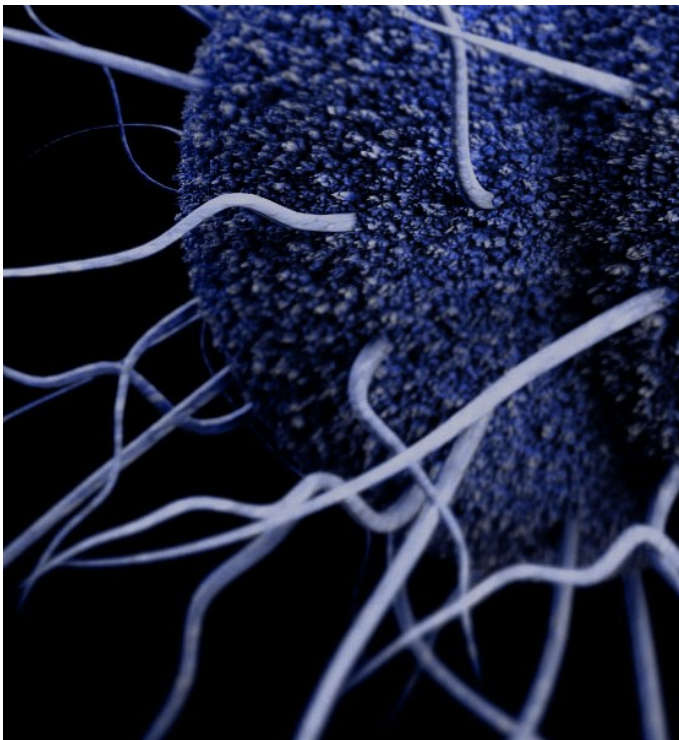




# 2018 Sexually Transmitted Disease Report



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Prepared  
December  
2019

# Sexually Transmitted Diseases in Ottawa County

## 2018

The 2018 sexually transmitted disease (STD) report presents a detailed summary of STDs diagnosed among Ottawa County residents during 2018. This report provides a summary of recent trends, estimates of the burden of STDs in the county, and information about public health programming and planning. Although this report details the two most common STDs in the county (chlamydia, gonorrhea), true disease burden is likely much higher because many infections are asymptomatic (and therefore go undetected). See the Ottawa County Department of Public Health (OCDPH) [2018 Annual Summary of Reportable Diseases](#) for a summary of all reportable diseases in the county.

### Five-Year STD Trends

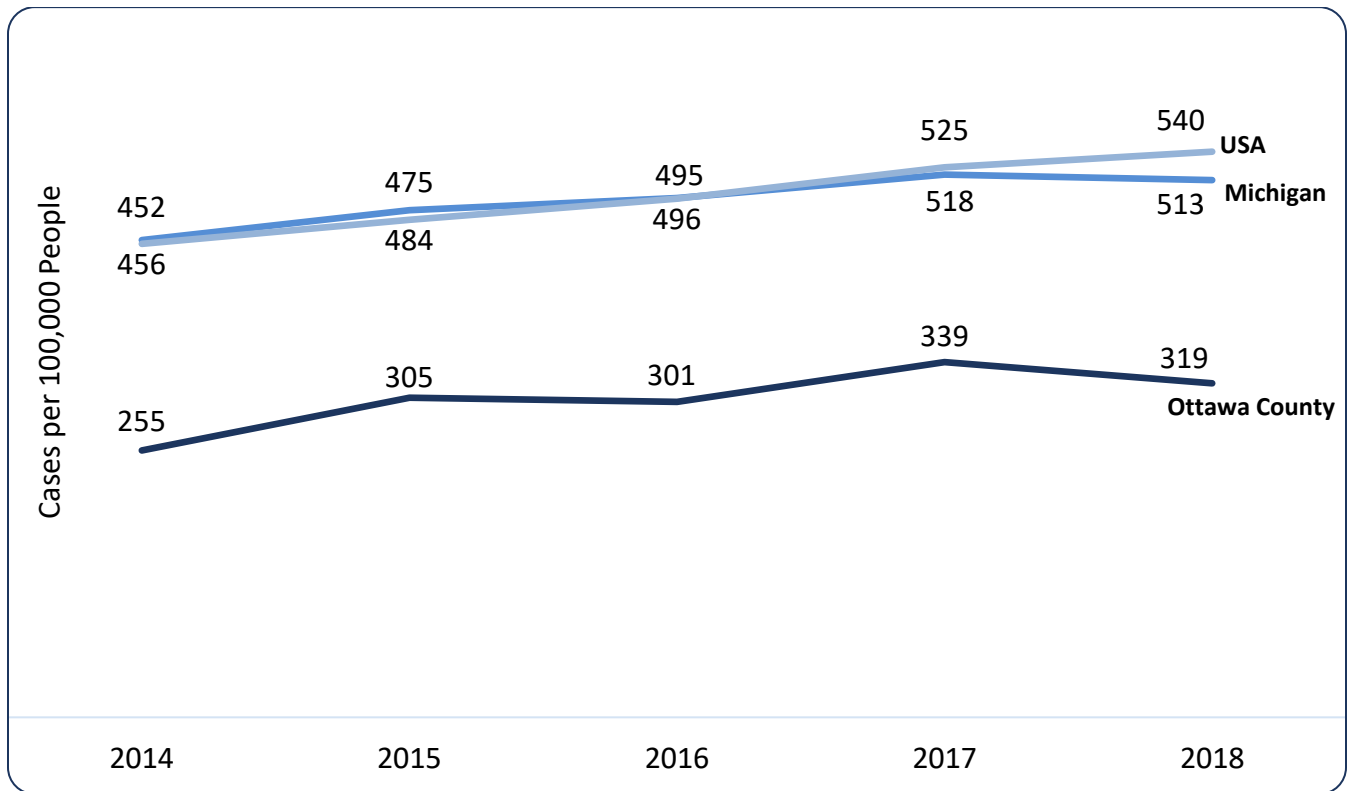
**Chlamydia and gonorrhea were the top two most frequently reported STDs** in Ottawa county over the last five years (2014 to 2018). Table 1 shows yearly counts of the bacterial STDs reported among Ottawa county residents.

**Table 1. Confirmed and probable STD cases reported to OCPDH over the past five years.**

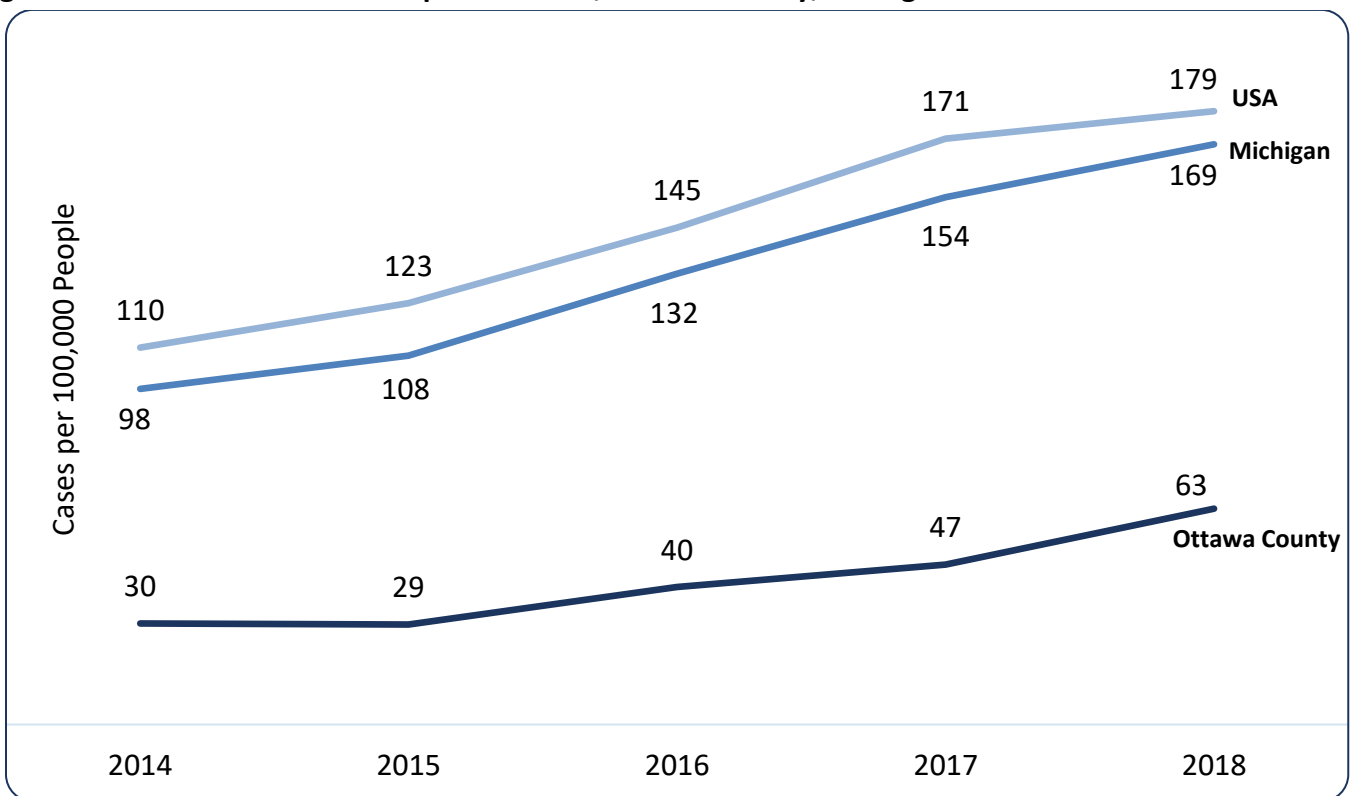
<b>Sexually Transmitted Disease (STD)</b>	<b>2014 Cases</b>	<b>2015 Cases</b>	<b>2016 Cases</b>	<b>2017 Cases</b>	<b>2018 Cases</b>	<b>5-Year Total Cases</b>
Chlamydia	708	857	855	973	926	<b>4319</b>
Gonorrhea	82	82	114	134	183	<b>593</b>
Syphilis - Primary	1	2	5	0	2	<b>10</b>
Syphilis - Secondary	4	2	0	1	3	<b>10</b>
Syphilis - Congenital	1	0	1	0	0	<b>2</b>
Syphilis - Latent	2	6	7	5	1	<b>21</b>
Syphilis – Unknown Duration or Late	0	0	0	0	6	<b>6</b>

Overall, chlamydia and gonorrhea rates in Ottawa county increased between 2014 and 2018, mirroring an increase seen across the State of Michigan and nationally. However, Ottawa County STD rates remained lower than the State and national rates over that same time period (Figures 1 & 2).

**Figure 1. Chlamydia – Rates of Reported Cases, Ottawa County, Michigan and USA 2014-2018.**



**Figure 2. Gonorrhea – Rates of Reported Cases, Ottawa County, Michigan and USA 2014-2018.**



## 2018 Details by Disease

All reported cases of chlamydia and gonorrhea in Ottawa County are characterized in Table 2 below.

**Table 2. Chlamydia and Gonorrhea – Characteristics of Reported Cases, Ottawa County, 2018.**

Characteristic	Chlamydia	Gonorrhea
<b>Total</b>	<b>926 (100%)</b>	<b>183 (100%)</b>
<b>Sex, n (%)</b>		
Female	634 (68.5%)	84 (45.9%)
Male	291 (31.4%)	99 (54.1%)
Unknown	1 (0.1%)	N/A
<b>Mean Age (Min-Max)</b>		
Overall	23.3 (13-67) years	26.9 (13-60) years
Females	22.6 (13-51) years	25.4 (13-57) years
Males	24.8 (15-67) years	28.1 (15-60) years
<b>Race and Ethnicity, n (%)</b>		
Asians	24 (2.6%)	**
Black or African American	78 (8.4%)	38 (20.8%)
Hispanic or Latino	193 (20.8%)	18 (9.8%)
Multiracial	15 (1.6%)	**
Non-Hispanic White	492 (53.1%)	97 (53.0%)
Other	60 (6.5%)	15 (8.2%)
Unknown	64 (6.9%)	11 (6.0%)

\*\*Suppressed due to low case counts

### Chlamydia

Chlamydia is the most common bacterial STD reported in Ottawa County, the State of Michigan and nationally. It is transmitted mainly through unprotected sexual contact. It can also be transmitted from mother to baby during delivery. Chlamydia is treatable with prescribed antibiotics. Prevention methods include proper condom use during sex with an infected person, limiting the number of sexual partners, regular screening of sexually active individuals (at least once a year), proper treatment of cases and abstinence. Unrecognized and/or untreated chlamydia infections can result in pelvic inflammatory disease

(PID), which is a major cause of infertility, ectopic pregnancy and chronic pelvic pain<sup>1</sup>. Chlamydia infections are also known to facilitate transmission of human immunodeficiency virus (HIV)<sup>2</sup>. Despite the overall increase in chlamydia rates over the last five years in Ottawa County, 2018 saw a slight decrease in chlamydia rates and the total number of cases reported as compared to 2017. In 2018, 926 cases of chlamydia were reported among Ottawa County residents, with an infection rate of 319 cases per 100,000 population.

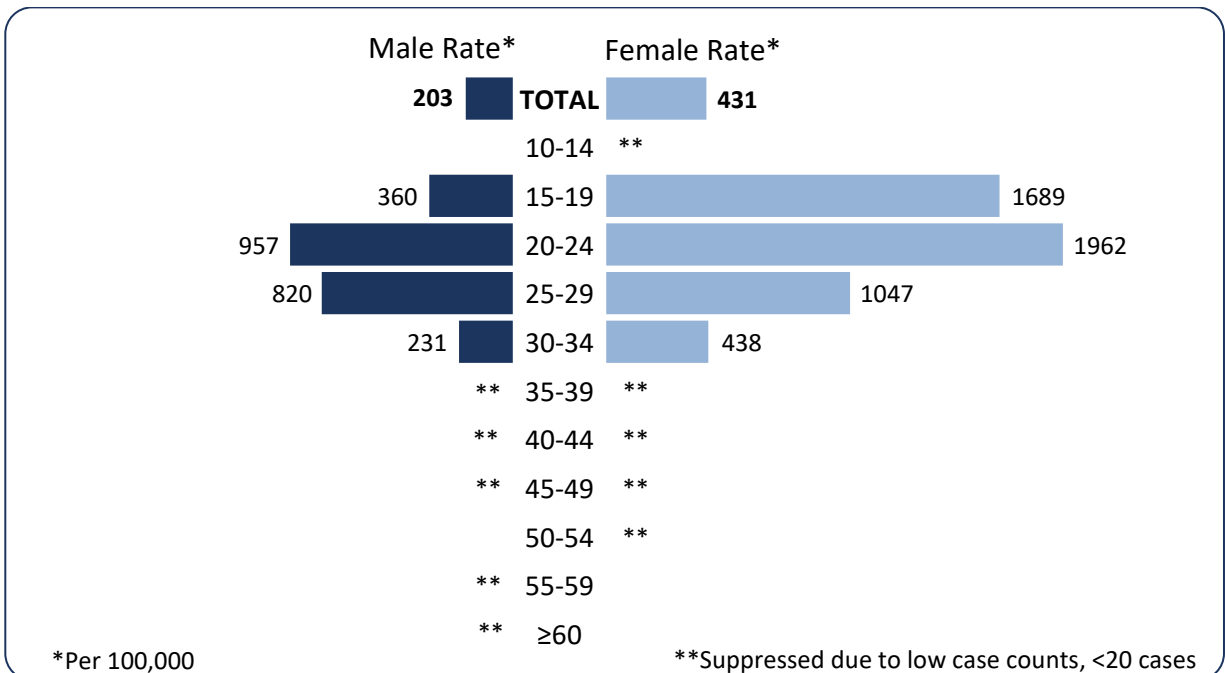
### Chlamydia by Sex

Of the 926 chlamydia cases reported in 2018, 634 (68.5%) were among females, for a rate of 431 cases per 100,000 females. Among males, 291 (32%) cases were reported for a rate of 203 cases per 100,000 males. Rates of reported cases in the county were generally lower among males (Figure 3), consistent with national data from the Centers of Disease Control and Prevention (CDC)<sup>1</sup>. Higher rates among females have been attributed to more screening among women. Conversely, the lower rate among men suggests many of the male sex partners of females may be going undiagnosed.

### Chlamydia by Age Groups

In 2018, the average age of chlamydia cases in Ottawa County was about 23.3 years (Table 2). However, female cases were significantly younger (22.6 years) than male cases (24.8 years) on average ( $p < 0.001$ )<sup>§</sup>. Figure 3 shows incidence rates of chlamydia by sex and specific age groups. Reported rates of chlamydia were highest among young adults aged 20-24 years for both males and females. The highest age-specific rates of reported cases were among 20 to 24-year-old females, with chlamydia rates of 1,962 cases per 100,000 females, about 2 times the rates in their male counterparts.

**Figure 3. Chlamydia – Rates of Reported Cases by Sex and Age Group, Ottawa County, 2018.**

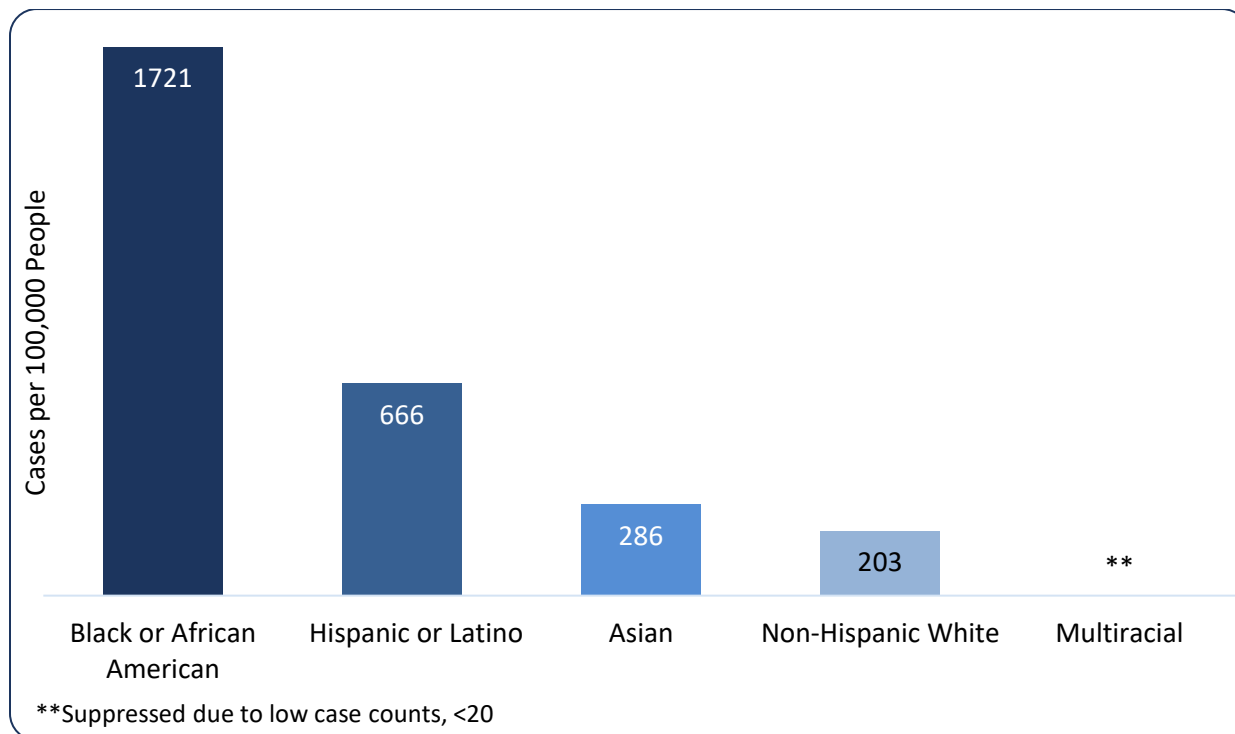


Data sources: Michigan Disease Surveillance System (MDSS); Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2018, U.S. Census Bureau, Population Division, Release Date: June 2019.

## Chlamydia by Race and Ethnicity

In 2018, 492 (53.1%) of the chlamydia cases reported were among non-Hispanic Whites, at a rate of 203 cases per 100,000 population. About 193 (20.8%) cases were Hispanic or Latino, at a rate of 666 cases per 100,000 population. Although African Americans made up a relatively lower proportion of the chlamydia cases in 2018, (n=78, 8.4%), the highest rates were reported among this population (1,721 cases per 100,000 population).

**Figure 4. Chlamydia – Rates of Reported Cases by Race and Ethnicity, Ottawa County, 2018.**



Data sources: Michigan Disease Surveillance System (MDSS); Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin for the United States, States, and Counties: April 1, 2010 to July 1, 2018. Source: U.S. Census Bureau, Population Division. Release Date: June 2019

Overall, chlamydia rates among Black or African Americans were 8.5 times the rates in non-Hispanic Whites. Chlamydia incidence rates among Hispanic or Latino persons were 3.3 times the rates in non-Hispanic Whites (Table 3). Similar disparities in chlamydia incidence rates have also been observed and reported nationally in the CDC's [2018 STD Surveillance Report](#).

**Table 3: Chlamydia – Incidence Rate Ratios by Race and Ethnicity, Ottawa County, 2018.**

Race/Ethnicity	Incidence Rate	Rate Ratio
Non-Hispanic White	203 cases per 100,000 people	**
Asian	286 cases per 100,000 people	1.4
Hispanic or Latino	666 cases per 100,000 people	3.3
Black or African American	1,721 cases per 100,000 people	8.5

\*\* Reference group

## Chlamydia Reinfection and Coinfection

Chlamydia reinfection is a measure of the occurrence of positive chlamydia diagnosis within the previous 12 months of a current diagnosis. In 2018, chlamydia reinfection rate among the cases was 10%, up from 9% in 2017. About 62 (6.9%) of the chlamydia cases diagnosed in 2018 were also coinfecting with gonorrhea.

## Gonorrhea

Gonorrhea is the second most common bacterial STD reported in Ottawa County, the State of Michigan and nationally. With very similar etiology to chlamydia, gonorrhea is also transmitted mainly through unprotected sexual contact with an infected individual. Like chlamydia, gonorrhea infections can also result in PID, and can facilitate the transmission of HIV<sup>2</sup>. Because of the large burden and risks associated with these infections, annual screening of sexually active individuals is [recommended](#). There was an overall increase in the total number of cases and rates of gonorrhea in Ottawa County over the last 5 years. Incidence rates increased steadily from 2015 to 2018, with the highest rates seen in 2018 (Figure 2). In 2018, 183 cases of gonorrhea were reported among Ottawa County residents, with an incidence rate of 62 cases per 100,000 population.

### Gonorrhea by Sex

Of the 183 chlamydia cases reported in 2018, 99 (54.1%) were among males, for a rate of 69 cases per 100,000 males. Among females, 84 (45.9%) cases were reported for a rate of 57 cases per 100,000 females. The higher rates reported among men in Ottawa County was consistent with the national trends. One factor that may explain higher rates among men could be that urethral gonorrhea infections tend to be symptomatic more often in males than females<sup>3</sup>. Symptomatic males may be more motivated to seek care, receive a diagnosis, and be reported.

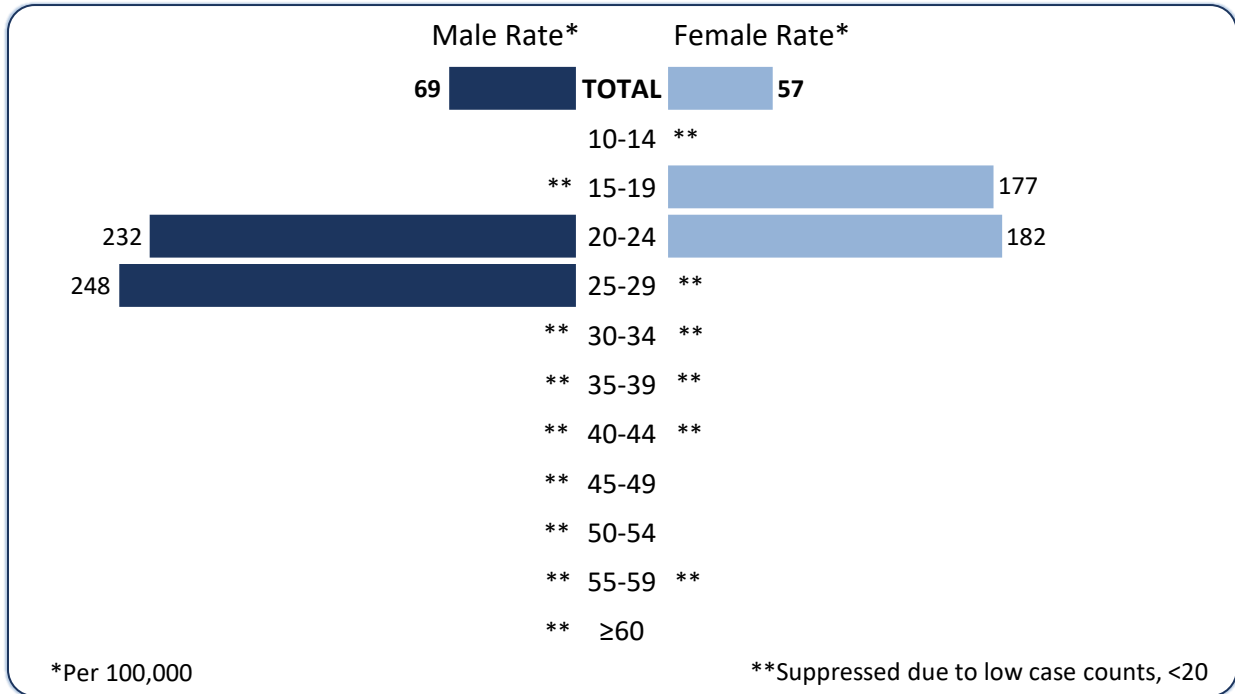
### Gonorrhea by Age Groups

In 2018, the average age of gonorrhea cases in Ottawa County was about 26.9 years (Table 2). However, female cases were younger (25.4 years) than the male cases (28.1 years) on average ( $p = 0.051$ )<sup>5</sup>. Figure 5 shows incidence rates of gonorrhea by sex and specific age groups. Reported rates among males were highest among adults aged 25-29 years (248 cases per 100,000 population). The highest rates among females were among young adults aged 20-24 years (182 cases per 100,000 population).

### Gonorrhea by Race and Ethnicity

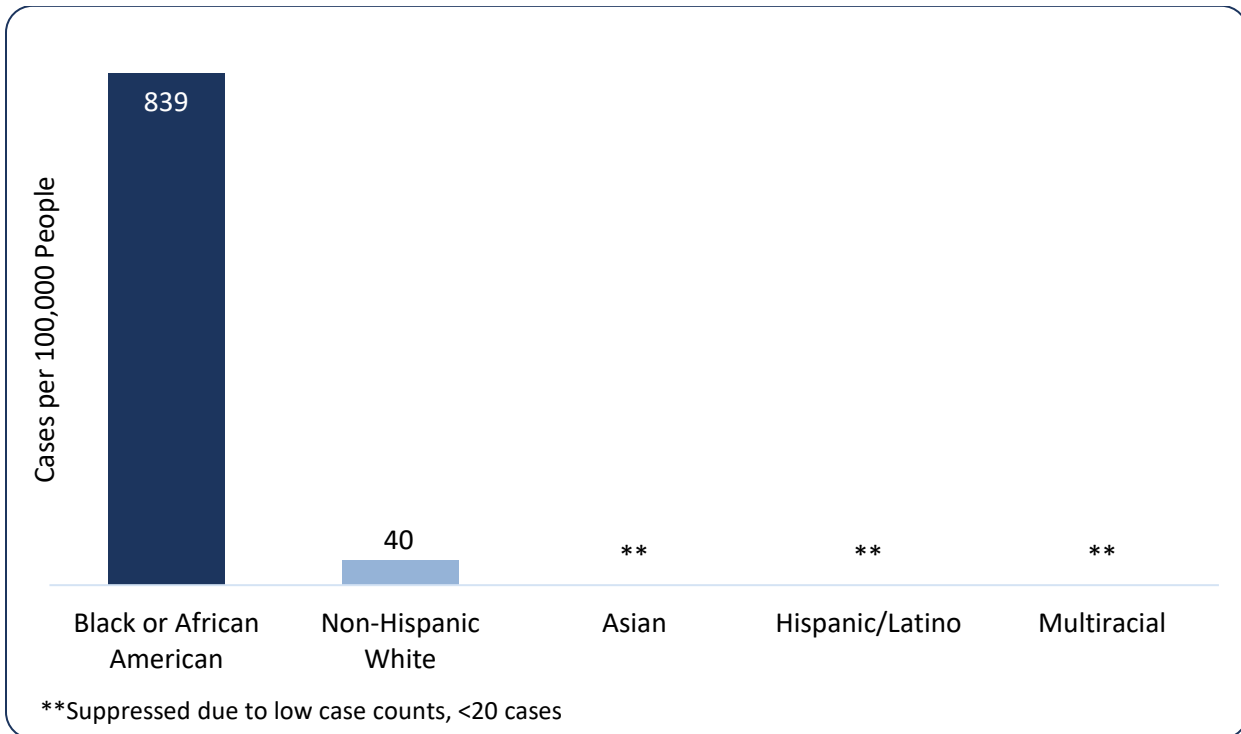
In 2018, 97 (53.0%) of the gonorrhea cases reported were among non-Hispanic Whites, at a rate of 40 cases per 100,000 population. Thirty-eight (20.8%) of the gonorrhea cases were reported among African Americans, with a rate of 839 cases per 100,000 population (Figure 6). Incidence rates in other races have been suppressed due to low case counts.

**Figure 5. Gonorrhea – Rates of Reported Cases by Sex and Age Group, Ottawa County, 2018.**



Data sources: Michigan Disease Surveillance System (MDSS); Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2018, U.S. Census Bureau, Population Division, Release Date: June 2019.

**Figure 6. Gonorrhea – Rates of Reported Cases by Race and Ethnicity, Ottawa County, 2018.**



Data sources: Michigan Disease Surveillance System (MDSS); Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin for the United States, States, and Counties: April 1, 2010 to July 1, 2018. Source: U.S. Census Bureau, Population Division. Release Date: June 2019



Overall, gonorrhea incidence rates among African Americans were about 21 times the rates in non-Hispanic Whites.

### **Gonorrhea Reinfection**

Similar to chlamydia reinfection rates, gonorrhea reinfection also measures the occurrence of positive gonorrhea diagnosis within the previous 12 months of their current diagnosis. In 2018, gonorrhea reinfection rate among Ottawa County cases was 5%.

### **Ottawa County Youth Sexual Behavior**

The [Ottawa County Youth Assessment Survey](#) monitors the prevalence of youth health risk behaviors across the county. In 2017, 25.1% of Ottawa County youth reported ever having oral sex or sexual intercourse. Of this proportion, 4.5% reported having engaged in this behavior before age 14. Among students who had ever engaged in sexual intercourse, 40.2% reported not using a condom during their last intercourse, and only about 22.4% reported to have been tested for STDs in the past 12 months. However, 71.6% of Ottawa County youth strongly agreed or agreed that there are consequences (physical, emotional, or other) when someone their age has sexual intercourse. About 62% agreed there were similar consequences when someone their age has oral sex.

### **STD Prevention**

OCDPH actively works to prevent STDs and promote sexual and reproductive health in Ottawa County by providing the following:

- STD surveillance and disease investigation to identify risk factors and illustrate potential trends.
- Community-wide and school-based confidential screening/testing for STDs.
- Education on sexual health and STD prevention across the community.
- Family planning and sexual health clinical services.
- The [Wear One](#) campaign: aimed at increasing condom availability, creating awareness and promoting condom use in individuals aged 18 to 24 years.

**For more information on OCDPH sexual health education and resources, click [HERE](#).**

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3. Ryan, E., Hill, D., Solomon, T., Aronson, N., Endy, T. (2019). Hunter's Tropical Medicine and Emerging Infectious Diseases (10th ed.). [E-book].
4. Kimberly A. Workowski, Stuart M. Berman, Centers for Disease Control and Prevention Sexually Transmitted Disease Treatment Guidelines, *Clinical Infectious Diseases*, Volume 53, Issue suppl\_3, 15 December 2011, Pages S59–S63, <https://doi.org/10.1093/cid/cir694>.
5. Ottawa County Youth Assessment Survey (YAS), 2017. Reports available online at: <https://www.miottawa.org/Health/OCHD/data.htm#YAS>.

<sup>§</sup> Results from Independent Sample t-tests comparing the mean ages for male and female cases.

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Front Cover Image: *Neisseria gonorrhoeae* bacteria, the causative agent of gonorrhoea; from <https://www.cdc.gov/std/Gonorrhoea/>