Sexually Transmitted Infections

2019 ANNUAL REPORT

MARYLAND DEPARTMENT OF HEALTH
Center for STI Prevention

Center for STI Prevention
Maryland Department of Health

November 2020

Dear Marylanders,

The Maryland Department of Health (MDH) Center for STI Prevention (CSTIP) is pleased to present the 2019 Maryland STI Annual Report. Under Maryland law, health care providers and laboratories must report all laboratory-confirmed cases of chlamydia, gonorrhea, and syphilis to the state health department or the local health department where a patient resides. Other STIs, such as herpes, trichomoniasis, and *human papillomavirus* (HPV), also affect sexual and reproductive health, but these are not reportable infections and therefore cannot be tracked and are not included in this report.

CSTIP epidemiologists collect, interpret and disseminate population-level data based on the reported cases of chlamydia, gonorrhea, syphilis and congenital syphilis, to inform state and local health officials, health care providers, policymakers and the public about disease trends and their public health impact. The data include cases, rates, and usually, Maryland's national rankings for each STI, which are calculated once all states' STI data are reported to the Centers for Disease Control and Prevention (CDC). The CDC then publishes these data, including state-by-state rankings, each fall for the prior year. The 2019 report is not expected to be released until early 2021 because of COVID-related lags in reporting across the country.

The increases in STIs observed in Maryland over the past 10 years mirrors those occurring nationwide, and the increasing public health, medical and economic burden of STIs are cause for deep concern. The causes for these increases are likely multi-factorial. According to CDC, data suggest contributing factors include:

- Substance use, poverty, stigma, and unstable housing, all of which can reduce access to prevention and care
- Decreased condom use among vulnerable groups
- Shrinking public health resources over years resulting in clinic closures, reduced screening, staff loss, and reduced patient follow-up and linkage to care services

Stemming the tide of STIs requires national, state and local collaboration. CSTIP partners with programs aimed at addressing structural poverty and structural and institutionalized racism, both of which impede access to quality care. Assuring access to care and assuring STI screening and timely and adequate treatment require immense communication, coordination and cooperation among many partners.

Analyzing Maryland's STI trends can help CSTIP, local health departments and national, state and local partners design more effective prevention programs, better target interventions to address health disparities, evaluate program efficacy and advocate for additional resources to protect the sexual and reproductive health of Marylanders. CSTIP is actively addressing these increases by collaborating with national, state, and local government agencies and other programs within the Maryland Department of Health (MDH) and enhancing existing partnerships with health care providers and health care systems, researchers, and policy makers.

We hope the information in this report will help inform partner agencies in the design and implementation of state and local interventions to improve the sexual and reproductive health of all Marylanders.

To find screening options near you, visit https://gettested.cdc.gov/.

CSTIP would like to recognize the efforts of local health department personnel throughout the state who play a critical role in protecting the sexual and reproductive health of Marylanders through case investigation, data collection, assuring and providing appropriate STI screening and treatment and conducting community outreach and education.

Sincerely,

Kenneth Ruby III, LCSW-C, MBA
Chief, Center for STI Prevention

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Maryland Department of Health
Center for STI Prevention

Mission
The mission of the Center for STI Prevention (CSTIP) is to prevent and reduce sexually transmitted infections (STIs) in Maryland. Preventing STIs and their complications is essential for improving both sexual and reproductive health.

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*Staff listed include personnel who contributed to the 2019 report.

Background

Reporting Requirements

The Code of Maryland Regulations (COMAR) governing laboratory and provider reporting was most recently amended in 2020, with an effective date of May 18, 2020. While the relevant STI-related changes were not in place during 2019, it is important to note the important change to laboratory reporting of syphilis. The amended regulation now requires laboratories to report not only laboratory-confirmed syphilis, but also suspected syphilis as indicated by: (a) Any treponemal or non-treponemal results that are qualitative or quantitative, if the results are: (i) Positive; (ii) Reactive; or (iii) Inconclusive; and
(b) Any negative or non-reactive results associated with the positive, reactive, or inconclusive results in (a) above (see footnote 7 in COMAR 10.06.01.03 C, the List of Reportable Diseases and Conditions). The full text of the regulation can be found online at http://www.dsd.state.md.us/comar/comarhtml/10/10.06.01.03.htm). Note, health care providers also must report treatment administered or prescribed for chlamydia, gonorrhea, and syphilis.

Maryland's Confidential Morbidity Report Form can be found here: http://bit.ly/MarylandMorbForm.

Chancroid:

- Laboratory evidence of *Haemophilus ducreyi* must be reported within one working day

Chlamydia:

- Laboratory evidence of *Chlamydia trachomatis*, including lymphogranuloma venereum (LGV), must be reported within one working day

Gonorrhea:

- Laboratory evidence of *Neisseria gonorrhoeae* must be reported within one working day

Syphilis:

- Laboratory evidence of *Treponema pallidum* must be reported within one working day and providers and laboratories should submit any treponemal or non-treponemal results that are qualitative or quantitative if the results are:
    - Positive
    - Reactive
    - Inconclusive
    - Any negative or non-reactive results associated with the positive, reactive or inconclusive results

Sources of Data

Health care providers and laboratories are legally required to report confirmed cases of chlamydia,

gonorrhea and syphilis to their local health departments. Information on STI diagnoses, including residence at the time of diagnosis, age, race/ethnicity, sex at birth, current gender, HIV coinfection and associated test results are from CSTIP's STI surveillance system, Patient Reporting Investigation Surveillance Manager (PRISM). National data are from the 2018 Centers for Disease Control and Prevention (CDC) Surveillance Report and the CDC website. Population data are from the Maryland Department of Planning.

Race Reporting

Individuals listed in the "Other" racial group include Native Hawaiian/Pacific Islander, American Indian/Alaska Natives and Multi-Racial groups. Beginning in 2017, race reporting variables were changed to allow for cases to have multiple race responses (such as selecting both Black/African-American and White) in addition to self-identifying as "Multi-Racial." As a result, the sharp increase in the number of STI cases classified as "Other" between 2016 and 2019 may be an artifact of changing data collection methodology rather than a true increase in morbidity among this subpopulation. These changes should be taken into consideration when interpreting race-specific case data.

MDH Non-Discrimination Statement

MDH complies with applicable federal civil rights laws and does not discriminate on the basis of race, color, national origin, age or disability in its health programs and activities.

Maryland Profile: Executive Summary

The state of Maryland is comprised of 24 jurisdictions (23 counties and the city of Baltimore), each of which has its own local health department.

CSTIP is responsible for conducting surveillance of STIs in Maryland, monitoring disease trends, providing early detection of outbreaks and implementing evidence-based practices to effectively manage limited resources to identify common risk factors and disparities among those impacted. Additionally, CSTIP provides epidemiological, technical and programmatic consultation services to local health departments, health care providers and organizations throughout the state to increase public awareness and reduce transmission of STIs.

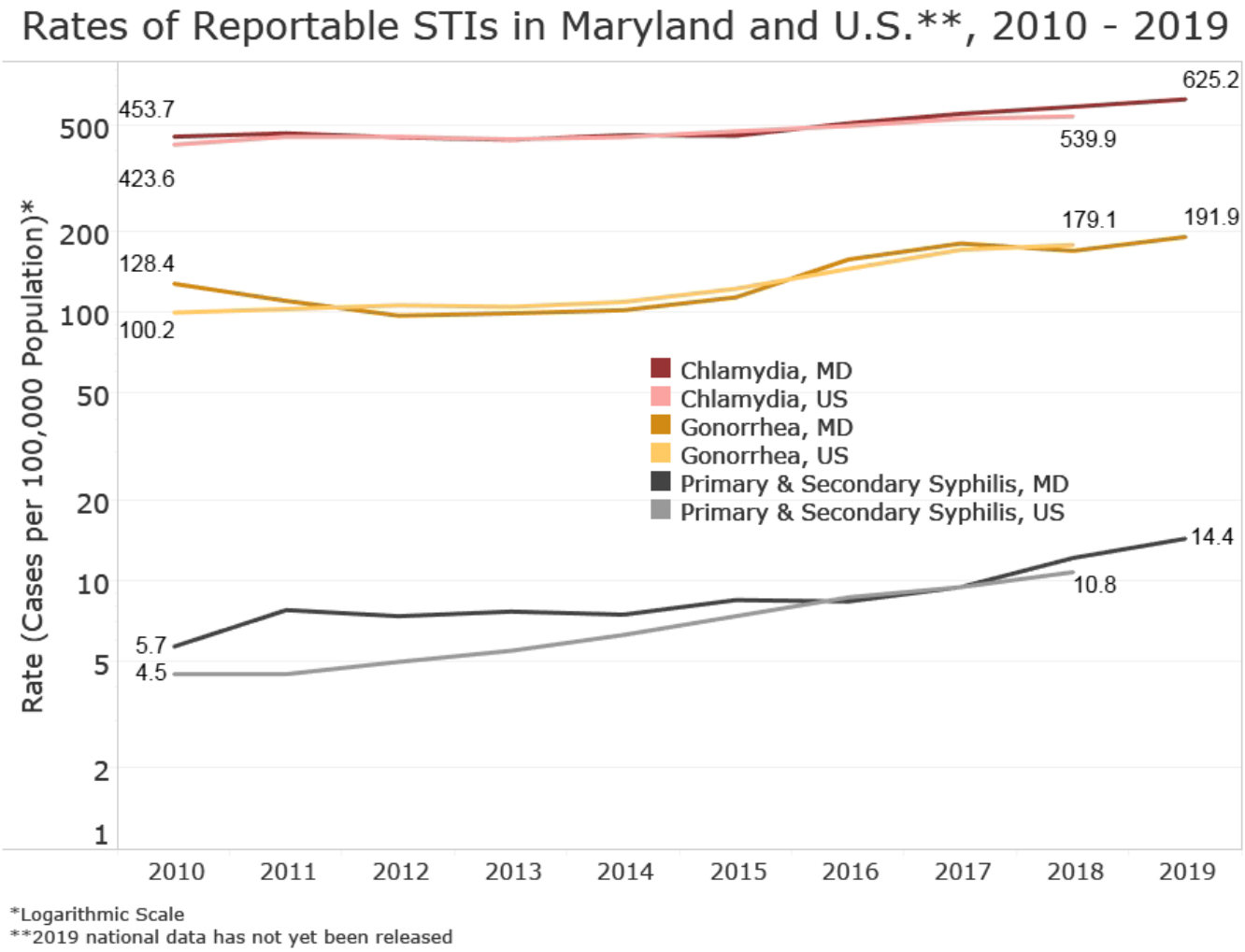
CSTIP monitors reported cases of chlamydia, gonorrhea and syphilis. While there are many differences in the impact of these infections across the state, every jurisdiction is affected. Furthermore, STIs are serious infections that can lead to severe and life-long health problems, including scarring and inflammation of the reproductive organs resulting in pelvic inflammatory disease, potentially fatal ectopic pregnancy, infertility in women and complications during pregnancy.[1] Thus, timely screening and treatment of women of childbearing age is critical . Though much rarer, males, too, can have serious, life-long health problems resulting from untreated STIs, including sterility.

While all STIs that CSTIP monitors can cause complications during pregnancy, syphilis is the most concerning because untreated or inadequately treated syphilis in pregnant women can cause miscarriage stillbirth or infant death In surviving infants, congenital syphilis can affect the skin, bones, eyes, ears, heart and brain which can lead to developmental problems..[2] Assuring access to prenatal care, including timely syphilis screening and treatment to prevent congenital syphilis, is especially critical in Maryland, which ranked in the top nine states in the country for congenital syphilis rates between 2012 and 2018.[3]

STI Cases and Rates in Maryland, 2019

	Chlamydia		Gonorrhea		Primary & Secondary Syphilis		Early Non-Primary/Non-Secondary Syphilis		Late/Unknown Duration Syphilis		Congenital Syphilis	
County	**Cases**	**Rates**	**Cases**	**Rates**	**Cases**	**Rates**	**Cases**	**Rates**	**Cases**	**Rates**	**Cases**	**Rates**
Allegany	263	373.5	22	31.2	4	5.7	0	0.0	6	8.5	0	0.0
Anne Arundel	2,710	467.9	681	117.6	39	6.7	56	9.7	69	11.9	0	0.0
Baltimore County	4,878	589.6	1,527	184.6	103	12.4	98	11.8	121	14.6	5	51.1
Calvert	295	318.8	94	101.6	1	1.1	9	9.7	4	4.3	0	0.0
Caroline	113	338.3	21	62.9	1	3.0	1	3.0	3	9.0	1	233.6
Carroll	327	194.1	70	41.6	9	5.3	6	3.6	3	1.8	0	0.0
Cecil	372	361.7	129	125.4	4	3.9	7	6.8	5	4.9	1	86.7
Charles	1,138	697.1	273	167.2	14	8.6	30	18.4	18	11.0	1	53.6
Dorchester	216	676.5	63	197.3	1	3.1	3	9.4	1	3.1	0	0.0
Frederick	820	315.9	133	51.2	23	8.9	14	5.4	22	8.5	0	0.0
Garrett	57	196.5	2	6.9	1	3.4	0	0.0	1	3.4	0	0.0
Harford	1,041	407.5	272	106.5	7	2.7	13	5.1	11	4.3	1	38.0
Howard	1,200	368.4	238	73.1	22	6.8	16	4.9	27	8.3	1	29.3
Kent	69	355.3	8	41.2	0	0.0	4	20.6	0	0.0	0	0.0
Montgomery	4,699	447.2	834	79.4	89	8.5	117	11.1	100	9.5	3	24.2
Prince George's	8,262	908.6	2,196	241.5	169	18.6	246	27.1	226	24.9	5	41.1
Queen Anne's	135	268.0	14	27.8	1	2.0	0	0.0	0	0.0	0	0.0
Saint Mary's	511	450.2	314	276.6	3	2.6	8	7.0	4	3.5	0	0.0
Somerset	184	718.3	38	148.3	0	0.0	1	3.9	1	3.9	0	0.0
Talbot	119	320.1	24	64.5	1	2.7	1	2.7	0	0.0	0	0.0
Washington	636	421.1	283	187.4	58	38.4	40	26.5	32	21.2	3	178.1
Wicomico	906	874.4	336	324.3	5	4.8	7	6.8	9	8.7	0	0.0
Worcester	225	430.4	44	84.2	1	1.9	0	0.0	0	0.0	0	0.0
MD Counties	29,176	535.1	7,616	139.7	556	10.2	677	12.4	663	12.2	21	33.1
Baltimore City	8,602	1,449.4	3,981	670.8	312	52.6	314	52.9	224	37.7	10	130.2
MD State	37,778	624.9	11,597	191.8	868	14.4	991	16.4	887	14.7	31	43.6

Rates = Cases per 100,000 Population;
Congenital syphilis rates calculated per 100,000 live births (2018 MD Dept of Planning Annual Report)



*Logarithmic Scale
**2019 national data has not yet been released

- The total number of cases of chlamydia, gonorrhea and primary and secondary syphilis reported in Maryland increased 51 percent from 2010 to 2019
- From 2010 to 2019, the rate of primary and secondary syphilis infections increased from 5.7 cases per 100,000 to 14.4 cases per 100,000, a 253 percent increase overall
- The increasing rate of STIs observed in Maryland over the past 10 years mirrors the increases occurring nationwide

Chlamydia

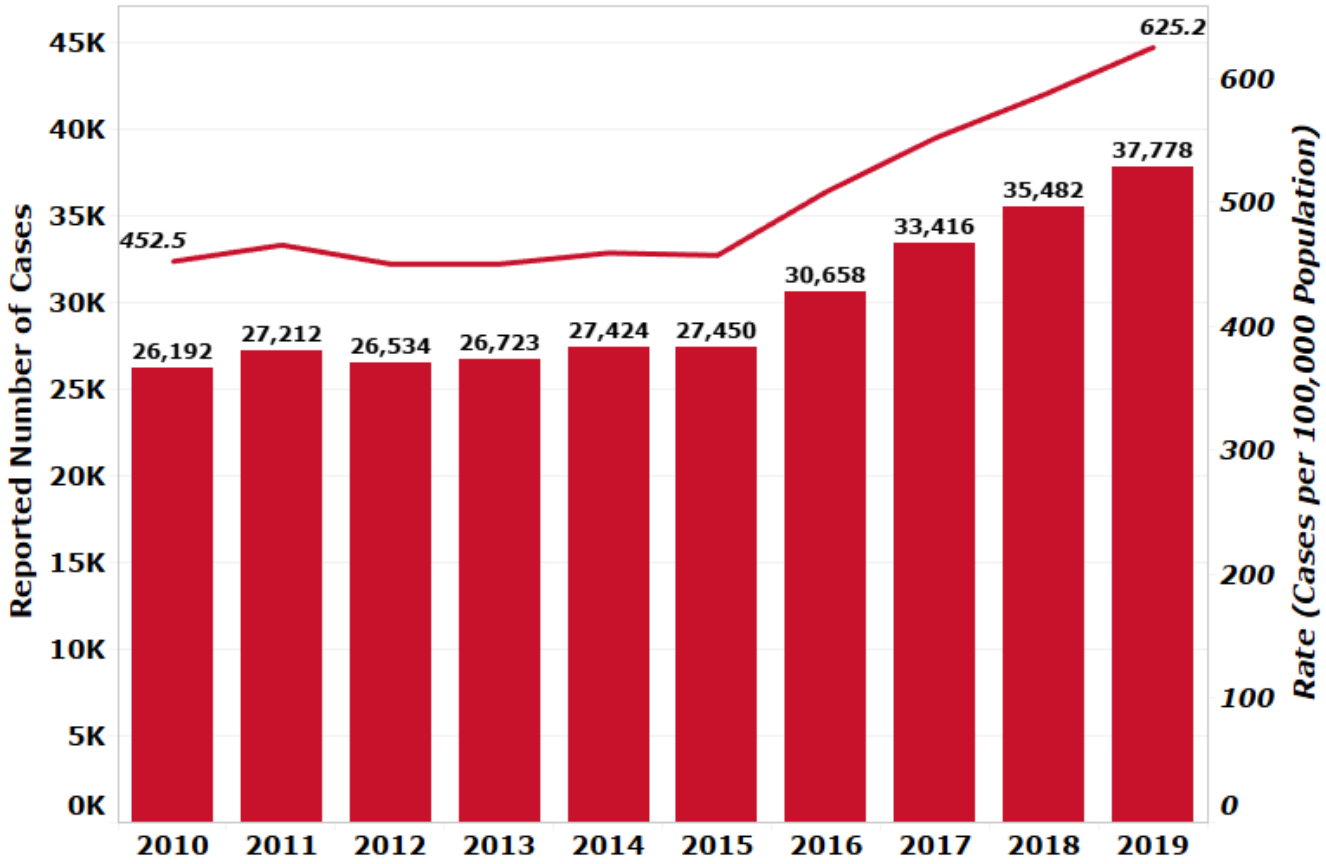
Chlamydia is a bacterial infection and the most common reportable disease in the United States. According to the CDC, there were 1,758,668 cases of chlamydia reported in 2018. Although chlamydia is easy to diagnose and treat, it usually produces no symptoms. Therefore, many infections go undetected and the number of reported cases is likely a significant underestimate of actual cases. If infected individuals are not screened, chlamydia infections go undiagnosed, unreported and untreated, furthering the spread of infection within the community.

Women are at greatest risk for complications associated with chlamydia because the infection is usually asymptomatic and untreated infections can lead to pelvic inflammatory disease (PID), which is a major cause of chronic pelvic pain, infertility and ectopic pregnancy. Pregnant women infected with chlamydia can pass the infection to their infants during childbirth which can result in blindness and pneumonia for the newborn.[4]

Although young people, especially young women, experience more chlamydia infections than those in older age groups, every sexually active person is at risk for contracting chlamydia. The CDC recommends annual screenings for chlamydia in all sexually active females 25 years or younger and in older women with additional risk factors such as new or multiple sex partners or a partner who has a sexually transmitted infection. Sexually active men who have sex with men (MSM) should be screened at least once a year.[5]

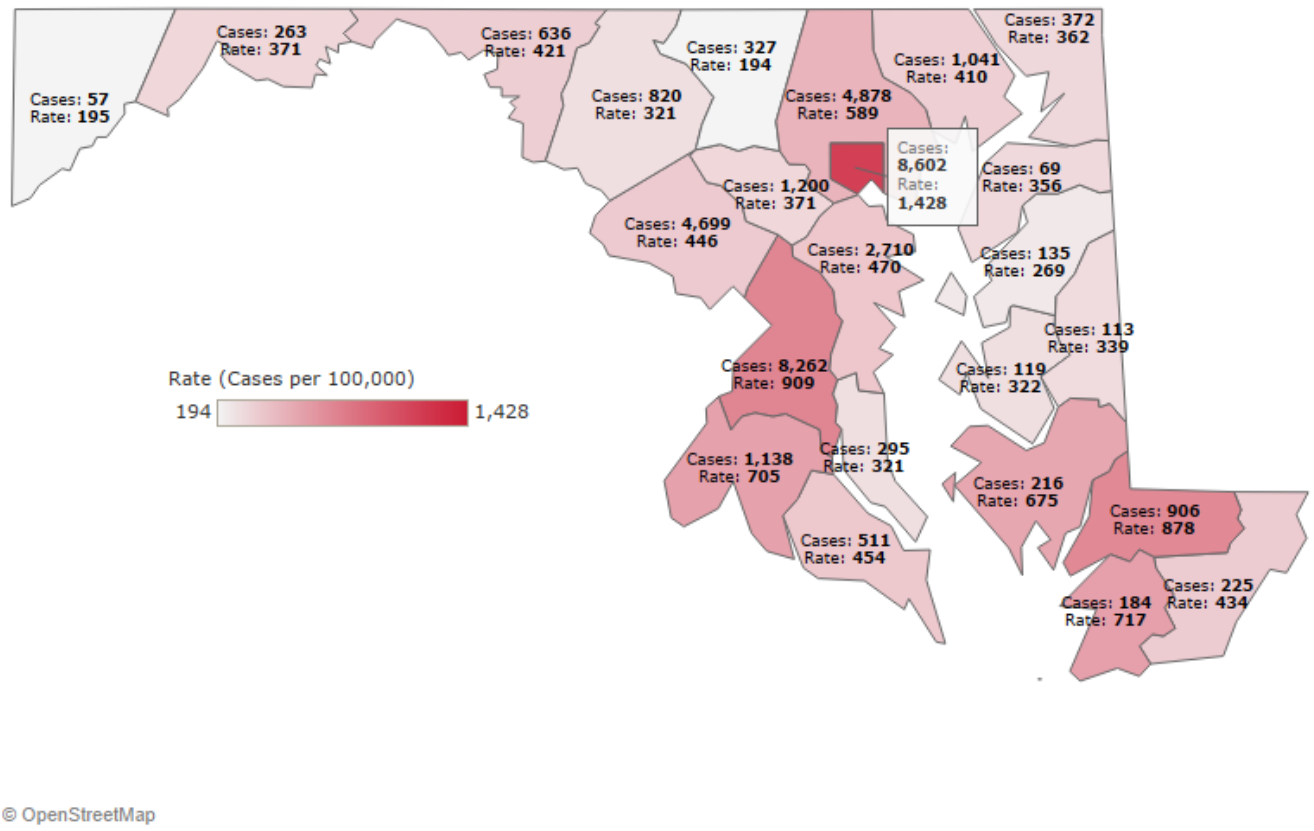
Maryland ranked 12th highest in the nation for chlamydia infection rate in 2018.[6]

Chlamydia - Reported Cases and Rates, Maryland, 2010 - 2019



- 37,779 cases of chlamydia were reported to MDH in 2019, a 6.5 percent increase from 2018
- From 2010 to 2019, the rate of chlamydia infections increased from 452.5 cases per 100,000 to 625.2 cases per 100,000, a 38 percent increase overall

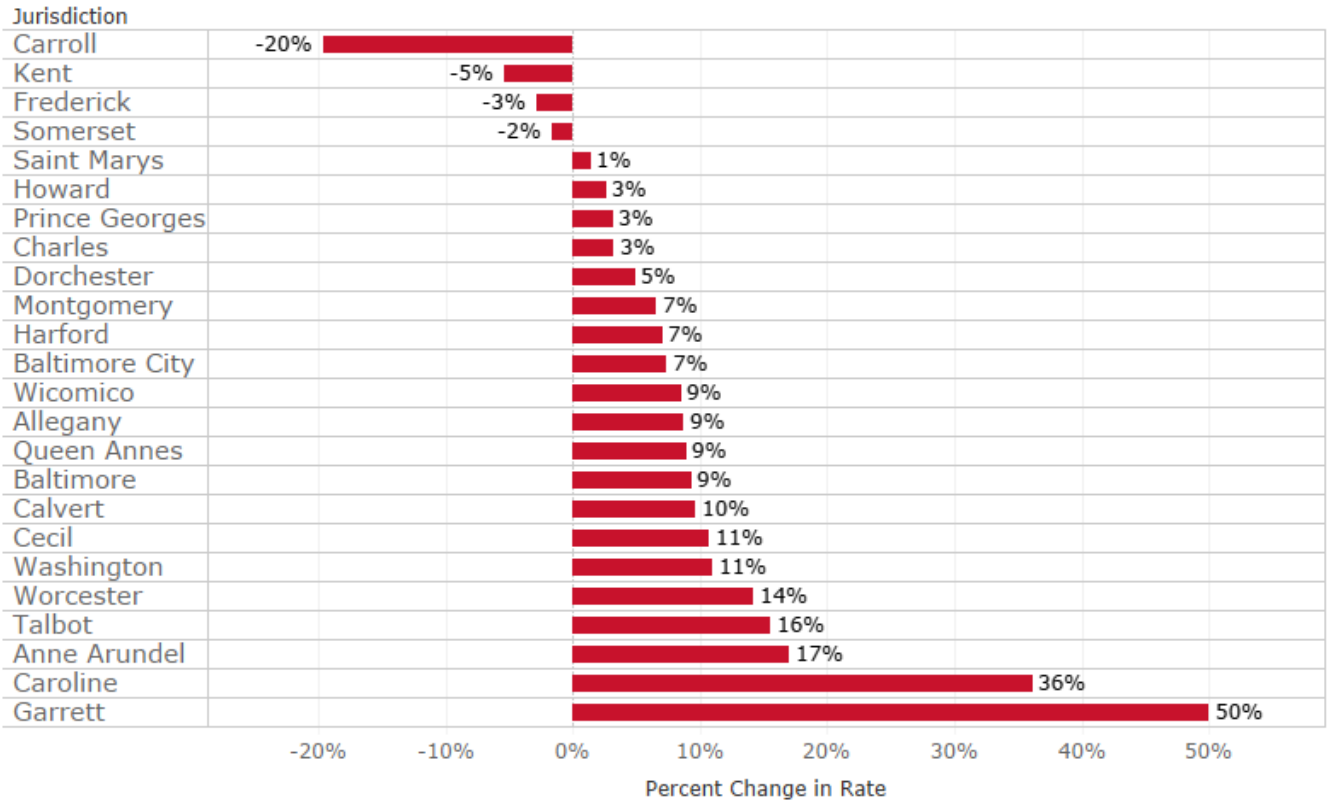
Chlamydia - Reported Cases and Rates by Jurisdiction, Maryland, 2019



- Baltimore City reported the most cases and had the highest rate of chlamydia among Maryland jurisdictions in 2019

- Chlamydia cases were reported from every jurisdiction in Maryland in 2019, with the highest rates reported in the DC and Baltimore metropolitan areas, as well as Maryland's western region

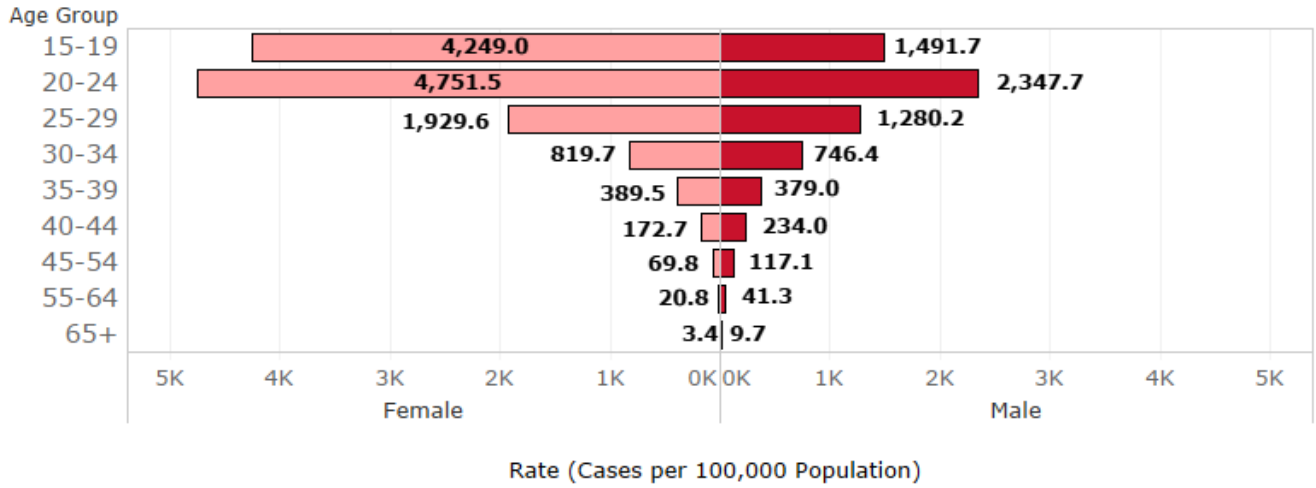
Chlamydia - Percent Change in Rate by Jurisdiction, Maryland, 2018 - 2019



*Includes only jurisdictions with reported cases for both 2018 and 2019

- Chlamydia rates increased between 2018 and 2019 in 20 of 24 jurisdictions in Maryland
- Garrett County recorded the highest increase in chlamydia rates (50 percent) from 2018 to 2019
- The greatest decrease in chlamydia rates was in Carroll County (20 percent)

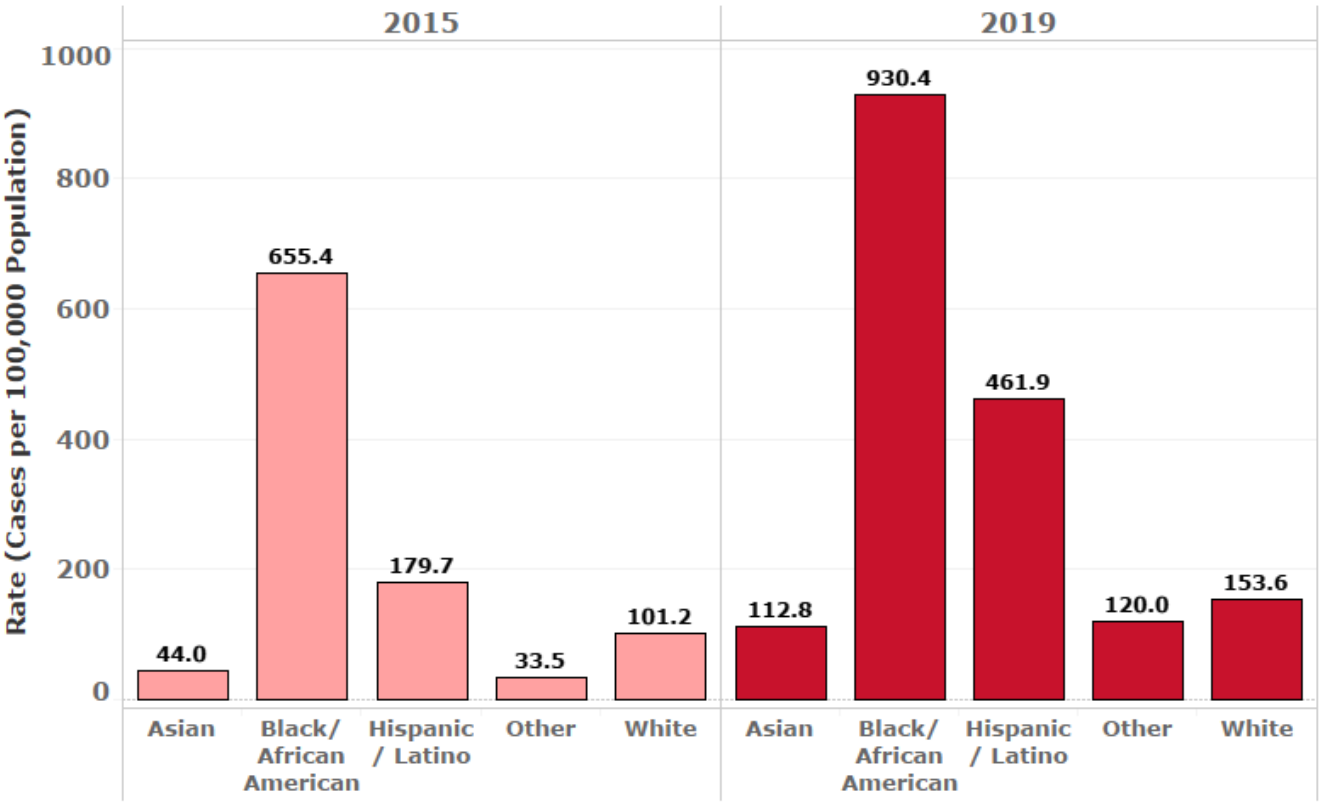
Chlamydia - Rates of Reported Cases by Age and Sex, Maryland, 2019



- Females under the age of 40 are disproportionately affected by chlamydia in Maryland, although males over 40 had higher chlamydia rates than females over 40 in 2019

- The highest rate of chlamydia overall was reported among females aged 20-24 (4,751.5 cases per 100,000 population)

Chlamydia - Rates of Reported Cases by Race*, Maryland, 2015 and 2019



*Excludes cases with unknown race

- The rate of chlamydia infection increased for every racial/ethnic group in Maryland between 2015 and 2019
- Black residents continued to have the highest rate of chlamydia infection among racial groups in Maryland in 2019, at 930.4 cases per 100,000 population

Gonorrhea

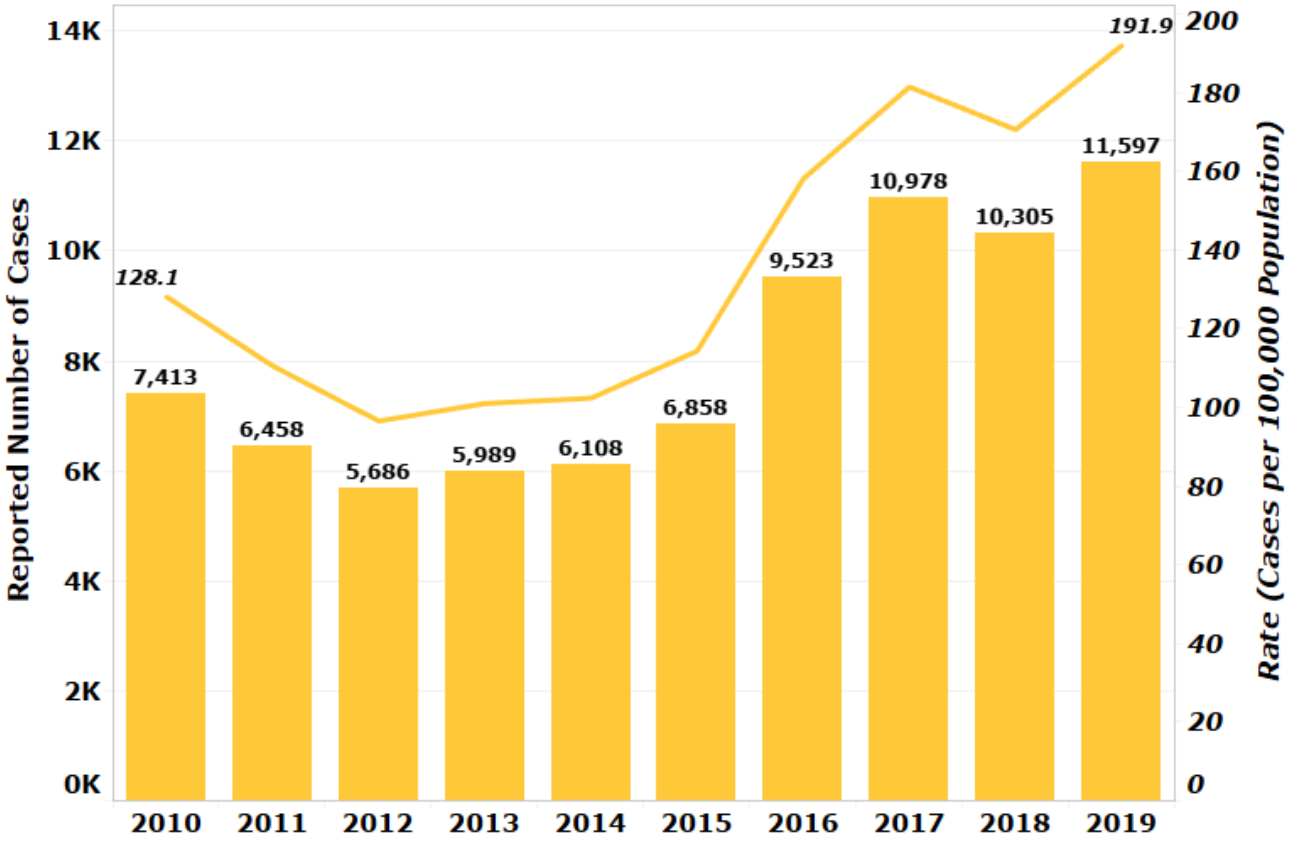
Gonorrhea is an infection cause by the *Neisseria gonorrhoeae* bacteria which usually infects the reproductive tracts and urethra in women and men. However, infections of the mouth, throat and rectum (collectively referred to as extragenital infections) are also possible. Though not as common as chlamydia, gonorrhea is the second most frequently reported infectious disease nationwide, with 583,405 cases reported in 2018. This number was likely half the actual number of infections as infected individuals are frequently asymptomatic and therefore remain undiagnosed.[7]

If untreated, gonorrhea can cause serious complications in both men and women. Like chlamydia, gonorrhea can affect the uterus and fallopian tubes and cause PID in women. PID can lead to chronic pelvic pain and increase the risk of infertility or ectopic pregnancy. Complications from gonorrhea can also cause epididymitis in men and, in rare cases, infertility. While gonorrhea typically affects the mucosa, in rare instances the infection spreads to the bloodstream. Disseminated gonococcal infection usually requires consultation with an infectious disease specialist and hospitalization.[8]

Sexually active individuals should be tested for gonorrhea even if they do not have any symptoms. Extragenital testing is important for those who engage in oral and/or anal sexual contact. Rectal gonorrhea infections are asymptomatic 85 percent of the time and urethral -only STI testing misses 70-80 percent of infections in MSM.[9] A number of studies suggest that 20 to 40 percent of gonococcal, and ten to twenty-five percent of chlamydial infections in women would have been missed if testing of oropharyngeal and rectal sites were not tested.[9A] CDC recommends annual testing for sexually active women younger than 25 and older women with risk factors such as new or multiple partners, anonymous sex partners or a partner who has a sexually transmitted infection. Individuals diagnosed with gonorrhea should also be tested for other STIs.[5] Extragenital testing for gonorrhea should be offered to anyone who reports anal or oral sexual activity, not just MSM.

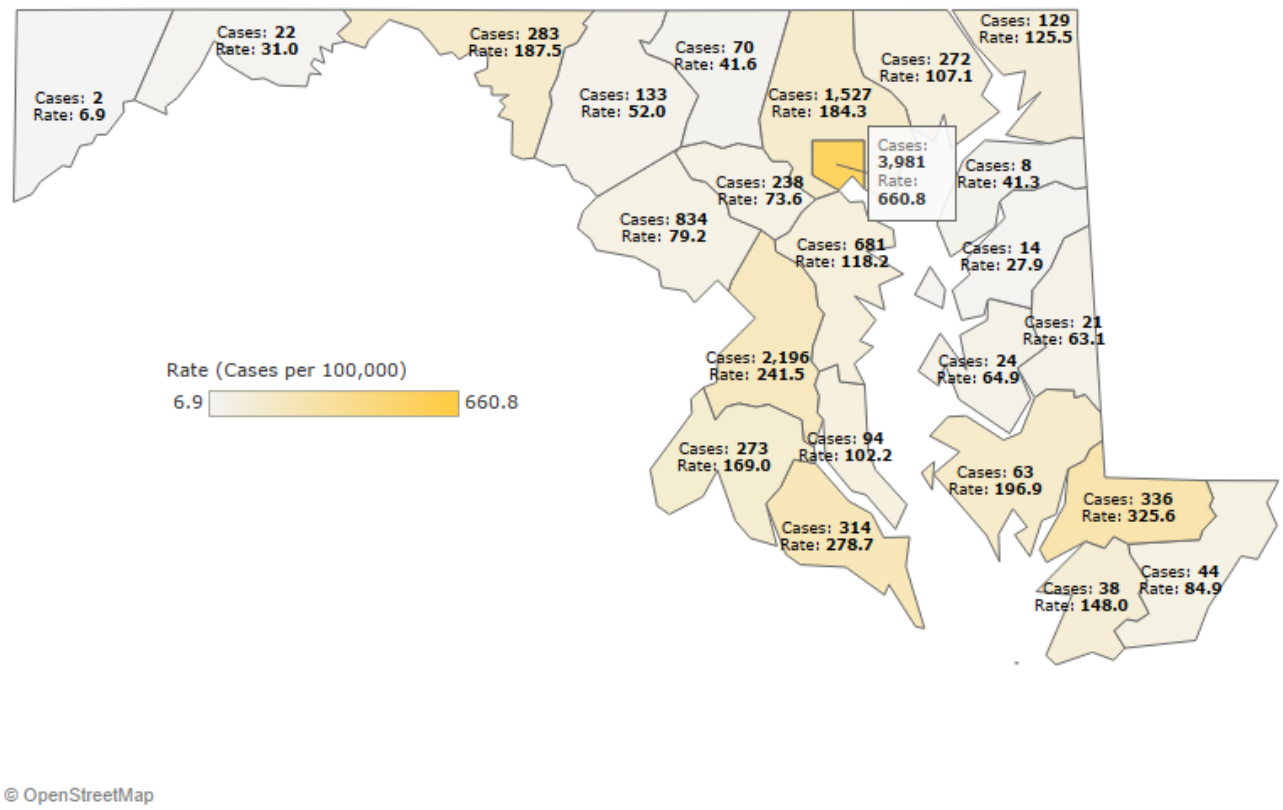
Maryland ranked 24th highest in the nation for gonorrhea infection rate in 2018.[10]

Gonorrhea - Reported Cases and Rates, Maryland, 2010 - 2019



- 11,597 cases of gonorrhea were reported to MDH in 2019, a 12.5 percent increase from 2018
- From 2010 to 2019, the rate of gonorrhea infections increased from 128.1 cases per 100,000 to 191.9 cases per 100,000, a 50 percent increase overall
- Despite the decrease in 2018, the 2019 rate of gonorrhea in Maryland is still 99 percent higher than in 2012

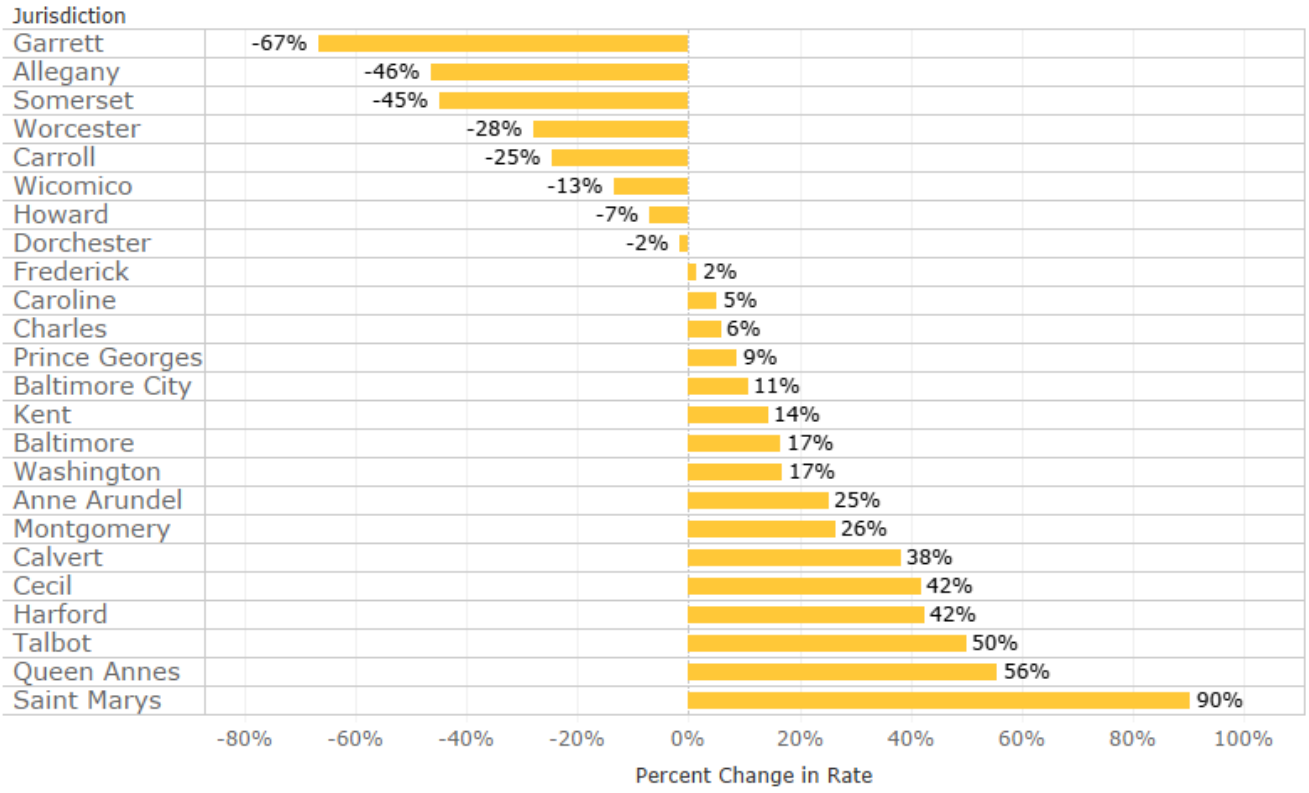
Gonorrhea - Reported Cases and Rates by Jurisdiction, Maryland, 2019



- Baltimore City reported the most cases and had the highest rate of gonorrhea among Maryland jurisdictions in 2019

- Gonorrhea cases were reported from every jurisdiction in Maryland in 2019, with the highest rates reported in the DC and Baltimore metropolitan areas, as well as Maryland's lower shore region

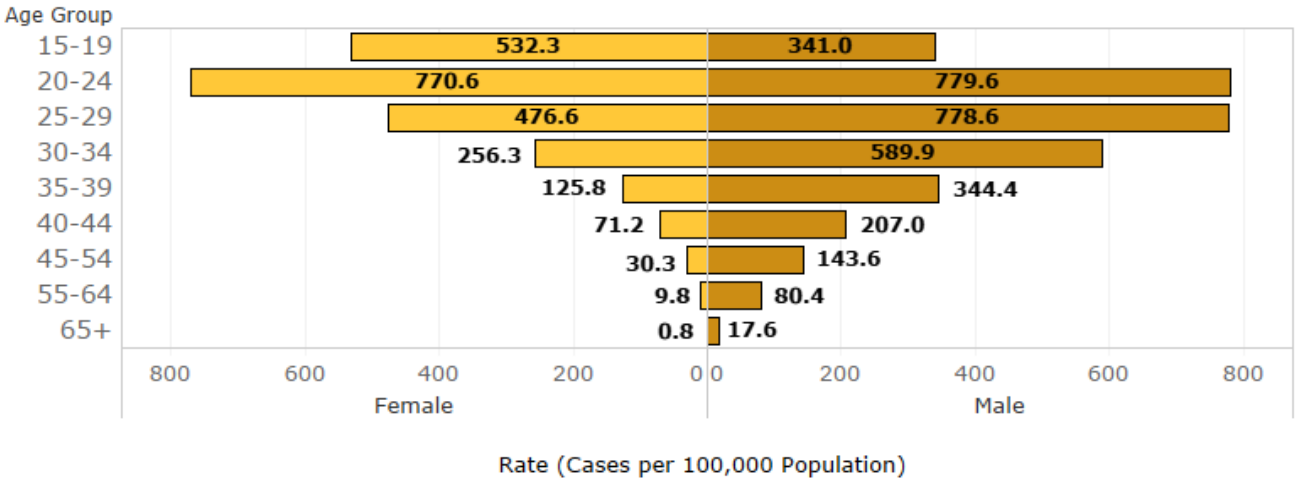
Gonorrhea - Percent Change in Rate by Jurisdiction, Maryland, 2018 - 2019



*Includes only jurisdictions with reported cases for both 2018 and 2019

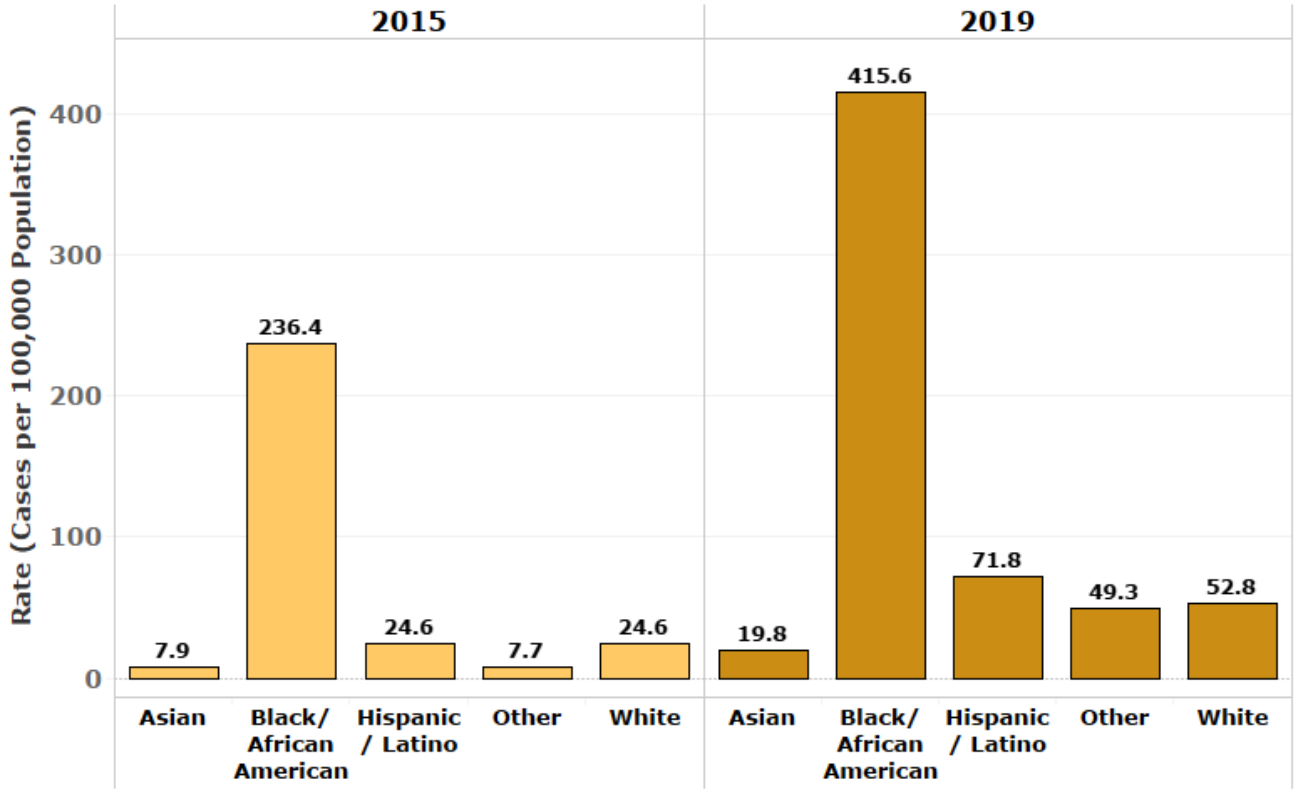
- Gonorrhea rates increased between 2018 and 2019 in 16 of 24 jurisdictions in Maryland while 8 counties had decreases.

Gonorrhea - Rates of Reported Cases by Age and Sex, Maryland, 2019



- Gonorrhea rates are highest among individuals between the ages of 20 and 24
- Females under the age of 20 have higher rates than males, but for all age groups 20 and older, males have higher rates
- The highest rate of gonorrhea overall was reported among males aged 20-24 (779.6 cases per 100,000 population)

Gonorrhea - Rates of Reported Cases by Race*, Maryland, 2015 and 2019



*Excludes cases with unknown race

- Black residents continued to have the highest rate of gonorrhea infection among racial groups in Maryland in 2019, at 415.6 cases per 100,000 population
- Gonorrhea rates increased for all racial groups from 2015-2019, though black residents saw the largest increase (179.2 cases per 100,000)

Syphilis

Syphilis is a bacterial STI that can remain dormant for years. Syphilis has been called "The Great Imitator" because it has symptoms that mimic those of many other diseases. The progression of the infection can last weeks, months or years. Primary and secondary (P&S) syphilis are the infectious stages of syphilis, although pregnant women can transmit the infection to their unborn babies during any stage of infection. There were 35,063 P&S syphilis cases reported nationally in 2018. Initial symptoms include painless chancres or sores that can be in or around the genitals, anus or mouth. Syphilis is transmitted from person to person by direct contact with a syphilitic chancre.[11]

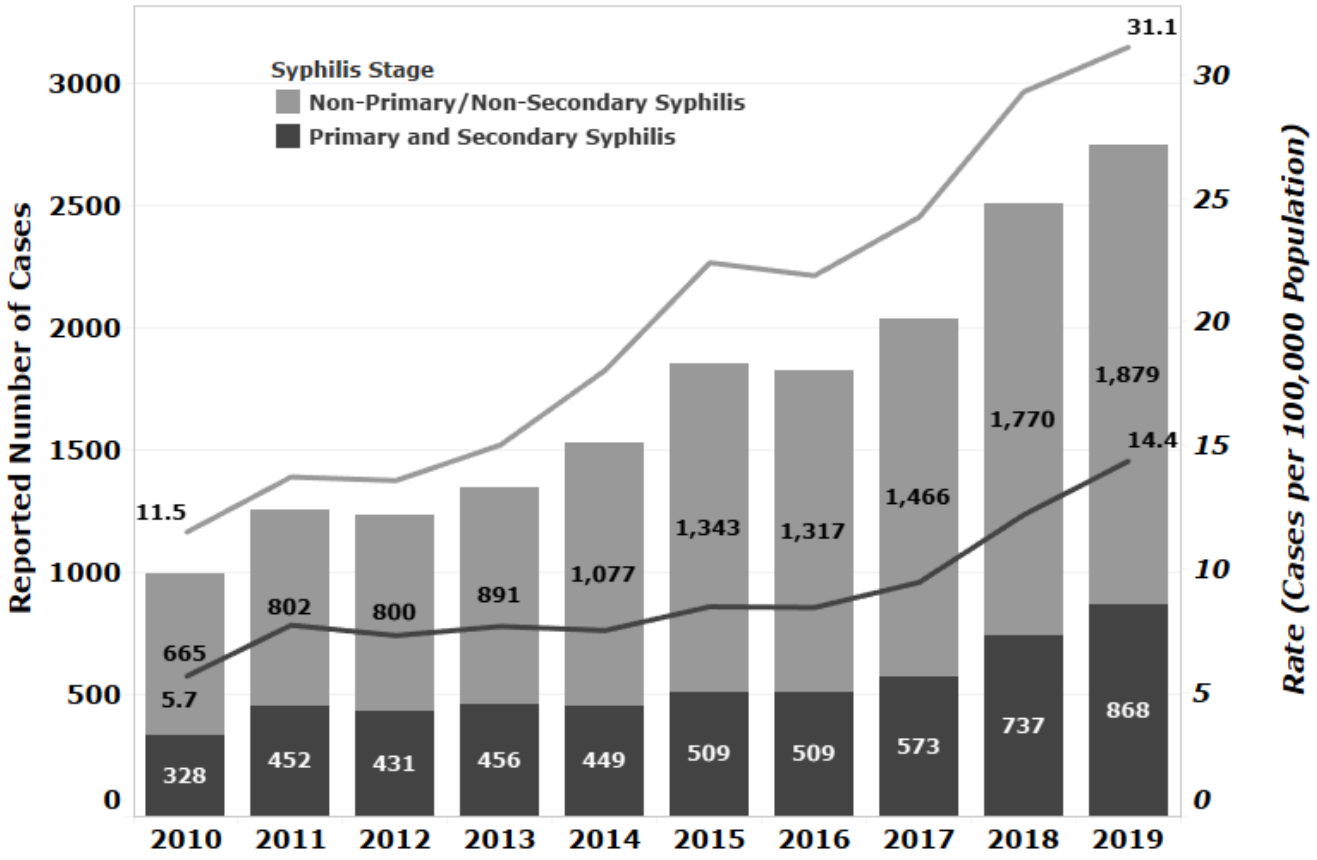
The majority of syphilis diagnoses are among men; only one out of 5 reported infections are among women. In Maryland, 66 percent of P&S syphilis infections reported in men were among MSM. However, an increasing proportion of P&S syphilis cases are female or non-MSM male. Forty-six percent of P&S syphilis cases in Maryland in 2019 were under 30 years old.

Later stages of syphilis beyond P&S are important to track as well, as these cases contribute to overall syphilis morbidity in Maryland. Though not infectious or symptomatic, latent syphilis that goes untreated can lead to major health complications later in life. When syphilis invades the nervous system, it can cause a wide range of symptoms including headaches, behavioral changes and blindness. Neurosyphilis and ocular syphilis can occur at any stage of infection; though not common, Maryland has between 15 and 25 reported cases per year. These infections can lead to blindness, dementia and even death if not adequately treated in a timely manner.[12]

Syphilis infections can be transmitted to unborn babies if a pregnant woman is not treated at least 30 days prior to delivery. See "Congenital Syphilis" for more information.

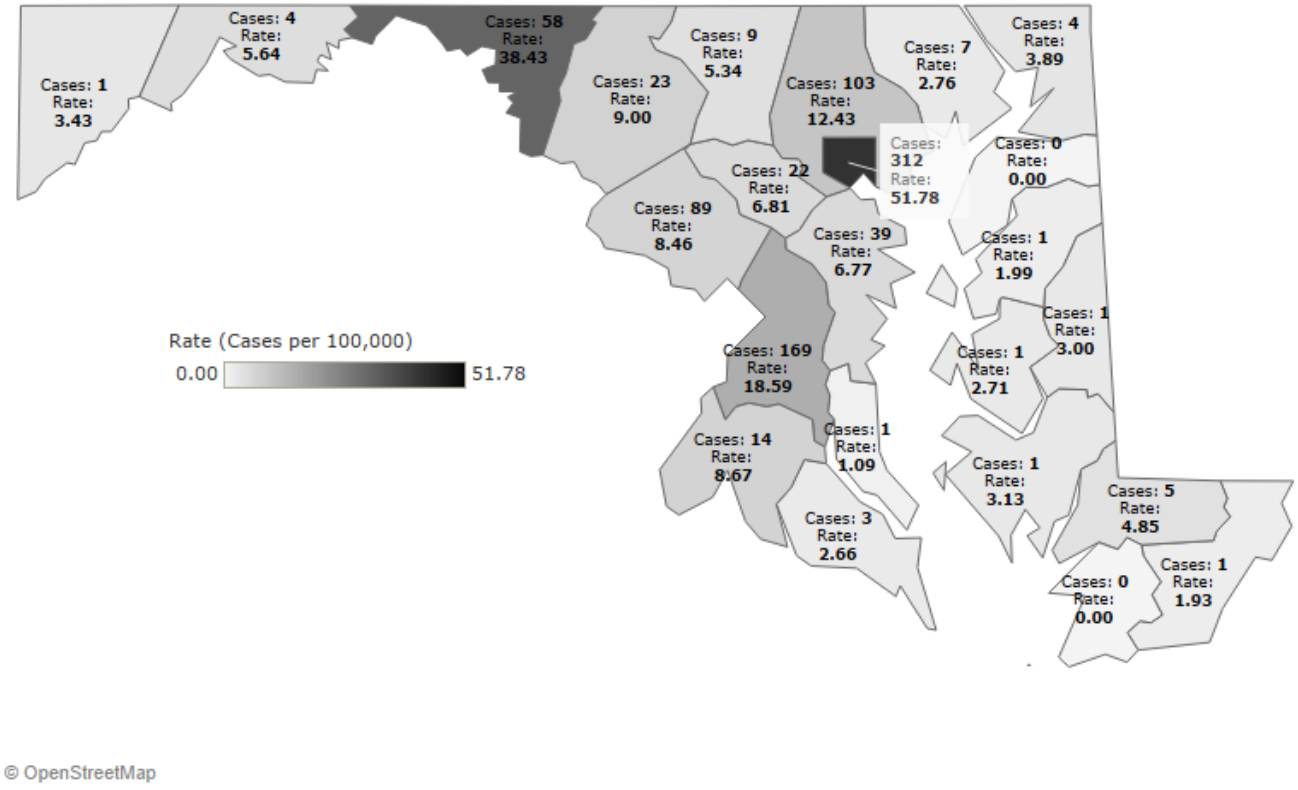
Maryland ranked 12th highest in the nation for primary and secondary syphilis rate in 2018.[13]

Syphilis - Reported Cases and Rates, Maryland, 2010 - 2019



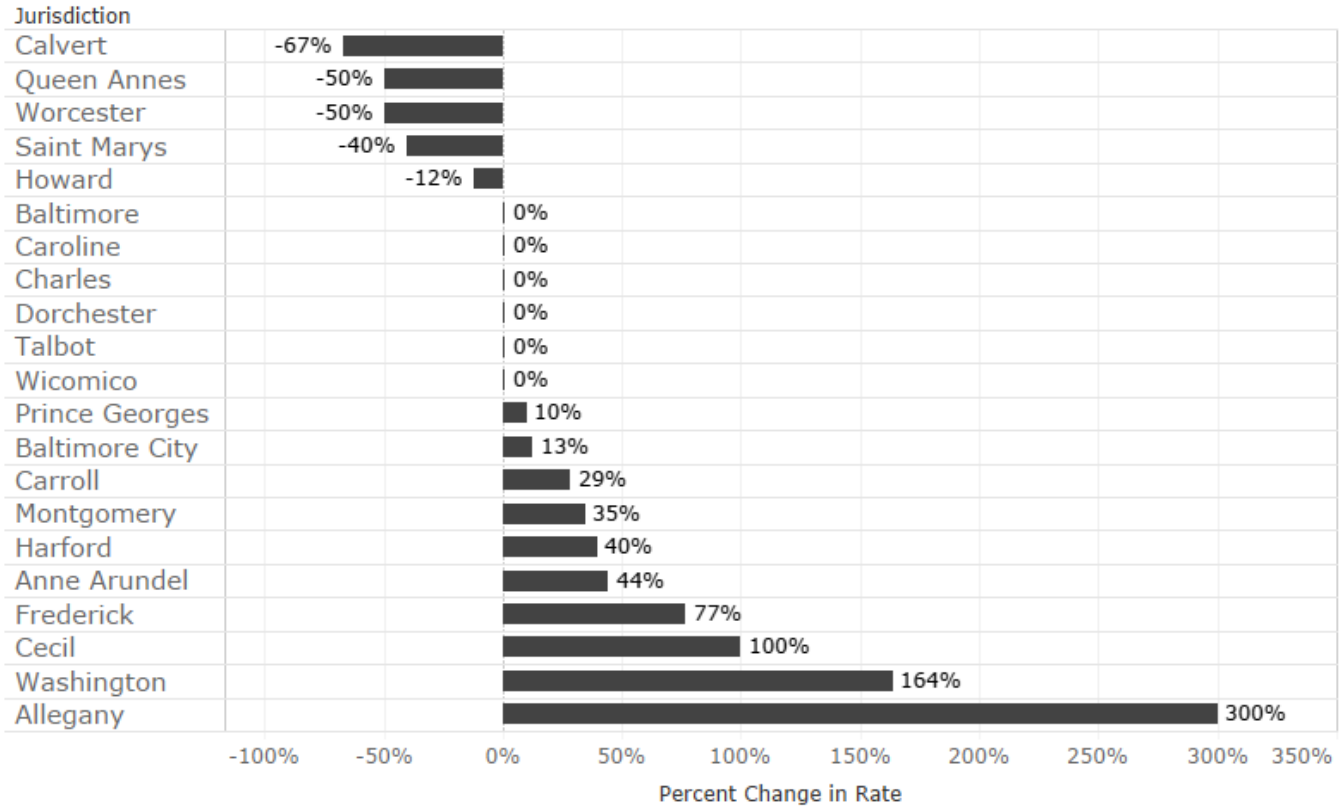
- 868 cases of P&S syphilis were reported to MDH in 2019, a 17.8 percent increase from 2018
- From 2010 to 2019, the rate of P&S syphilis infections increased from 5.7 cases per 100,000 to 14.4 cases per 100,000, a 153 percent increase overall

Primary and Secondary Syphilis - Reported Cases and Rates by Jurisdiction, Maryland, 2019



- Baltimore City reported the most cases and had the highest rate of P&S syphilis among Maryland jurisdictions in 2019
- P&S syphilis cases were reported in 22 of Maryland's 24 jurisdictions in 2019
- Washington County had the second highest rate of P&S syphilis cases in Maryland (38.4 cases per 100,000 population compared to a rate of 51.8 in Baltimore City)

Primary and Secondary Syphilis - Percent Change in Rate by Jurisdiction, Maryland, 2018 - 2019

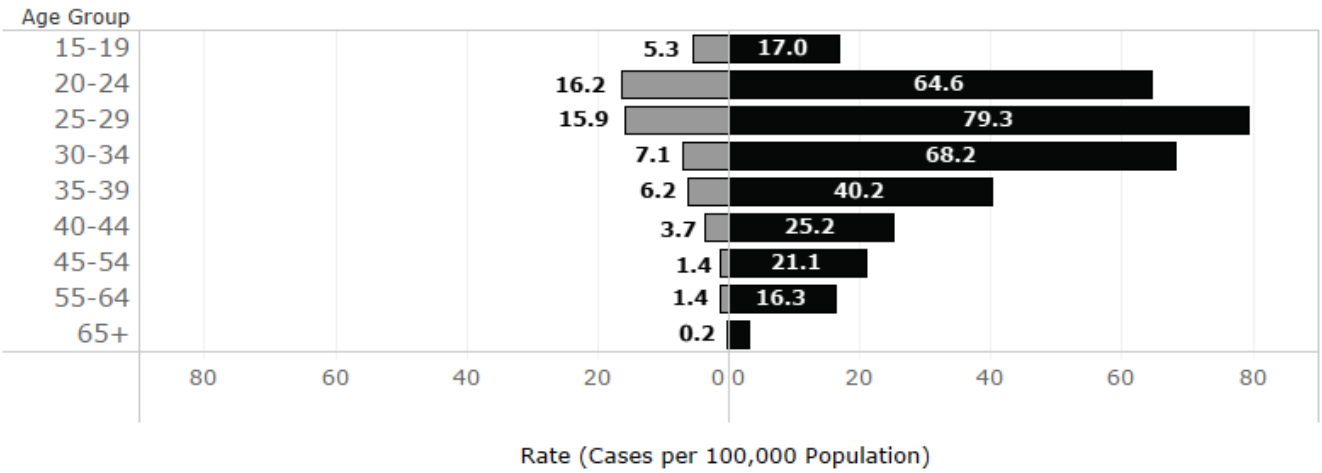


*Includes only jurisdictions with reported cases for both 2018 and 2019

- Of the 21 jurisdictions that reported cases of P&S syphilis for both 2018 and 2019, Allegany County had the highest rate increase (300%), though it only had 4 total cases in 2019. Washington County was the second highest rate increase (164%) and had a significant number of cases (58)

- In total, 10 counties had increased P&S rates for this time period

Primary and Secondary Syphilis - Rates of Reported Cases by Age and Sex, Maryland, 2019

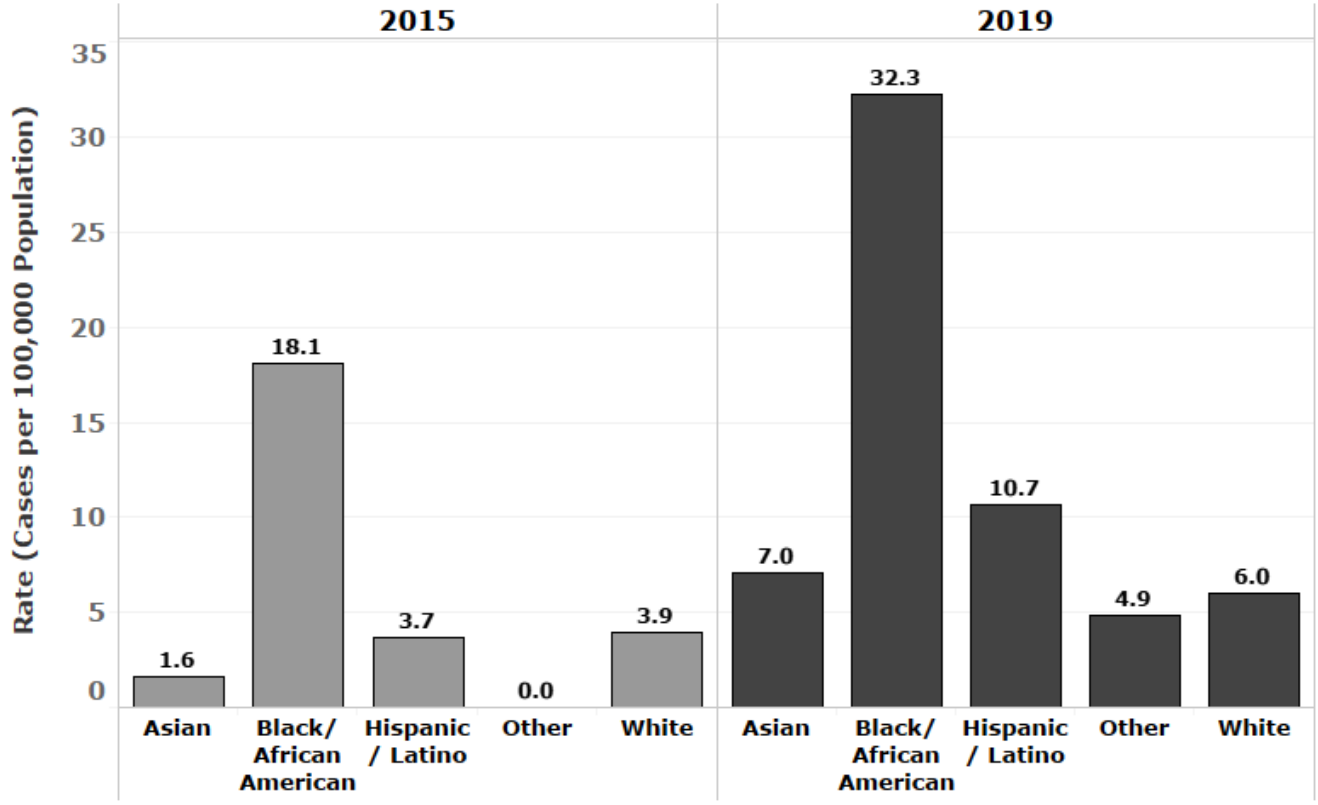


- P&S syphilis disproportionately impacts males in Maryland, with 86 percent of all P&S syphilis cases reported in 2019 identifying as male

- Males between 25 and 29 years old had the highest rate of P&S syphilis in Maryland (79.3 cases per 100,000 population); the national rate for this demographic is 51.9 per 100,000[12]

- P&S syphilis rates are much lower for females and do not follow the same age distribution seen in male cases

Primary and Secondary Syphilis - Rates of Reported Cases by Race*, Maryland, 2015 and 2019



*Excludes cases with unknown race

- In 2019, the P&S syphilis rate among black residents was over three times the rate of all other racial groups, however, large increases in rate for all racial groups have decreased the racial disparities in P&S incidence since 2015, when blacks were infected at about five times the rate of all other racial groups.

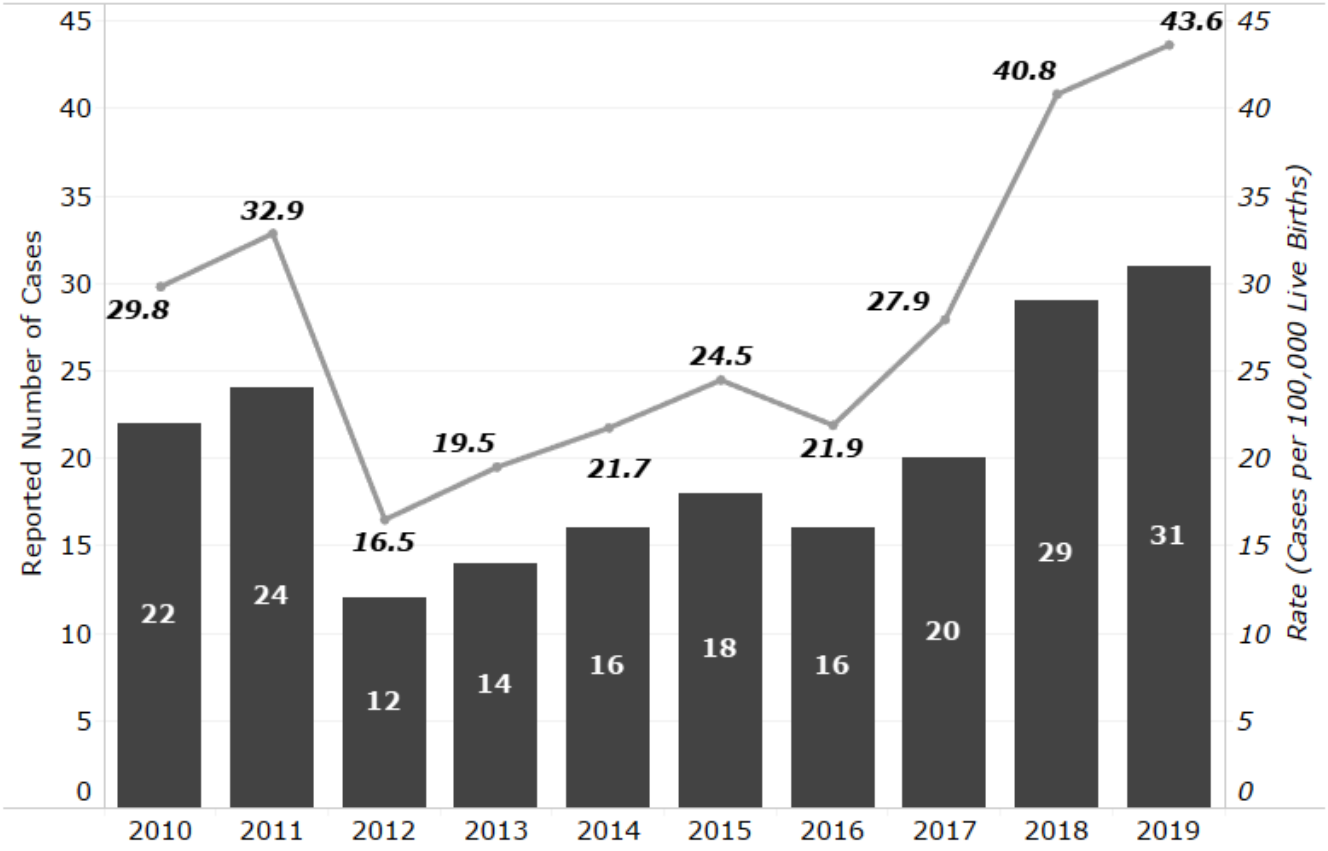
Congenital Syphilis

It is important for all pregnant women to be tested for syphilis and other STIs during pregnancy. Congenital syphilis (CS) is an infection that can occur when a pregnant woman with untreated syphilis transmits the infection to her unborn baby during pregnancy. CS can cause complications such as miscarriage, stillbirth, prematurity or death shortly after birth. Babies born with CS can suffer from deformed bones, anemia, jaundice, physical and intellectual disabilities and other serious health problems, though not all babies will show signs of CS at birth. If a pregnant woman tests positive for syphilis, timely treatment during pregnancy can prevent transmission. If transmission occurs, immediate treatment of the baby must take place in order to prevent serious health problems.[2]

Though CS rates remain low, there was an increase in reported cases in Maryland between 2018 and 2019 and the national rate has also increased 39.7 percent from 2017 to 2018. The 2018 national CS rate was 33.1 per 100,000 live births. For comparison, the 2018 rate in Maryland was 39.7 per 100,000 live births.[14]

Maryland ranked 9th highest in the nation for congenital syphilis rate in 2018.[15]

Congenital Syphilis - Reported Cases and Rates, Maryland, 2010 - 2019



- After several years of little change in CS case rates, sharp increases beginning in 2017 have led to a near doubling in CS rates statewide in just a few years
- The number of CS cases in 2019 (31) is the highest number reported in Maryland since 2009
- 32% of CS cases in 2019 were reported from Baltimore City

Special Focus Profiles

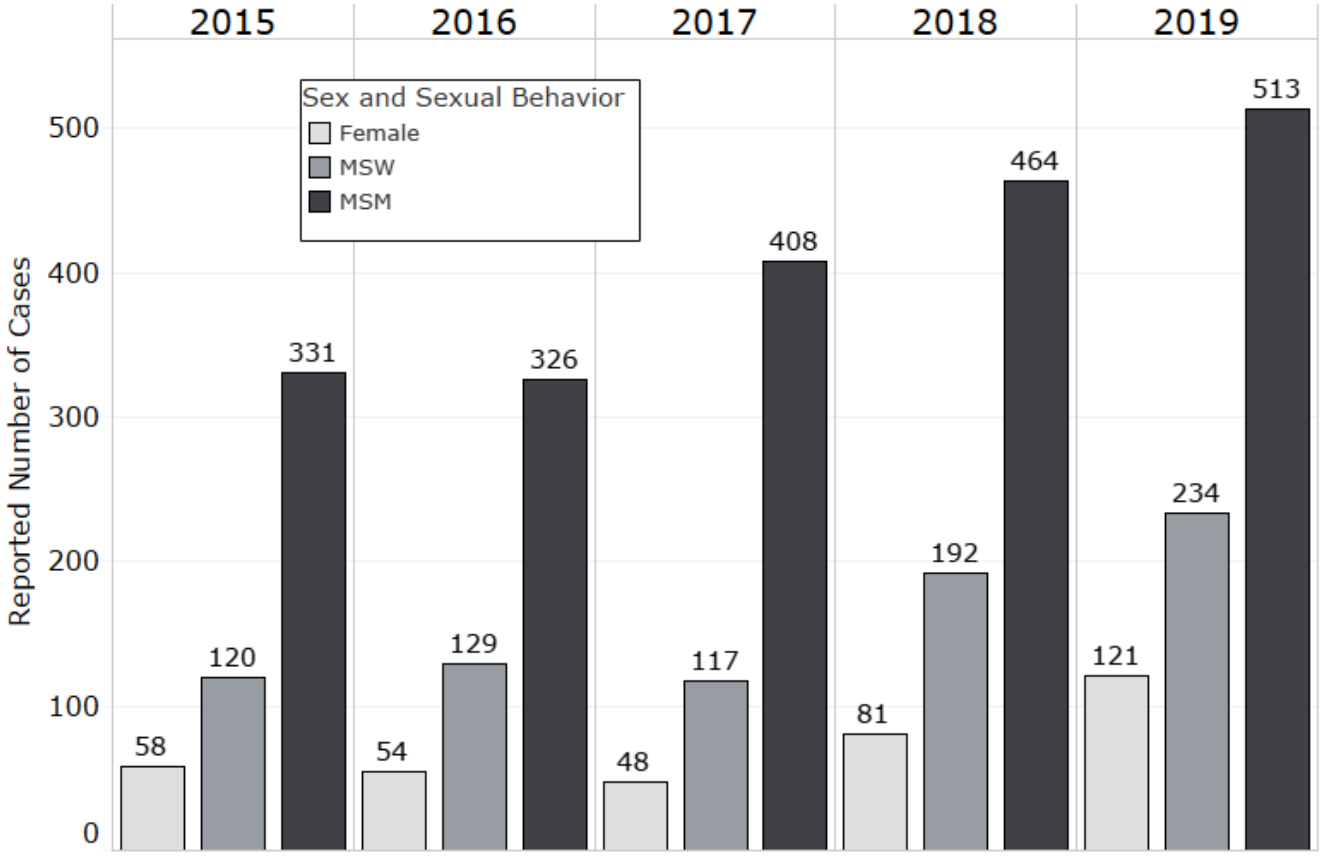
The special focus profiles highlight trends and distribution of STIs in populations of particular interest to Maryland's STI prevention program, including gay, bisexual and other men who have sex with men (collectively referred to as MSM), adolescents and young adults, and reinfections and HIV coinfections.

Men Who Have Sex with Men

The burden of STIs is greater among MSM than among women, and men who have sex with women only (MSW). Though information on sex of sex partner is very limited for gonorrhea and chlamydia cases in Maryland, interviews are attempted for all cases of P&S syphilis and sex of sex partner is consistently collected. In Maryland in 2019, 60.8 percent of P&S syphilis cases were among MSM. This is a decrease from 2015, when the proportion of MSM in reported P&S syphilis was 65.0 percent. It is important to note that while the proportion of MSM decreased from 2015 to 2019, the overall number of cases has continued to rise. The change in proportion is due to more rapid increases in MSW and women. Reported P&S syphilis in both MSW and women decreased from 2015 to 2017. However, from 2017 to 2019, MSM, MSW and females all experienced increases in P&S.

In addition to symptoms associated with untreated STIs, there is also an elevated risk of subsequent coinfection with HIV.[16] In Maryland, nearly 50 percent of MSM with P&S syphilis also have HIV. Reflecting the disparities observed in the general population, black MSM experience higher rates of STIs, and particularly P&S syphilis, than other groups. Where race/ethnicity and sex of sex partner are known, black MSM represent the largest proportion of reported P&S syphilis cases, 48 percent. White MSM represent just 15 percent. Young, black MSM are an important sub-group of converging vulnerabilities. Half of newly diagnosed P&S syphilis in black MSM are among those under 30 years old and black MSM under 30 represent 24 percent of reported cases of P&S syphilis.

Primary and Secondary Syphilis - Reported Cases by Sex and Sexual Behavior, Maryland, 2015 - 2019



- MSM represent a majority of the population infected with P&S syphilis and in 2019, 60.8 percent of cases were among MSM

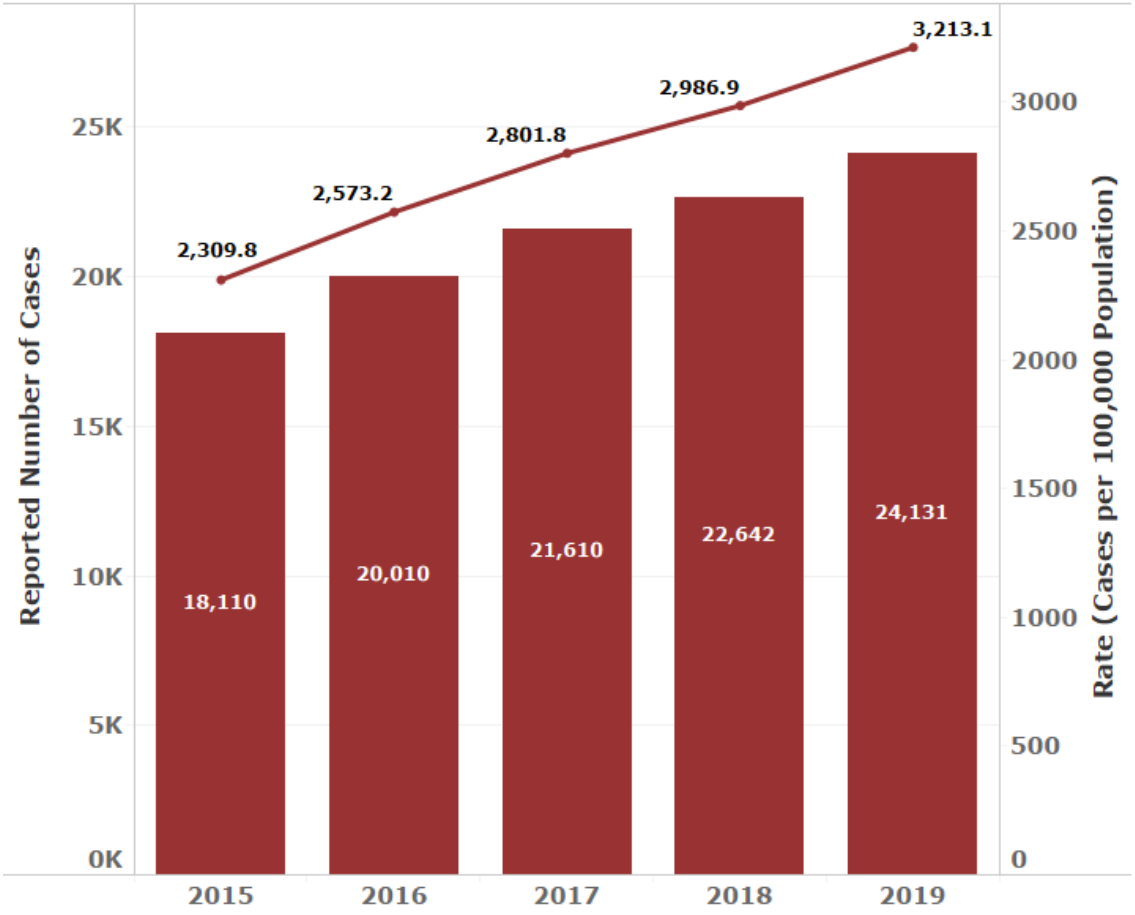
- Increases in P&S cases were seen across all sex and sexual behavior groups in 2019, but larger increases among MSW and females led to a decrease in the proportion of P&S cases attributed to MSM populations

Adolescents and Young Adults

Teens and young adults are disproportionately affected by STIs in Maryland, specifically youth ages 15 to 24. Though this age group represents just 13 percent of Maryland's total population, 64 percent of reported chlamydia cases and 39 percent of reported gonorrhea cases were among young adults ages 15 to 24 in 2019. The chlamydia rate in Maryland is five times higher for 15-24 year olds than the rate for all ages and the gonorrhea rate is over three times higher among this age group.

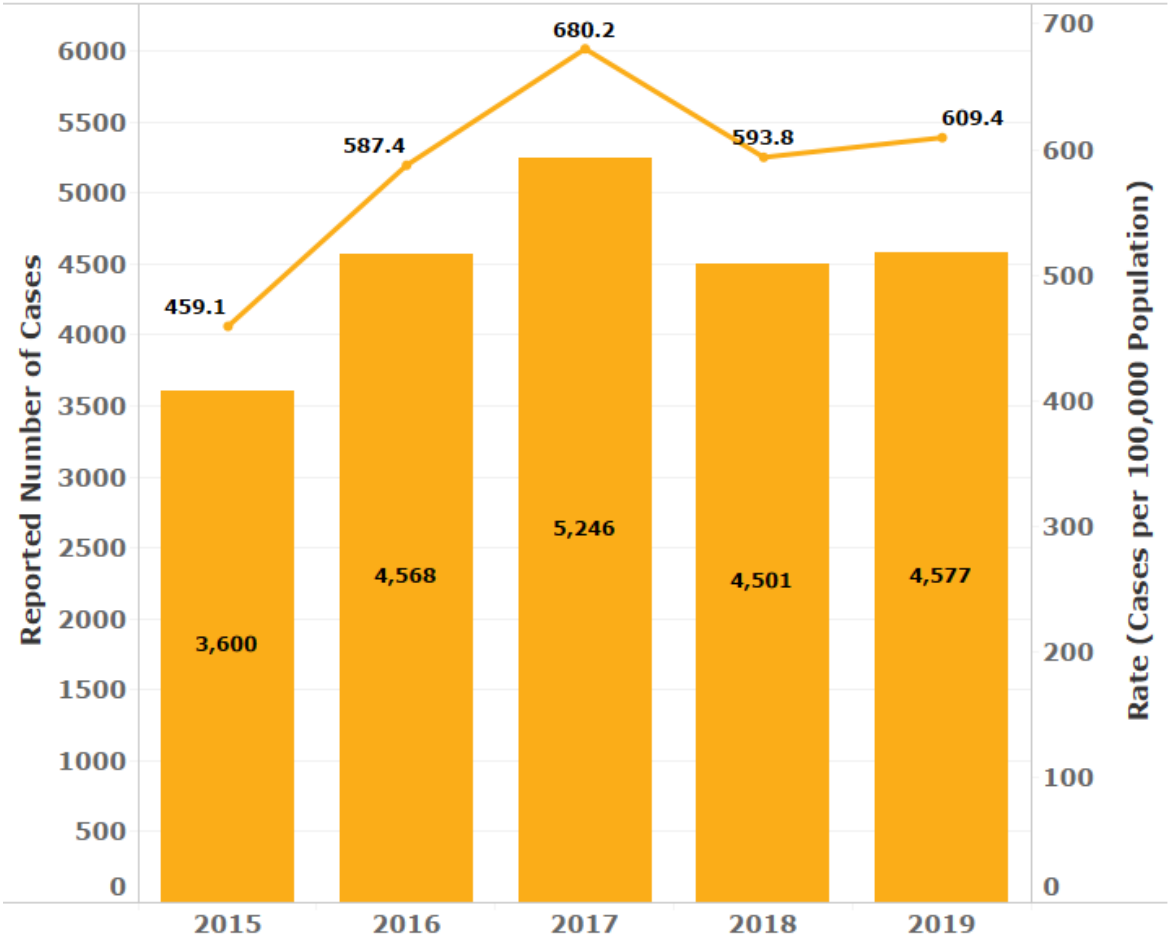
A combination of social, behavioral and biological factors contribute to the higher rate of STIs in young people compared to older adults. Social factors placing youth at risk include concerns about confidentiality and lack of easy access to health care, while behavioral factors include a lower likelihood of being in a monogamous relationship and a higher likelihood of engaging in drug or alcohol use, which can affect condom negotiation and correct condom use. Biologically, young women also have immature cervical cells that are more vulnerable to infection. Finally, many young women do not receive the recommended STI screening from their health care providers. [17]

Chlamydia - Reported Cases and Rates among 15-24 Year Olds, Maryland, 2015 - 2019



- From 2018 to 2019, there was a 6.6 percent increase in chlamydia cases among 15-24 year olds in Maryland
- Over the five-year period from 2015 to 2019, there was a 33 percent increase in chlamydia cases among 15-24 year olds in Maryland
- Sixty-four percent of all chlamydia cases reported for 2019 occurred among Marylanders ages 15 to 24

Gonorrhea - Reported Cases and Rates among 15-24 Year Olds, Maryland, 2015 - 2019



- From 2018 to 2019, gonorrhea cases increased by 14 percent among 15-24 year olds in Maryland; however, there was a 27 percent increase in gonorrhea cases among 15-24 year olds from 2015 to 2019

- Gonorrhea cases among 15-24 year olds represented 39 percent of all gonorrhea cases reported in Maryland in 2019

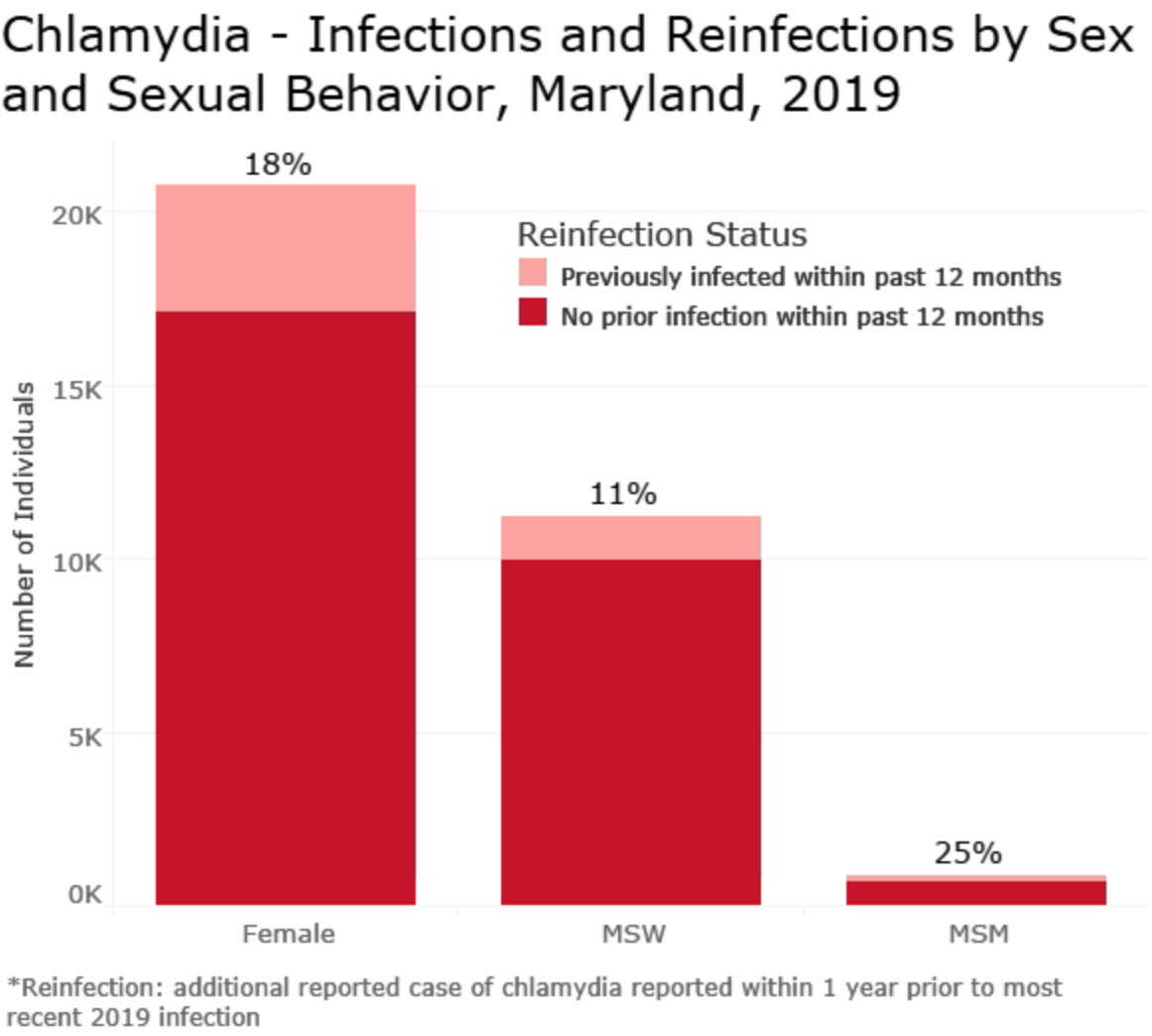
Reinfections and HIV Coinfections

Reinfection is common in people diagnosed with chlamydia and/or gonorrhea. In Maryland, HIV and syphilis cases receive comprehensive follow-up that includes further testing, treatment and interviews to work with individuals to notify partners that may have been exposed and need testing (known as "Partner Services").[18] This is not so for chlamydia and gonorrhea, as the number of cases is too great to provide partner services for all reported cases. Thus, even if a person is treated for their chlamydia or gonorrhea infection, they often risk being reinfected because their partners may remain untreated. Persistent and frequent infections can cause long term health problems and infertility.[1] In Maryland in 2019, 18 percent and 11 percent of female and male chlamydia infections, respectively, had a prior chlamydia infection within the past 12 months. Gonorrhea reinfection affects a similar proportion of males and females.

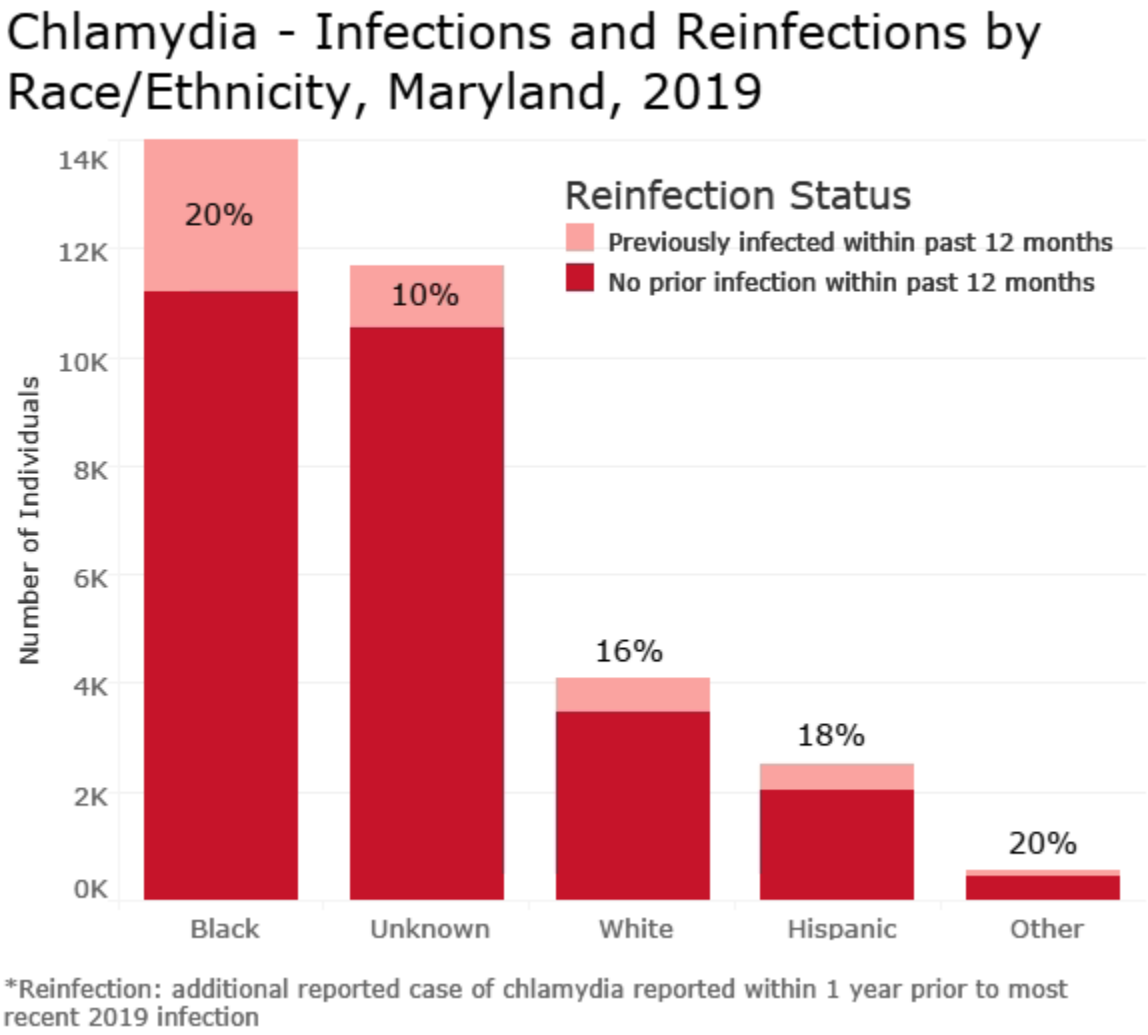
Successful treatment of a chlamydia or gonorrhea infection should include treatment of partners. When a partner is unwilling or unable to come to the clinic for testing, Expedited Partner Therapy (EPT), in which antibiotic therapy is provided to a person diagnosed with an STI to give to their partner, is an effective treatment option.[19]

People who have an STI are at an increased risk for acquiring HIV. This is due to both social and biological factors. Behaviors that lead to an STI infection (not using condoms, many partners, anonymous partners) also put a person at risk for contracting HIV. Inflammation or sores from an STI allow HIV to more easily infect a person than if the skin were intact. Similarly, a person who already has HIV is more likely to pass the infection to another person if they also have an STI, as shedding of the virus is more likely when a person has urethritis or a genital lesion or ulcer.[20]

In Maryland, syphilis is the most common STI to be diagnosed with HIV. Thirty nine percent of syphilis diagnoses in 2019 were coinfected with HIV. Chlamydia and gonorrhea coinfection with HIV is less common than syphilis, but still affects some, mainly older age groups. For example, about 5 percent of 20-24 year olds diagnosed with gonorrhea in 2019 were coinfected with HIV, whereas nearly 18 percent of 45-54 year olds diagnosed with gonorrhea that year were coinfected with HIV.

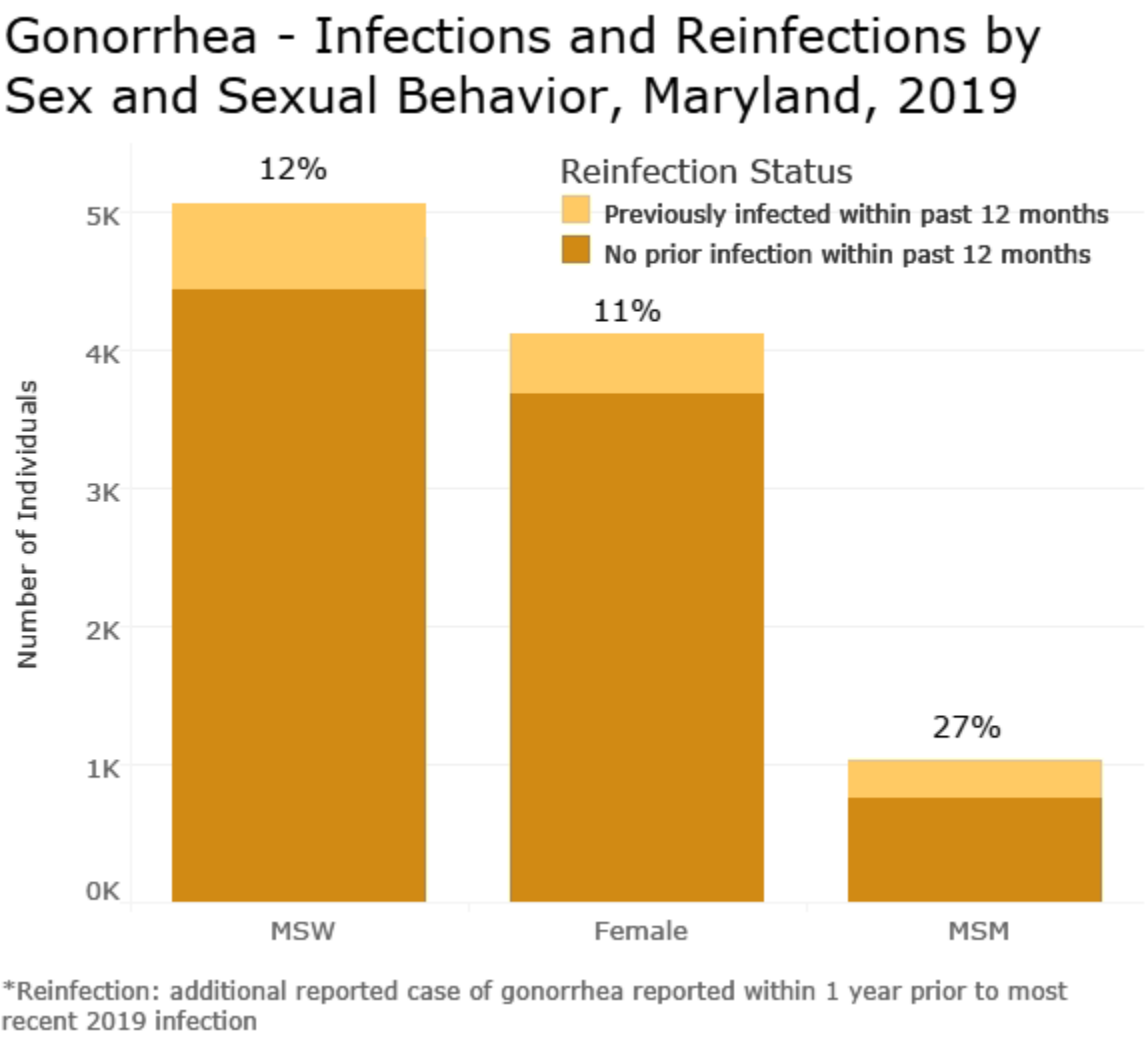


- Over 3,500 female cases of chlamydia (18 percent of the total female cases) were reinfections
- 25 percent of chlamydia infections among MSM were reinfections of chlamydia, but these represented a much smaller overall case burden (875 cases) compared to females and men who have sex with women only
- Since information on sex of sex partner is obtained less often for chlamydia cases, it is likely that the proportion of cases identified as MSM is a significant underestimate



- 20 percent of cases among black residents and 20 percent of other racial groups were documented as chlamydia reinfections; however, there were many more cases overall among black residents

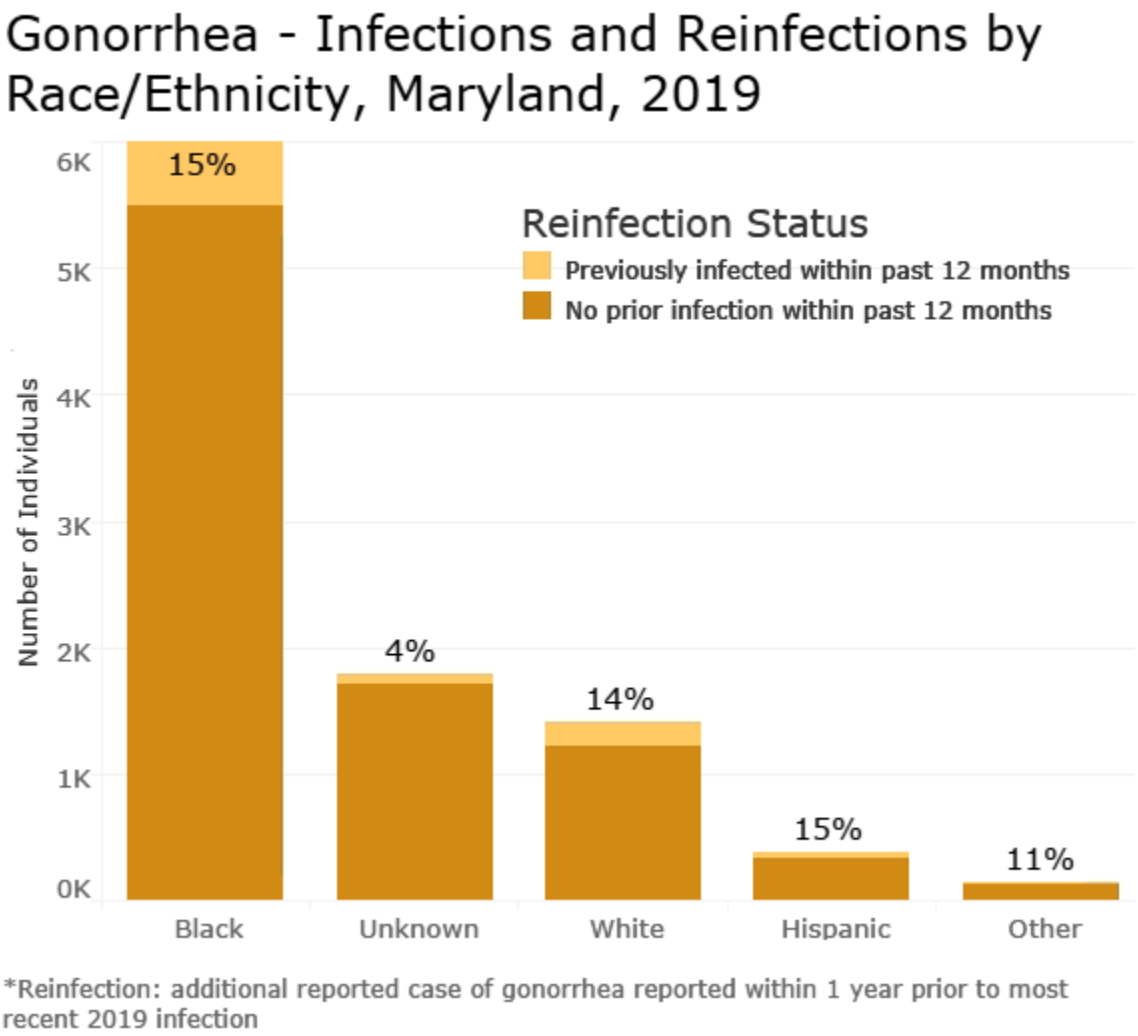
- 36 percent of individuals infected with chlamydia in 2019 had unknown race/ethnicity. Of those individuals, 10 percent of their infections which were reinfections



- Of the reported gonorrhea cases among men who have sex with women only, 627 (12 percent of the total MSW cases) were reinfections within one person-year

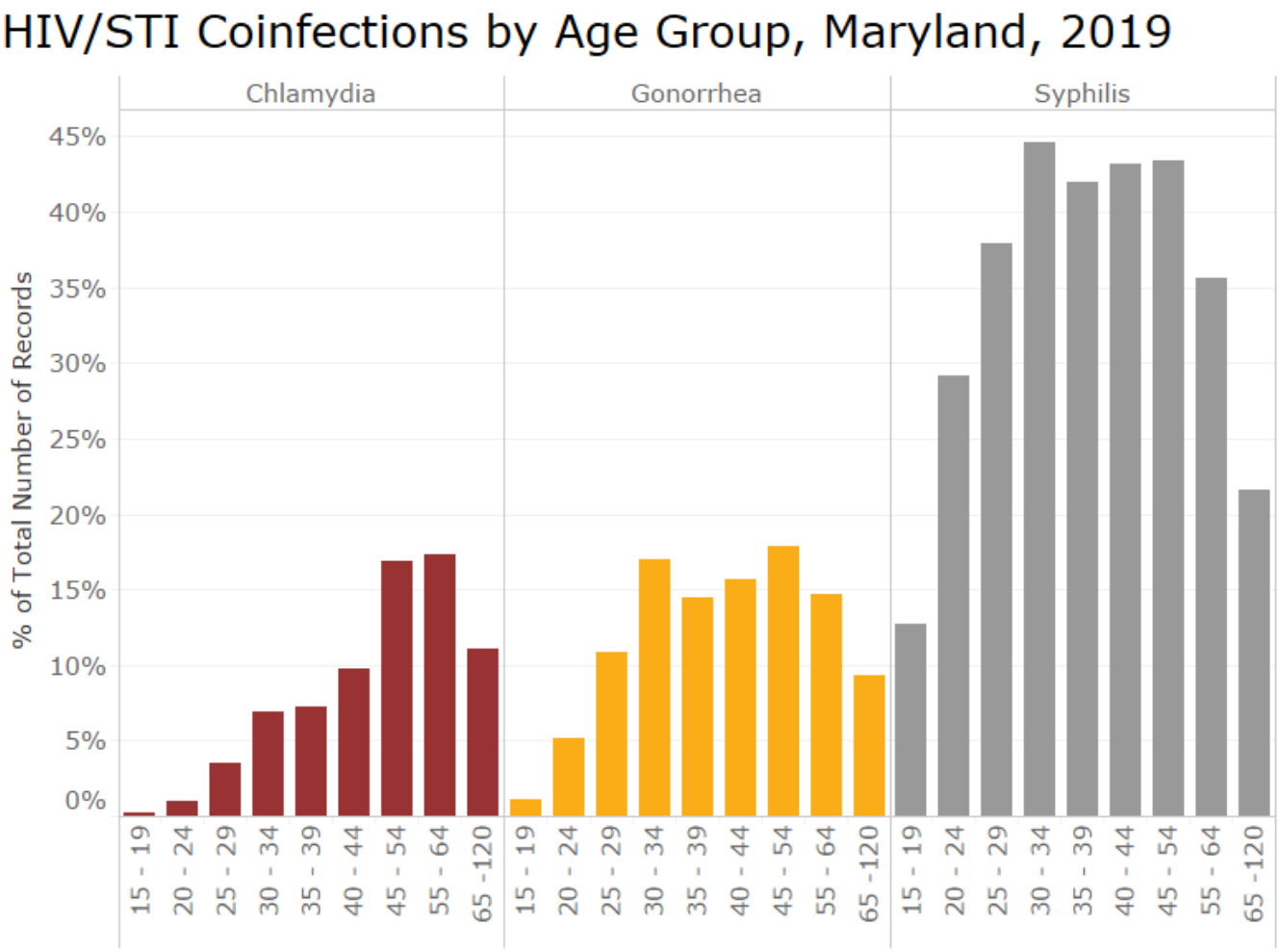
- MSM had the highest percentage of reinfections (27 percent), but this group represented a much smaller overall case burden (1,034 cases) than other risk groups

- Due to the high volume of gonorrhea cases, local health department staff are unable to investigate all reported cases and it is therefore likely that the proportion of cases identified as MSM is a significant underestimate



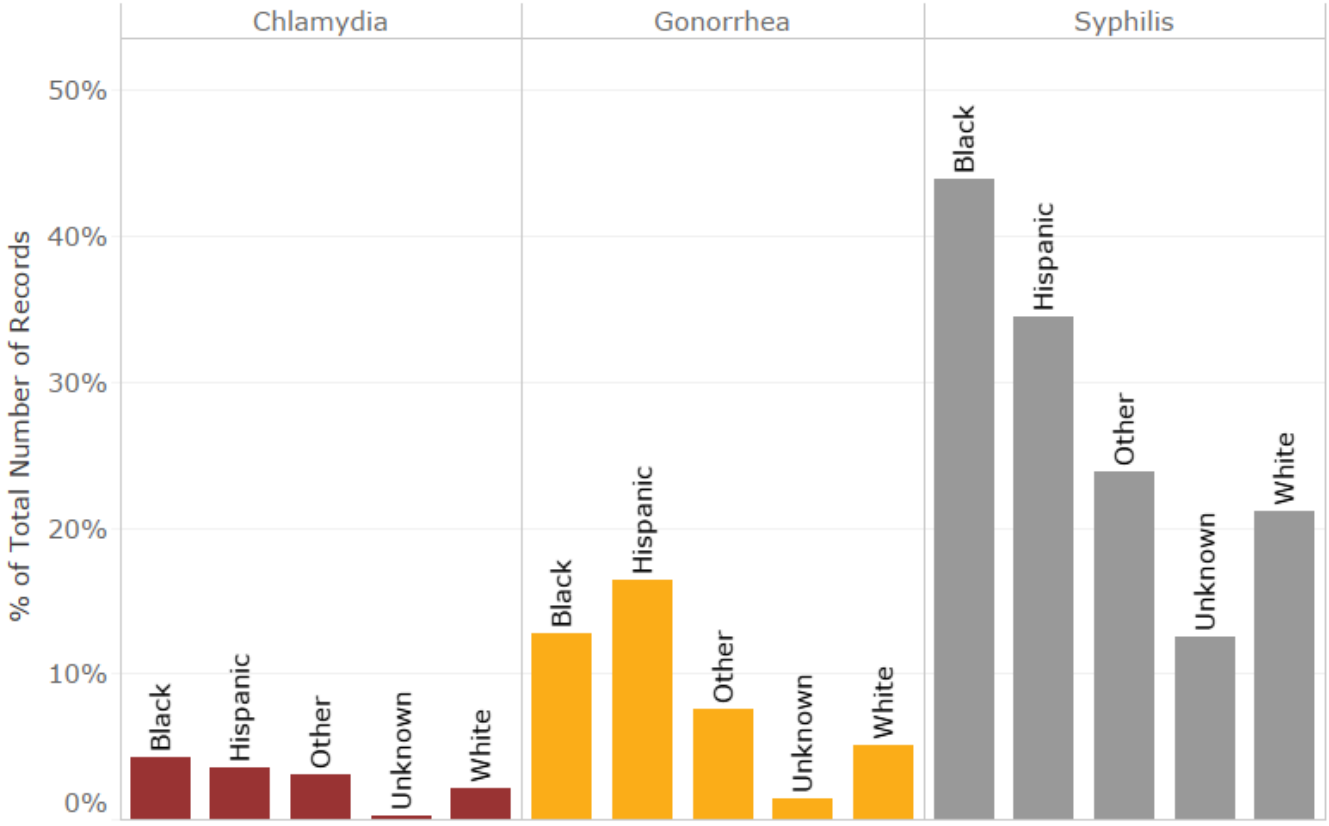
- 15 percent of gonorrhea infections among black residents were reinfections

- Similar to chlamydia, the overall case burden for gonorrhea is also high in Maryland; however, race/ethnicity is more often investigated than with chlamydia. As a result, only 16 percent of gonorrhea cases have unknown race/ethnicity



- For gonorrhea and chlamydia, the proportion of cases with HIV coinfections generally increases with age
- For syphilis, the increase peaks between the ages of 30-34 and then slowly declines
- Nearly half (45 percent) of all syphilis cases among 30-34 year olds were HIV coinfected in 2019
- Overall, 39 percent of syphilis cases across all age groups were HIV coinfected

HIV/STI Coinfections by Race/Ethnicity, Maryland, 2019



- For chlamydia and syphilis, black residents were more likely to be coinfected with HIV than other racial groups. Hispanics were more likely to be coinfected with gonorrhea and HIV than other racial groups.
- Coinfections among blacks represented 50 percent of all HIV/STI coinfections in 2019
- Among the three reportable STIs, syphilis is the most common STI to be diagnosed among individuals infected with HIV

Conclusion

Chlamydia, gonorrhea and syphilis rates in Maryland have been increasing steadily for the past several years. There are many reasons that this is cause for concern, including the increased risk of transmitting or becoming infected with HIV and the risks that STIs pose to sexual and reproductive health, especially for pregnant women and their babies.

CSTIP is committed to addressing STIs and will continue to promote STI prevention statewide. We hope this report provides useful and pertinent data that promotes dialogue about sexual health, appropriate screening and treatment practices to improve the sexual and reproductive health of all Marylanders.

Resources

Maryland Department of Health, Center for STI Prevention:
https://phpa.health.maryland.gov/OIDPCS/CSTIP/Pages/Home.aspx

CDC STD Resources:
https://www.cdc.gov/std/default.htm

Expedited Partner Therapy:
https://phpa.health.maryland.gov/OIDPCS/CSTIP/Pages/Expedited%20Partner%20Therapy.aspx

MSM/LGBTQ Resources:
https://phpa.health.maryland.gov/OIDPCS/CSTIP/Pages/MSM-LGBTQ.aspx

PrEP Maryland:
https://prepmaryland.org/

I WANT THE KIT – order a free home-collection STI testing kit:
https://www.iwantthekit.org/

CDC Treatment Guidelines:
https://www.cdc.gov/std/tg2015/default.htm

Local Health Departments Offering Free or Low-Cost STI/HIV Testing and Treatment:
https://phpa.health.maryland.gov/OIDPCS/CSTIP/CSTIPDocuments/LHDs_County_Map.pdf

Reportable Diseases – Resources:
https://phpa.health.maryland.gov/Pages/what-to-report.aspx

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2. Congenital Syphilis - CDC Fact Sheet. (2017, January 31). Retrieved from https://www.cdc.gov/std/syphilis/stdfact-congenital-syphilis.htm

3. Table 40. Congenital Syphilis — Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States, 2018. (2019, August 20). Retrieved from https://www.cdc.gov/std/stats18/tables/40.htm

4. Sexually Transmitted Diseases Surveillance 2018: Chlamydia. (2019, September 2020). Retrieved from https://www.cdc.gov/std/stats18/chlamydia.htm

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6. Table 2. Chlamydia – Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States, 2018. (2018, August 20). Retrieved from https://www.cdc.gov/std/stats18/tables/2.htm

7. Sexually Transmitted Diseases Surveillance 2018: Gonorrhea. (2019, August 20). Retrieved from https://www.cdc.gov/std/stats18/Gonorrhea.htm

8. Gonorrhea - CDC Fact Sheet (Detailed Version). (2019, November 5). Retrieved from https://www.cdc.gov/std/gonorrhea/stdfact-gonorrhea-detailed.htm

9. Patton M.E. et al.; (2014, March 18). Extragenital Gonorrhea and Chlamydia Testing and Infection Among Men Who Have Sex with Men-STD Surveillance Network, United States, 2010–2012. Retrieved from https://academic.oup.com/cid/article/58/11/1564/2895546

9A. Trebach JD et al.; (2015, May). Neisseria gonorrhoeae and Chlamydia trachomatis among women reporting extragenital exposures. Sex Transm Dis. 2015 May;42(5):233-9. doi: 10.1097/OLQ.0000000000000248. PMID: 25868133; PMCID: PMC4672628.

10. Table 13. Gonorrhea — Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States, 2018 (2019, August 20). Retrieved from https://www.cdc.gov/std/stats18/tables/13.htm

11. Syphilis - CDC Fact Sheet (Detailed). (2017, November 30). Retrieved from https://www.cdc.gov/std/syphilis/stdfact-syphilis-detailed.htm

12. Sexually Transmitted Diseases Surveillance 2018: Syphilis. (2019, October 2019). Retrieved from https://www.cdc.gov/std/stats18/syphilis.htm

13. Table 26. Primary and Secondary Syphilis — Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States, 2018. (2019, August 20). Retrieved from https://www.cdc.gov/std/stats18/tables/26.htm

14. Table 41. Congenital Syphilis — Reported Cases and Rates of Reported Cases by Year of Birth, State/Area, and Region in Alphabetical Order, United States and Outlying Areas, 2014–2018. (2019, August 20). Retrieved from https://www.cdc.gov/std/stats18/tables/41.htm

15. Table 40. Congenital Syphilis — Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States, 2018. (2019, August 19). Retrieved from https://www.cdc.gov/std/stats18/tables/40.htm

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19. Expedited Partner Therapy. (2017, November 29). Retrieved from https://phpa.health.maryland.gov/OIDPCS/CSTIP/Pages/Expedited%20Partner%20Therapy.aspx

20. STDs and HIV – CDC Fact Sheet. (2020, March 30). Retrieved from https://www.cdc.gov/std/hiv/stdfact-std-hiv-detailed.htm

Appendices

Definitions/Acronyms

Anemia – A condition in which you don't have enough healthy red blood cells to carry adequate oxygen to the body's tissues. Having anemia may make you feel tired and weak.

Antibiotic resistance – Antibiotic resistance occurs when bacteria develop the ability to defeat the drugs designed to kill them. When bacteria become resistant, antibiotics become ineffective and the infection cannot be treated.

Asymptomatic – Producing or showing no symptoms.

Burden – Also known as disease burden. The impact of a health problem as measured by financial cost, mortality, morbidity, or other indicators.

Case – An instance of a disease that meets the Case Definitions laid out by CDC and CSTE (see Case Definition).

Case Definition - In epidemiology, set of criteria used in making a decision as to whether an individual has a disease or health event of interest.

CDC – Centers for Disease Control and Prevention.

Chancre – A painless ulcer, particularly one developing on the genitals as a result of a sexually transmitted infection.

Chlamydia – Infection with *Chlamydia trachomatis* may result in urethritis, epididymitis, cervicitis, acute salpingitis, or other syndromes when sexually transmitted; however, the infection is often asymptomatic in women.

CSTIP – The Center for STI Prevention at the Maryland Department of Health.

DC – District of Columbia.

Early Latent Syphilis – A subcategory of latent syphilis (a stage of infection caused by *Treponema pallidum* in which organisms persist in the body of the infected person without causing symptoms) when initial infection has occurred within the previous 12 months.

Ectopic pregnancy – A complication of pregnancy in which the embryo attaches outside the uterus.

Epididymitis – Inflammation of the tube at the back of the testicle that stores and carries sperm.

Ethnicity – The common characteristics of a group of people, especially regarding ancestry, culture, language or national experiences.

Extragenital – Situated or originating outside the genital region or organs.

Fallopian tubes – The fallopian tubes, also known as uterine tubes or salpinges (singular salpinx) are uterine appendages, lined from inside with ciliated simple columnar epithelium, leading from the ovaries of female mammals into the uterus, via the uterotubal junction.

Gender – The range of characteristics pertaining to, and differentiating between, masculinity and femininity. Depending on the context, these characteristics may include biological sex (i.e., the state of being male, female, or an intersex variation), sex-based social structures (i.e., gender roles), or gender identity. Traditionally, people who identify as men or women or use masculine or feminine gender pronouns are using a gender binary system whereas those who exist outside these groups fall under the umbrella terms non-binary or genderqueer.

Gonorrhea – A sexually transmitted infection commonly manifested by urethritis, cervicitis, proctitis, salpingitis, or pharyngitis. Infection may be asymptomatic.

HIV – Human Immunodeficiency Virus, the virus that causes Acquired Immunodeficiency Syndrome (AIDS).

Infectious – Able to be transmitted to people, organisms, etc.

Infertility – Not being able to get pregnant despite having frequent, unprotected sex for at least a year for most couples.

Jaundice – A medical condition with yellowing of the skin or whites of the eyes, arising from an excess of the pigment bilirubin and typically caused by obstruction of the bile duct, by liver disease, or by excessive breakdown of red blood cells.

Jurisdiction – A country or area in which a particular legal system operates.

Live births – In human reproduction, a live birth occurs when a fetus, whatever its gestational age, exits the maternal body and subsequently shows any sign of life, such as voluntary movement, heartbeat, or pulsation of the umbilical cord, for however brief a time and regardless of whether the umbilical cord or placenta are intact.

Miscarriage – Also known as spontaneous abortion and pregnancy loss. The natural death of an

embryo or fetus before it is able to survive independently.

Morbidity – The condition of being diseased. Often in public health, morbidity is referred to as the amount of disease in a population.

Mortality – Death.

MSM – Men who have sex with men. This terminology is used to describe reported risk behaviors and should not be confused with sexual orientation.

MSW – Men who have sex with women only. This terminology is used to describe reported risk behaviors and should not be confused with sexual orientation.

P&S – Primary and secondary syphilis. When referring to "P&S syphilis", case counts are the sum of both primary and secondary cases, and "rate of P&S syphilis" refers to this sum per unit population.

PID – Pelvic inflammatory disease.

Premature – Born before the end of the full term of gestation, especially three or more weeks before.

Primary Syphilis – A stage of infection with *Treponema pallidum* characterized by one or more ulcerative lesions (e.g. chancre), which might differ considerably in clinical appearance.

Race – A grouping of humans based on shared physical or social qualities into categories generally viewed as distinct by society.

Rate – Also known as an incidence rate. The number of new cases per population at risk in a given time period. In this report, rates are calculated as the number of cases per 100,000 people in one year.

Rectum – The final section of the large intestine, terminating at the anus.

Reproductive tract – Composed of the ovaries, oviducts, uterus, cervix, and vagina.

Secondary Syphilis – A stage of infection caused by *Treponema pallidum* characterized by localized or diffuse mucocutaneous lesions (e.g., rash – such as non-pruritic macular, maculopapular, popular, or pustular lesions), often with generalized lymphadenopathy. Other symptoms can include mucous patches, condyloma lata, and alopecia. The primary ulcerative lesion may still be present.

Sex – Sex refers to the biological differences between males and females, such as the genitalia and genetic differences.

Stillbirth – The birth of an infant that has died in the womb (strictly, after having survived through at least the first 28 weeks of pregnancy, earlier instances being regarded as abortion or miscarriage).

Surveillance – Disease surveillance is an information-based activity involving the collection, analysis and interpretation of large volumes of data originating from a variety of sources. The collated information is then used to:

- Evaluate the effectiveness of control and preventative health measures
- Monitor changes in infectious agents e.g. trends in development of antimicrobial resistance
- Support health planning and the allocation of appropriate resources within the healthcare system
- Identify high risk populations or areas to target interventions
- Provide a valuable archive of disease activity for future reference

Symptomatic – Exhibiting characteristics of an illness or other medical condition.

Urethra – The duct by which urine is conveyed out of the body from the bladder, and which in males also conveys semen.

Uterus – A major female hormone-responsive secondary sex organ of the reproductive system in humans and most other mammals.

Data Tables

Chlamydia - Reported Cases and Rates by Jurisdiction, Maryland, 2015 - 2019

	2015		2016		2017		2018		2019	
Jurisdiction	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Allegany	239	329.7	244	338.0	279	389.6	242	341.0	263	370.6
Anne Arundel	1,751	310.2	2,030	356.8	2,234	389.7	2,316	402.1	2,710	470.5
Baltimore	3,614	435.7	4,190	504.0	4,480	538.2	4,463	538.7	4,879	588.9
Calvert	269	297.3	261	286.5	264	288.5	269	292.4	295	320.6
Caroline	95	291.2	108	328.4	102	307.3	83	249.2	113	339.3
Carroll	324	193.9	342	204.6	372	221.7	407	241.6	327	194.1
Cecil	289	282.1	285	277.5	326	317.3	336	326.8	372	361.8
Charles	722	463.4	826	524.7	1,009	631.8	1,103	683.0	1,138	704.6
Dorchester	207	638.7	152	471.1	184	572.1	206	643.8	216	675.0
Frederick	571	232.6	689	278.0	862	342.0	844	330.1	820	320.8
Garrett	42	142.8	39	132.9	58	198.4	38	130.3	57	195.5
Harford	702	281.2	802	320.2	812	322.0	973	383.1	1,041	409.9
Howard	798	255.4	948	299.1	1,136	353.8	1,170	362.0	1,200	371.3
Kent	35	177.7	58	295.1	33	170.2	73	376.6	69	356.0
Montgomery	3,015	290.1	3,428	327.0	4,029	380.5	4,410	419.0	4,699	446.4
Prince Georges	6,153	677.4	6,753	741.1	7,364	806.8	8,013	881.2	8,262	908.6
Queen Annes	99	201.9	123	250.1	96	192.9	124	246.8	135	268.7
Saint Marys	351	315.9	308	275.4	404	358.6	504	447.3	511	453.6
Somerset	188	731.7	226	874.8	185	713.8	187	728.3	184	716.7
Talbot	76	202.6	89	239.2	100	269.5	103	278.6	119	321.9
Washington	496	332.4	511	341.1	590	391.8	573	379.7	636	421.4
Wicomico	499	488.9	667	650.2	646	627.7	835	809.1	906	877.9
Worcester	187	363.4	185	359.1	215	415.9	197	380.1	225	434.2
Baltimore City	6,728	1,079.9	7,394	1,198.5	7,636	1,248.4	8,013	1,330.0	8,602	1,427.7
MD Counties	20,722	385.3	23,264	430.2	25,780	473.9	27,469	504.9	29,177	536.3
Grand Total	27,450	457.5	30,658	508.9	33,416	552.1	35,482	587.2	37,779	625.2

Rates = Cases per 100,000 population

Gonorrhea - Reported Cases and Rates by Jurisdiction, Maryland, 2015 - 2019

	2015		2016		2017		2018		2019	
Jurisdiction	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Allegany	49	67.6	48	66.5	30	41.9	41	57.8	22	31.0
Anne Arundel	360	63.8	586	103.0	583	101.7	544	94.4	681	118.2
Baltimore	1,017	122.6	1,321	158.9	1,549	186.1	1,309	158.0	1,527	184.3
Calvert	19	21.0	38	41.7	33	36.1	68	73.9	94	102.2
Caroline	44	134.9	33	100.3	41	123.5	20	60.1	21	63.1
Carroll	32	19.1	41	24.5	70	41.7	93	55.2	70	41.6
Cecil	35	34.2	94	91.5	79	76.9	91	88.5	129	125.5
Charles	132	84.7	163	103.5	239	149.7	258	159.7	273	169.0
Dorchester	124	382.6	58	179.8	68	211.4	64	200.0	63	196.9
Frederick	85	34.6	99	39.9	138	54.8	131	51.2	133	52.0
Garrett	3	10.2	1	3.4	4	13.7	6	20.6	2	6.9
Harford	129	51.7	156	62.3	211	83.7	191	75.2	272	107.1
Howard	110	35.2	195	61.5	235	73.2	256	79.2	238	73.6
Kent	10	50.8	14	71.2	16	82.5	7	36.1	8	41.3
Montgomery	386	37.1	563	53.7	726	68.6	660	62.7	834	79.2
Prince Georges	1,282	141.1	1,832	201.1	2,001	219.2	2,020	222.1	2,196	241.5
Queen Annes	28	57.1	21	42.7	13	26.1	9	17.9	14	27.9
Saint Marys	38	34.2	127	113.6	95	84.3	165	146.5	314	278.7
Somerset	38	147.9	53	205.2	56	216.1	69	268.7	38	148.0
Talbot	25	66.7	26	69.9	24	64.7	16	43.3	24	64.9
Washington	179	120.0	224	149.5	181	120.2	242	160.3	283	187.5
Wicomico	168	164.6	232	226.2	300	291.5	388	376.0	336	325.6
Worcester	62	120.5	64	124.2	55	106.4	61	117.7	44	84.9
Baltimore City	2,503	401.7	3,534	572.8	4,231	691.7	3,596	596.9	3,982	660.9
MD Counties	4,355	81.0	5,989	110.7	6,747	124.0	6,709	123.3	7,616	140.0
Grand Total	6,858	114.3	9,523	158.1	10,978	181.4	10,305	170.5	11,598	191.9

Rates = Cases per 100,000 population

Primary and Secondary Syphilis - Reported Cases and Rates by Jurisdiction, Maryland, 2015 - 2019

	2015		2016		2017		2018		2019	
Jurisdiction	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Allegany	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.4	4.0	5.6
Anne Arundel	31.0	5.5	23.0	4.0	34.0	5.9	27.0	4.7	39.0	6.8
Baltimore	79.0	9.5	78.0	9.4	74.0	8.9	103.0	12.4	103.0	12.4
Calvert	0.0	0.0	1.0	1.1	6.0	6.6	3.0	3.3	1.0	1.1
Caroline	1.0	3.1	1.0	3.0	0.0	0.0	1.0	3.0	1.0	3.0
Carroll	1.0	0.6	3.0	1.8	2.0	1.2	7.0	4.2	9.0	5.3
Cecil	1.0	1.0	2.0	1.9	1.0	1.0	2.0	1.9	4.0	3.9
Charles	9.0	5.8	6.0	3.8	9.0	5.6	14.0	8.7	14.0	8.7
Dorchester	0.0	0.0	2.0	6.2	0.0	0.0	1.0	3.1	1.0	3.1
Frederick	12.0	4.9	8.0	3.2	4.0	1.6	13.0	5.1	23.0	9.0
Garrett	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3.4
Harford	4.0	1.6	17.0	6.8	7.0	2.8	5.0	2.0	7.0	2.8
Howard	16.0	5.1	13.0	4.1	15.0	4.7	25.0	7.7	22.0	6.8
Kent	0.0	0.0	1.0	5.1	1.0	5.2	0.0	0.0	0.0	0.0
Montgomery	38.0	3.7	33.0	3.1	53.0	5.0	66.0	6.3	89.0	8.5
Prince Georges	81.0	8.9	110.0	12.1	143.0	15.7	153.0	16.8	169.0	18.6
Queen Annes	0.0	0.0	1.0	2.0	0.0	0.0	2.0	4.0	1.0	2.0
Saint Marys	3.0	2.7	1.0	0.9	3.0	2.7	5.0	4.4	3.0	2.7
Somerset	2.0	7.8	4.0	15.5	0.0	0.0	2.0	7.8	0.0	0.0
Talbot	0.0	0.0	0.0	0.0	1.0	2.7	1.0	2.7	1.0	2.7
Washington	10.0	6.7	4.0	2.7	6.0	4.0	22.0	14.6	58.0	38.4
Wicomico	7.0	6.9	1.0	1.0	2.0	1.9	5.0	4.8	5.0	4.8
Worcester	2.0	3.9	3.0	5.8	2.0	3.9	2.0	3.9	1.0	1.9
Baltimore City	212.0	34.0	197.0	31.9	210.0	34.3	277.0	46.0	312.0	51.8
MD Counties	297.0	5.5	312.0	5.8	363.0	6.7	460.0	8.5	556.0	10.2
Grand Total	509.0	8.5	509.0	8.4	573.0	9.5	737.0	12.2	868.0	14.4

Rates = Cases per 100,000 population

Early Non-Primary/Non-Secondary Syphilis - Reported Cases and Rates by Jurisdiction, Maryland, 2015 - 2019

	2015		2016		2017		2018		2019	
Jurisdiction	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Allegany	1.0	1.4	1.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Anne Arundel	27.0	4.8	36.0	6.3	26.0	4.5	33.0	5.7	56.0	9.7
Baltimore	71.0	8.6	69.0	8.3	89.0	10.7	84.0	10.1	98.0	11.8
Calvert	5.0	5.5	4.0	4.4	3.0	3.3	4.0	4.3	9.0	9.8
Caroline	0.0	0.0	3.0	9.1	0.0	0.0	2.0	6.0	1.0	3.0
Carroll	6.0	3.6	4.0	2.4	3.0	1.8	3.0	1.8	6.0	3.6
Cecil	2.0	2.0	0.0	0.0	2.0	1.9	4.0	3.9	7.0	6.8
Charles	20.0	12.8	13.0	8.3	13.0	8.1	14.0	8.7	30.0	18.6
Dorchester	0.0	0.0	1.0	3.1	2.0	6.2	0.0	0.0	3.0	9.4
Frederick	10.0	4.1	8.0	3.2	9.0	3.6	9.0	3.5	14.0	5.5
Garrett	0.0	0.0	0.0	0.0	2.0	6.8	0.0	0.0	0.0	0.0
Harford	7.0	2.8	12.0	4.8	9.0	3.6	15.0	5.9	13.0	5.1
Howard	8.0	2.6	12.0	3.8	13.0	4.0	23.0	7.1	16.0	5.0
Kent	3.0	15.2	1.0	5.1	0.0	0.0	1.0	5.2	4.0	20.6
Montgomery	52.0	5.0	45.0	4.3	88.0	8.3	94.0	8.9	117.0	11.1
Prince Georges	142.0	15.6	149.0	16.4	209.0	22.9	242.0	26.6	246.0	27.1
Queen Annes	0.0	0.0	0.0	0.0	0.0	0.0	2.0	4.0	0.0	0.0
Saint Marys	2.0	1.8	3.0	2.7	3.0	2.7	4.0	3.6	8.0	7.1
Somerset	1.0	3.9	1.0	3.9	2.0	7.7	0.0	0.0	1.0	3.9
Talbot	1.0	2.7	4.0	10.8	3.0	8.1	1.0	2.7	1.0	2.7
Washington	6.0	4.0	3.0	2.0	4.0	2.7	17.0	11.3	40.0	26.5
Wicomico	4.0	3.9	2.0	1.9	5.0	4.9	8.0	7.8	7.0	6.8
Worcester	1.0	1.9	2.0	3.9	1.0	1.9	3.0	5.8	0.0	0.0
Baltimore City	225.0	36.1	225.0	36.5	197.0	32.2	294.0	48.8	314.0	52.1
MD Counties	369.0	6.9	373.0	6.9	486.0	8.9	563.0	10.3	677.0	12.4
Grand Total	594.0	9.9	598.0	9.9	683.0	11.3	857.0	14.2	991.0	16.4

Rates = Cases per 100,000 population

Late or Unknown Duration Syphilis - Reported Cases and Rates by Jurisdiction, Maryland, 2015 - 2019

	2015		2016		2017		2018		2019	
Jurisdiction	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Allegany	2.0	2.8	4.0	5.5	1.0	1.4	2.0	2.8	6.0	8.5
Anne Arundel	33.0	5.8	42.0	7.4	37.0	6.5	64.0	11.1	69.0	12.0
Baltimore	87.0	10.5	87.0	10.5	125.0	15.0	135.0	16.3	121.0	14.6
Calvert	6.0	6.6	3.0	3.3	3.0	3.3	4.0	4.3	4.0	4.3
Caroline	0.0	0.0	0.0	0.0	2.0	6.0	0.0	0.0	3.0	9.0
Carroll	5.0	3.0	2.0	1.2	2.0	1.2	8.0	4.7	3.0	1.8
Cecil	6.0	5.9	5.0	4.9	1.0	1.0	4.0	3.9	5.0	4.9
Charles	10.0	6.4	14.0	8.9	14.0	8.8	19.0	11.8	18.0	11.1
Dorchester	8.0	24.7	1.0	3.1	1.0	3.1	1.0	3.1	1.0	3.1
Frederick	8.0	3.3	11.0	4.4	18.0	7.1	23.0	9.0	22.0	8.6
Garrett	0.0	0.0	0.0	0.0	1.0	3.4	0.0	0.0	1.0	3.4
Harford	12.0	4.8	6.0	2.4	5.0	2.0	15.0	5.9	11.0	4.3
Howard	22.0	7.0	19.0	6.0	26.0	8.1	27.0	8.4	27.0	8.4
Kent	1.0	5.1	1.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0
Montgomery	133.0	12.8	110.0	10.5	86.0	8.1	122.0	11.6	101.0	9.6
Prince Georges	232.0	25.5	230.0	25.2	248.0	27.2	247.0	27.2	225.0	24.7
Queen Annes	2.0	4.1	2.0	4.1	1.0	2.0	1.0	2.0	0.0	0.0
Saint Marys	3.0	2.7	0.0	0.0	1.0	0.9	3.0	2.7	4.0	3.6
Somerset	3.0	11.7	0.0	0.0	3.0	11.6	0.0	0.0	1.0	3.9
Talbot	2.0	5.3	0.0	0.0	1.0	2.7	0.0	0.0	0.0	0.0
Washington	11.0	7.4	6.0	4.0	4.0	2.7	11.0	7.3	32.0	21.2
Wicomico	7.0	6.9	6.0	5.8	8.0	7.8	6.0	5.8	9.0	8.7
Worcester	1.0	1.9	1.0	1.9	2.0	3.9	1.0	1.9	0.0	0.0
Baltimore City	155.0	24.9	169.0	27.4	193.0	31.6	220.0	36.5	225.0	37.3
MD Counties	594.0	11.0	550.0	10.2	590.0	10.8	693.0	12.7	663.0	12.2
Grand Total	749.0	12.5	719.0	11.9	783.0	12.9	913.0	15.1	888.0	14.7

Rates = Cases per 100,000 population

Sexually Transmitted Infections - Reported Cases and Rates by Sex, Maryland, 2015 - 2019

Disease	Sex	2015		2016		2017		2018		2019	
		Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Chlamydia	Female	18,650	603.0	20,167	649.6	21,957	704.2	22,912	735.8	24,264	779.2
	Male	8,800	302.6	10,491	359.2	11,449	390.2	12,539	428.1	13,514	461.4
Gonorrhea	Female	3,095	100.1	3,945	127.1	4,631	148.5	4,227	135.8	4,568	146.7
	Male	3,763	129.4	5,578	191.0	6,344	216.2	6,074	207.4	7,029	240.0
Primary and Secondary Syphilis	Female	58	1.9	54	1.7	47	1.5	81	2.6	121	3.9
	Male	451	15.5	455	15.6	526	17.9	656	22.4	747	25.5
Early Non-Primary/ Non-Secondary Syphilis	Female	94	3.0	95	3.1	96	3.1	133	4.3	176	5.7
	Male	500	17.2	503	17.2	587	20.0	724	24.7	815	27.8
Late or Unknown Duration Syphilis	Female	237	7.7	226	7.3	245	7.9	271	8.7	280	9.0
	Male	512	17.6	493	16.9	538	18.3	642	21.9	608	20.8

Rates = Cases per 100,000 population

Chlamydia - Reported Cases and Rates by Age Group, Maryland, 2015 - 2019

Age Group	2015		2016		2017		2018		2019	
	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
10-14	227	60.6	238	63.7	230	61.1	249	65.8	301	79.5
15-19	7,461	1,932.7	8,453	2,187.9	9,233	2,399.0	9,837	2,578.5	10,852	2,844.5
20-24	10,649	2,675.5	11,557	2,953.7	12,377	3,203.0	12,805	3,400.6	13,279	3,526.5
25-29	4,961	1,185.4	5,657	1,344.7	6,081	1,442.9	6,515	1,557.0	6,707	1,602.9
30-34	2,053	499.0	2,365	571.7	2,629	631.3	2,945	707.6	3,261	783.6
35-39	994	258.9	1,123	285.1	1,349	335.0	1,390	341.2	1,565	384.1
40-44	492	128.9	506	136.7	603	164.4	737	201.1	742	202.5
45-54	442	50.8	561	65.3	681	80.7	737	90.0	758	92.6
55-64	125	15.9	163	20.5	189	23.4	218	26.8	248	30.5
65+	33	3.9	26	3.0	38	4.2	45	4.8	54	5.8

Rates = Cases per 100,000 population

Gonorrhea - Reported Cases and Rates by Age Group, Maryland, 2015 - 2019

	2015		2016		2017		2018		2019	
Age Group	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
10-14	67	17.9	55	14.7	85	22.6	61	16.1	61	16.1
15-19	1,431	370.7	1,772	458.7	2,076	539.4	1,769	463.7	1,659	434.9
20-24	2,169	545.0	2,796	714.6	3,170	820.3	2,732	725.5	2,918	774.9
25-29	1,398	334.0	2,115	502.7	2,374	563.3	2,278	544.4	2,630	628.5
30-34	677	164.5	1,076	260.1	1,305	313.4	1,393	334.7	1,752	421.0
35-39	404	105.2	651	165.3	688	170.9	750	184.1	950	233.2
40-44	236	61.8	343	92.7	397	108.3	419	114.4	503	137.3
45-54	339	39.0	504	58.7	583	69.1	589	71.9	693	84.6
55-64	108	13.8	175	22.0	244	30.2	251	30.9	353	43.4
65+	25	2.9	32	3.6	48	5.3	56	6.0	75	8.1

Rates = Cases per 100,000 population

Primary and Secondary Syphilis - Reported Cases and Rates by Age Group, Maryland, 2015 - 2019

	2015		2016		2017		2018		2019	
Age Group	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
10-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-19	22.0	5.7	19.0	4.9	30.0	7.8	30.0	7.9	43.0	11.3
20-24	87.0	21.9	76.0	19.4	102.0	26.4	112.0	29.7	154.0	40.9
25-29	125.0	29.9	126.0	30.0	146.0	34.6	177.0	42.3	200.0	47.8
30-34	97.0	23.6	90.0	21.8	95.0	22.8	132.0	31.7	155.0	37.2
35-39	48.0	12.5	56.0	14.2	58.0	14.4	87.0	21.4	93.0	22.8
40-44	33.0	8.6	29.0	7.8	47.0	12.8	64.0	17.5	52.0	14.2
45-54	62.0	7.1	71.0	8.3	52.0	6.2	84.0	10.3	89.0	10.9
55-64	30.0	3.8	30.0	3.8	38.0	4.7	40.0	4.9	69.0	8.5
65+	5.0	0.6	12.0	1.4	5.0	0.6	11.0	1.2	13.0	1.4

Rates = Cases per 100,000 population

Early Non-Primary/Non-Secondary Syphilis - Reported Cases and Rates by Age Group, Maryland, 2015 - 2019

	2015		2016		2017		2018		2019	
Age Group	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
10-14	2.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-19	25.0	6.5	23.0	6.0	18.0	4.7	26.0	6.8	30.0	7.9
20-24	85.0	21.4	72.0	18.4	98.0	25.4	140.0	37.2	132.0	35.1
25-29	133.0	31.8	143.0	34.0	154.0	36.5	195.0	46.6	207.0	49.5
30-34	106.0	25.8	122.0	29.5	130.0	31.2	182.0	43.7	222.0	53.3
35-39	66.0	17.2	68.0	17.3	81.0	20.1	116.0	28.5	125.0	30.7
40-44	57.0	14.9	41.0	11.1	59.0	16.1	52.0	14.2	76.0	20.7
45-54	93.0	10.7	89.0	10.4	103.0	12.2	101.0	12.3	120.0	14.7
55-64	21.0	2.7	34.0	4.3	35.0	4.3	36.0	4.4	65.0	8.0
65+	6.0	0.7	6.0	0.7	5.0	0.6	9.0	1.0	14.0	1.5

Rates = Cases per 100,000 population

Late or Unknown Duration Syphilis - Reported Cases and Rates by Age Group, Maryland, 2015 - 2019

	2015		2016		2017		2018		2019	
Age Group	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
10-14	1.0	0.3	0.0	0.0	0.0	0.0	1.0	0.3	1.0	0.3
15-19	13.0	3.4	20.0	5.2	20.0	5.2	25.0	6.6	21.0	5.5
20-24	82.0	20.6	88.0	22.5	90.0	23.3	89.0	23.6	92.0	24.4
25-29	93.0	22.2	105.0	25.0	136.0	32.3	178.0	42.5	163.0	39.0
30-34	104.0	25.3	100.0	24.2	125.0	30.0	166.0	39.9	157.0	37.7
35-39	83.0	21.6	75.0	19.0	97.0	24.1	112.0	27.5	107.0	26.3
40-44	68.0	17.8	81.0	21.9	64.0	17.5	73.0	19.9	78.0	21.3
45-54	167.0	19.2	136.0	15.8	137.0	16.2	153.0	18.7	137.0	16.7
55-64	89.0	11.4	75.0	9.4	71.0	8.8	73.0	9.0	85.0	10.5
65+	49.0	5.8	39.0	4.4	43.0	4.8	43.0	4.6	47.0	5.0

Rates = Cases per 100,000 population

Chlamydia - Reported Cases and Rates by Race/Ethnicity, Maryland, 2015 - 2019

Race/Ethnicity	2015		2016		2017		2018		2019	
	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Asian	167	44.0	226	58.0	254	63.5	326	81.9	445	111.8
Black/African American	11,611	655.4	12,788	716.5	13,168	732.3	15,421	856.1	16,670	925.4
Hispanic/Latino	1,030	179.7	1,273	214.5	1,366	222.4	1,952	310.6	2,880	458.3
Other	52	33.5	45	28.4	111	68.6	305	185.8	217	132.2
White	3,160	101.2	3,812	123.0	4,580	148.8	4,688	153.7	4,669	153.0
Unknown	11,430		12,514		13,937		12,790		12,898	

Rates = Cases per 100,000 population

Gonorrhea - Reported Cases and Rates by Race/Ethnicity, Maryland, 2015 - 2019

Race/Ethnicity	2015		2016		2017		2018		2019	
	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Asian	30	7.9	54	13.9	80	20.0	57	14.3	79	19.8
Black/African American	4,189	236.4	5,806	325.3	6,514	362.2	6,471	359.2	7,463	414.3
Hispanic/Latino	141	24.6	212	35.7	294	47.9	348	55.4	445	70.8
Other	12	7.7	13	8.2	41	25.3	124	75.5	88	53.6
White	768	24.6	1,143	36.9	1,285	41.7	1,451	47.6	1,607	52.7
Unknown	1,718		2,295		2,764		1,854		1,916	

Rates = Cases per 100,000 population

Primary and Secondary Syphilis - Reported Cases and Rates by Race/Ethnicity, Maryland, 2015 - 2019

Race/Ethnicity	2015		2016		2017		2018		2019	
	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Asian	6.0	1.6	9.0	2.3	15.0	3.8	10.0	2.5	27.0	6.8
Black/African American	320.0	18.1	314.0	17.6	351.0	19.5	494.0	27.4	579.0	32.1
Hispanic/Latino	21.0	3.7	28.0	4.7	40.0	6.5	54.0	8.6	67.0	10.7
Other	0.0	0.0	2.0	1.3	6.0	3.7	16.0	9.7	11.0	6.7
White	122.0	3.9	145.0	4.7	109.0	3.5	161.0	5.3	182.0	6.0
Unknown	40.0		11.0		52.0		2.0		2.0	

Rates = Cases per 100,000 population

Early Non-Primary/Non-Secondary Syphilis - Reported Cases and Rates by Race/Ethnicity, Maryland, 2015 - 2019

Race/Ethnicity	2015		2016		2017		2018		2019	
	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Asian	7.0	1.8	6.0	1.5	7.0	1.8	16.0	4.0	22.0	5.5
Black/African American	392.0	22.1	421.0	23.6	421.0	23.4	560.0	31.1	685.0	38.0
Hispanic/Latino	33.0	5.8	38.0	6.4	73.0	11.9	74.0	11.8	107.0	17.0
Other	0.0	0.0	0.0	0.0	2.0	1.2	18.0	11.0	12.0	7.3
White	106.0	3.4	122.0	3.9	131.0	4.3	185.0	6.1	161.0	5.3
Unknown	56.0		11.0		49.0		4.0		4.0	

Rates = Cases per 100,000 population

Late or Unknown Duration Syphilis - Reported Cases and Rates by Race/Ethnicity, Maryland, 2015 - 2019

Race/Ethnicity	2015		2016		2017		2018		2019	
	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Asian	8.0	2.1	17.0	4.4	25.0	6.3	20.0	5.0	25.0	6.3
Black/African American	428.0	24.2	462.0	25.9	483.0	26.9	590.0	32.8	557.0	30.9
Hispanic/Latino	56.0	9.8	95.0	16.0	98.0	16.0	128.0	20.4	105.0	16.7
Other	0.0	0.0	1.0	0.6	4.0	2.5	17.0	10.4	12.0	7.3
White	101.0	3.2	122.0	3.9	128.0	4.2	150.0	4.9	181.0	5.9
Unknown	156.0		22.0		45.0		8.0		8.0	

Rates = Cases per 100,000 population