



Sexually Transmitted Infection (STI) Surveillance Report, 2023

Minnesota Department of Health STI Surveillance System

Introduction 1/2

- Under Minnesota law, physicians and laboratories are required to report all laboratory-confirmed cases of chlamydia, gonorrhea, syphilis, and chancroid to the Minnesota Department of Health (MDH) within one working day.
- The MDH does not maintain statistics for other, non-reportable STIs (ex: herpes, HPV/genital warts).
- This slide set describes trends in reportable STIs in Minnesota by person, place, and time.
- Analyses exclude cases reported from federal and private prisons.

Introduction 2/2

- sti surveillance is the systematic collection of data from cases for the purpose of monitoring the frequency and distribution of STIs in a given population.
- sti surveillance data are used to detect problems, prioritize resources, develop and target interventions, and evaluate the effectiveness of interventions.

Interpreting sti Surveillance Data (1/2)

- Factors that impact the completeness and accuracy of sti data include:
 - Level of sti screening by healthcare providers
 - Individual test-seeking behavior
 - Sensitivity of diagnostic tests
 - Compliance with case reporting
 - Completeness of case reporting
 - Timeliness of case reporting
- Increases and decreases in sti rates can be due to actual changes in disease occurrence and/or changes in one or more of the above factors.
- COVID-19 lockdowns likely played a role in the number of cases reported/diagnosed during the COVID-19 pandemic years

Interpreting sti Surveillance Data (2/2)

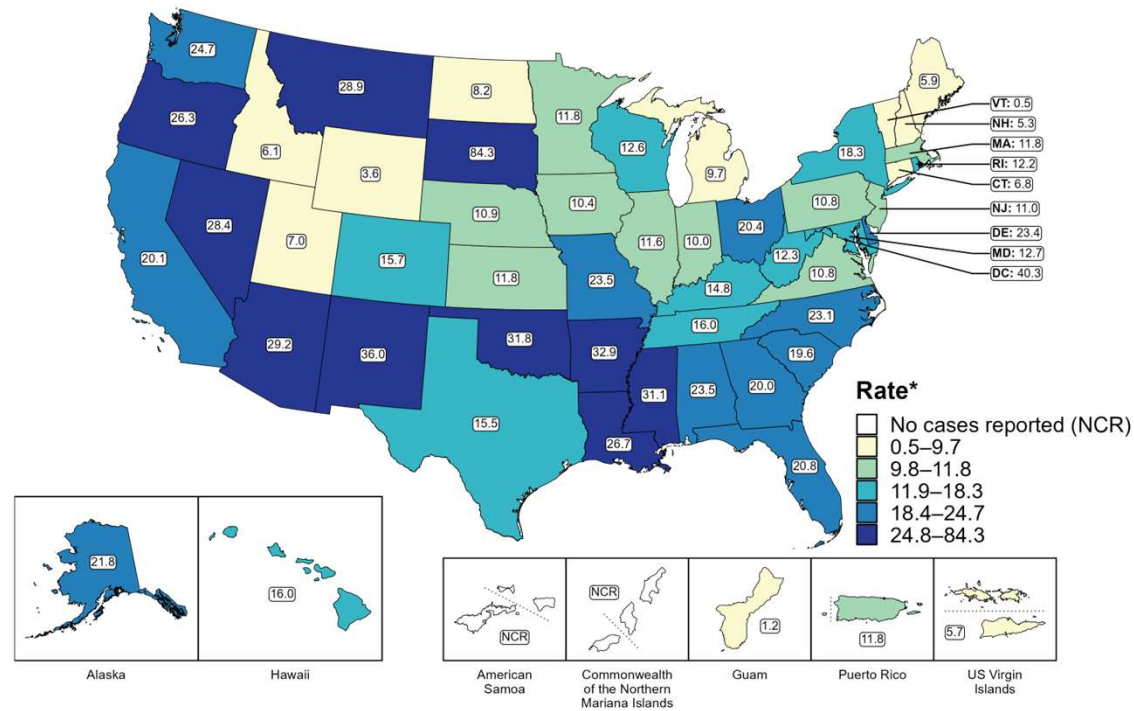
- The surveillance system only includes cases with a positive laboratory test. Cases diagnosed solely on symptoms are not counted.
- Since 2012 we have included cases that had only a lab report and no corresponding case report form. This has increased the number of unknowns in some variables.
- In 2020, the COVID-19 response accelerated the use of laboratory reporting by facilities, again increasing the number of unknown variables.
- Rates are computed using Census data. Census data uses weighted estimates to calculate intercensal estimates.
- Surveillance data represent cases of infection, not individuals. A person with multiple infections in a given year will be counted more than once.
- Caution is warranted when interpreting changes in sti numbers that can seem disproportionately large when the number of cases is small.

Census data updates

- To better represent historical rates, historical census data and population estimates were used to calculate disease incidence rates.
- Census data was used for 3 years intervals then sequential estimates are used for future years.
 - **2014-2016:** Utilized 2014 census estimates published and released in 2021
 - **2017-2019:** Utilized 2017 census estimates published and released in 2021
 - **2020-2022:** Utilized 2020 census estimates published and released in 2021
 - **2023:** Utilized 2022 estimates which published in June of 2023

National Context

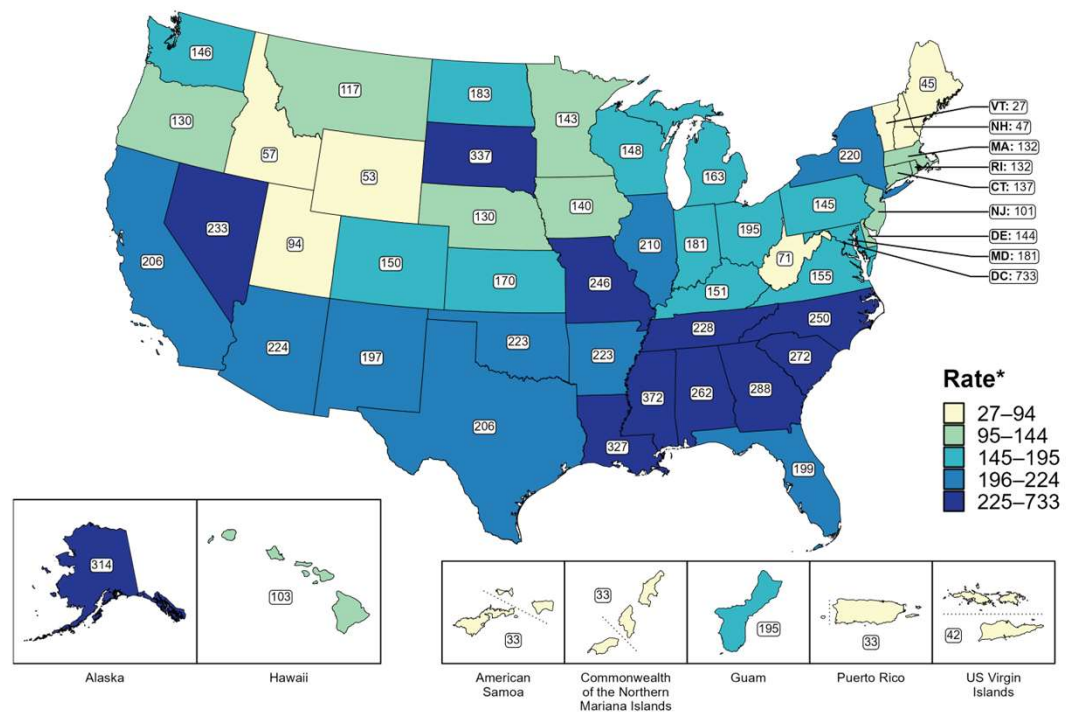
Primary and Secondary Syphilis — Rates of Reported Cases by Jurisdiction, United States and Territories, 2022



* Per 100,000



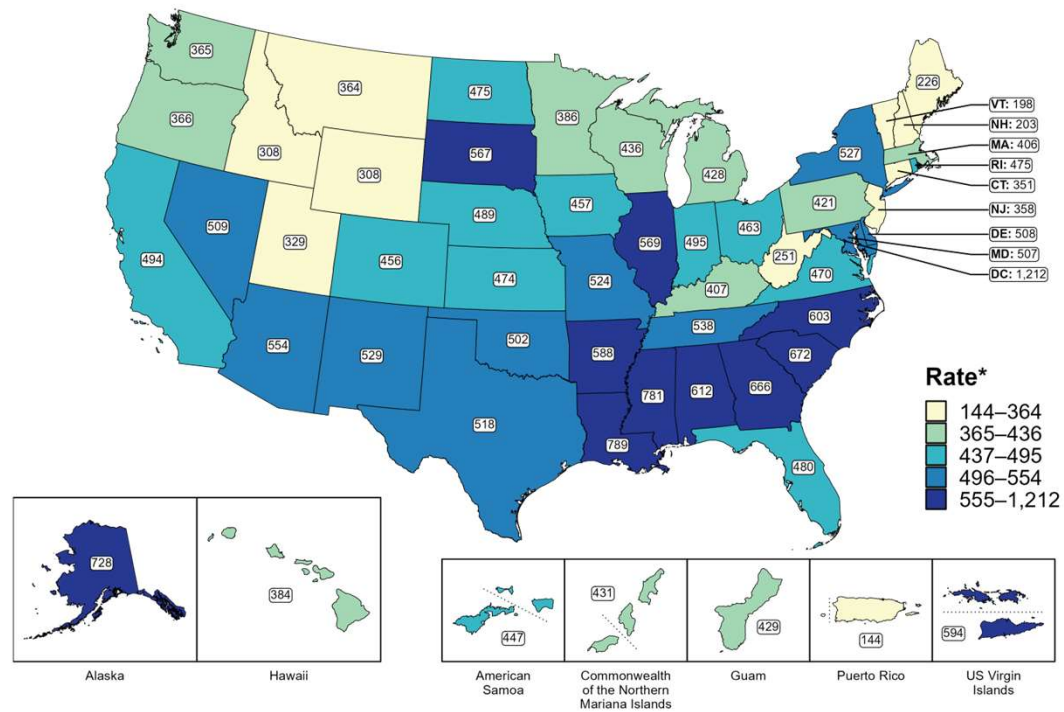
Gonorrhea — Rates of Reported Cases by Jurisdiction, United States and Territories, 2022



* Per 100,000



Chlamydia — Rates of Reported Cases by Jurisdiction, United States and Territories, 2022



* Per 100,000



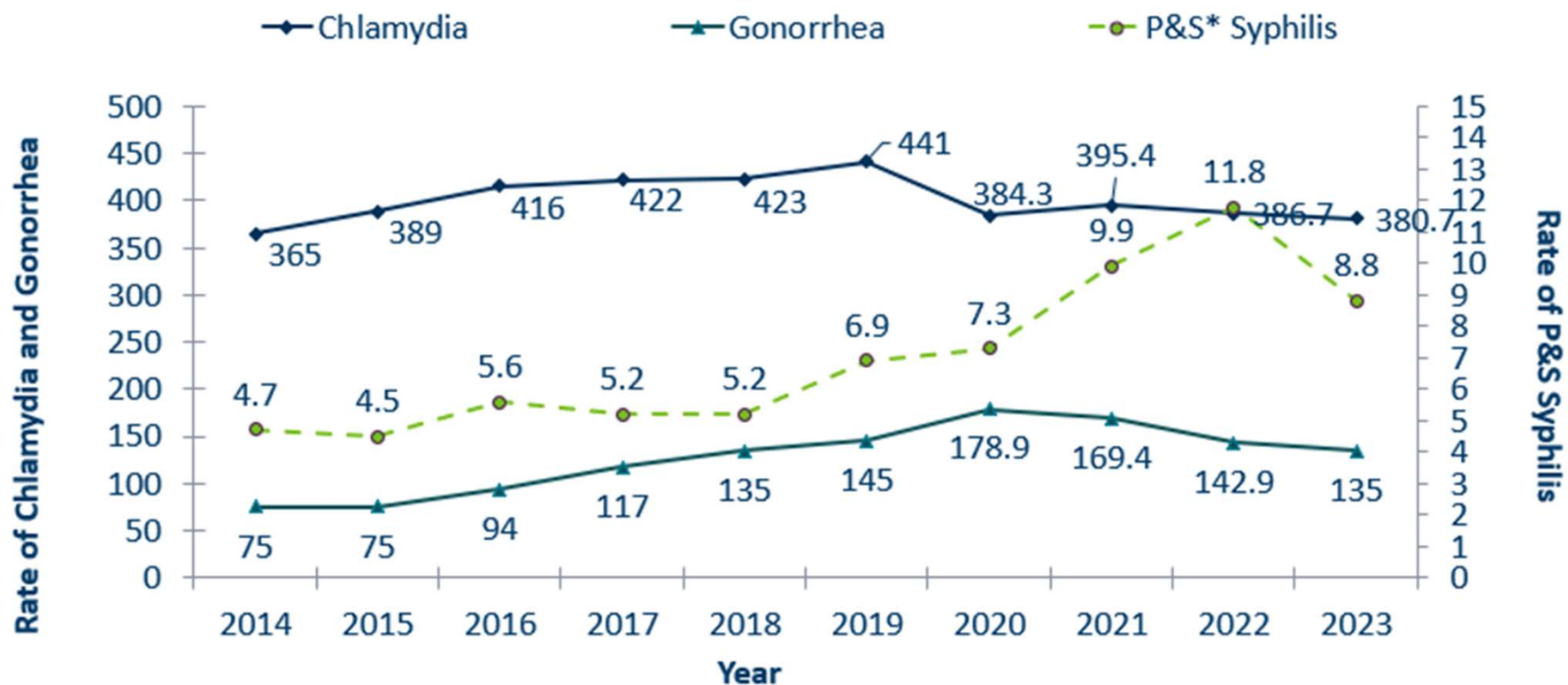
Overview of STIs in Minnesota

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STIs in Minnesota: Number of Cases Reported in 2022

- Total of 31,256 sti cases reported to MDH in 2023:
 - 21,767 Chlamydia cases
 - 7,717 Gonorrhea cases
 - 1762 Syphilis cases (all stages)
 - 0 Chancroid cases

STIs in Minnesota: Rate per 100,000 by Year of Diagnosis, 2014-2023

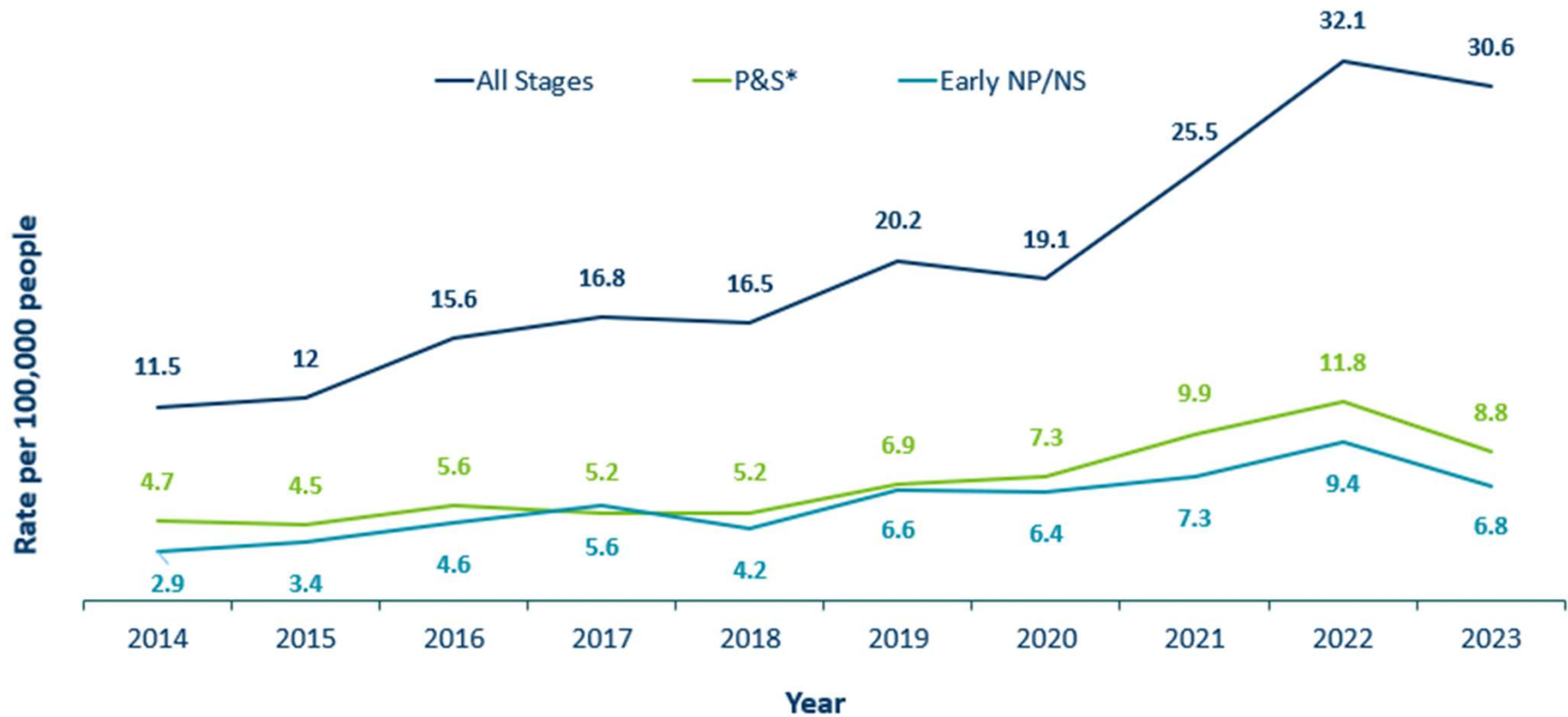


* P&S = Primary and Secondary

Syphilis

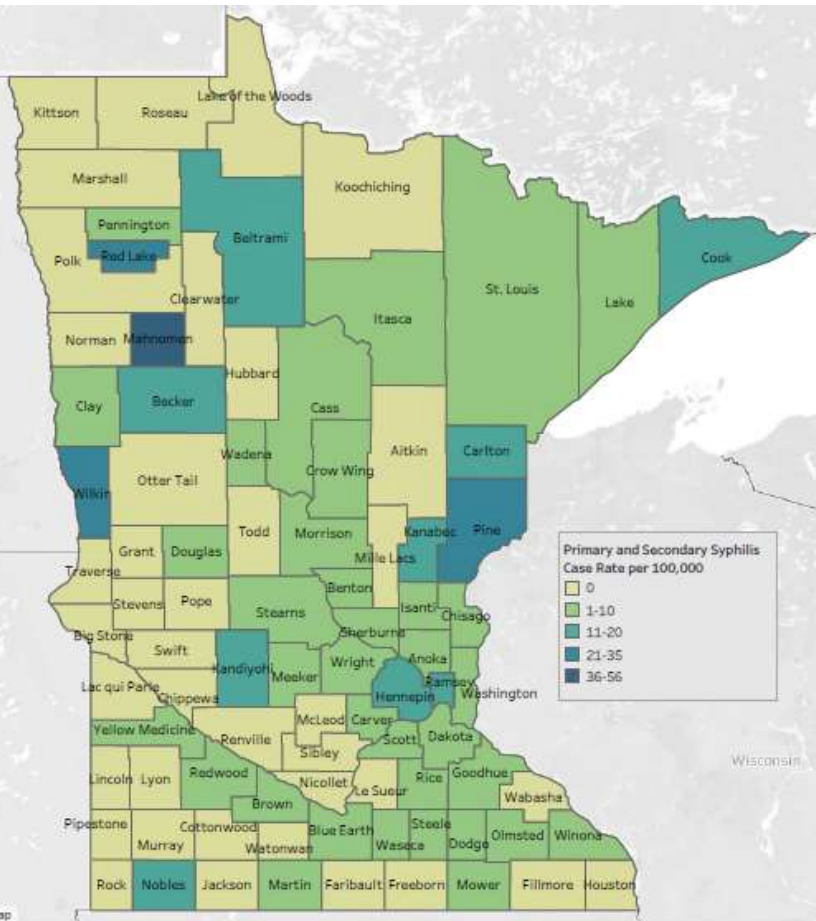
Minnesota Department of Health sti Surveillance System

Syphilis Rates by Stage of Diagnosis, Minnesota, 2014-2023



* P&S = Primary and Secondary

2023 Minnesota Primary & Secondary Syphilis Rates by County



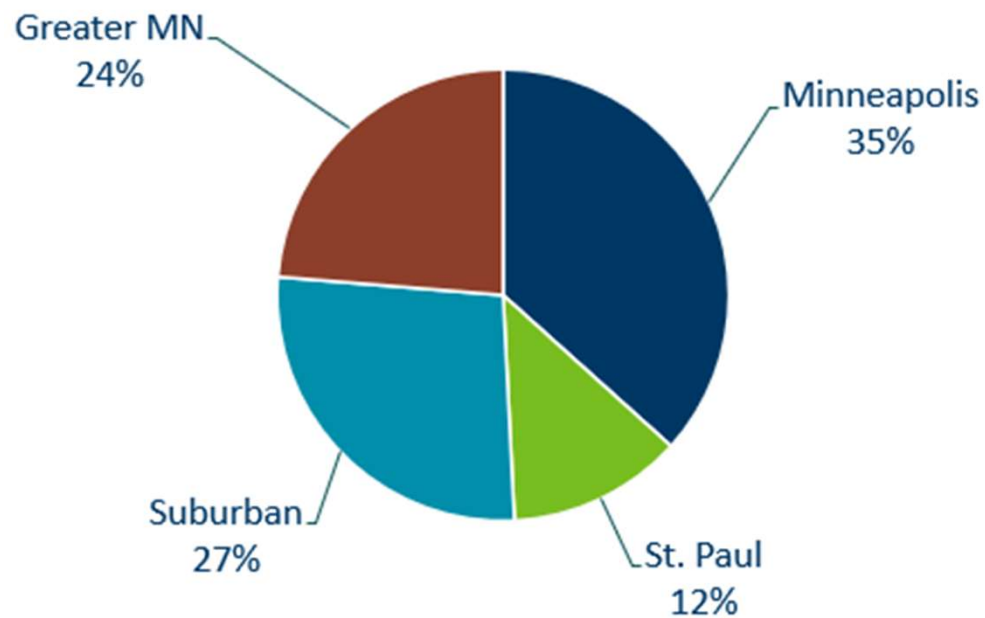
City of Minneapolis
 City of St. Paul
 Suburban*
 Greater Minnesota
 Total

43.3 per 100,000 (184 cases)
 20.8 per 100,000 (63 cases)
 5.6 per 100,000 (136 cases)
 4.6 per 100,000 (119 cases)
 8.8 per 100,000 (502 cases)

*7-county metro area, excluding the cities of Minneapolis and St. Paul

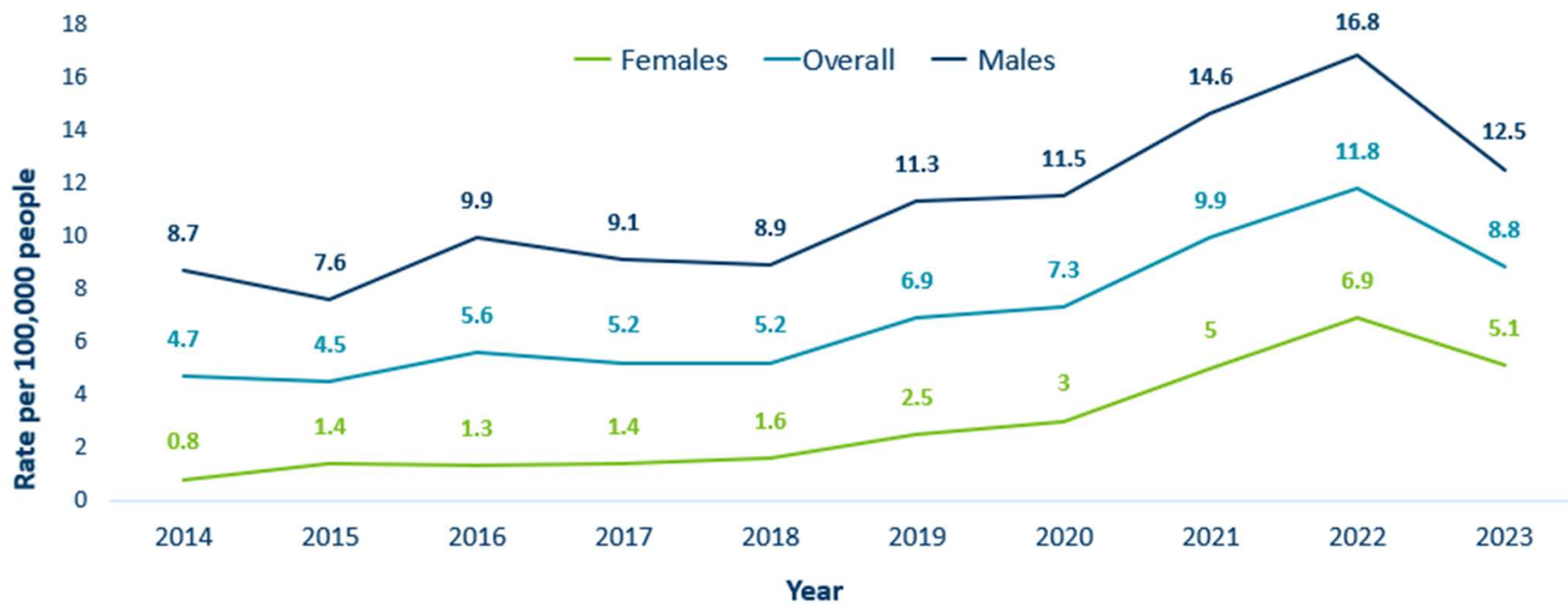
Primary & Secondary Syphilis Infections by Residence at Diagnosis Minnesota, 2023

Total Number of Cases = 502

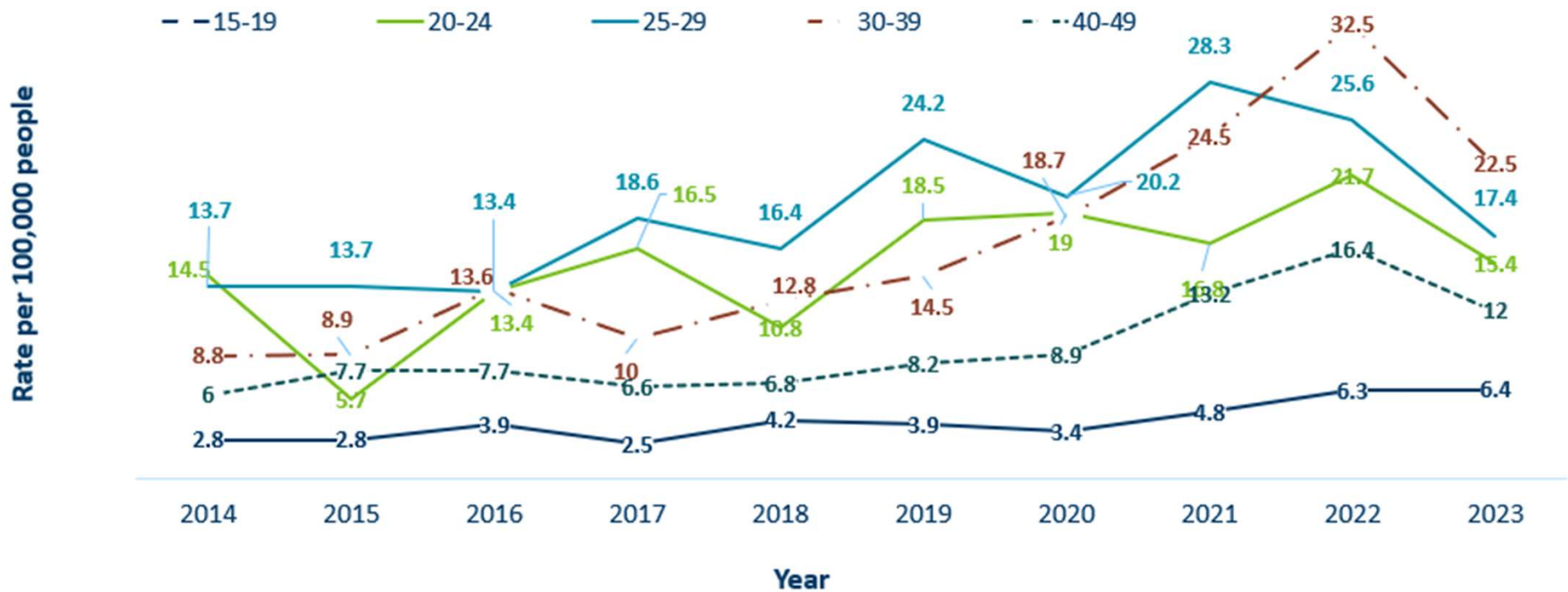


Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties outside the seven-county metro area.

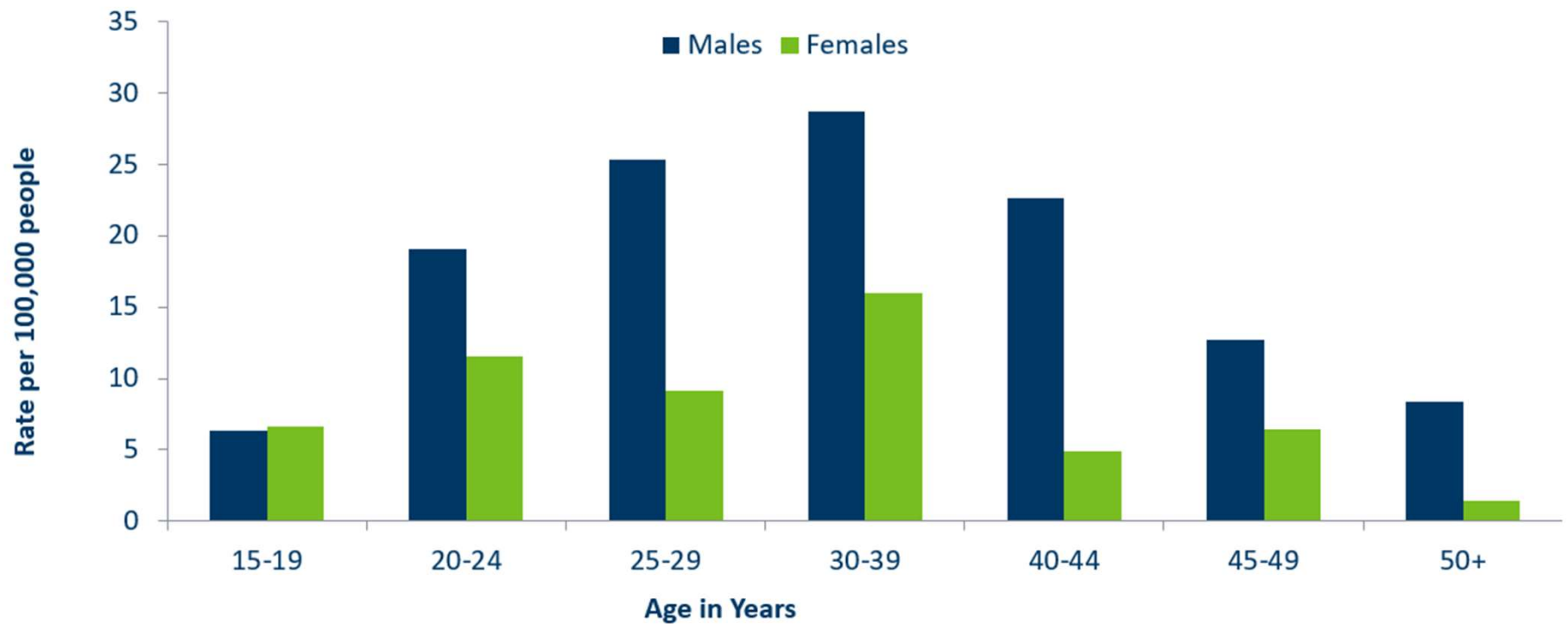
Primary & Secondary Syphilis Rates by Gender, Minnesota, 2014-2023



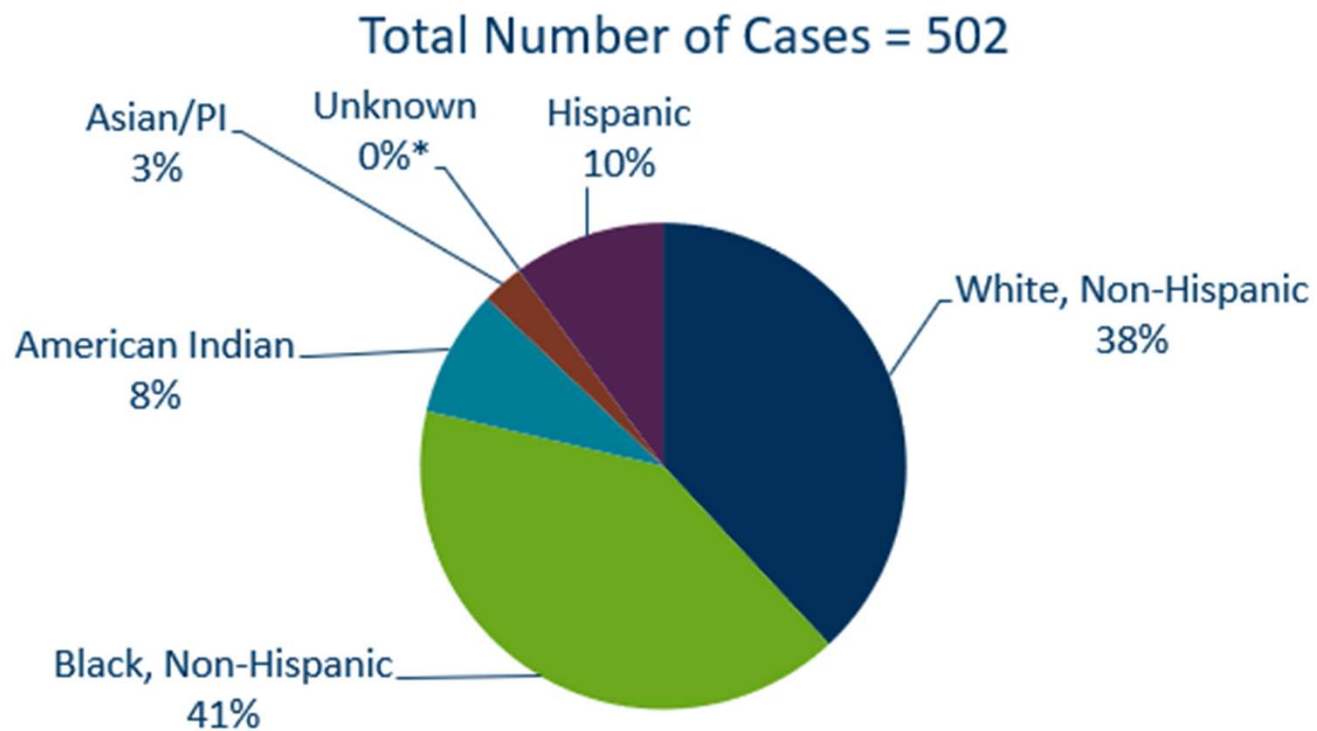
Primary & Secondary Syphilis Rates by Age Minnesota, 2014-2023



Age-Specific Primary & Secondary Syphilis Rates by Gender, Minnesota, 2023

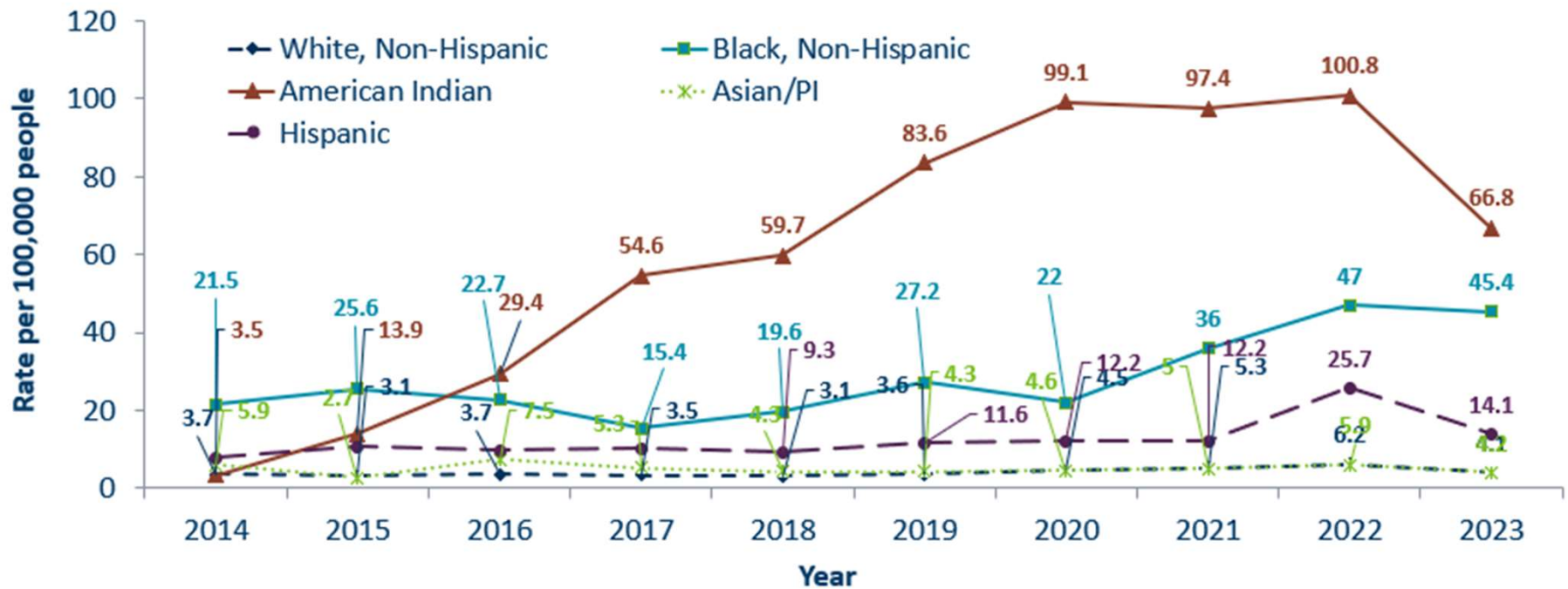


Primary & Secondary Syphilis Cases by Race Minnesota, 2023



*Includes people reported with more than one race

Primary & Secondary Syphilis Rates by Race/Ethnicity Minnesota, 2014-2023

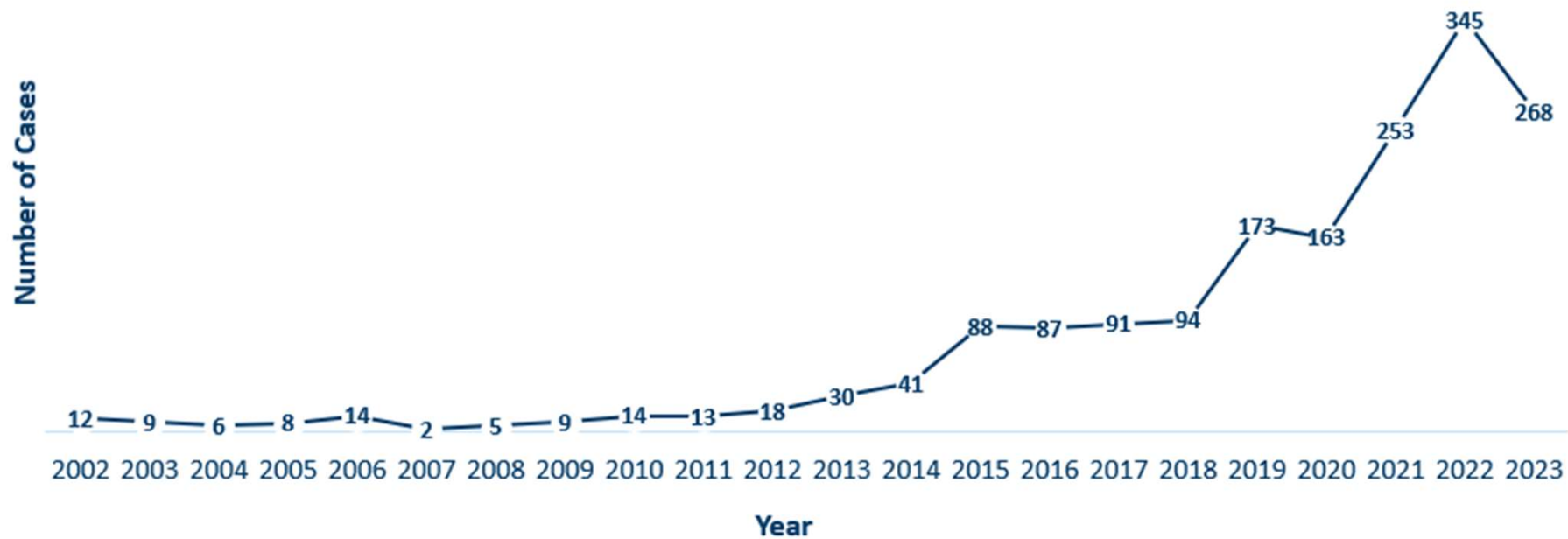


* people of Hispanic ethnicity can be of any race.

Topic of Interest: Syphilis Among Females and Congenital Syphilis in Minnesota

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Female Early Syphilis Cases Minnesota, 2023

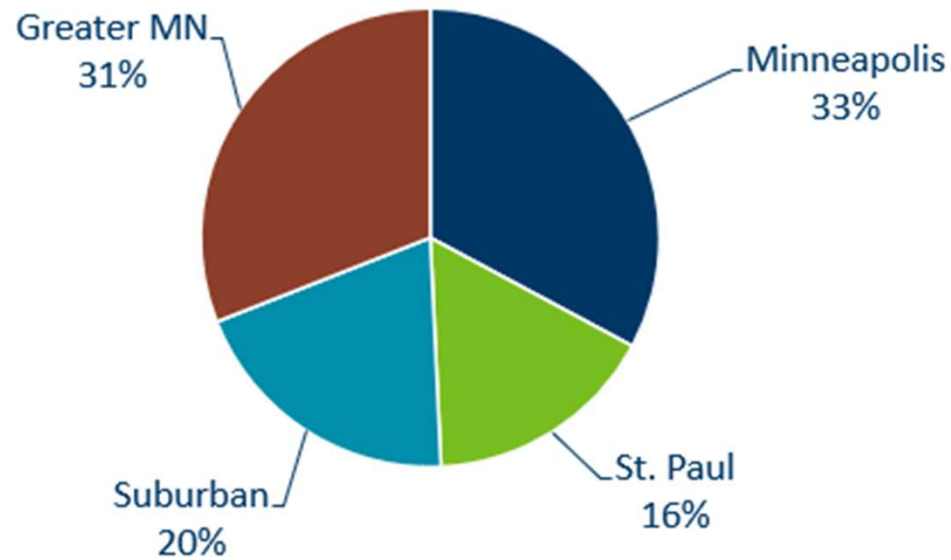


Female Syphilis Cases (All Stages) Minnesota, 2023



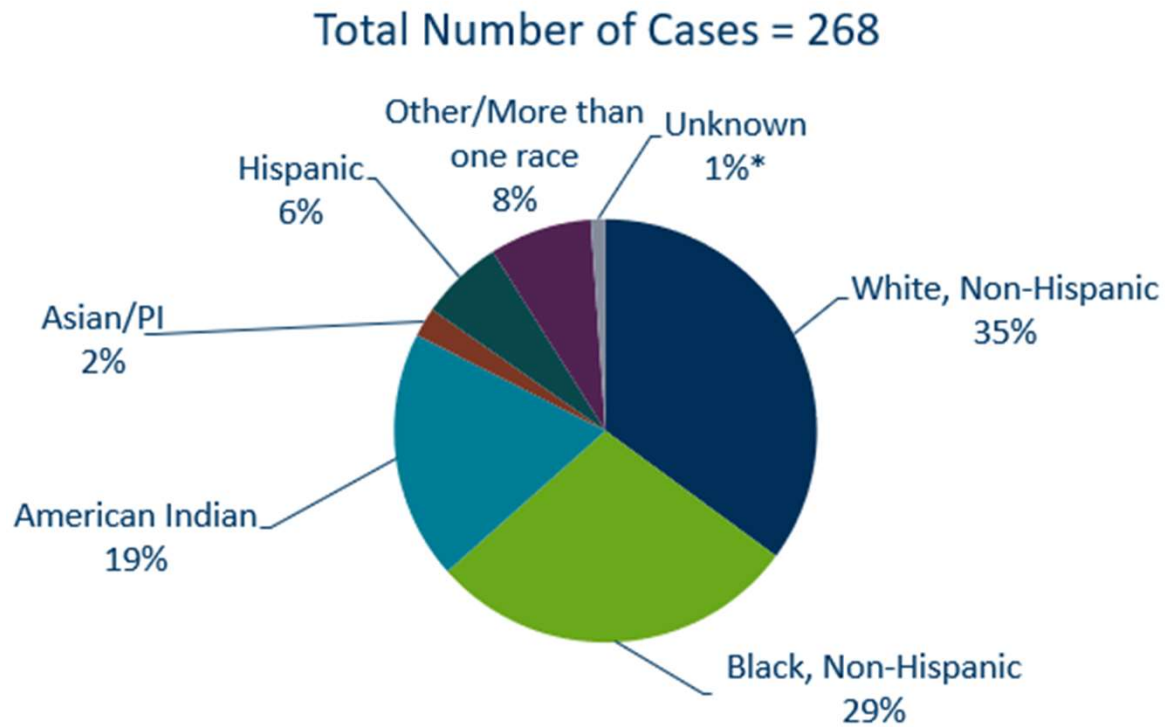
Early Syphilis Infections in Females by Residence at Diagnosis Minnesota, 2023

Total Number of Cases = 268



Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties outside the seven-county metro area.

Early Syphilis Cases in Females by Race/Ethnicity Minnesota, 2023

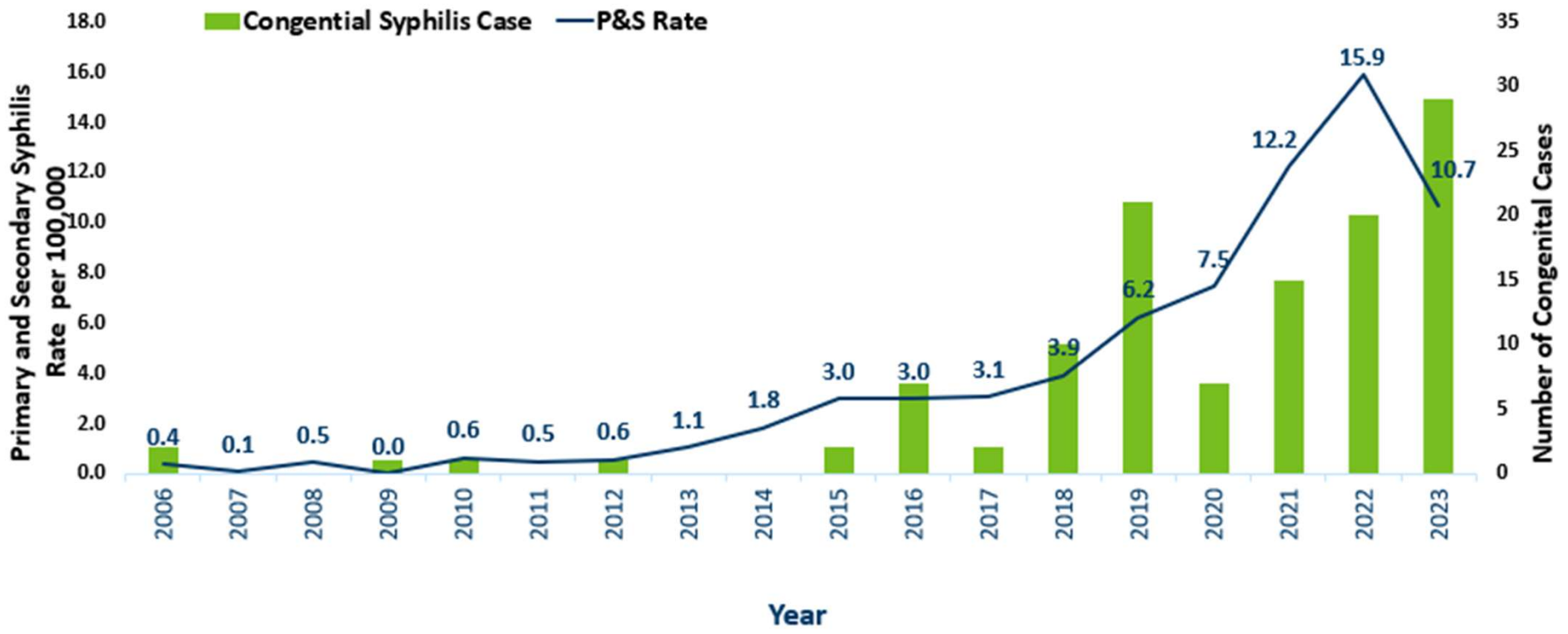


*Includes people reported with more than one race

Congenital Syphilis Rates Among Infants Minnesota, 2014-2023



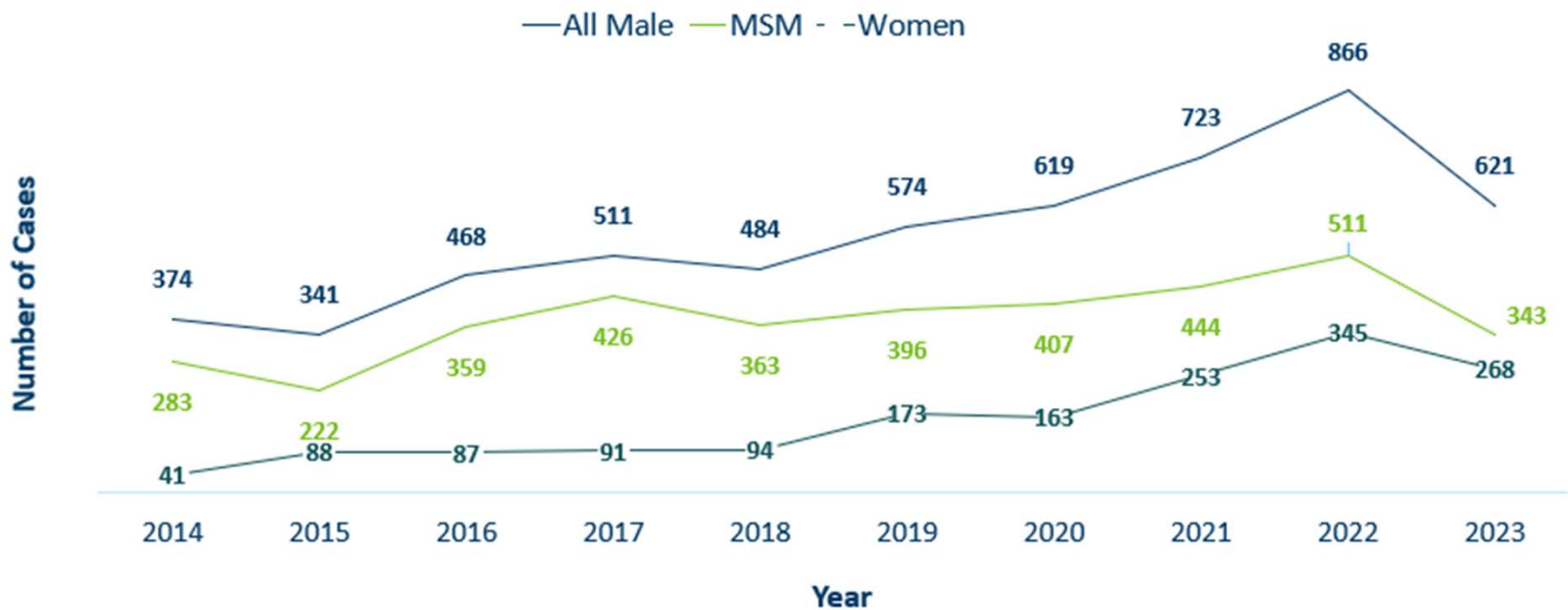
Primary and Secondary Syphilis Rates among Females aged 15-44 years and Number of Congenital Syphilis Cases – Minnesota, 2006-2023



Topic of Interest: Early Syphilis Among Men Who Have Sex With Men in Minnesota

Minnesota Department of Health sti Surveillance System

Number of Early Syphilis[†] Cases by Gender and MSM Minnesota, 2014-2023

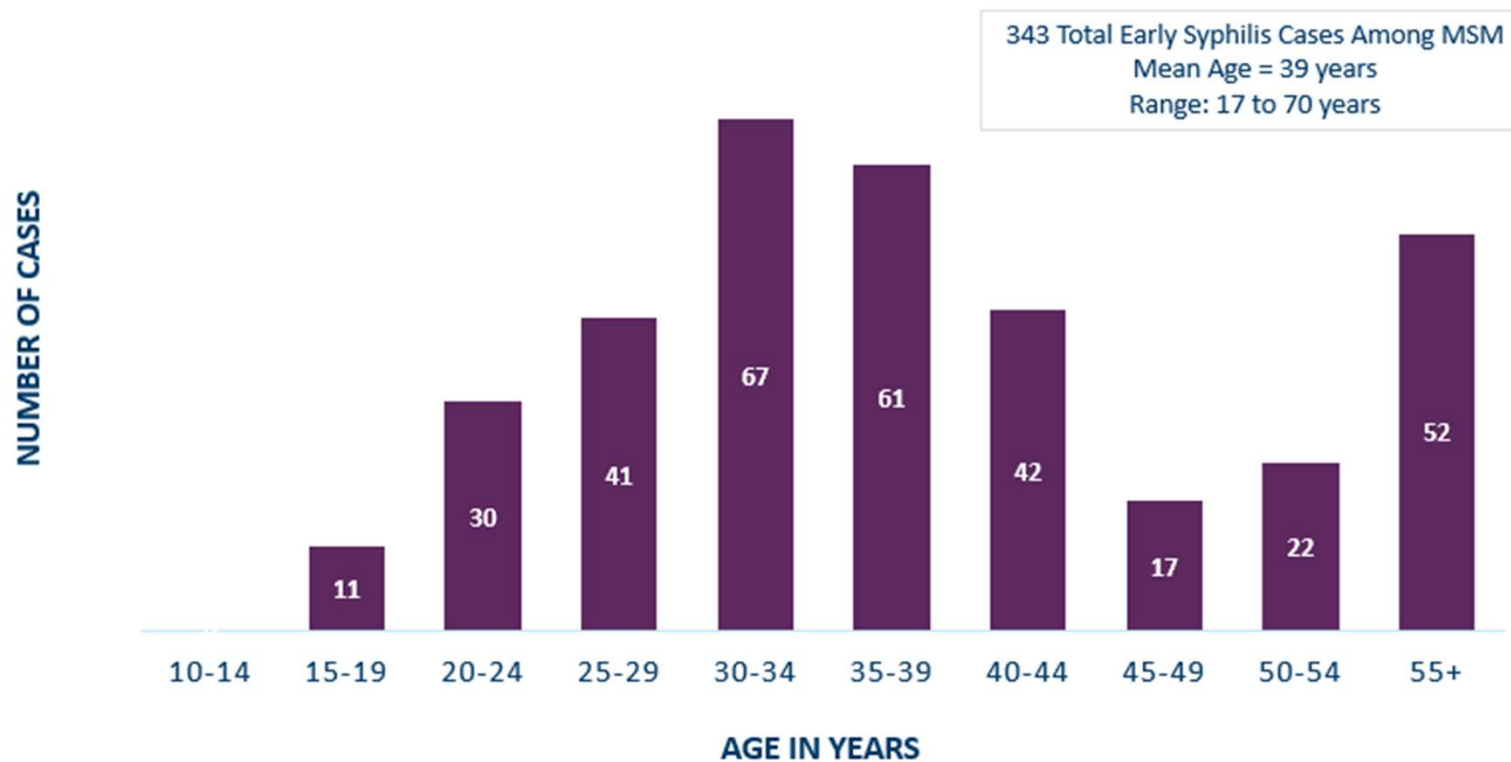


MSM=Men who have sex with men.

Figure does not include cases diagnosed in transgender people

[†] Early Syphilis includes primary, secondary, and early latent stages of syphilis.

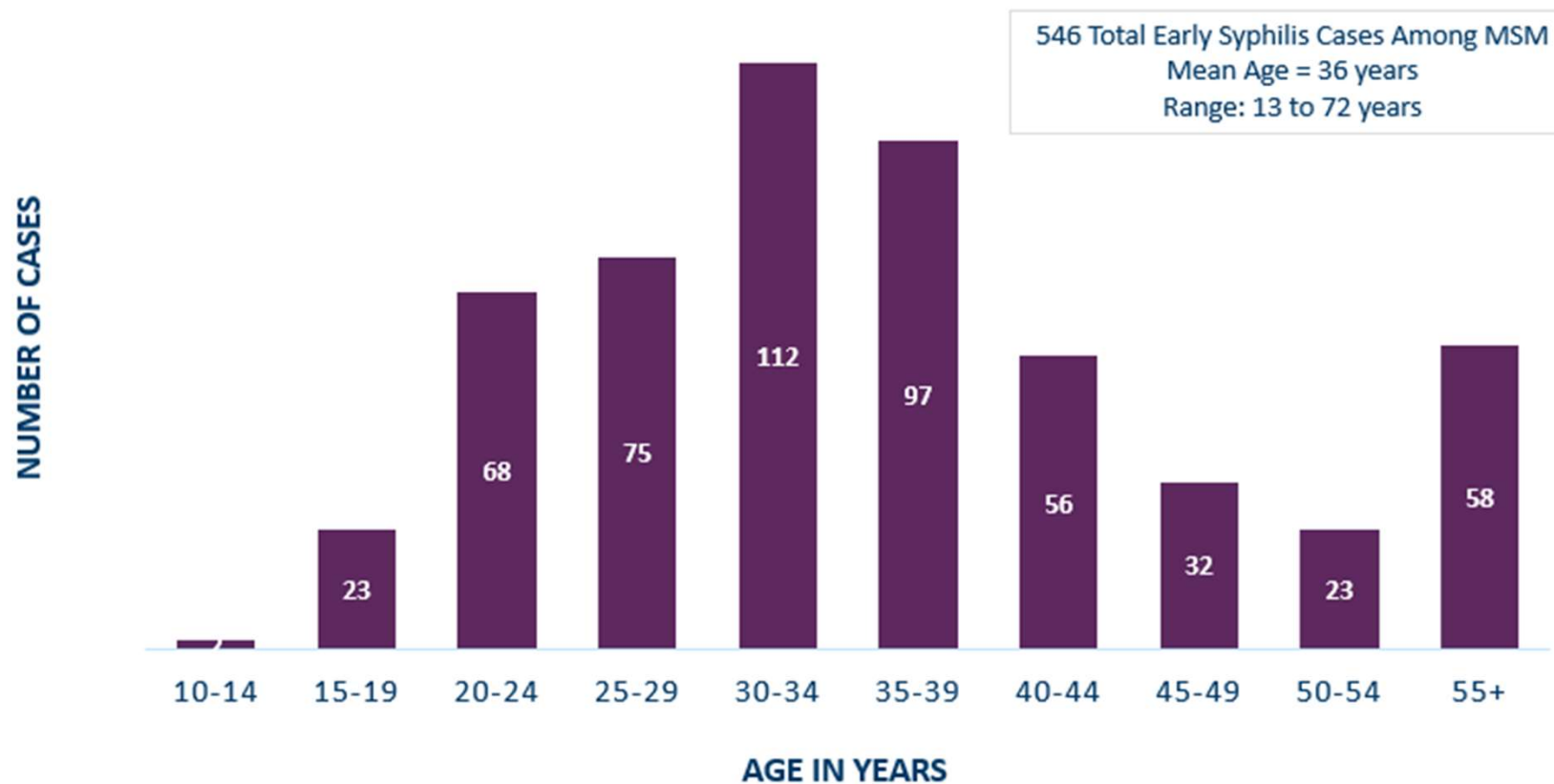
Early Syphilis[†] Cases Among MSM by Age Minnesota, 2023



MSM=Men who have sex with men

[†] Early Syphilis includes primary, secondary, and early latent stages of syphilis.

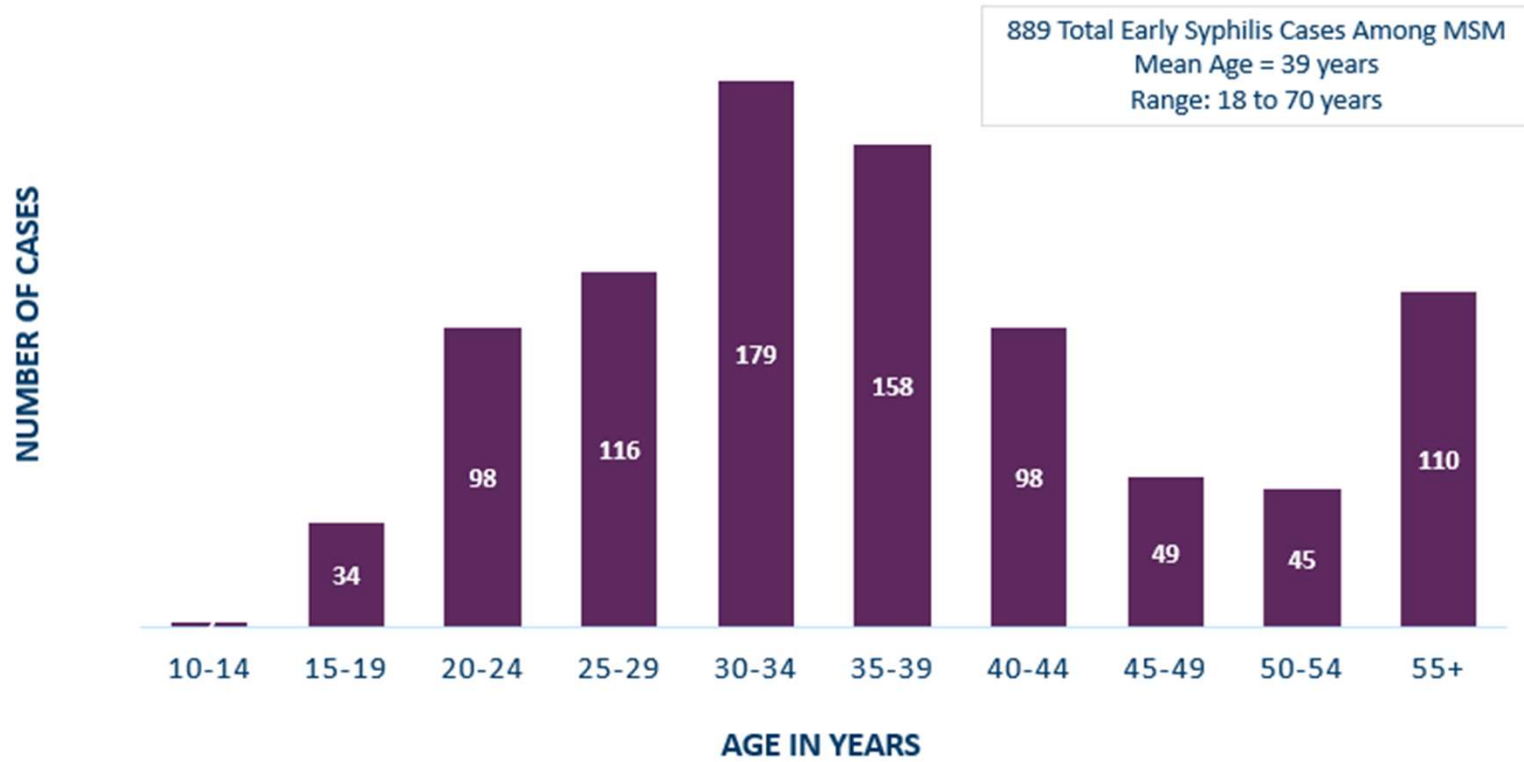
Early syphilis: Non-MSM cases



MSM=Men who have sex with men

† Early Syphilis includes primary, secondary, and early latent stages of syphilis.

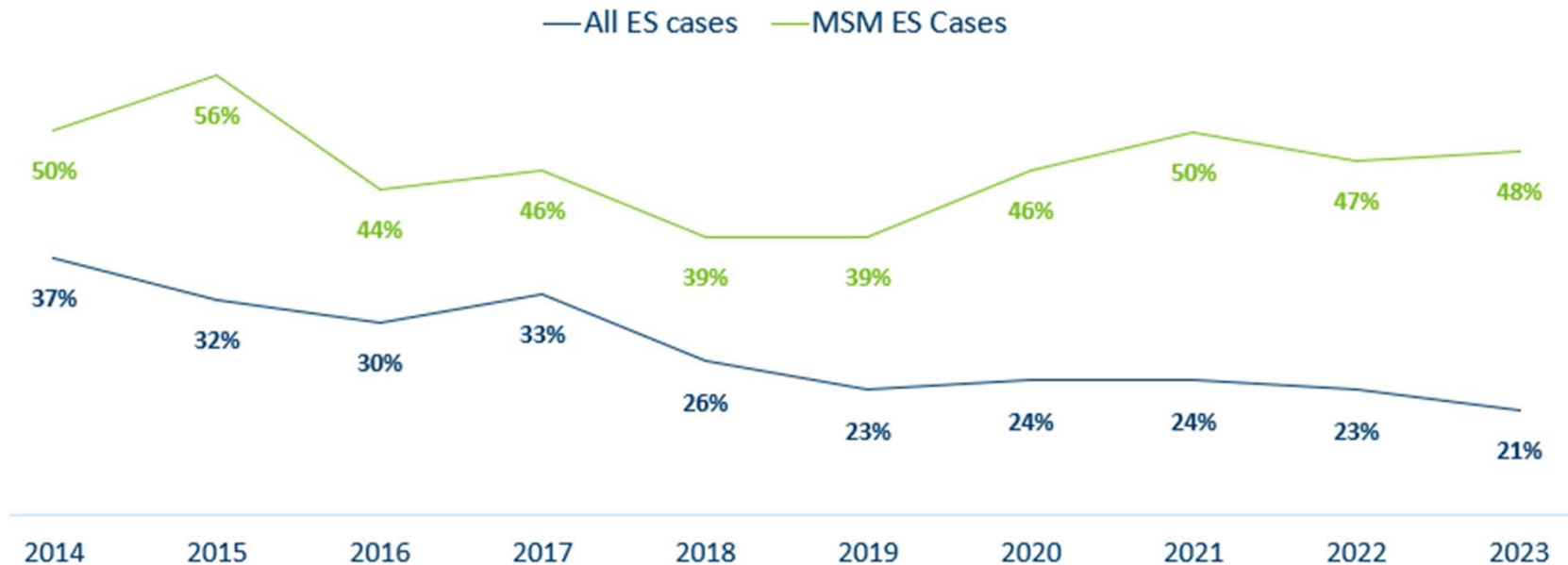
Early syphilis Age Non MSM



MSM=Men who have sex with men

† Early Syphilis includes primary, secondary, and early latent stages of syphilis.

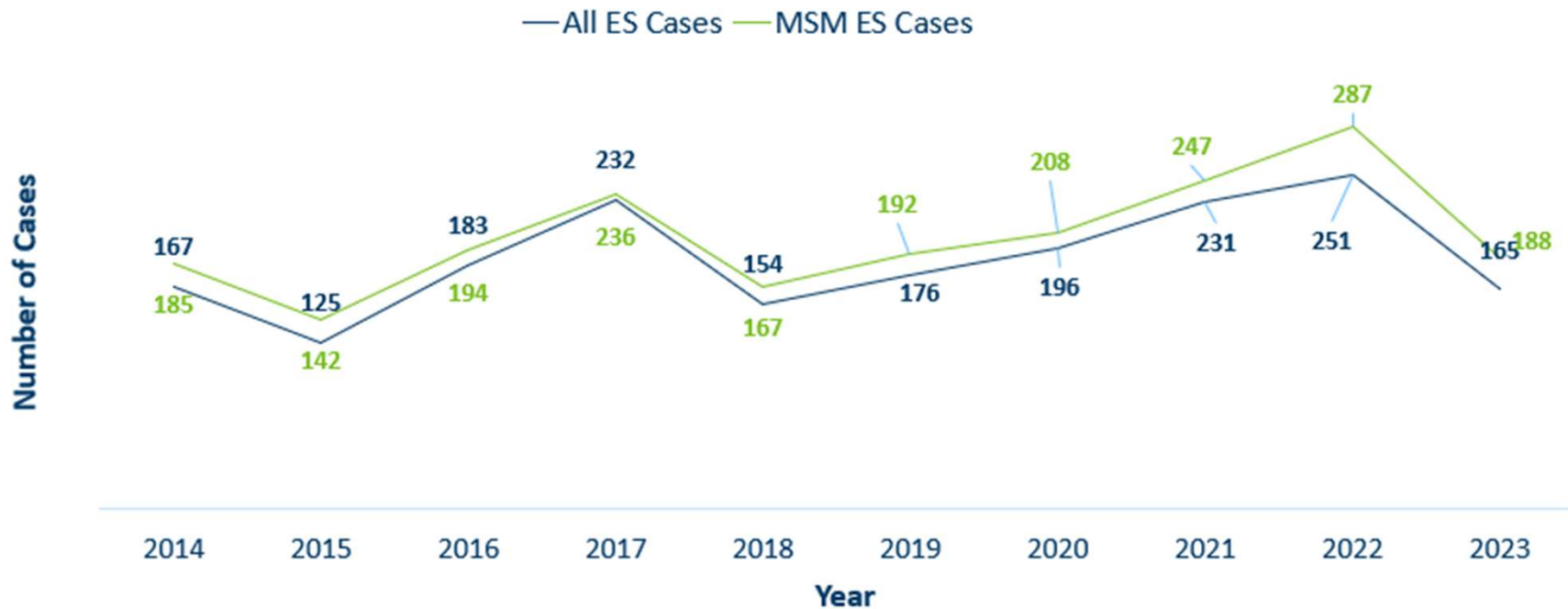
Early Syphilis[†] (ES) Cases Co-infected with HIV, 2014-2023



MSM=Men who have sex with men

[†] Early Syphilis includes primary, secondary, and early latent stages of syphilis.

Number of Early Syphilis[†] Cases by Gender and MSM Minnesota, 2014-2023



MSM=Men who have sex with men.

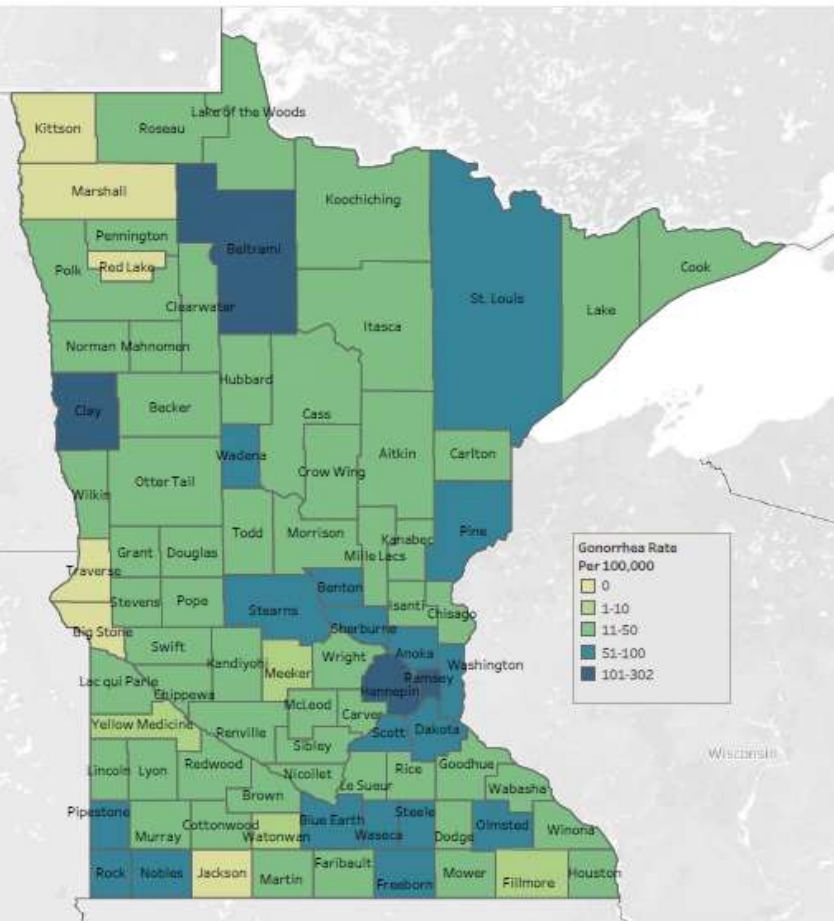
Figure does not include cases diagnosed in transgender people

[†] Early Syphilis includes primary, secondary, and early latent stages of syphilis.

Gonorrhea

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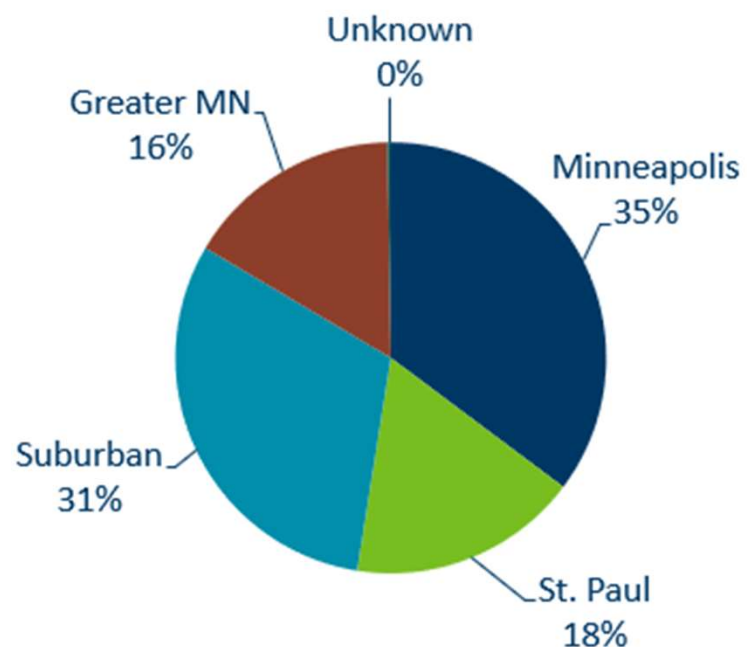
2023 Minnesota Gonorrhea Rates by County



City of Minneapolis	639 per 100,000 (2,718 cases)
City of St. Paul	440 per 100,000(1,334 cases)
Suburban*	99 per 100,000 (2,392 cases)
Greater Minnesota	49 per 100,000 (1,254 cases)
Total	135 per 100,000 (7,717 cases) (20 cases missing residence information)

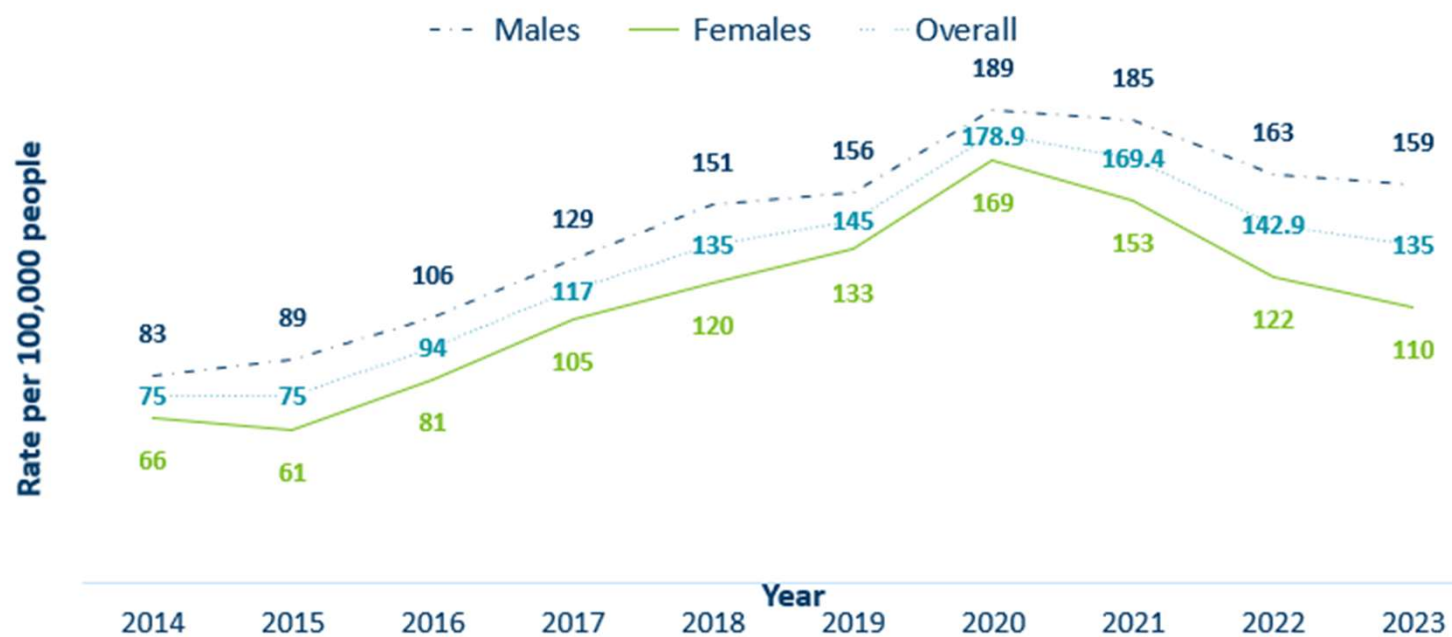
*7-county metro area, excluding the cities of Minneapolis and St. Paul
Data: [STD Surveillance Report Data Tables, Minnesota 2023 \(PDF\)](#)

Gonorrhea Infections in Minnesota by Residence at Diagnosis, 2023

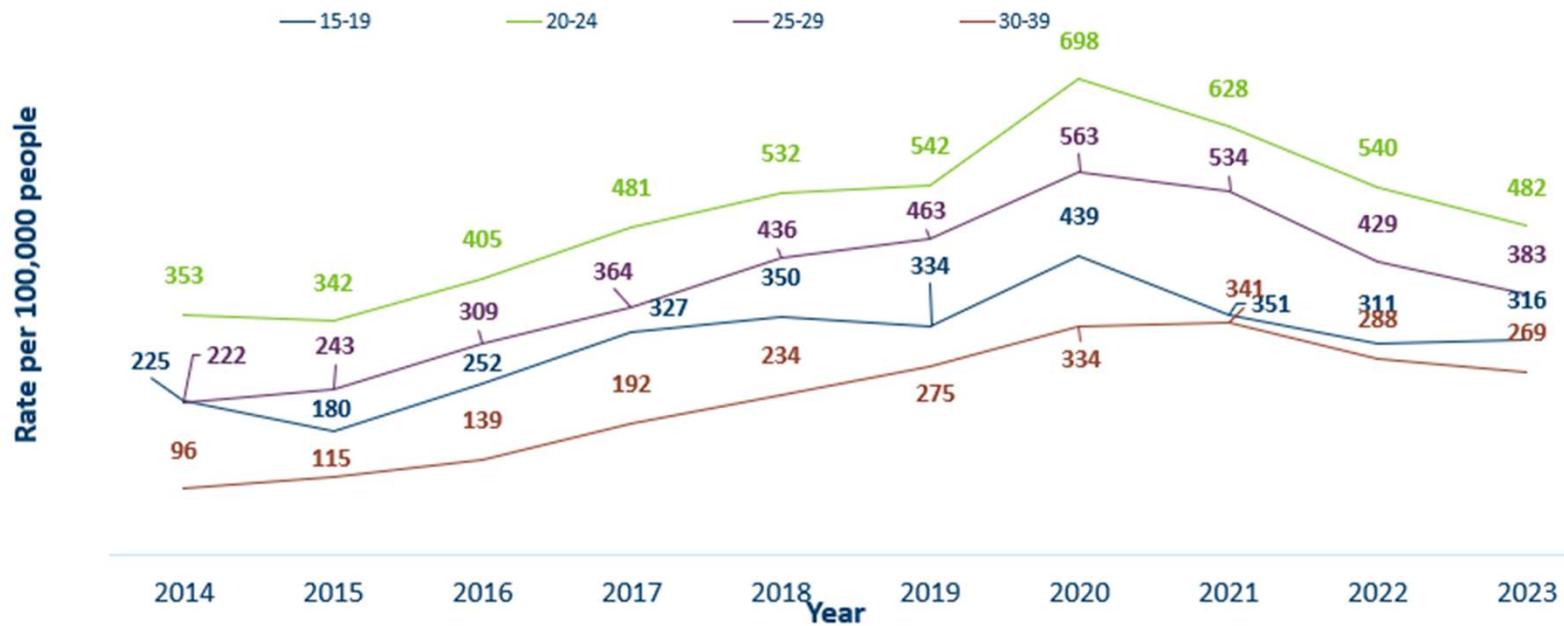


Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties outside the seven-county metro area.

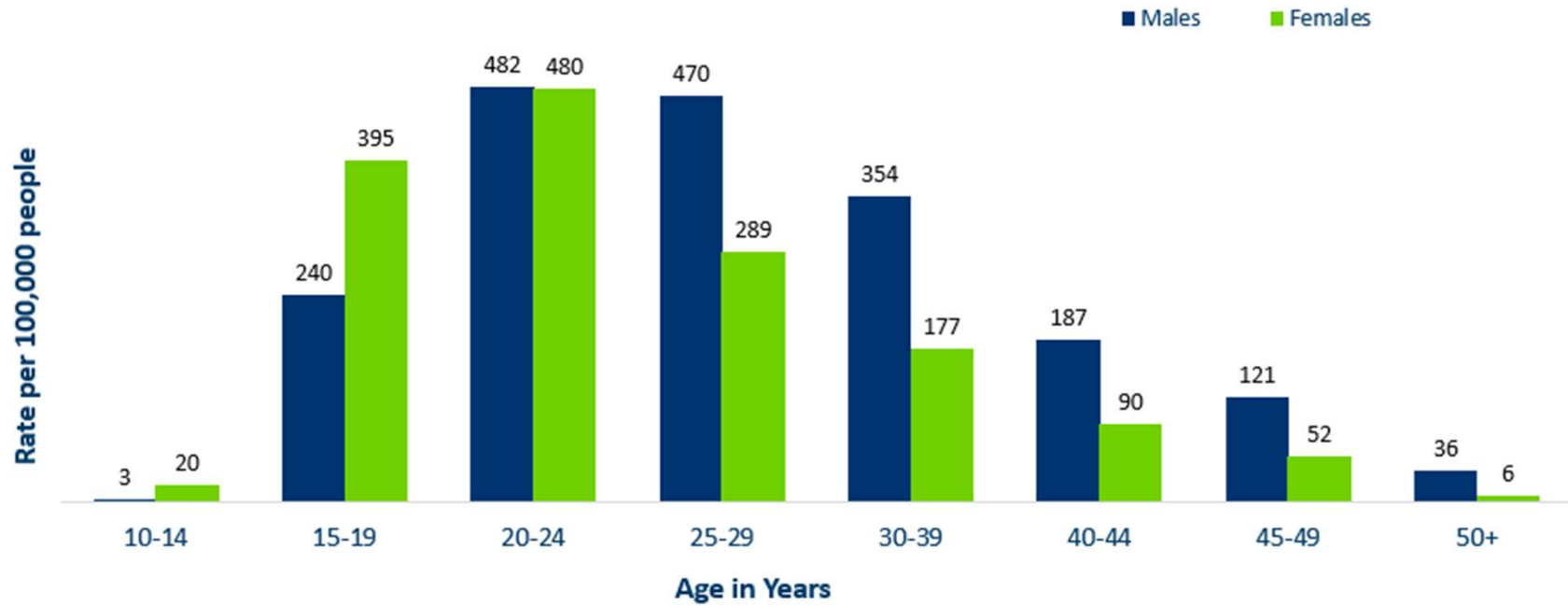
Gonorrhea Rates by Gender Minnesota, 2014-2023



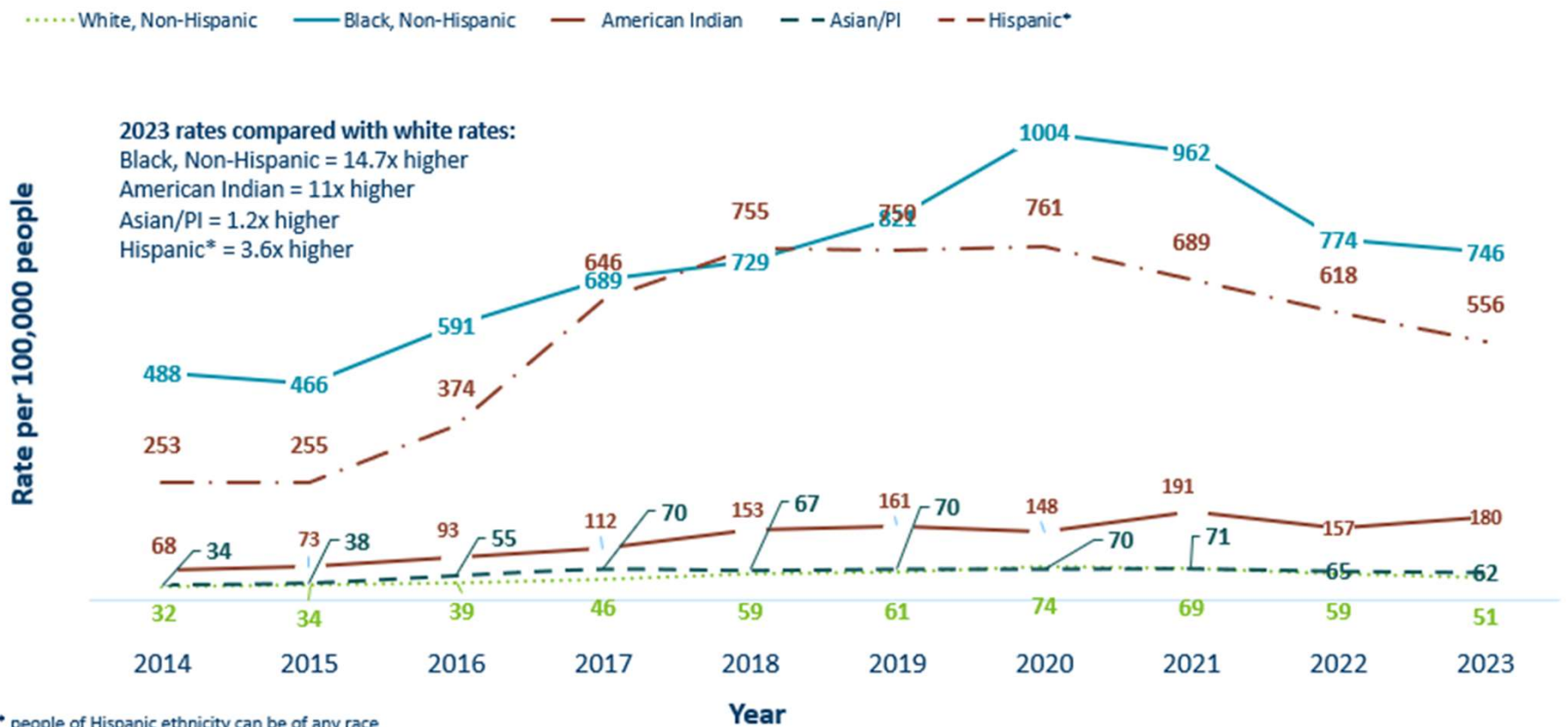
Gonorrhea Rates by Age Minnesota, 2014-2023



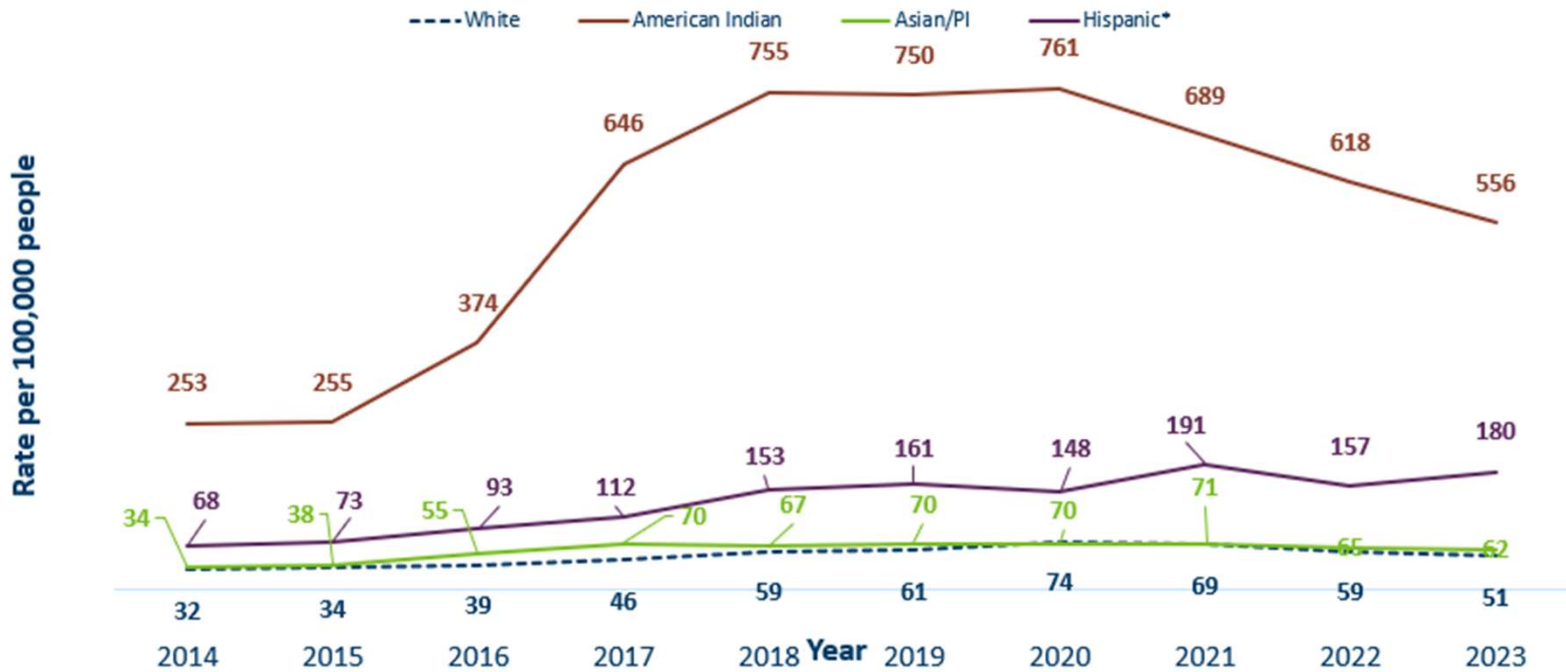
Age-Specific Gonorrhea Rates by Gender Minnesota, 2023



Gonorrhea Rates by Race/Ethnicity Minnesota, 2014-2023



Gonorrhea Rates by Race/Ethnicity Minnesota, 2012-2022

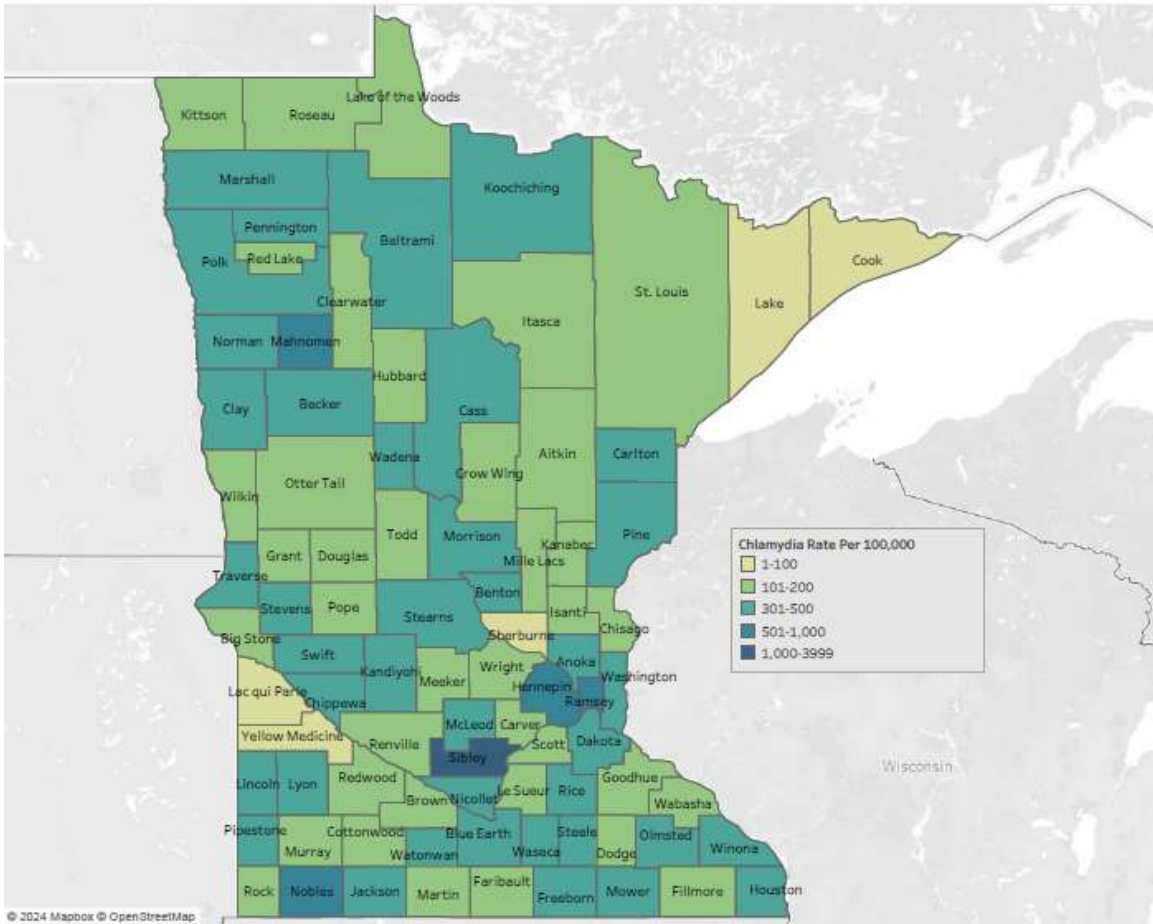


* people of Hispanic ethnicity can be of any race.

Chlamydia

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2023 Minnesota Chlamydia Rates by County

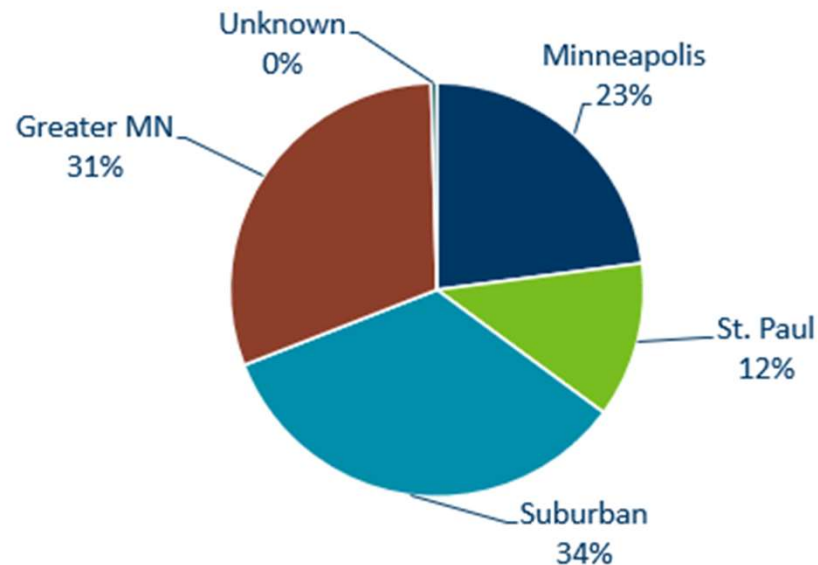


City of Minneapolis	1,175 per 100,000 (4,993 cases)
City of St. Paul	874 per 100,000 (2,649 cases)
Suburban*	305 per 100,000 (7,393 cases)
Greater Minnesota	258 per 100,000 (6,636 cases)
Total	381 per 100,000 (21,767 cases) <i>(96 cases missing residence information)</i>

*7-county metro area, excluding the cities of Minneapolis and St. Paul
Data: [STI Surveillance Report Data Tables, Minnesota 2023 \(PDF\)](#)

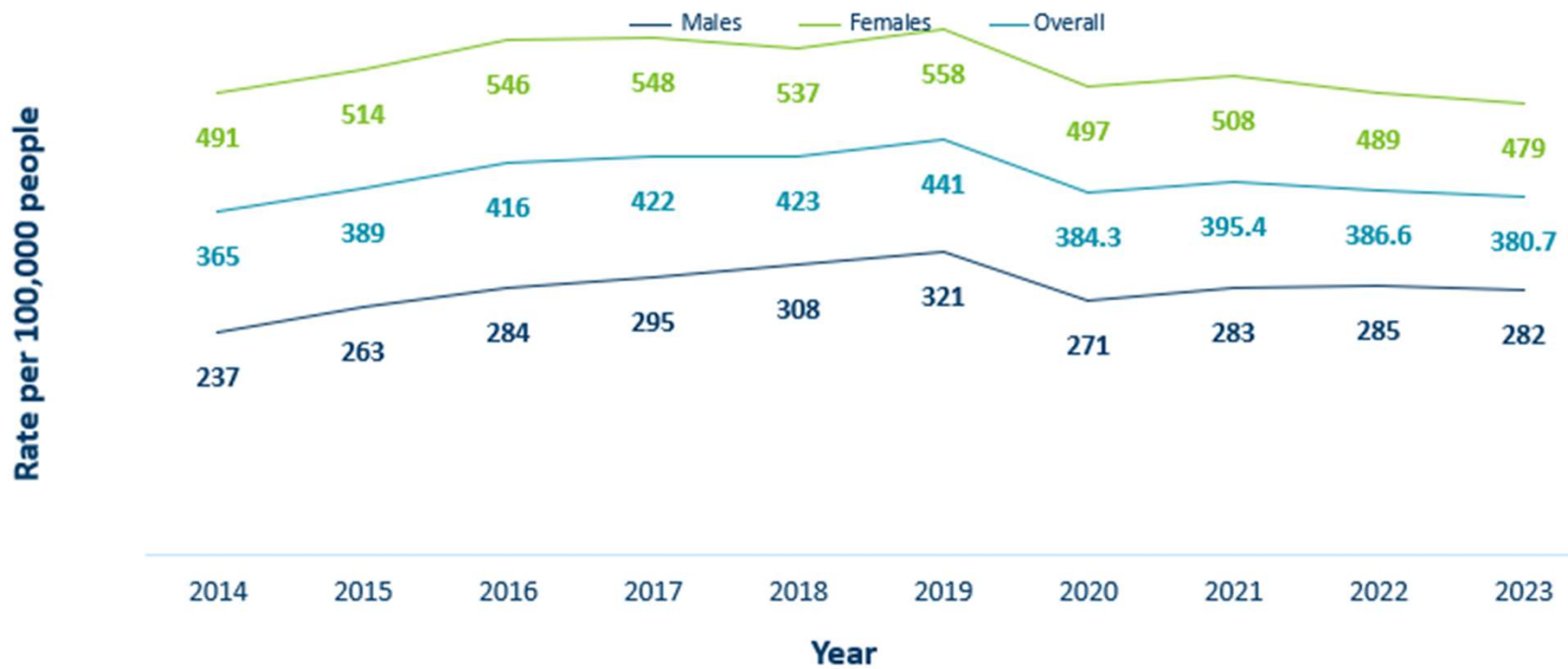
Chlamydia Infections by Residence at Diagnosis Minnesota, 2023

Total Number of Cases = 21,767

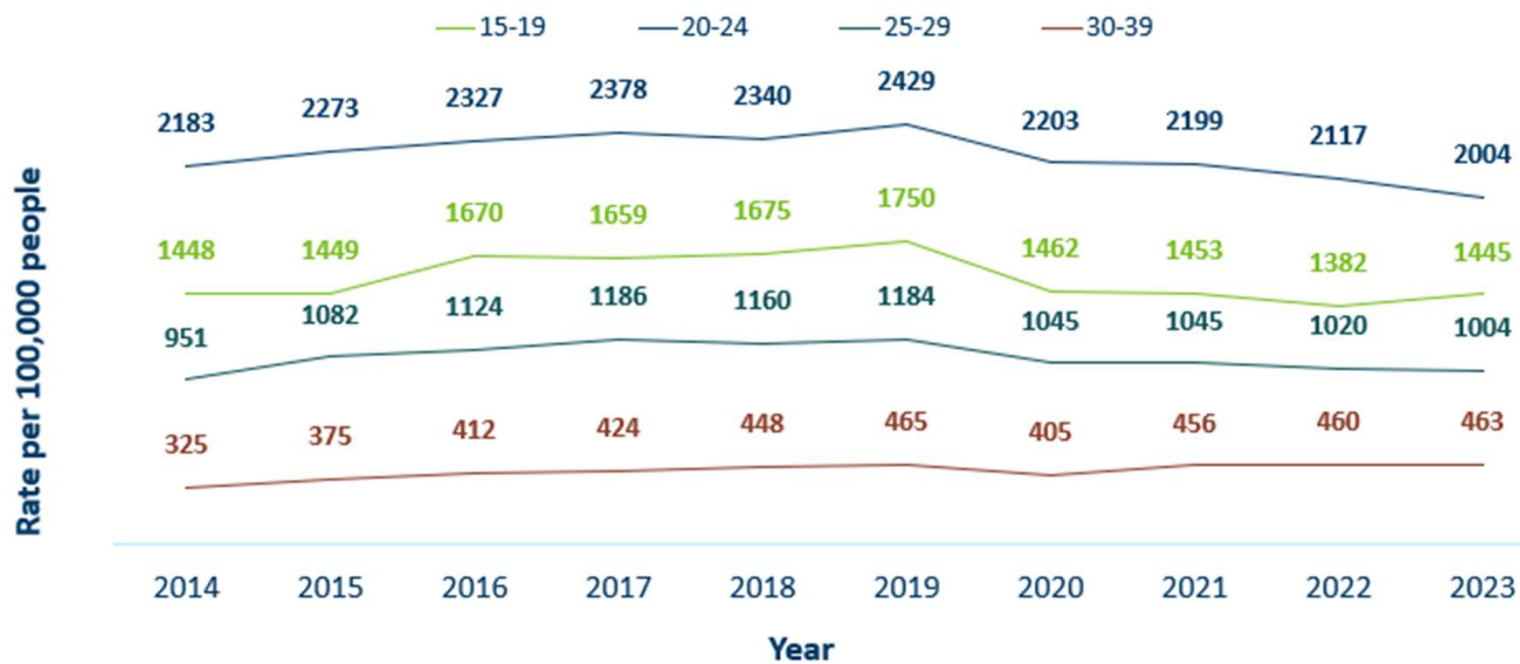


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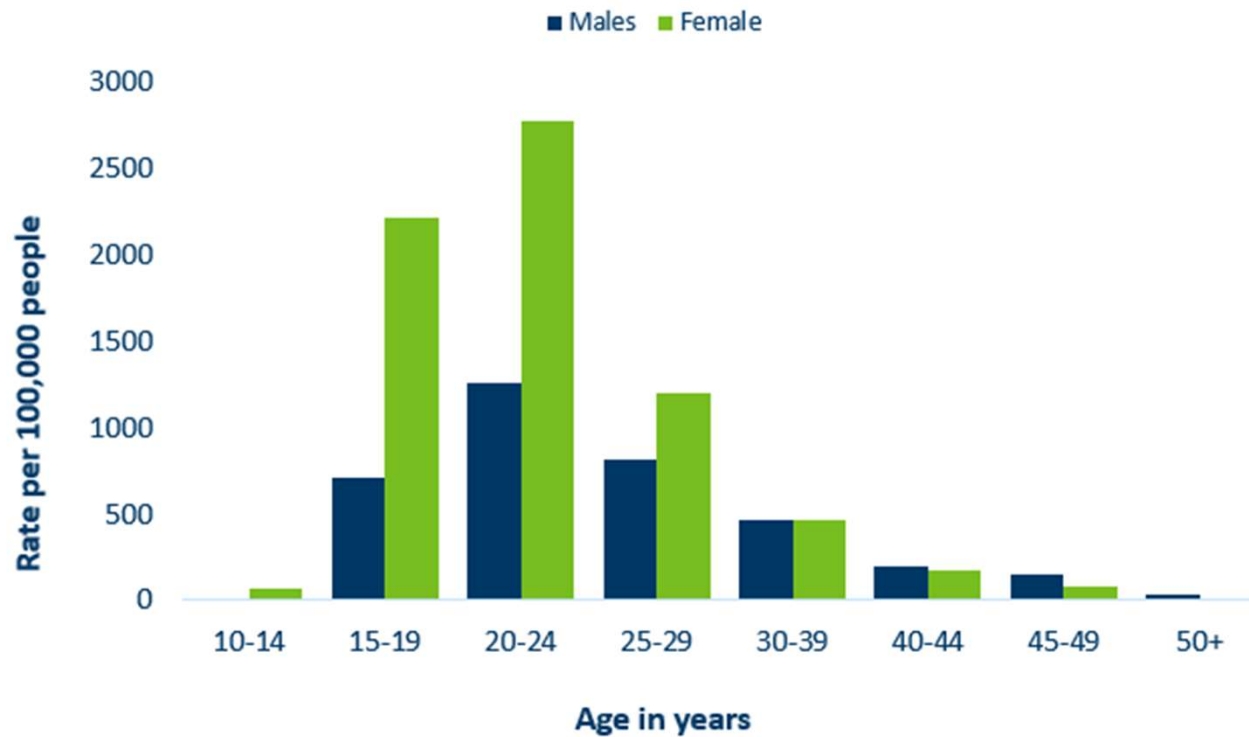
Chlamydia Rates by Gender Minnesota, 2014-2023



Chlamydia Rates by Age Minnesota, 2014-2023

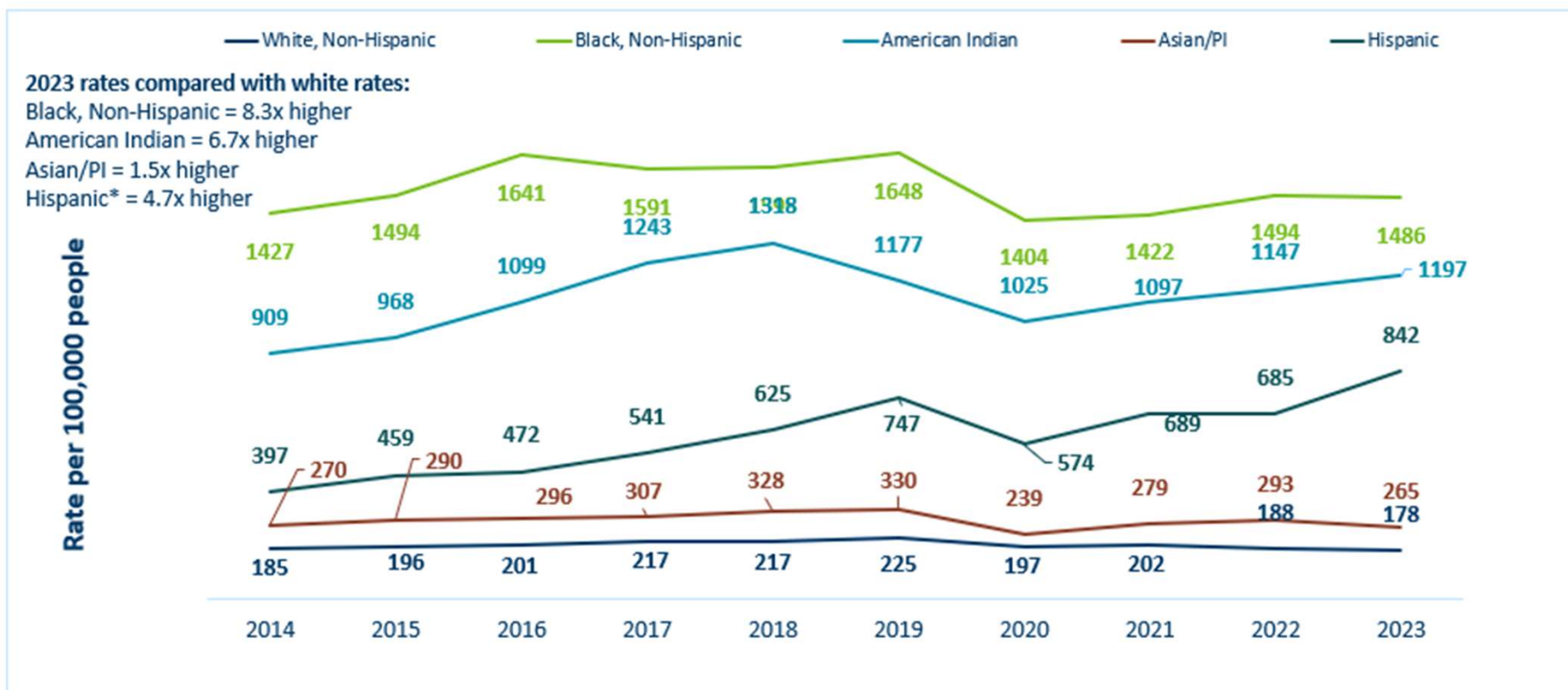


Age-Specific Chlamydia Rates by Gender, Minnesota, 2023



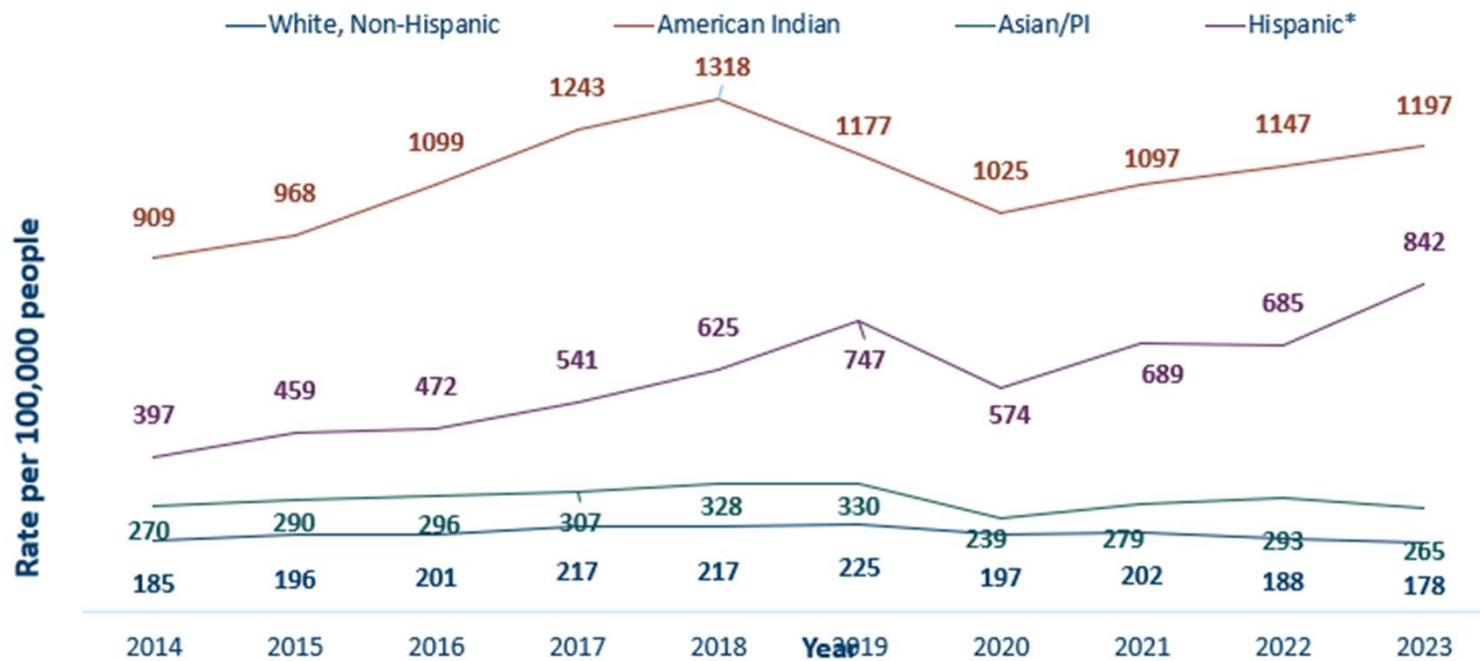
Data: [STI Surveillance Report Data Tables, Minnesota 2023 \(PDF\)](#)

Chlamydia Rates by Race/Ethnicity Minnesota, 2014-2023 (1/2)



* people of Hispanic ethnicity can be of any race

Chlamydia Rates by Race/Ethnicity, Minnesota, 2014-2023 (2/2)

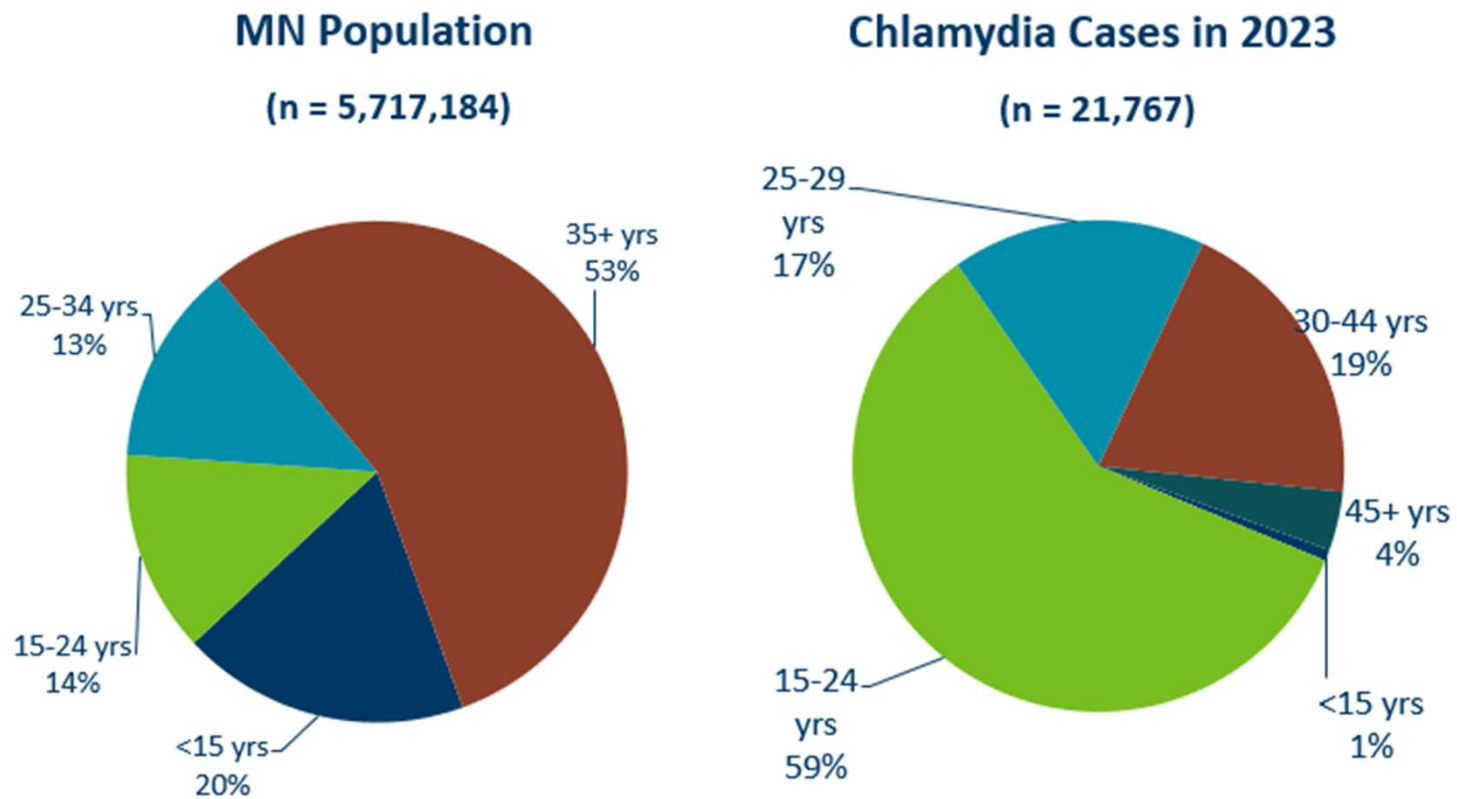


* people of Hispanic ethnicity can be of any race

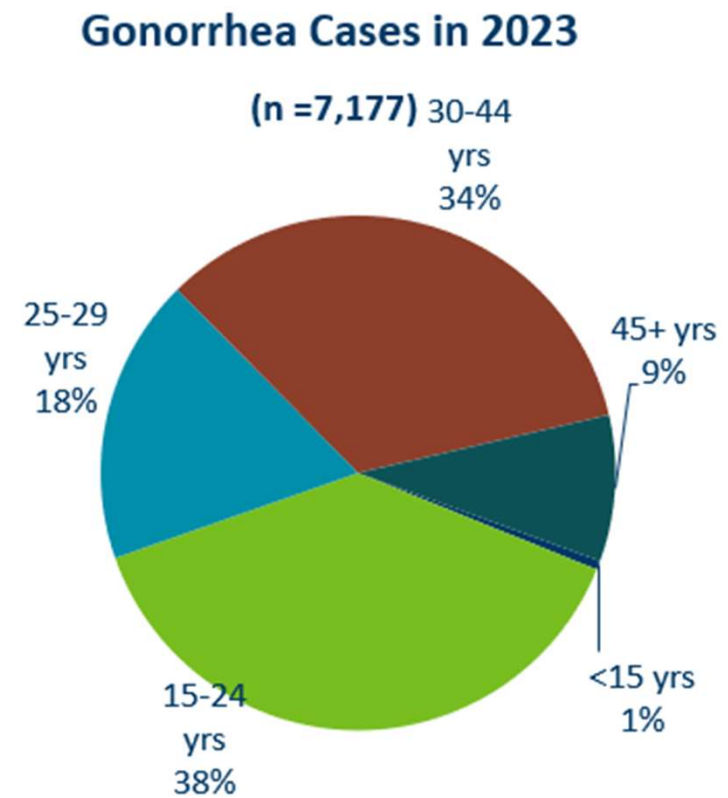
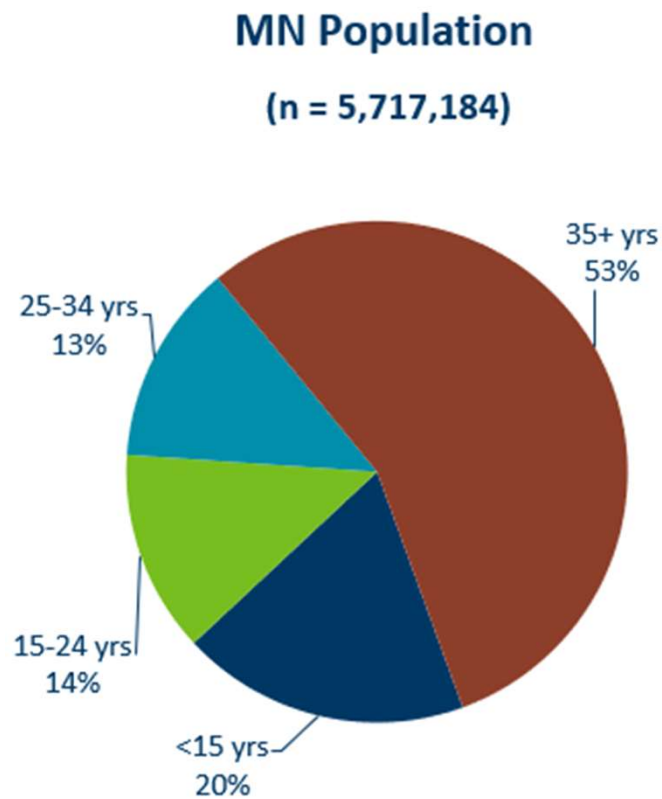
Chlamydia and Gonorrhea Among Adolescents and Young Adults (15-24 years of age)

Minnesota Department of Health STI Surveillance System

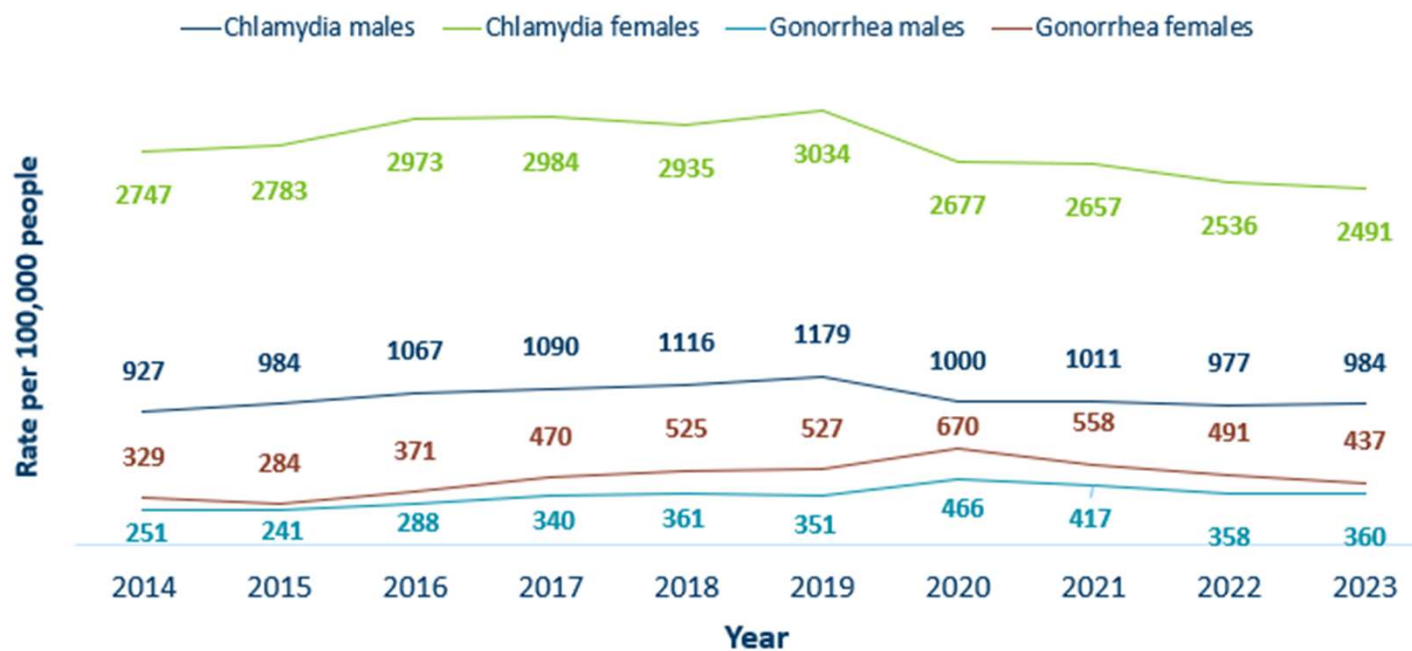
Chlamydia Disproportionately Impacts Youth and Young Adults*



Gonorrhea Disproportionately Impacts Youth and Young Adults



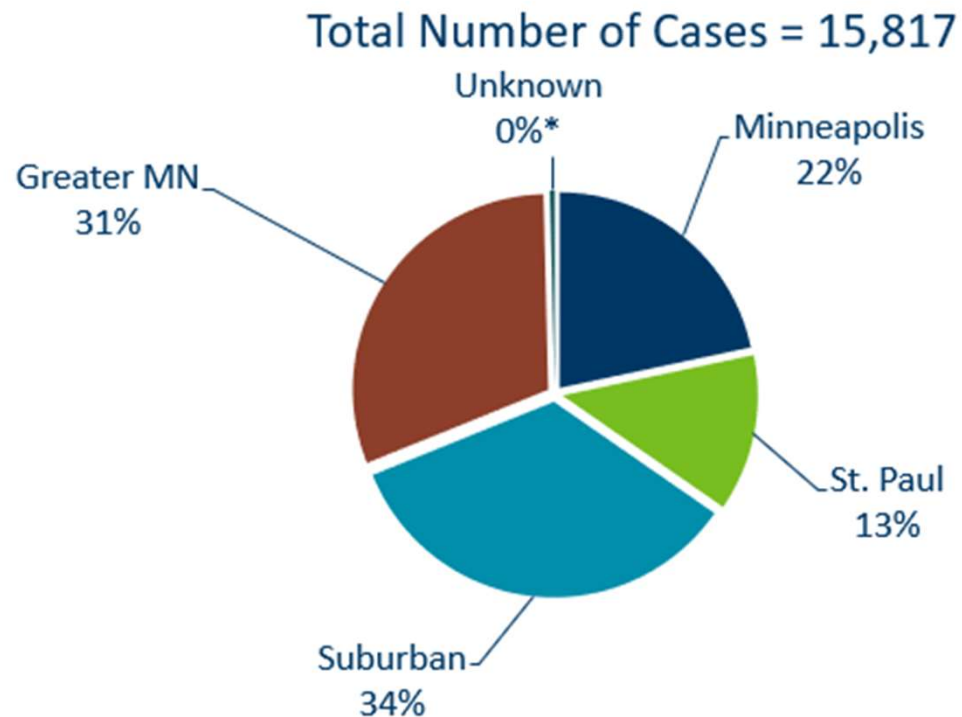
Chlamydia and Gonorrhea Rates Among Adolescents & Young Adults[†] by Gender in Minnesota, 2014-2023



Rate = Cases per 100,000 people based on 2010 U.S. Census counts.

[†] Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.

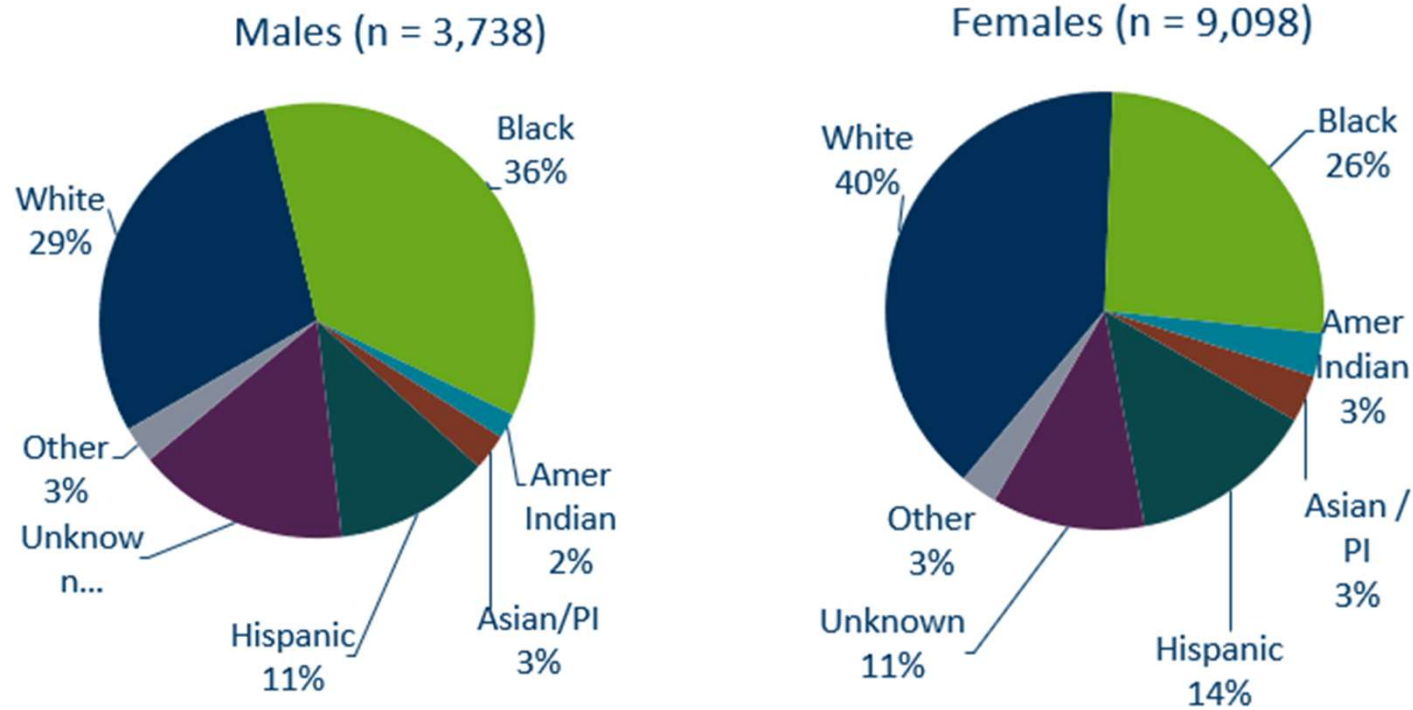
Geographic Characteristics of Adolescents and Young Adults[†] Diagnosed with Chlamydia or Gonorrhea, Minnesota 2023



Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties.
Greater MN = All other Minnesota counties outside the seven-county metro area.

[†] Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.

Chlamydia Cases Among Adolescents and Young Adults[†] by Gender and Race, Minnesota, 2023

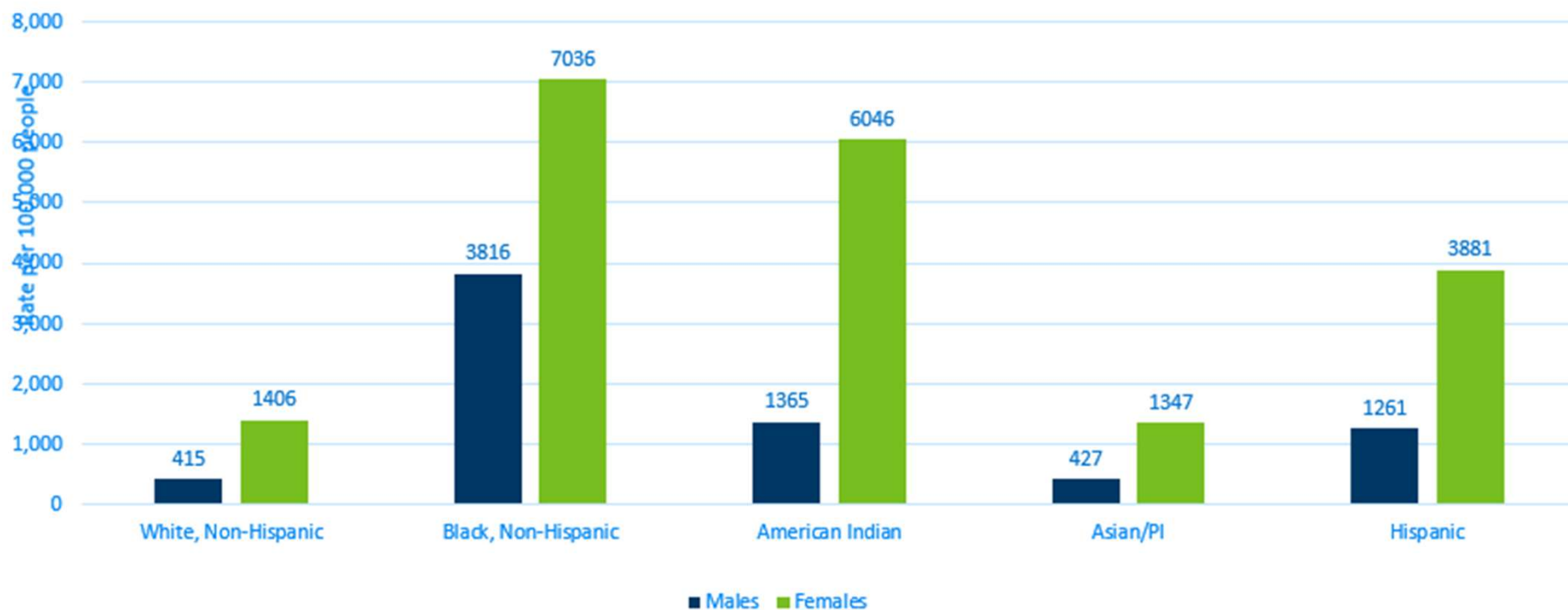


[†] Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds

* Other is more than one race. Excludes 1 transgender person

Data: [STI Surveillance Report Data Tables, Minnesota 2023 \(PDF\)](#)

Chlamydia Rates Among Adolescents and Young Adults[†] by Race, Minnesota, 2023

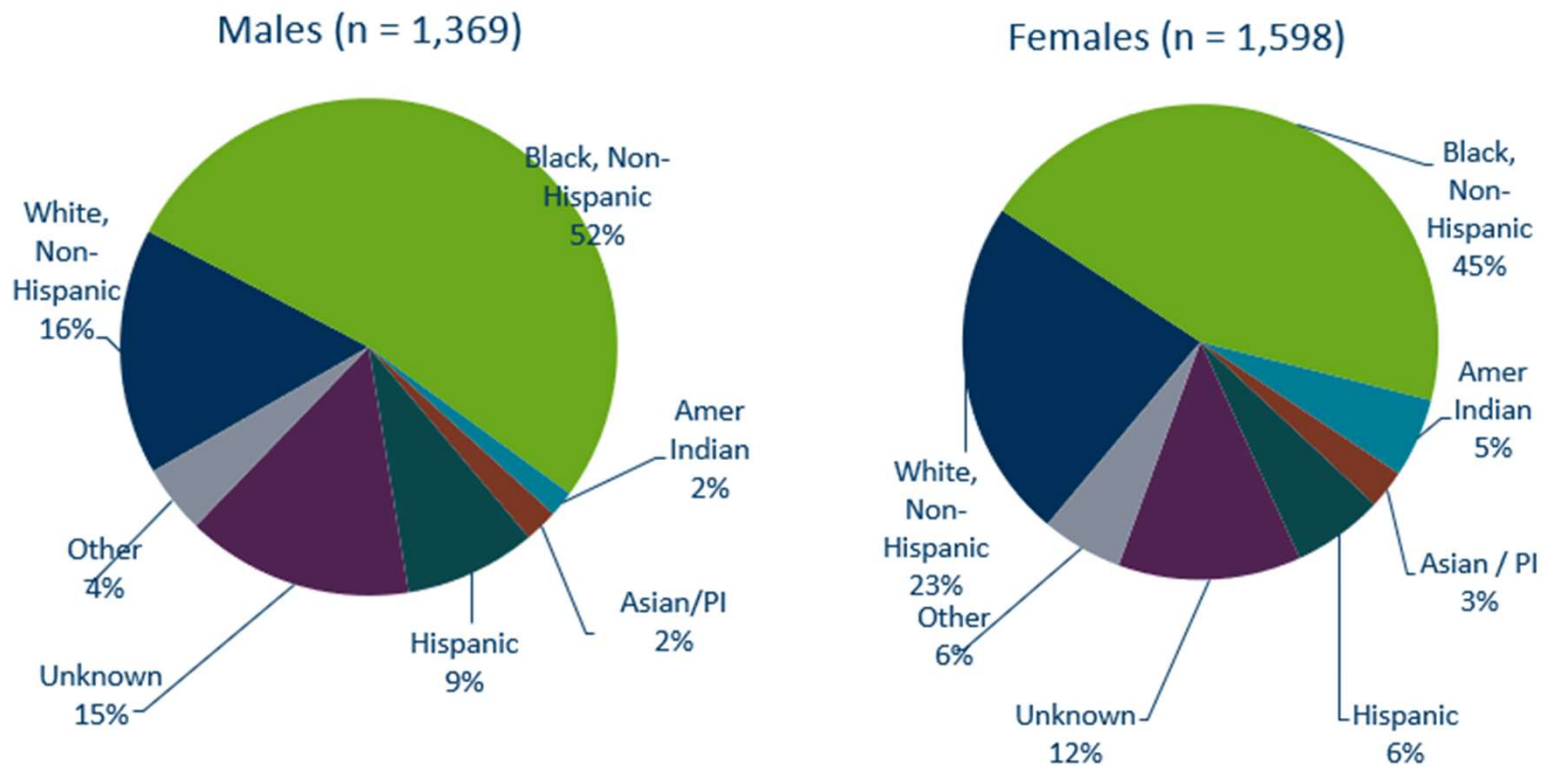


Rate=Cases per 100,000 people based on 2010 U.S. Census counts.

[†] Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.

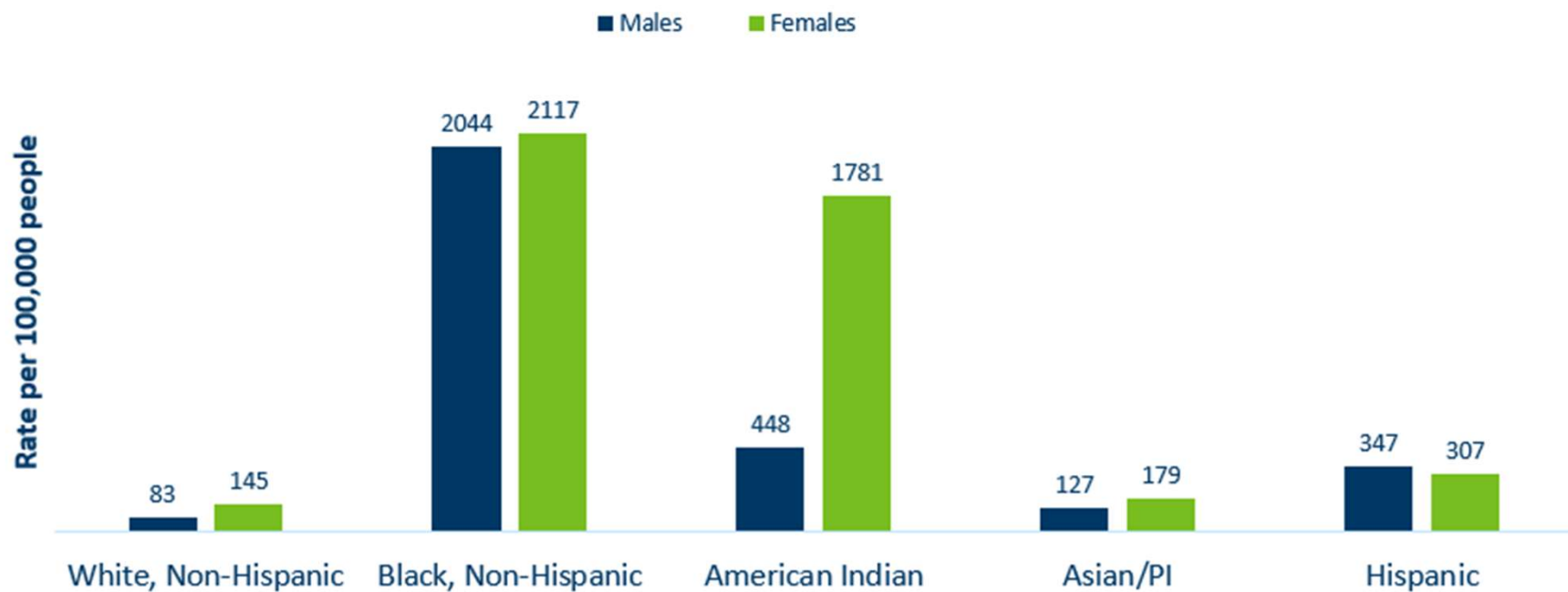
Data: [STI Surveillance Report Data Tables, Minnesota 2023 \(PDF\)](#)

Gonorrhea Cases Among Adolescents and Young Adults[†] by Gender and Race, 2023



[†] Adolescents defined as 15-19 year-olds; Young adults defined as 20-24 year-olds. Excludes unknown/transgender/missing
 Data: [STI Surveillance Report Data Tables, Minnesota 2023 \(PDF\)](#)

Gonorrhea Rate Among Adolescents and Young Adults[†] by Race, Minnesota, 2023



[†] Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.

Rate = Cases per 100,000 people based on 2010 U.S. Census counts.

Burden of STIs on Young Females and Communities of Color

- Females and particularly females of color disproportionately bear the long-term consequences of STIs.
 - 68% of chlamydia or gonorrhea cases diagnosed among adolescents and young adults were females.
 - 33% of all chlamydia or gonorrhea cases diagnosed among adolescents and young adults were in the Black, non-Hispanic population.
- People with vulvas are biologically more prone to contracting an sti, but less likely to have symptoms. Untreated STIs can have serious consequences on their health and future reproductive ability.
 - Untreated STIs in people with vulvas can lead to pelvic inflammatory disease, infertility and ectopic pregnancy.
 - Pregnant people are at risk of passing a STIs to their newborn, causing premature delivery, infant pneumonia and blindness.
 - Importance of annual preventive and prenatal screening

Summary Characteristics of Adolescents & Young Adults[†] Diagnosed With Chlamydia or Gonorrhea in 2023

Demographic	Cases	% of Total
Male	5,107	32
Female	10,696	68
White, Non-Hispanic	5,285	33
Black, Non-Hispanic	5,150	33
Am Indian/Am Native	471	3
Asian/PI	489	3
Hispanic	1,897	12
Other more than one race	489	3
Unknown	2022	13
TOTAL	15,803	

[†] Adolescents defined as 15-19 year-olds; young adults defined as 20-24 year-olds, excludes 4 transgender + 22 missing/unknown

What's Being Done in Minnesota?

- The MDH Partner Services Program continues to follow up on early syphilis cases and their sex partners and all pregnant syphilis cases.
- All HIV/syphilis co-infected cases are assigned to Partner Services for follow-up.
- Physicians are encouraged to screen men who have sex with men at least annually and to ask about sex partners.
- All pregnant females should be screened for syphilis at first prenatal visit, 28 weeks' gestation (at minimum 28-36 weeks), and at delivery.

Summary of sti Trends in Minnesota

- From 2014-2023, the chlamydia rate increased by 4.3%. The rate of gonorrhea increased by 80%, syphilis has increased by 166%.
- Adolescent and young adults aged 15-24 years old continue to make up the majority of all chlamydia or gonorrhea cases at 54%.
- Syphilis has resurged in MN over the past decade, with MSM and those co-infected with HIV being especially impacted. However, the number of females impacted is near the record high for the last decade.
- People of color and American Indians continue to be disproportionately affected by all STIs in Minnesota. Disparities in the rates of STIs are not explained by differences in sexual behavior, but are due to differences in health insurance coverage, employment status and access to healthcare with preventative, screening, and treatment services.

Health Watch: Disseminated Gonococcal Infection (DGI) (1/2)

- 12 cases of disseminated gonococcal infections (DGI) diagnosed in MN in 2023.
- DGI occurs when a gonorrhea infection moves into the bloodstream and spreads to distant sites in the body, which can lead to clinical findings: septic arthritis, polyarthralgia, tenosynovitis, petechial/pustular lesions, bacteremia, or rarely: endocarditis or meningitis.
- DGI is **uncommon** and occurs in 0.5-3% of untreated cases.
- If there is clinical suspicion for DGI, nucleic acid amplification test (NAAT) & culture specimens from urogenital and extra-genital (e.g., pharyngeal and rectal) mucosal site(s), as applicable, should be collected and processed, in addition to culture specimens from disseminated sites of infection (e.g., skin, synovial, blood, CSF).

Source: [Health Alert Template for Disseminated Gonococcal Infection \(DGI\) \(https://www.cdc.gov/sti/program/outbreakresources/HANtemplate-dgi.htm\)](https://www.cdc.gov/sti/program/outbreakresources/HANtemplate-dgi.htm)

Health Watch: Disseminated Gonococcal Infection (DGI) (2/2)

- Report all laboratory confirmed cases of DGI or concern over persistent infection to MDH within 24 hours of identification at **651-201-5414**.
- All DGI cases should be cultured and tested for antimicrobial susceptibility. Please contact MDH for guidance on sending samples to the MDH Lab for additional testing.
- Management of DGI cases should be guided by the [STI Treatment Guidelines \(https://www.cdc.gov/sti/treatment-guidelines/default.htm\)](https://www.cdc.gov/sti/treatment-guidelines/default.htm)

Source: [Health Alert Template for Disseminated Gonococcal Infection \(DGI\) \(https://www.cdc.gov/sti/program/outbreakresources/HANtemplate-dgi.htm\)](https://www.cdc.gov/sti/program/outbreakresources/HANtemplate-dgi.htm)

Updates to sti Reporting and Current Follow-Up

- A new chlamydia and gonorrhea case report form is available on the MDH website, to accommodate changes in treatment guidelines and highlight DGI reporting.
- The case report form can be filled out and mailed or faxed to MDH at **1-800-298-3775**.
- More information may be requested on gonorrhea cases for Enhanced Gonorrhea Surveillance as part of the CDC PCHD grant.
- All cases co-infected with early syphilis will continue to be assigned to MDH Partner Services for follow-up.
- All sti cases continue to have the potential for being contacted by MDH for additional follow-up.

GONORRHEA (GC) - LAB CONFIRMED

Specimen collection date:

Source (mark all that apply):

Cervix Rectum
 Vagina Pharynx
 Urethra Urine
 Other:

To report disseminated gonorrhea or concern over persistent infection call: 651-201-5414.

EPT Given?: Yes No

Treatment date:

Ceftriaxone (Rocephin) 500 mg IM x 1 (For persons weighing <150 kg (300 lbs))* Not treated for gonorrhea
 Ceftriaxone (Rocephin) 1 g IM x 1 (For person weighing >=150 kg (300 lbs))*

Alternative regimens:

Cefixime (Suprax) 800 mg po x 1*
 Gentamicin 240 mg IM x 1 plus Azithromycin (Zithromax) 2 g po x 1
 Other:

*If chlamydial infection has not been excluded, providers should treat for chlamydia with doxycycline 100 mg orally twice daily for 7 days (Doxycycline 100 mg po BID x 7 days). During pregnancy, azithromycin 1 g as a single dose is recommended to treat chlamydia (Azithromycin (Zithromax) 1 g po x 1).