



Sexually Transmitted Disease (STD) Surveillance Report, 2021

Minnesota Department of Health STD 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 STDs (ex: herpes, HPV/genital warts).
- This slide set describes trends in reportable STDs in Minnesota by person, place, and time.
- Analyses exclude cases reported from federal and private prisons.

Introduction 2/2

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

Interpreting STD Surveillance Data (1/2)

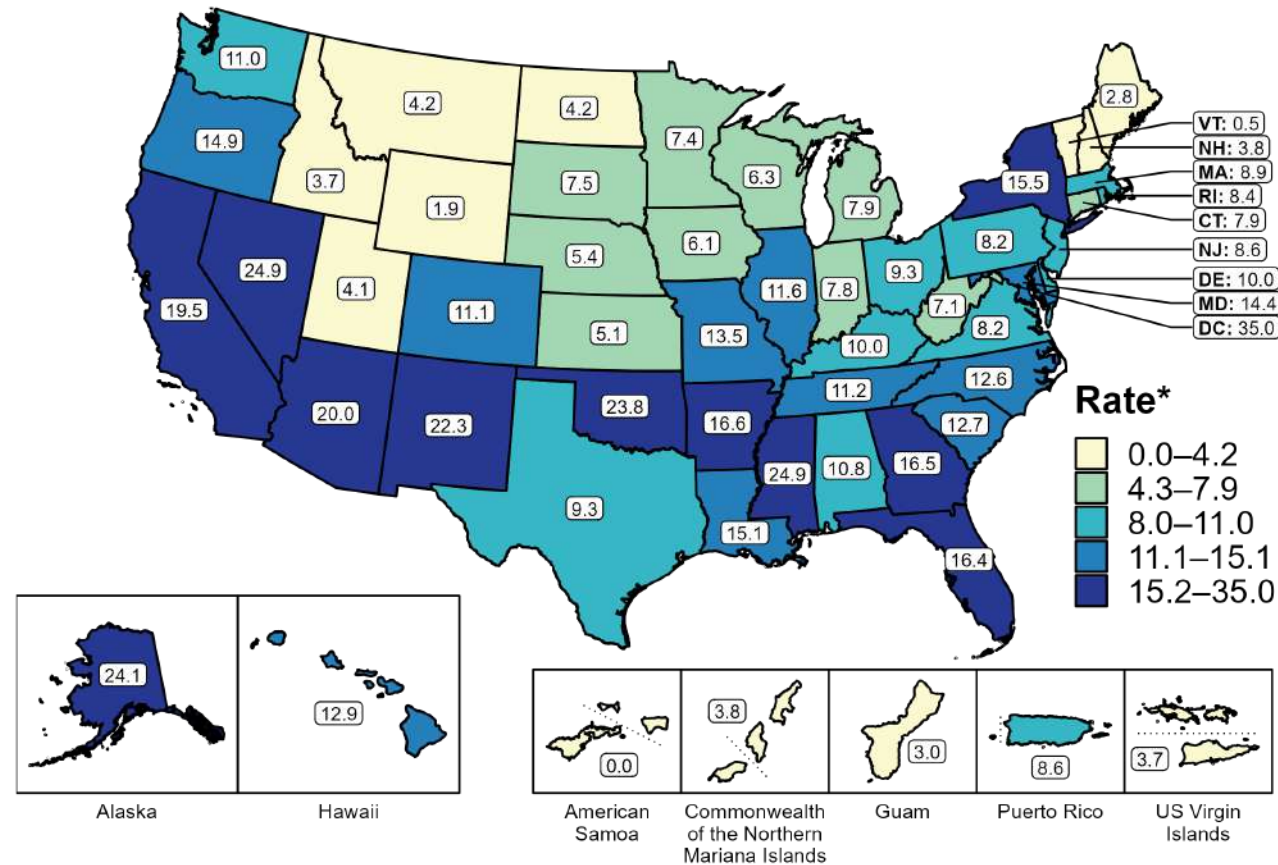
- Factors that impact the completeness and accuracy of STD data include:
 - Level of STD screening by healthcare providers
 - Individual test-seeking behavior
 - Sensitivity of diagnostic tests
 - Compliance with case reporting
 - Completeness of case reporting
 - Timeliness of case reporting
- Increases and decreases in STD 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 this past year.

Interpreting STD 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.
- In 2018, in order to be consistent with CDC, we categorized all white, Hispanic and Black, Hispanic cases as Hispanic. That means the race categories now reflect only white, Non-Hispanic and Black, Non-Hispanic cases.
- 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 STD numbers that can seem disproportionately large when the number of cases is small.

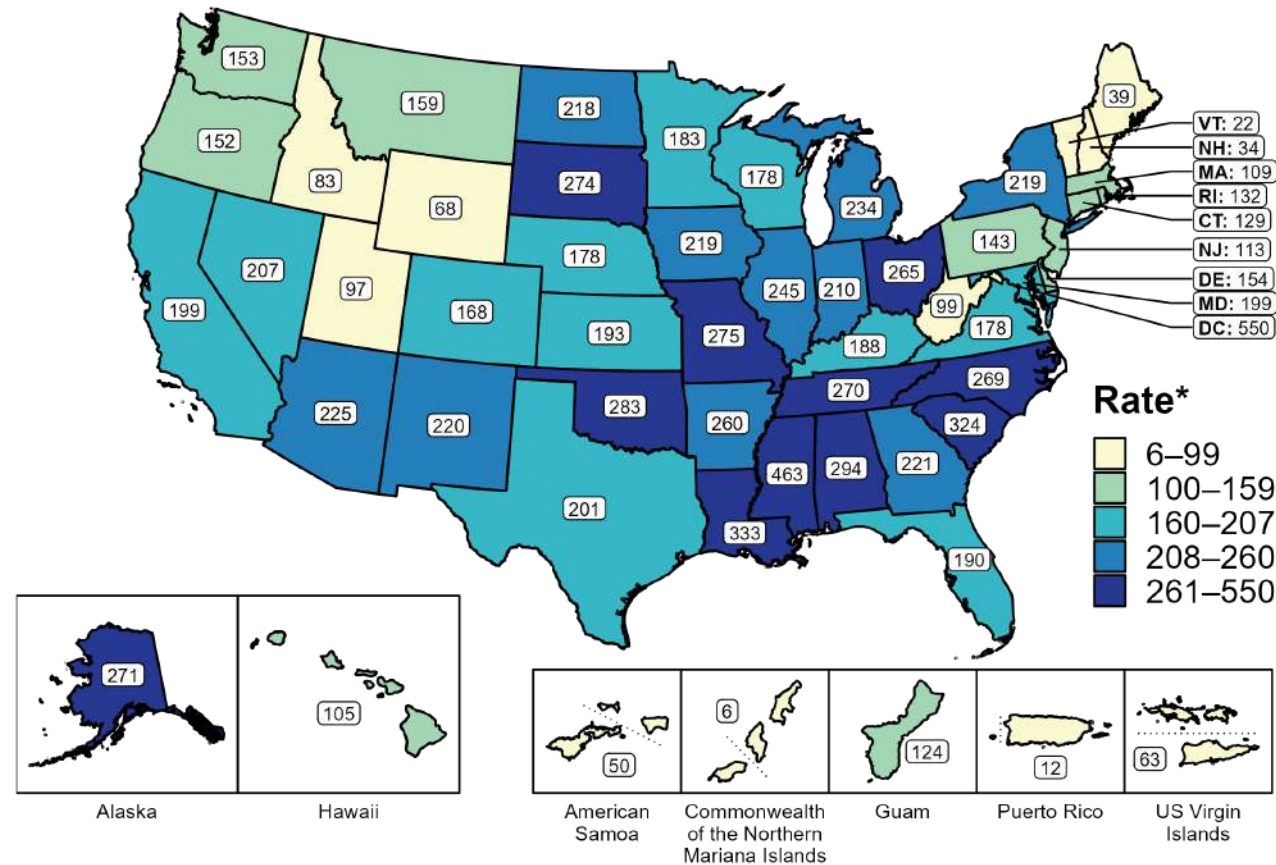
National Context

Primary and Secondary Syphilis — Rates of Reported Cases by State, United States and Territories, 2020



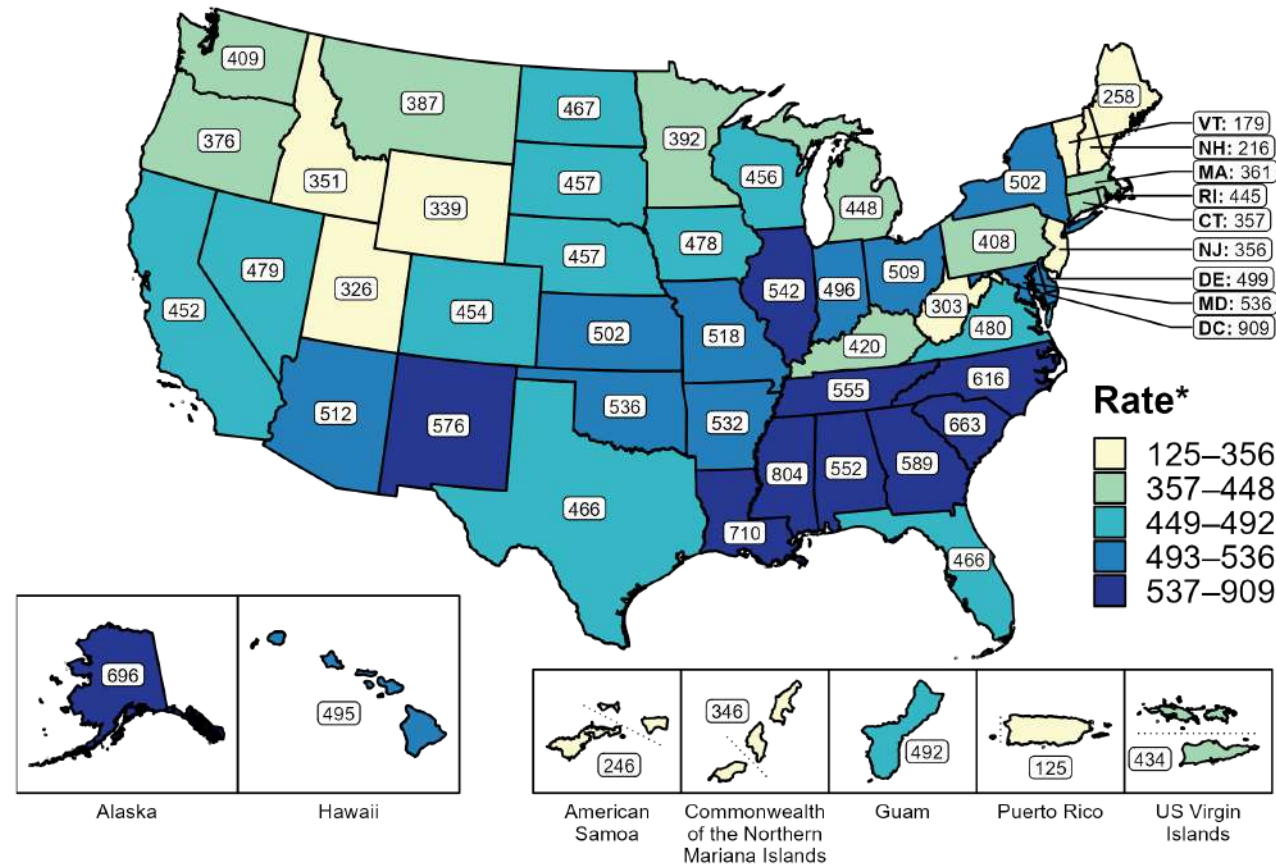
* Per 100,000

Gonorrhea — Rates of Reported Cases by State, United States and Territories, 2020



* Per 100,000

Chlamydia — Rates of Reported Cases by State, United States and Territories, 2020



* Per 100,000

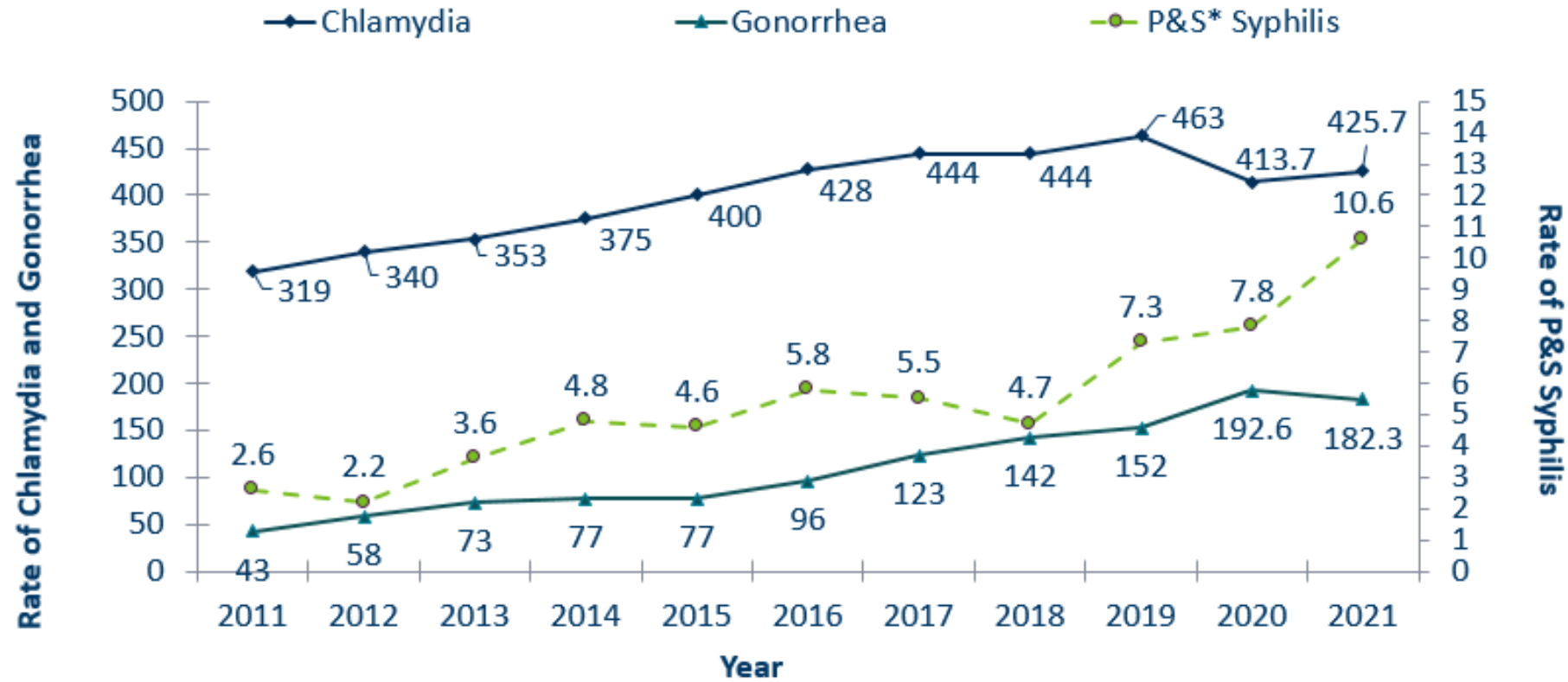
Overview of STDs in Minnesota

Minnesota Department of Health STD Surveillance System

STDs in Minnesota: Number of Cases Reported in 2021

- Total of 33,706 STD cases reported to MDH in 2021:
 - 22,578 Chlamydia cases
 - 9,671 Gonorrhea cases
 - 1457 Syphilis cases (all stages)
 - 0 Chancroid cases

STDs in Minnesota: Rate per 100,000 by Year of Diagnosis, 2011-2021

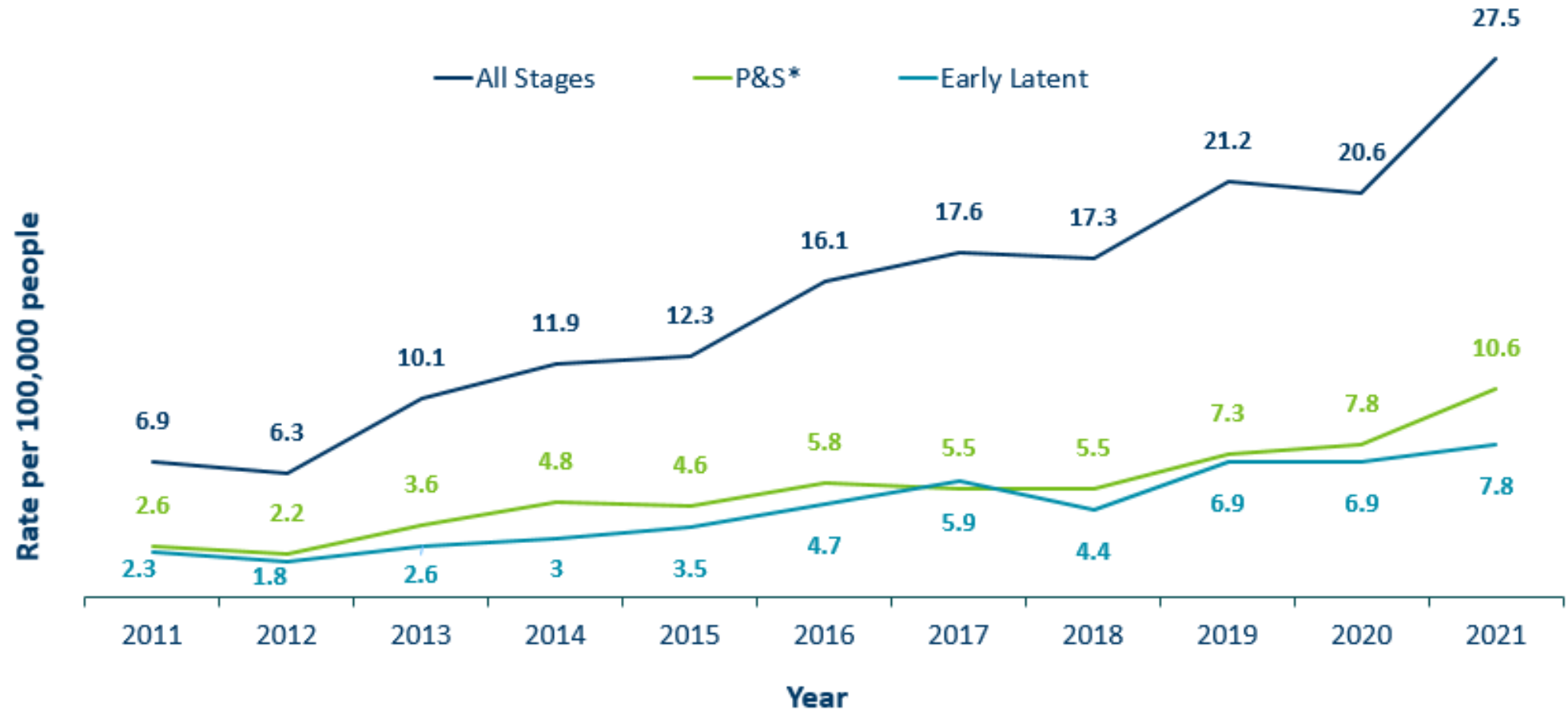


* P&S = Primary and Secondary

Syphilis

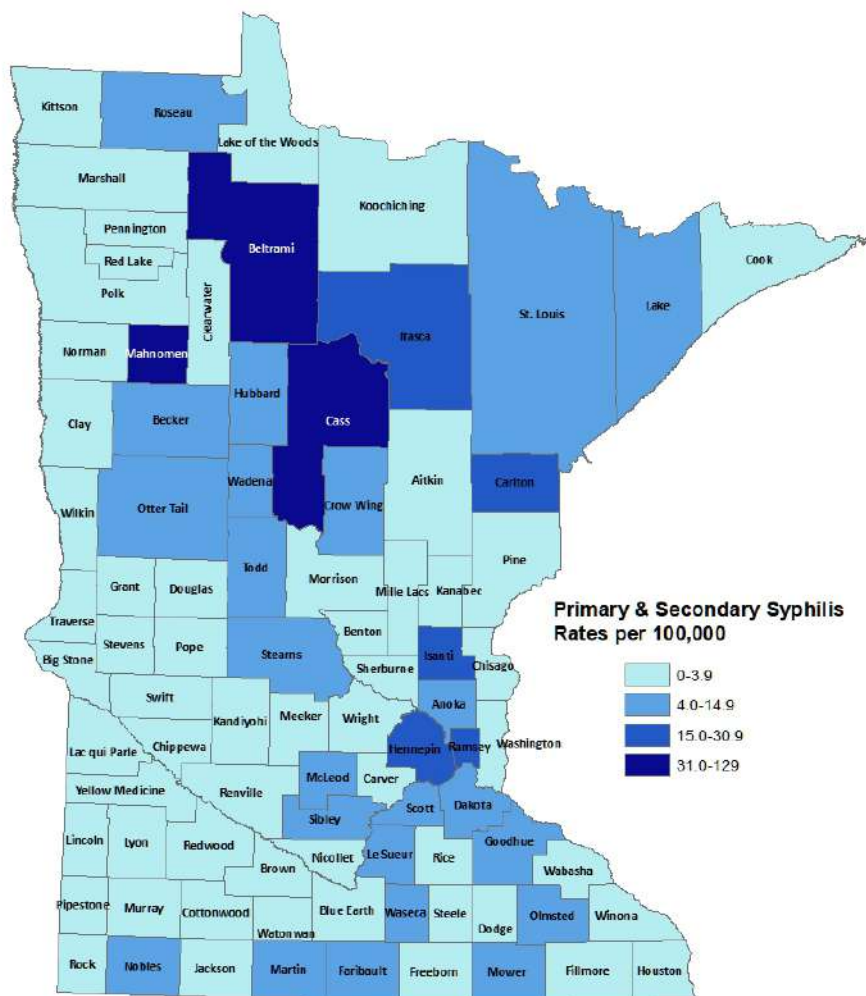
Minnesota Department of Health STD Surveillance System

Syphilis Rates by Stage of Diagnosis, Minnesota, 2011-2021



* P&S = Primary and Secondary

2021 Minnesota Primary & Secondary Syphilis Rates by County

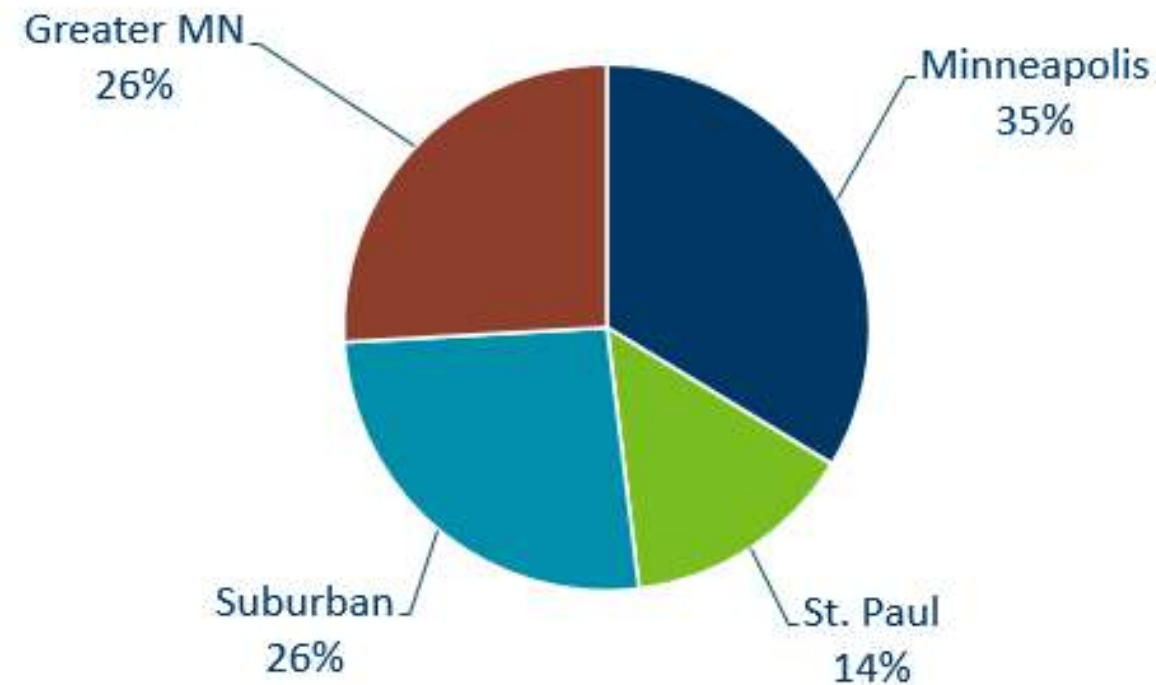


City of Minneapolis	49.7 per 100,000 (144 cases)
City of St. Paul	28.4 per 100,000 (37 cases)
Suburban*	6.7 per 100,000 (104 cases)
Greater Minnesota	5.9 per 100,000 (131 cases)
Total	10.6 per 100,000 (416 cases)

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

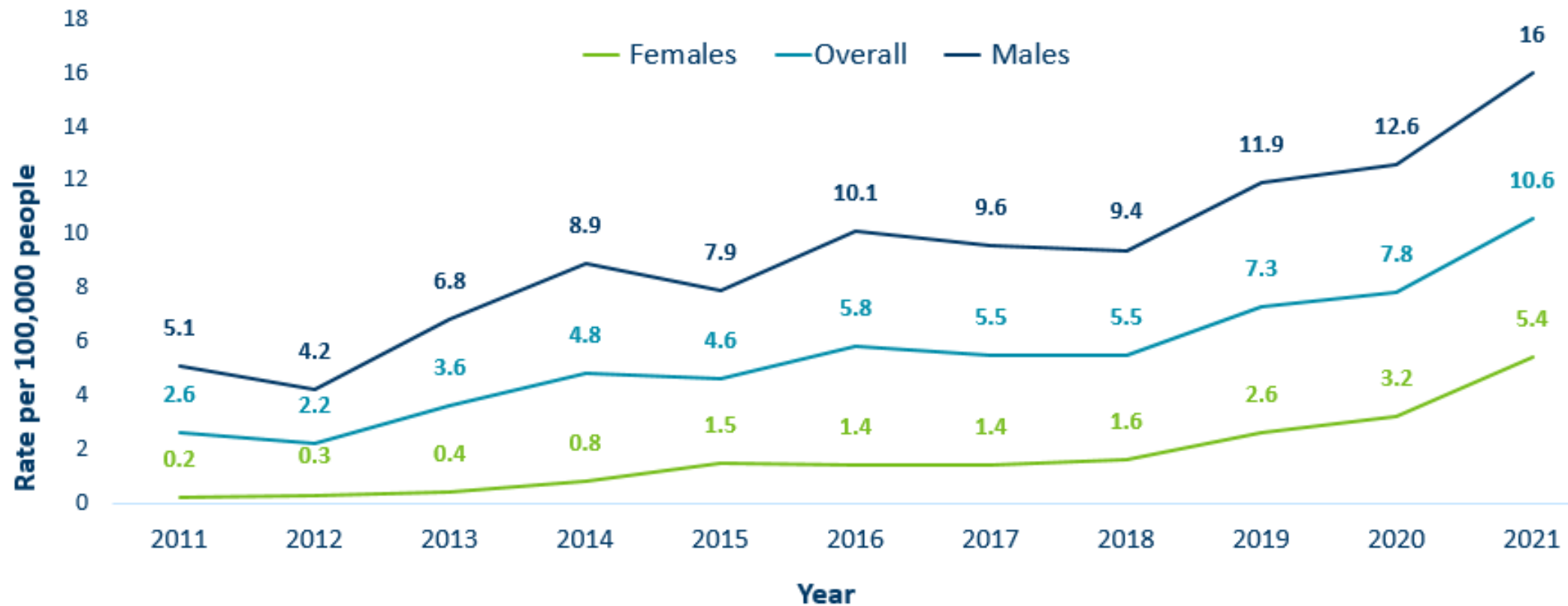
Primary & Secondary Syphilis Infections by Residence at Diagnosis Minnesota, 2021

Total Number of Cases = 564



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.

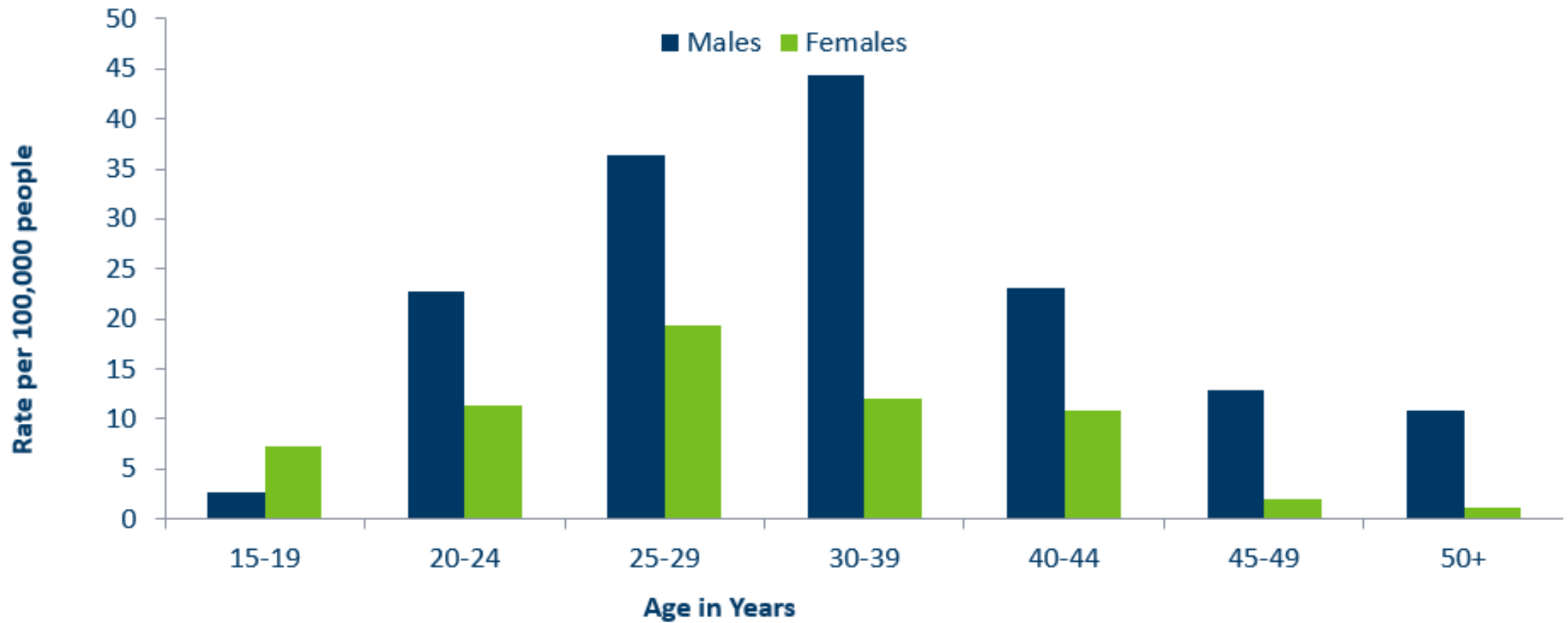
Primary & Secondary Syphilis Rates by Gender, Minnesota, 2011-2021



Primary & Secondary Syphilis Rates by Age Minnesota, 2011-2021

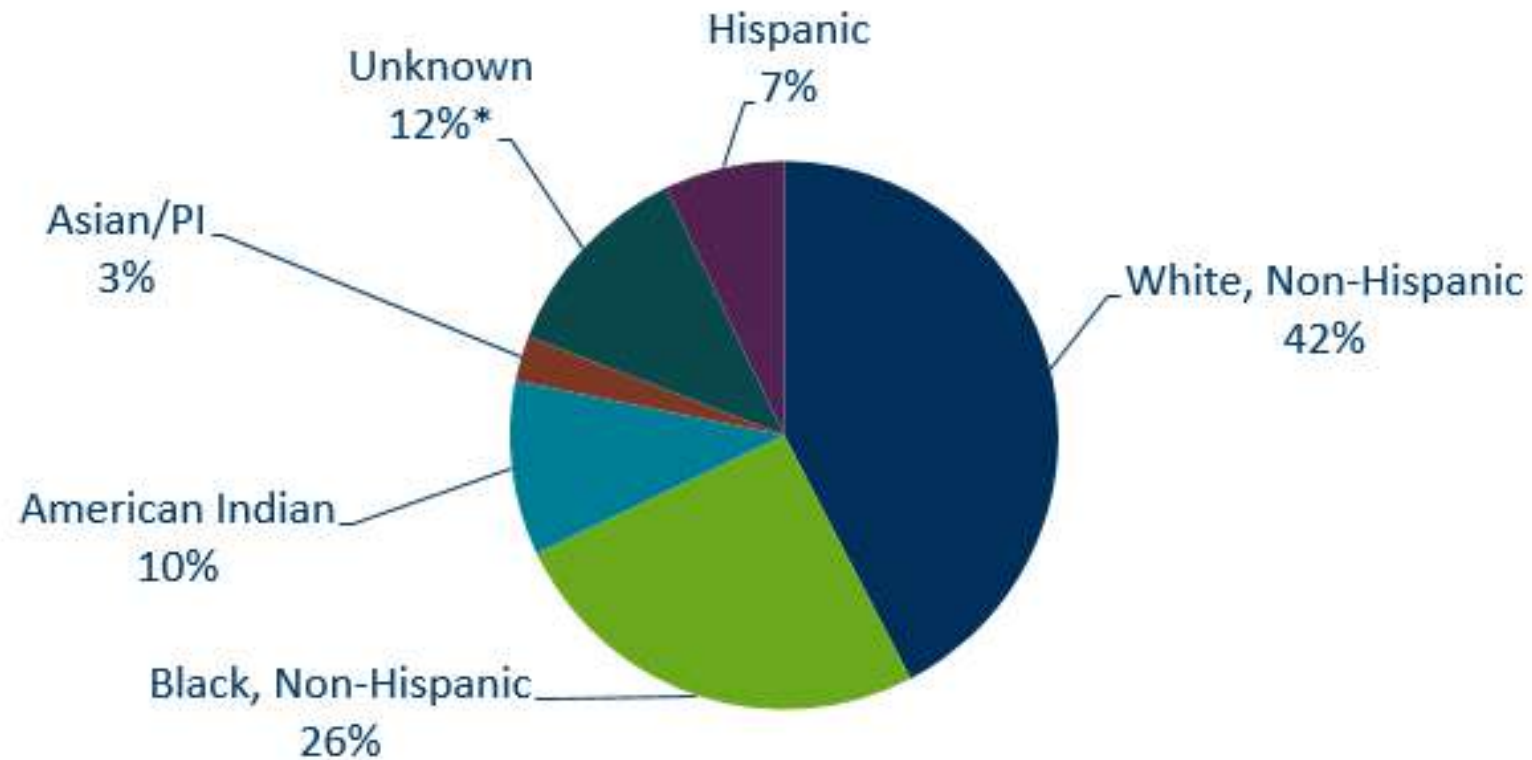


Age-Specific Primary & Secondary Syphilis Rates by Gender, Minnesota, 2021



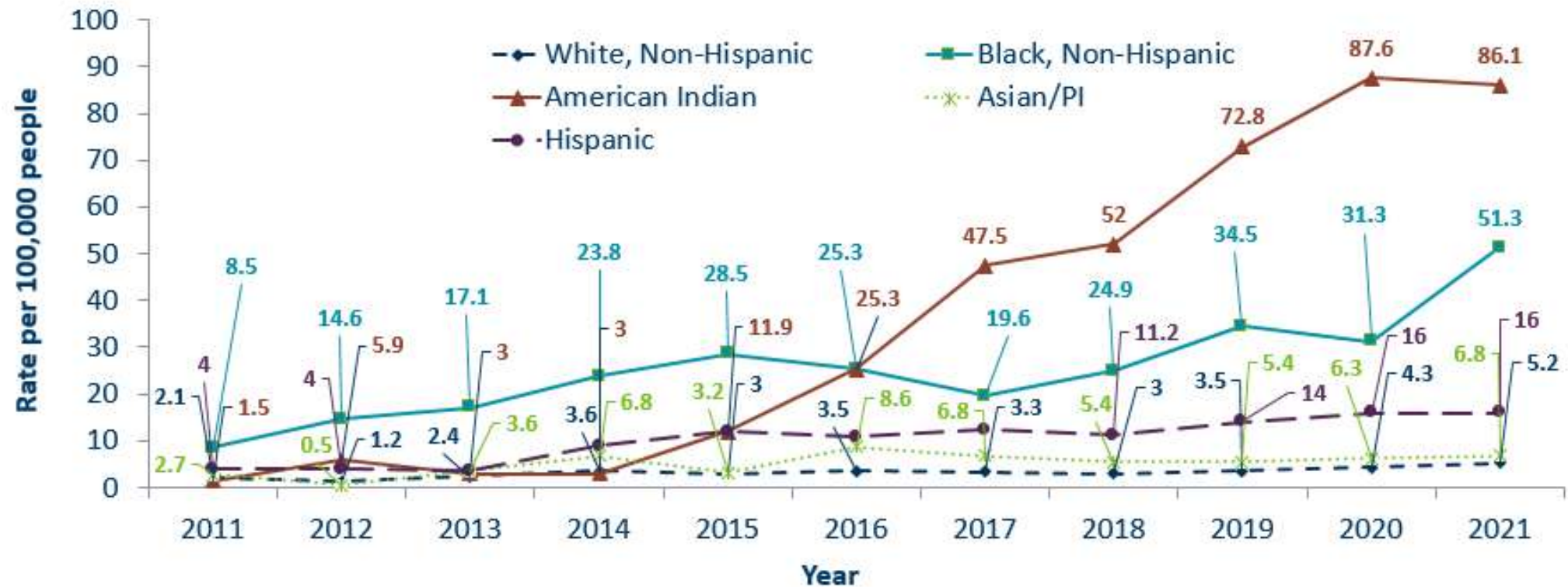
Primary & Secondary Syphilis Cases by Race Minnesota, 2021

Total Number of Cases = 564



*Includes people reported with more than one race

Primary & Secondary Syphilis Rates by Race/Ethnicity Minnesota, 2011-2021

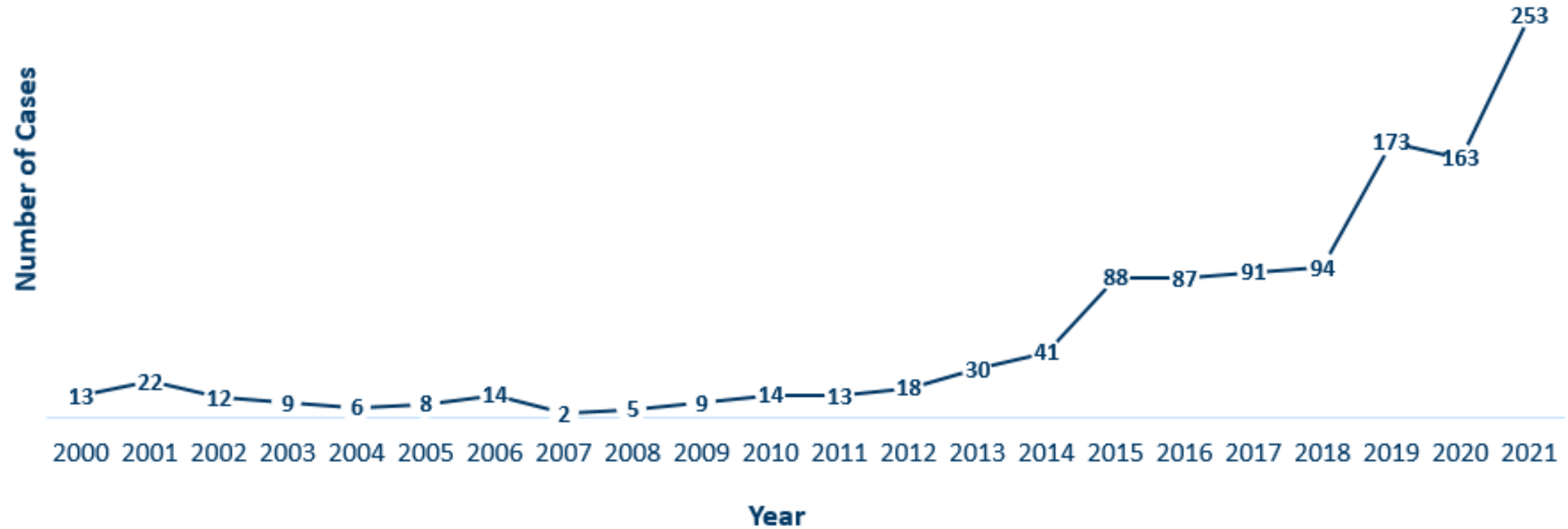


* people of Hispanic ethnicity can be of any race.

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

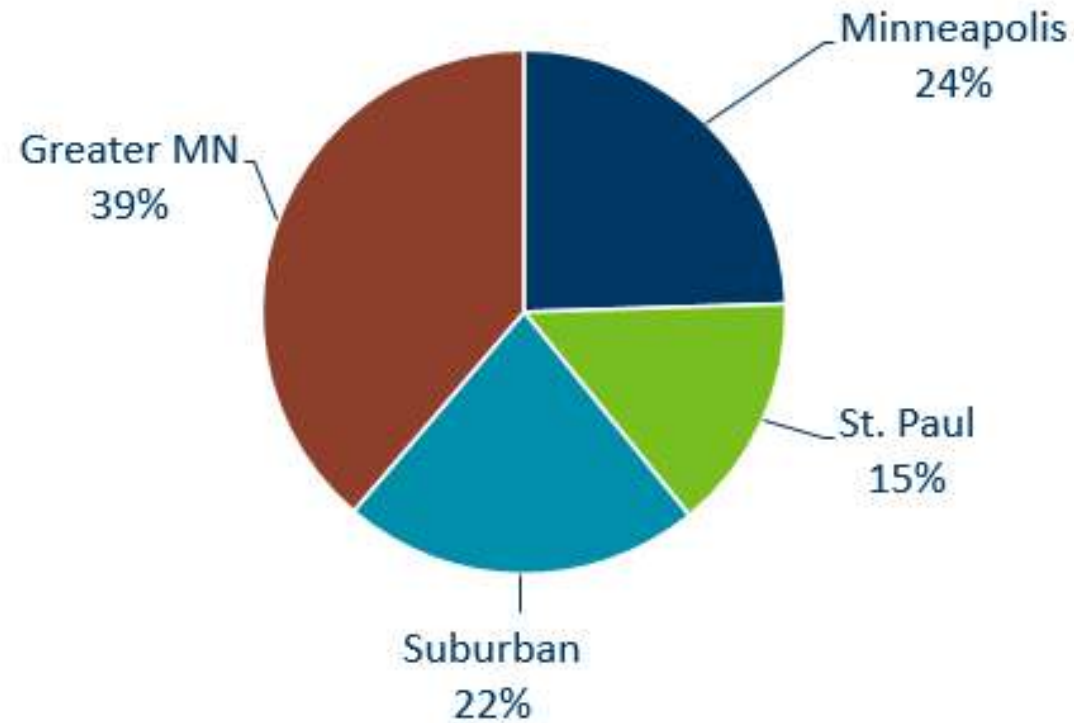
Minnesota Department of Health STD Surveillance System

Female Early Syphilis Cases Minnesota, 2021



Early Syphilis Infections in Females by Residence at Diagnosis Minnesota, 2021

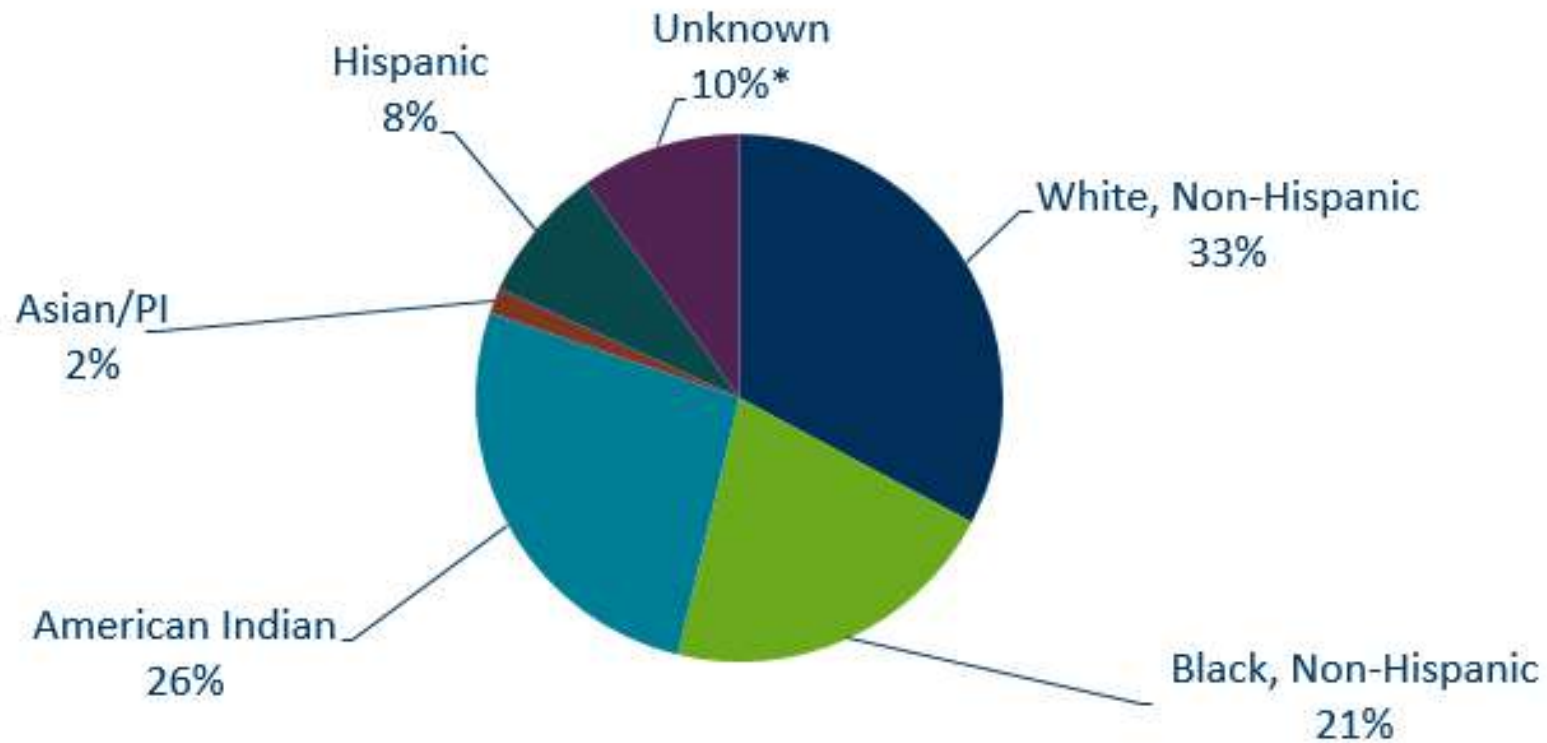
Total Number of Cases = 253



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.

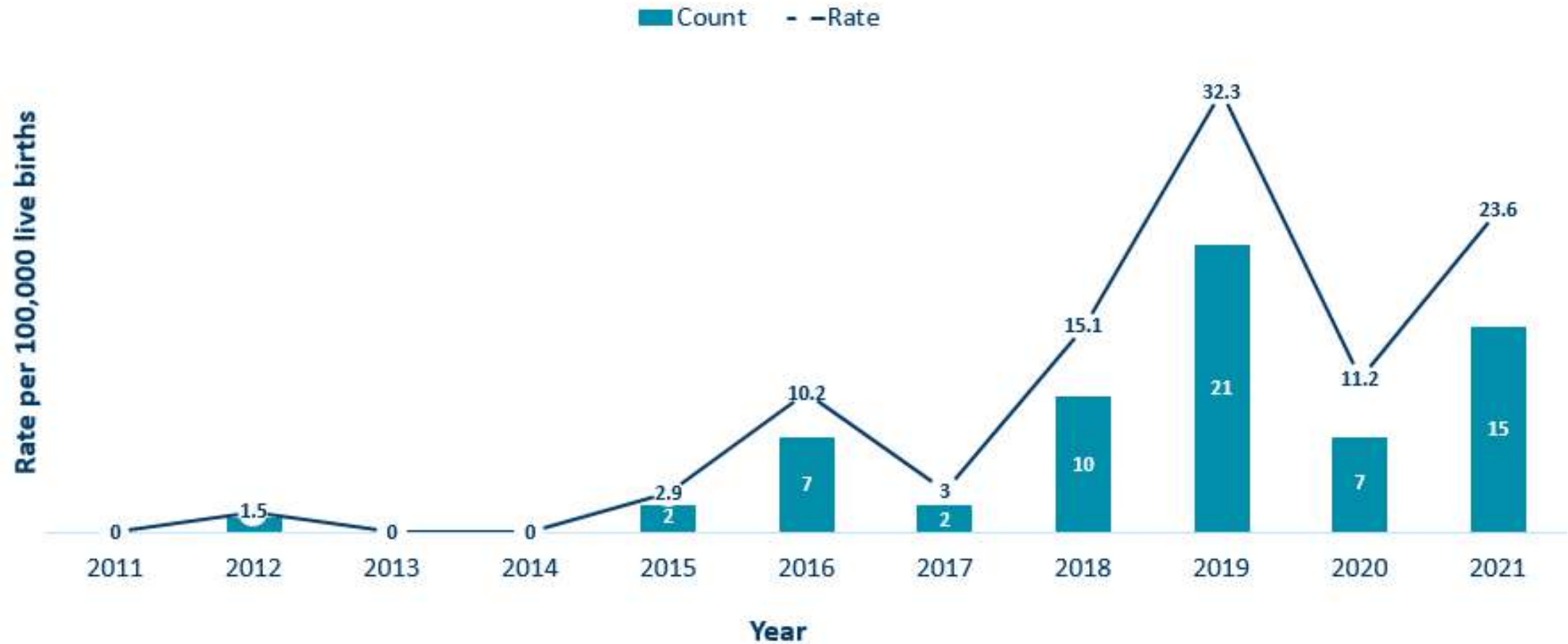
Early Syphilis Cases in Females by Race/Ethnicity Minnesota, 2021

Total Number of Cases = 253



*Includes people reported with more than one race

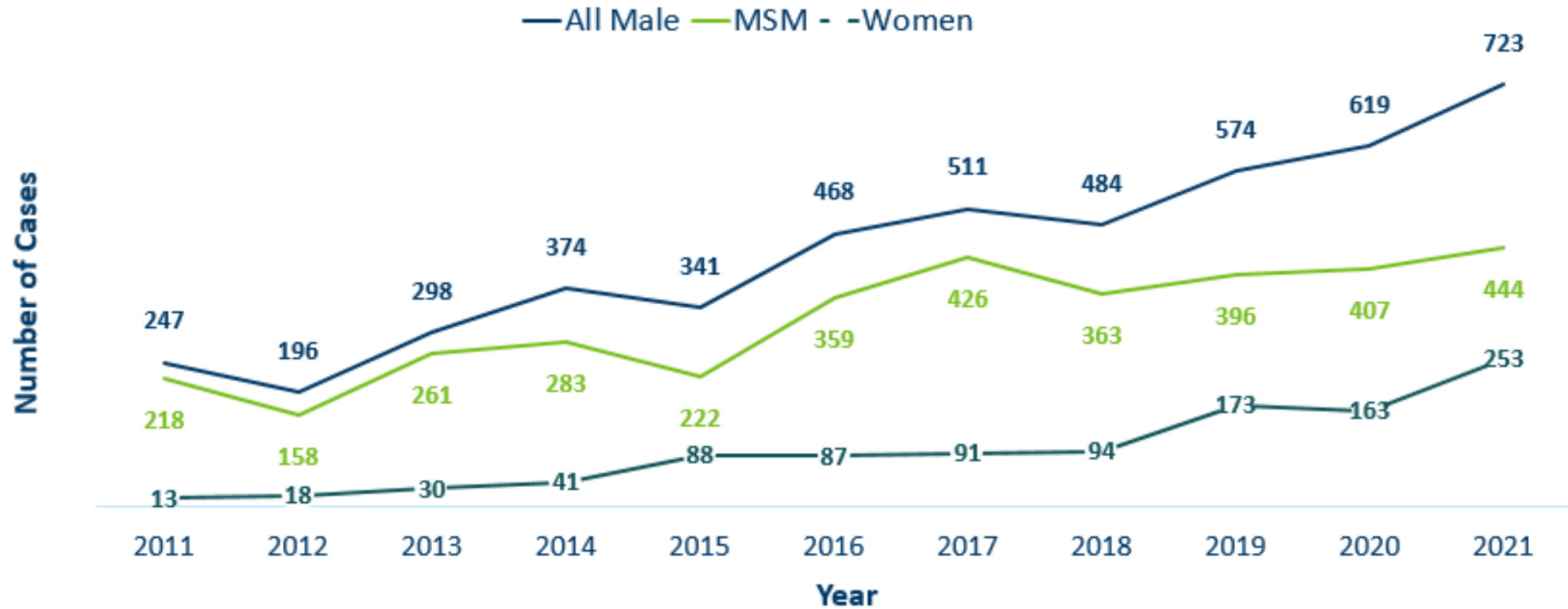
Congenital Syphilis Rates Among Infants Minnesota, 2011-2021



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

Minnesota Department of Health STD Surveillance System

Number of Early Syphilis[†] Cases by Gender and MSM Minnesota, 2011-2021

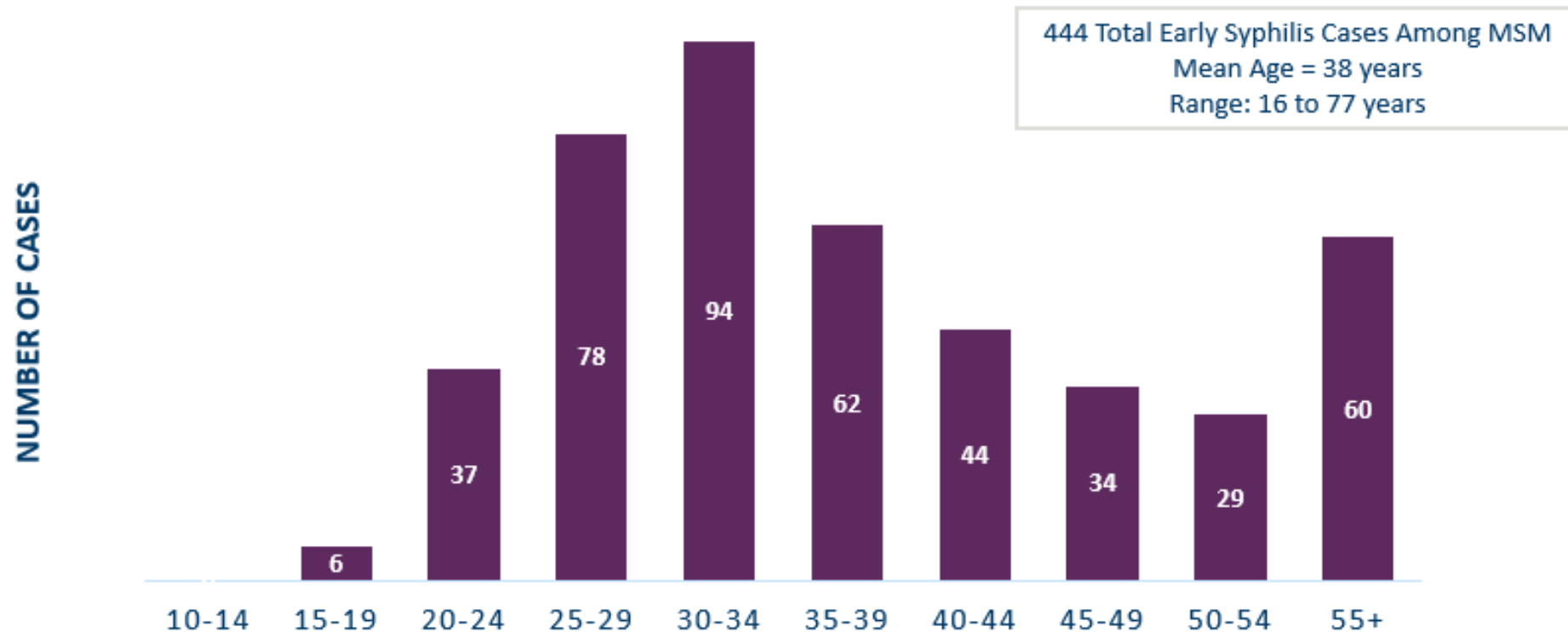


MSM=Men who have sex with men.

Figure does not include cases diagnosed in transgender people

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

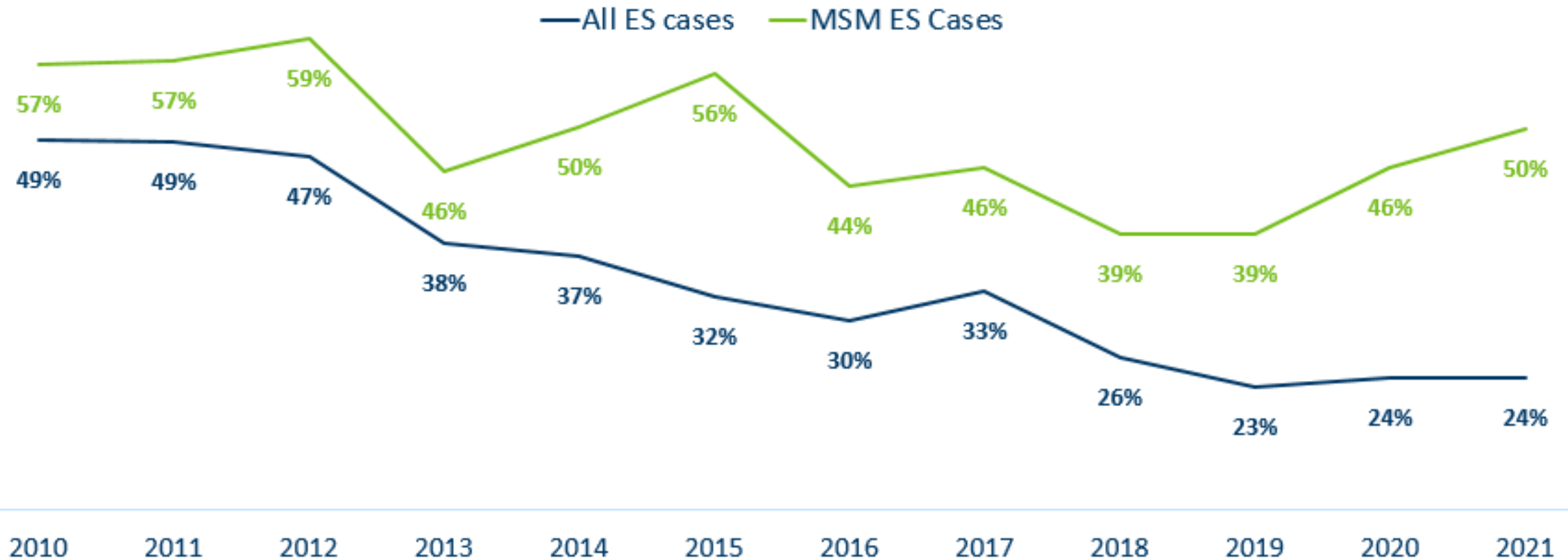
Early Syphilis[†] Cases Among MSM by Age Minnesota, 2021



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, 2011-2021



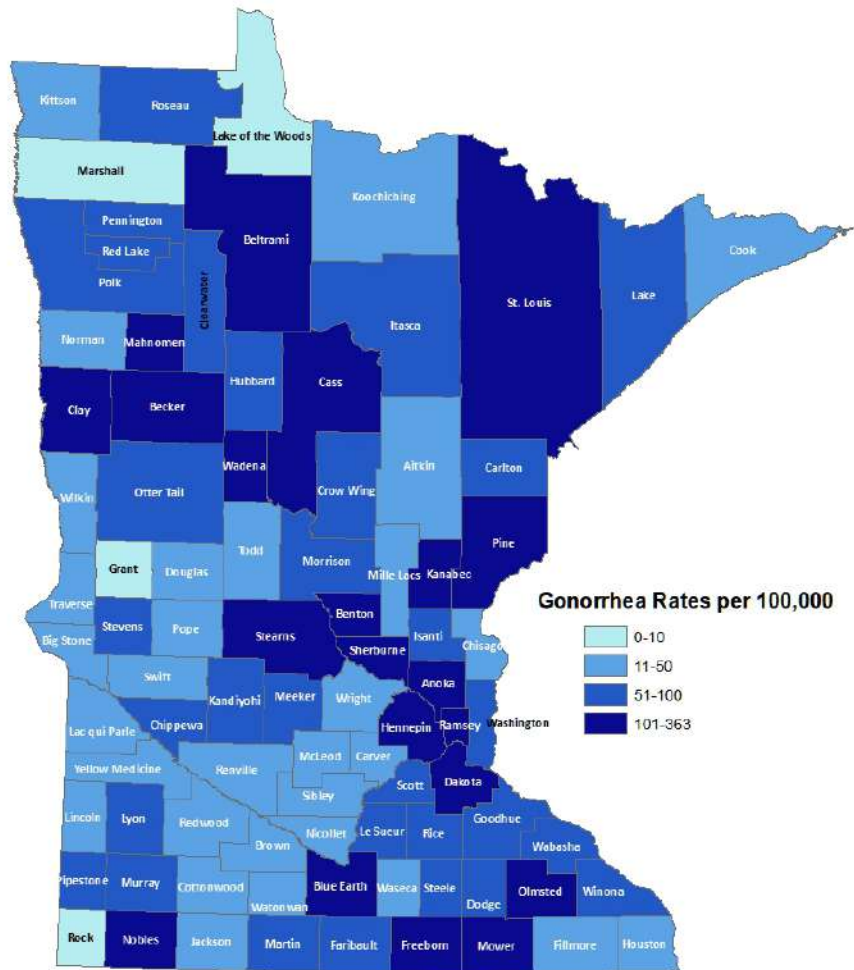
MSM=Men who have sex with men

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

Gonorrhea

Minnesota Department of Health STD Surveillance System

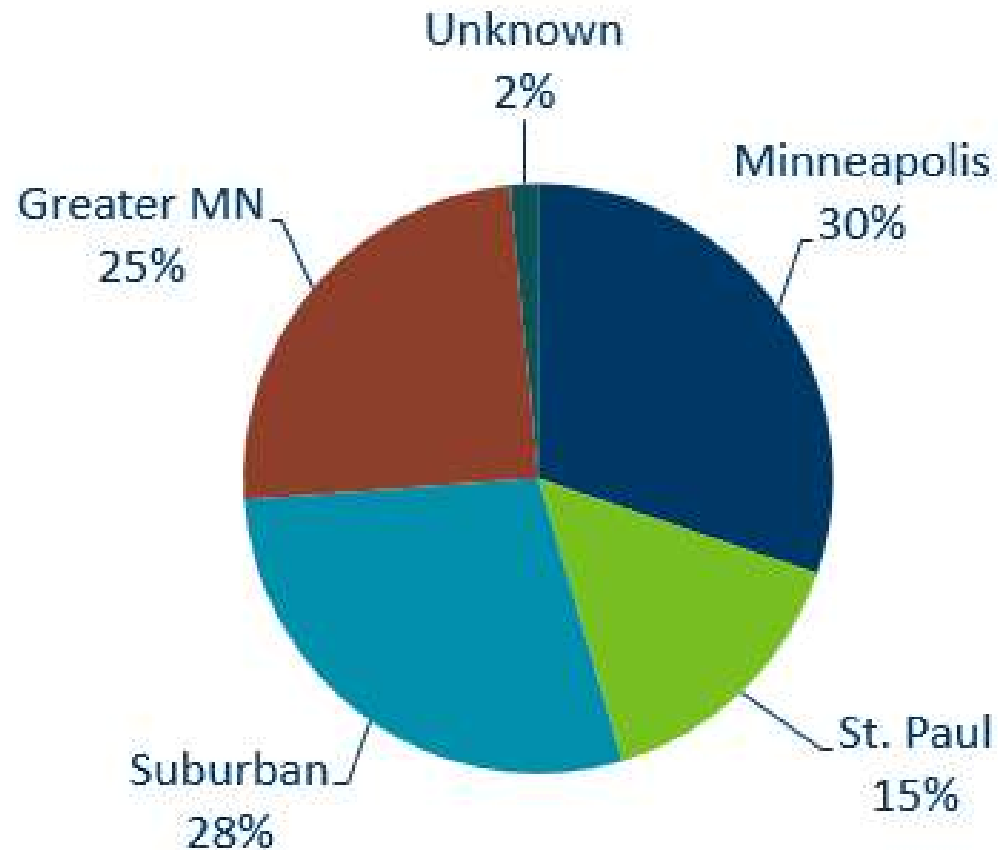
2021 Minnesota Gonorrhea Rates by County



City of Minneapolis	764 per 100,000 (2,973 cases)
City of St. Paul	514 per 100,000 (1,524 cases)
Suburban*	126 per 100,000 (3,083 cases)
Greater Minnesota	97 per 100,000 (2,430 cases)
Total	182.3 per 100,000 (9,671 cases) (150 cases missing residence information)

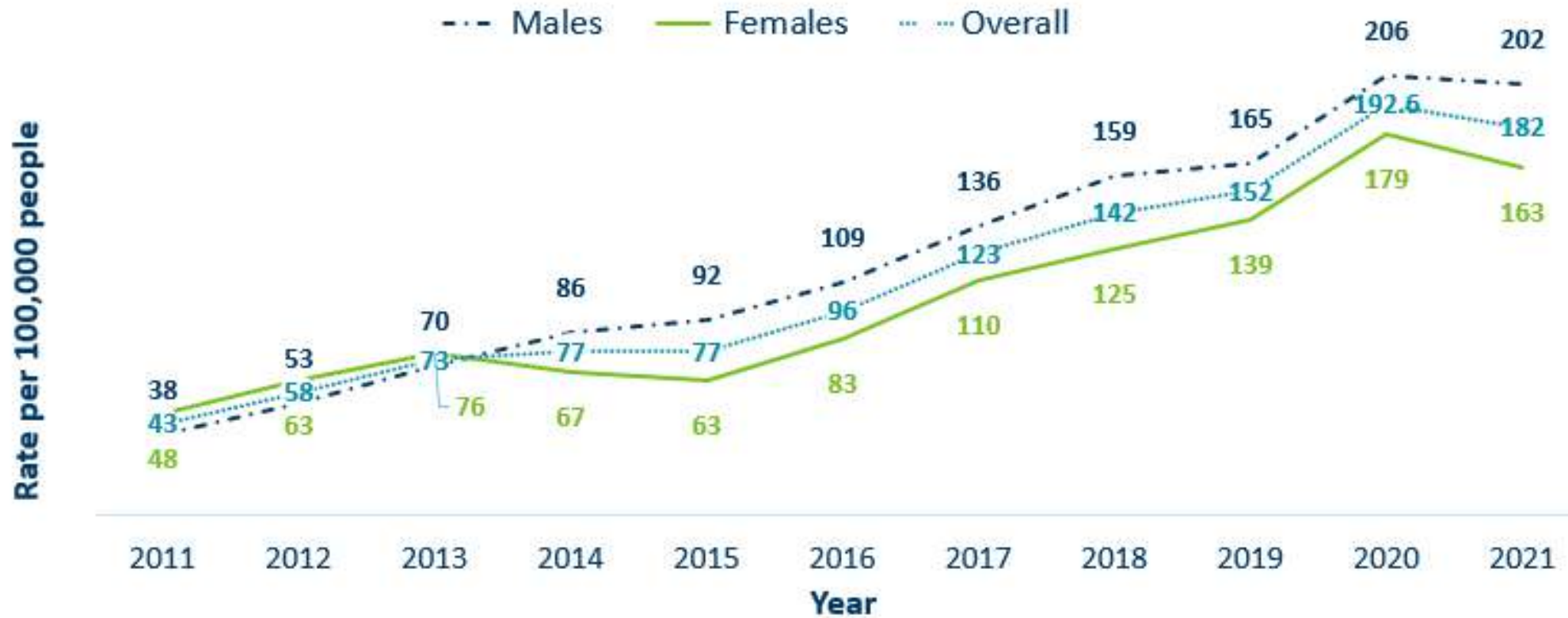
*7-county metro area, excluding the cities of Minneapolis and St. Paul

Gonorrhea Infections in Minnesota by Residence at Diagnosis, 2021



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.

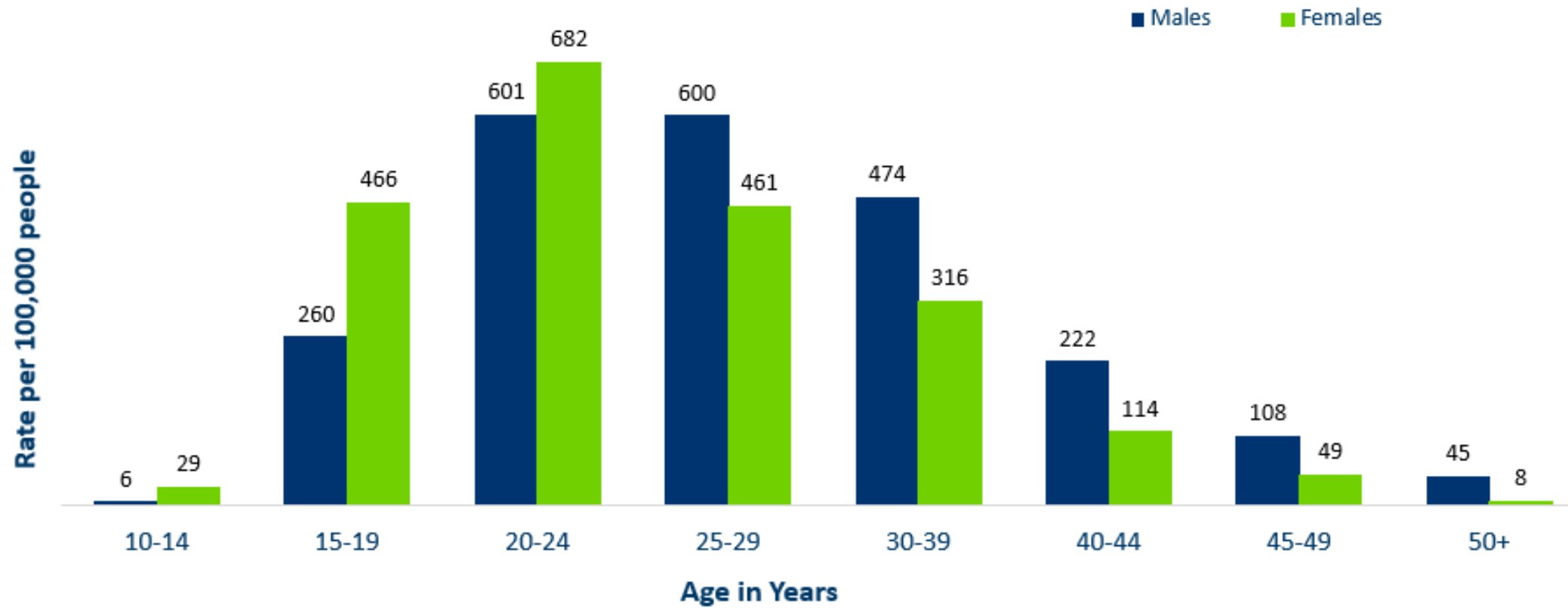
Gonorrhea Rates by Gender Minnesota, 2011-2021



Gonorrhea Rates by Age Minnesota, 2011-2021



Age-Specific Gonorrhea Rates by Gender Minnesota, 2021



Gonorrhea Rates by Race/Ethnicity Minnesota, 2011-2021

2021 rates compared with white rates:

Black, Non-Hispanic = 20.6x higher

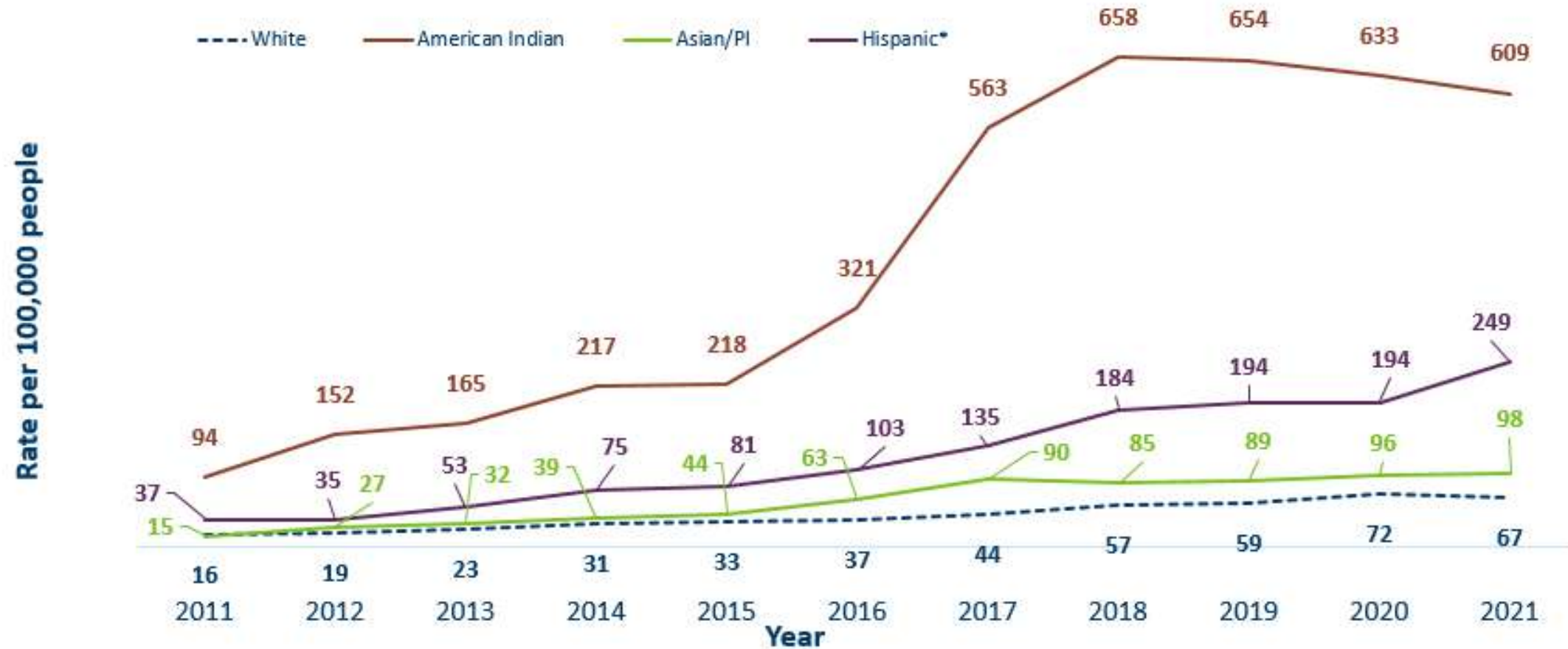
American Indian = 9.2x higher

Asian/PI = 1.5x higher

Hispanic* = 3.7x higher

* people of Hispanic ethnicity can be of any race

Gonorrhea Rates by Race/Ethnicity Minnesota, 2010-2020

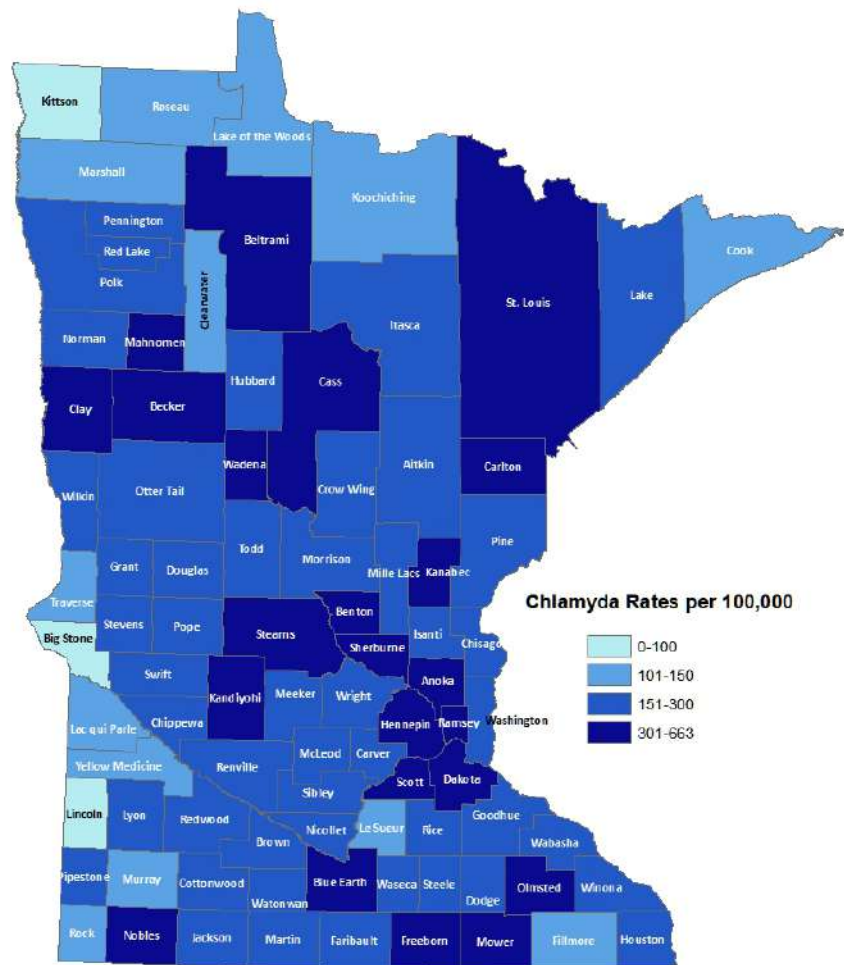


* people of Hispanic ethnicity can be of any race.

Chlamydia

Minnesota Department of Health STD Surveillance System

2021 Minnesota Chlamydia Rates by County



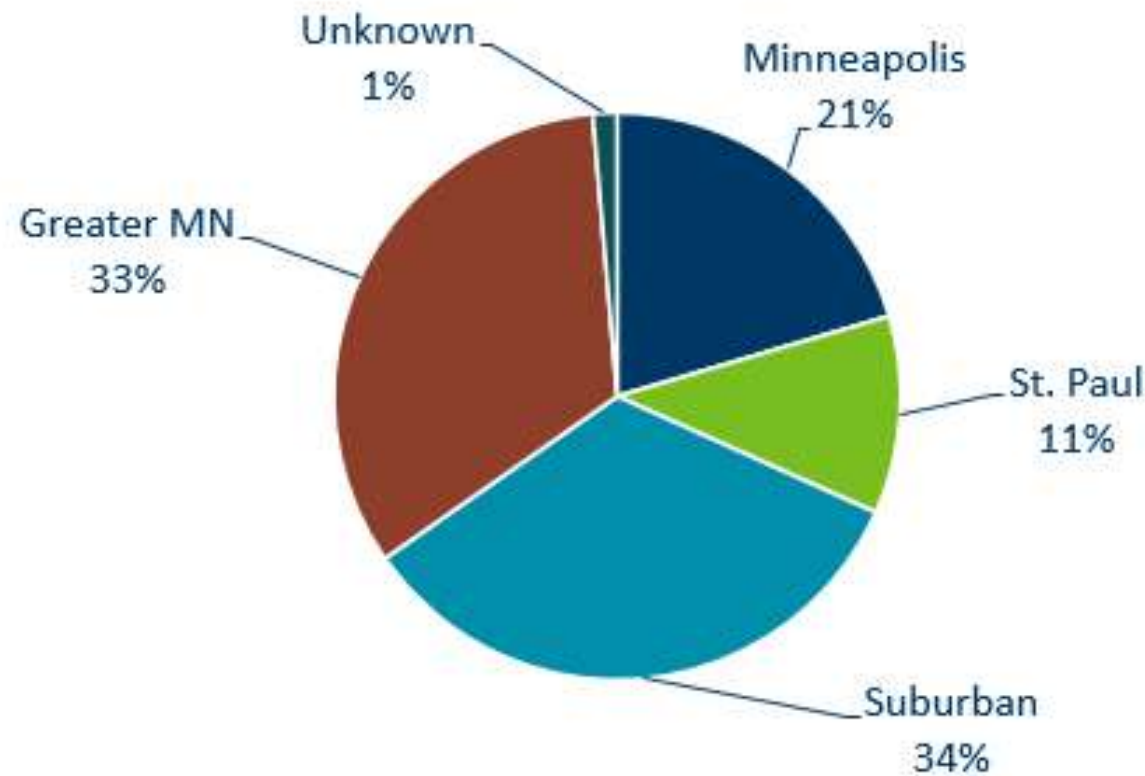
City of Minneapolis
 City of St. Paul
 Suburban*
 Greater Minnesota
 Total

1,206 per 100,000 (4,613 cases)
 894 per 100,000 (2,548 cases)
 348 per 100,000 (7,585 cases)
 306 per 100,000 (7,519 cases)
 425.7 per 100,000 (22,578 cases)
(315 cases missing residence information)

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

Chlamydia Infections by Residence at Diagnosis Minnesota, 2021

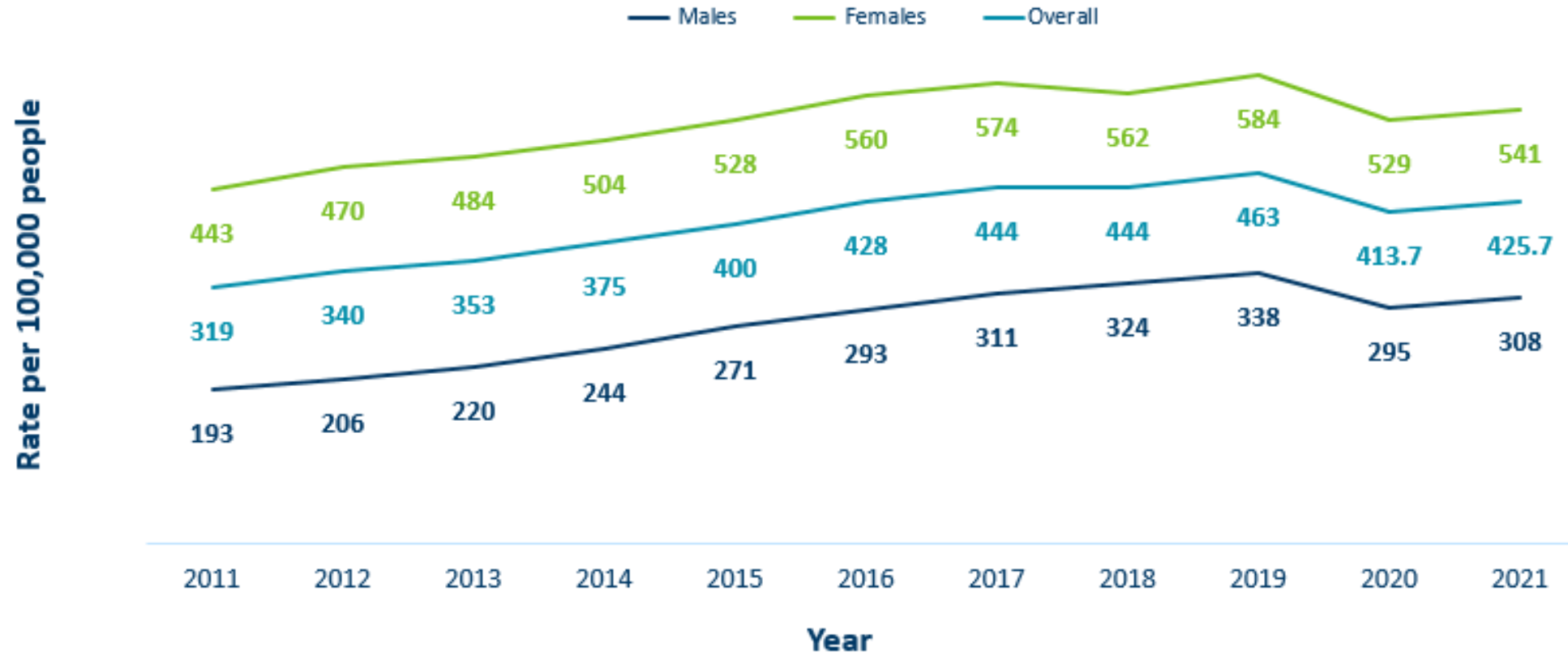
Total Number of Cases = 22 578



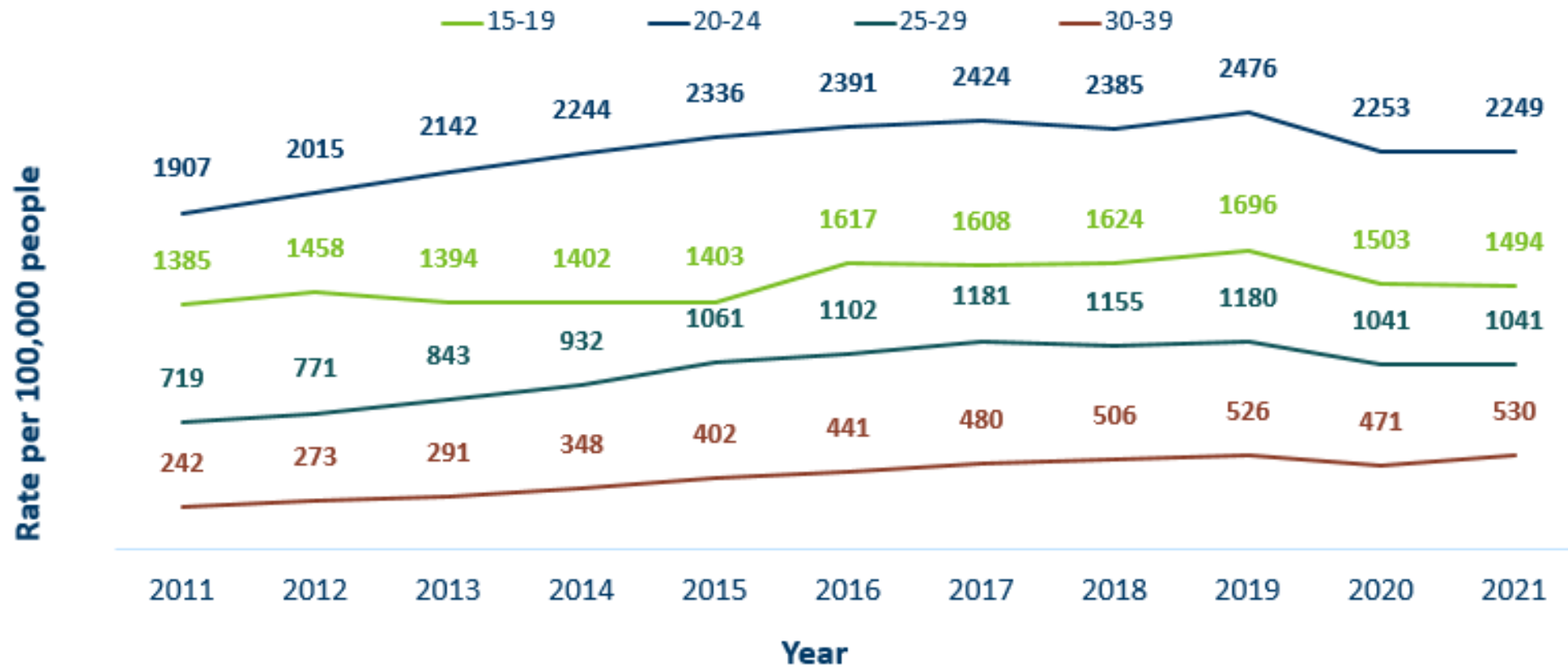
Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties outside the seven-county metro area.

Chlamydia Rates by Gender

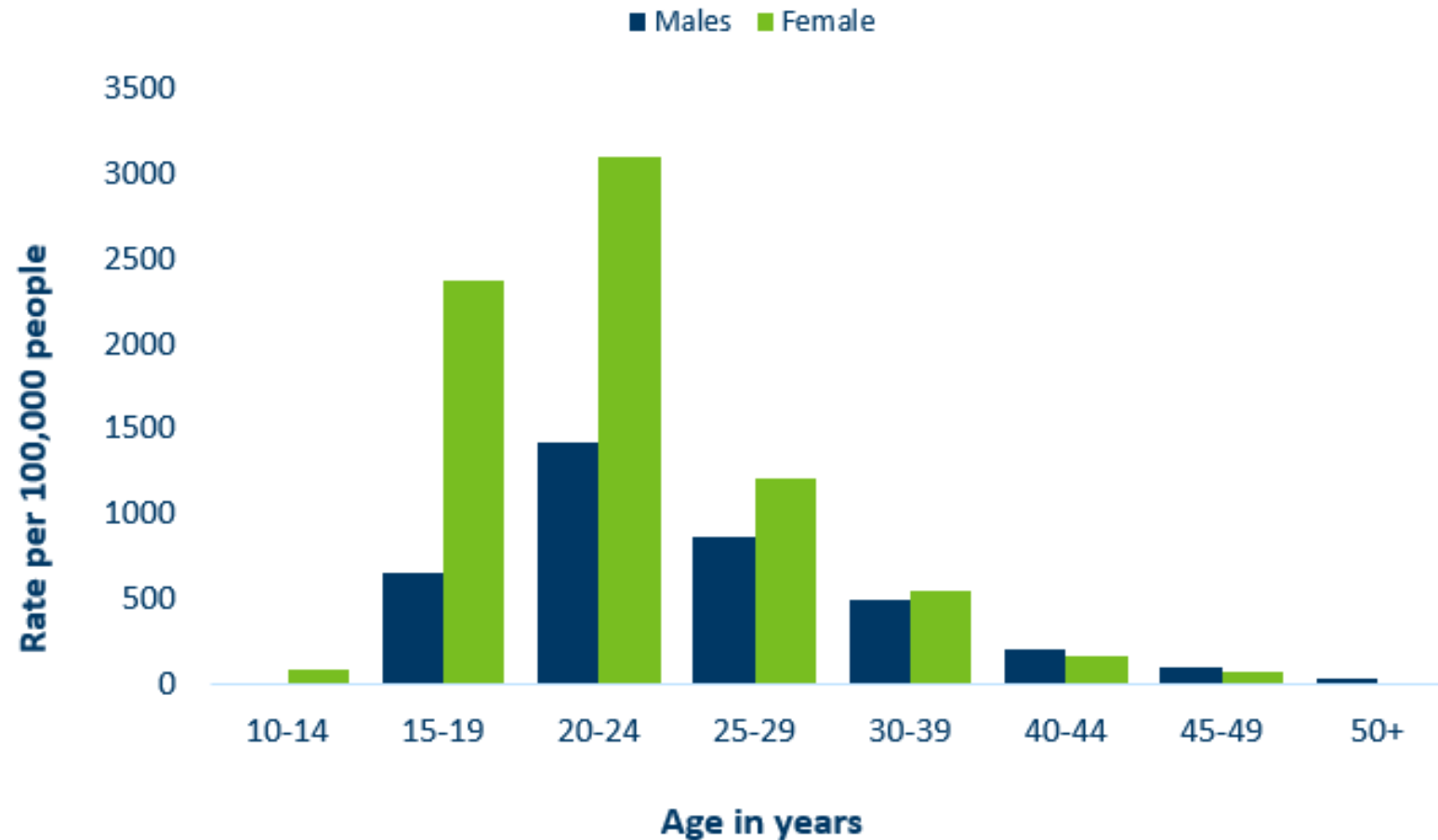
Minnesota, 2010-2020



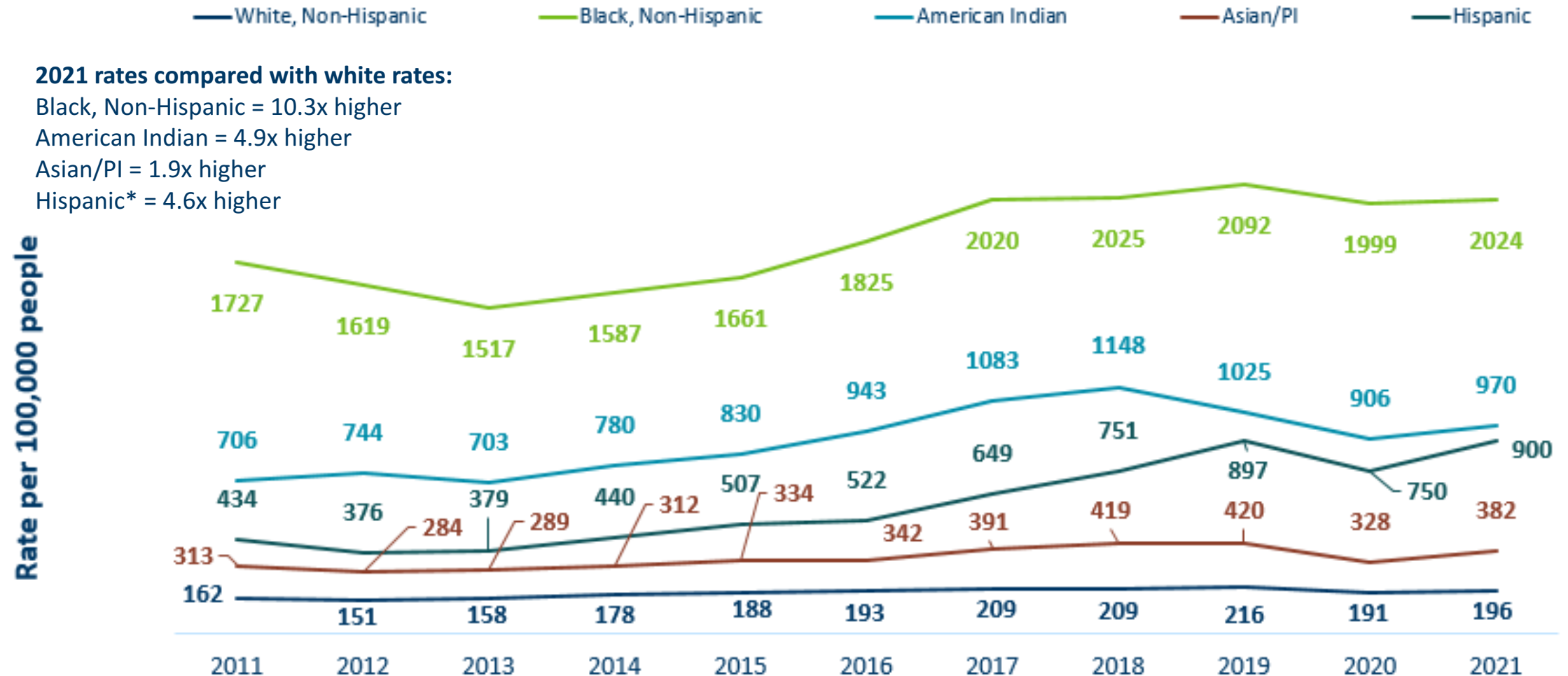
Chlamydia Rates by Age Minnesota, 2011-2021



Age-Specific Chlamydia Rates by Gender, Minnesota, 2021

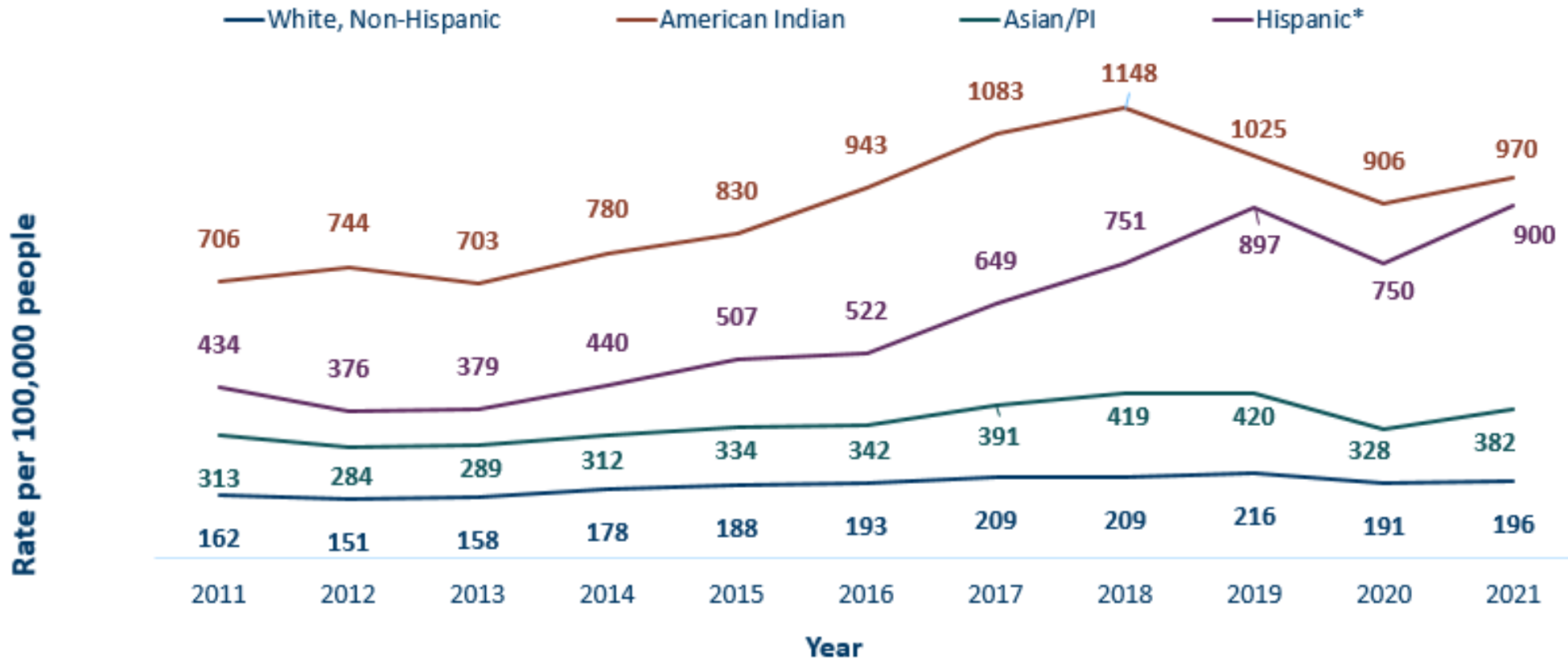


Chlamydia Rates by Race/Ethnicity Minnesota, 2011-2021 (1/2)



* people of Hispanic ethnicity can be of any race

Chlamydia Rates by Race/Ethnicity, Minnesota, 2011-2021 (2/2)



* people of Hispanic ethnicity can be of any race

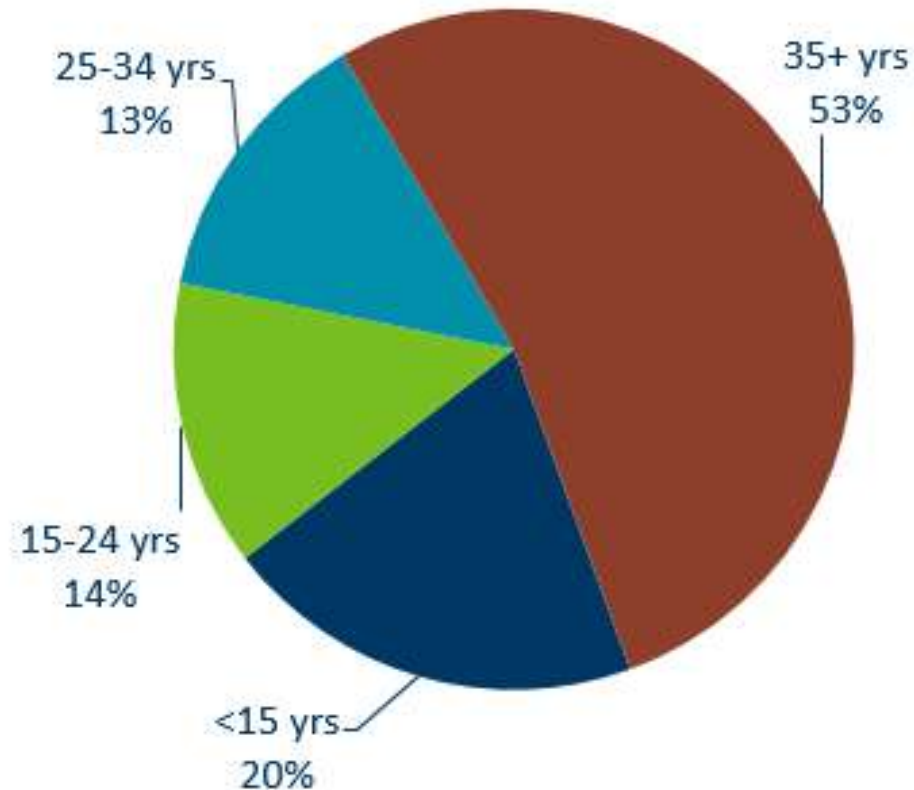
Chlamydia and Gonorrhea Among Adolescents and Young Adults (15-24 years of age)

Minnesota Department of Health STD Surveillance System

Chlamydia Disproportionately Impacts Youth and Young Adults

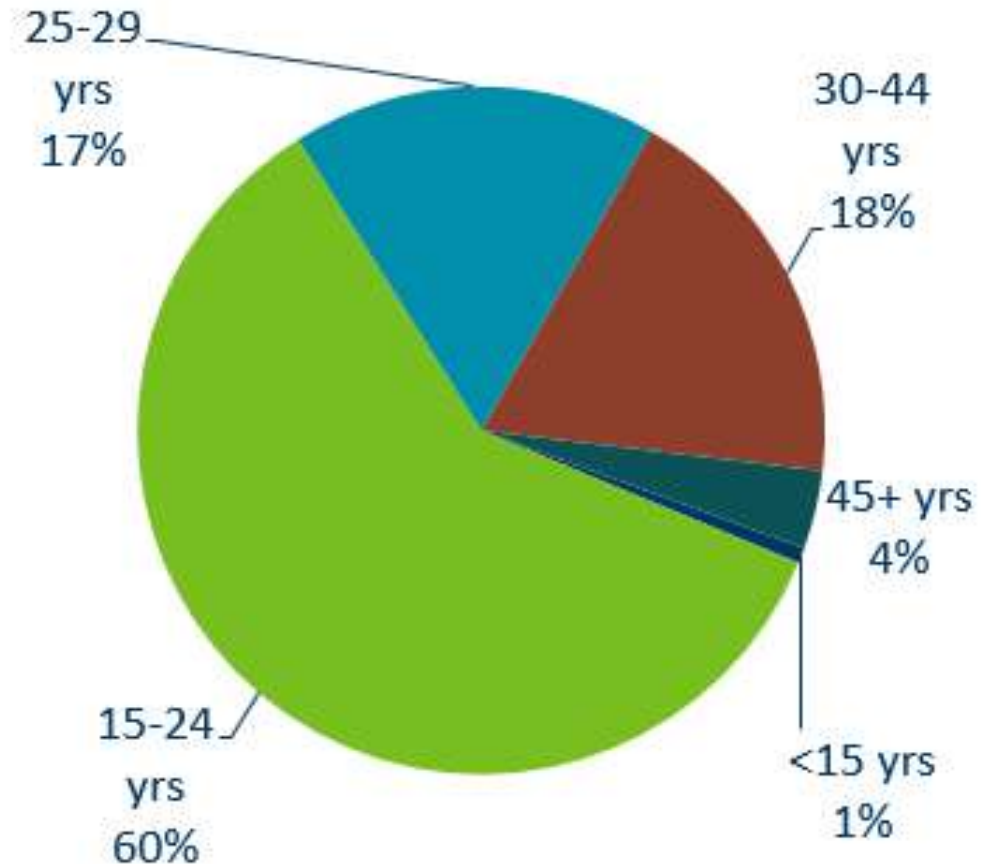
MN Population

(n = 5,202,025)



Chlamydia Cases in 2021

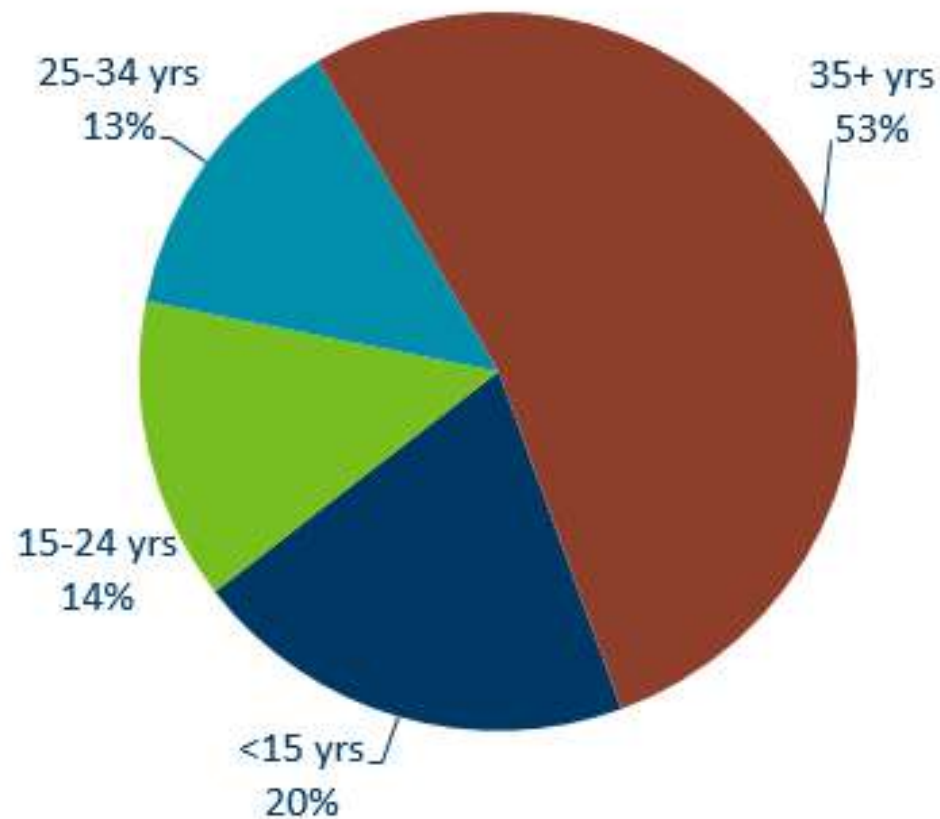
(n = 22,578)



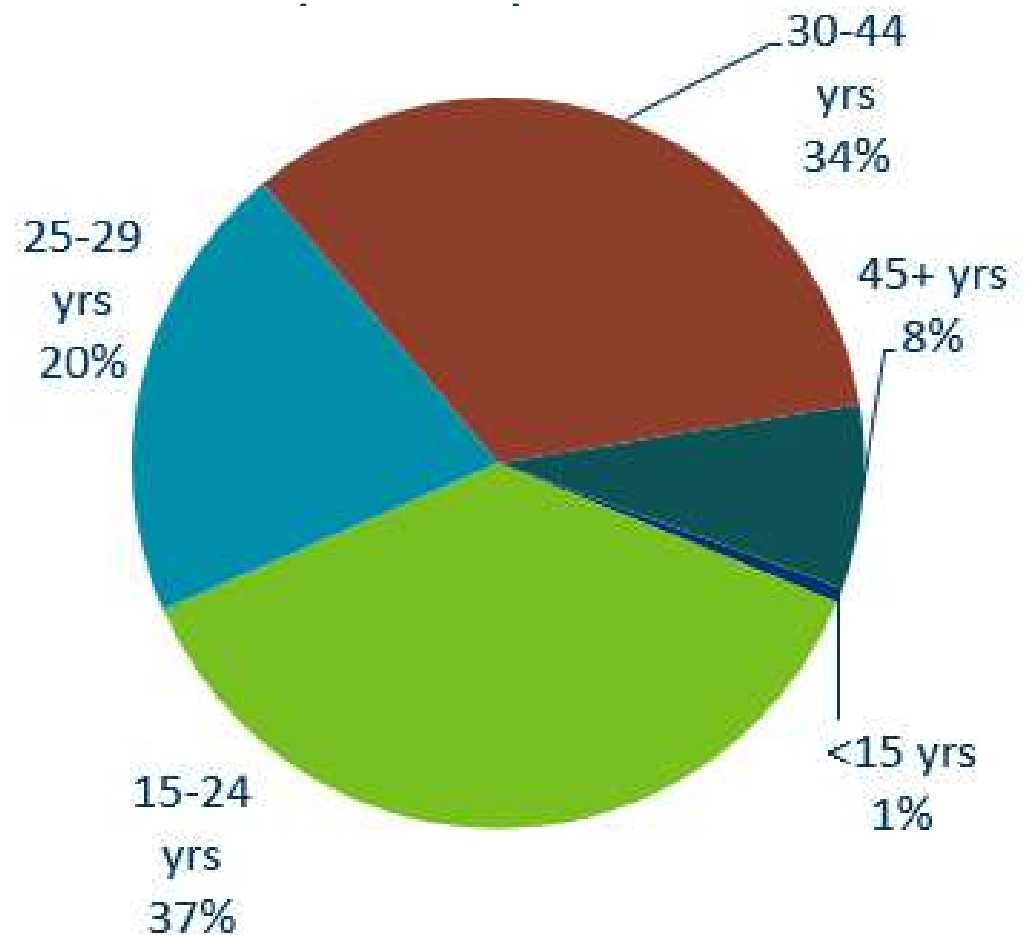
Gonorrhea Disproportionately Impacts Youth and Young Adults

MN Population

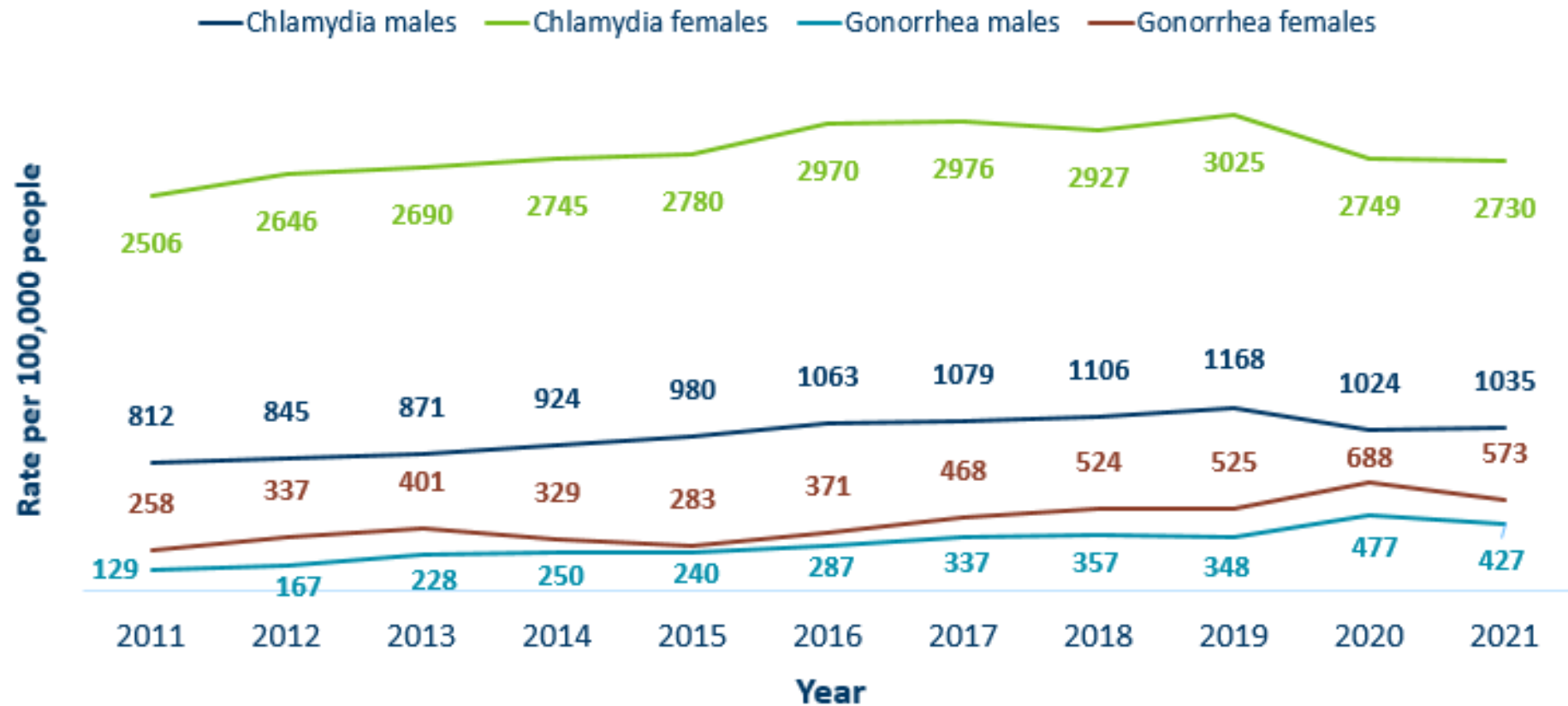
(n = 5,202,025)



Gonorrhea Cases in 2021



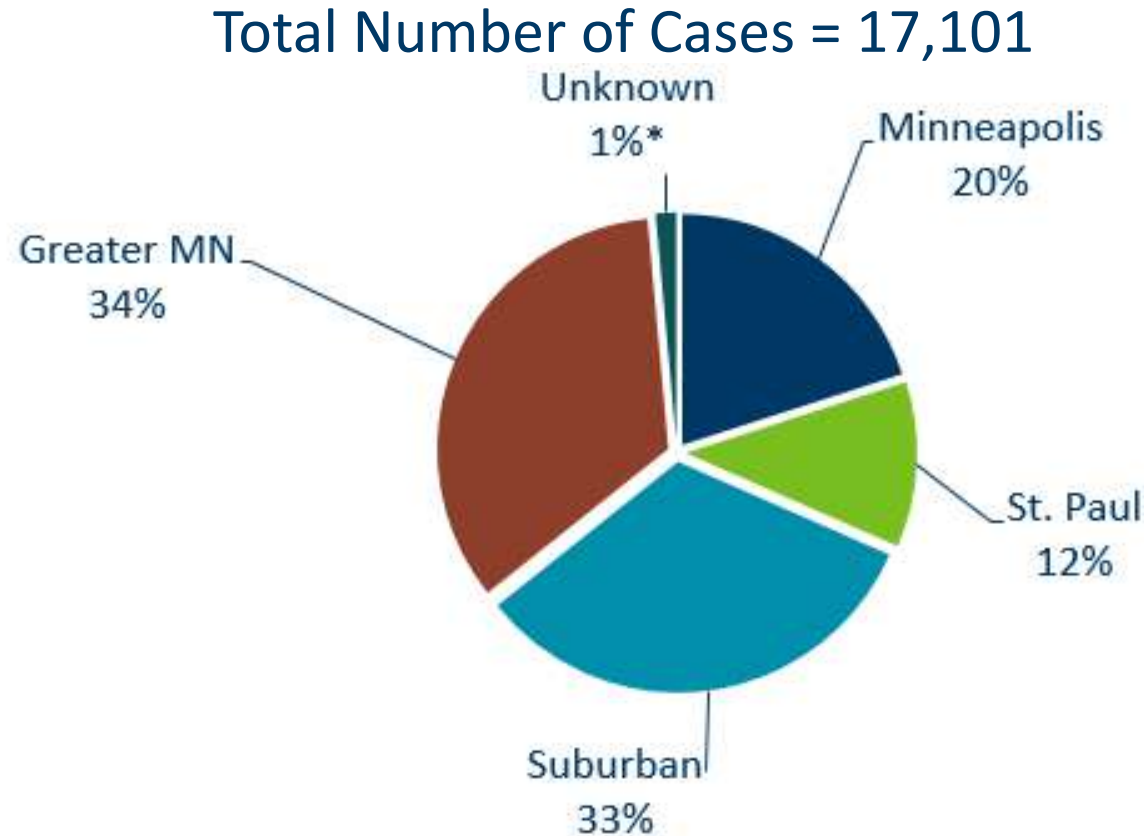
Chlamydia and Gonorrhea Rates Among Adolescents & Young Adults[†] by Gender in Minnesota, 2011-2021



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 2021

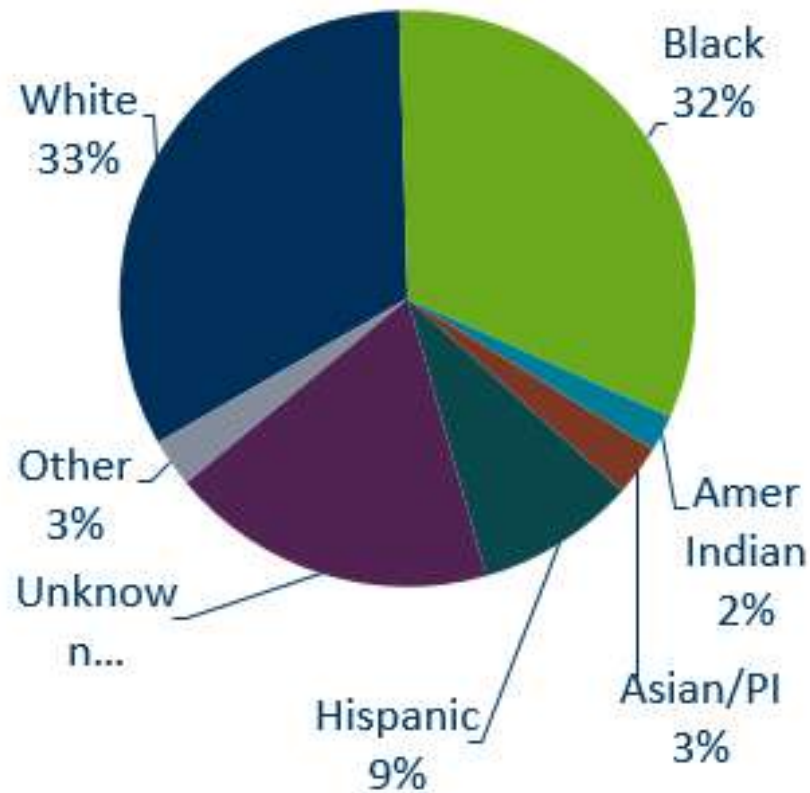


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Greater MN = All other Minnesota counties outside the seven-county metro area.

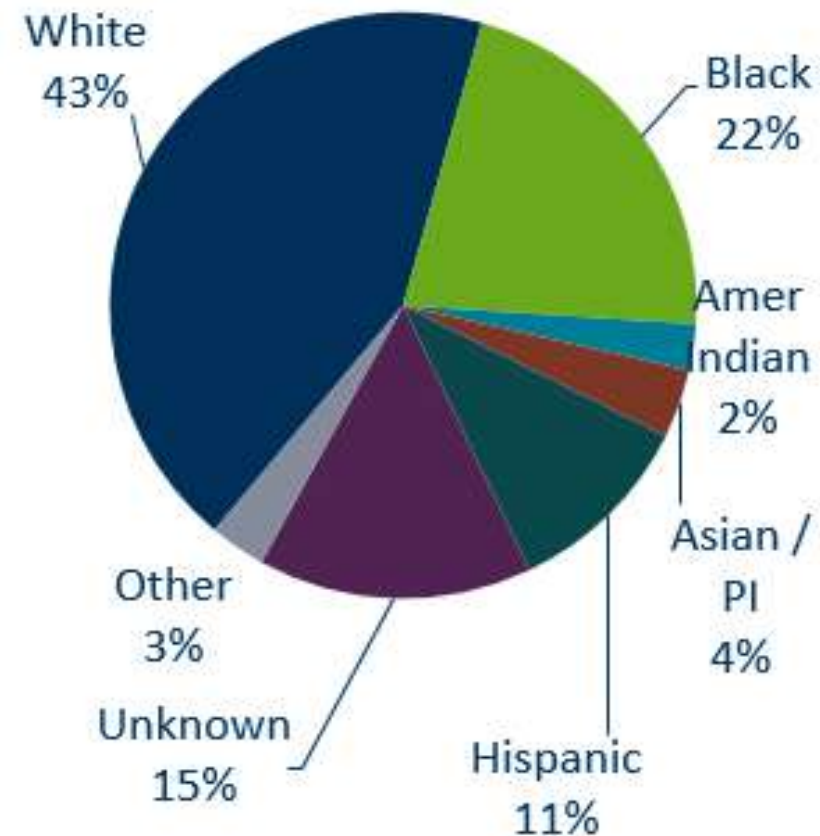
[†] Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.

Chlamydia Cases Among Adolescents and Young Adults[†] by Gender and Race, Minnesota, 2021

Males (n = 3,821)

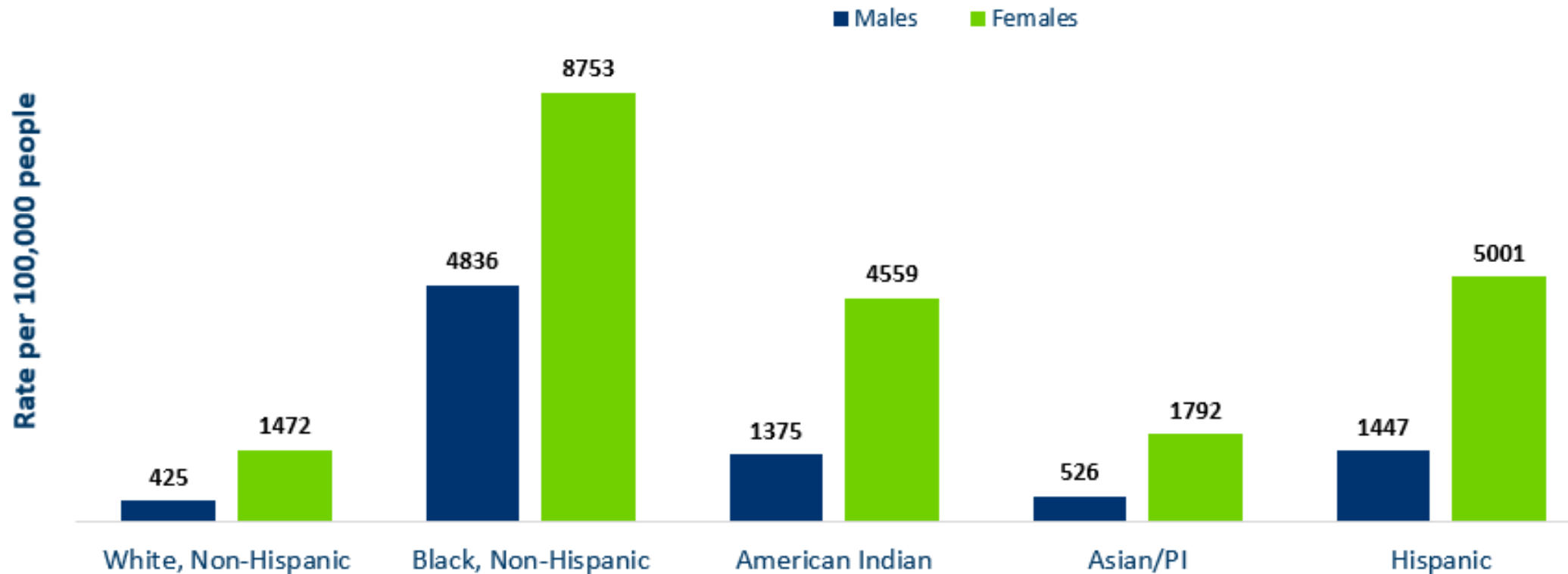


Females (n = 9,667)



[†] Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds * Other is more than one race. Excludes 4 transgender & 19 missing/other

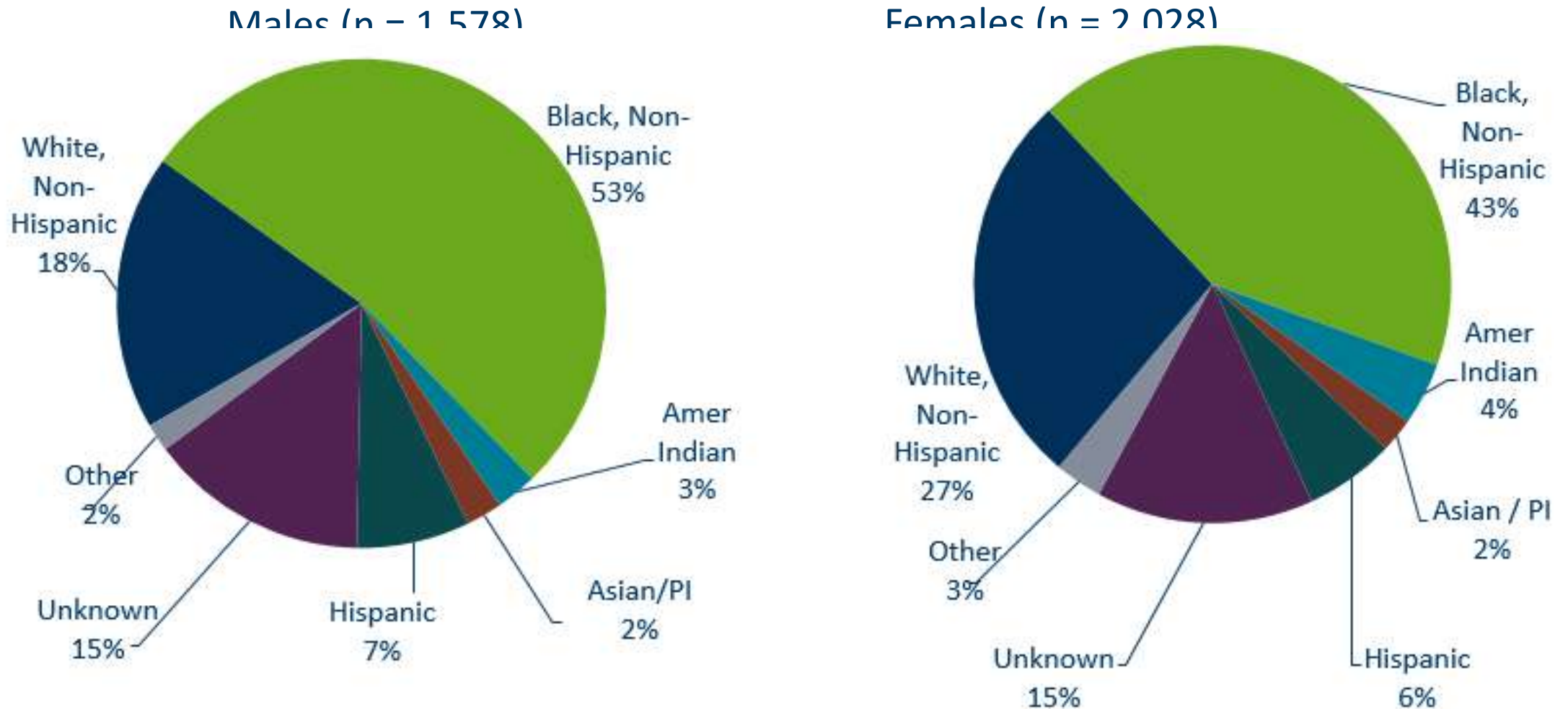
Chlamydia Rates Among Adolescents and Young Adults[†] by Race, Minnesota, 2021



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

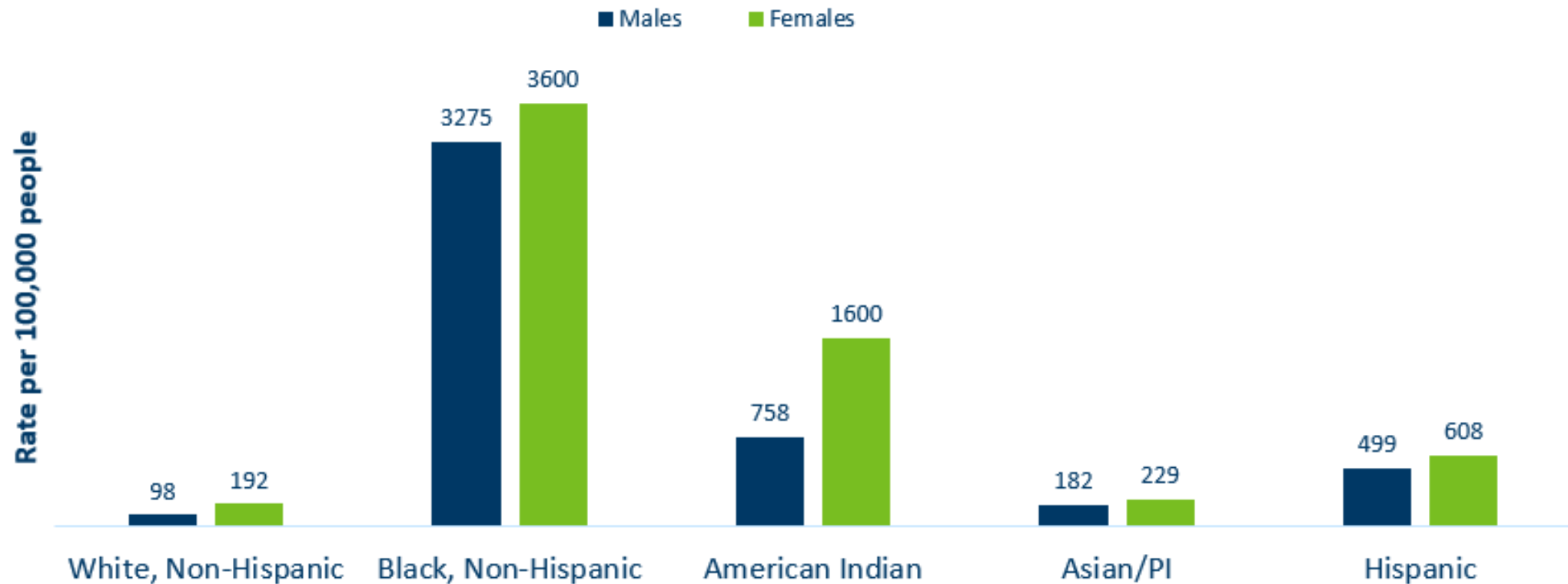
[†] Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.

Gonorrhea Cases Among Adolescents and Young Adults[†] by Gender and Race, 2021



[†] Adolescents defined as 15-19 year-olds; Young adults defined as 20-24 year-olds. Excludes unknown/transgender/missing

Gonorrhea Rate Among Adolescents and Young Adults[†] by Race, Minnesota, 2021



[†] 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 STDs on Young Females and Communities of Color

- Females and particularly females of color disproportionately bear the long-term consequences of STDs.
 - 68% of chlamydia or gonorrhea cases diagnosed among adolescents and young adults were females.
 - 29% of all chlamydia or gonorrhea cases diagnosed among adolescents and young adults were in the Black, non-Hispanic females.
- People with vulvas are biologically more prone to contracting an STD, but less likely to have symptoms. Untreated STDs can have serious consequences on their health and future reproductive ability.
 - Untreated STDs in people with vulvas can lead to pelvic inflammatory disease, infertility and ectopic pregnancy.
 - Pregnant people are at risk of passing a STDs 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 2021

	Cases	% of Total
Male	5,399	32%
Female	11,695	68%
White, Non-Hispanic	6,267	36%
Black, Non-Hispanic	5,021	30%
Am Indian	452	3%
Asian/PI	563	3%
Hispanic	1,604	9%
Unknown/Other	3,187	19%
TOTAL	17,094	

[†] 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 STD Trends in Minnesota

- From 2011-2021, the chlamydia rate increased by 34%. The rate of gonorrhea increased by 324%, syphilis has increased by 305%.
- Adolescent and young females aged 15-24 years old continue to make up the majority of all chlamydia or gonorrhea cases at 53%.
- 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 continue to be disproportionately affected by all STDs in Minnesota. Disparities in the rates of STDs 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)

- 3 cases of disseminated gonococcal infections (DGI) diagnosed in MN in 2021.
- 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 \(DGI\) \(https://www.cdc.gov/std/program/outbreakresources/HANtemplate-dgi.htm\)](https://www.cdc.gov/std/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 \(https://www.cdc.gov/std/treatment-guidelines/default.htm\)](https://www.cdc.gov/std/treatment-guidelines/default.htm)

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

Updates to STD 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 STD 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).