



# Sexually Transmitted Disease (STD) Surveillance Report, 2020

Minnesota Department of Health STD Surveillance System

- 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.

- 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

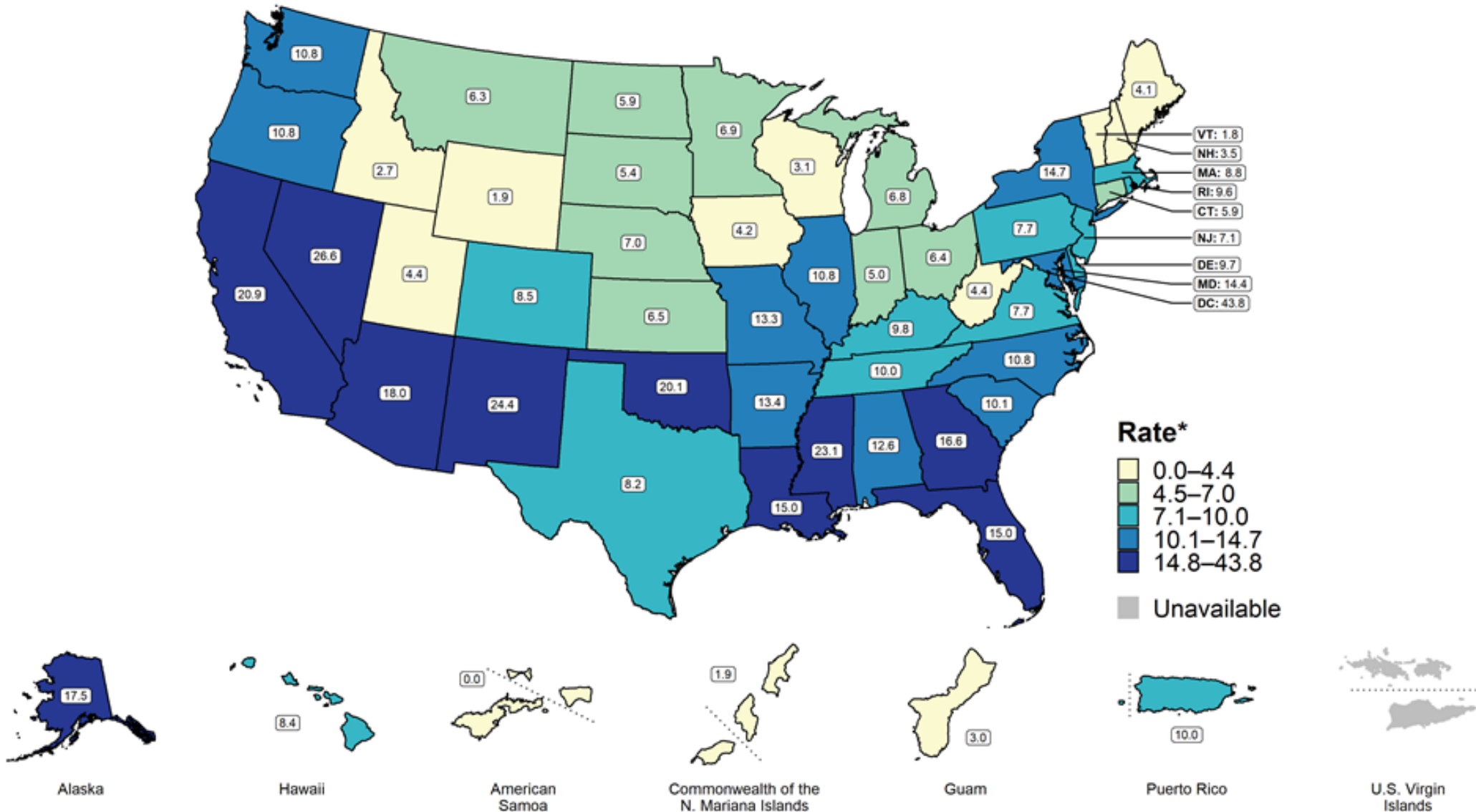
- Factors that impact the completeness and accuracy of STD data include:
  - Level of STD screening by healthcare providers
  - Individual test-seeking behavior
  - Sensitivity of diagnostic tests
  - Compliance with case reporting
  - Completeness of case reporting
  - Timeliness of case reporting
- 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 stay-at-home orders likely played a role in the number of cases reported/diagnosed this past year.

# Interpreting STD Surveillance Data 2/2

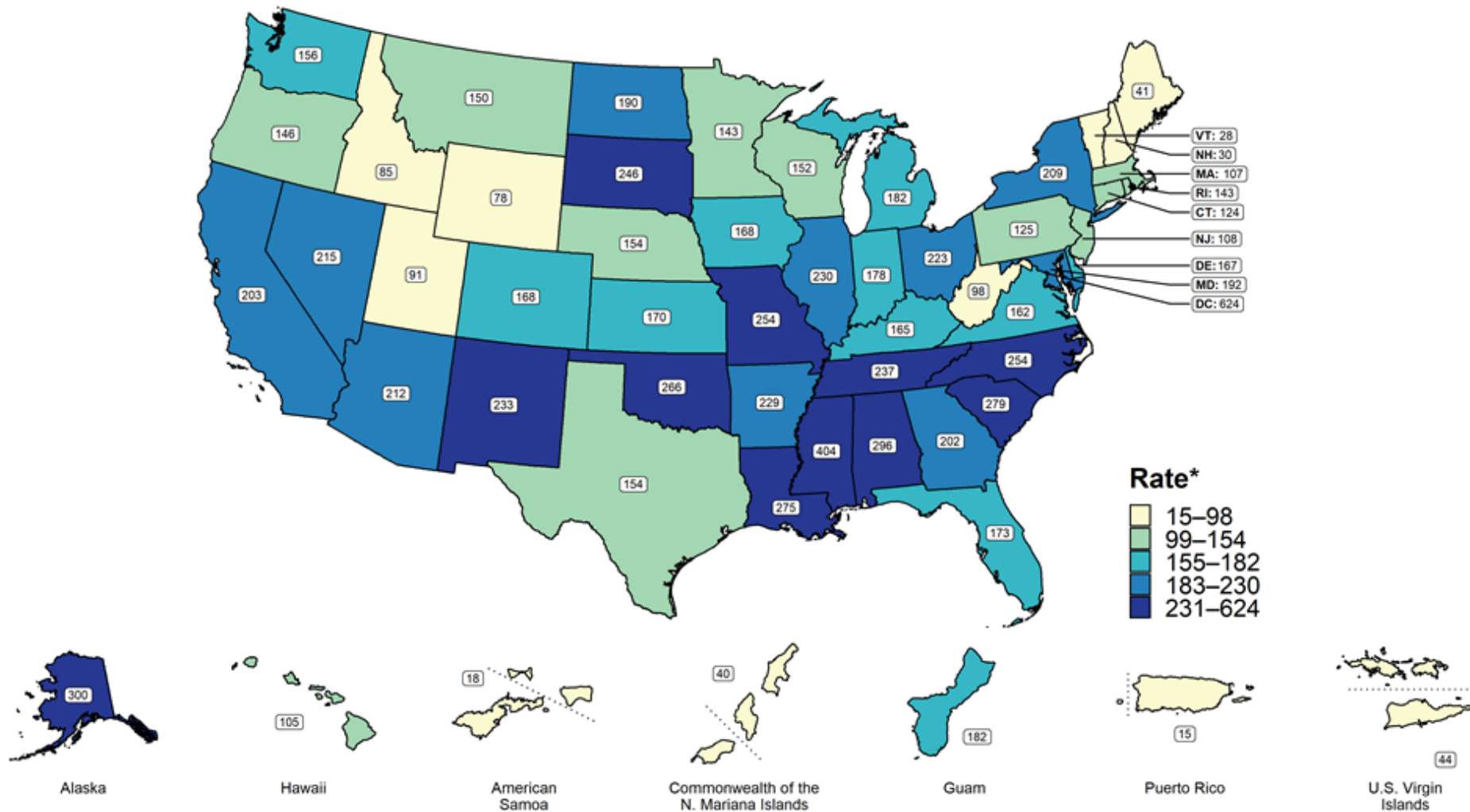
- The surveillance system only includes cases with a positive laboratory test. Cases diagnosed solely on symptoms are not counted.
- Since 2012, we have included cases that had only a lab report and no corresponding case report form. This has increased the number of unknowns in some variables.
- In 2020, 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, 2019

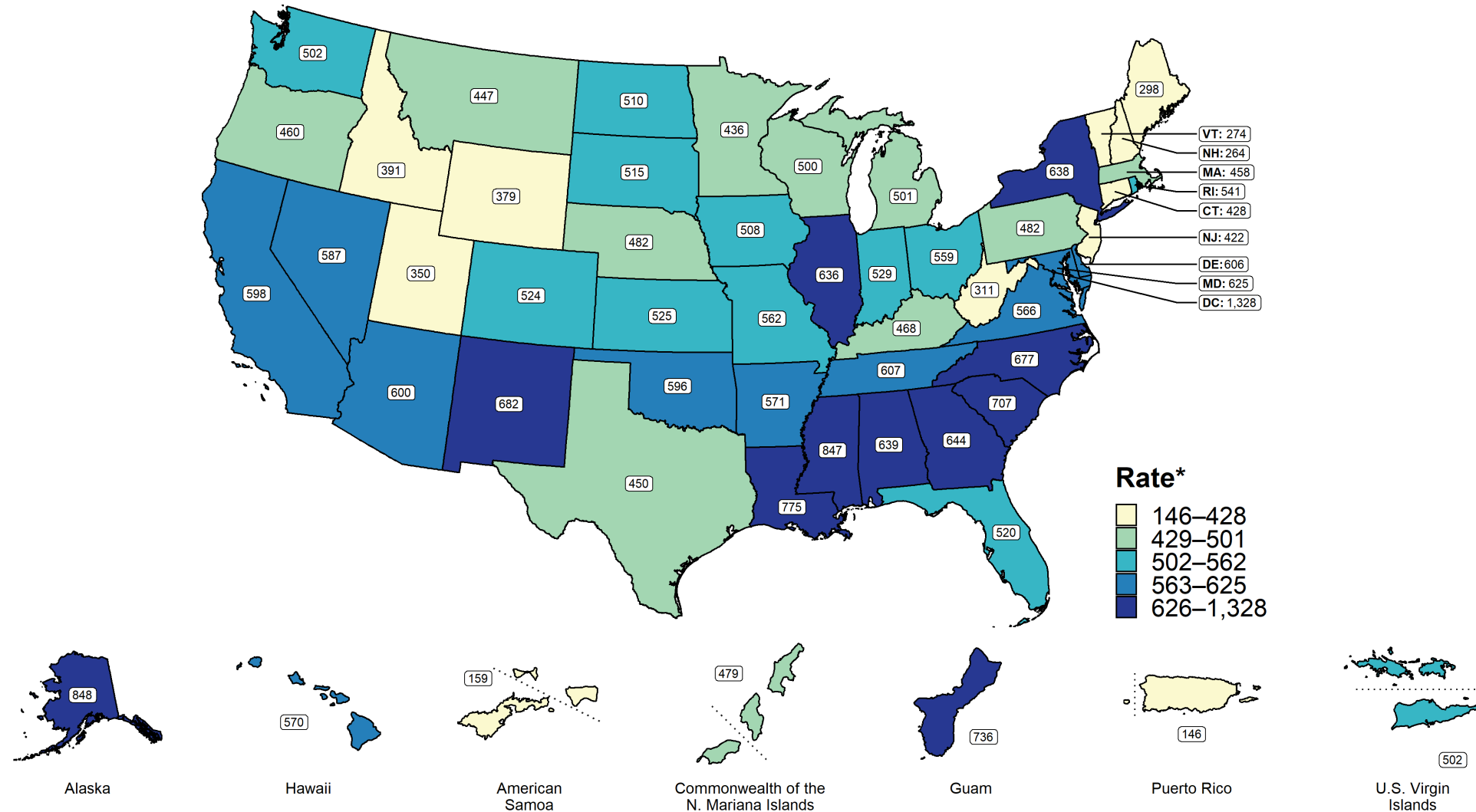


# Gonorrhea — Rates of Reported Cases by State, United States and Territories, 2019





# Chlamydia — Rates of Reported Cases by State, United States and Territories, 2019



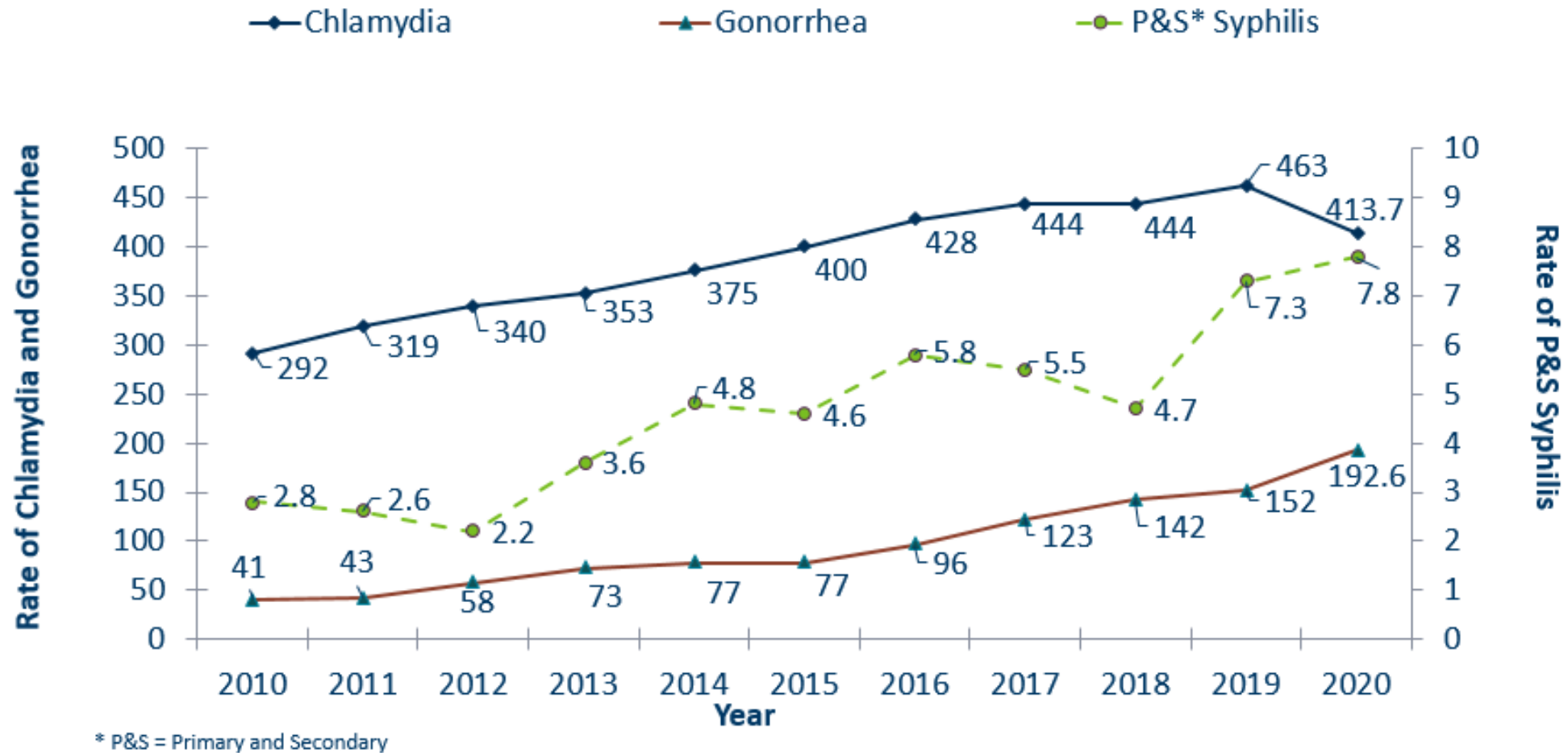
# Overview of STDs in Minnesota



# STDs in Minnesota: Number of Cases Reported in 2020

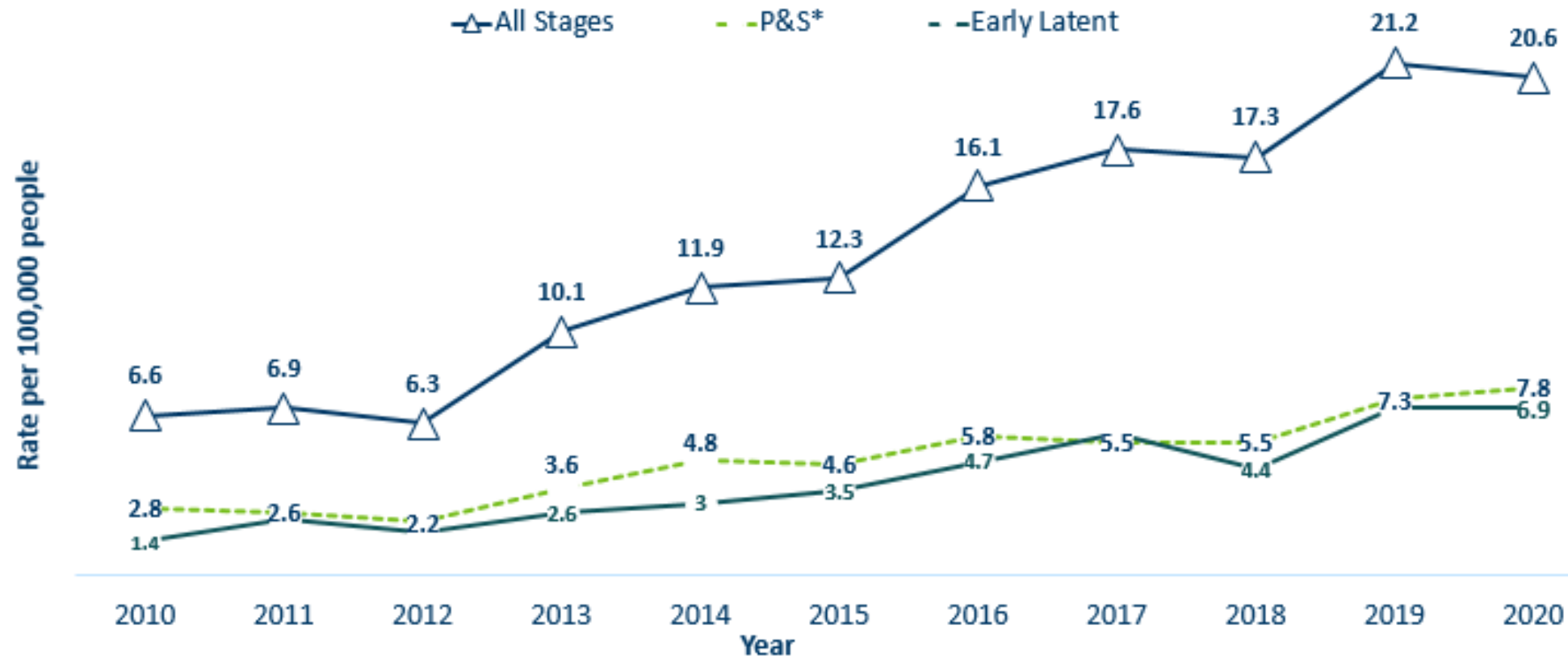
- Total of 33,252 STD cases reported to MDH in 2020:
  - 21,942 Chlamydia cases
  - 10,217 Gonorrhea cases
  - 1,093 Syphilis cases (all stages)
  - 0 Chancroid cases

# STDs in Minnesota: Rate per 100,000 by Year of Diagnosis, 2010-2020



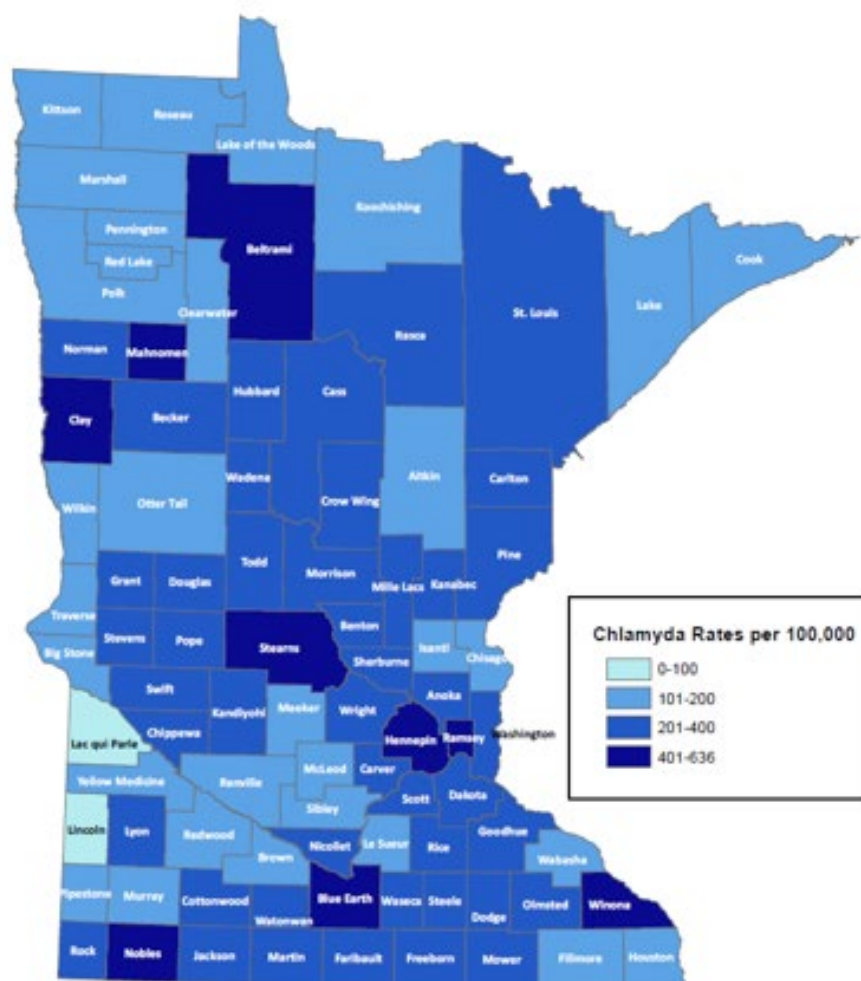
# Syphilis

# Syphilis Rates by Stage of Diagnosis Minnesota, 2010-2020



\* P&S = Primary and Secondary

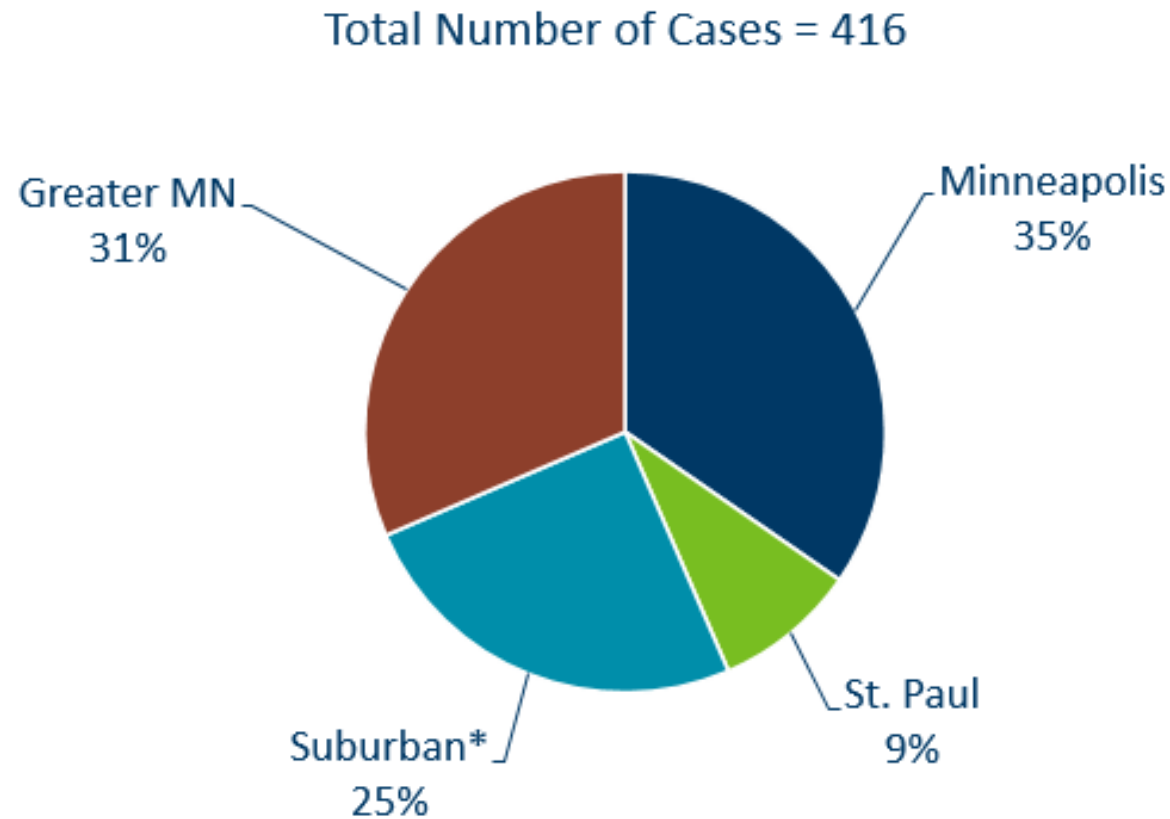
# 2020 Minnesota Primary & Secondary Syphilis Rates by County



City of Minneapolis	37.6 per 100,000 (144 cases)
City of St. Paul	13 per 100,000 (37 cases)
Suburban*	4.8 per 100,000 (104 cases)
Greater Minnesota	5.3 per 100,000 (131 cases)
Total	7.8 per 100,000 (416 cases)

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

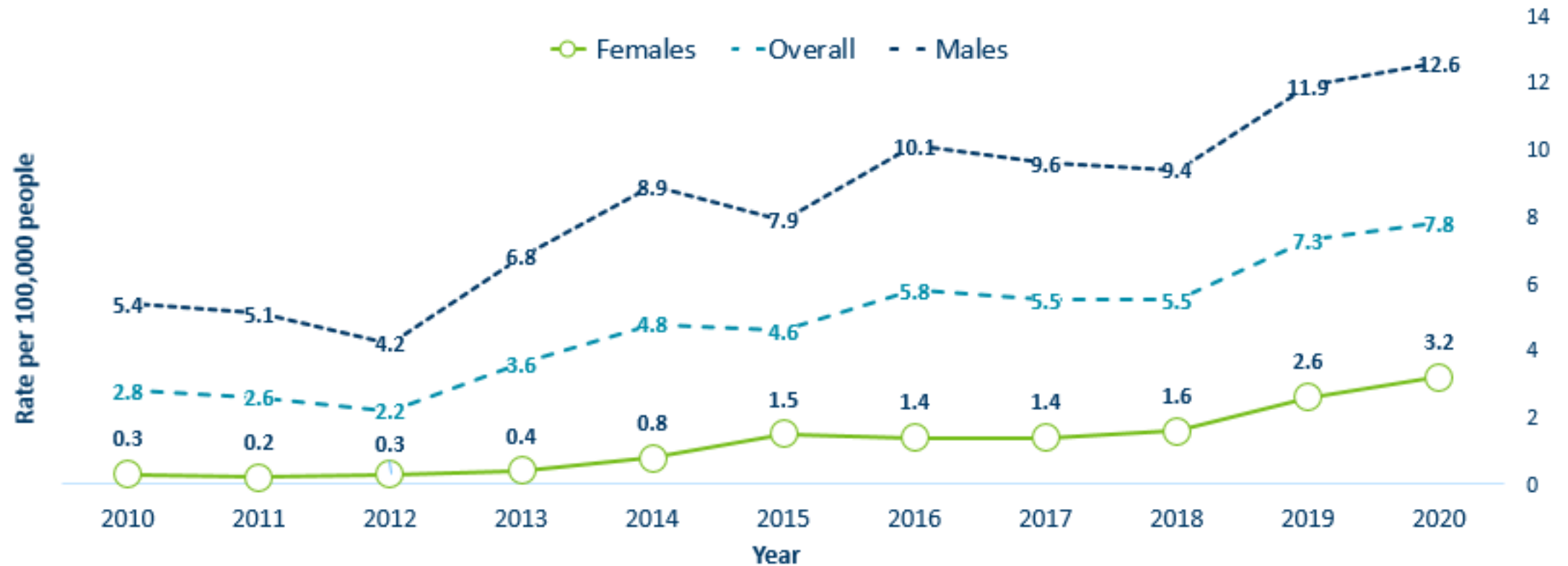
# Primary & Secondary Syphilis Infections by Residence at Diagnosis Minnesota, 2020



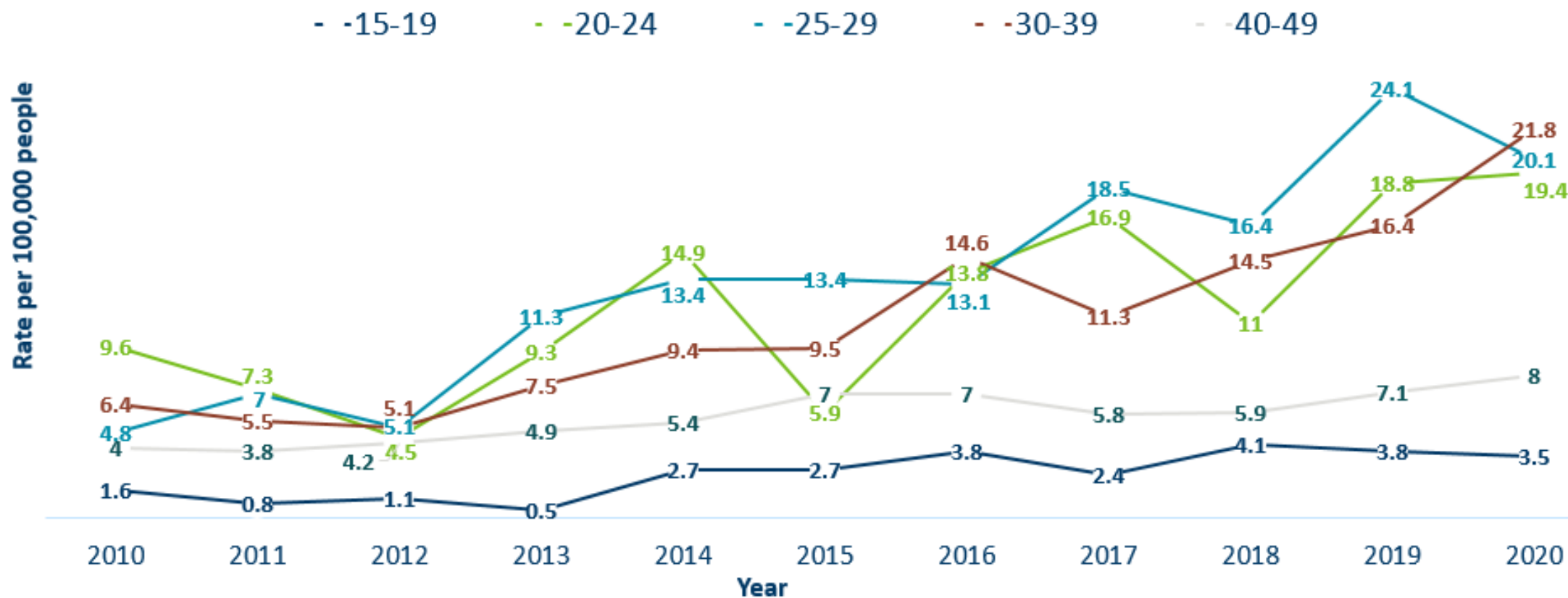
\*Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties outside the seven-county metro area.



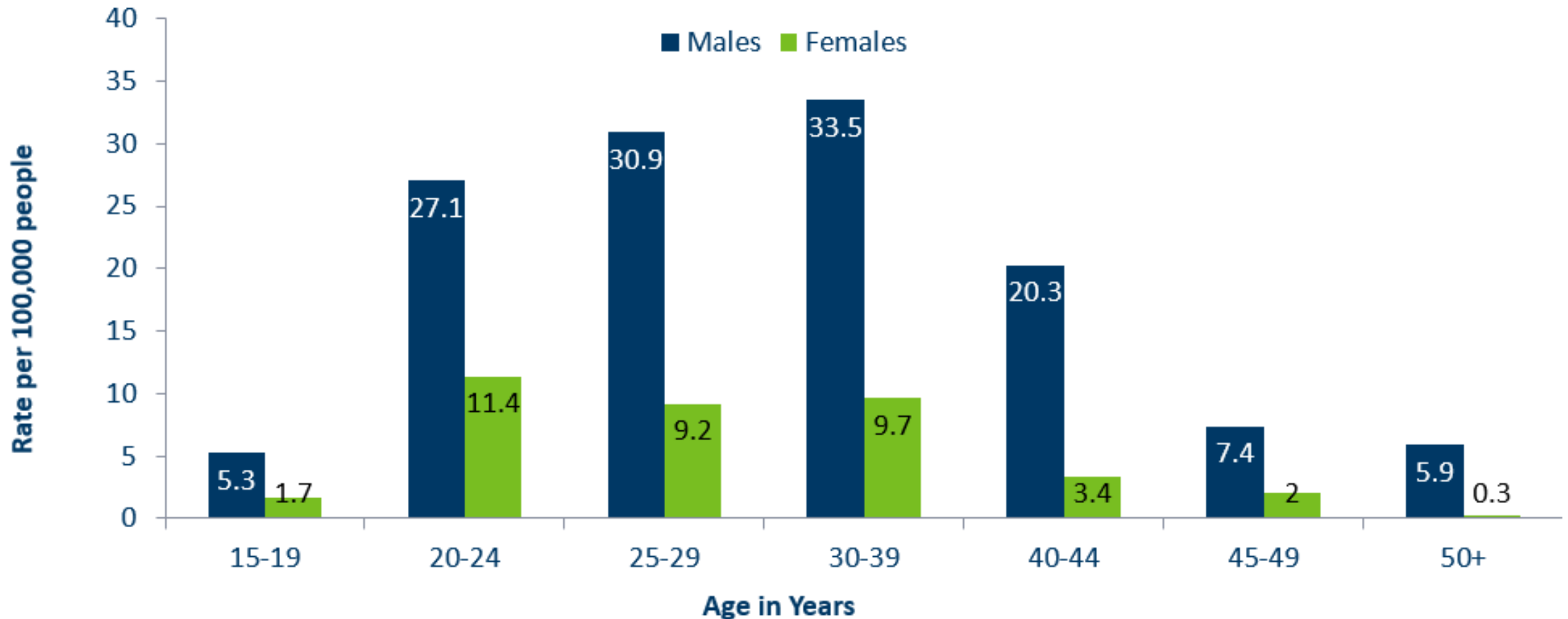
# Primary & Secondary Syphilis Rates by Gender Minnesota, 2010-2020



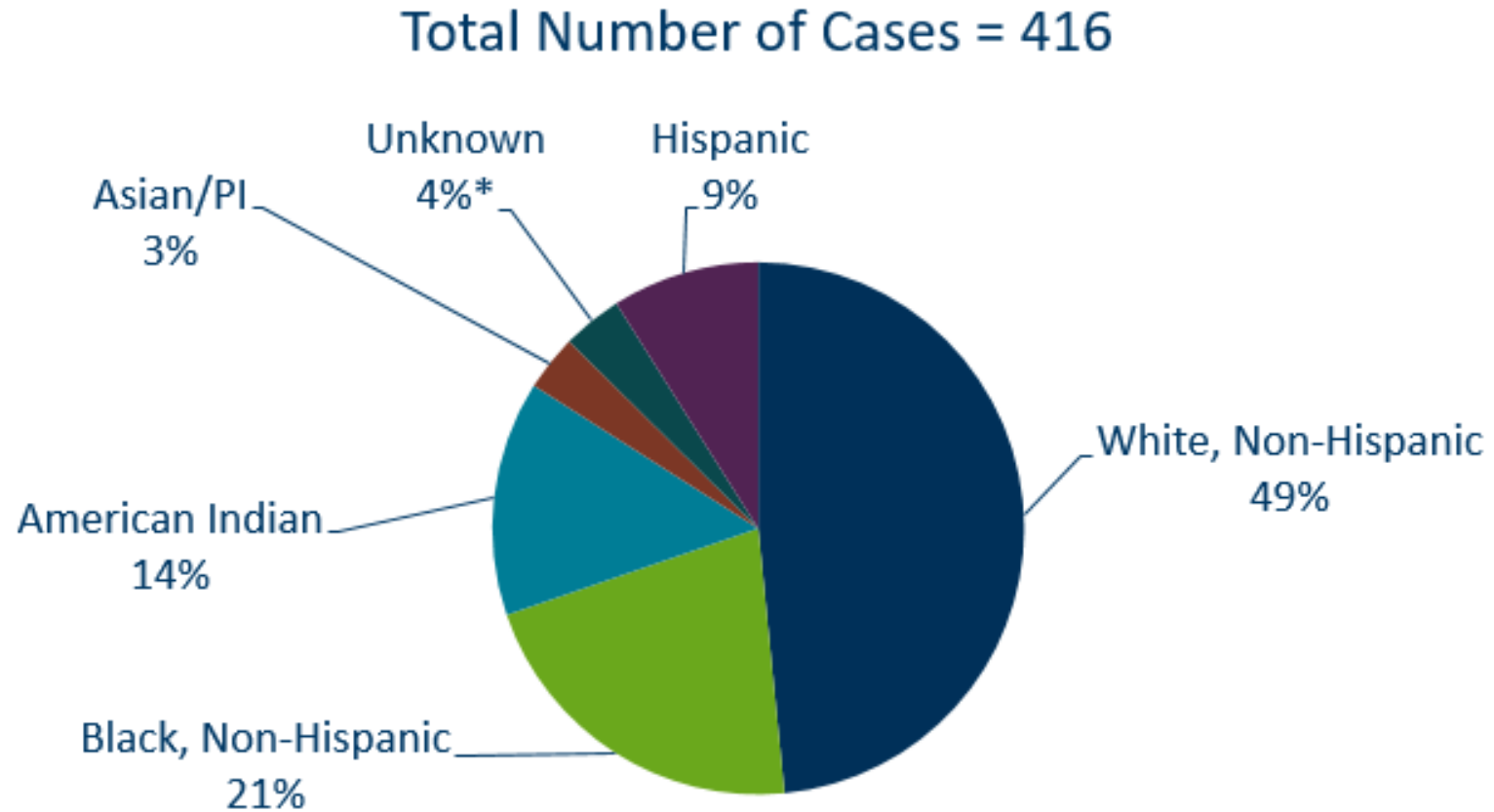
# Primary & Secondary Syphilis Rates by Age Minnesota, 2010-2020



# Age-Specific Primary & Secondary Syphilis Rates by Gender, Minnesota, 2020

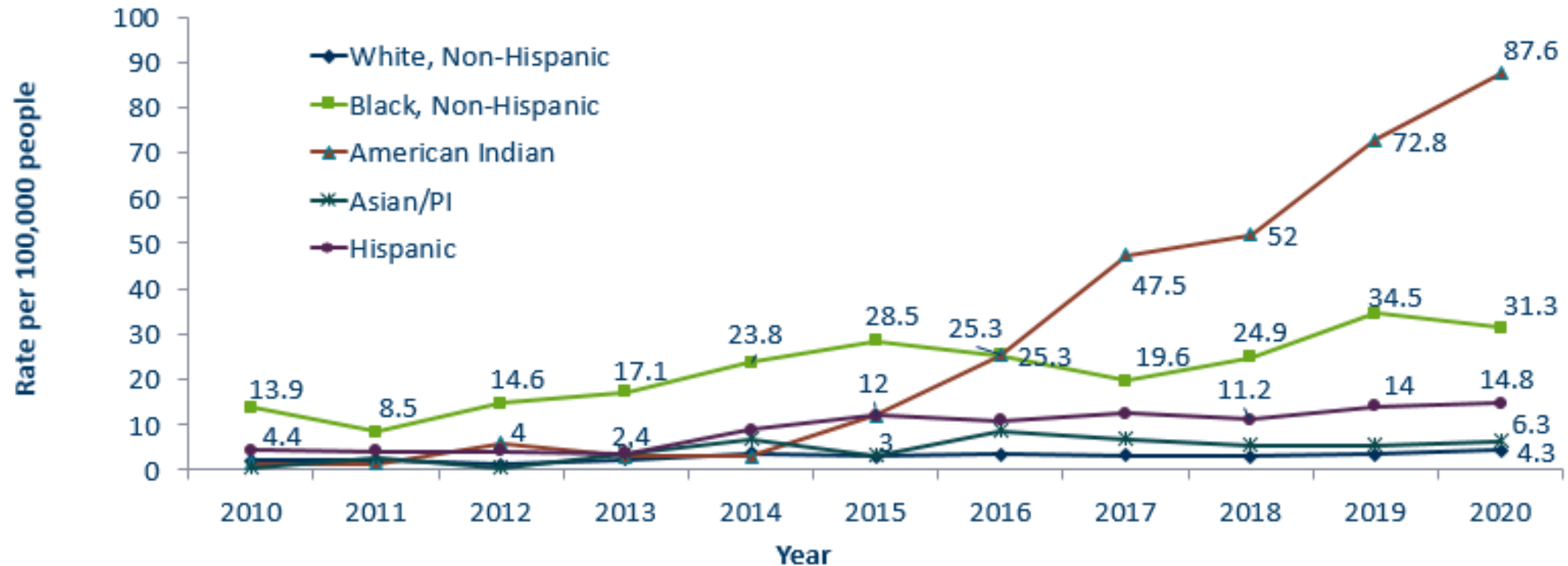


# Primary & Secondary Syphilis Cases by Race Minnesota, 2020



\*Includes people reported with more than one race

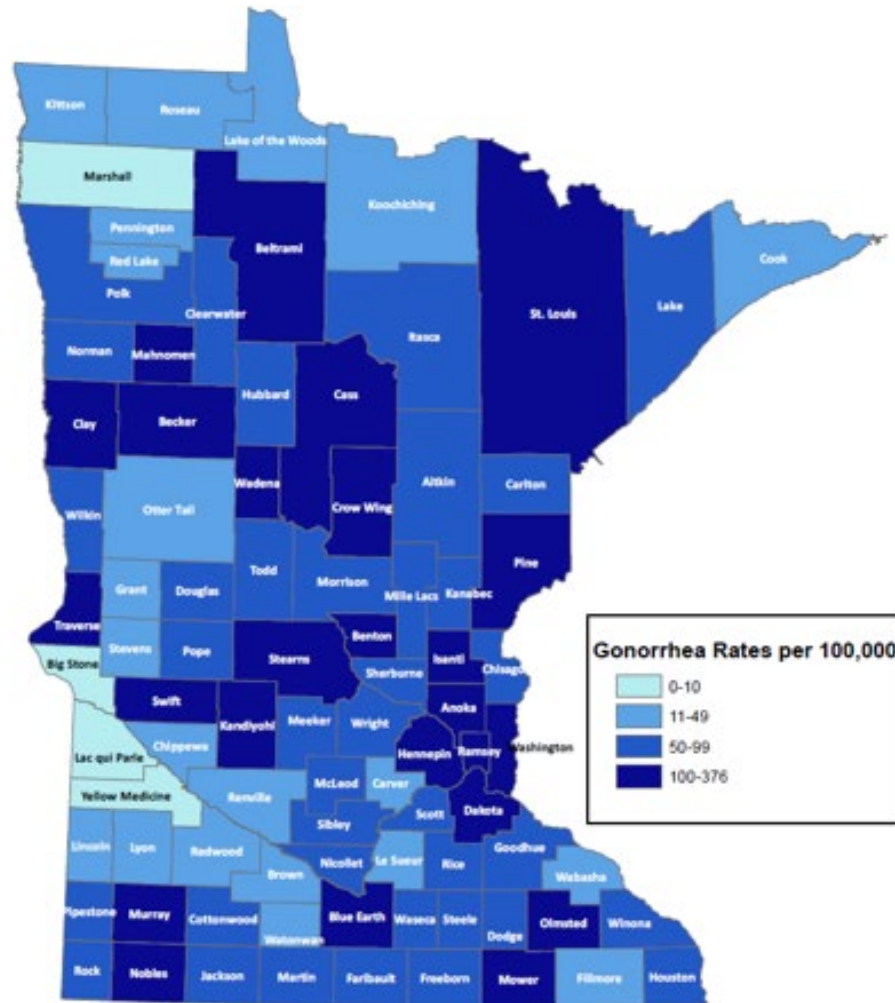
# Primary & Secondary Syphilis Rates by Race/Ethnicity Minnesota, 2010-2020



\* People of Hispanic ethnicity can be of any race

# Gonorrhea

# 2020 Minnesota Gonorrhea Rates by County

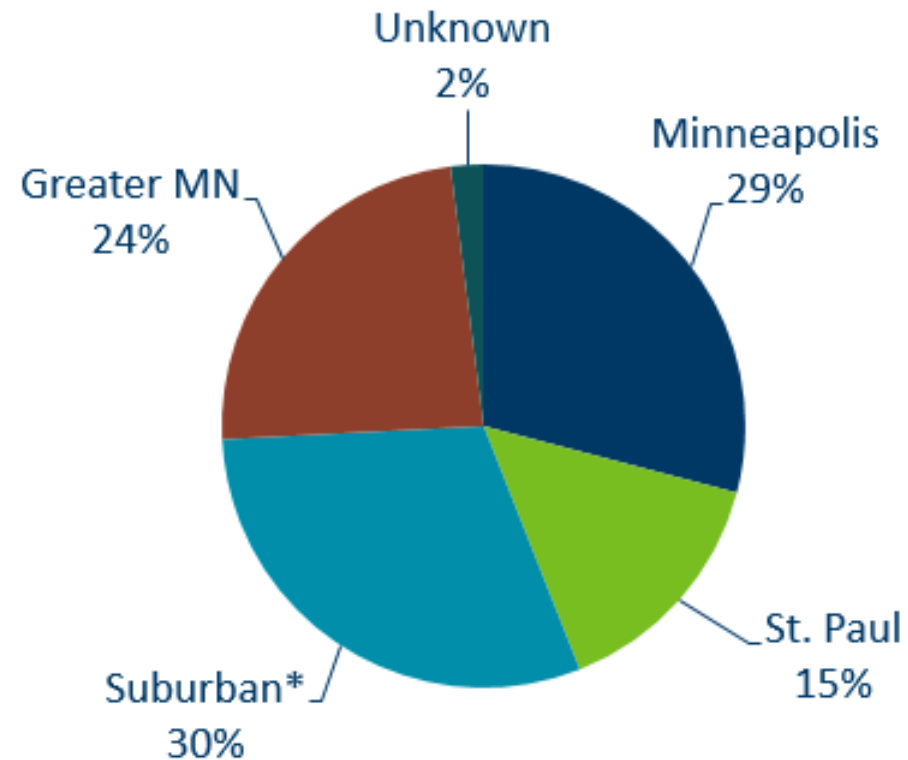


City of Minneapolis  
 City of St. Paul  
 Suburban\*  
 Greater Minnesota  
 Total

777 per 100,000 (2,973 cases)  
 535 per 100,000 (1,524 cases)  
 141 per 100,000 (3,083 cases)  
 99 per 100,000 (2,430 cases)  
 193 per 100,000 (10,217 cases)  
 (207 cases missing residence information)

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

# Gonorrhea Infections in Minnesota by Residence at Diagnosis, 2020

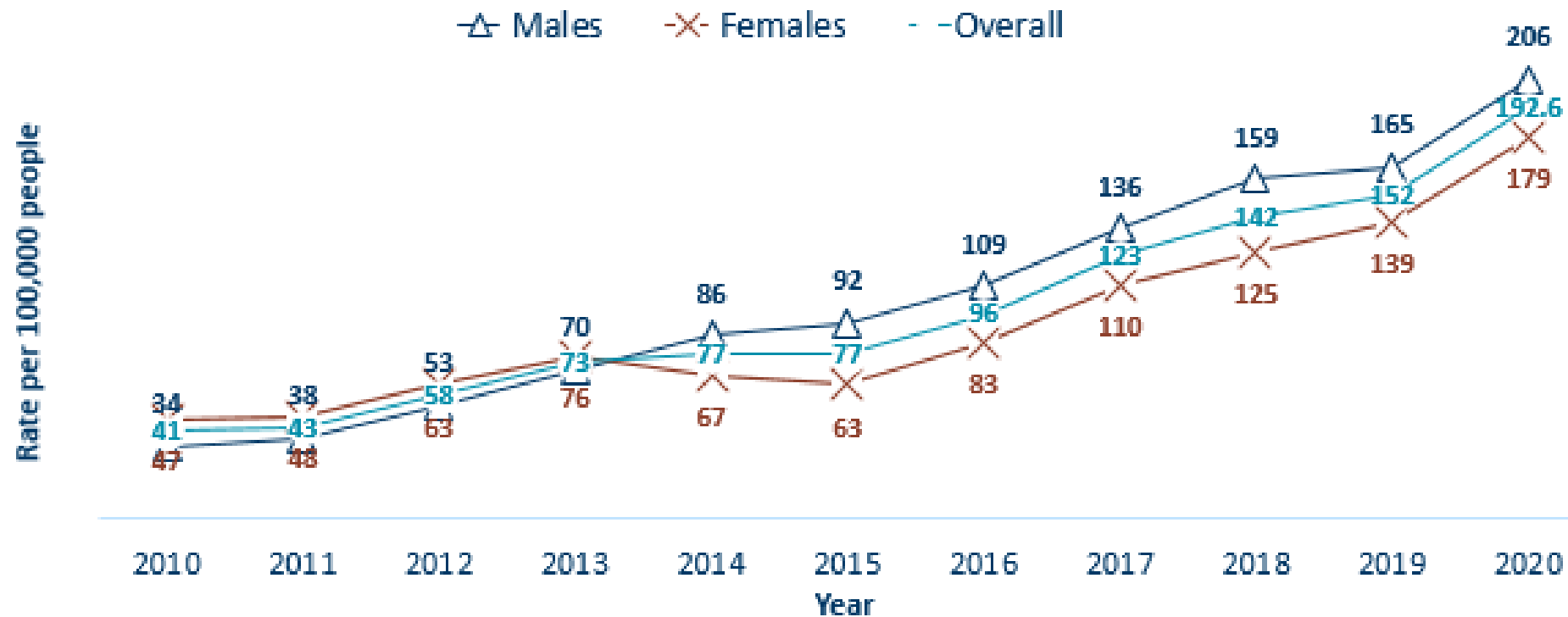


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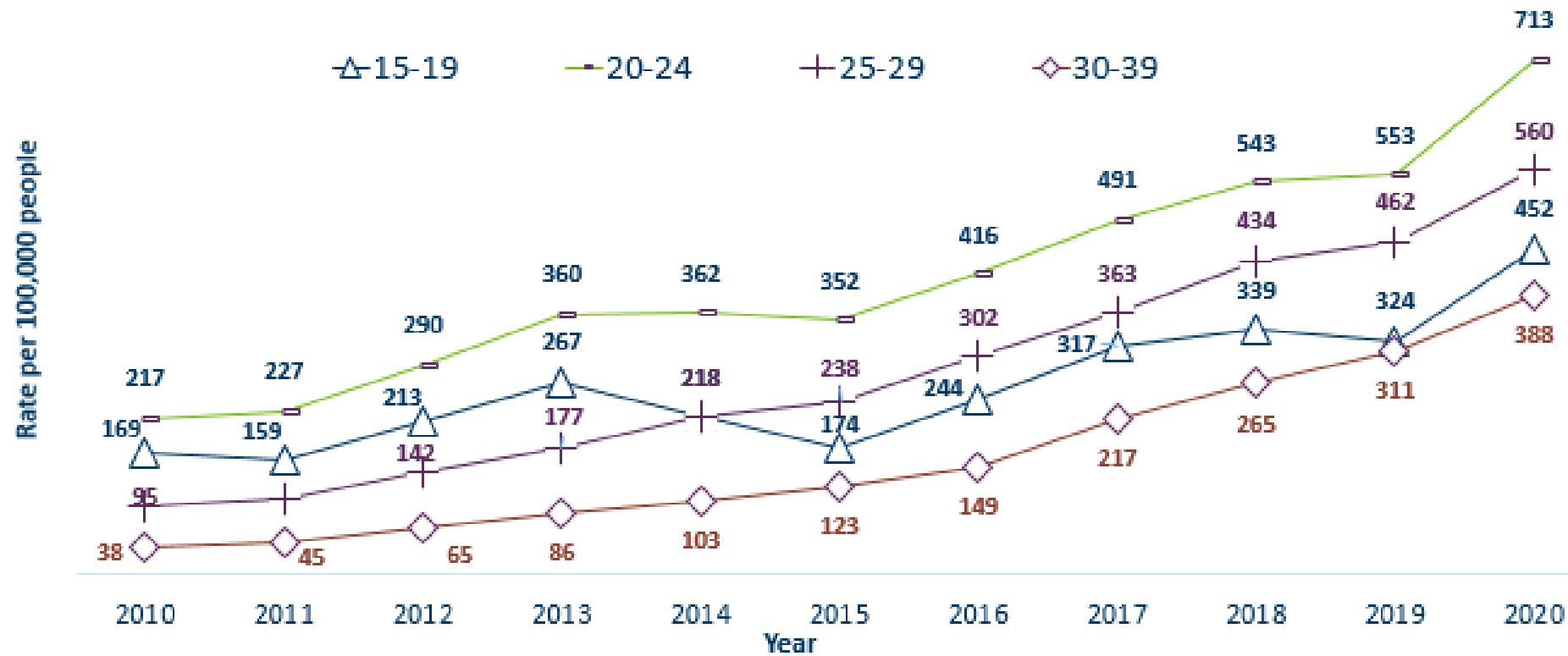


# Gonorrhea Rates by Gender

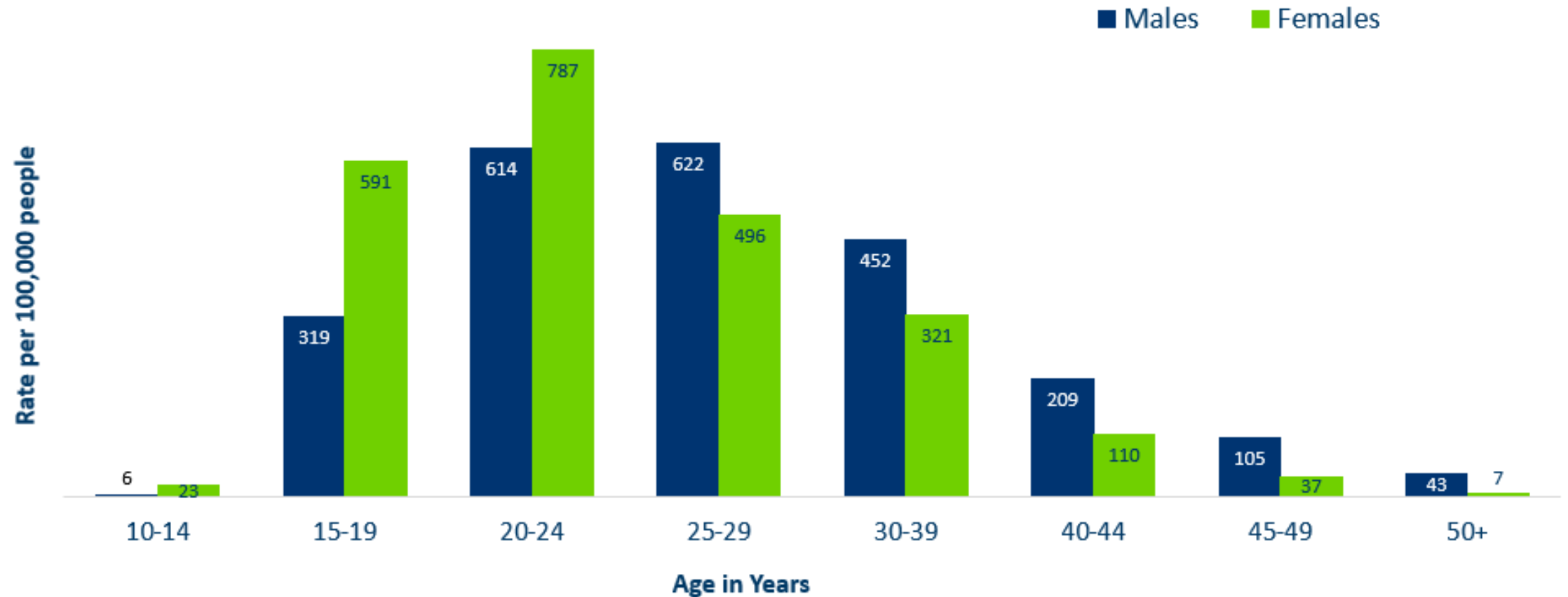
## Minnesota, 2010-2020



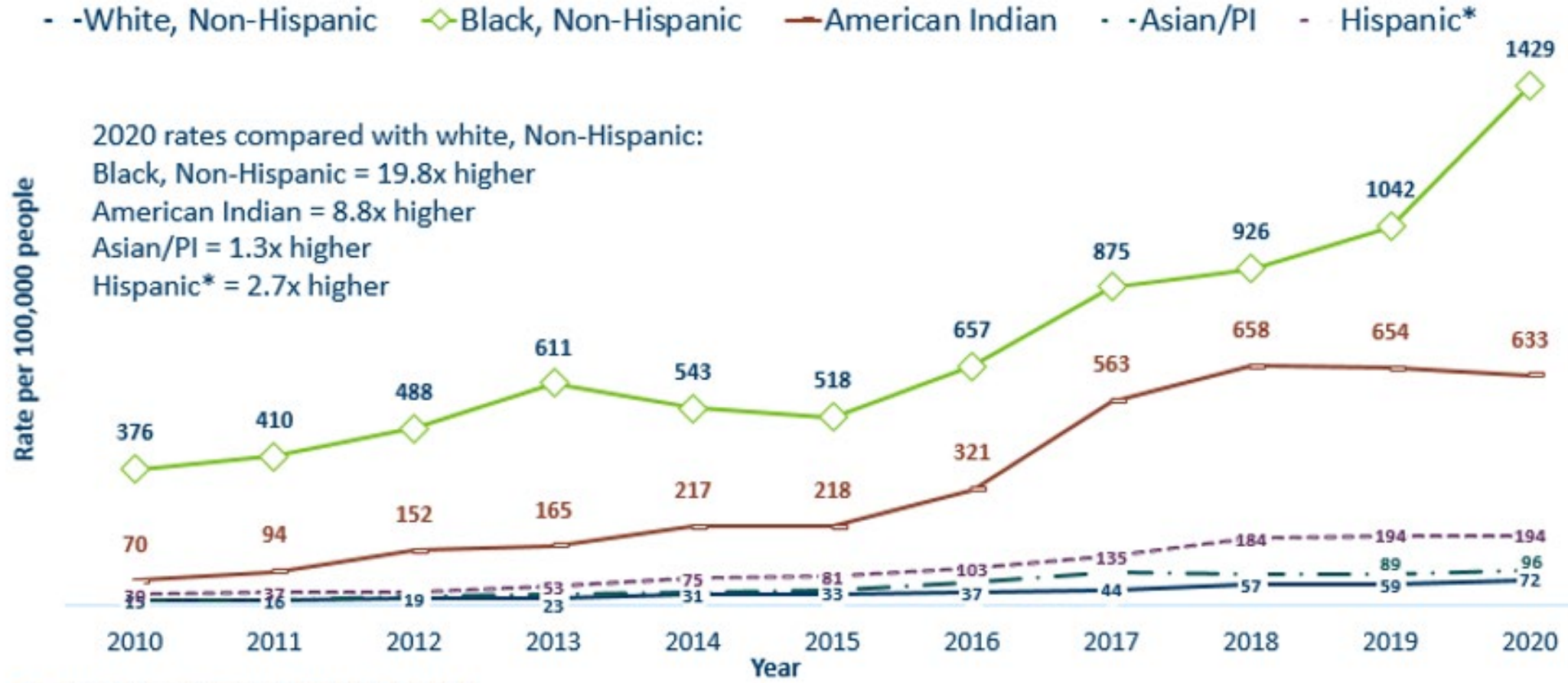
# Gonorrhea Rates by Age Minnesota, 2010-2020



# Age-Specific Gonorrhea Rates by Gender Minnesota, 2020

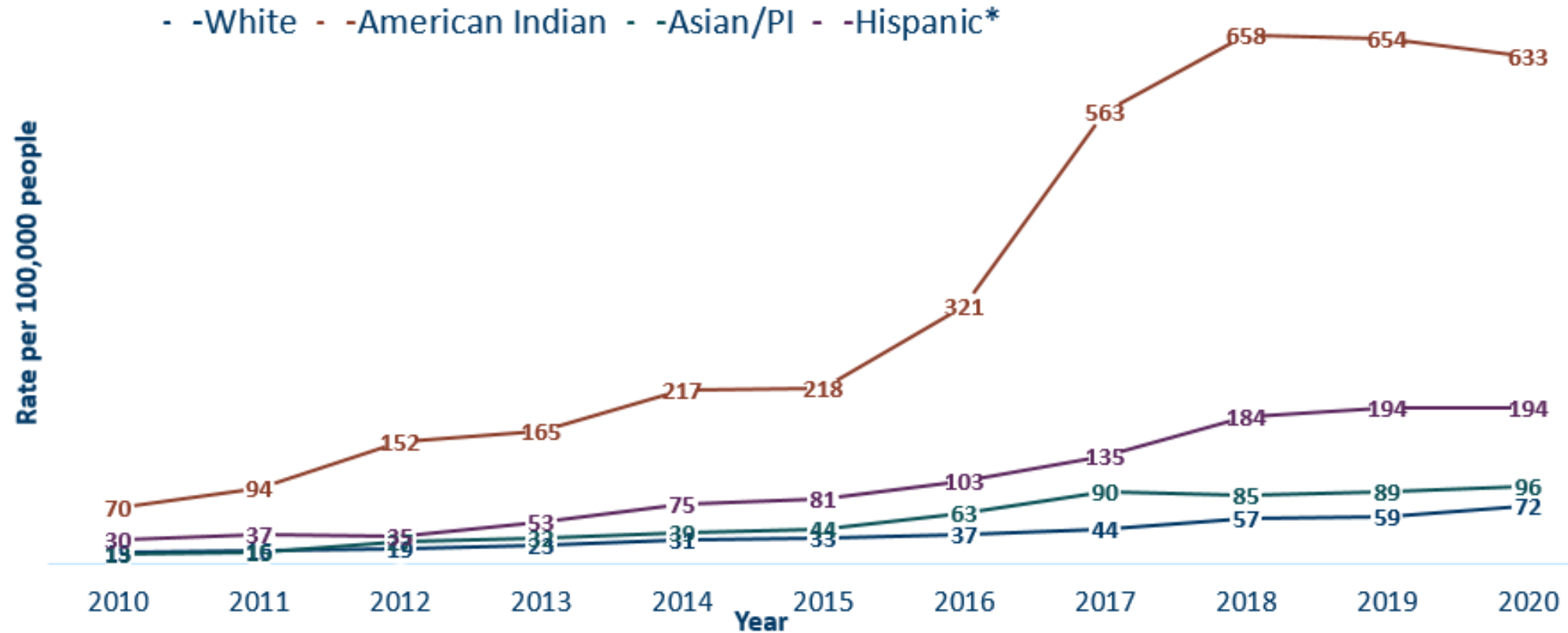


# Gonorrhea Rates by Race/Ethnicity Minnesota, 2010-2020 1/2



\*people of Hispanic ethnicity can be of any race

# Gonorrhea Rates by Race/Ethnicity Minnesota, 2010-2020 2/2

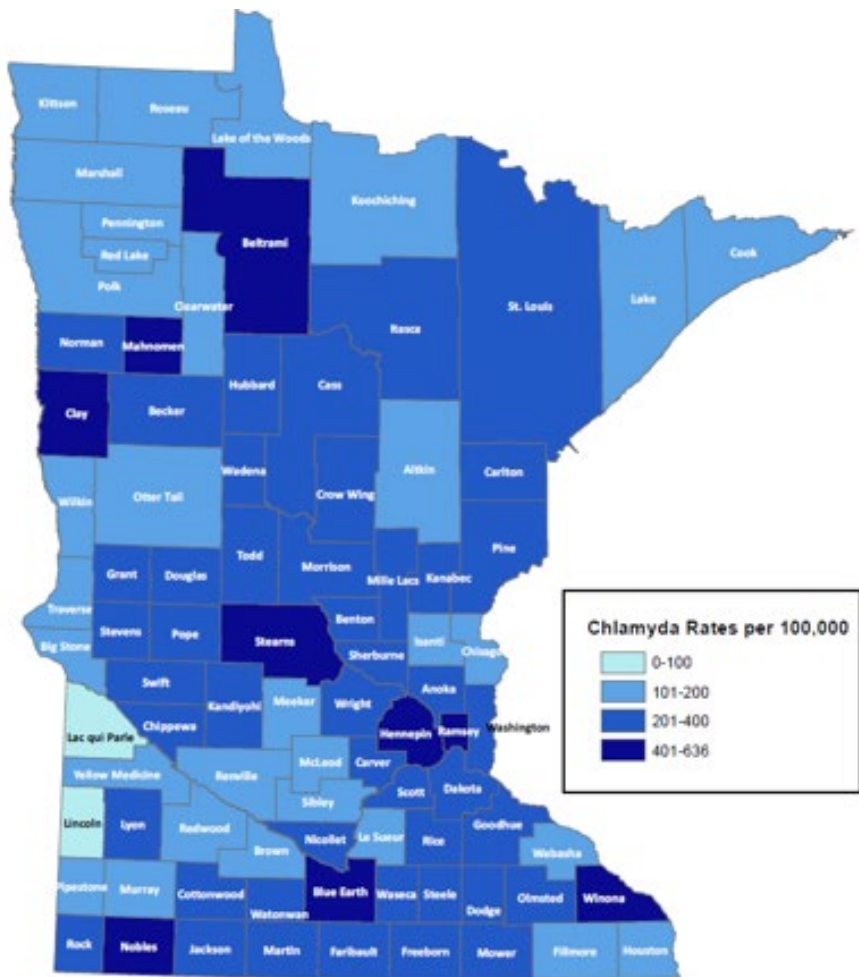


\* People of Hispanic ethnicity can be of any race.



# Chlamydia

# 2020 Minnesota Chlamydia Rates by County

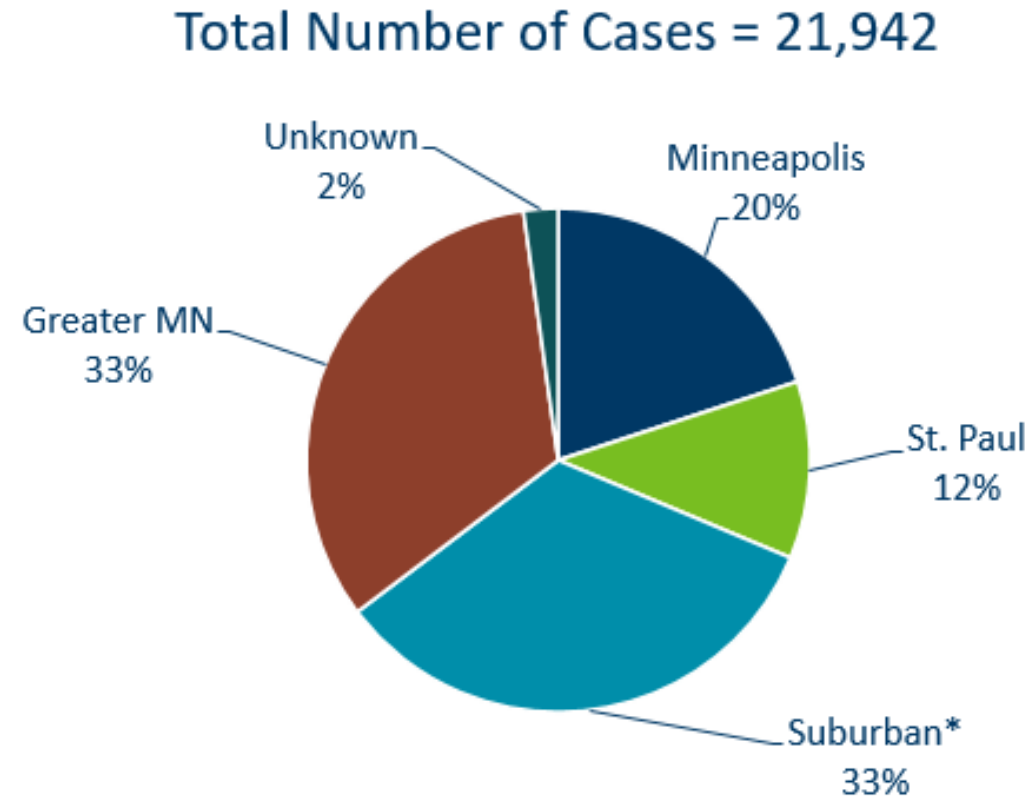


City of Minneapolis  
 City of St. Paul  
 Suburban\*  
 Greater Minnesota  
 Total

1,144 per 100,000 (4,377 cases)  
 876 per 100,000 (2,498 cases)  
 336 per 100,000 (7,325 cases)  
 296 per 100,000 (7,257 cases)  
 414 per 100,000 (21,942 cases)  
*(485 cases missing residence information)*

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

# Chlamydia Infections by Residence at Diagnosis Minnesota, 2020

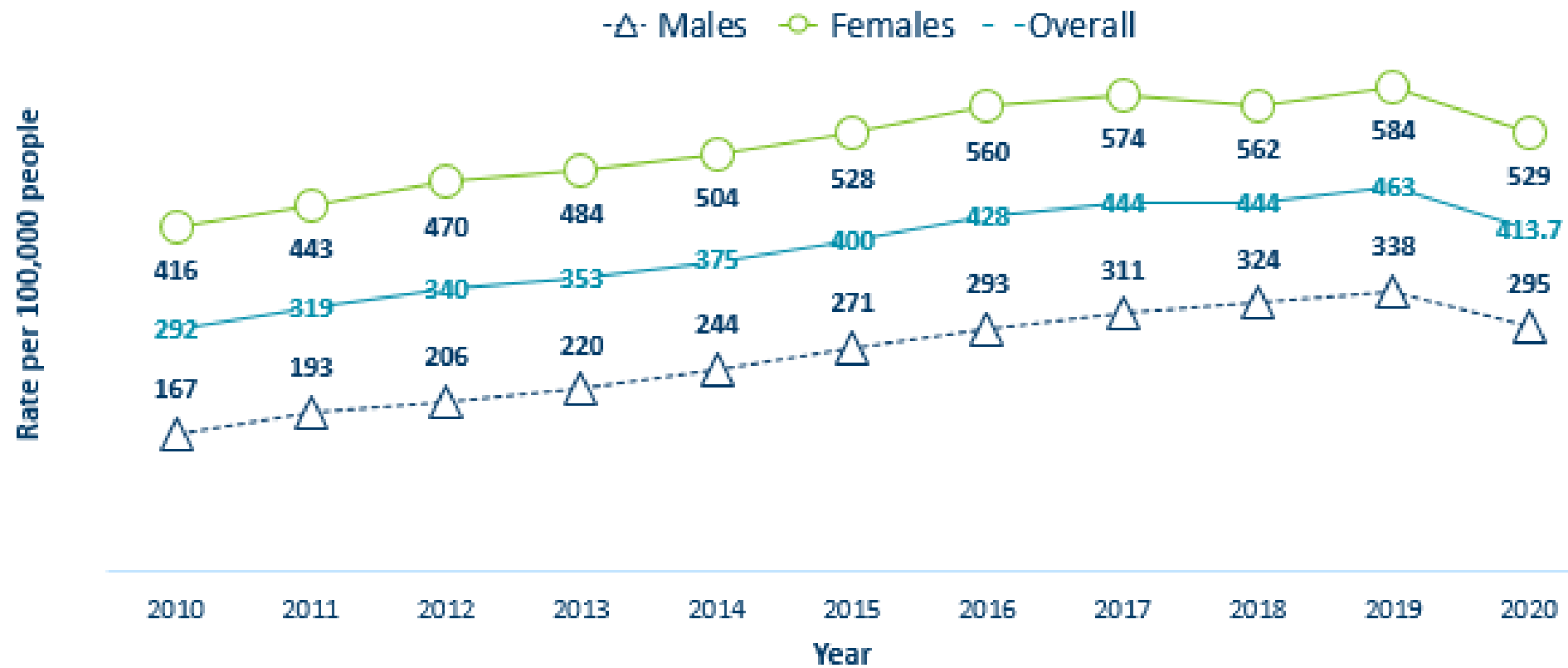


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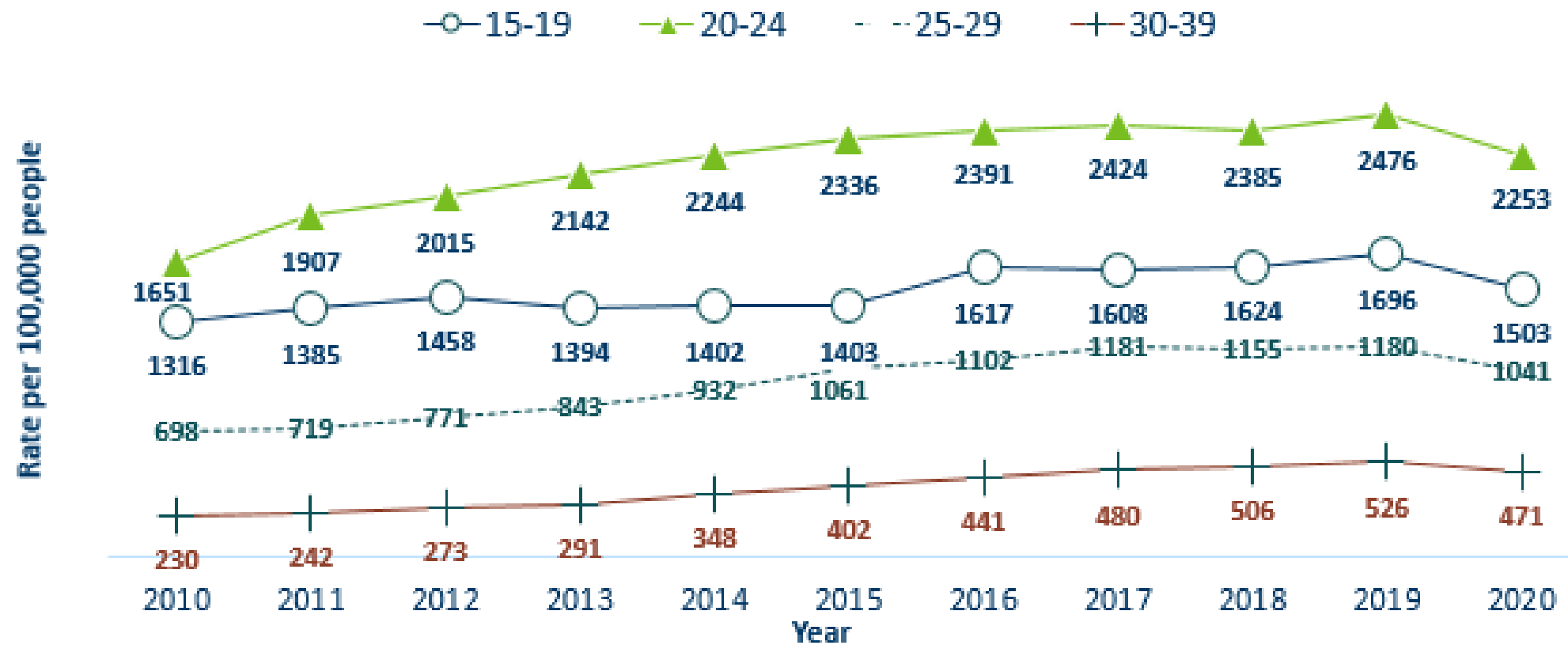


# Chlamydia Rates by Gender

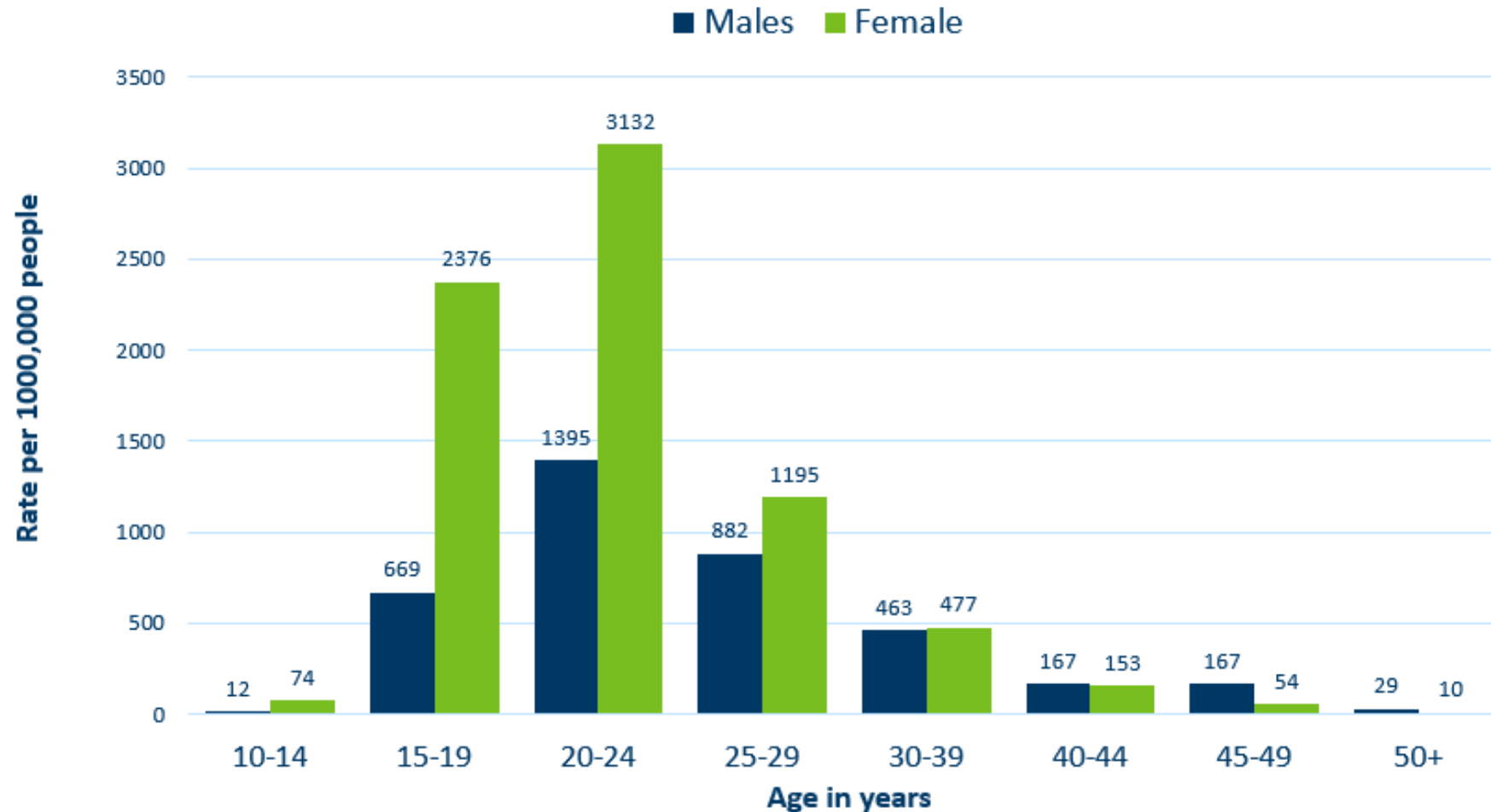
## Minnesota, 2010-2020



# Chlamydia Rates by Age Minnesota, 2010-2020

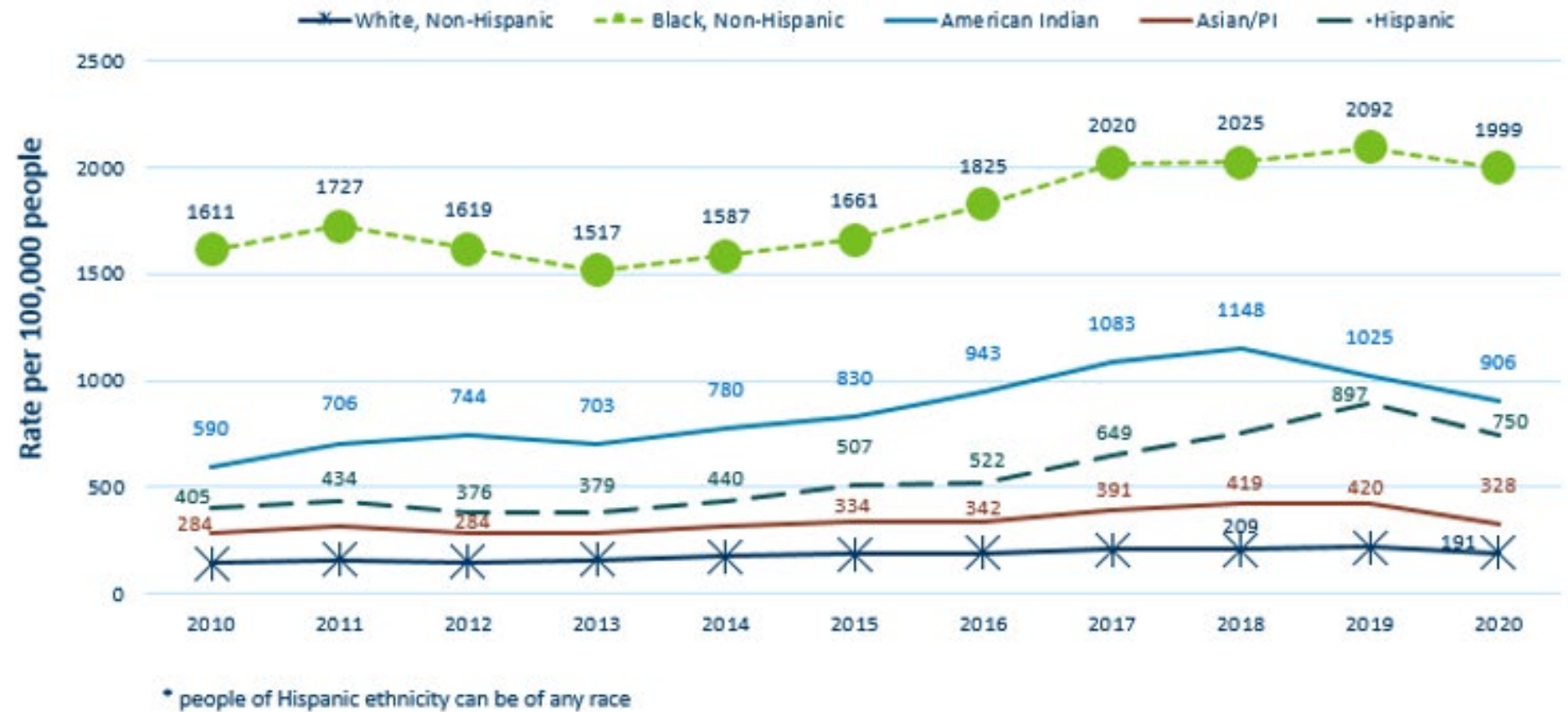


# Age-Specific Chlamydia Rates by Gender Minnesota, 2020

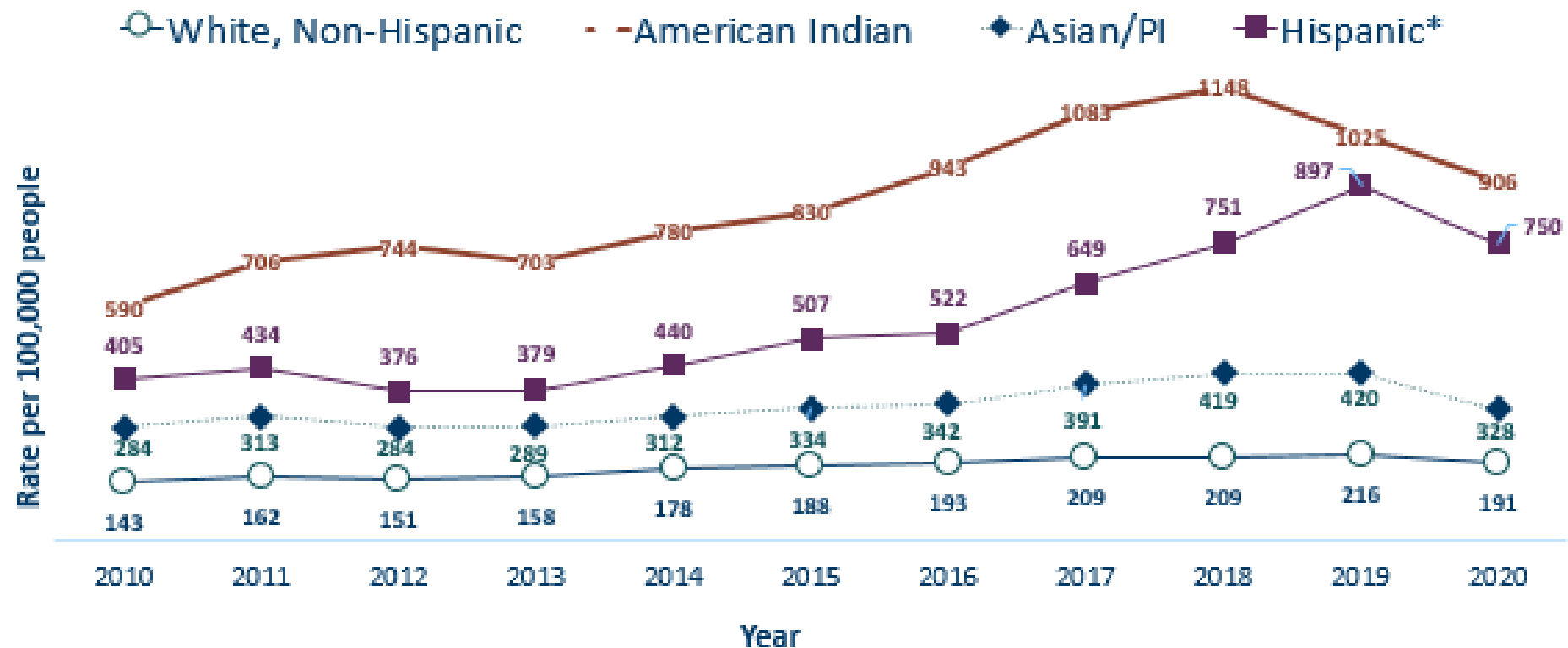


# Chlamydia Rates by Race/Ethnicity Minnesota, 2010-2020 1/2

**2020 rates compared with white, Non-Hispanic:**  
Black, Non-Hispanic = 10.5x higher  
American Indian = 4.7x higher  
Asian/PI = 1.7x higher  
Hispanic\* = 3.9x higher



# Chlamydia Rates by Race/Ethnicity Minnesota, 2010-2020 2/2



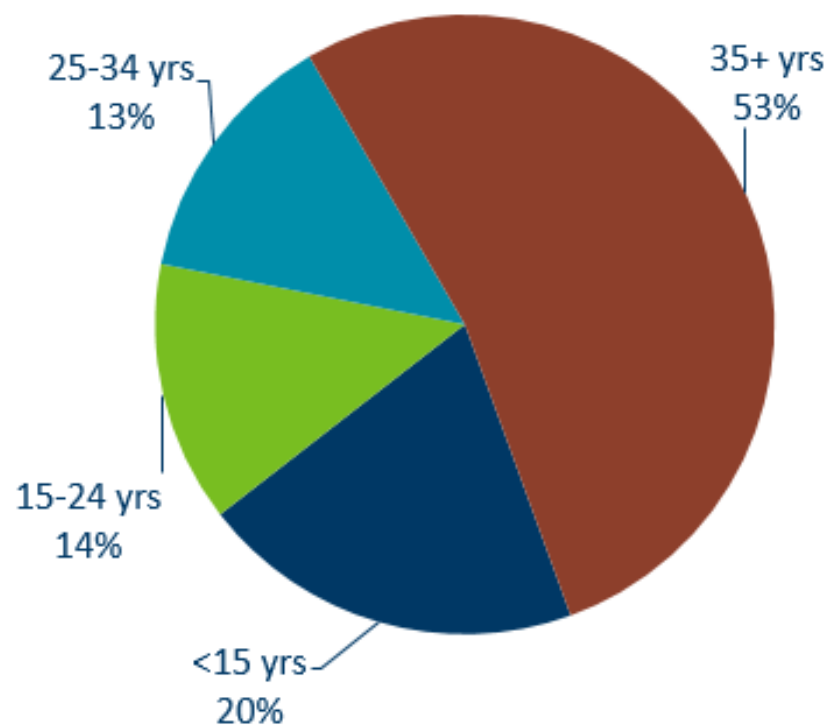
\*People of Hispanic ethnicity can be of any race

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

# Chlamydia Disproportionately Impacts Youth and Young Adults

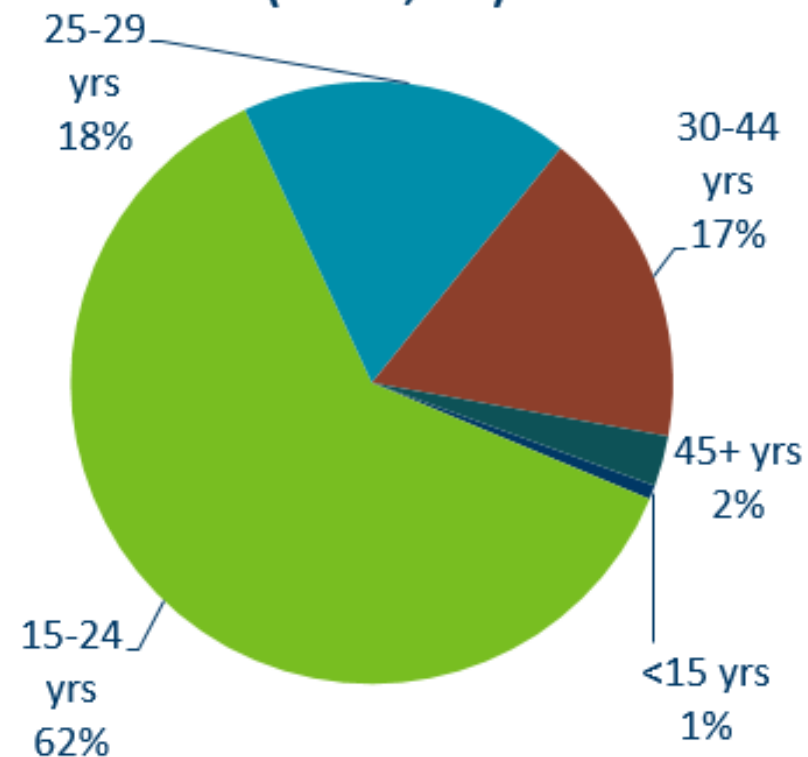
**MN Population in 2010**

(n = 5,303,925)



**Chlamydia Cases in 2020**

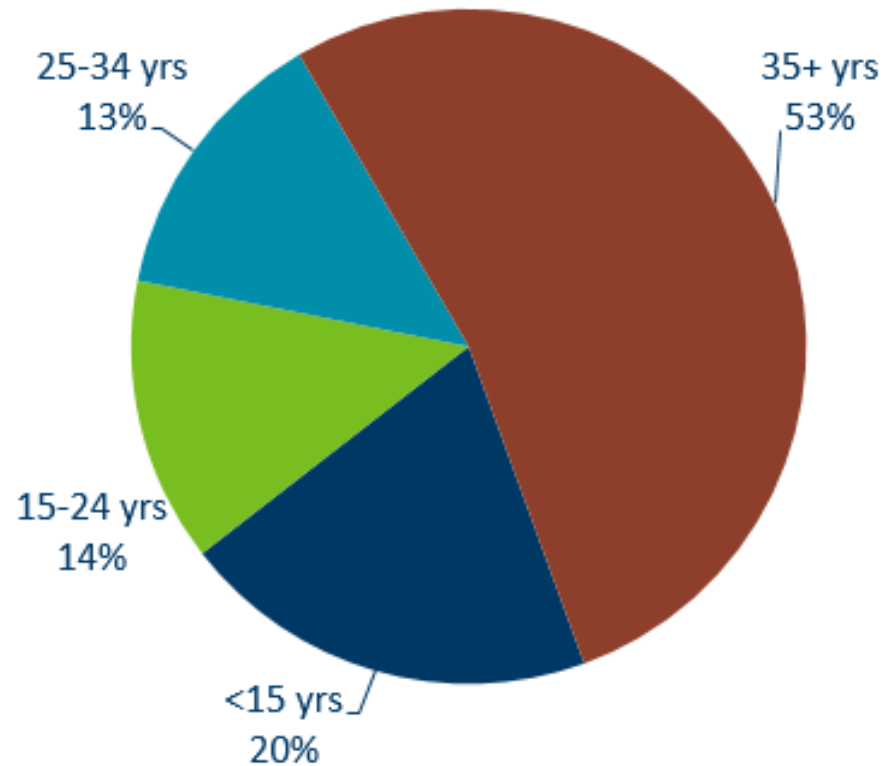
(n = 21,942)



# Gonorrhea Disproportionately Impacts Youth and Young Adults

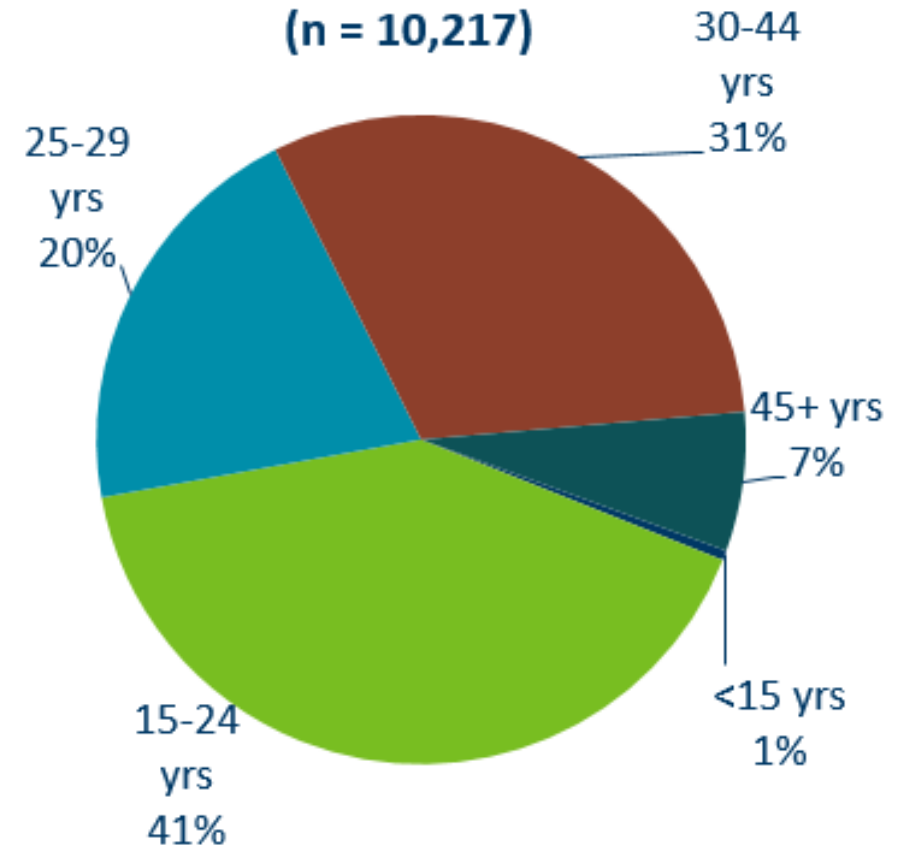
MN Population in 2010

(n = 5,303,925)



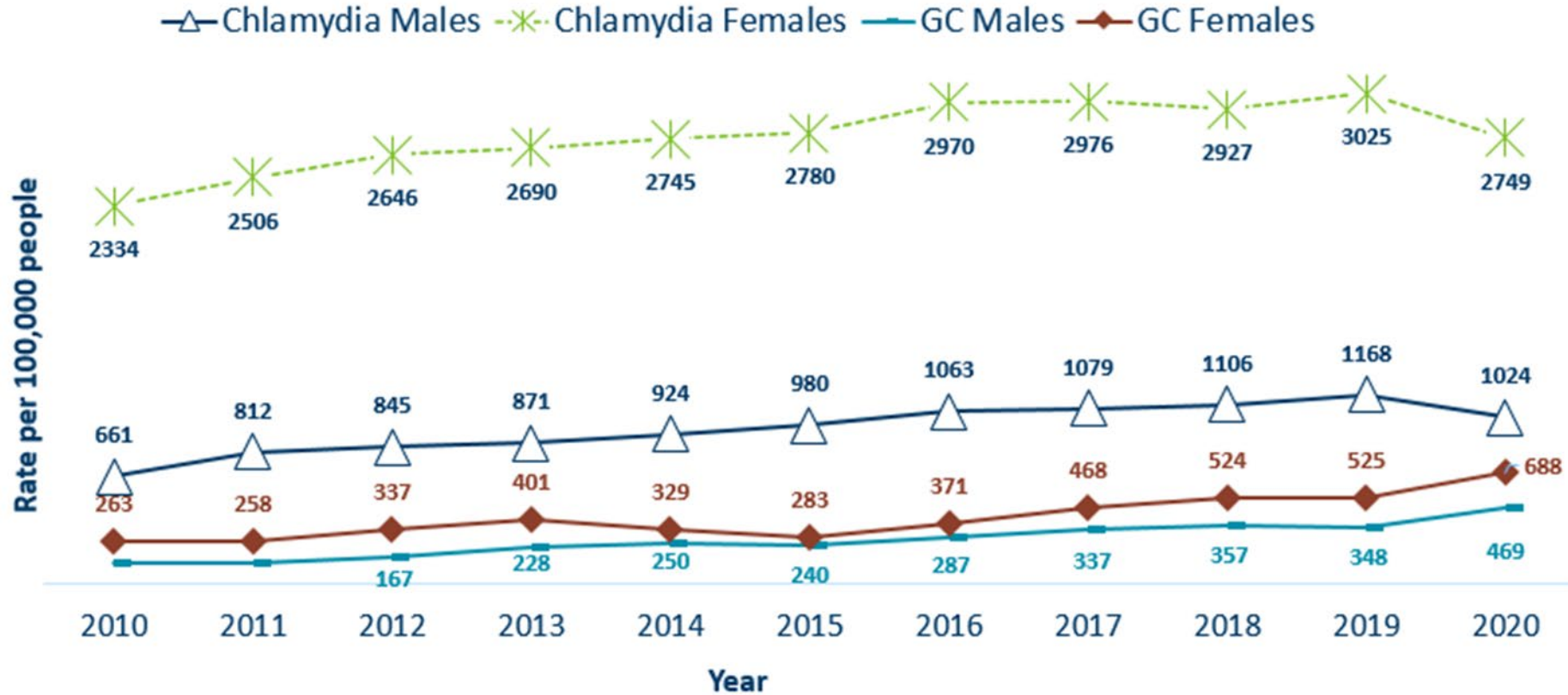
Gonorrhea Cases in 2020

(n = 10,217)





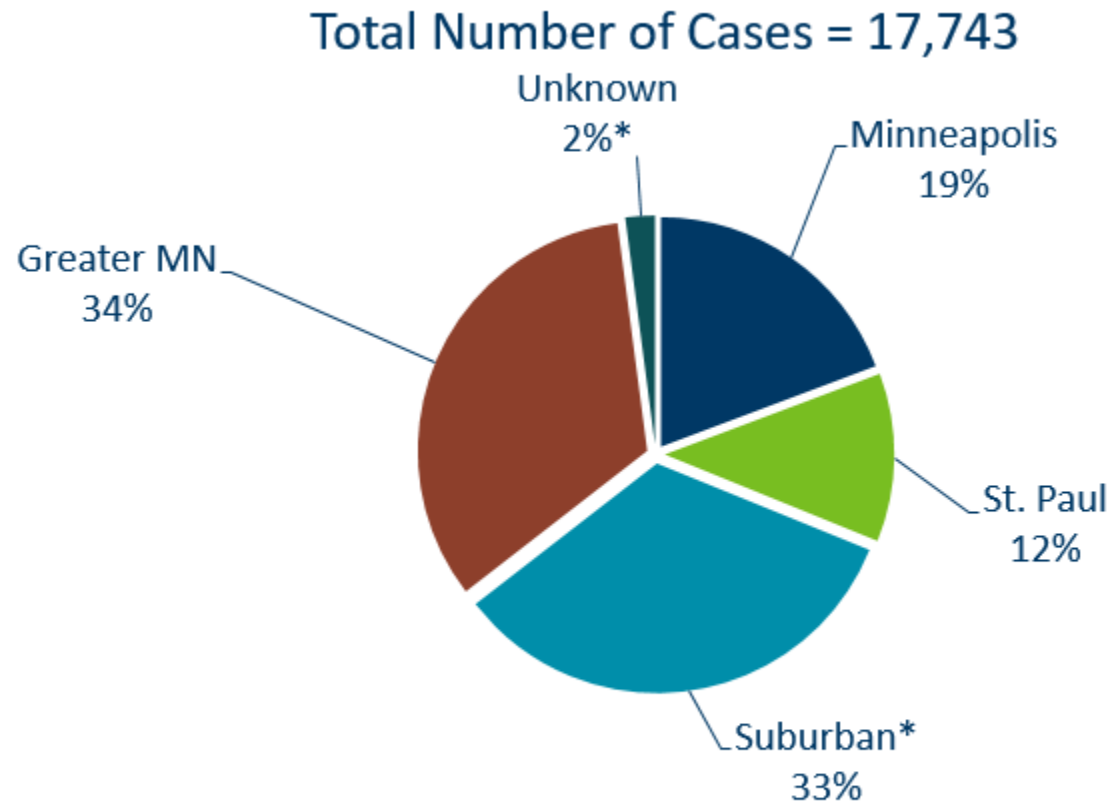
# Chlamydia and Gonorrhea Rates Among Adolescents & Young Adults<sup>†</sup> by Gender in Minnesota, 2010-2020



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

<sup>†</sup> Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.

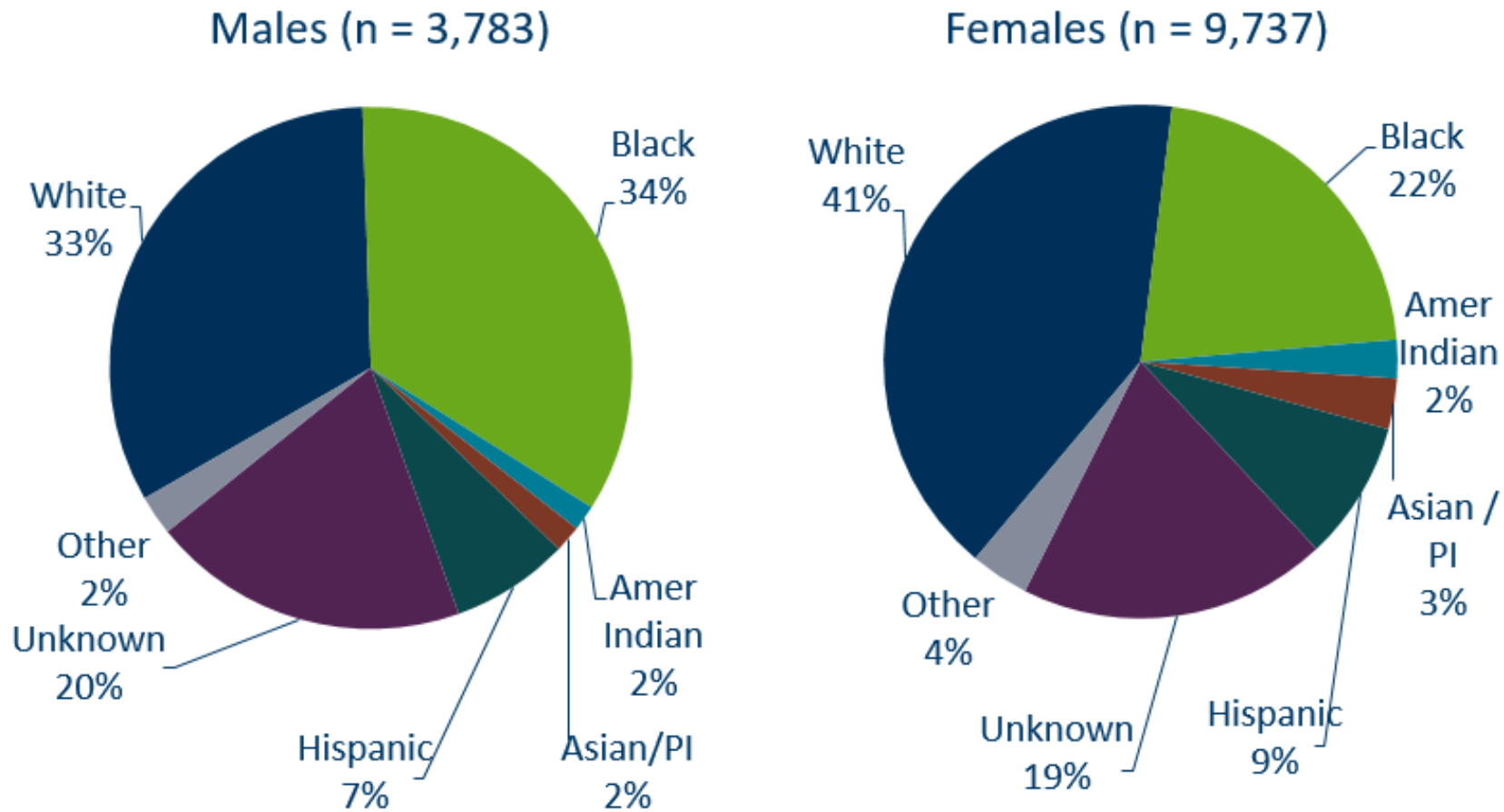
# Geographic Characteristics of Adolescents and Young Adults<sup>†</sup> Diagnosed with Chlamydia or Gonorrhea, Minnesota 2020



\*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.

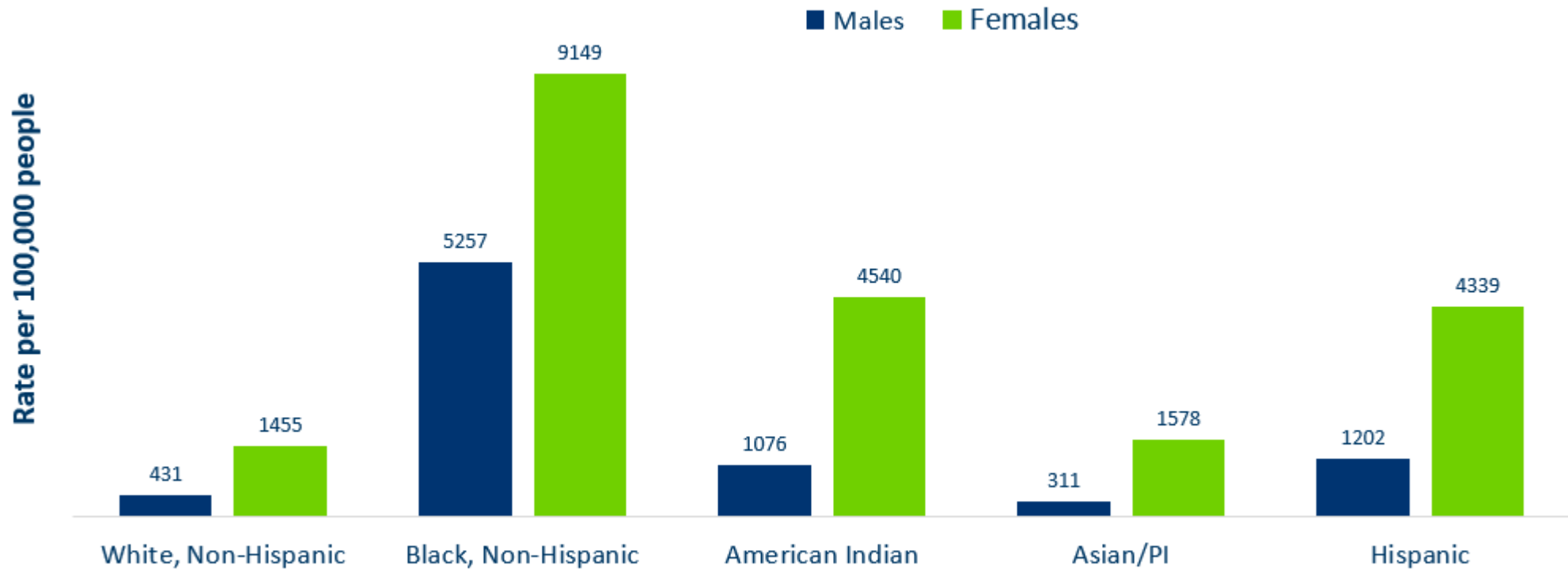
<sup>†</sup> Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.

# Chlamydia Cases Among Adolescents and Young Adults<sup>†</sup> by Gender and Race, Minnesota, 2020



<sup>†</sup> 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

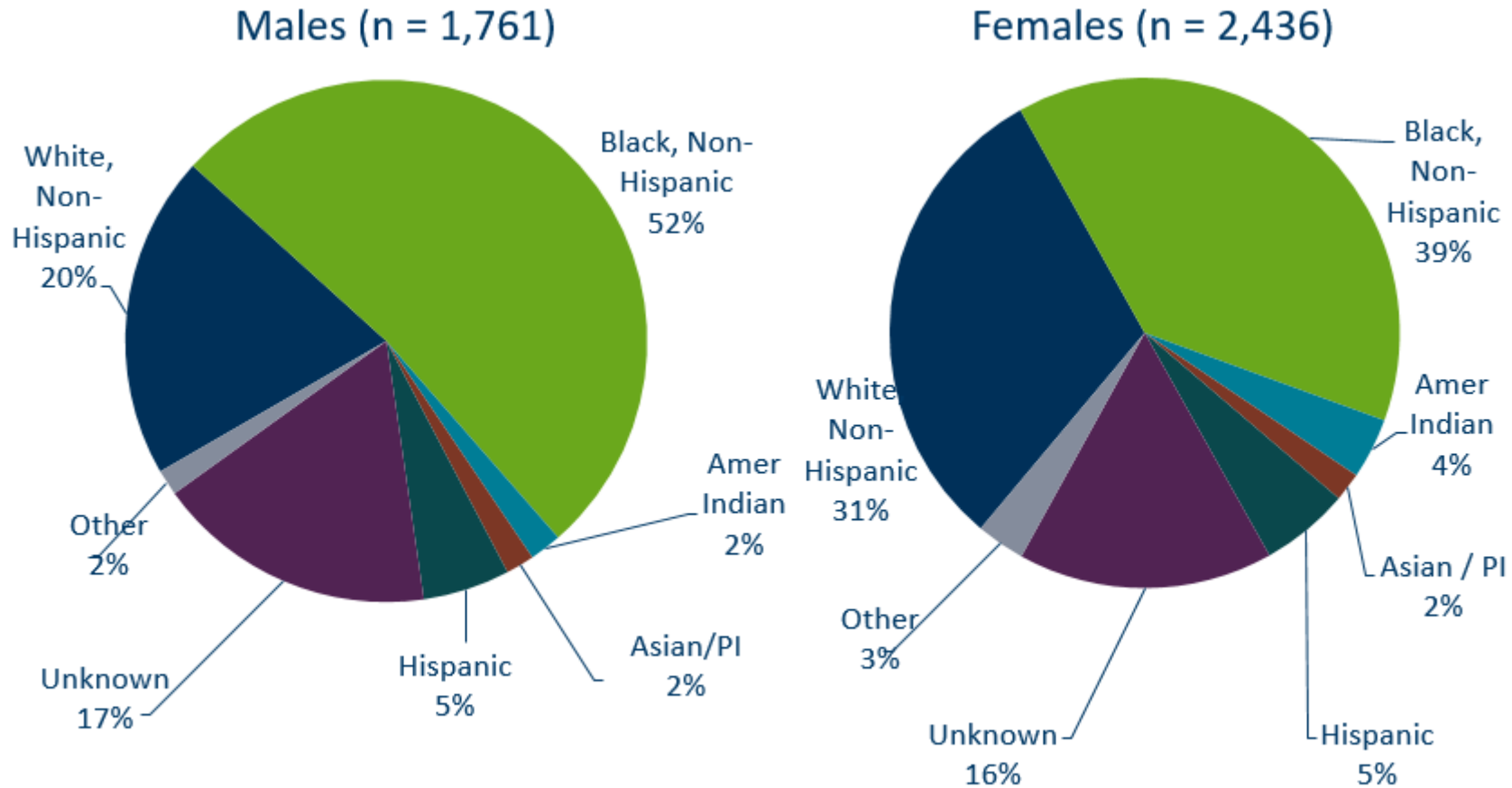
# Chlamydia Rate Among Adolescents and Young Adults<sup>†</sup> by Race, Minnesota, 2020



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

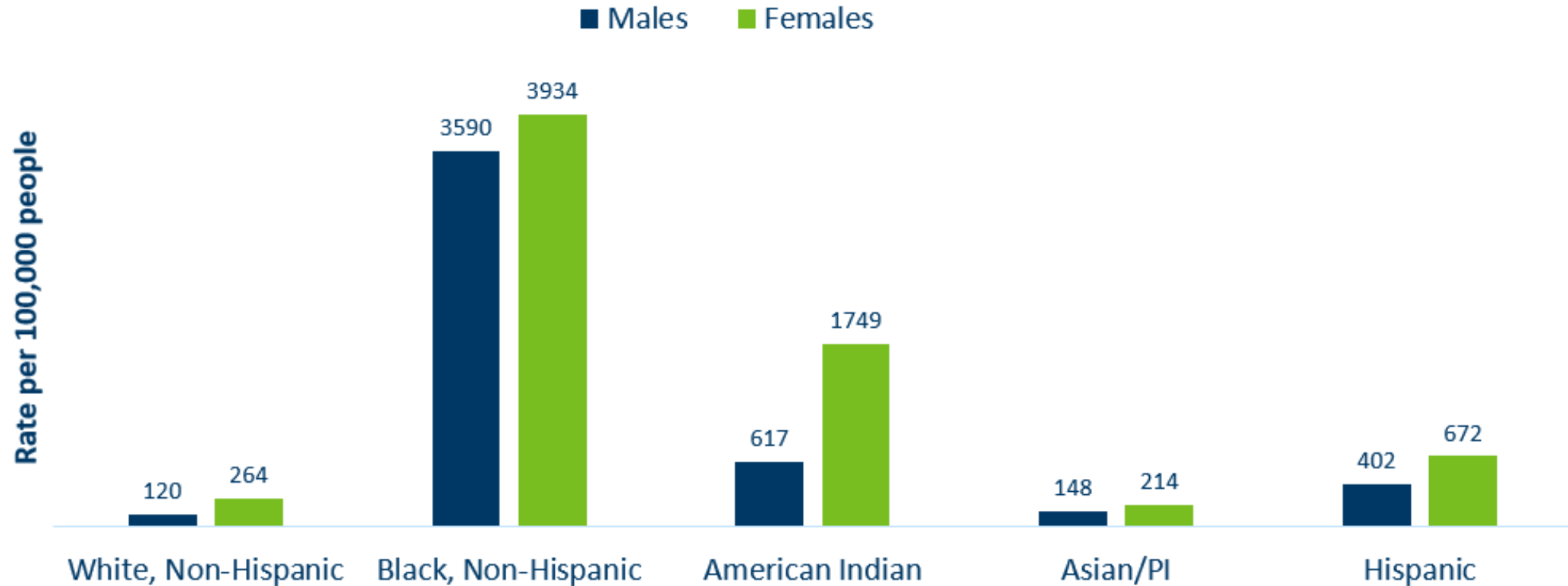
<sup>†</sup> Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.

# Gonorrhea Cases Among Adolescents and Young Adults<sup>†</sup> by Gender and Race, 2020



<sup>†</sup> Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds. Excludes 3 Unknown/Transgender/Missing

# Gonorrhea Rate Among Adolescents and Young Adults<sup>†</sup> by Race, Minnesota, 2020



<sup>†</sup> 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 Women and people of Color

- Women, and particularly women of color, disproportionately bear the long-term consequences of STDs.
  - 69% of chlamydia or gonorrhea cases diagnosed among adolescents and young adults were females.
  - 26% of all chlamydia or gonorrhea cases diagnosed among adolescents and young adults were in the Black, non-Hispanic females.
- Women 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 women can lead to pelvic inflammatory disease, infertility and ectopic pregnancy.
  - Women 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<sup>†</sup> Diagnosed With Chlamydia or Gonorrhea in 2020

Demographic Info	Cases	% of Total
Male	5,544	31%
Female	12,173	69%
White, Non-Hispanic	6,505	37%
Black, Non-Hispanic	5,383	30%
Am Indian	434	2%
Asian/PI	464	2%
Hispanic	1,401	8%
Unknown/Other	3,530	20%
<b>Total</b>	<b>17,717</b>	

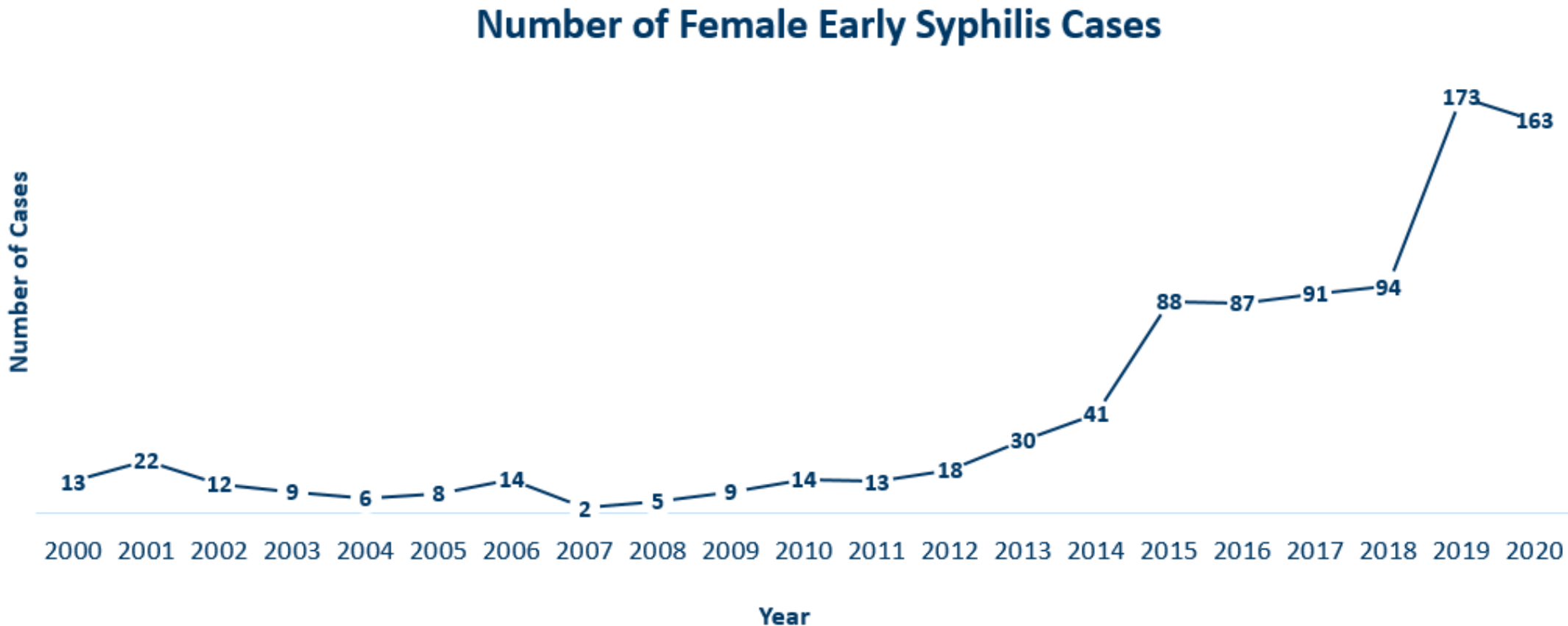
<sup>†</sup> Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds. Excludes 4 Transgender + 22 Missing/Unknown



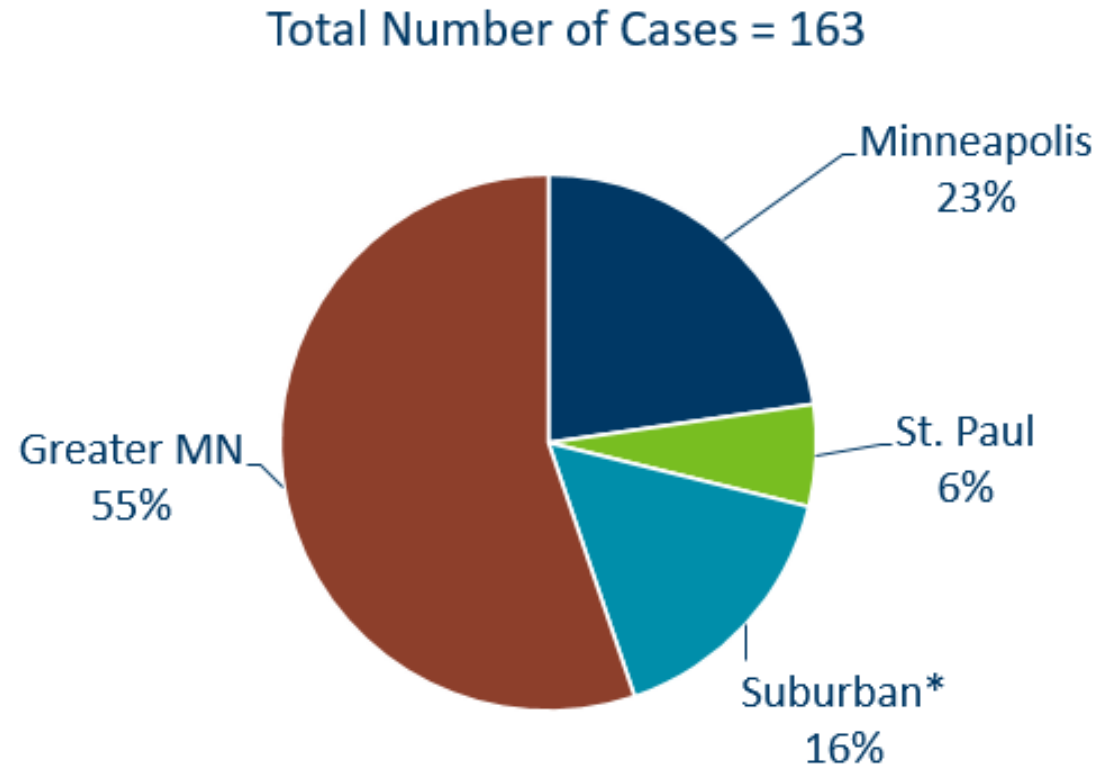


## **Topic of Interest: Syphilis Among Females and Congenital Syphilis in Minnesota**

# Female Early Syphilis Cases Minnesota, 2020

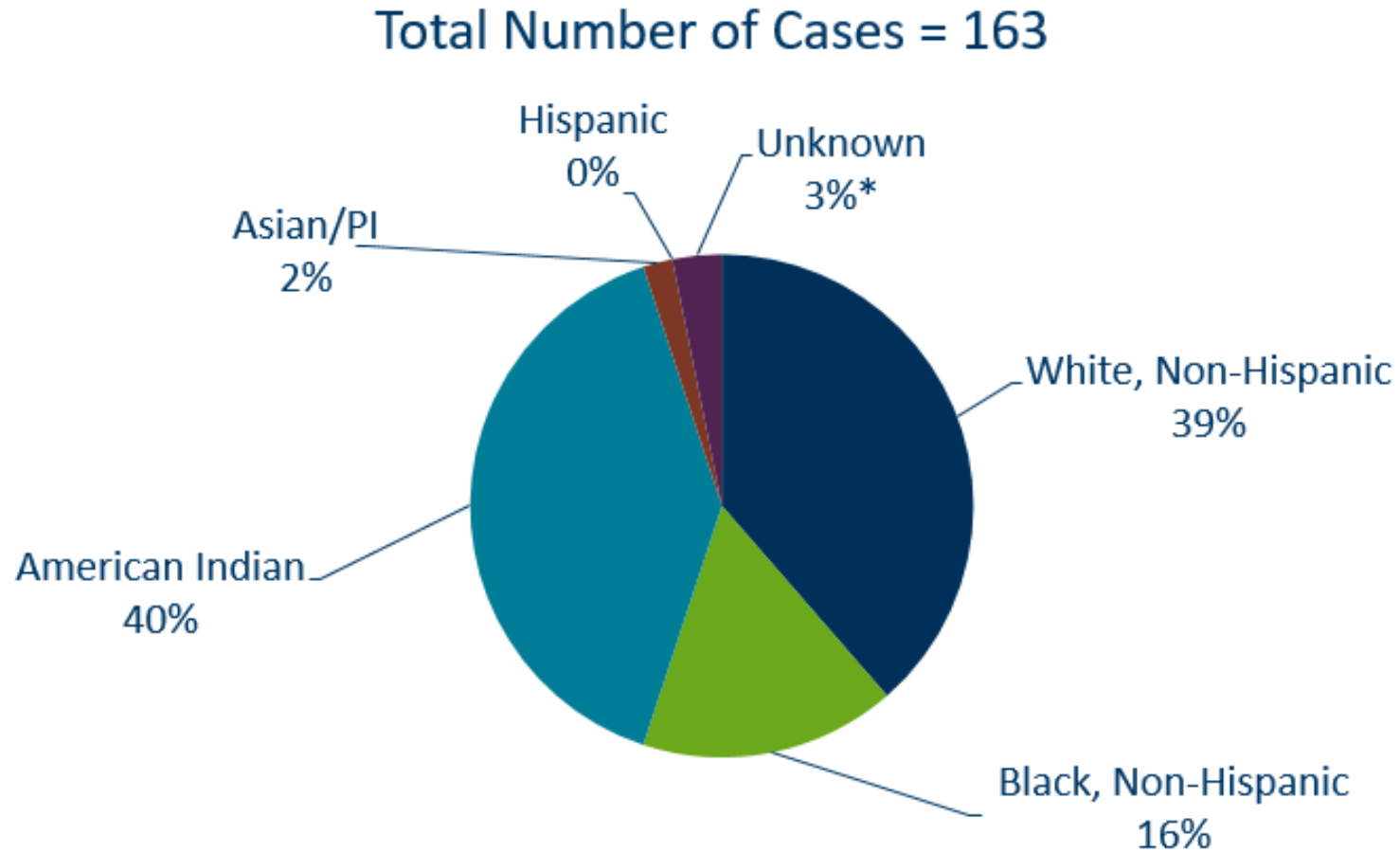


# Early Syphilis Infections in Females by Residence at Diagnosis Minnesota, 2020



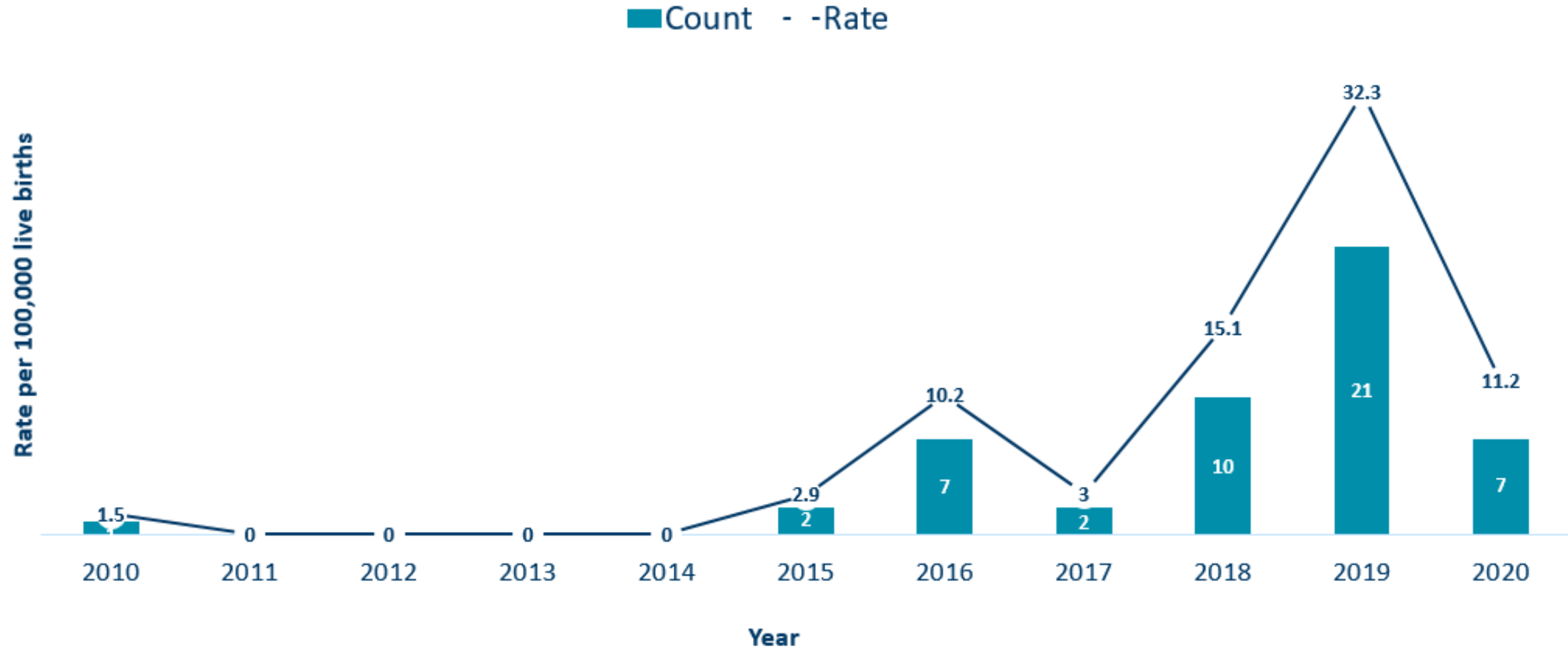
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# Early Syphilis Cases in Females by Race/Ethnicity Minnesota, 2020



\*Includes people reported with more than one race

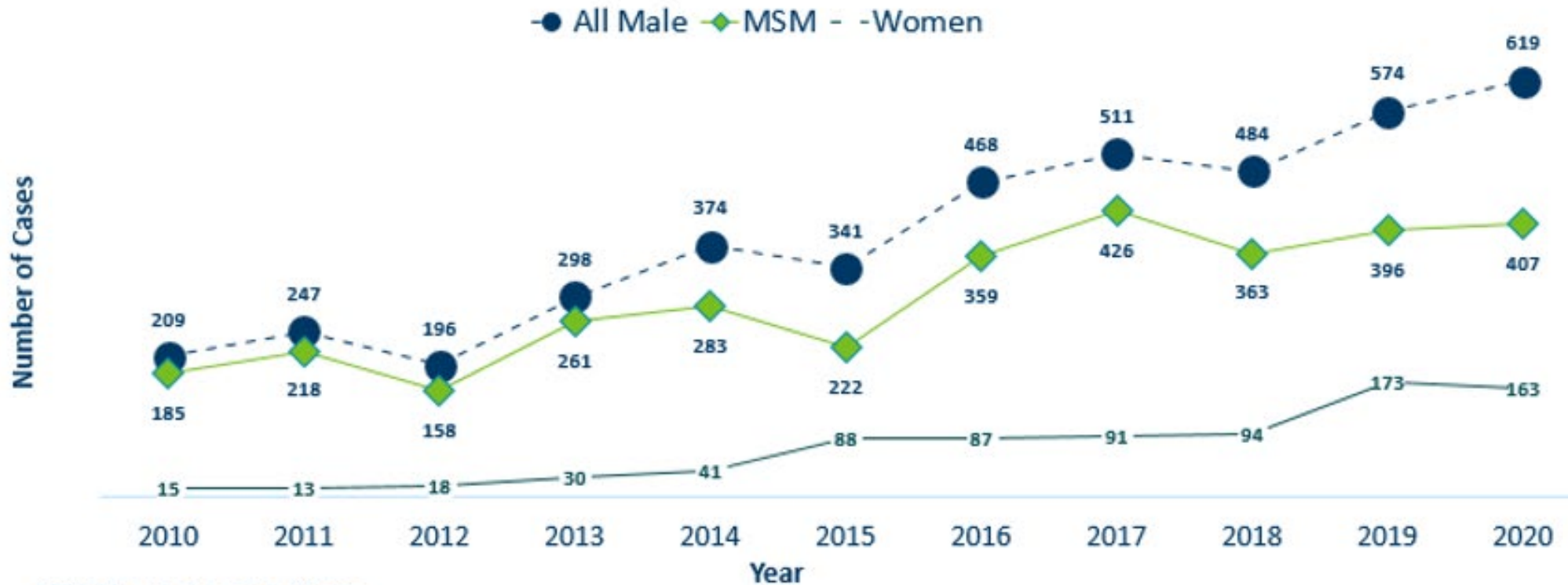
# Congenital Syphilis (CS) Rates among infants Minnesota, 2010-2020





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

# Number of Early Syphilis<sup>†</sup> Cases by Gender and MSM Minnesota, 2010-2020

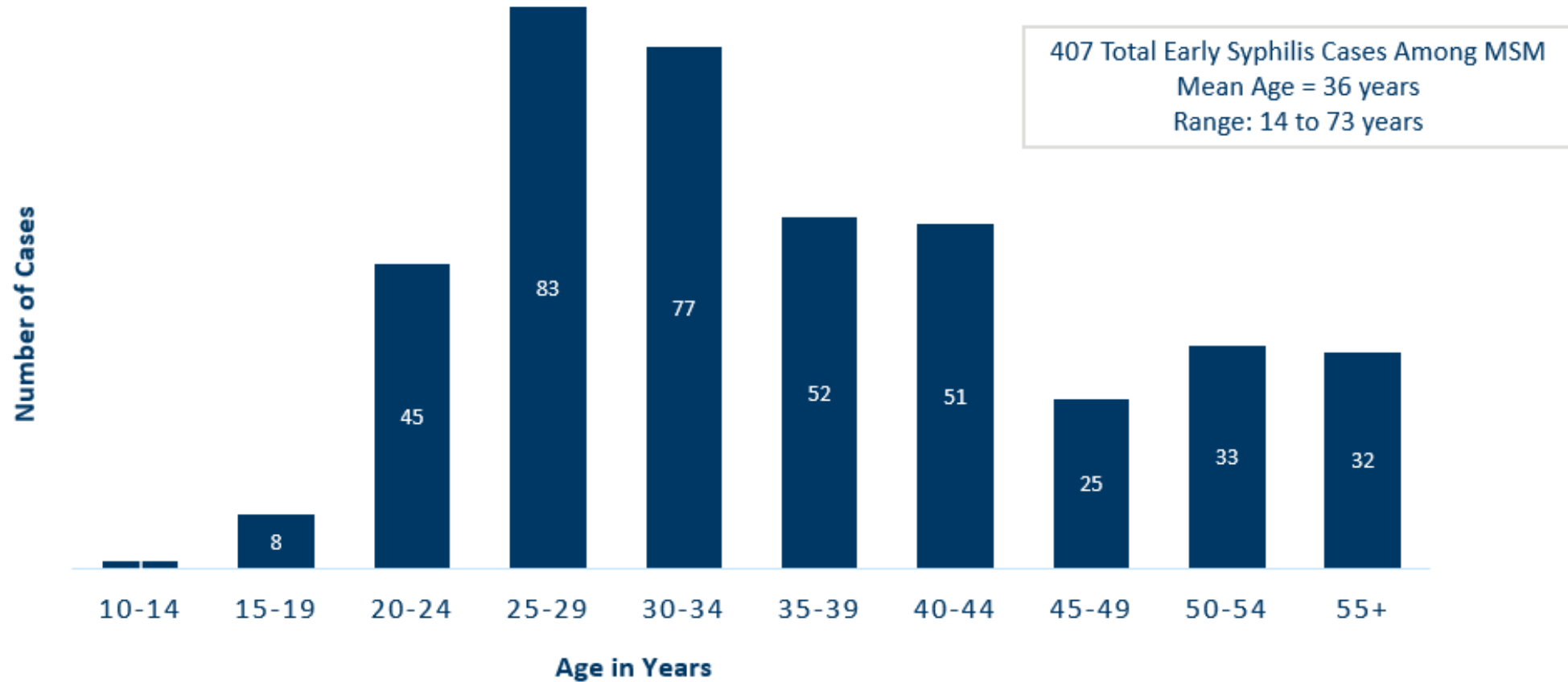


MSM=Men who have sex with men.

Figure does not include cases diagnosed in transgender people

<sup>†</sup> Early Syphilis includes primary, secondary, and early latent stages of syphilis.

# Early Syphilis<sup>†</sup> Cases Among MSM by Age Minnesota, 2020

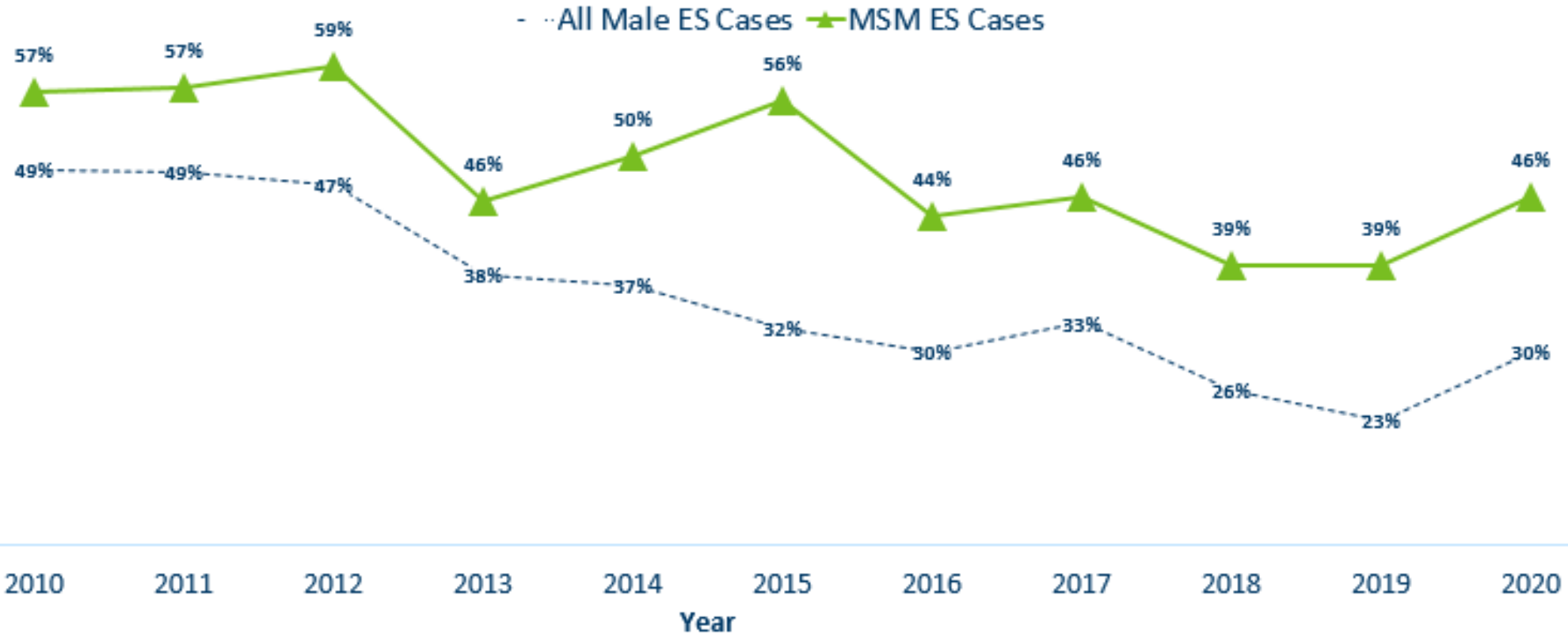


MSM=Men who have sex with men

<sup>†</sup> Early Syphilis includes primary, secondary, and early latent stages of syphilis.



# Early Syphilis<sup>†</sup> (ES) Cases Co-infected with HIV, 2010-2020



MSM=Men who have sex with men

<sup>†</sup> Early Syphilis includes primary, secondary, and early latent stages of syphilis.

# 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 people 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 2010-2020, the chlamydia rate increased by 42%. The rate of gonorrhea increased by 370%. Syphilis has increased by 212%.
- Adolescent and young females aged 15-24 years old continue to make up the majority of all chlamydia or gonorrhea cases at 69%.
- Minnesota has seen a resurgence of syphilis over the past decade, with men who have sex with men 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 and nationwide. 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, preventative screening, and treatment services.

# Health Watch: Disseminated Gonococcal Infection (DGI)

- 8 cases of disseminated gonococcal infections (DGI) were diagnosed in Minnesota in 2020.
- DGI occurs when a gonorrhea infection moves into the bloodstream and spreads to distant sites in the body, which can lead to clinical findings, such as septic arthritis, polyarthralgia, tenosynovitis, petechial/pustular lesions, bacteremia, or on rare occasions 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) and 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).
- 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 [CDC STD Treatment Guidelines \(https://www.cdc.gov/std/tg2015/gonorrhea.htm\)](https://www.cdc.gov/std/tg2015/gonorrhea.htm).

Source: <https://www.cdc.gov/std/program/outbreakresources/HANtemplate-dgi.htm>

# New Treatment Guidelines for Uncomplicated Gonorrhea Infection

- New CDC Treatment Guidelines for Uncomplicated Gonorrhea Infection were published in the MMWR in December 2020 [“Update to CDC’s Treatment Guidelines for Gonococcal Infection, 2020”](https://www.cdc.gov/mmwr/volumes/69/wr/mm6950a6.htm?s_cid=mm6950a6_w) ([https://www.cdc.gov/mmwr/volumes/69/wr/mm6950a6.htm?s\\_cid=mm6950a6\\_w](https://www.cdc.gov/mmwr/volumes/69/wr/mm6950a6.htm?s_cid=mm6950a6_w))
- New treatment guidelines were prompted by an increased finding of gonorrhea's resistant to Azithromycin through the CDC’s Gonococcal Isolate Surveillance Project (GISP).
- Regimen for uncomplicated gonococcal infections of the cervix, urethra, or rectum:  
**Ceftriaxone 500 mg IM** as a single dose for people weighing <150 kg (300 lb)  
OR  
Ceftriaxone 1g of IM for people weighing ≥150 kg (300 lb)  
*If chlamydial infection has not been excluded, providers should treat for chlamydia with doxycycline 100 mg orally twice daily for 7 days. During pregnancy, azithromycin 1 g as a single dose is recommended to treat chlamydia.*  
For alternative treatment options and a full guidelines refer to [CDC STD Treatment Guidelines](https://www.cdc.gov/std/tg2015/gonorrhea.htm) (<https://www.cdc.gov/std/tg2015/gonorrhea.htm>).

# Updates to STD Reporting and Current 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).

- 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 **651-201-4040**.
- 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.