

# Sexually Transmitted Disease (STD) Surveillance Report, 2016

## Minnesota Department of Health STD Surveillance System

# Introduction

- Under Minnesota law, physicians and laboratories must report all laboratory-confirmed cases of **chlamydia**, **gonorrhea**, **syphilis**, and **chancroid** to the Minnesota Department of Health (MDH) within one working day.
- 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

- **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

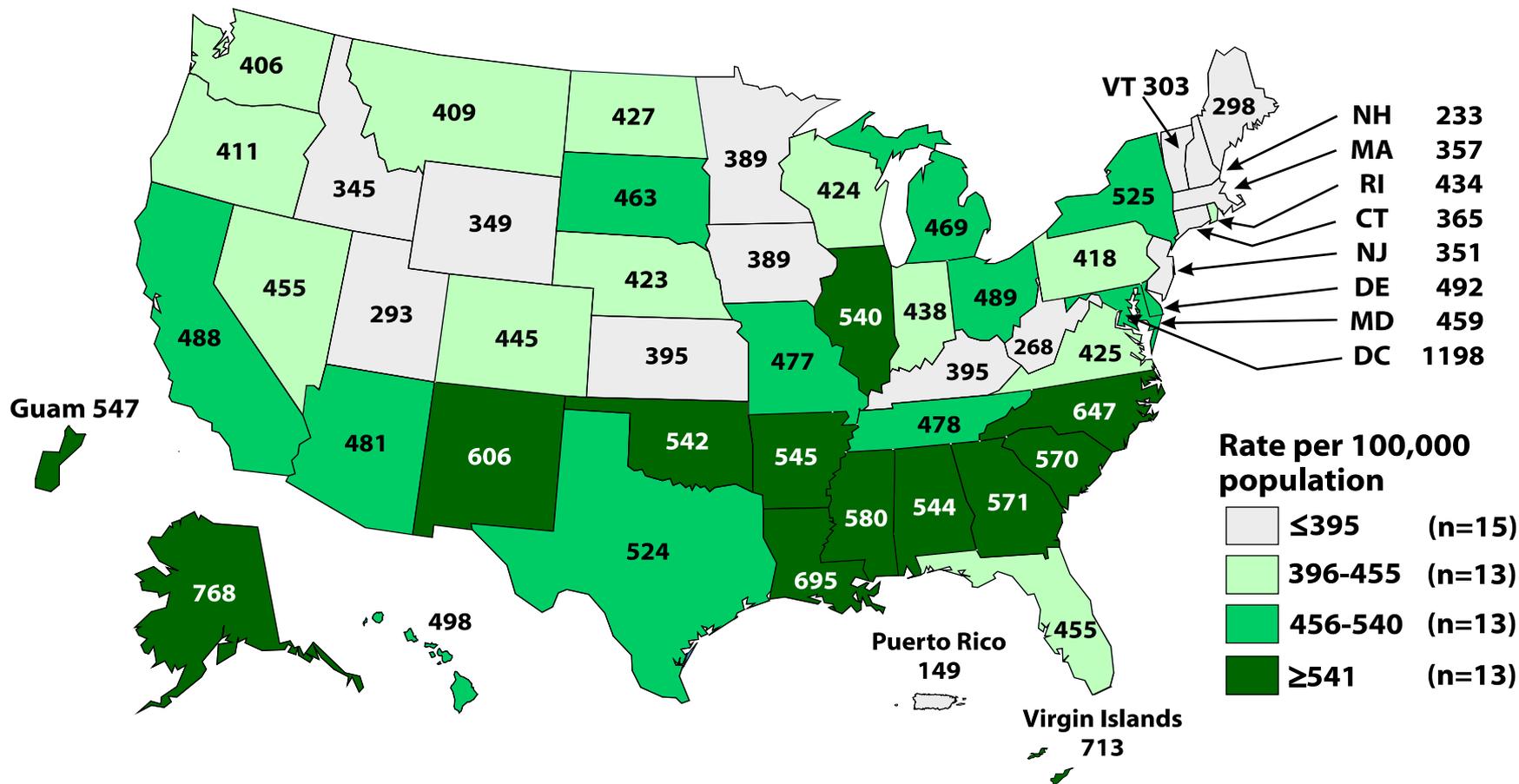
- **Factors that impact the completeness and accuracy of STD data include:**
  - Level of STD screening by healthcare providers
  - Individual test-seeking behavior
  - Sensitivity of diagnostic tests
  - Compliance with case reporting
  - Completeness of case reporting
  - Timeliness of case reporting
- **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**

# Interpreting STD Surveillance Data

- **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 2016, 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

# Chlamydia — Rates of Reported Cases by State, United States and Outlying Areas, 2015

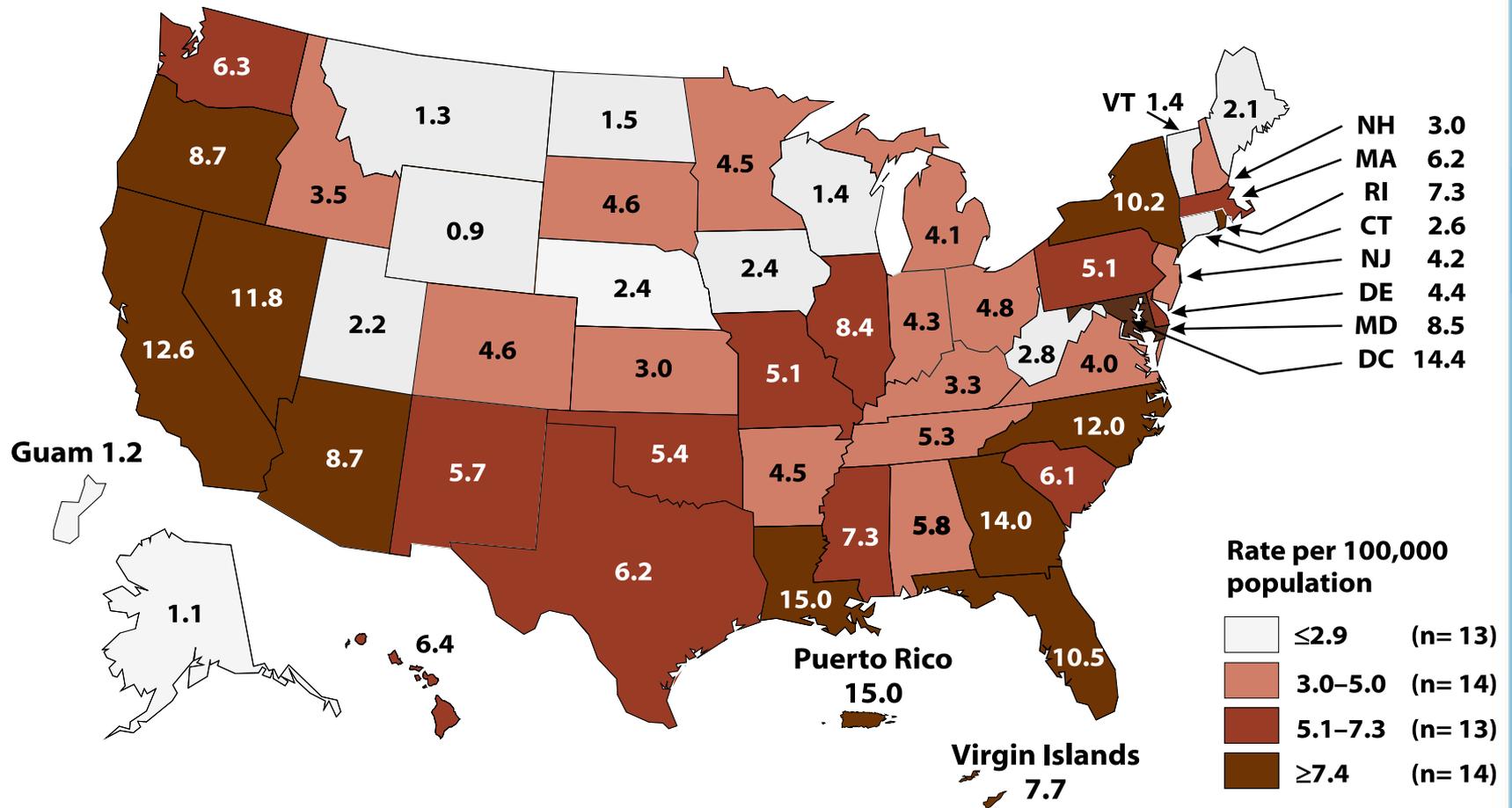


NOTE: The total rate of reported cases of chlamydia for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 475.3 cases per 100,000 population.





# Primary and Secondary Syphilis — Rates of Reported Cases by State, United States and Outlying Areas, 2015



NOTE: The total rate of primary and secondary syphilis for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 7.6 cases per 100,000 population.

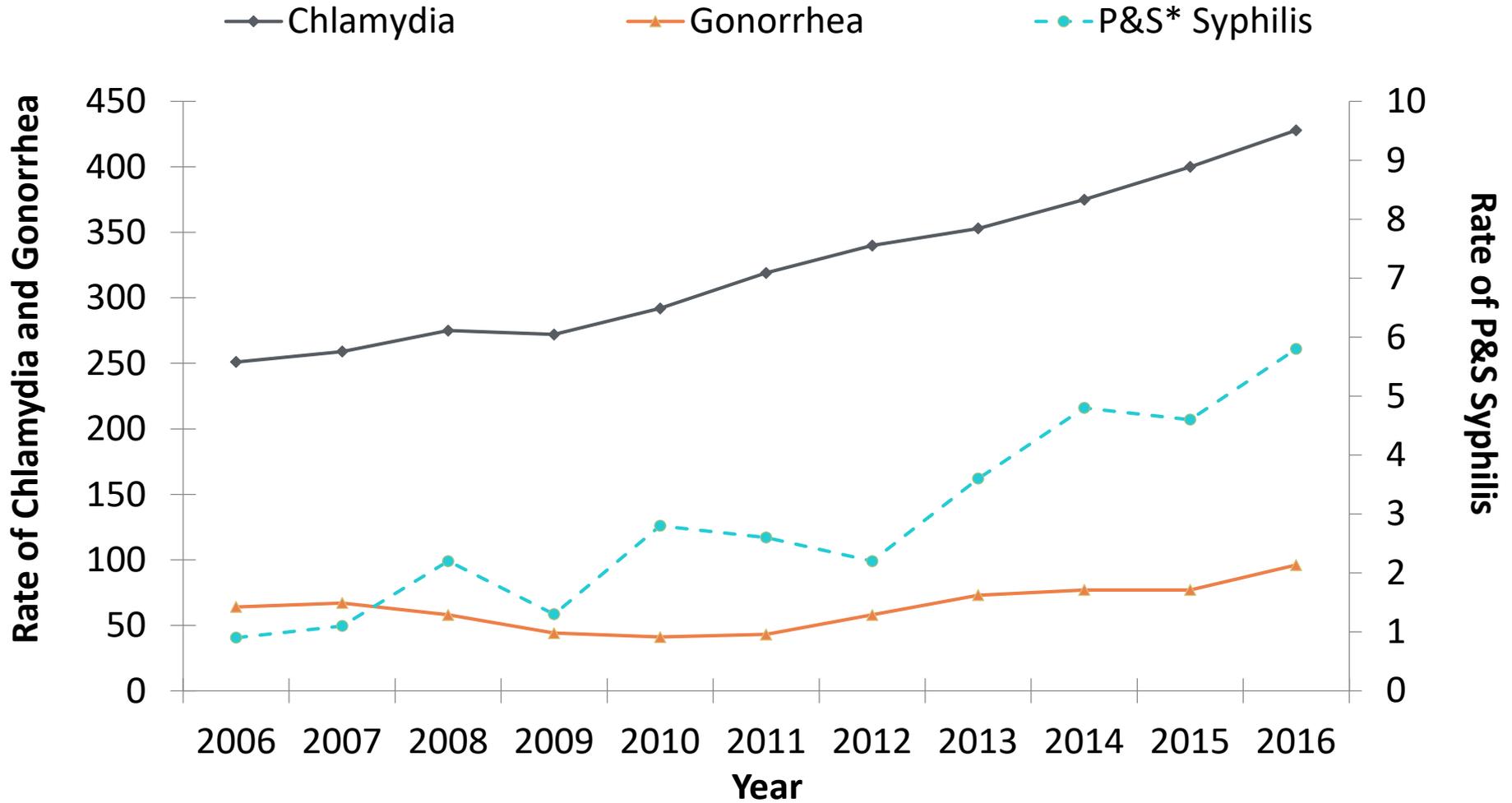


# Overview of STDs in Minnesota



# STDs in Minnesota

## Rate per 100,000 by Year of Diagnosis, 2006-2016



\* P&S = Primary and Secondary

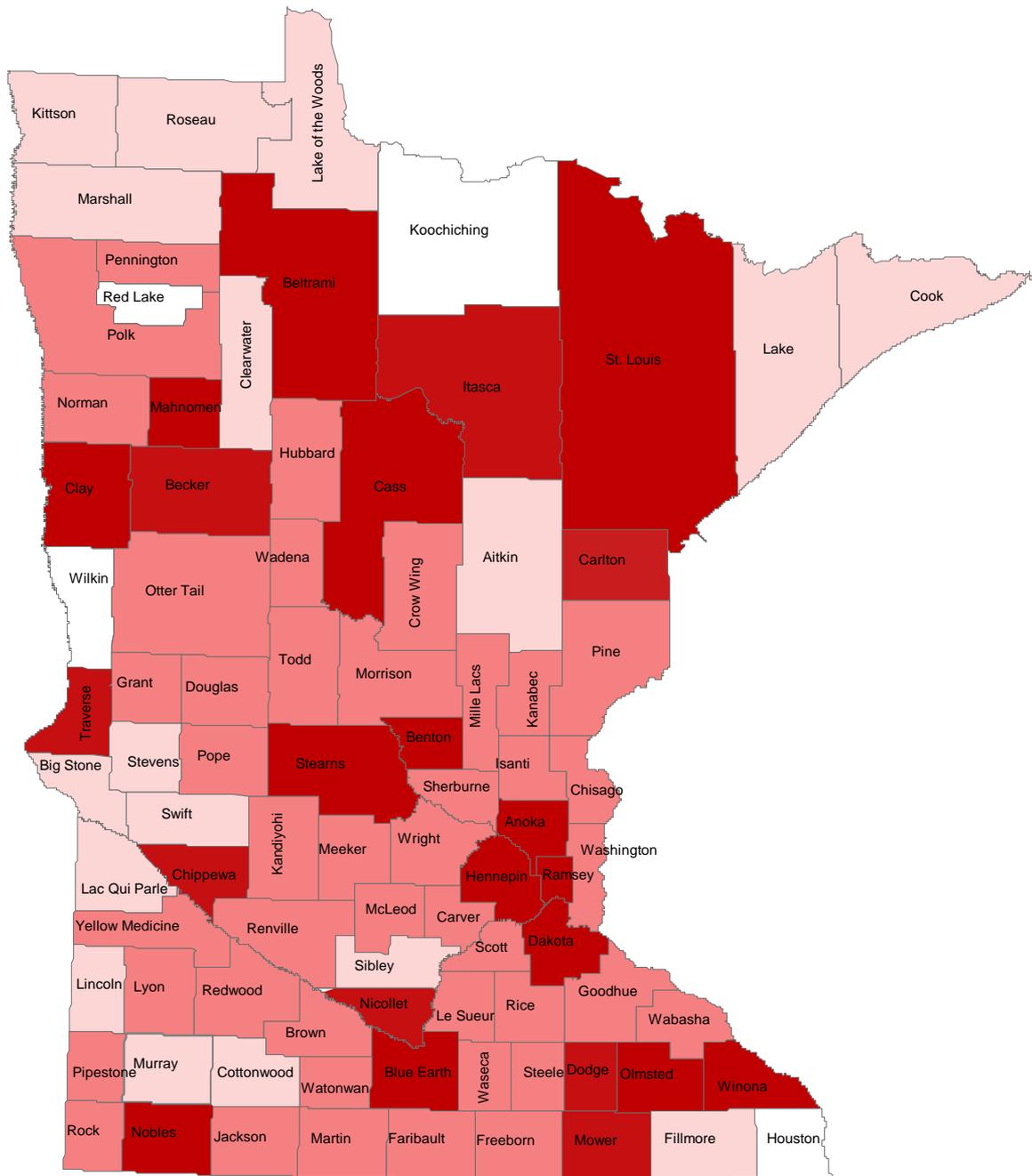
# STDs in Minnesota: Number of Cases Reported in 2016

- **Total of 28,631 STD cases reported to MDH in 2016:**
  - 22,675 Chlamydia cases
  - 5,104 Gonorrhea cases
  - 852 Syphilis cases (all stages)
  - 0 Chancroid cases

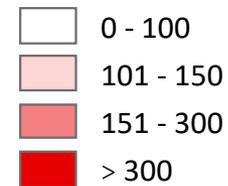
# CHLAMYDIA



# 2016 Minnesota Chlamydia Rates by County



Rate per 100,000 persons



City of Minneapolis	1196
City of St. Paul	912
Suburban#	335
Greater Minnesota	298

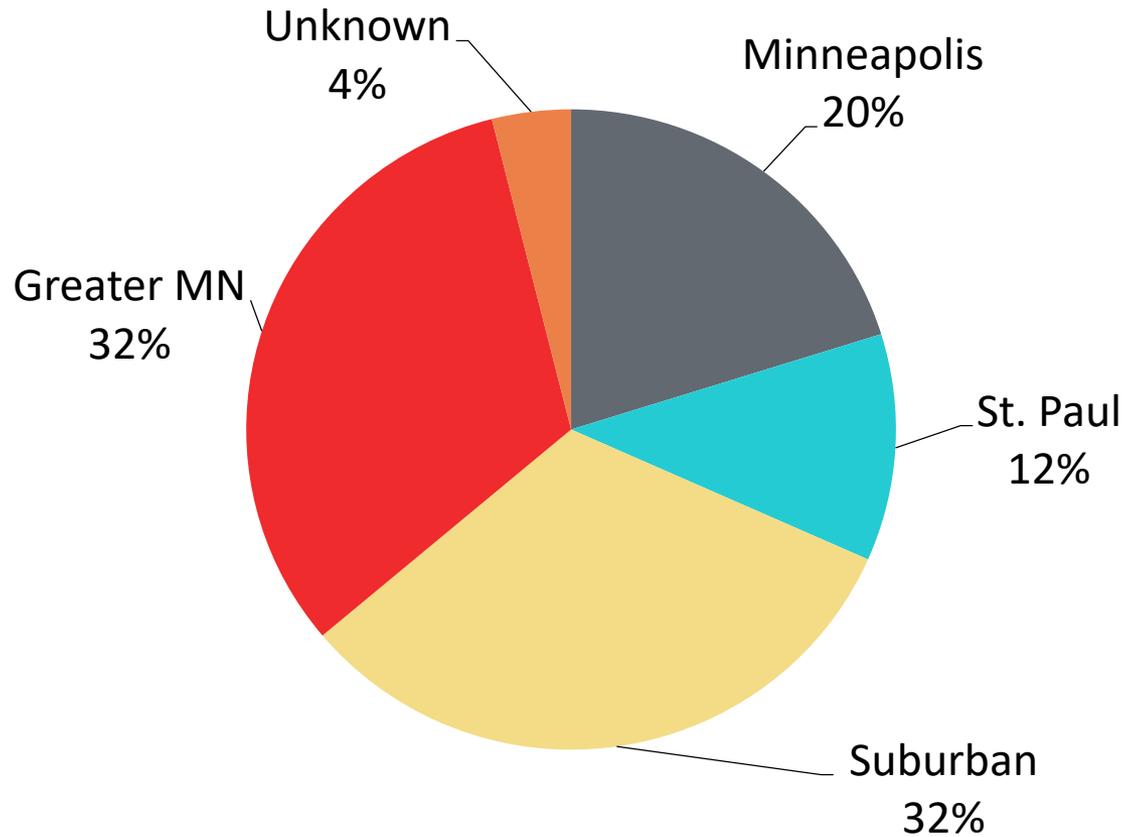
(890 cases missing residence information)

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



# Chlamydia Infections by Residence at Diagnosis Minnesota, 2016

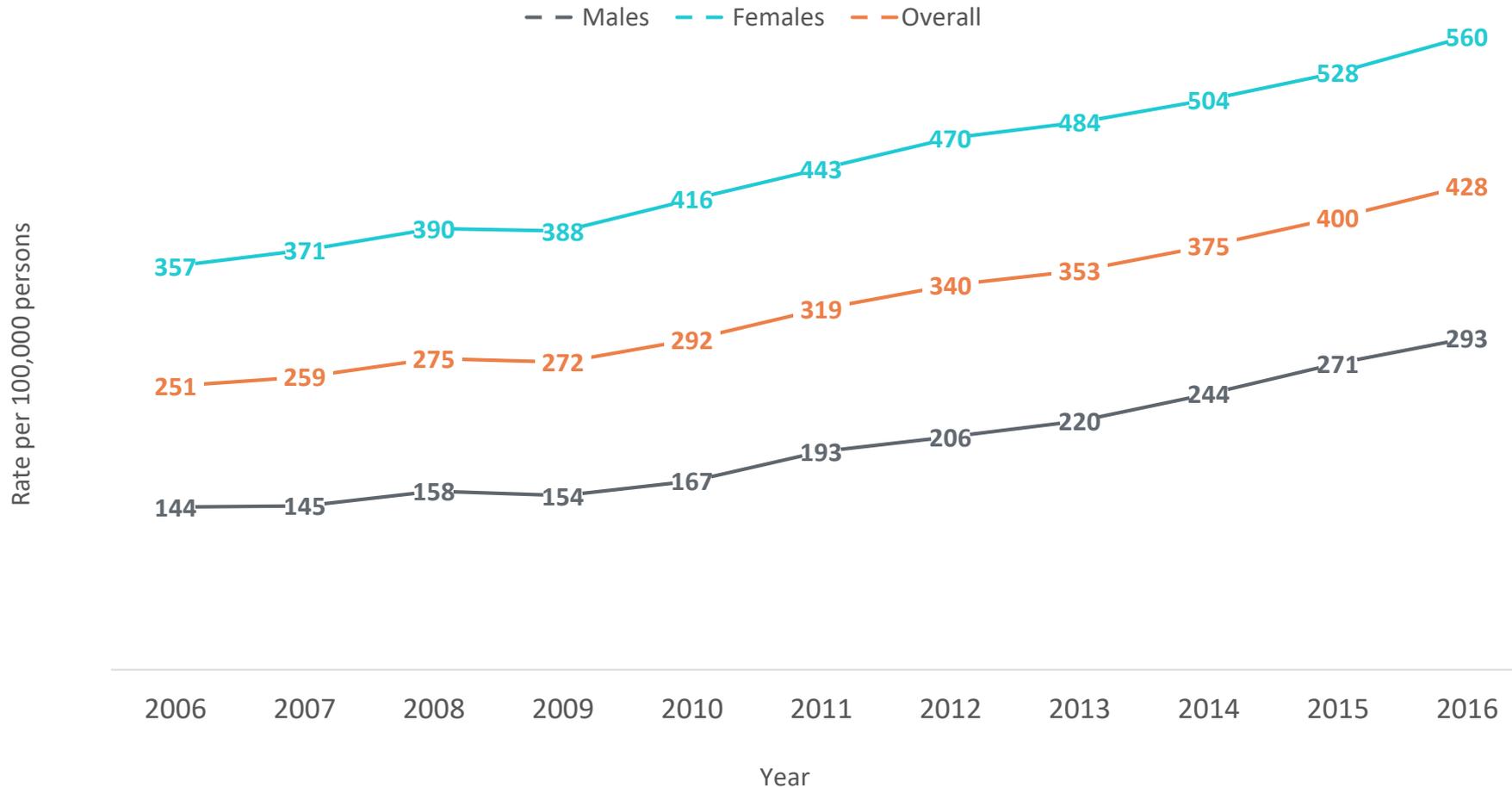
Total Number of Cases = 22,675



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, 2006-2016

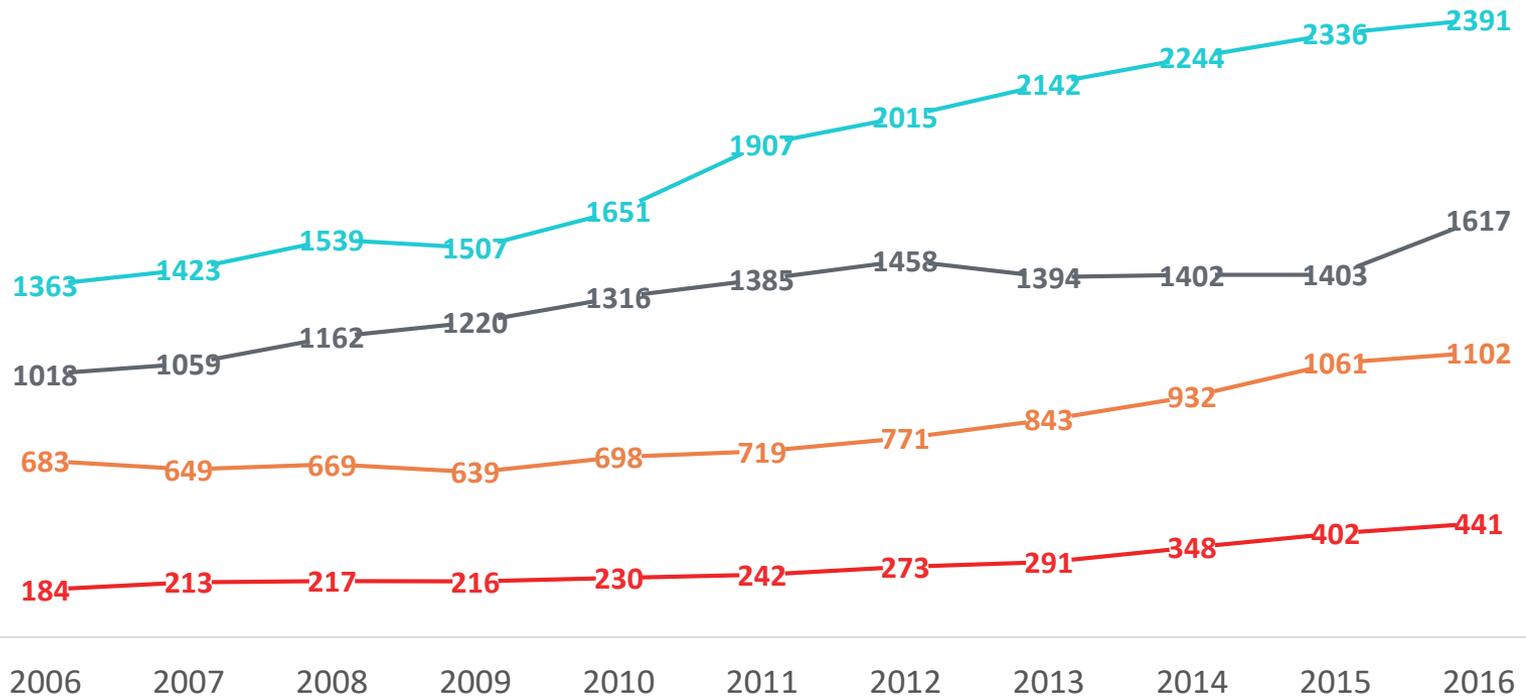




# Chlamydia Rates by Age Minnesota, 2006-2016

-- 15-19    - 20-24    - 25-29    - 30-39

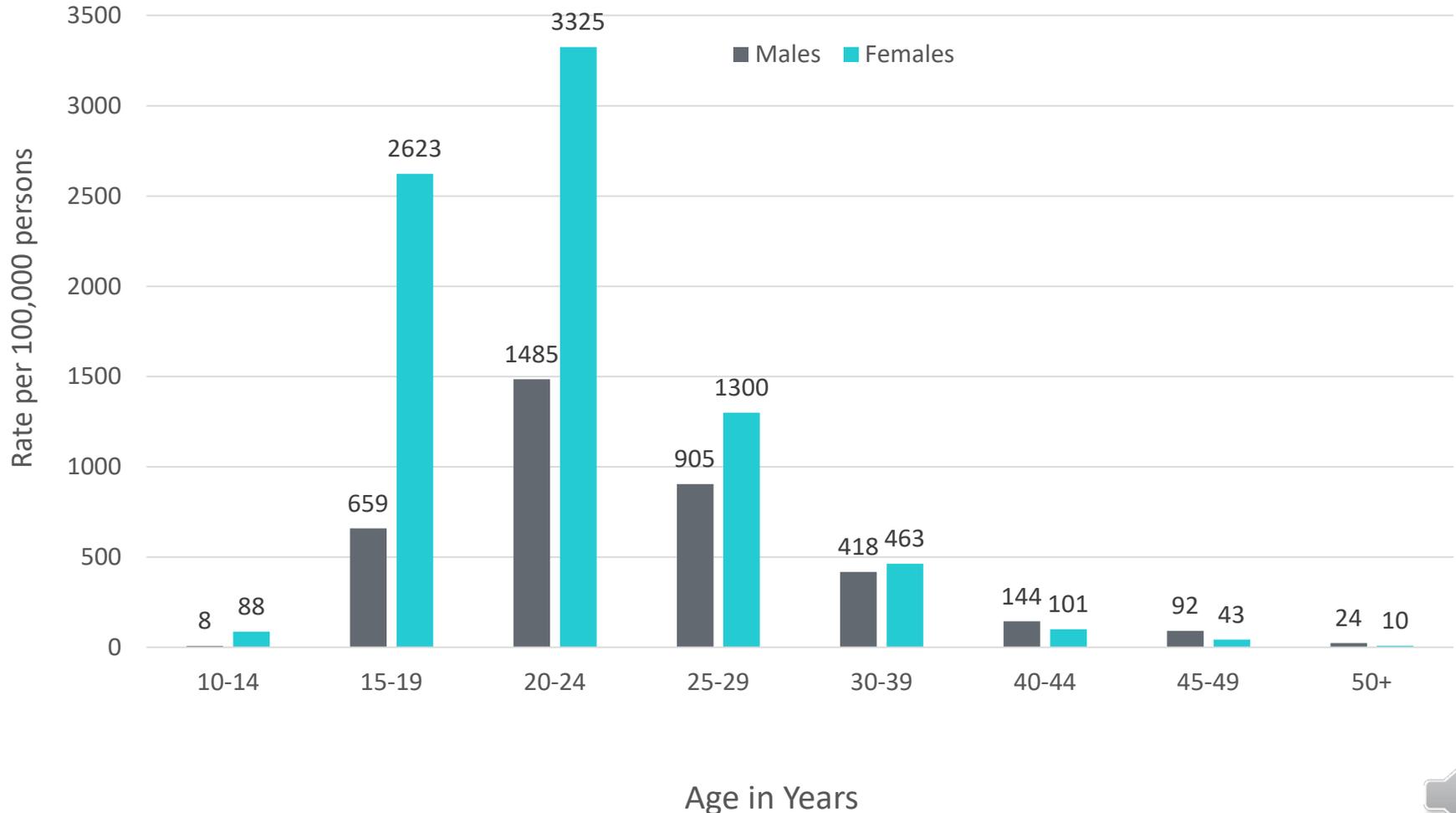
Rate per 100,000 persons



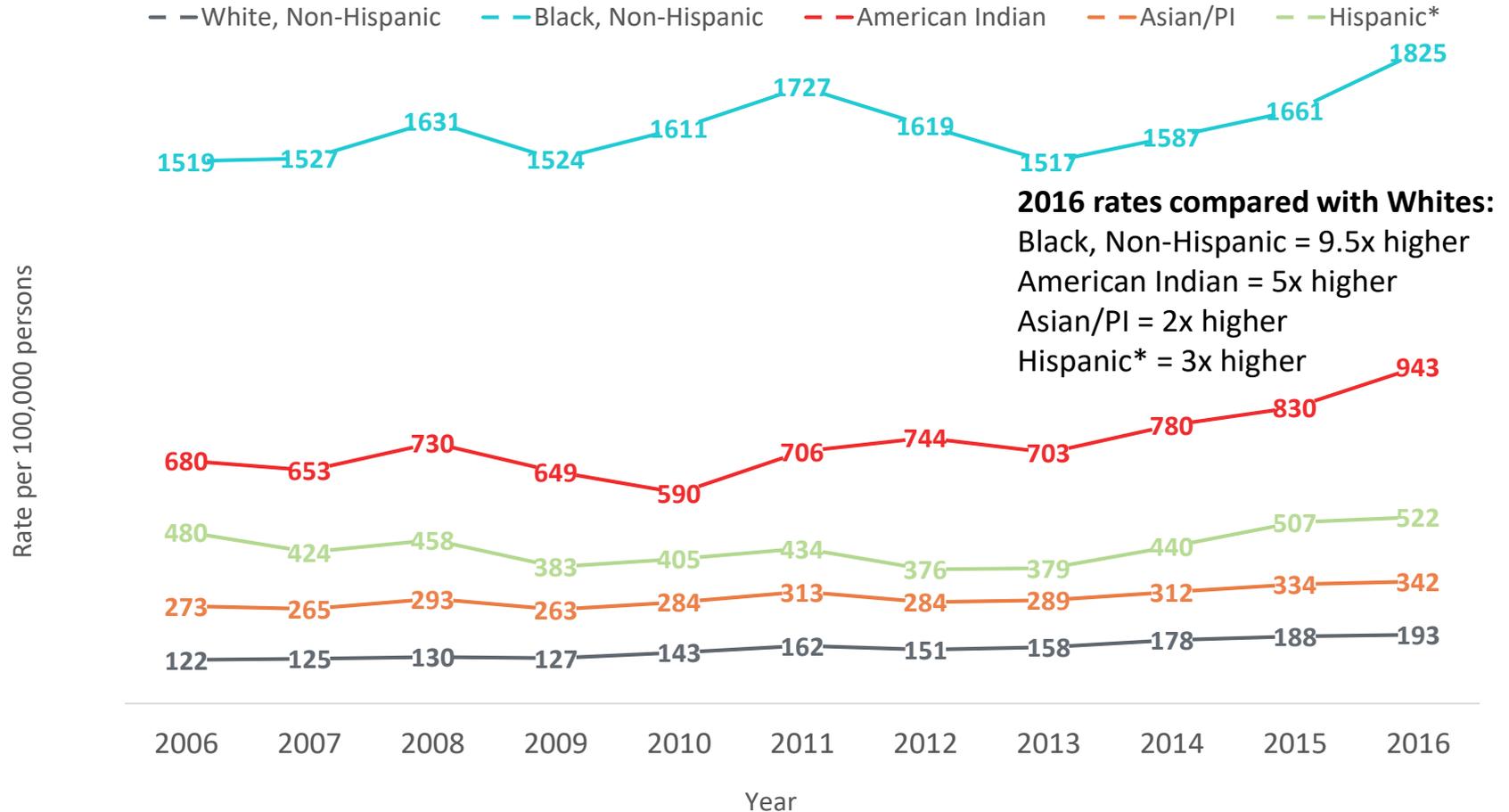
Year



# Age-Specific Chlamydia Rates by Gender Minnesota, 2016

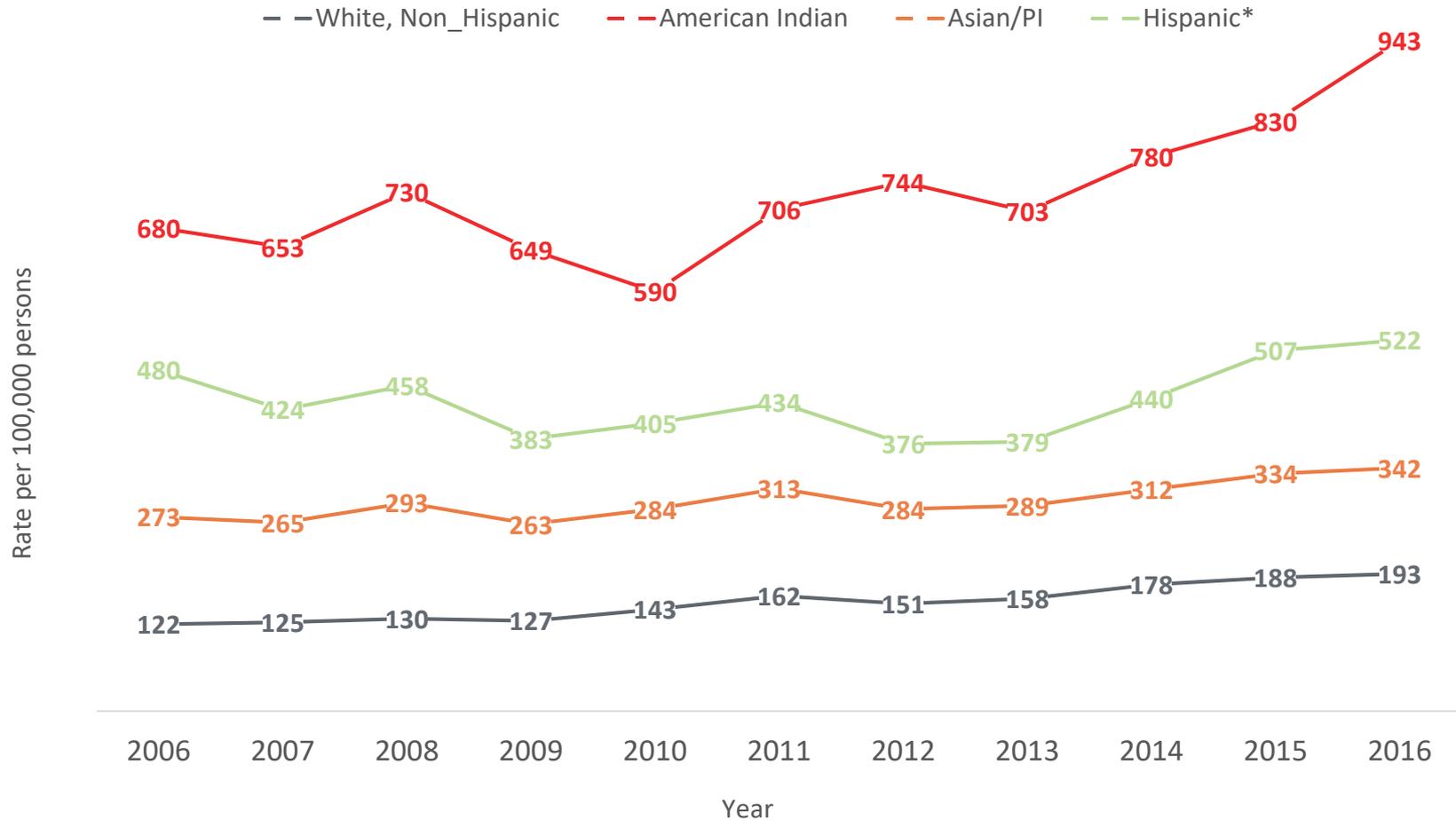


# Chlamydia Rates by Race/Ethnicity Minnesota, 2006-2016



\* Persons of Hispanic ethnicity can be of any race

# Chlamydia Rates by Race/Ethnicity Minnesota, 2006-2016

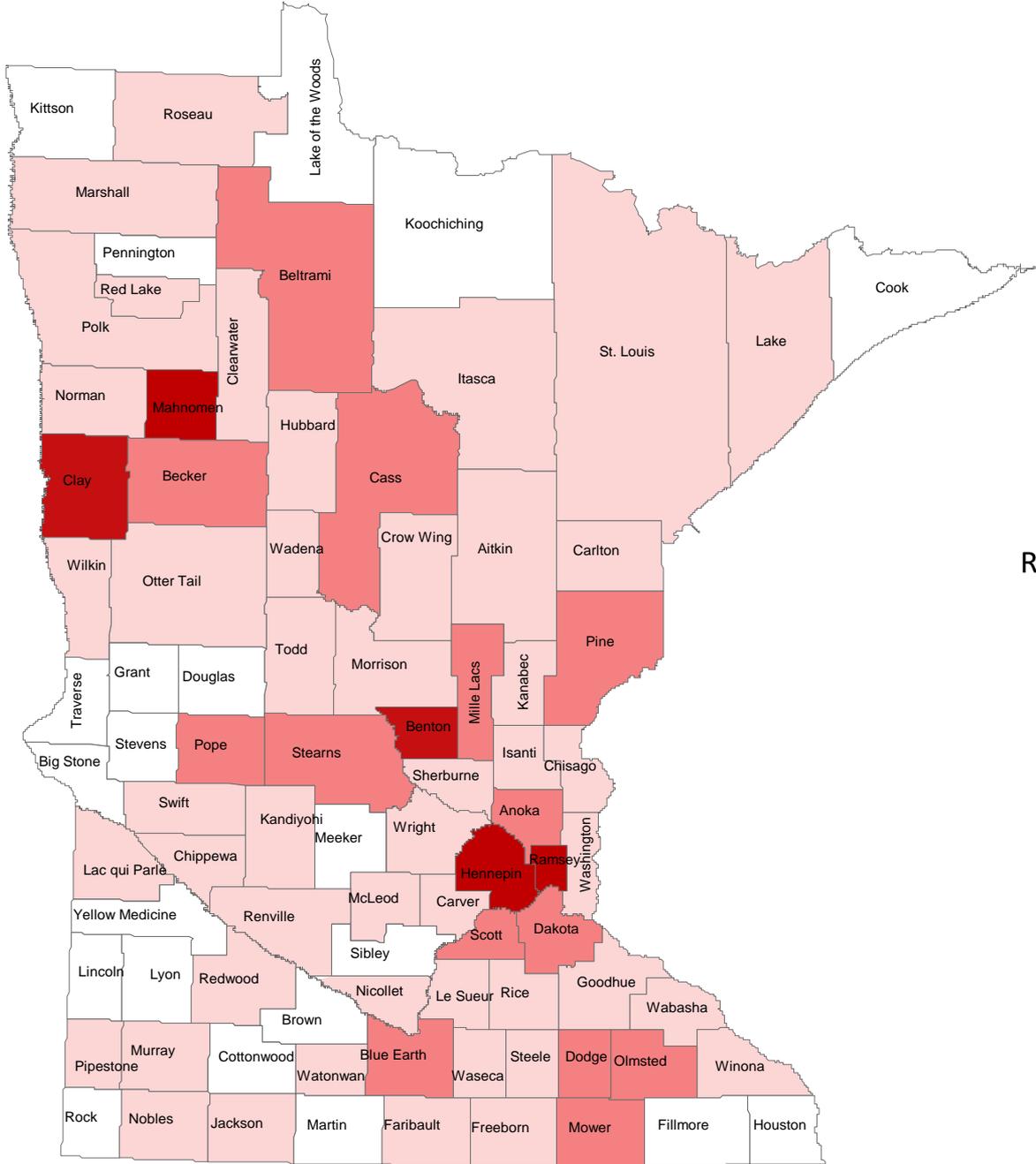


\* Persons of Hispanic ethnicity can be of any race

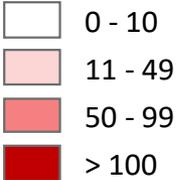
# GONORRHEA



# 2016 Minnesota Gonorrhea Rates by County



Rate per 100,000 persons



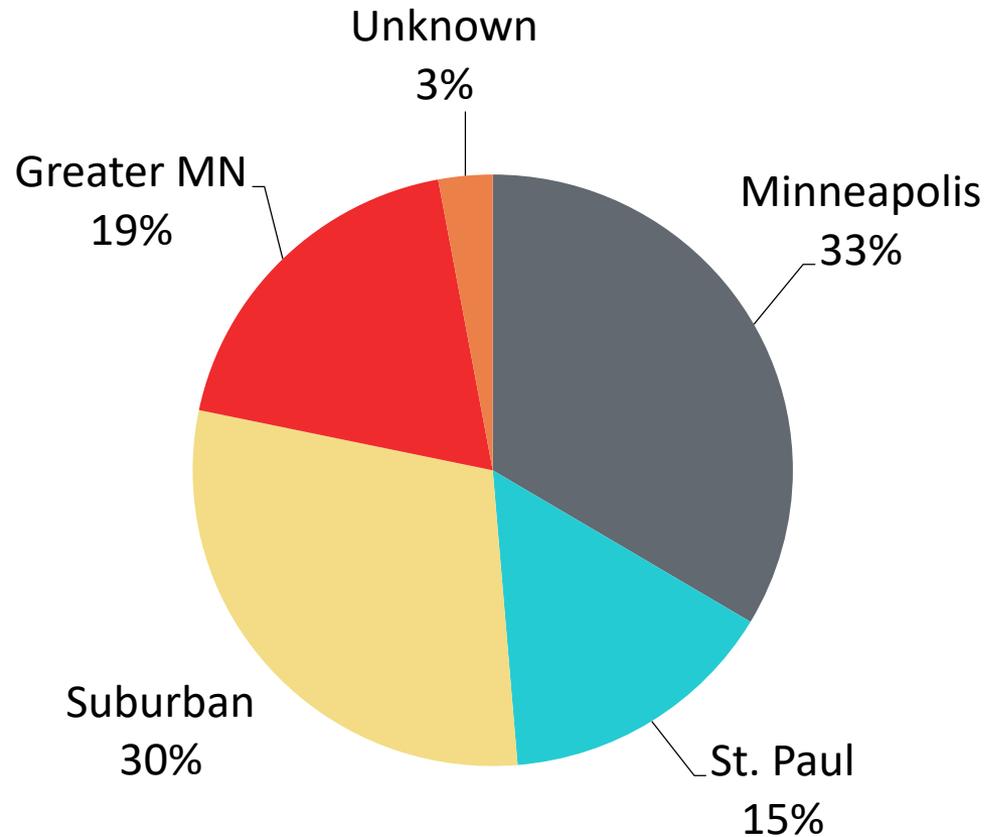
City of Minneapolis	448
City of St. Paul	271
Suburban#	69
Greater Minnesota	39

(146 cases missing residence information)

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

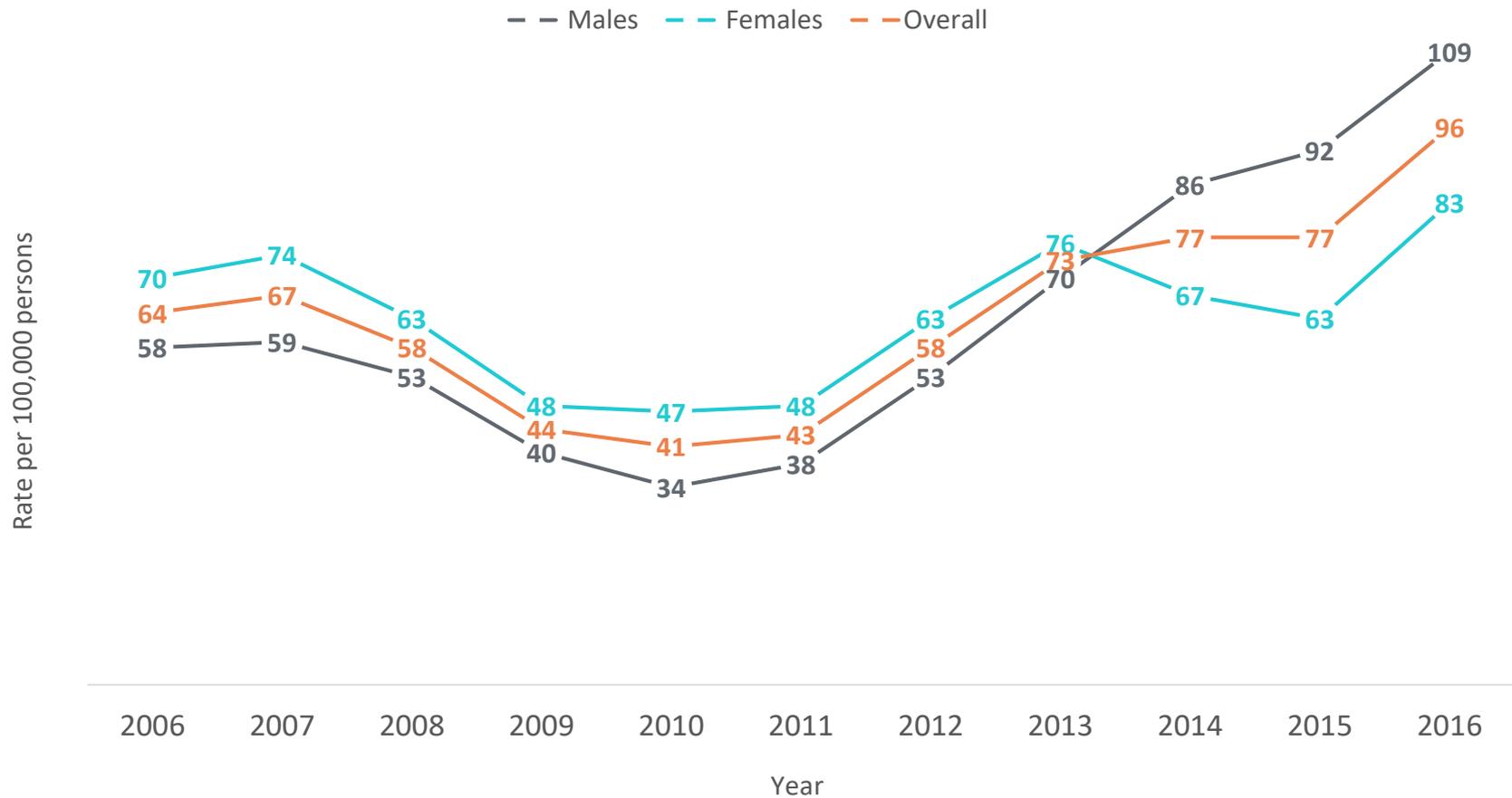
# Gonorrhea Infections in Minnesota by Residence at Diagnosis, 2016

Total Number of Cases= 5,104



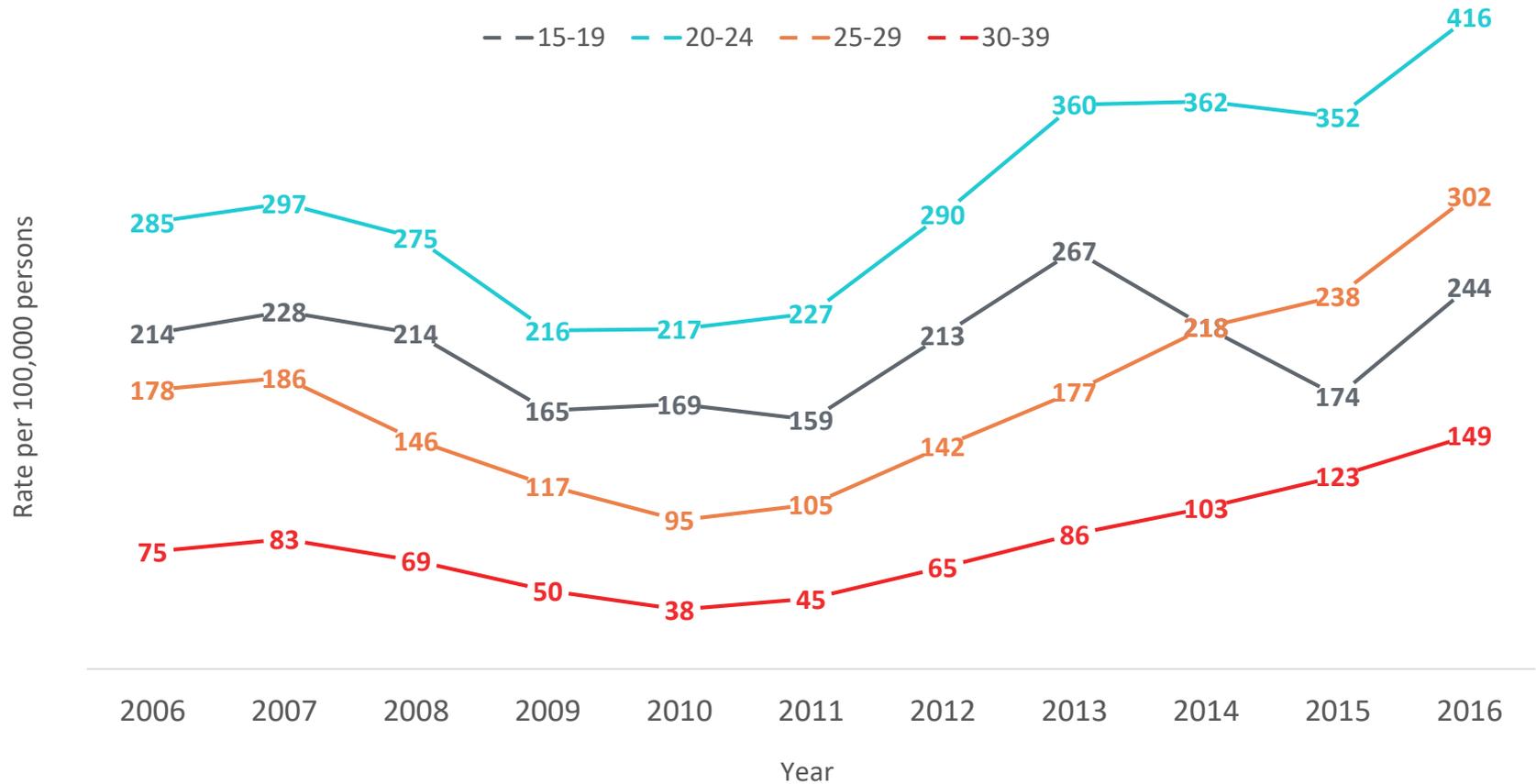
Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties outside the seven-county metro area.

# Gonorrhea Rates by Gender Minnesota, 2006-2016



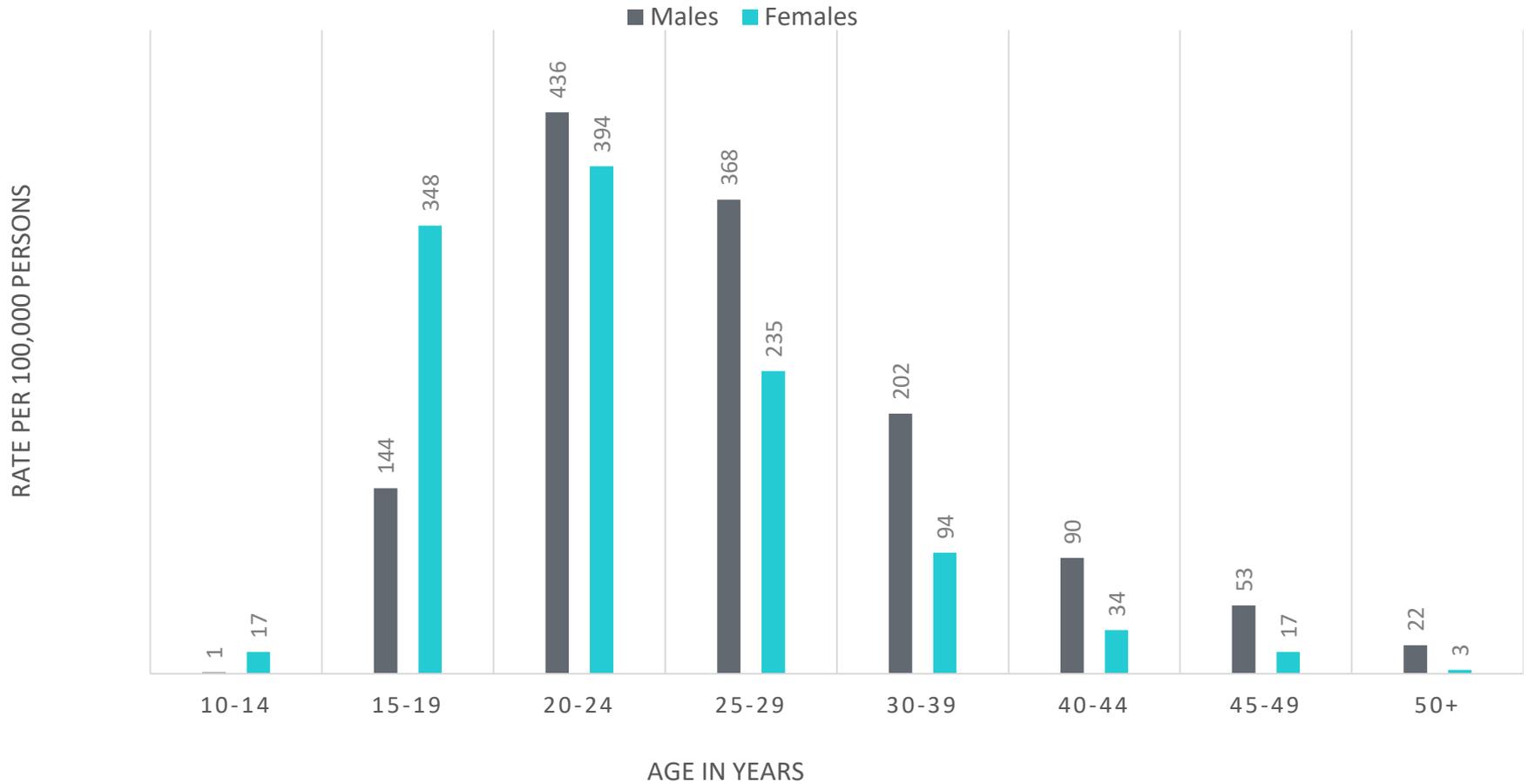


# Gonorrhea Rates by Age Minnesota, 2006-2016





# Age-Specific Gonorrhea Rates by Gender Minnesota, 2016



# Gonorrhea Rates by Race/Ethnicity Minnesota, 2006-2016

— White, Non-Hispanic    — Black, Non-Hispanic    — American Indian    — Asian/PI    — Hispanic\*

Rate per 100,000 persons

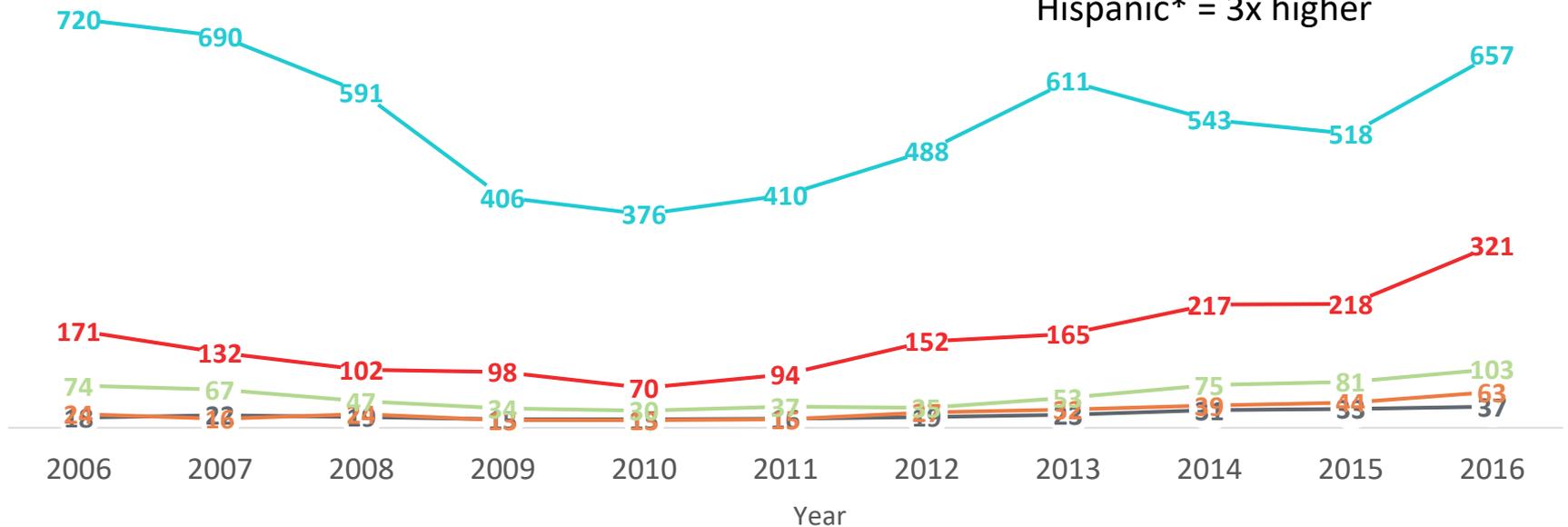
## 2016 rates compared with Whites:

Black, Non-Hispanic = 18x higher

American Indian = 9x higher

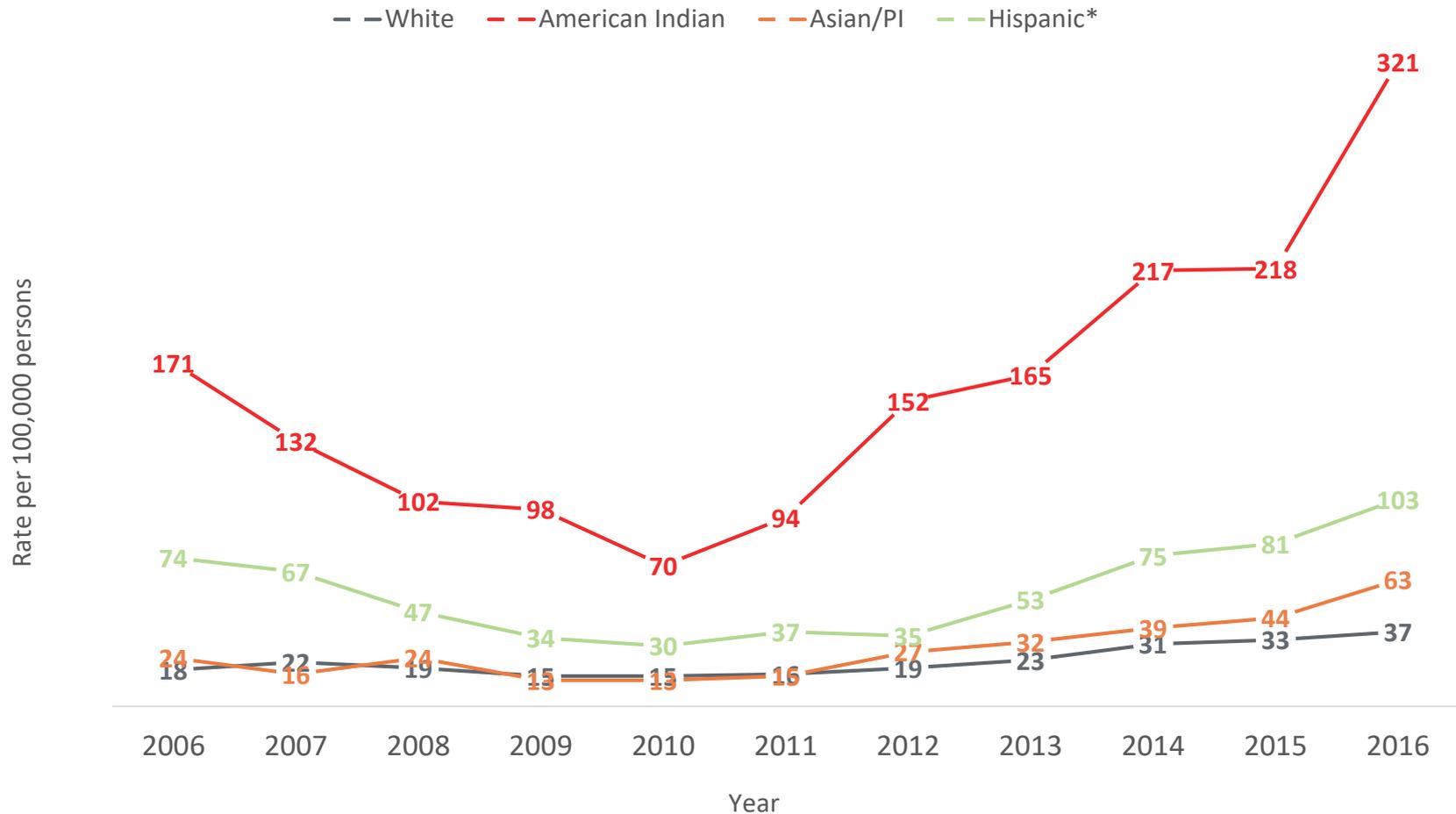
Asian/PI = 2x higher

Hispanic\* = 3x higher



\* Persons of Hispanic ethnicity can be of any race

# Gonorrhea Rates by Race/Ethnicity Minnesota, 2006-2016

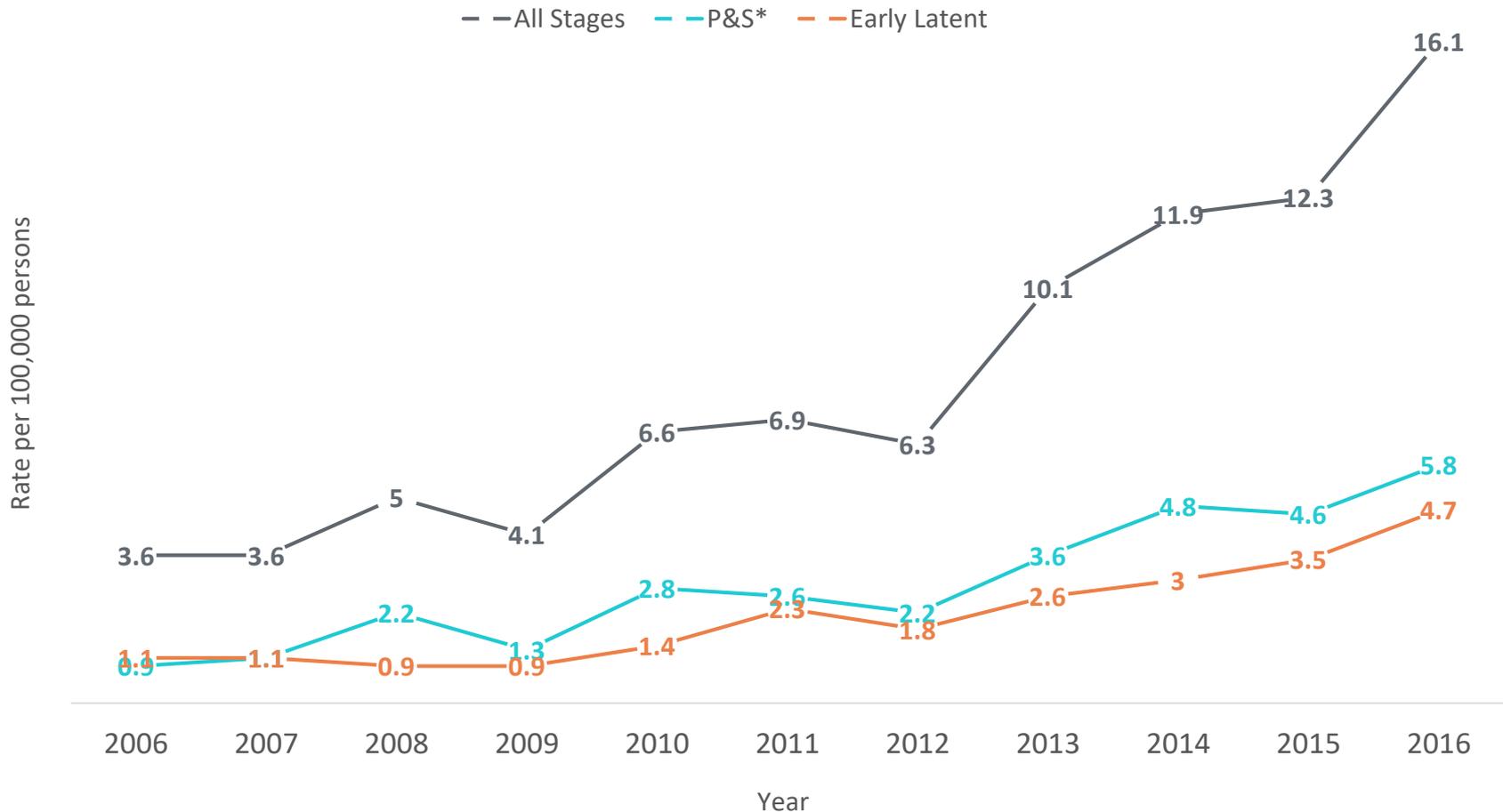


\* Persons of Hispanic ethnicity can be of any race.

# SYPHILIS

# Syphilis Rates by Stage of Diagnosis

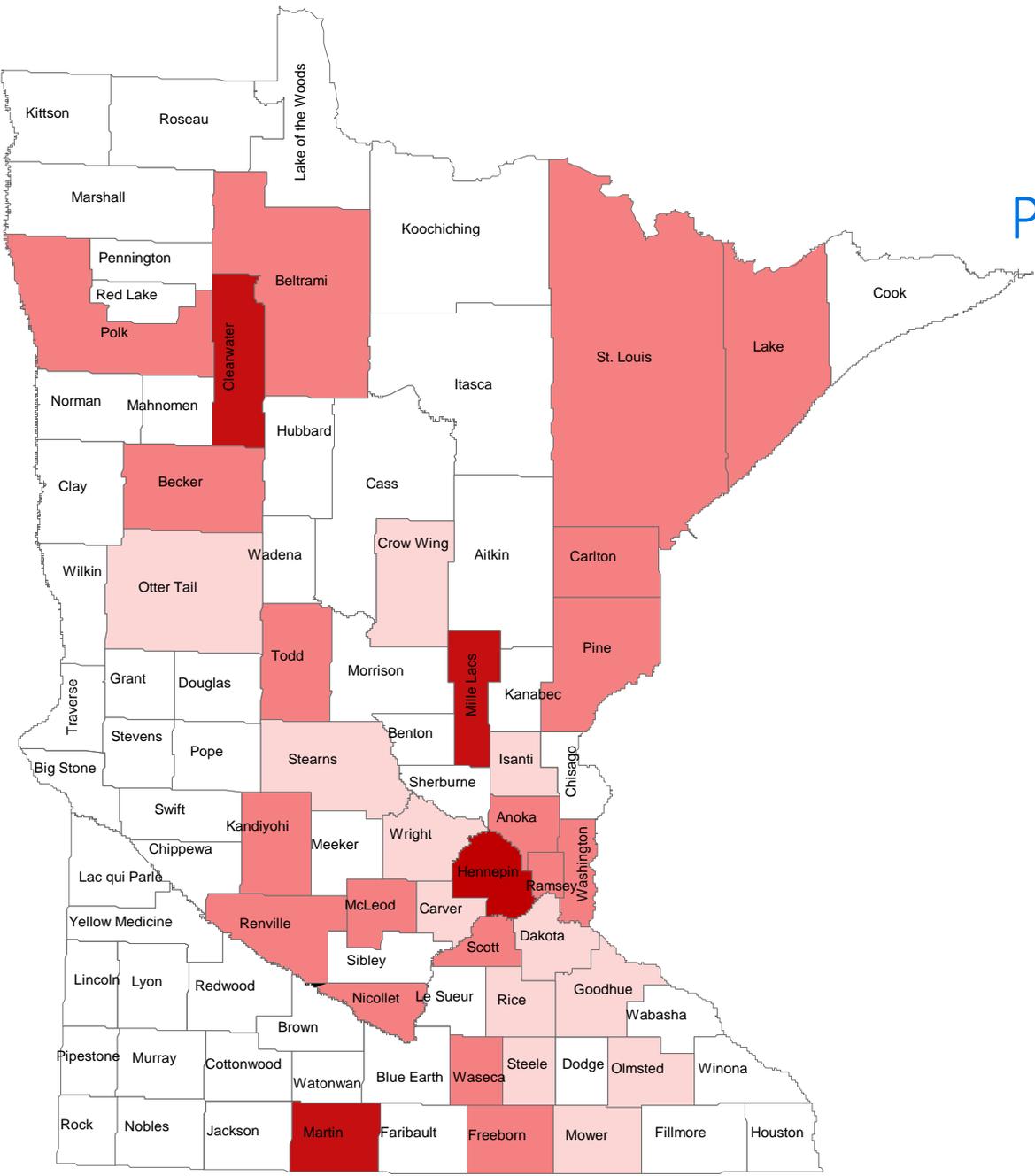
## Minnesota, 2006-2016



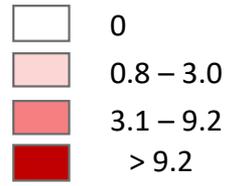
\* P&S = Primary and Secondary



# 2016 Minnesota Primary & Secondary Syphilis Rates by County



Rate per 100,000 persons

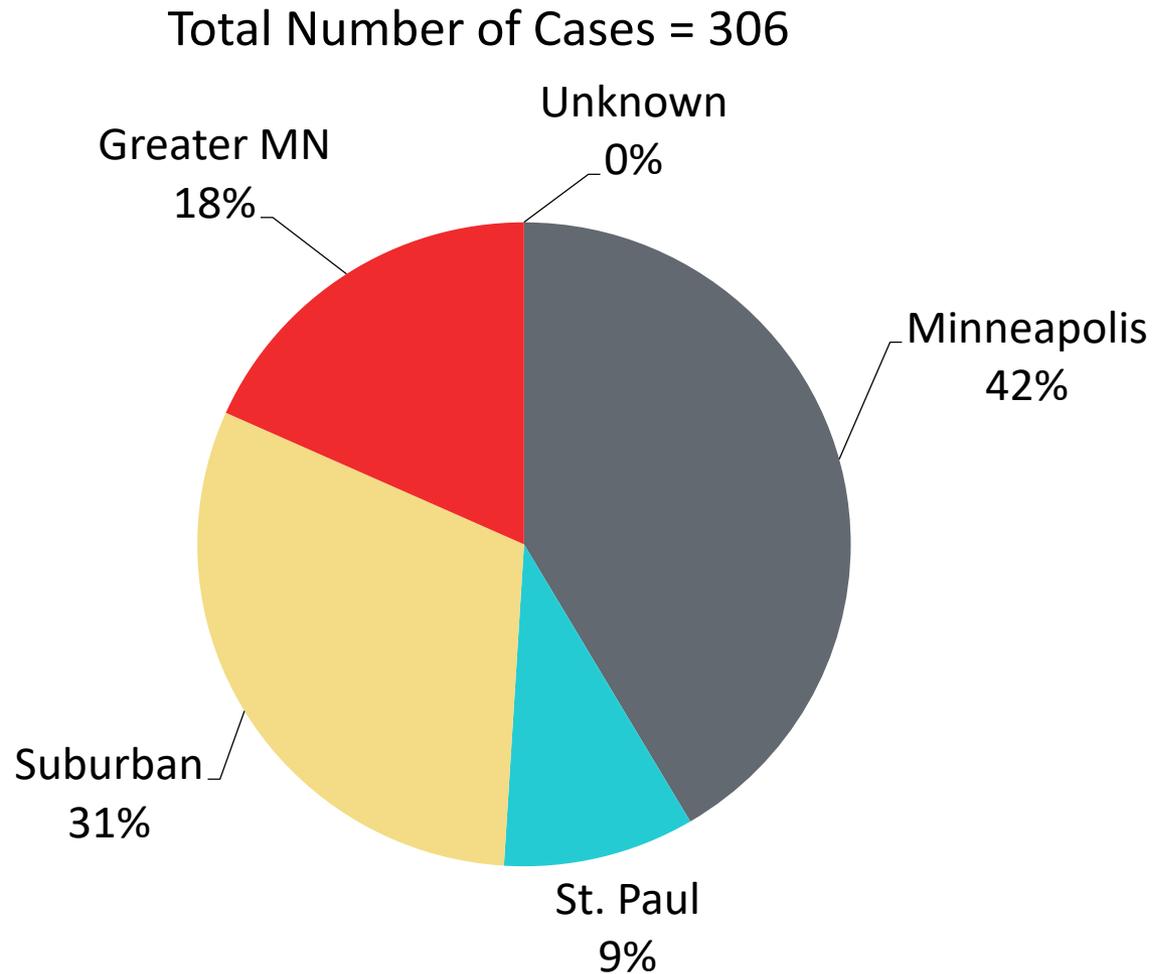


City of Minneapolis	33.7 (129 cases)
City of St. Paul	8.1 (23 cases)
Suburban <sup>#</sup>	3.1 (68 cases)
Greater Minnesota	1.1 (26 cases)

<sup>#</sup> 7-county metro area, excluding the cities of Minneapolis and St. Paul



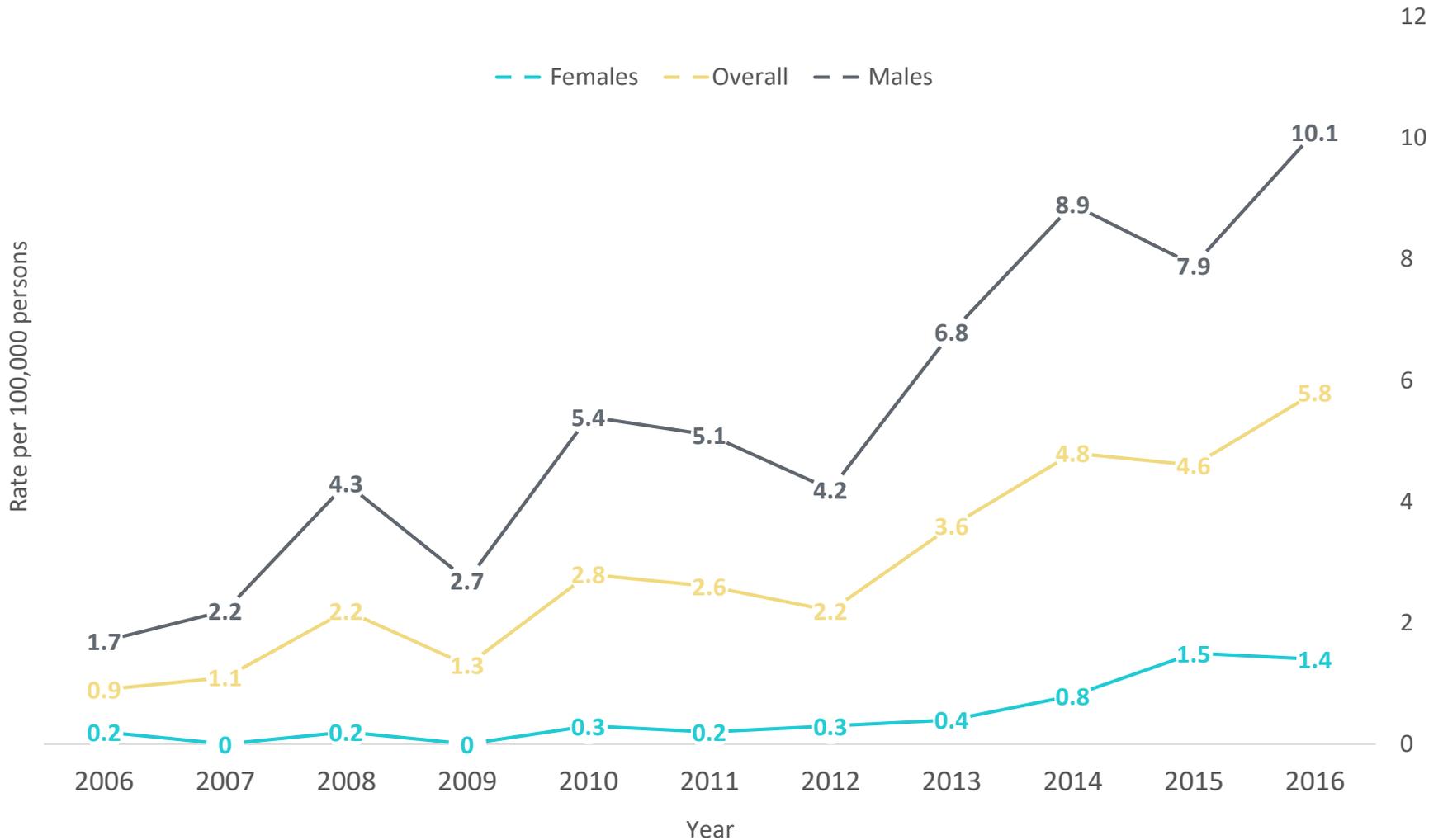
# Primary & Secondary Syphilis Infections in Minnesota by Residence at Diagnosis, 2016



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.

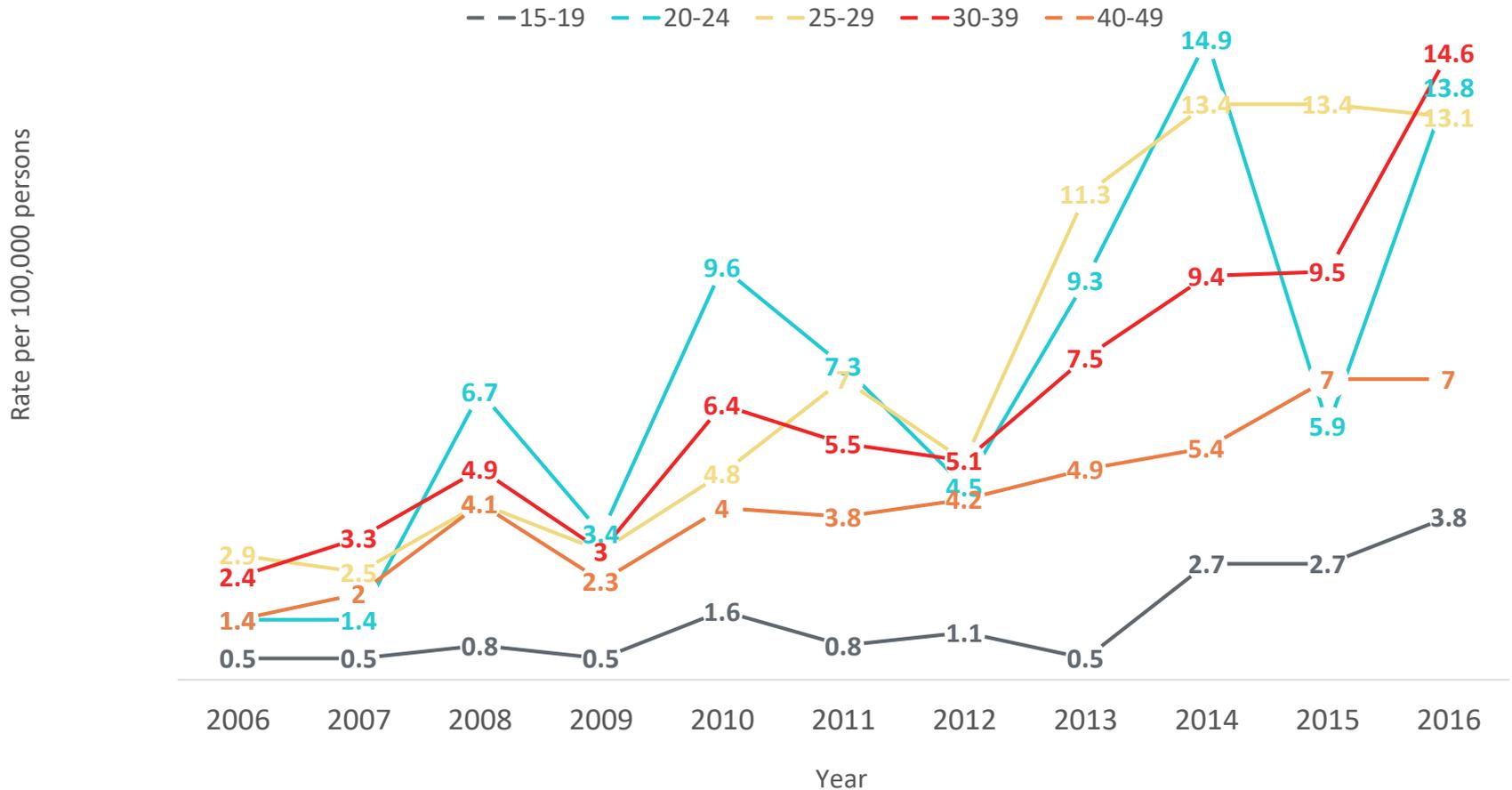


# Primary & Secondary Syphilis Rates by Gender Minnesota, 2006-2016



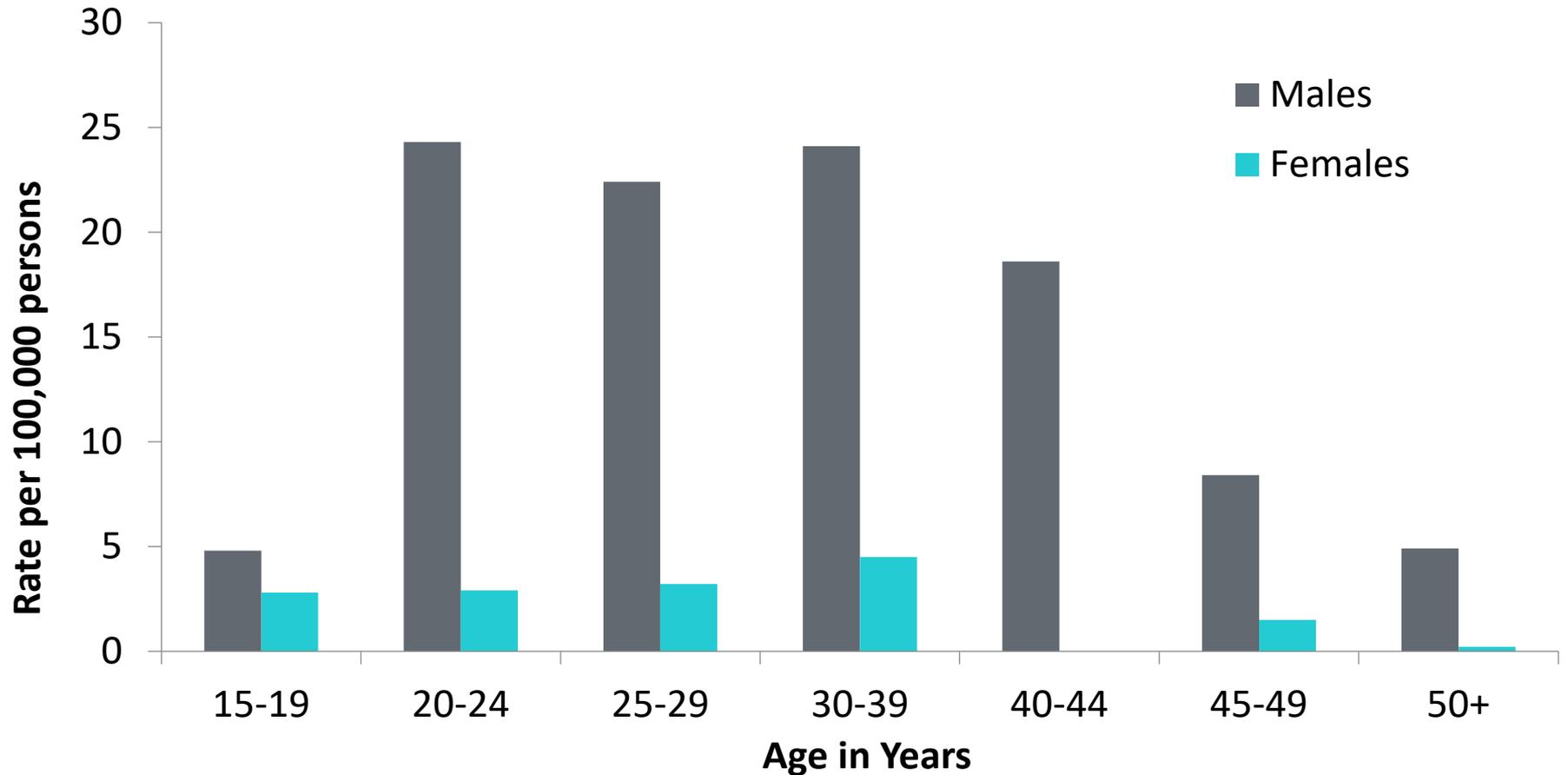


# Primary & Secondary Syphilis Rates by Age Minnesota, 2006-2016





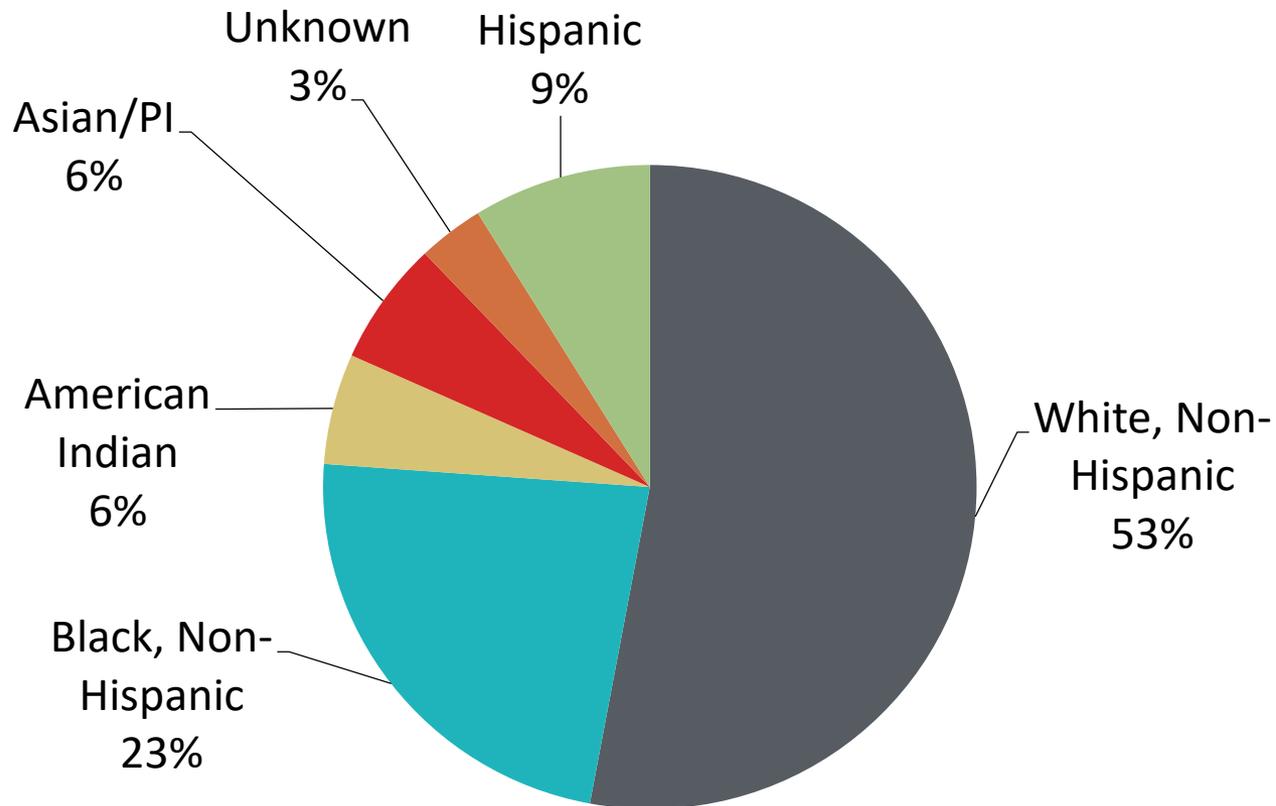
# Age-Specific Primary & Secondary Syphilis Rates by Gender, Minnesota, 2016





# Primary & Secondary Syphilis Cases by Race Minnesota, 2016

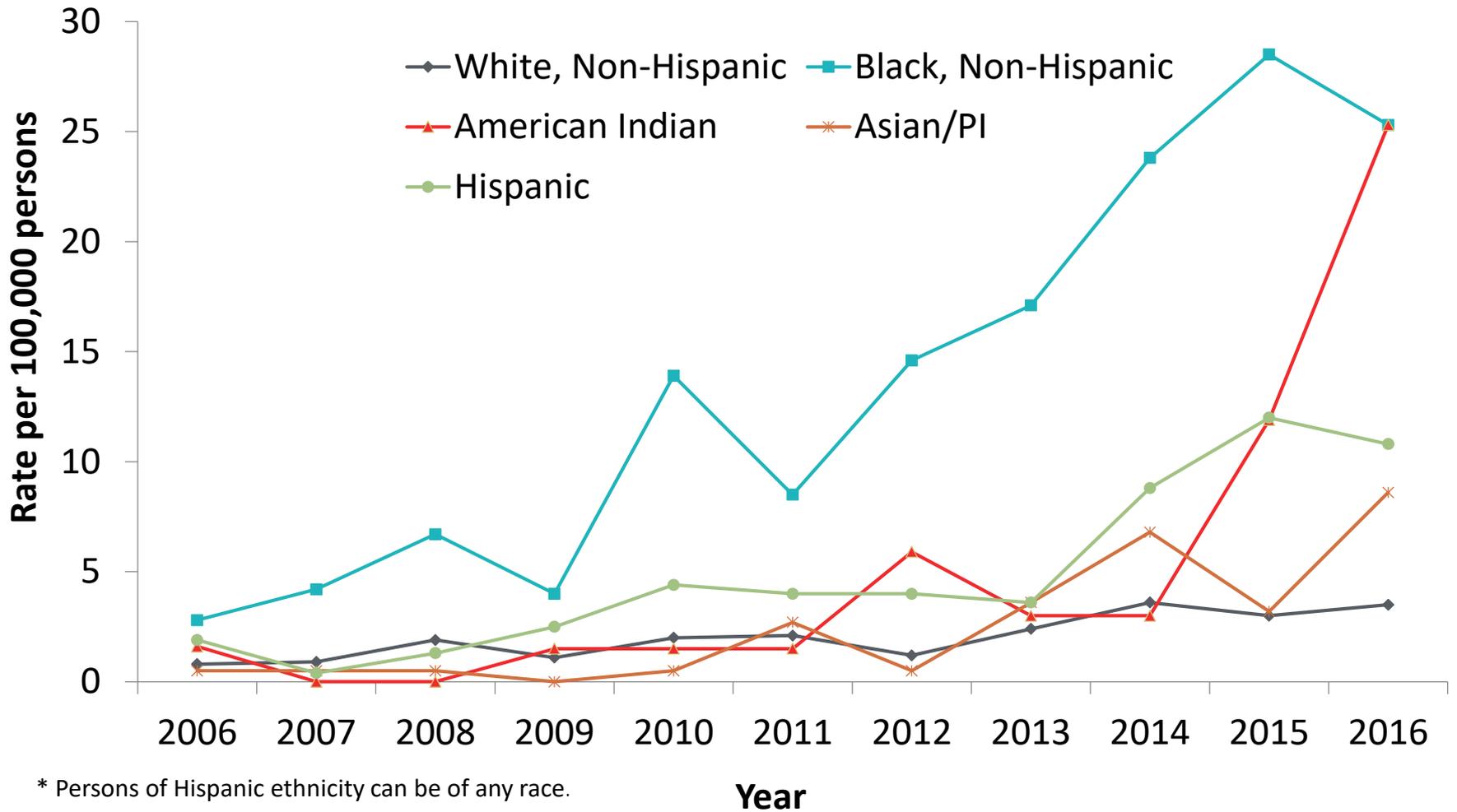
Total Number of Cases = 306



\*Includes persons reported with more than one race



# Primary & Secondary Syphilis Rates by Race/Ethnicity Minnesota, 2006-2016



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

# CHLAMYDIA AND GONORRHEA AMONG ADOLESCENTS & YOUNG ADULTS

**Minnesota Department of Health STD Surveillance System**



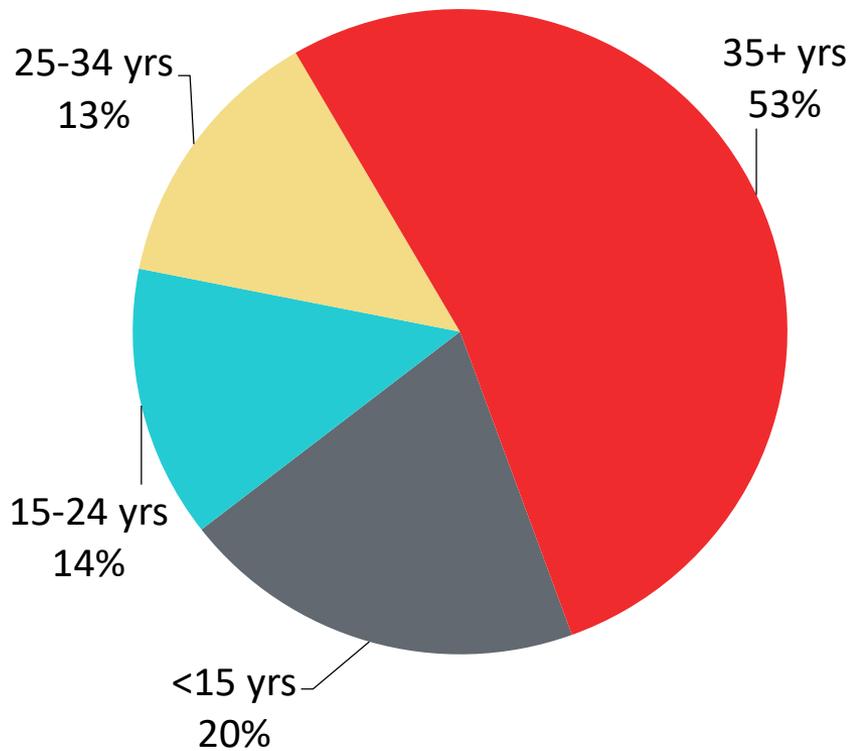
Minnesota  
Department *of* Health

STD/HIV/TB Section

# Chlamydia Disproportionately Impacts Youth

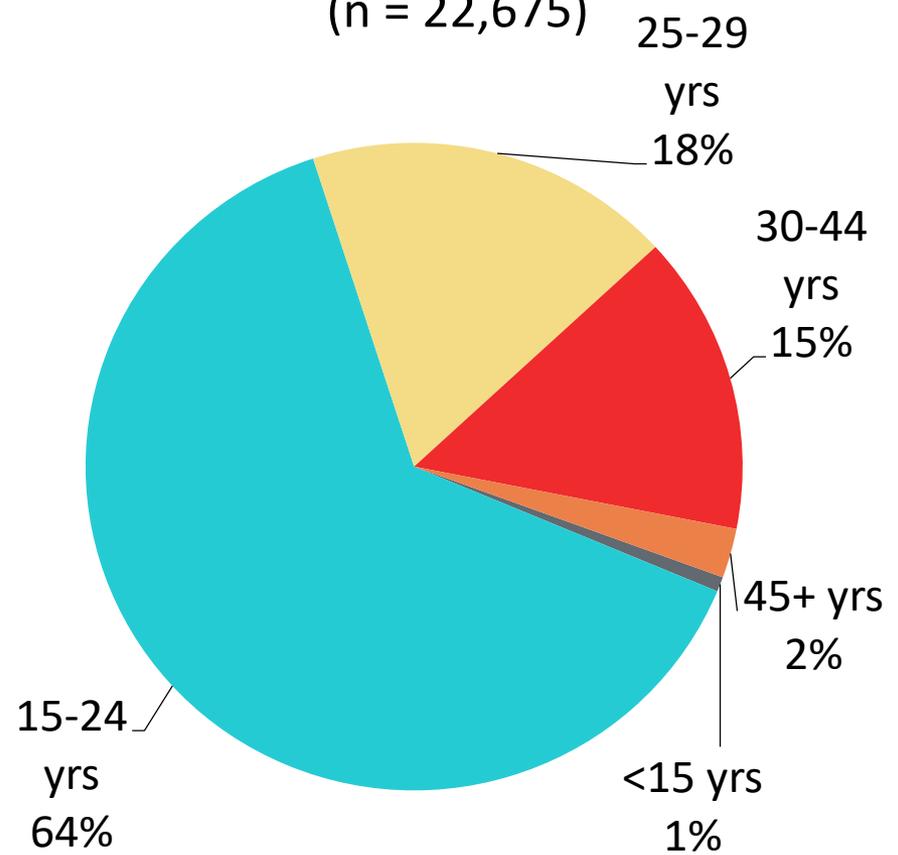
## MN Population in 2010

(n = 5,303,925)



## Chlamydia Cases in 2016

(n = 22,675)

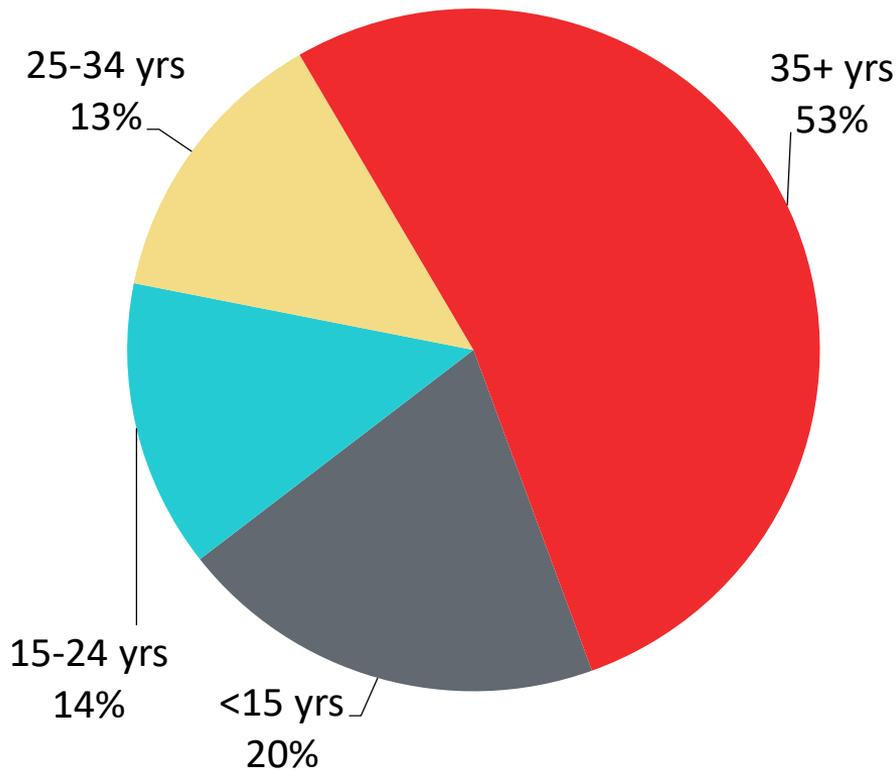




# Gonorrhea Disproportionately Impacts Youth

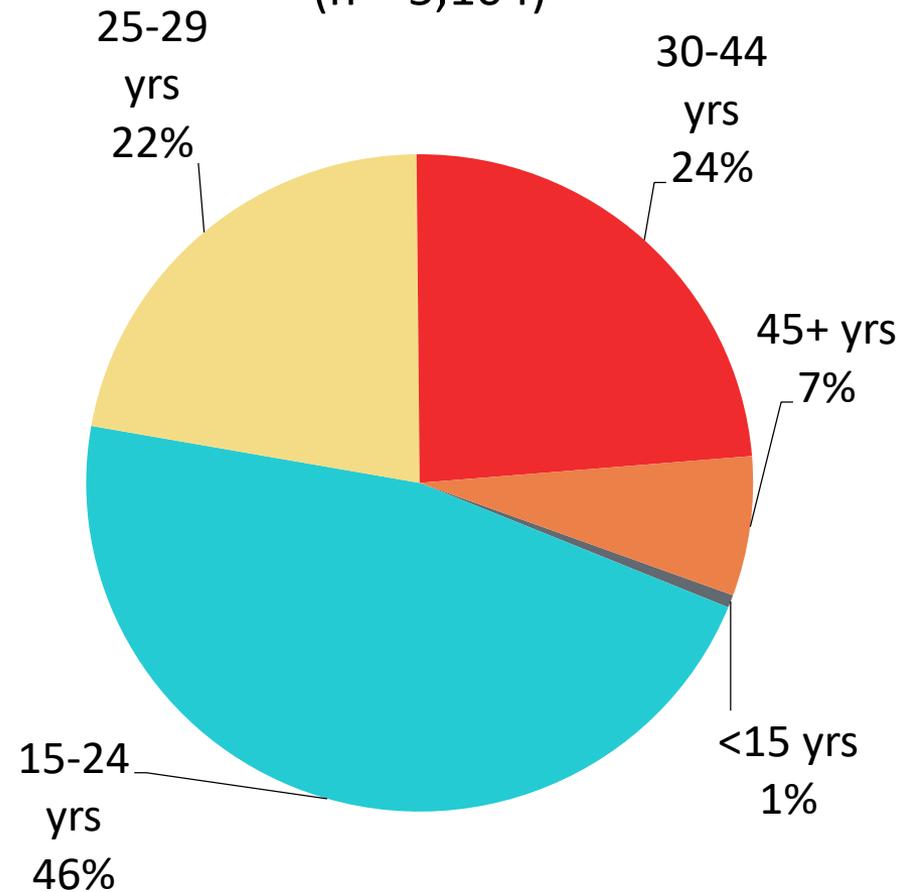
## MN Population in 2010

(n = 5,303,925)



## Gonorrhea Cases in 2016

(n = 5,104)



## Characteristics of Adolescents & Young Adults<sup>†</sup> Diagnosed With Chlamydia or Gonorrhea in 2016

	Cases	% of Total
Male	4,984	29%
Female	11,832	71%
Transgender	12	
White, Non-Hispanic	6,072	36%
Black, Non-Hispanic	4,555	27%
Am Indian	466	3%
Asian/PI	481	3%
Hispanic	946	6%
Other/Unknown	4,309	26%
<b>TOTAL</b>	<b>16,829</b>	

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

## Characteristics of Adolescents & Young Adults<sup>†</sup> Diagnosed With Chlamydia or Gonorrhea in 2016

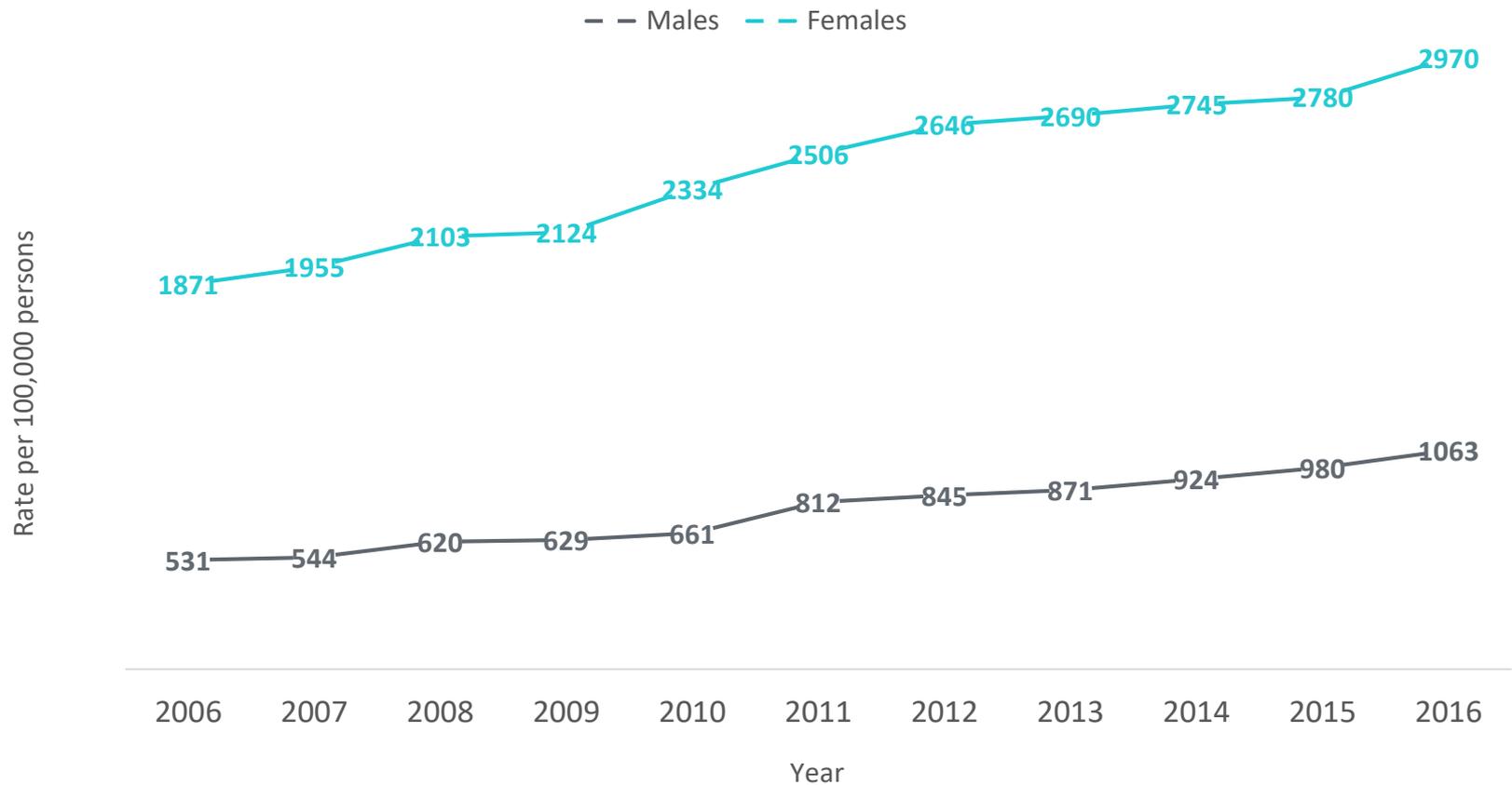
	Cases	% of Total
Minneapolis	3,261	19%
St. Paul	2,060	12%
Suburban MN	5,312	32%
Greater MN	5,519	33%
Unknown	687	4%
<b>TOTAL</b>	<b>16,829</b>	

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 Rates Among Adolescents & Young Adults<sup>†</sup> by Gender in Minnesota, 2006-2016



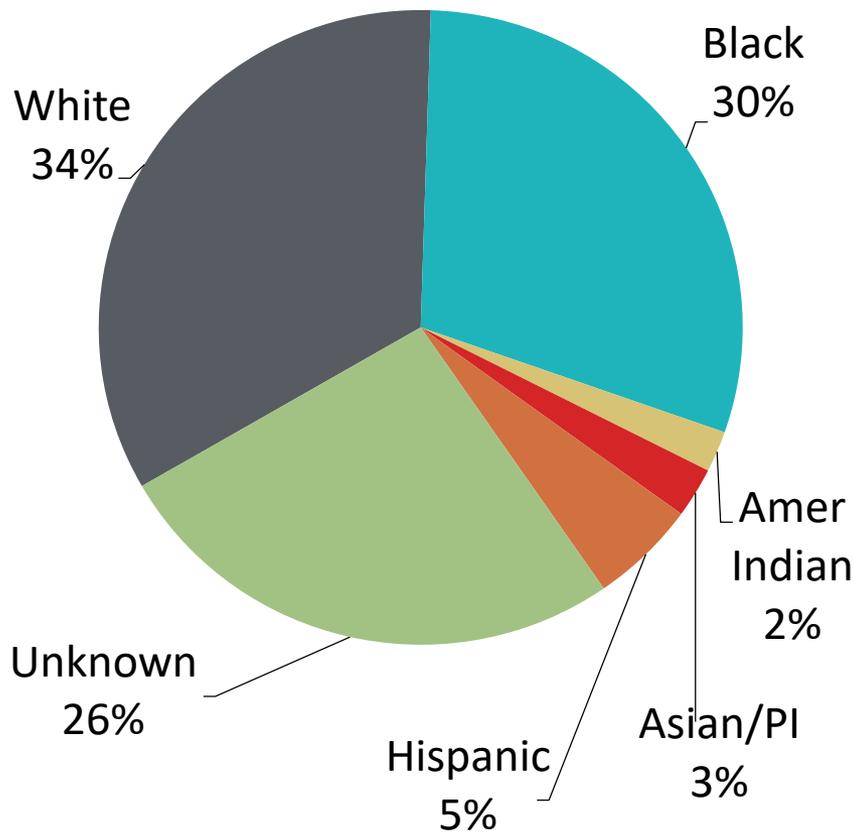
Rate=Cases per 100,000 persons based on 2010 U.S. Census counts.

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

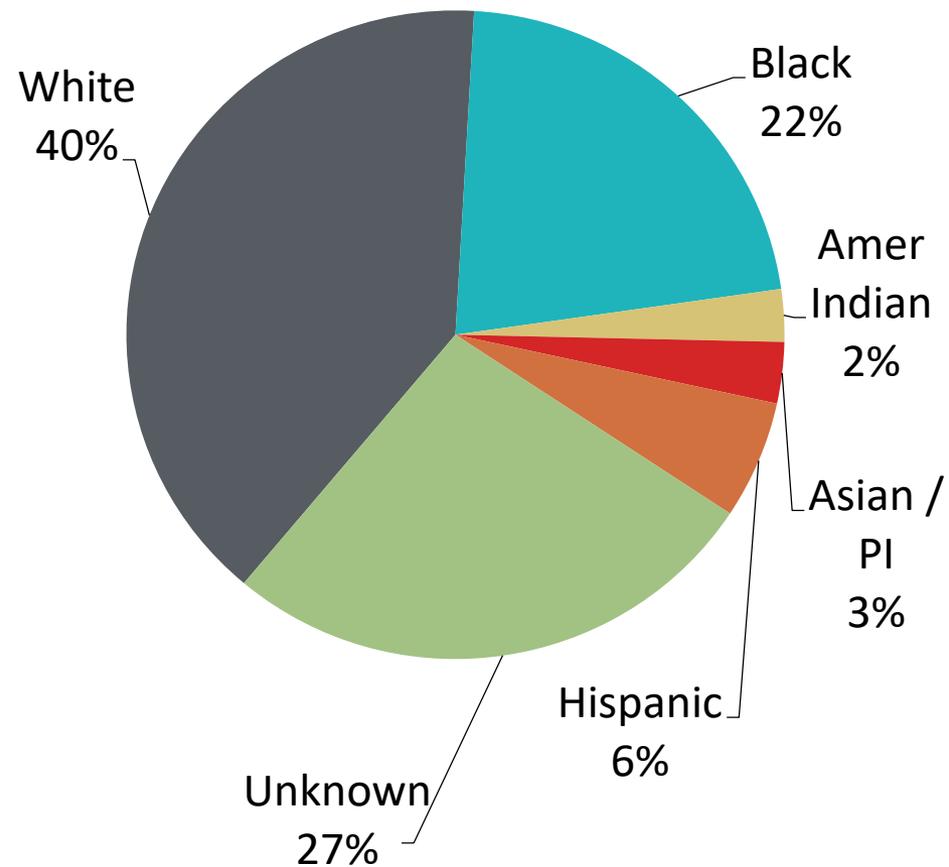


# Chlamydia Cases Among Adolescents and Young Adults<sup>†</sup> by Gender and Race, Minnesota, 2016

Males (n = 3,925)



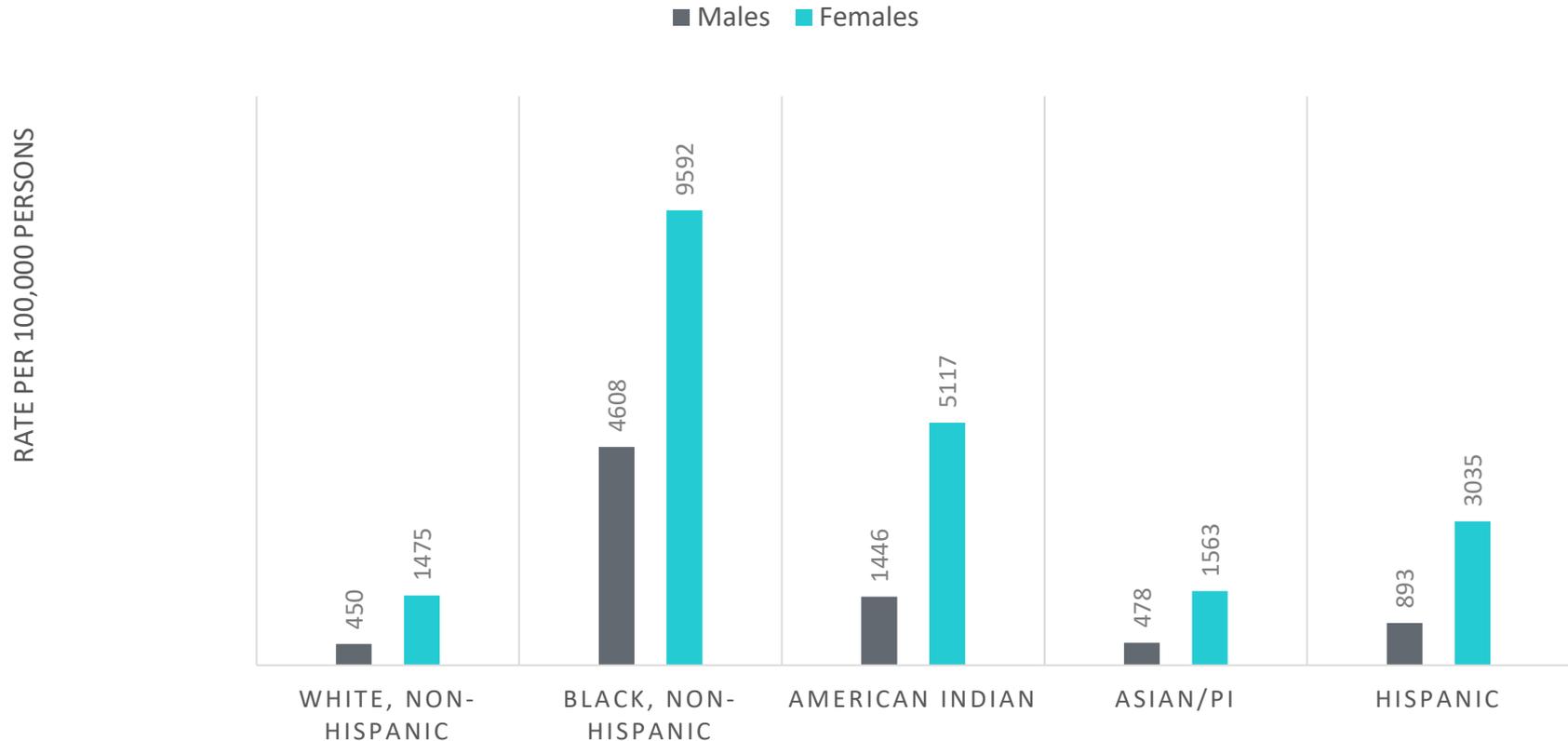
Females (n = 10,519)



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



# Chlamydia Rate Among Adolescents and Young Adults<sup>†</sup> by Race, Minnesota, 2016

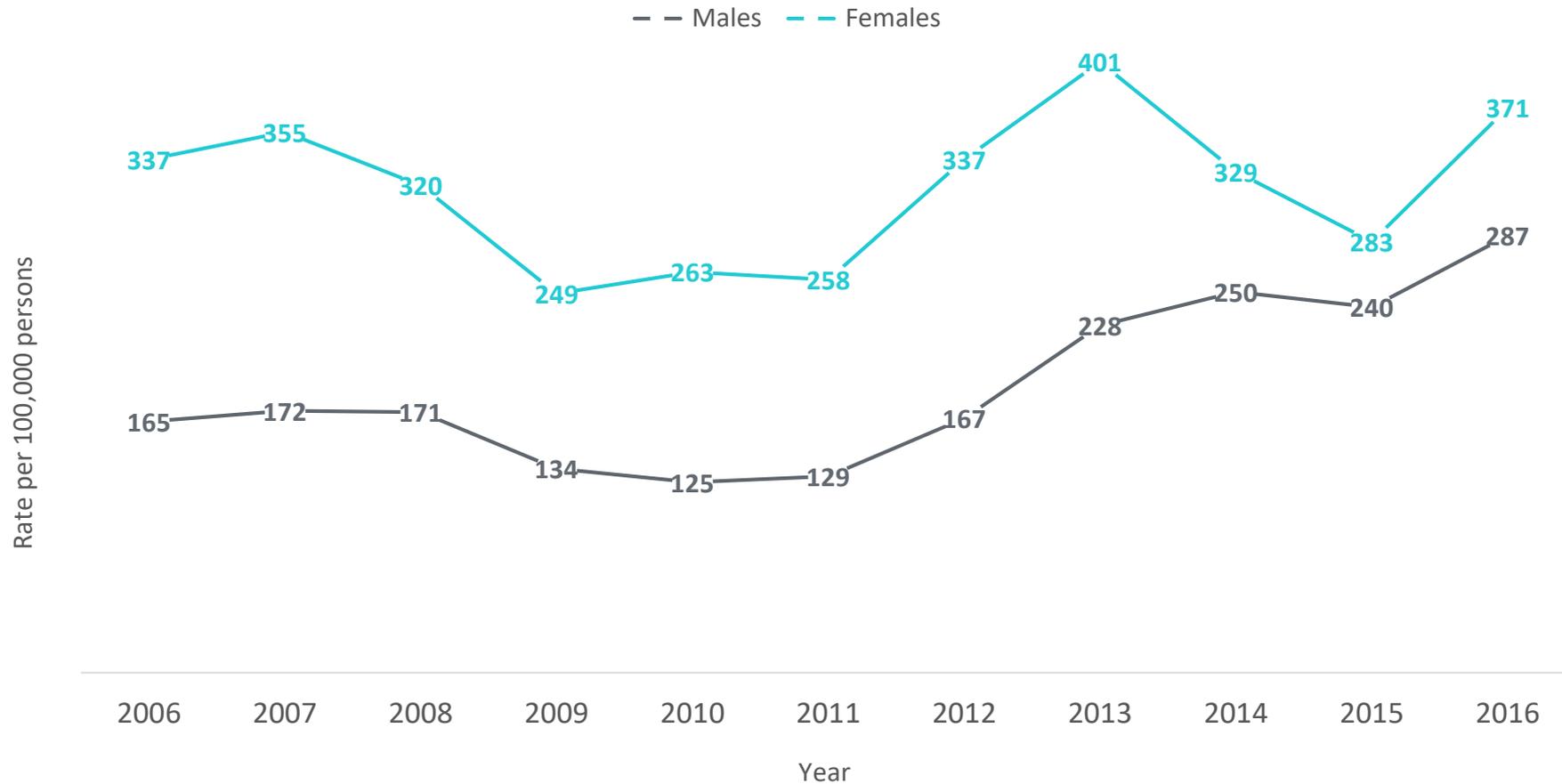


Rate=Cases per 100,000 persons based on 2010 U.S. Census counts.

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



# Gonorrhea Rates Among Adolescents & Young Adults<sup>†</sup> by Gender in Minnesota, 2006-2016



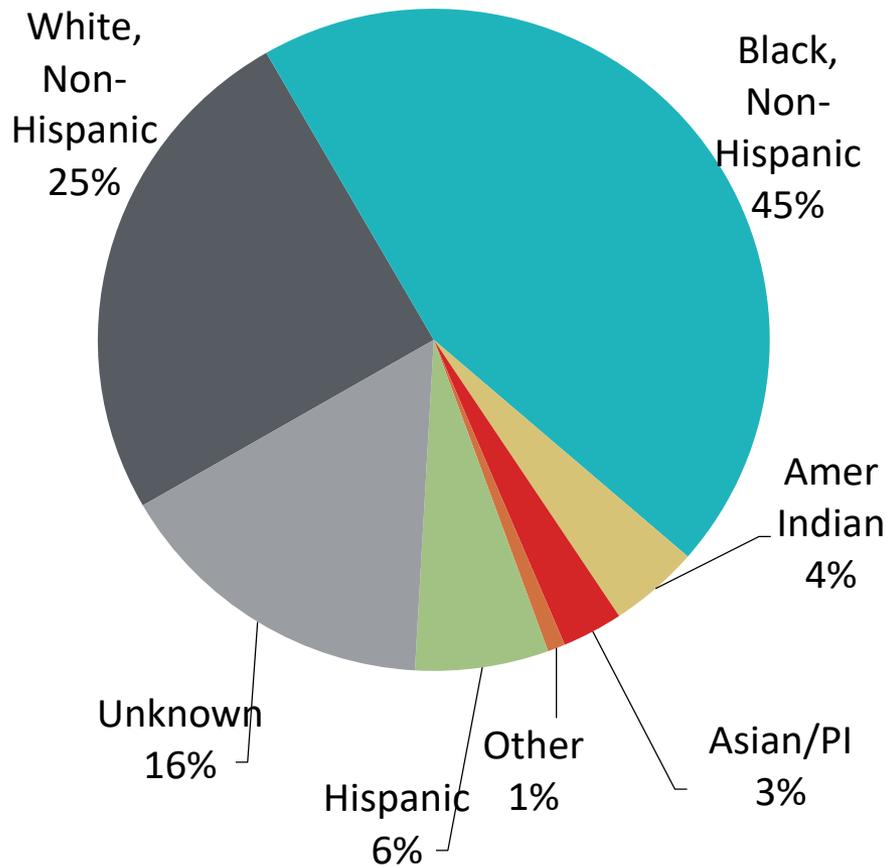
Rate=Cases per 100,000 persons based on 2010 U.S. Census counts.

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

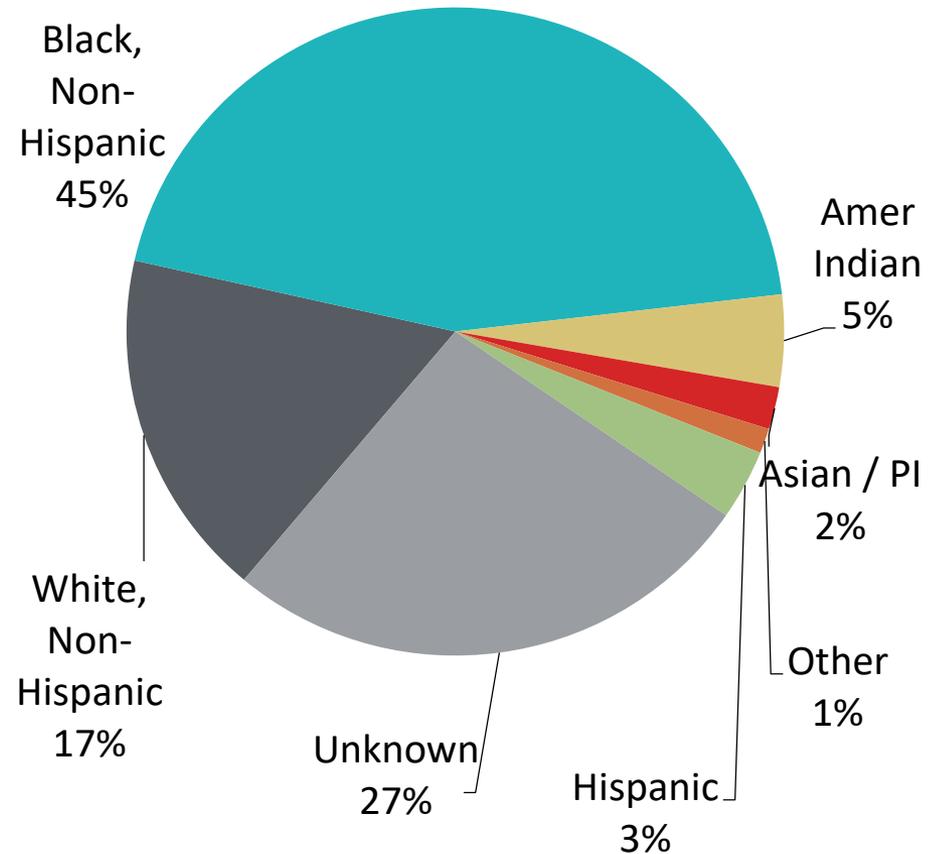


# Gonorrhea Cases Among Adolescents and Young Adults<sup>†</sup> by Gender and Race, 2016

## Males (n = 1059)



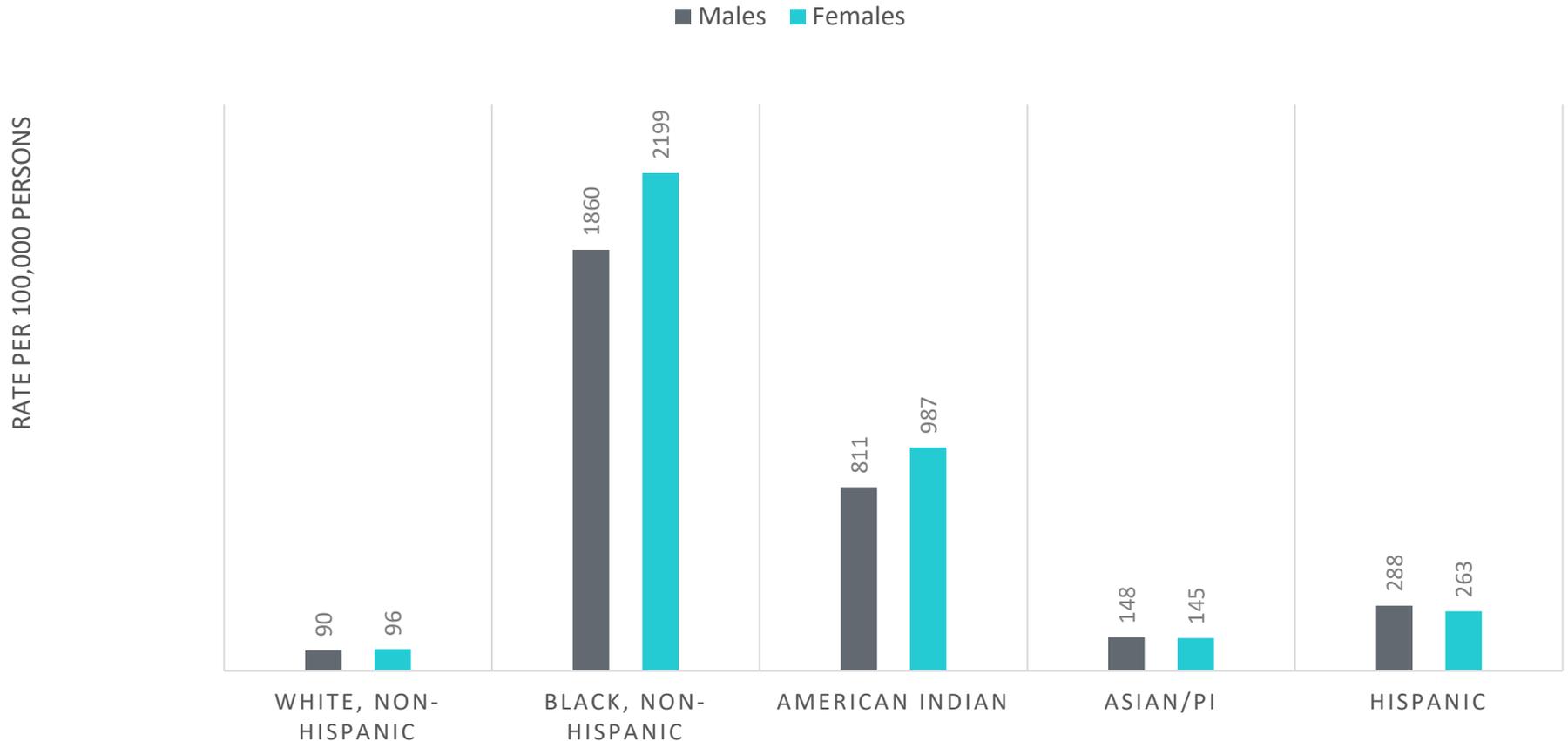
## Females (n = 1313)



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



# Gonorrhea Rate Among Adolescents and Young Adults<sup>†</sup> by Race, Minnesota, 2016



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.

# Summary of Chlamydia and Gonorrhea Among Adolescents and Young Adults<sup>†</sup>, Minnesota, 2016

- Adolescents and young adults accounted for 64% of chlamydia and 46% of gonorrhea cases diagnosed in Minnesota.
- 70% of chlamydia or gonorrhea cases diagnosed among adolescents and young adults were females.
- 25% of chlamydia and gonorrhea cases diagnosed among adolescents and young adults are missing race/ethnicity
- 31% of gonorrhea or chlamydia cases were in the Cities of Minneapolis and Saint Paul.

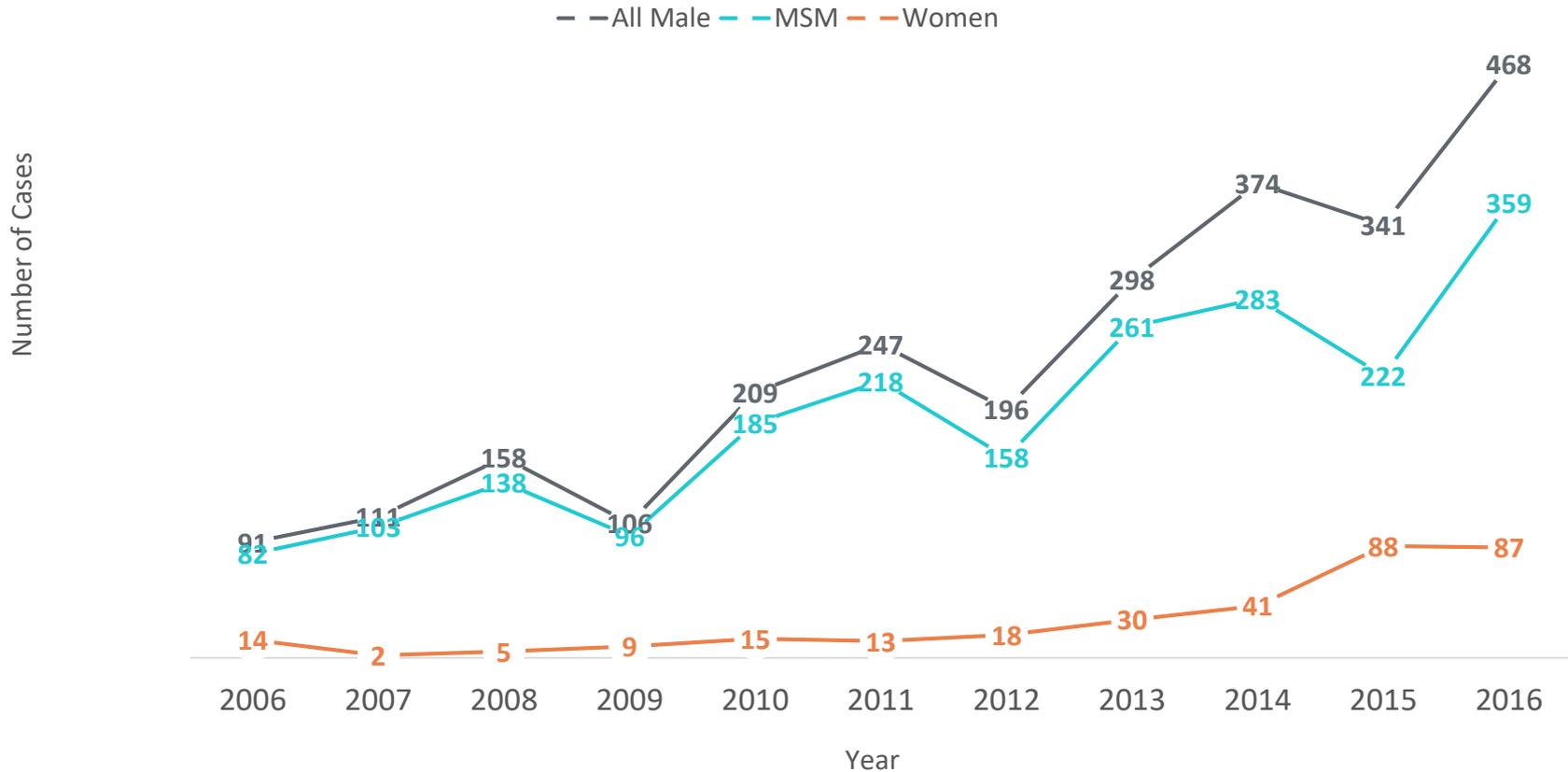
<sup>†</sup> Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.

# 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<sup>†</sup> Cases by Gender Minnesota, 2006-2016



MSM=Men who have sex with men.

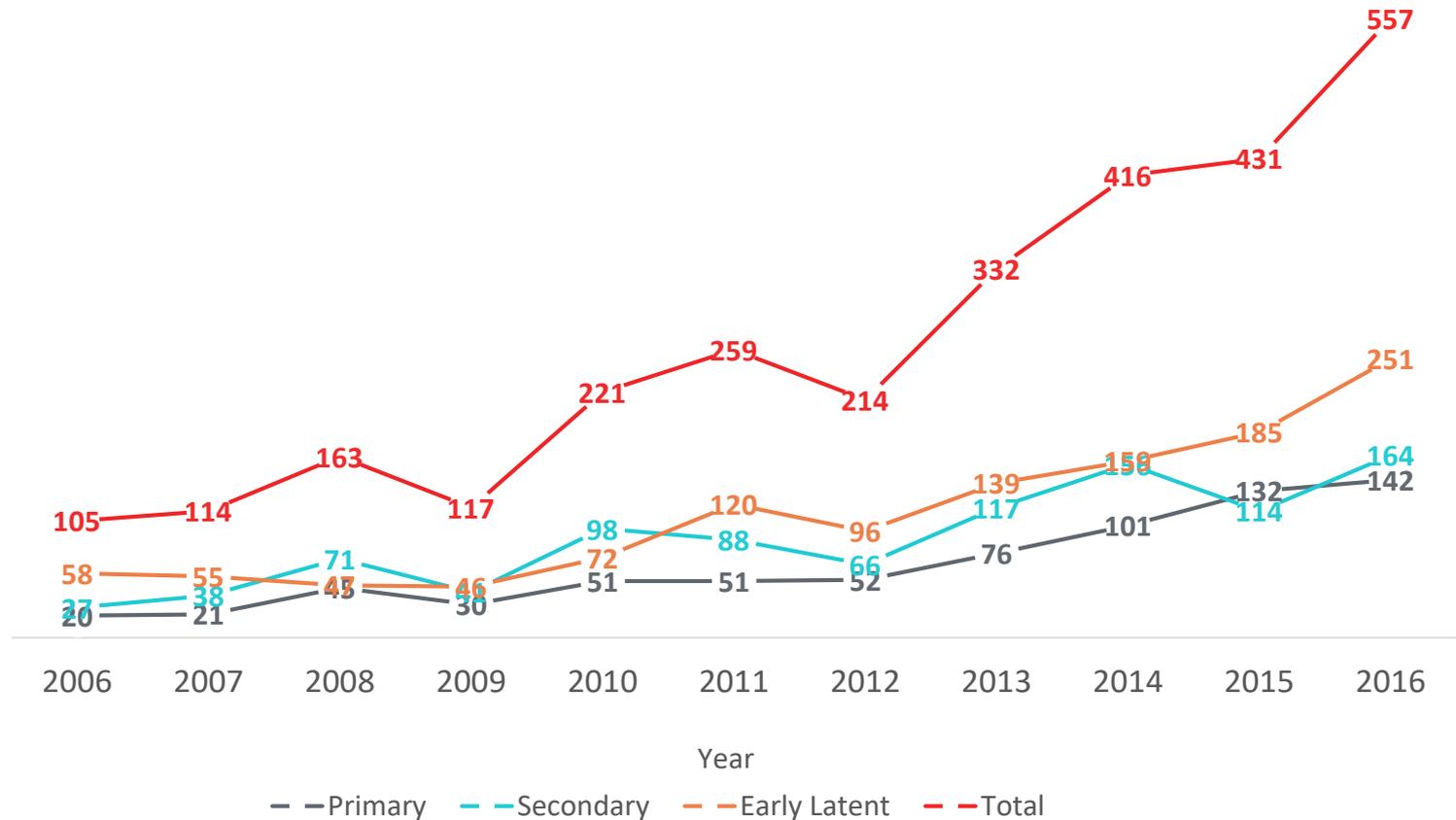
Figure does not include cases diagnosed in transgender persons (1 each in 2005, 2007, 2009, 4 in 2013, 1 in 2014, 2 in 2015).

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



# Early Syphilis<sup>†</sup> Cases by Stage at Diagnosis Minnesota, 2006-2016

Number of Cases



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

## Early Syphilis<sup>†</sup> by Gender and Sexual Behavior Minnesota, 2006-2016

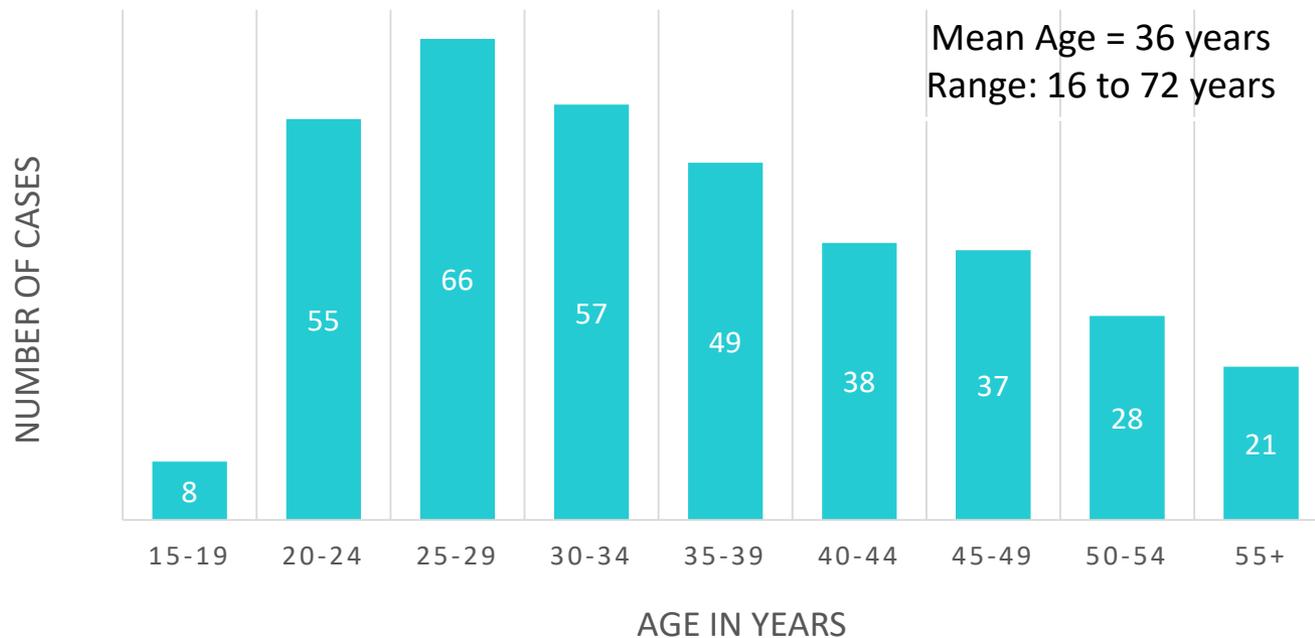
Year	Early Syphilis Cases	Male Cases (%)	MSM Cases (% of males)
2006	104	90 (88)	80 (89)
2007	114	111 (97)	103 (93)
2008	163	158 (97)	140 (89)
2009	117	106 (91)	96 (91)
2010	221	207 (94)	185 (89)
2011	260	246 (95)	218 (89)
2012	214	196 (92)	158 (81)
2013	332	298 (90)	261 (88)
2014	416	374 (90)	283 (76)
2015	431	341 (79)	222 (65)
2016	557	468 (84)	359 (77)

MSM=Men who have sex with men

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



## Early Syphilis<sup>†</sup> Cases Among MSM by Age Minnesota, 2016 (n=359)

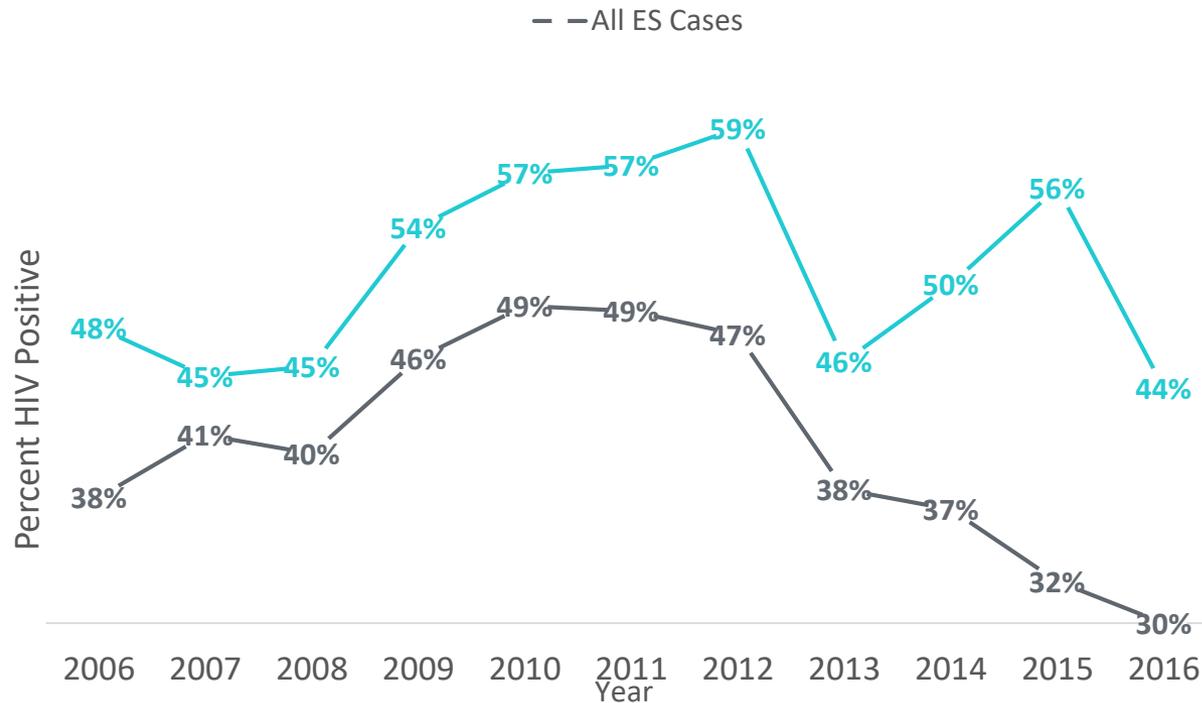


MSM=Men who have sex with men

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



# Early Syphilis<sup>†</sup> (ES) Cases Co-infected with HIV, 2006-2016



MSM=Men who have sex with men

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

# Characteristics of Early Syphilis<sup>†</sup> Cases Among MSM, Minnesota, 2016

- Gay and bisexual men account for 77% of cases among men.
- 62% of cases among MSM are White, but a disproportionate number of cases (17%) are African American.
- 44% of cases are also infected with HIV.

MSM=Men who have sex with men

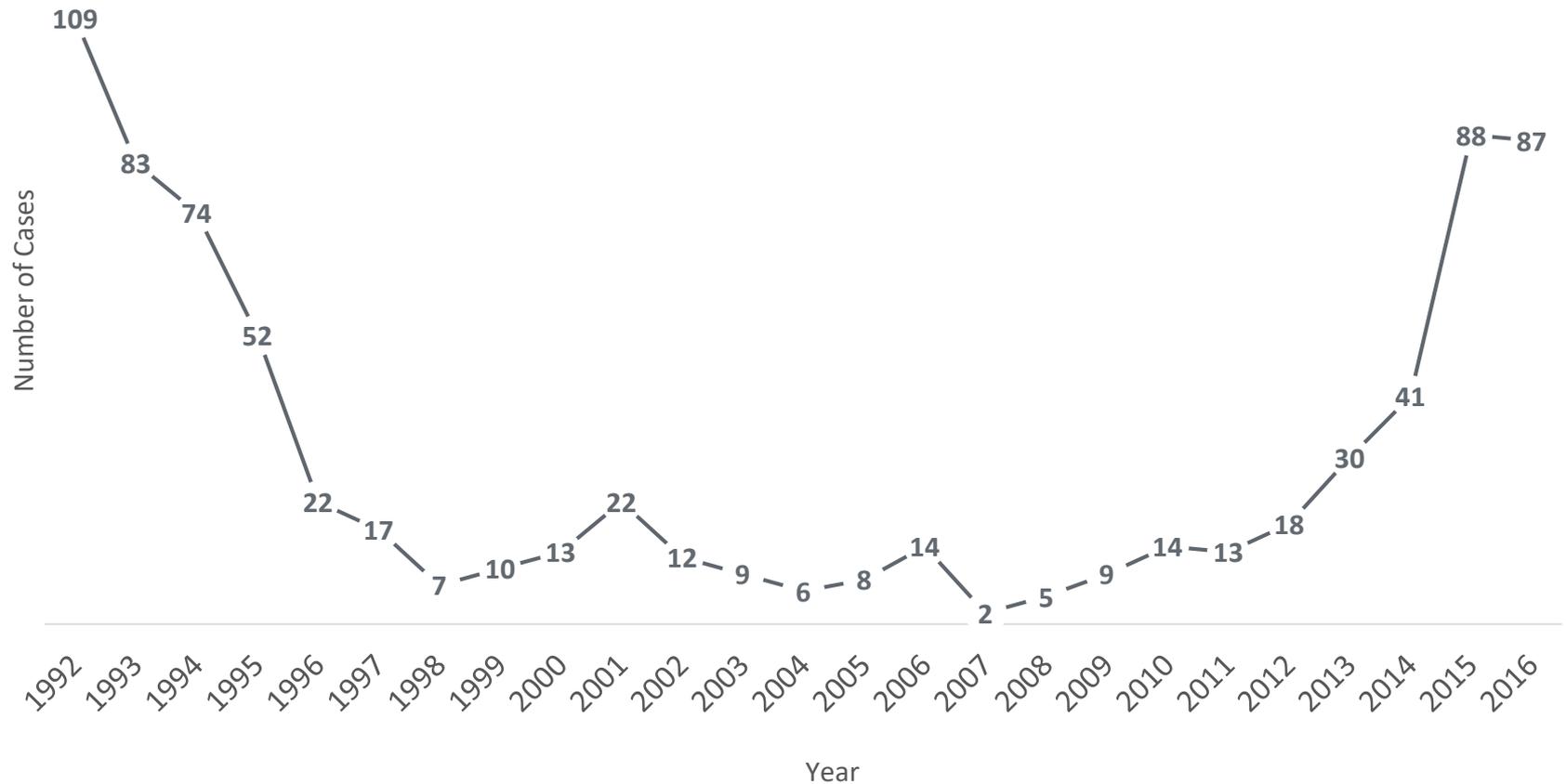
<sup>†</sup> Early Syphilis includes primary, secondary, and early latent stages of syphilis.

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

**Minnesota Department of Health STD Surveillance System**

# Female Early Syphilis cases

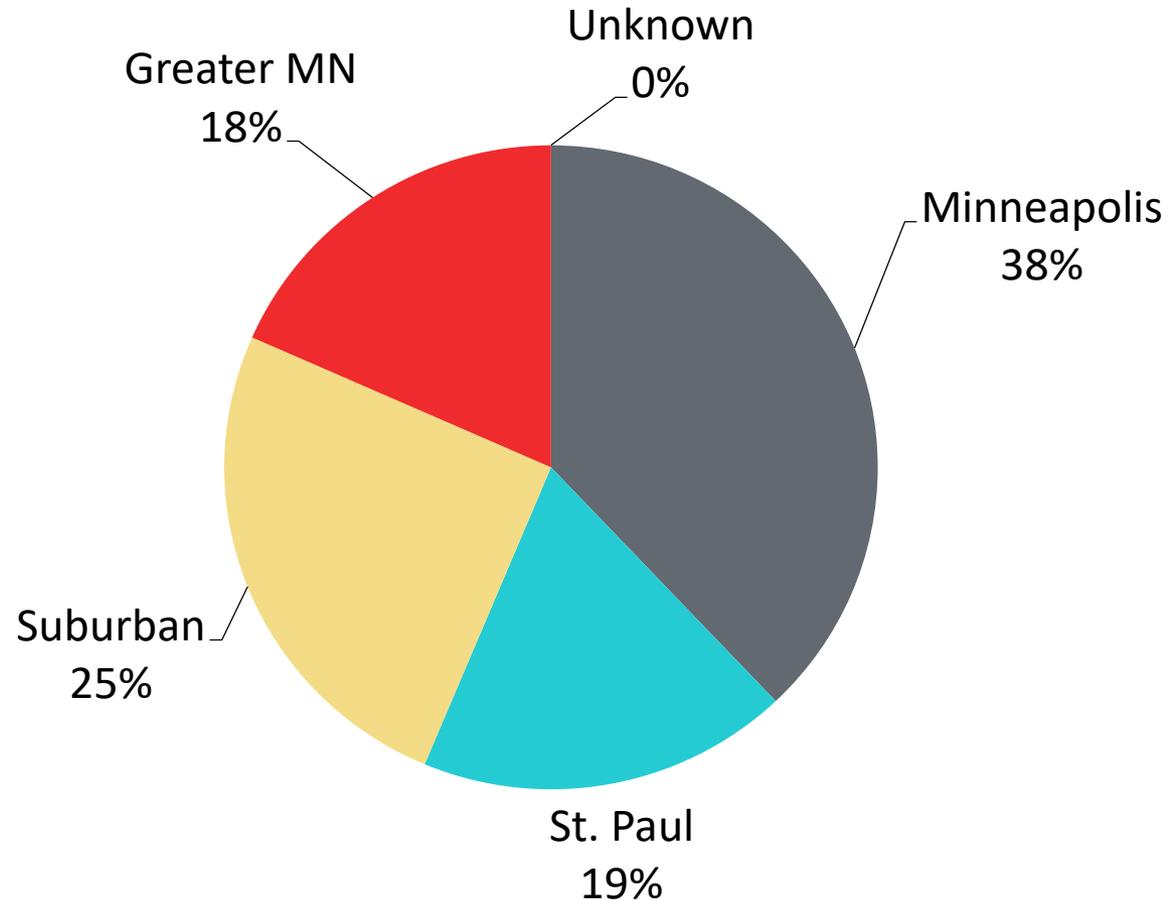
## NUMBER OF FEMALE EARLY SYPHILIS CASES





# Early Syphilis Infections in Women in Minnesota by Residence at Diagnosis, 2016

Total Number of Cases = 87

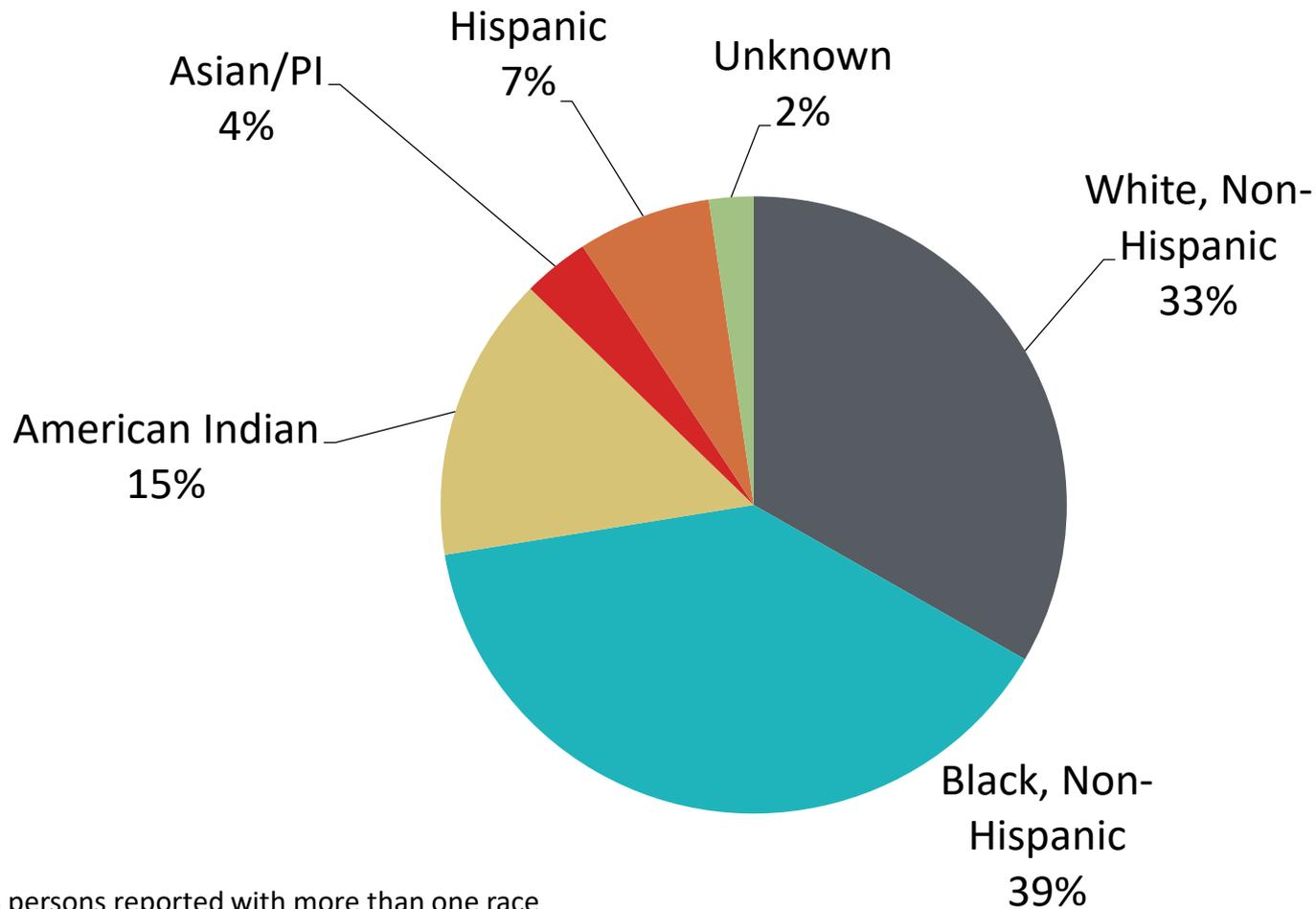


Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties outside the seven-county metro area.



# Early Syphilis Cases in Females by Race Minnesota, 2016

Total Number of Cases = 87



\*Includes persons reported with more than one race

# 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.

# STD Surveillance Summary

**Minnesota Department of Health STD Surveillance System**



Minnesota  
Department *of* Health

STD/HIV/TB Section

# Summary of STD Trends in Minnesota

- From 2006-2016, the chlamydia rate increased by 71%. The rate of gonorrhea increased by 25%. Rates of reported syphilis increased in 2016 compared to 2015 by 30%.
- 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 is near the record high for the last decade.
- Persons of color continue to be disproportionately affected by STDs.
- STD rates are highest in the cities of Minneapolis and Saint Paul. However, chlamydia and gonorrhea cases in the Twin Cities suburbs and Greater Minnesota account for 61% of the reported cases in 2016.
- Between 2015 and 2016, early syphilis cases increased by 29%. Men who have sex with men comprised 77% of all male cases in 2016; cases among women are continuing to remain high.

# Future Updates to STD Reporting and Current Follow-Up

- New case report form to accommodate changes in treatment guidelines, requesting HIV testing status, and PreP usage.
- Case report form is be able to be filled out on a computer and printed to be mailed or faxed in
- All cases co-infected with HIV (diagnosed in the last year)/Gonorrhea, HIV/Syphilis, and Early Syphilis will be continue to be assigned to MDH Partner Services for follow-up
- All Gonorrhea cases continue to have the potential for being contacted by MDH for additional follow-up