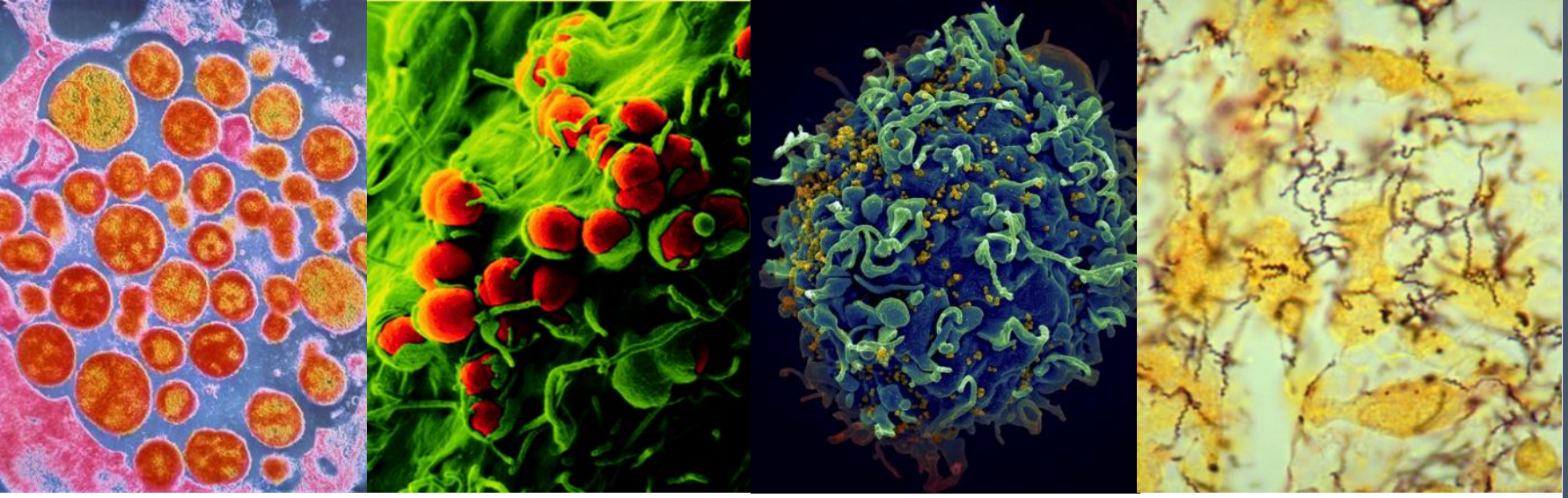


STD/HIV Review

Workshop for non-clinicians.

By the end of the training, participants will be able to:

- ✓ Identify high-risk behaviors for STD transmission.
- ✓ List steps for correct condom use.
- ✓ Describe common STDs.
- ✓ Explain the relationship between HIV and STDs.
- ✓ Describe the level of influence to reduce the risk of STDs.

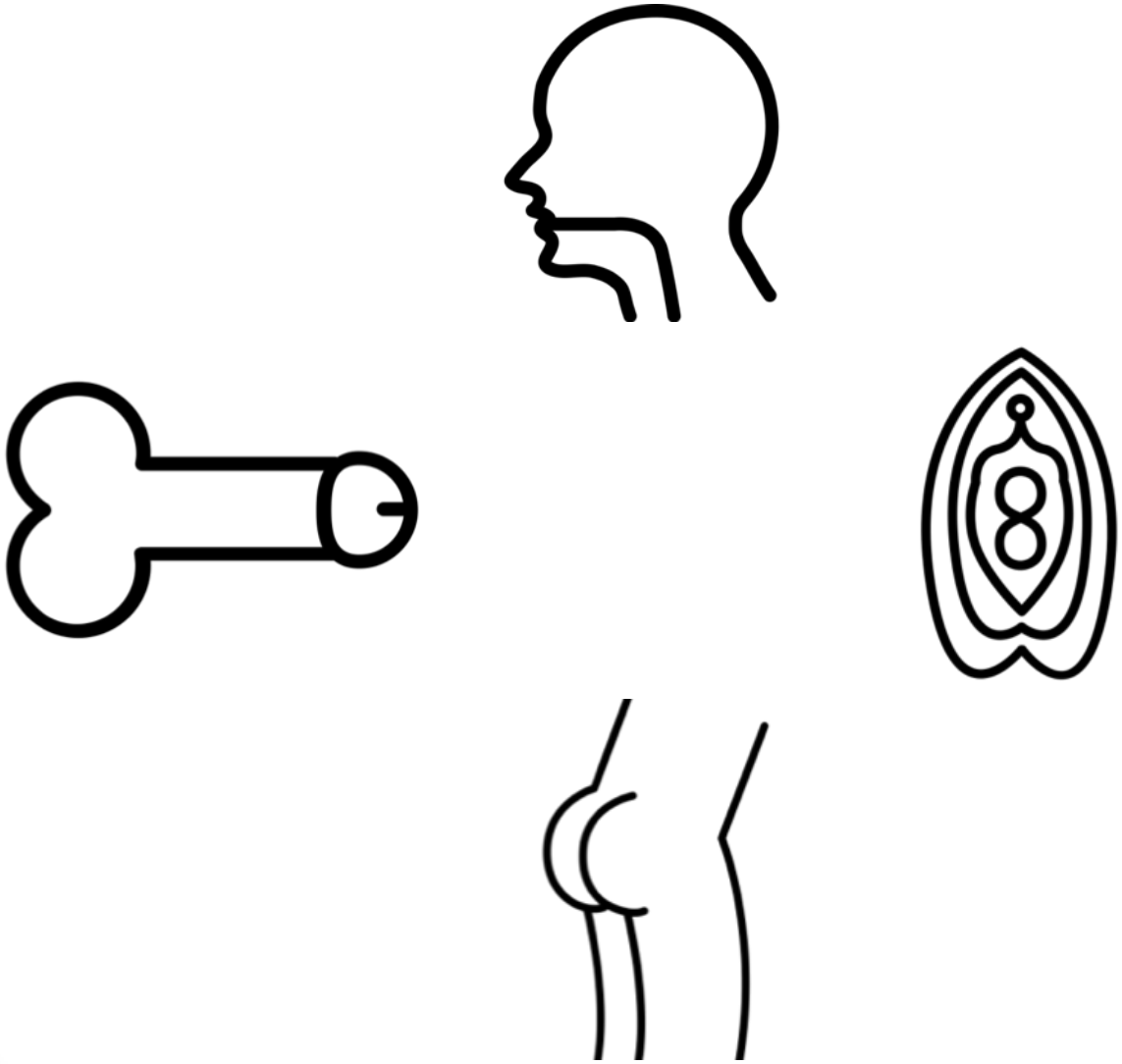
TRANSMISSION

Mucous Membranes

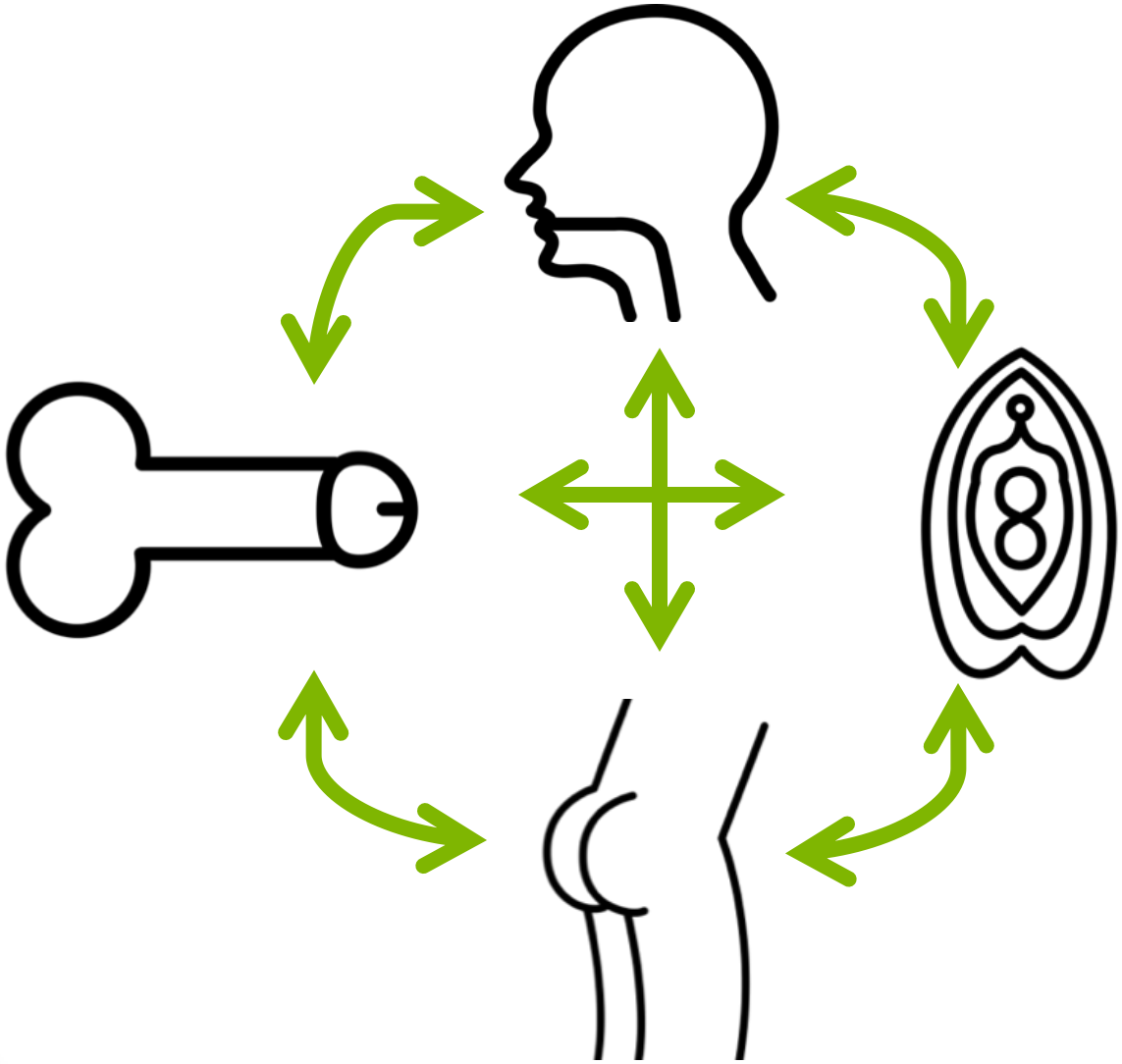
Mucous Membranes

- **Oral**
  - Mouth
  - Throat
- **Vaginal**
  - Vagina
  - Cervix
- **Urethral**
  - Urethral opening
  - Urethra
- **Rectal**
  - Anus
  - Rectum

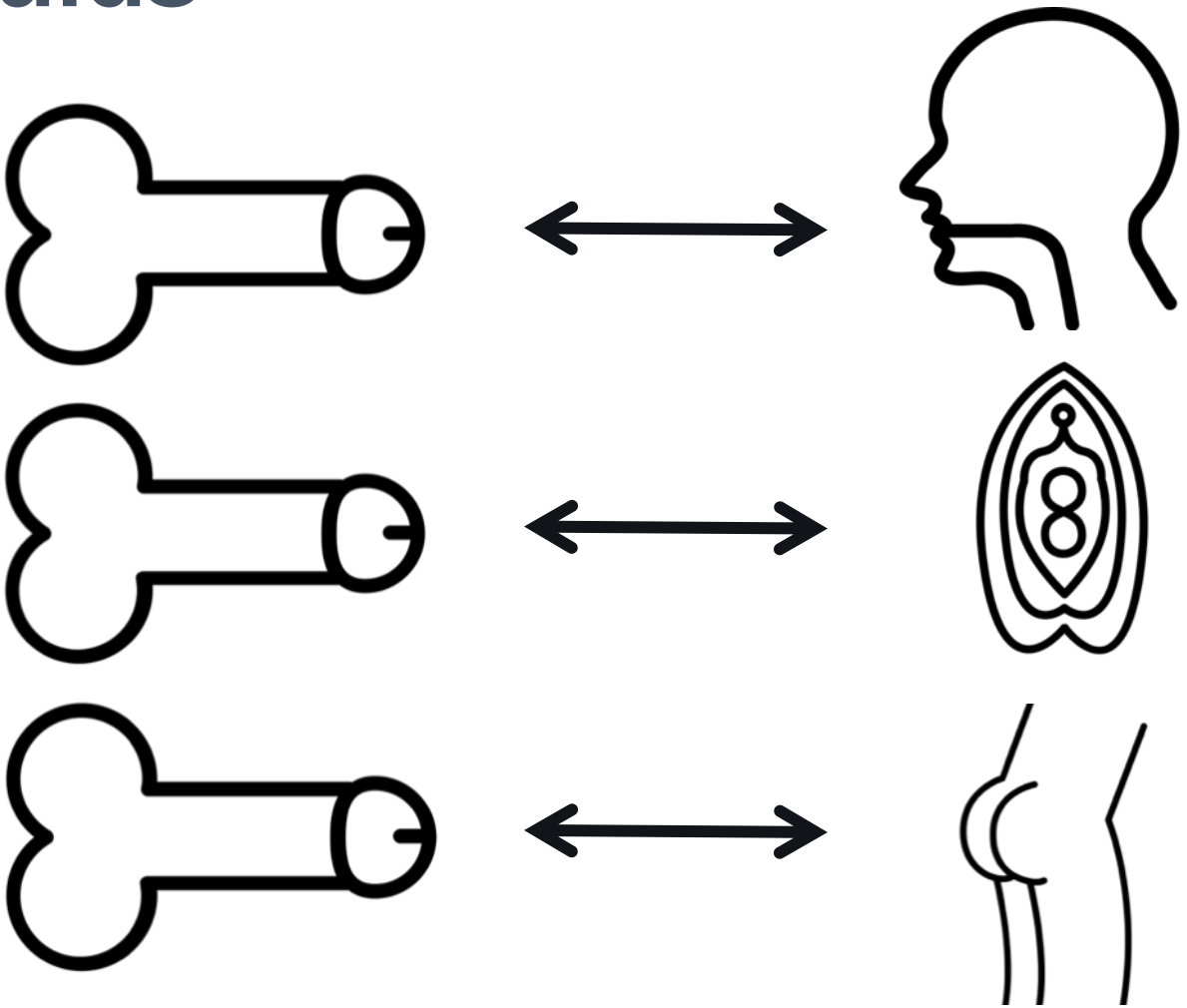
Sexual contact



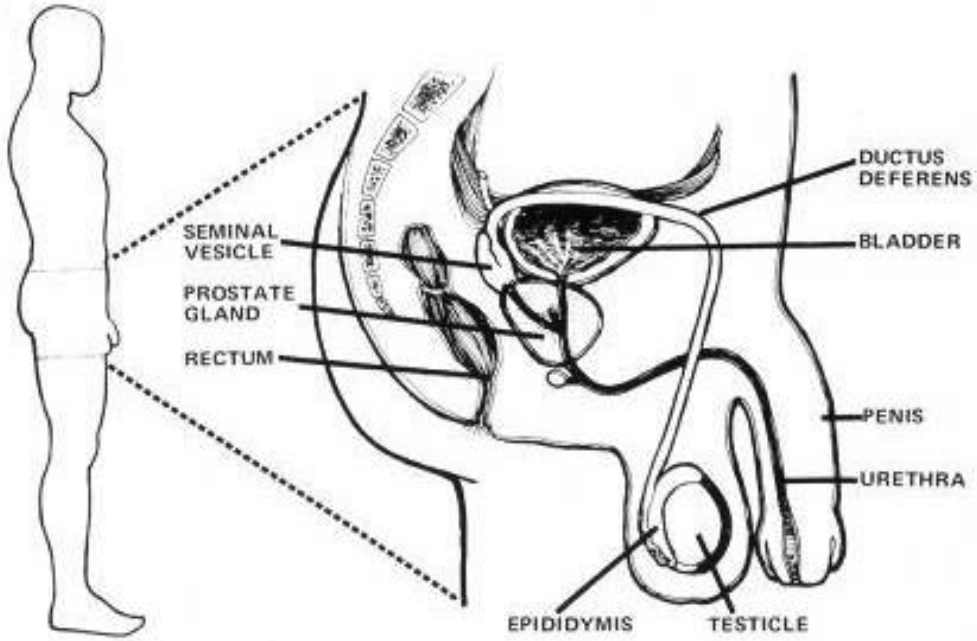
Sexual contact

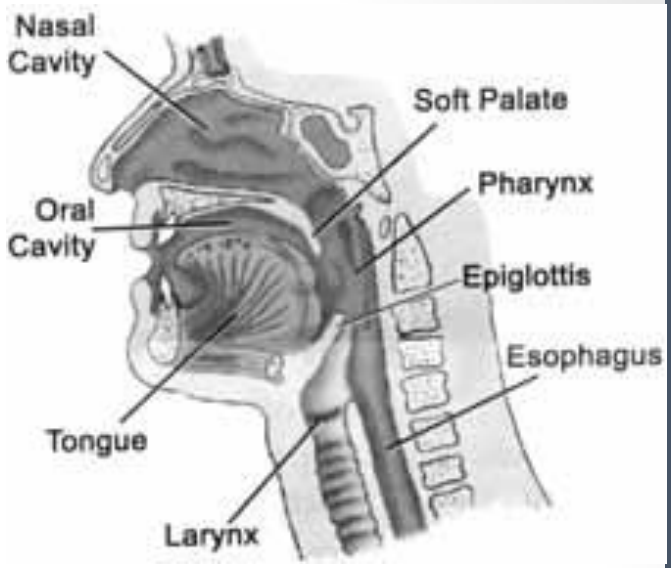


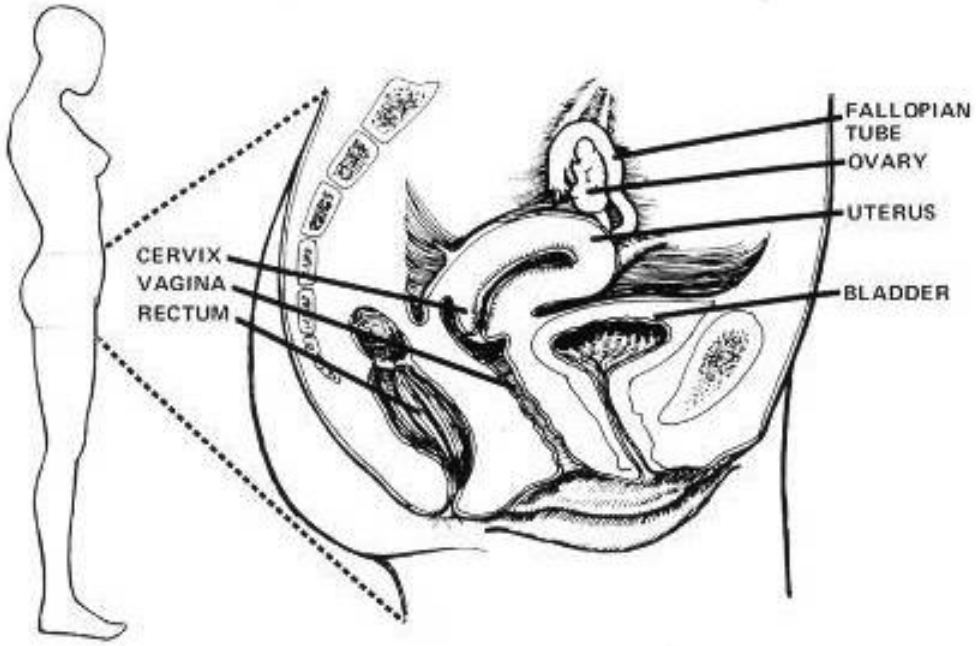
Fluids



cervix, rectum, or throat <·····> cervix, rectum, or throat

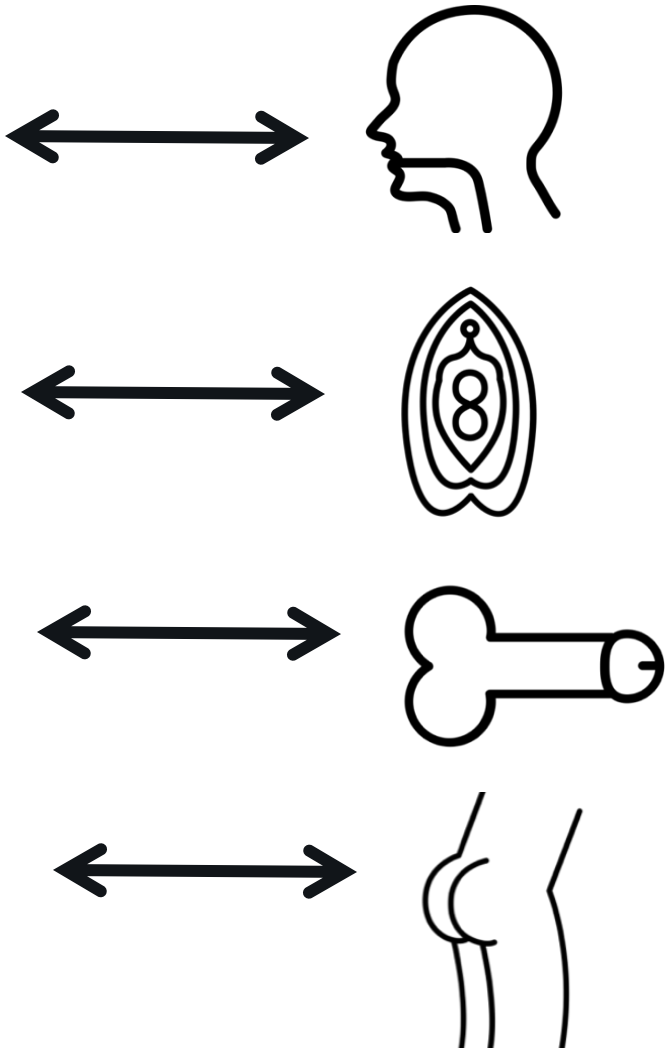

SEMINAL VESICLE
PROSTATE GLAND
RECTUM
DUCTUS DEFERENS
BLADDER
PENIS
URETHRA
EPIDIDYMIS
TESTICLE


Nasal Cavity
Soft Palate
Pharynx
Oral Cavity
Epiglottis
Esophagus
Tongue
Larynx


FALLOPIAN TUBE
OVARY
UTERUS
CERVIX
VAGINA
RECTUM
BLADDER

Skin – to - skin

Infected
Oral
or
Genital Skin
(Herpes, Syphilis, HPV)



CONDOMS

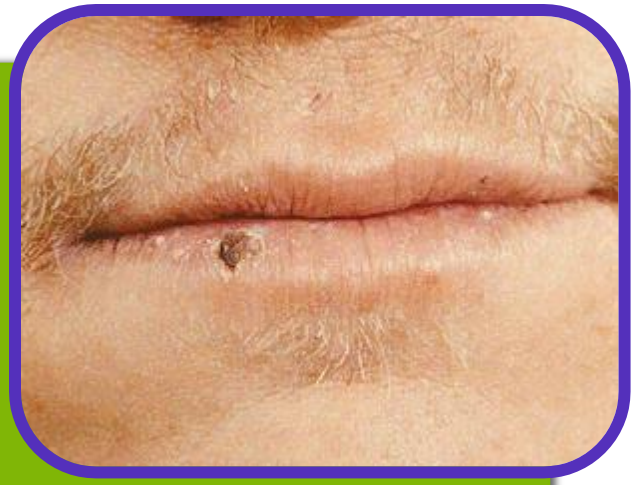
COMMON STDS

Tell us what you know.

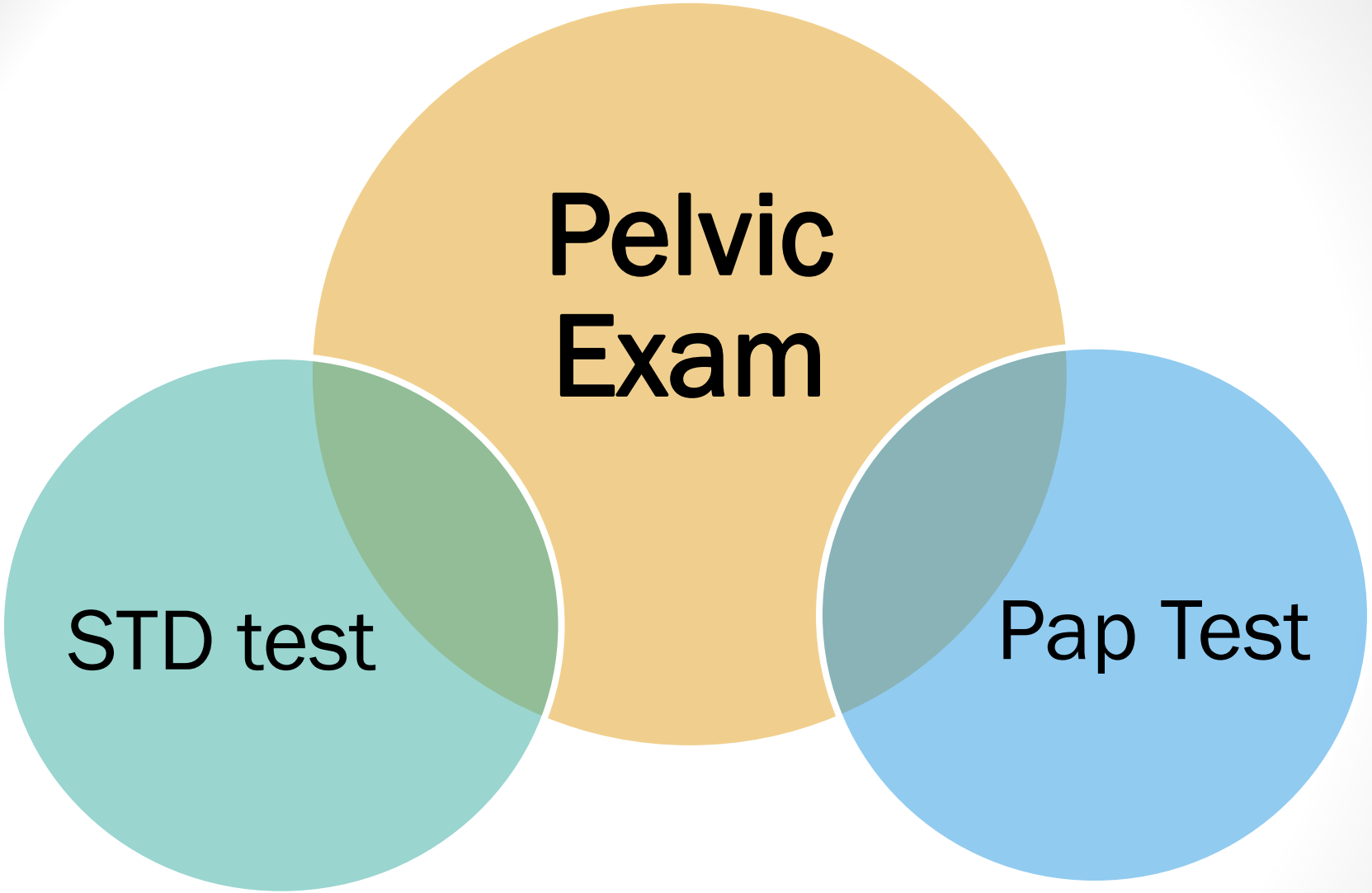
Type of organism	Transmission	Sites of infection
Common symptoms	Long term impact	Impact on pregnancy/birth outcomes
Diagnosis	Treatable or curable	Prevention

Before we move on...

Herpes (HSV I, HSV II)

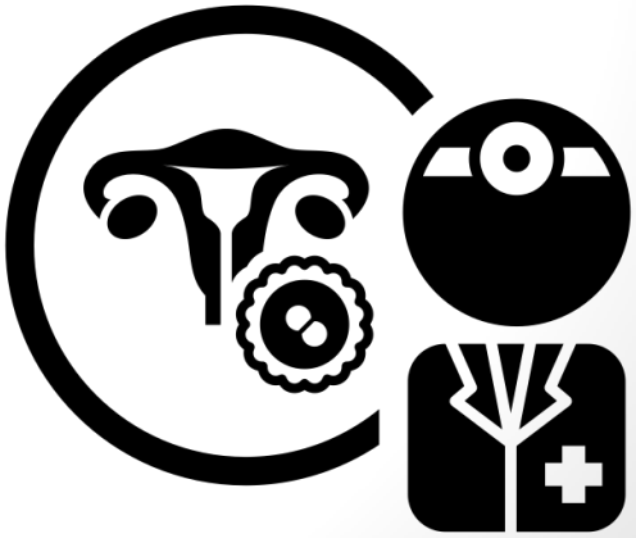


Human Papillomavirus (HPV)


Pelvic Exam
STD test
Pap Test

Pap Test Recommendations

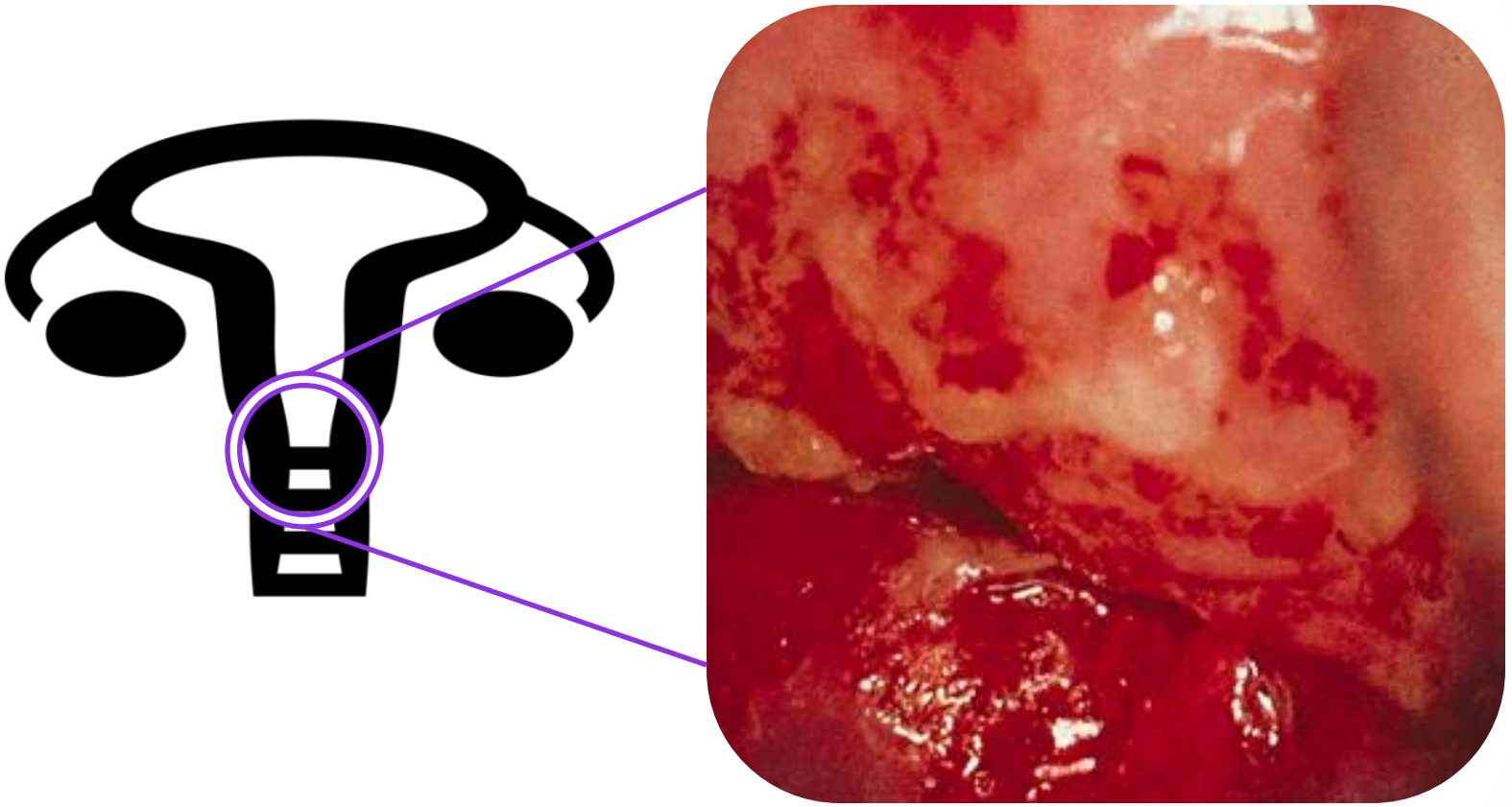
- Age 21-29: Pap test alone every 3 years
- Age 30-65 may continue the above OR every 5 years Pap plus HPV combo test



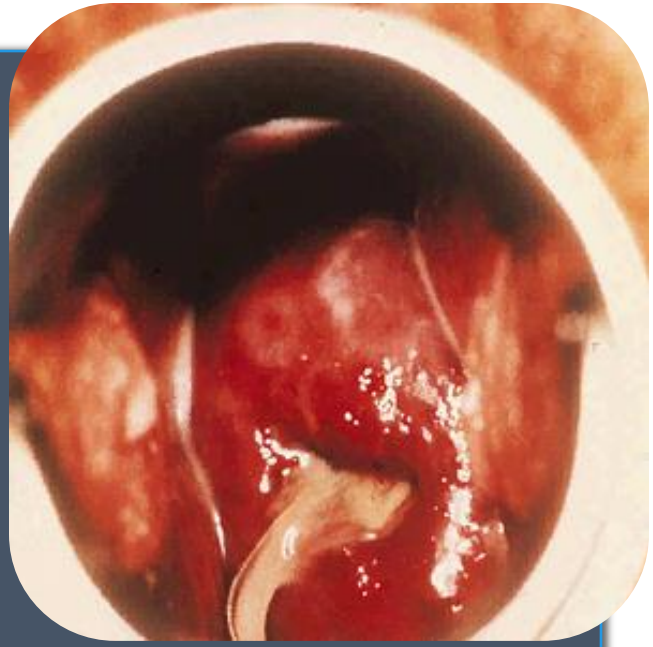
HPV Vaccine

- 9-valent (Gardasil 9)
  - 7 HPV types that cause about 80% of cervical cancer
  - 2 HPV types that cause 90% of genital warts
  - Also prevents vulvar, vaginal, and anal cancer
- Recommended for all 11-12 year-olds
  - Approved for 9-26 year-olds

Chlamydia



Gonorrhea



Impact of untreated GC/CT

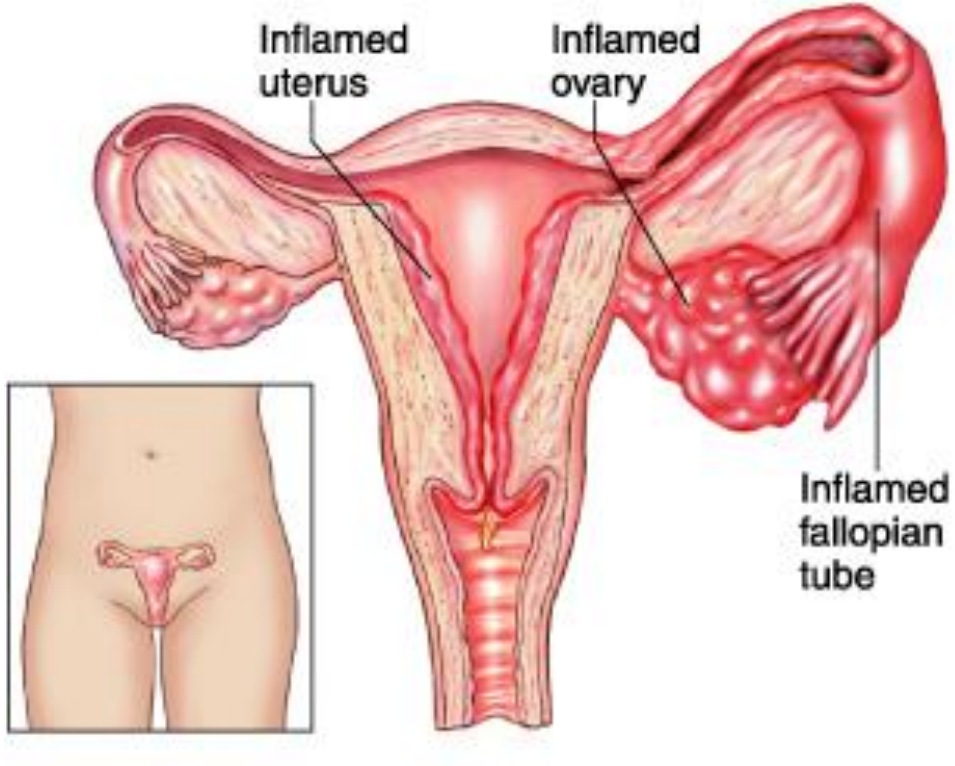
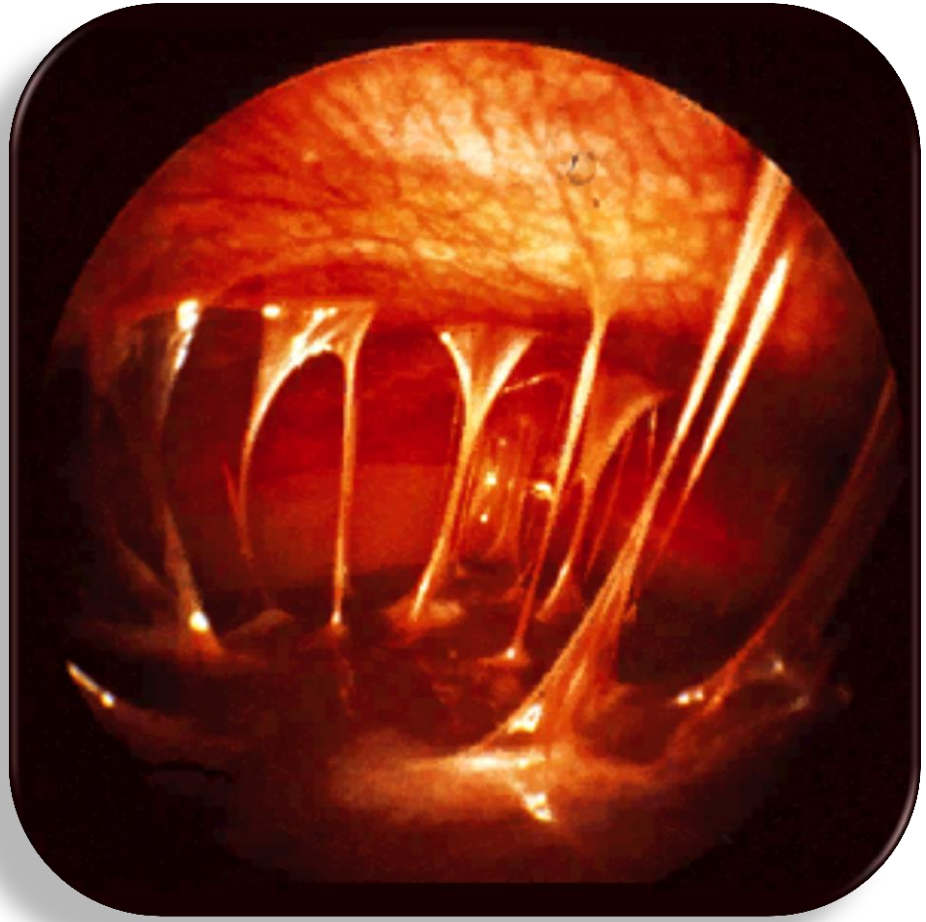
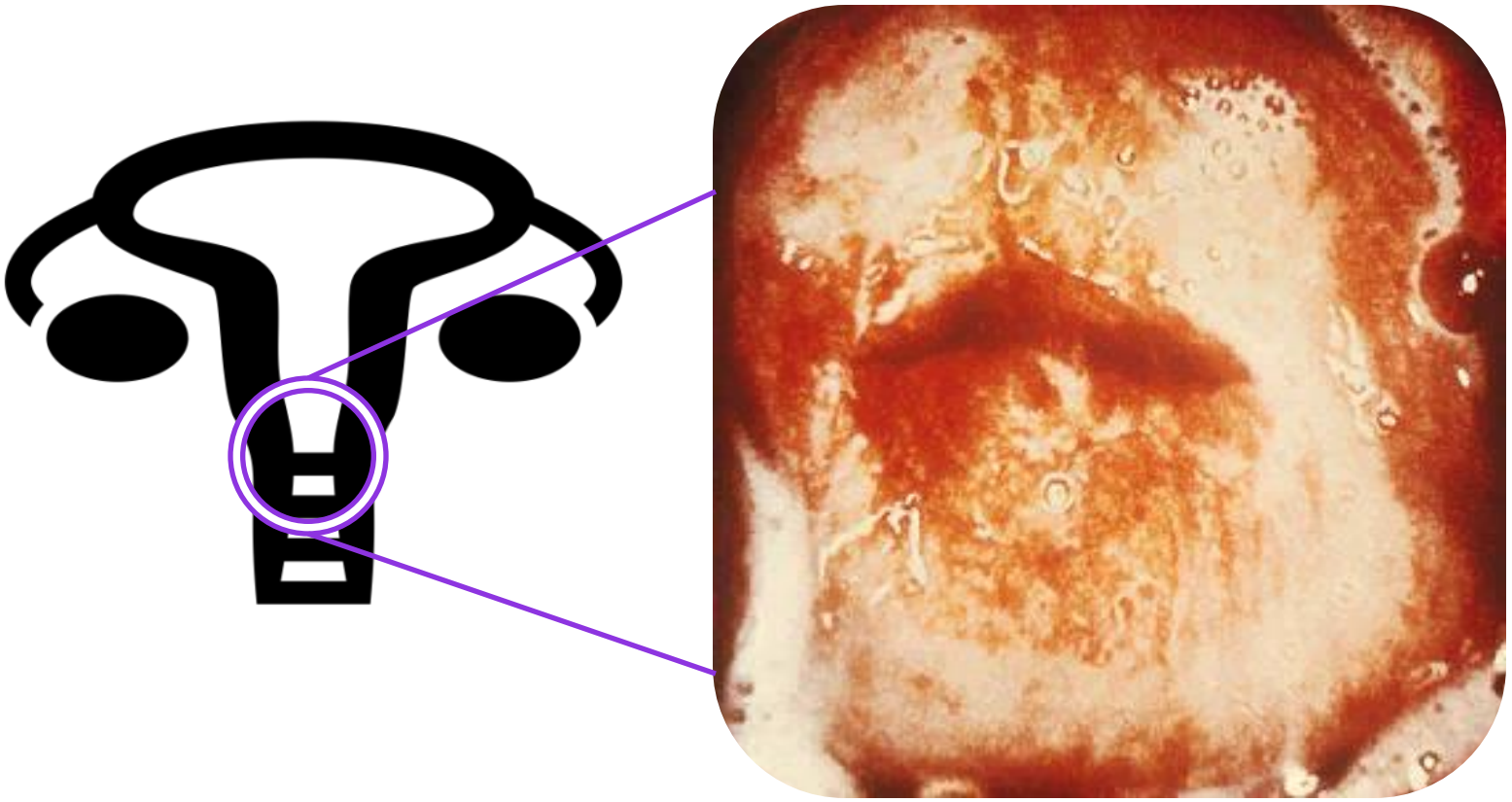


Image compliments of Reed Group. Introduction and Appendix. The Medical Disability Advisor. 5th ed. Ed. Presley Reed, MD. Westminster: CO, 2005. Online at: http://www.mdguidelines.com/pelvic-inflammatory-disease/definition

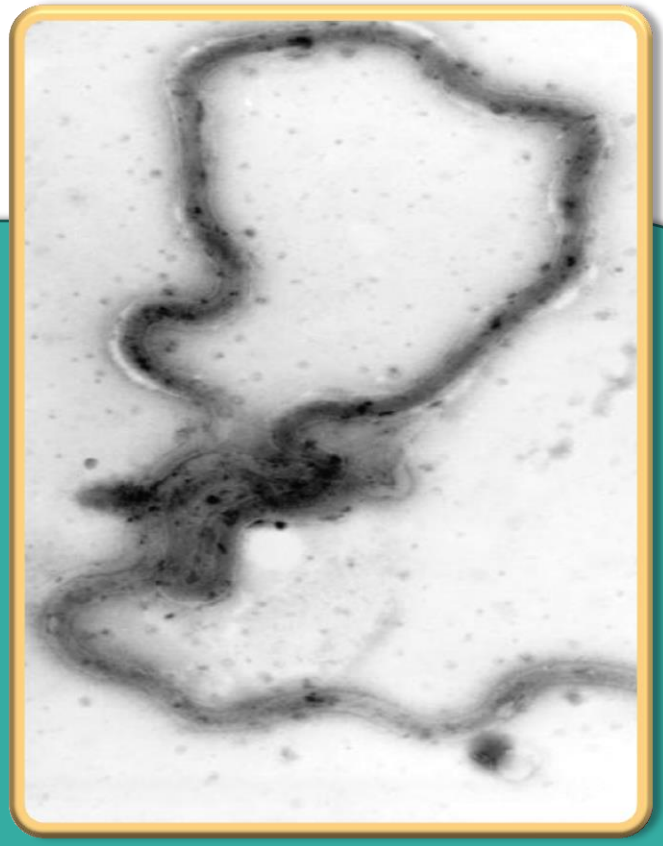
PID: Pelvic pain



Trichomoniasis



Syphilis

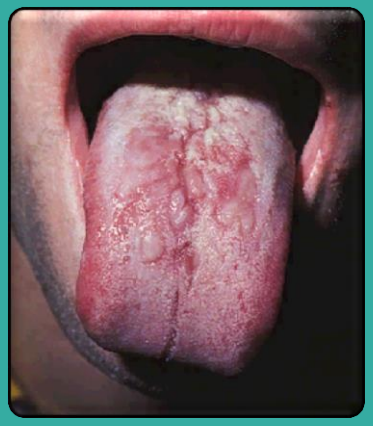


Treponema pallidum
"spirochete"

Syphilis

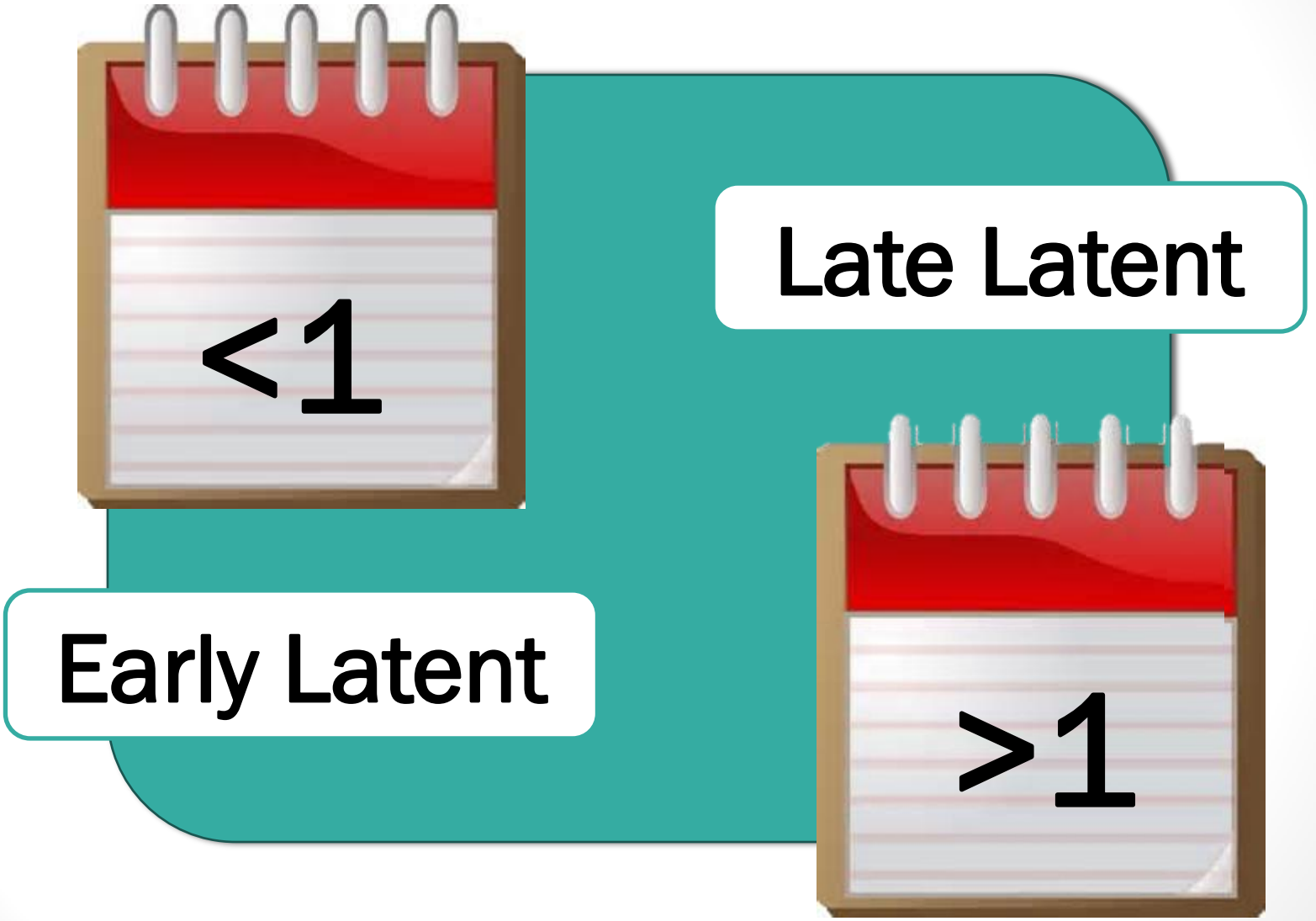
Primary

Syphilis



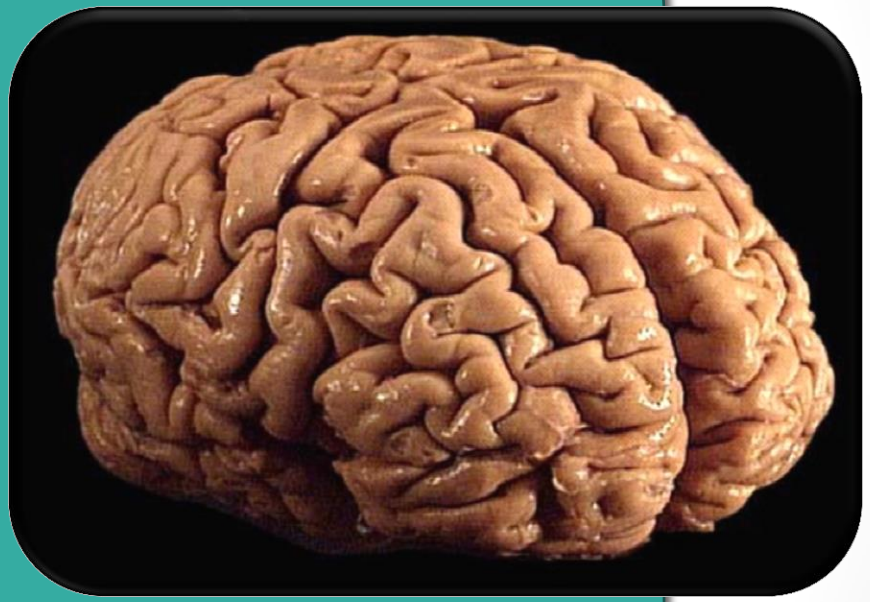
Secondary

Syphilis



Syphilis

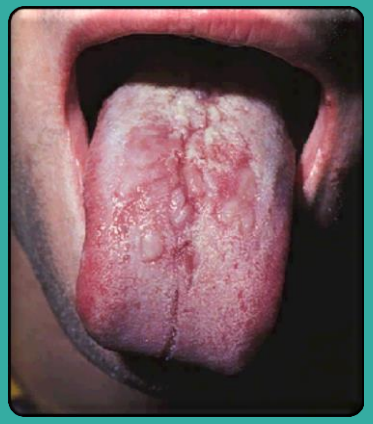
Neuro

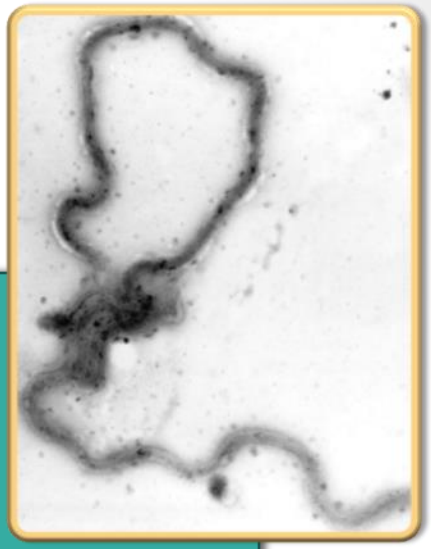


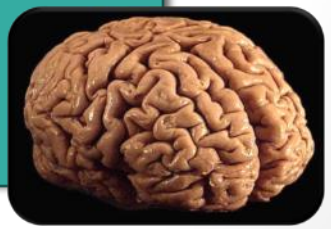
Syphilis

Congenital

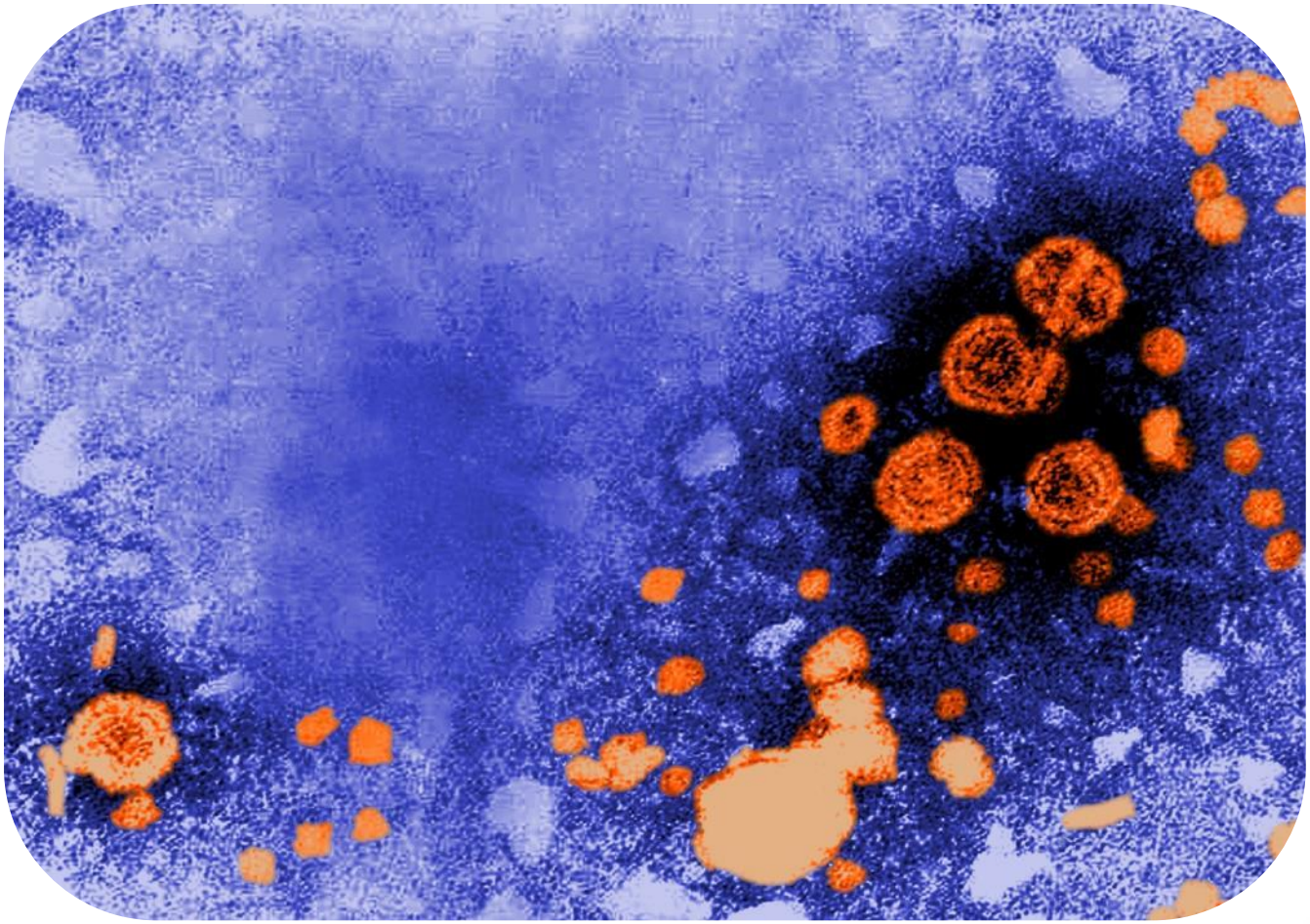
Syphilis







Hepatitis A/B/C




HIV & AIDS

Infectious

- Blood
- Semen (including pre-ejaculate)
- Vaginal and rectal secretions
- Breast milk

NOT infectious

- Sweat
- Saliva
- Urine
- Tears
- Mucous

Transmission

PEP for HIV
(Post- Exposure Prophylaxis)

- Month-long course of antiretrovirals ***AFTER*** a high-risk exposure
- Must be started ASAP, within 72 hours
- Any doctor may prescribe, not all are familiar
  - Emergency rooms
- Medication assistance programs available

PrEP for HIV

(Pre- Exposure Prophylaxis)

CDC FACT SHEET

PrEP: A New Tool for HIV Prevention

Pre-exposure prophylaxis, or PrEP, is a new HIV prevention method in which people who do not have HIV infection take a pill daily to reduce their risk of becoming infected. The pill contains medicines that prevent HIV from making new virus as it enters the body. In this way PrEP medicines can help keep the virus from establishing a permanent infection.

Providing a preventive medication before exposure to a germ or virus is not a new practice and has been used to prevent other diseases. For example, when individuals travel to an area where malaria is common, they are advised to take malaria medication before and during travel to prevent getting infected if bitten by a mosquito carrying the malaria parasite. However, the use of medication to prevent HIV infection has only recently been evaluated. When used consistently, PrEP has been shown to reduce the risk of HIV infection among adults at very high risk for HIV infection through sex, including men who have sex with men and heterosexually-active men and women. CDC is also evaluating PrEP's effectiveness in preventing HIV infection among individuals exposed to HIV through injecting drugs, but those results are not yet available.

For some individuals at very high risk for sexual exposure to HIV, PrEP may represent a much-needed additional prevention method — but it will not be right for everyone. PrEP is an intensive approach that requires strict adherence to daily medication and regular HIV testing. It is not intended to be used in isolation, but rather in combination with other HIV prevention methods. If it is used effectively and by persons at very high risk, PrEP may play a role in helping to reduce the number of new HIV infections in the United States.

PrEP Medications

Most PrEP efficacy trials have tested a combination of the antiretroviral drugs tenofovir disoproxil fumarate (also called TDF, or tenofovir) and emtricitabine (also called FTC), taken in a single pill daily for HIV prevention. This combination pill (brand name Truvada®) was approved by the U.S. Food and Drug Administration (FDA) for use as an HIV treatment in 2004, and was approved as PrEP in July 2012. Some clinical studies have also evaluated the use of tenofovir on its own as a preventive drug, but this drug alone is not FDA-approved as PrEP.

PrEP Proven Safe and Effective in Preventing Sexual HIV Acquisition

Strong research evidence indicates that PrEP, when used consistently, is safe and effective for reducing the risk of acquiring HIV sexually.

Research among Men Who Have Sex with Men

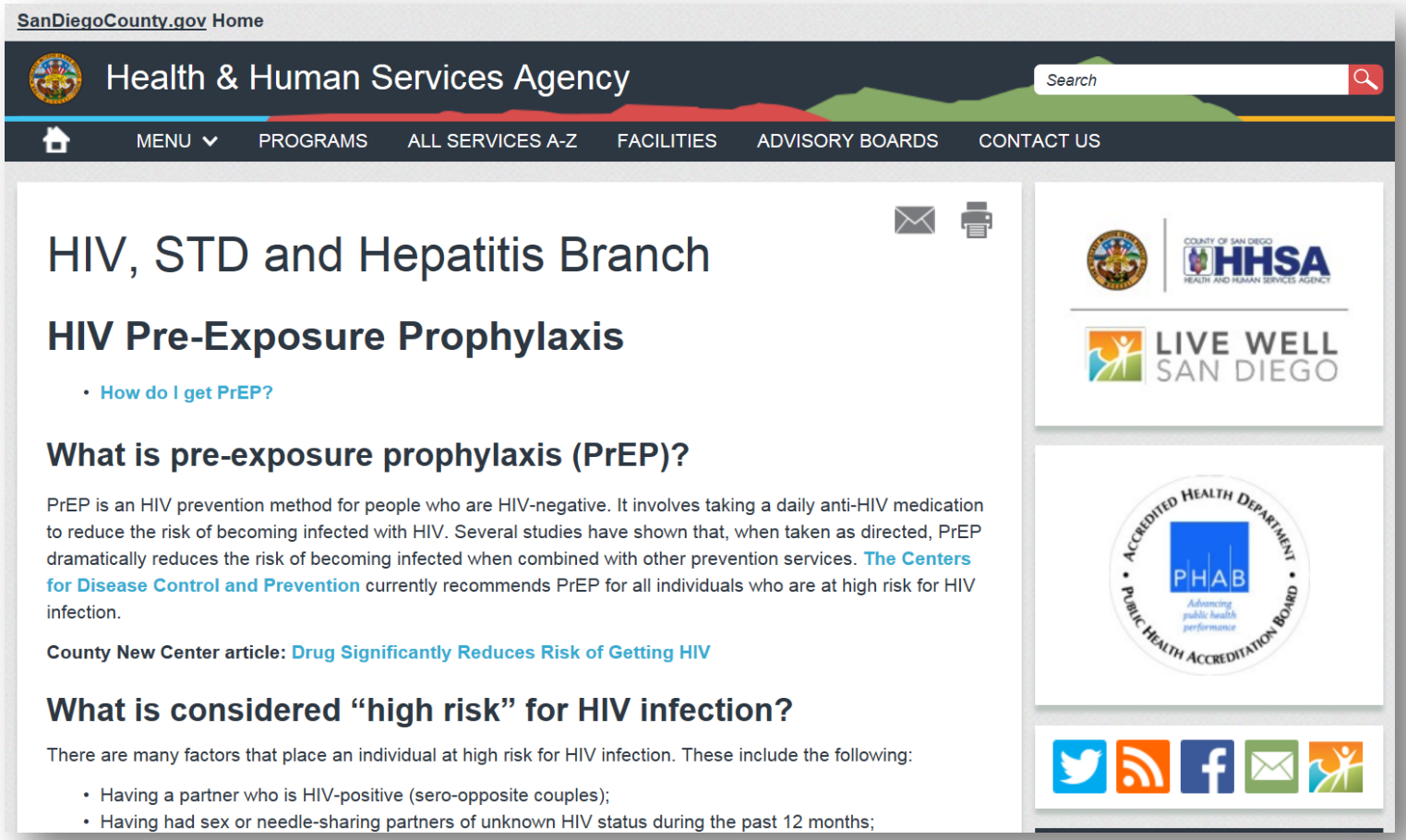
In November 2010, the multinational iPrEx study showed that a once-daily pill containing tenofovir plus emtricitabine was safe and provided an average of 44 percent additional protection against HIV infection among men who have sex with men (MSM) who were also provided with a comprehensive package of prevention services. These services included provision of condoms, monthly HIV testing, counseling to reduce risk behavior and encourage adherence to the daily pill regimen, and management of other sexually transmitted infections.

The level of protection varied widely depending on how consistently participants t
protection among those who adhered well to the daily dosing regimen. Among M
in their blood, the risk of HIV acquisition was reduced by more than 90 percent.

CDC
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

www.cdph.ca.gov/programs/aids/Pages/OAPREP.aspx

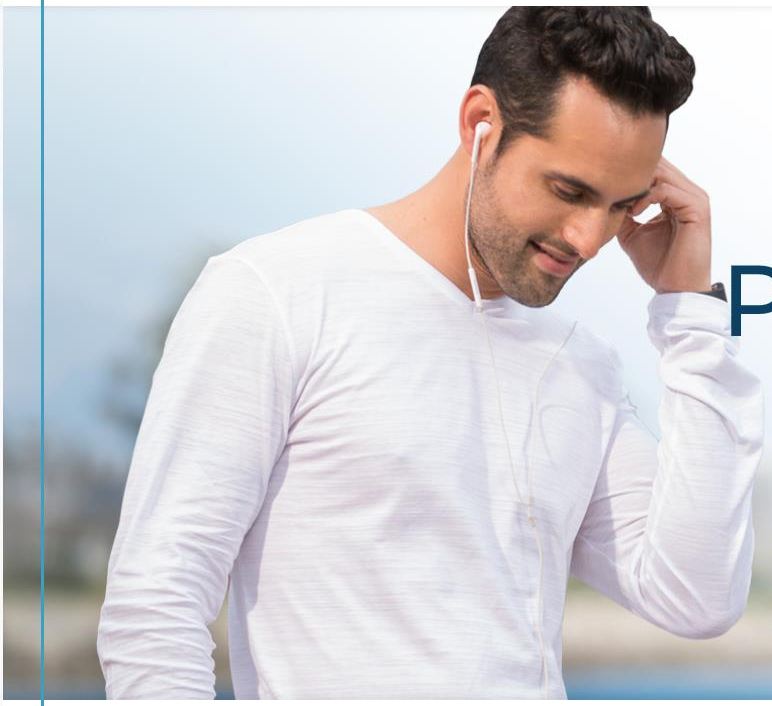
County PrEP Program



http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/hiv_std_hepatitis_branch/hiv-pre-exposure-prophylaxis-information.html

PrEPSANDIEGO

ABOUT THE CAMPAIGN | ADDITIONAL RESOURCES | TAKE THE QUIZ | SEARCH



PrEP PREVENTS HIV

What is PrEP? | Start PrEP | Talk About PrEP

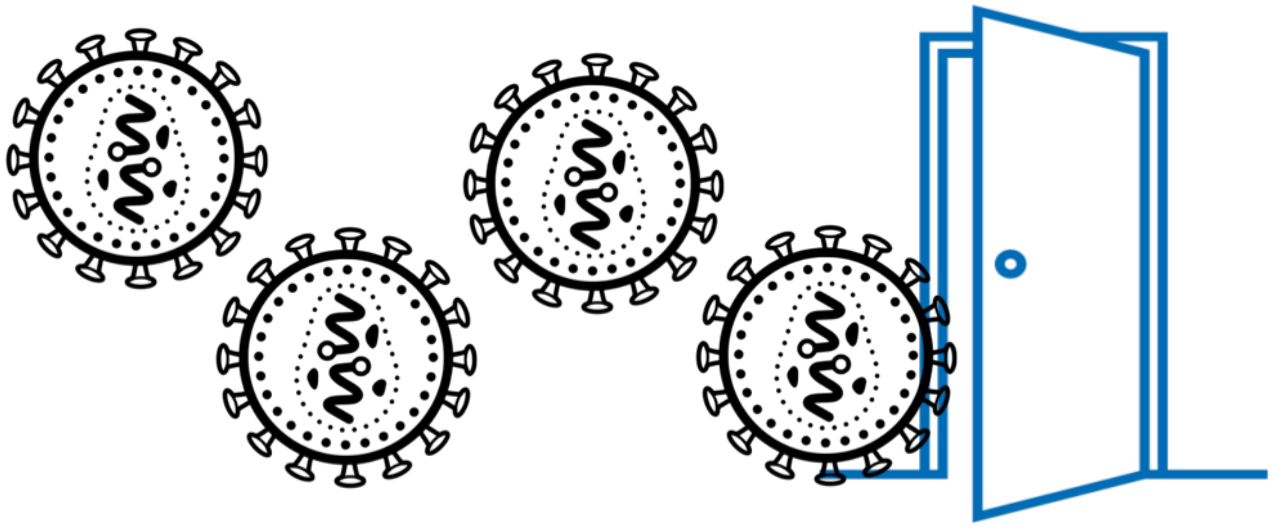
IT'S YOUR LIFE. OWN THE JOURNEY.

COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY | LIVE WELL SAN DIEGO

STDs ↑ chance of HIV acquisition

Open sores are open doors.

STDs ↑ chance of transmitting HIV



REVIEW

Common STDs

Bacterial

Viral

Protozoal

Common STDs

Bacterial

- Syphilis
- Chlamydia
- Gonorrhea

Viral

Protozoal

Common STDs

Bacterial

- Syphilis
- Chlamydia
- Gonorrhea

Viral

- Herpes Simplex Virus (HSV)
- Human Papillomavirus (HPV)
- Human Immunodeficiency Virus (HIV)
- Hepatitis A/B/C

Protozoal

Common STDs

Bacterial

- Syphilis
- Chlamydia
- Gonorrhea

Viral

- Herpes Simplex Virus (HSV)
- Human Papillomavirus (HPV)
- Human Immunodeficiency Virus (HIV)
- Hepatitis A/B/C

Protozoal

- Trichomoniasis

Common STDs

Curable

Treatable

Common STDs

Curable

- Syphilis
- Chlamydia
- ***Gonorrhea***
- Trichomoniasis
- Hepatitis C

Treatable

Common STDs

Curable

- Syphilis
- Chlamydia
- ***Gonorrhea***
- Trichomoniasis
- Hepatitis C

Treatable

- Herpes Simplex Virus (HSV)
- Human Papillomavirus (HPV)
- Human Immunodeficiency Virus (HIV)
- Hepatitis A/B

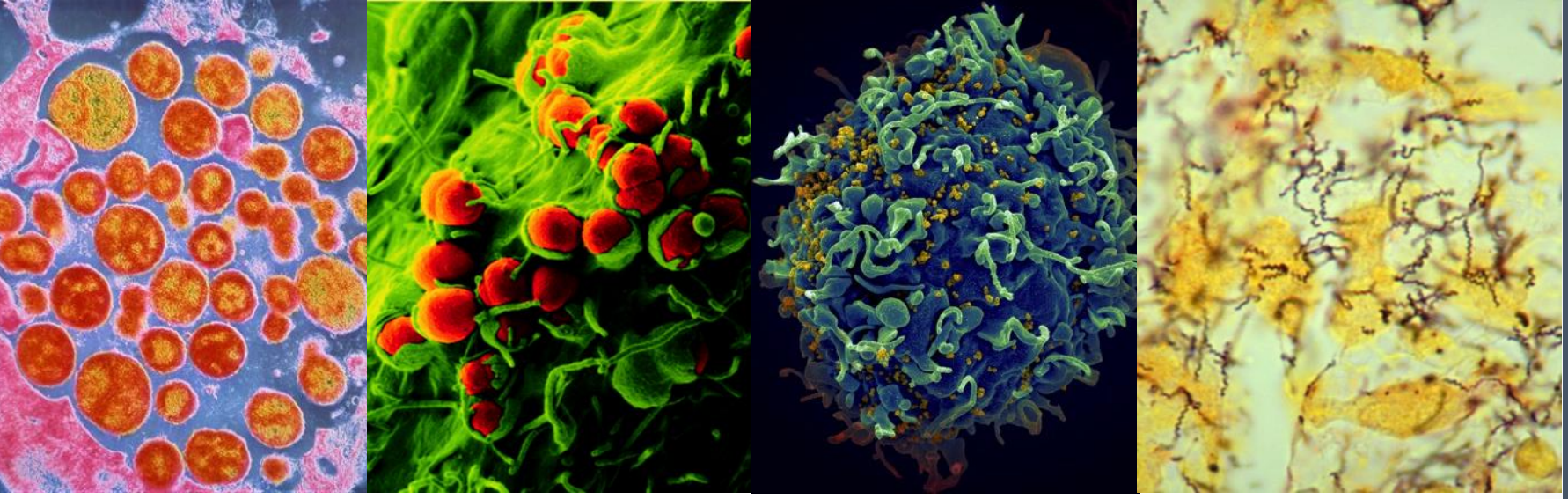
Other types of infections

Overgrowth and imbalance

- Yeast infection
- Bacterial vaginosis (BV)
- Urinary tract infection (UTI)

Other bugs

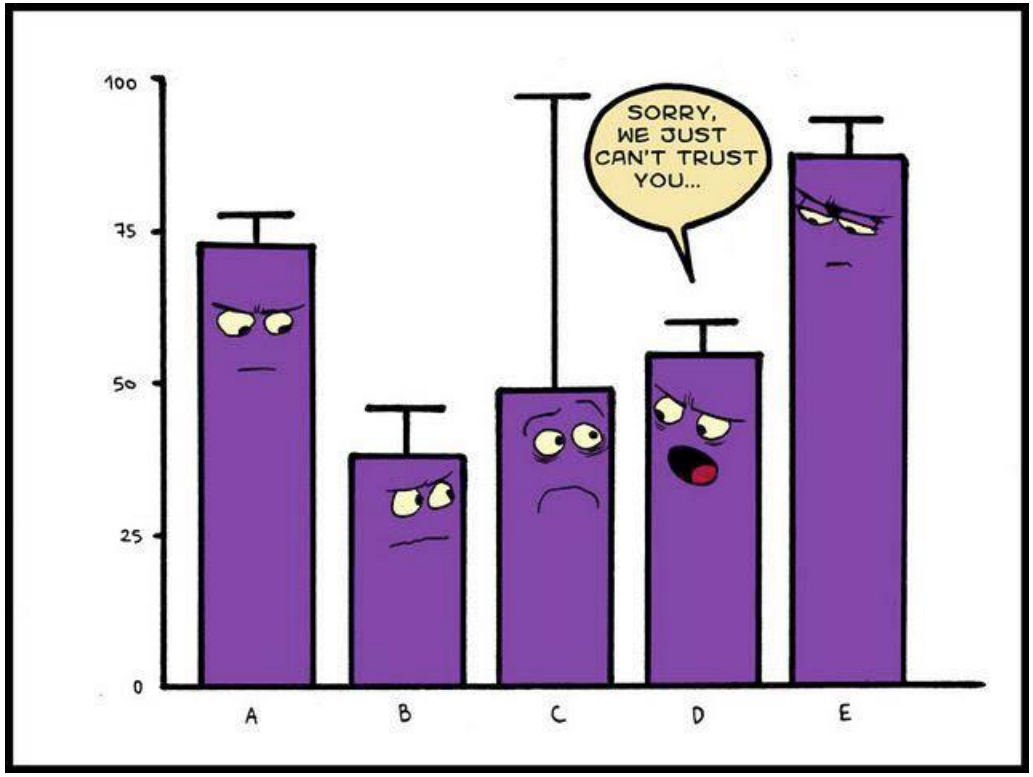
- Scabies
- Pubic lice (crabs)



Up next…

DATA!

STD Data Module



Goal

- The goal of this module is to provide an overview of current national, state and local trends for the major reportable STDs and youth sexual behavioral data.

Objectives

By the end of this module, participants will be able to:

1. Describe common data terms.
2. List which STDs are reportable.
3. Describe the burden of reportable STD among different populations.
4. Describe disparities in STD burden across the state.
5. Describe sexual risk behaviors among adolescents.

Understanding Data Terms

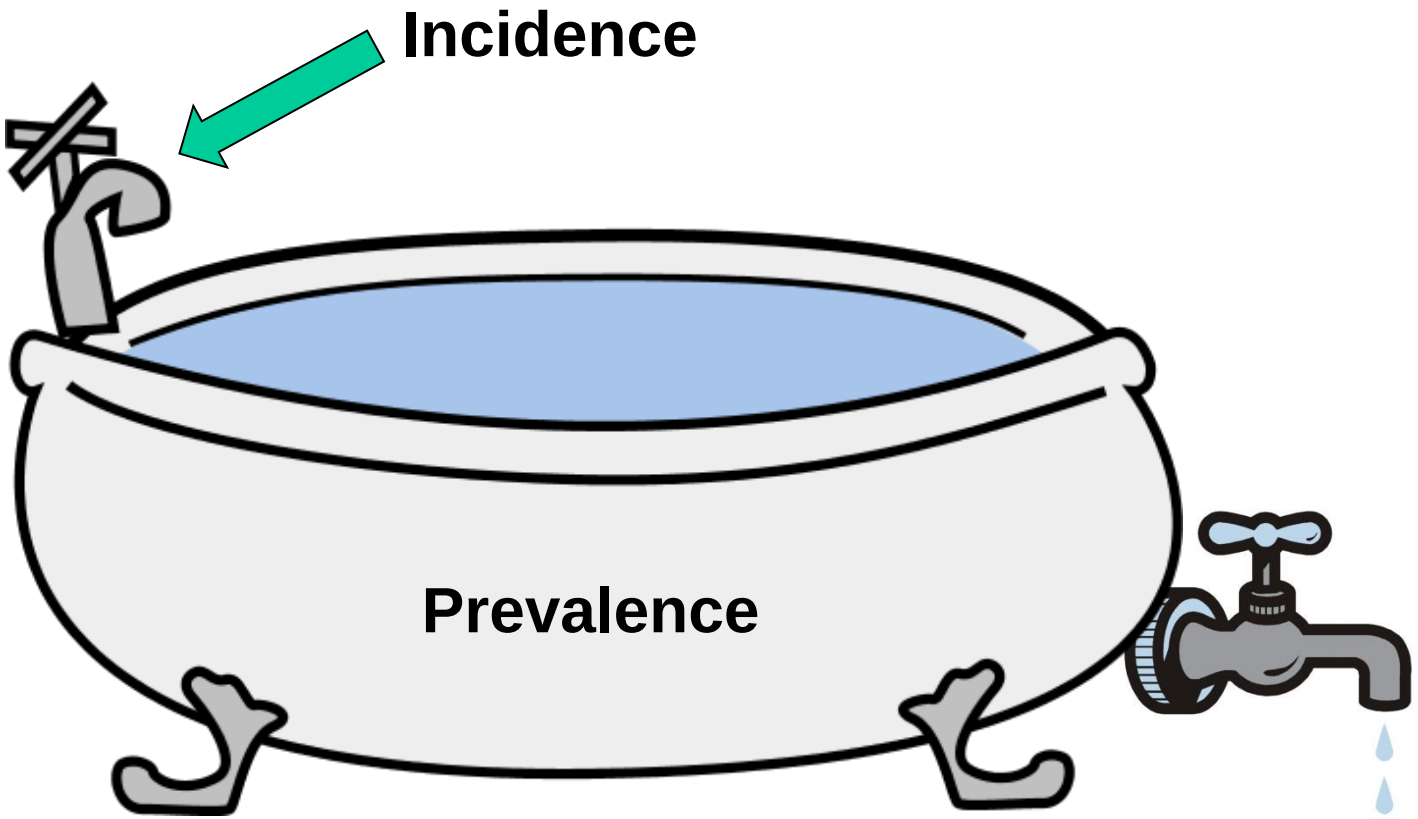
Case: Number of persons or infections diagnosed

Rate: Number of cases in a specific group based on a standard population size of 100,000

Incidence: Number of new cases of a disease in a given time frame (usually a year)

Prevalence: Total number of people who have a disease at a specific point in time

Incidence & Prevalence
What is the difference?



Calculating Rates

Town A

Pop. 3,000

30 cases of syphilis

$$\left[\frac{30}{3{,}000}\right] \times 100{,}000 = 1{,}000$$

Rate =

1,000 cases per 100,000

Town B

Pop. 20,000

30 cases of syphilis

$$\left[\frac{30}{20{,}000}\right] \times 100{,}000 = 150$$

Rate =

150 cases per 100,000

Where do you put your resources?

Reportable Infections and Conditions in California

- **Law mandates that certain communicable diseases be reported to the local health department.**
- **The reporting process is highly confidential.**

Reportable in CA

Chlamydia
Gonorrhea
Pelvic Inflammatory Disease (PID)
Syphilis
Chancroid
Hepatitis B
Hepatitis C
AIDS
HIV infection **(As of April, 2006)**

Not Reportable in CA

Human Papillomavirus (HPV)
Genital Herpes (HSV)
Trichomoniasis

Uses of STD Data Collection

STD data are used to:

- Assure correct treatment of cases
- Notify partners of exposure
- Track trends over time in communities
- Identify and respond to outbreaks
- Allocate funds for testing, treatment, prevention, and research
- Support community advocacy to reduce disparities

Challenges and Limitations of STD Case Data

- There are ~2-5 times more cases than are reported
- Report data only include those patients who:
  - Seek care
  - Get tested
  - Have a provider and/or laboratory who reports the diagnosis.
- Race and ethnicity data underreported
- What does it mean if cases/rates increase?

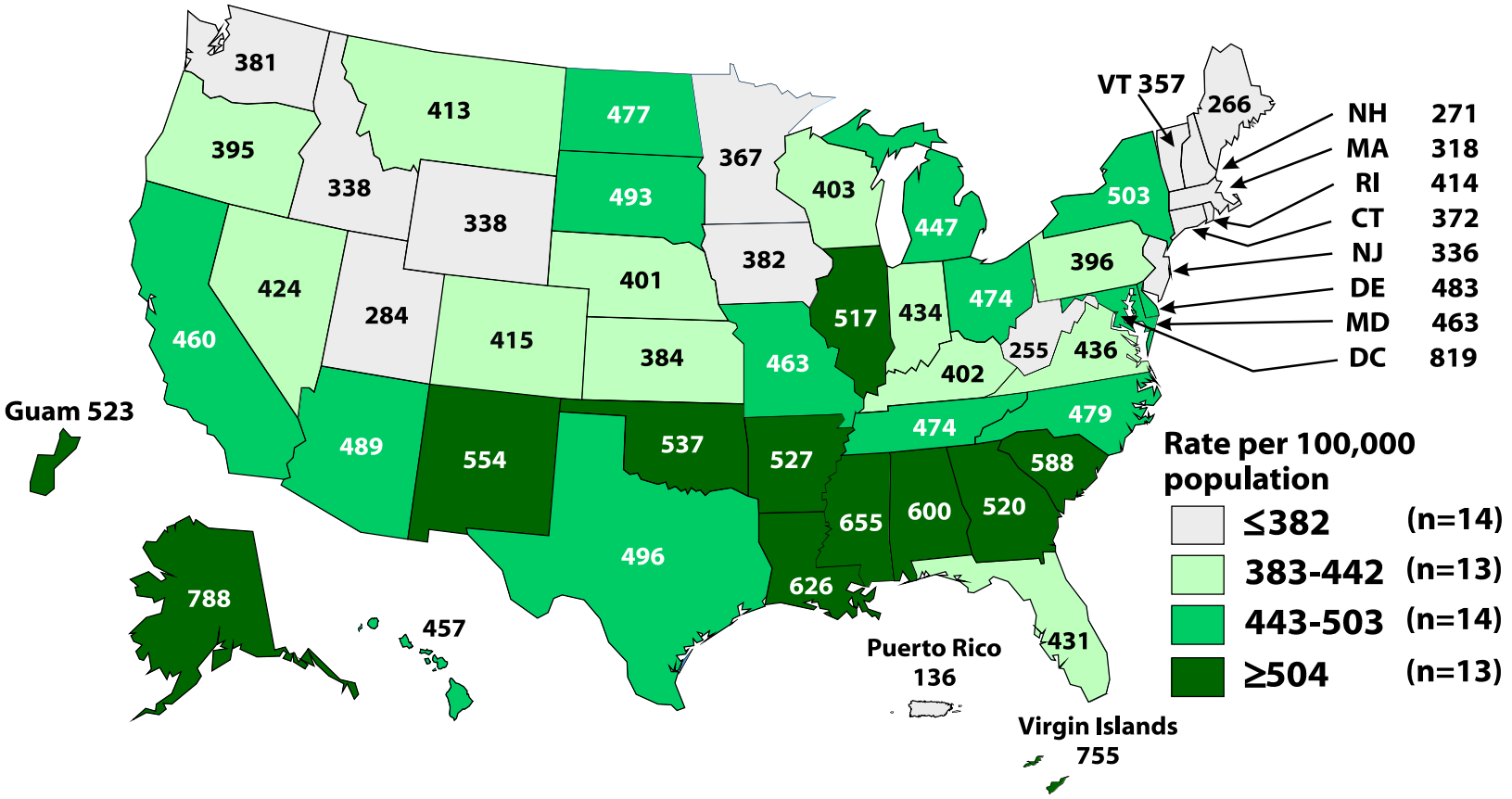
National STD Data

US Incidence and Prevalence of STDs, 2008 (estimates)

	Incidence	Prevalence
Human Papilloma Virus	14,100,000	79,100,000 (1)
Chlamydia	2,860,000	1,570,000 (4)
Trichomoniasis	1,090,000	3,710,000 (3)
Gonorrhea	820,000	270,000 (7)
Herpes Simplex Virus 2	776,000	24,100,000 (2)
Syphilis	55,400	117,000 (8)
HIV	41,400	908,000 (5)
Hepatitis B	19,000	422,000 (6)

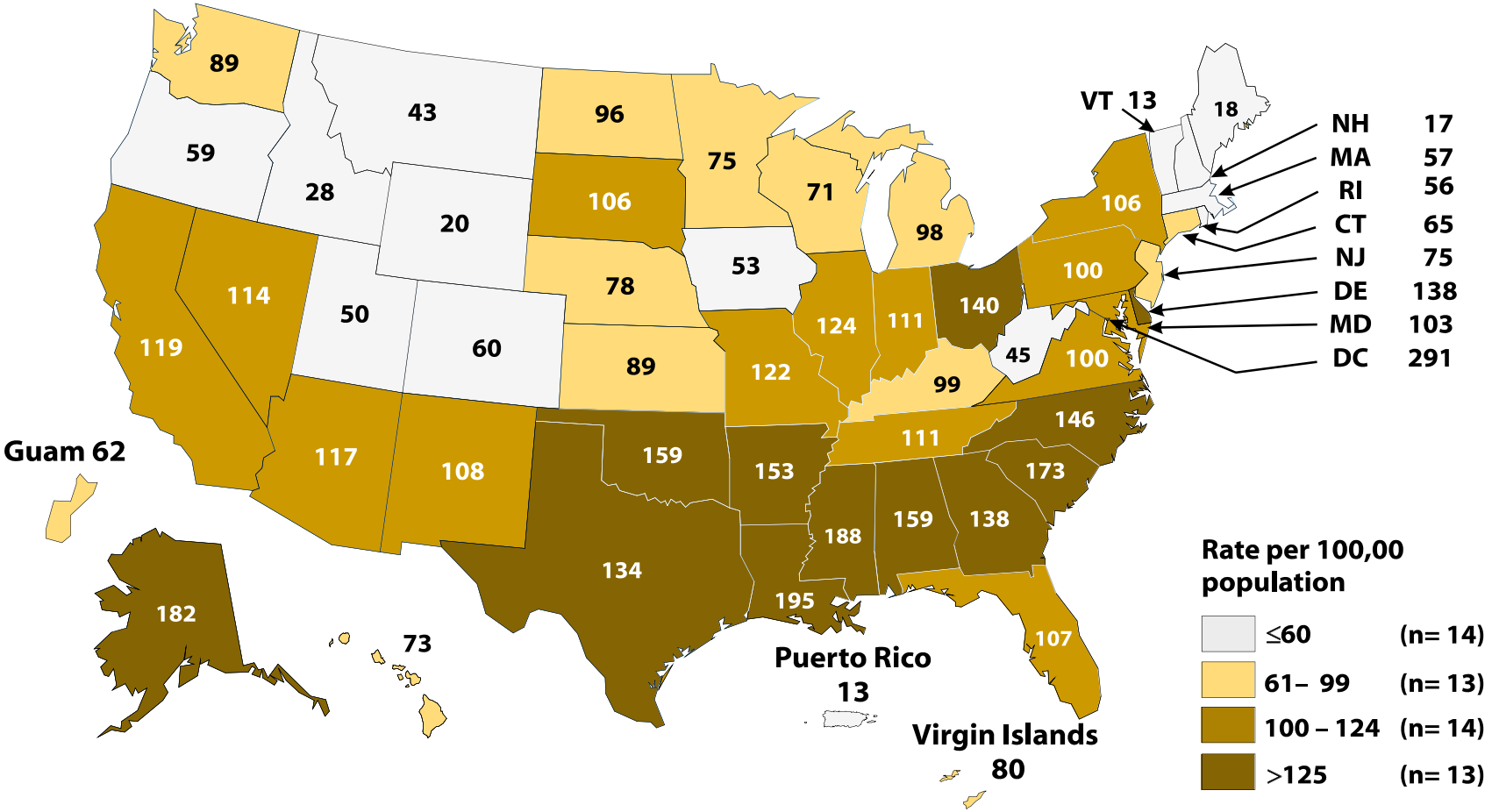
Source: **Sexually Transmitted Infections Among US Women and Men: Prevalence and Incidence Estimates, 2008.** Satterwhite CL, Torrone E, Meites E, Dunne EF, Mahajan R, Ocfemia MC, Su J, Xu F, Weinstock H. Sex Transm Dis. 2013 Mar;40(3):187-93.

Chlamydia — Rates of Reported Cases by State, United States and Outlying Areas, 2014



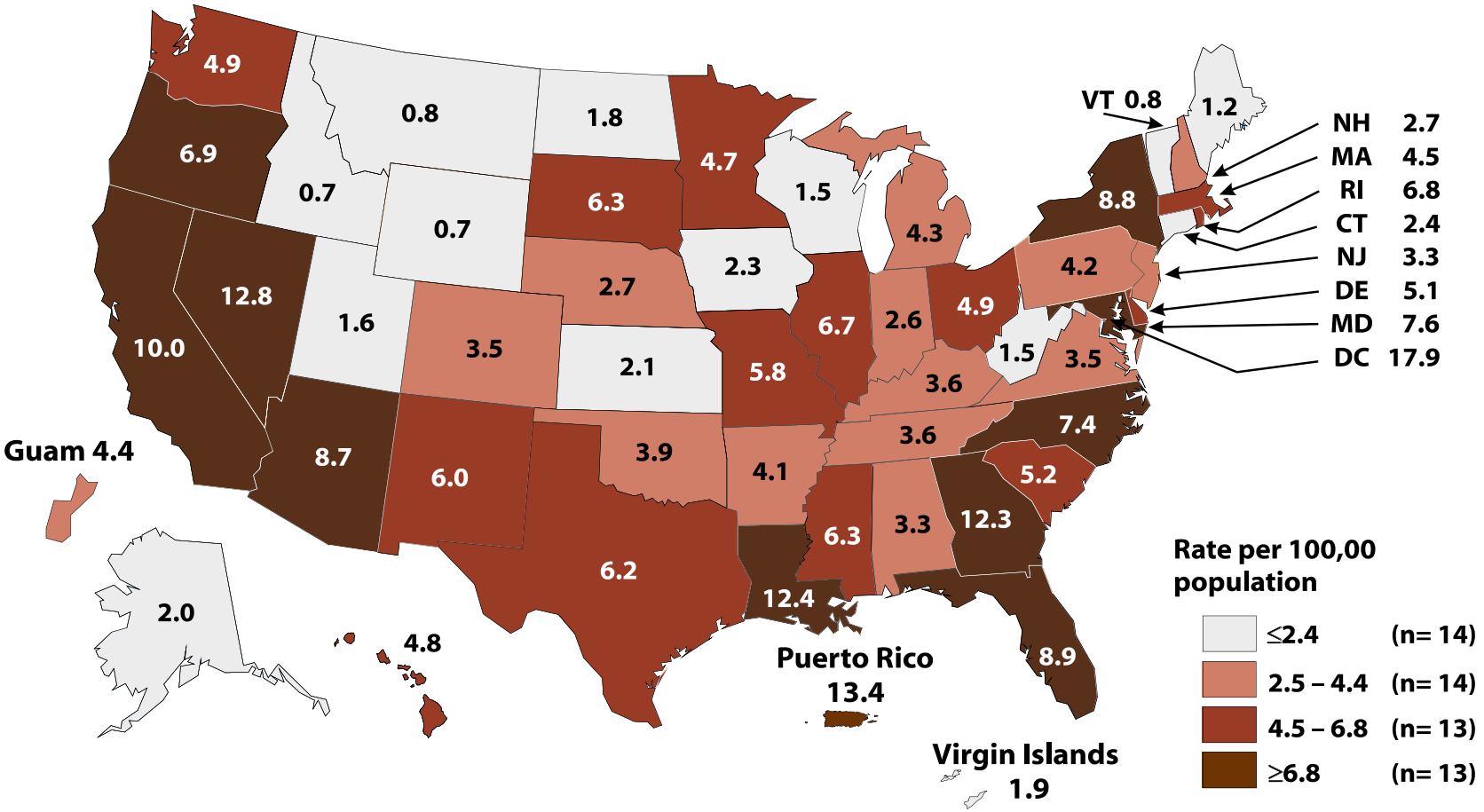
NOTE: The total rate of reported cases of chlamydia for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 452.6 per 100,000 population.

Gonorrhea — Rates of Reported Cases by State, United States and Outlying Areas, 2014



NOTE: The total rate of reported cases of gonorrhea for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 109.6 per 100,000 population.

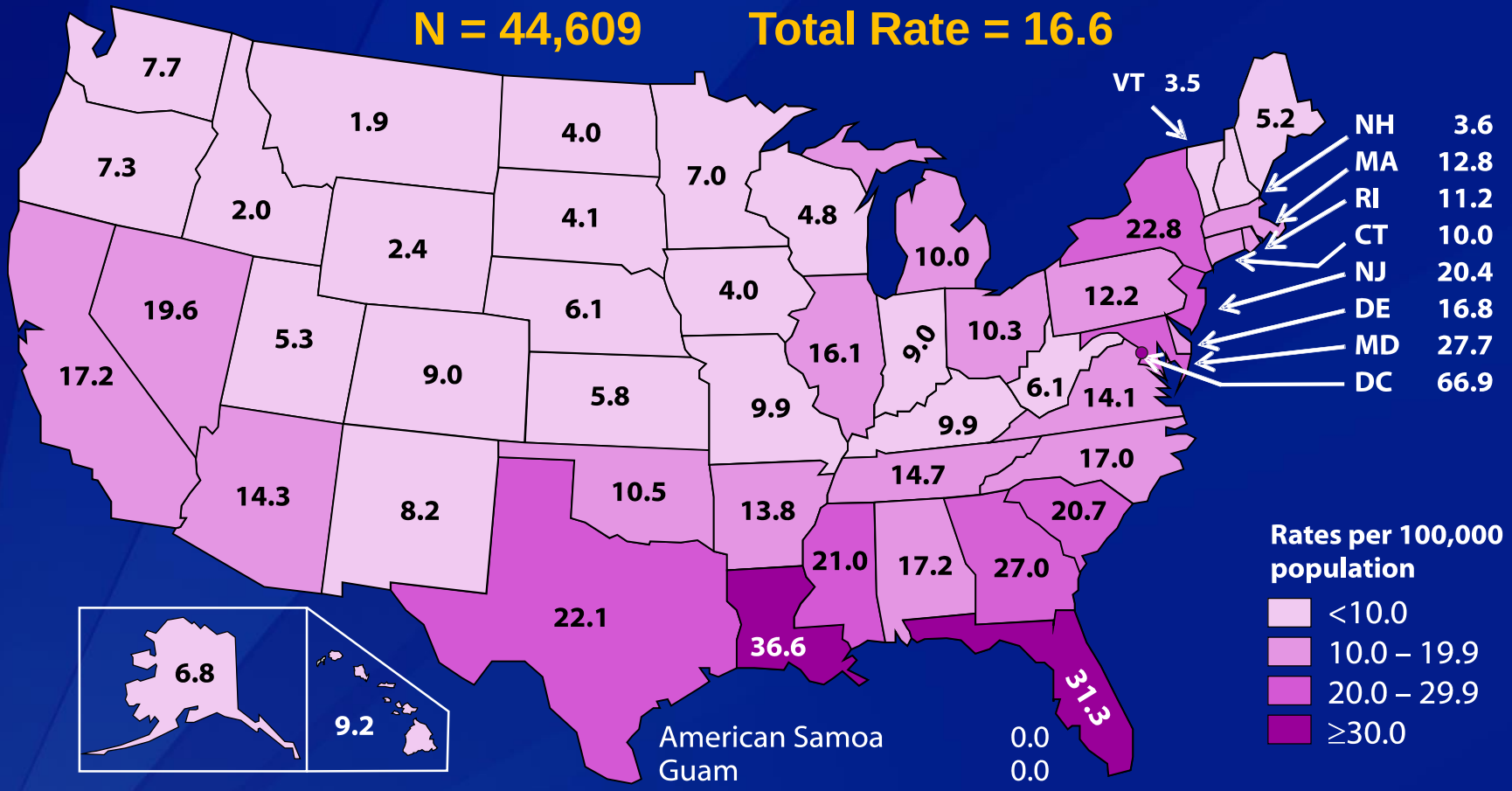
Primary and Secondary Syphilis—Rates of Reported Cases by State, United States and Outlying Areas, 2014



NOTE: The total rate of primary and secondary syphilis for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 6.4 per 100,000 population.

Rates of Diagnoses of HIV Infection among Adults and Adolescents, 2014—United States and 6 Dependent Areas

N = 44,609 Total Rate = 16.6

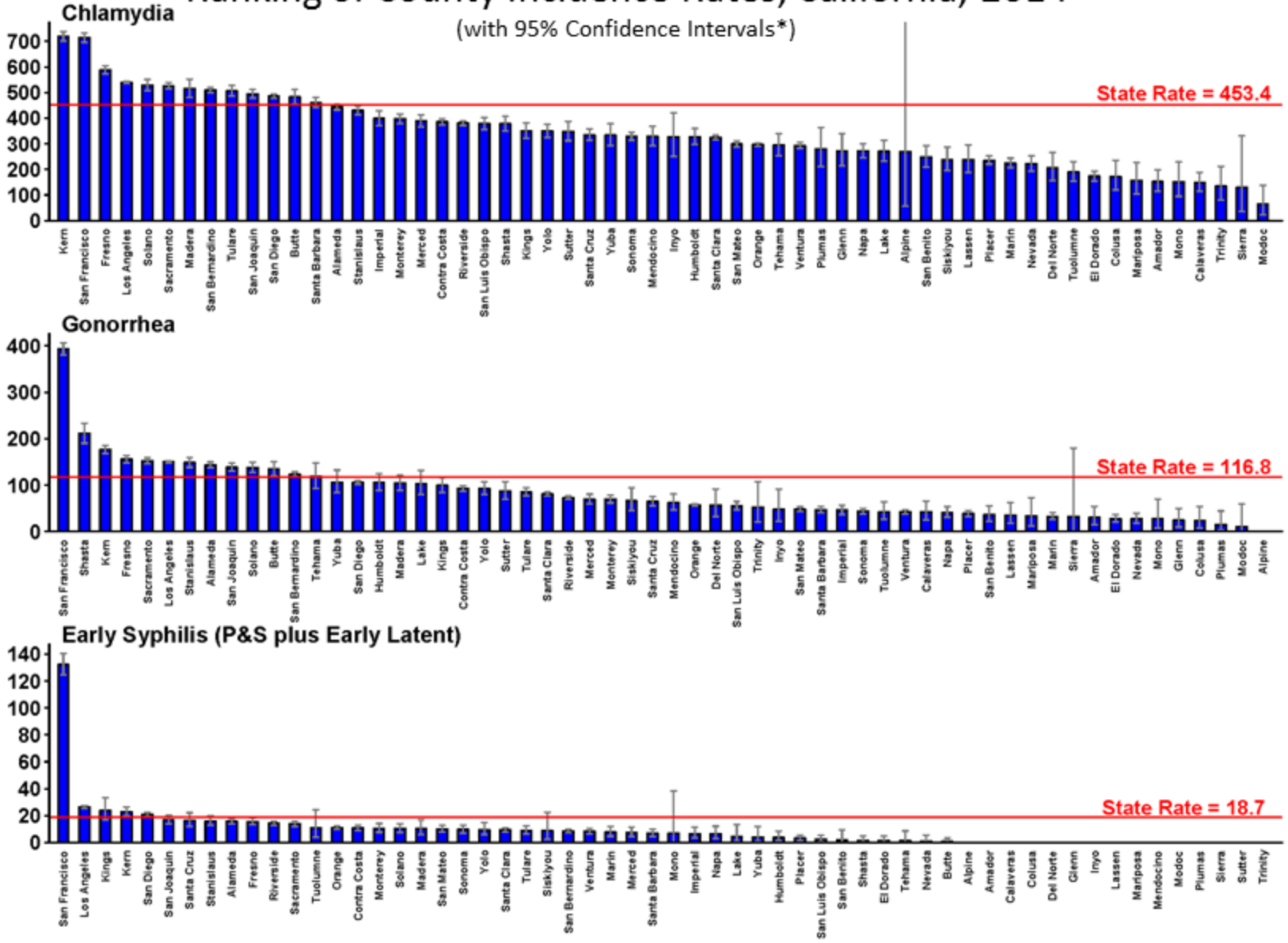


Note. Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. All displayed data have been statistically adjusted to account for reporting delays, but not for incomplete reporting.

California STD Data

Chlamydia, Gonorrhea, and Early Syphilis
Ranking of County Incidence Rates, California, 2014

(with 95% Confidence Intervals*)

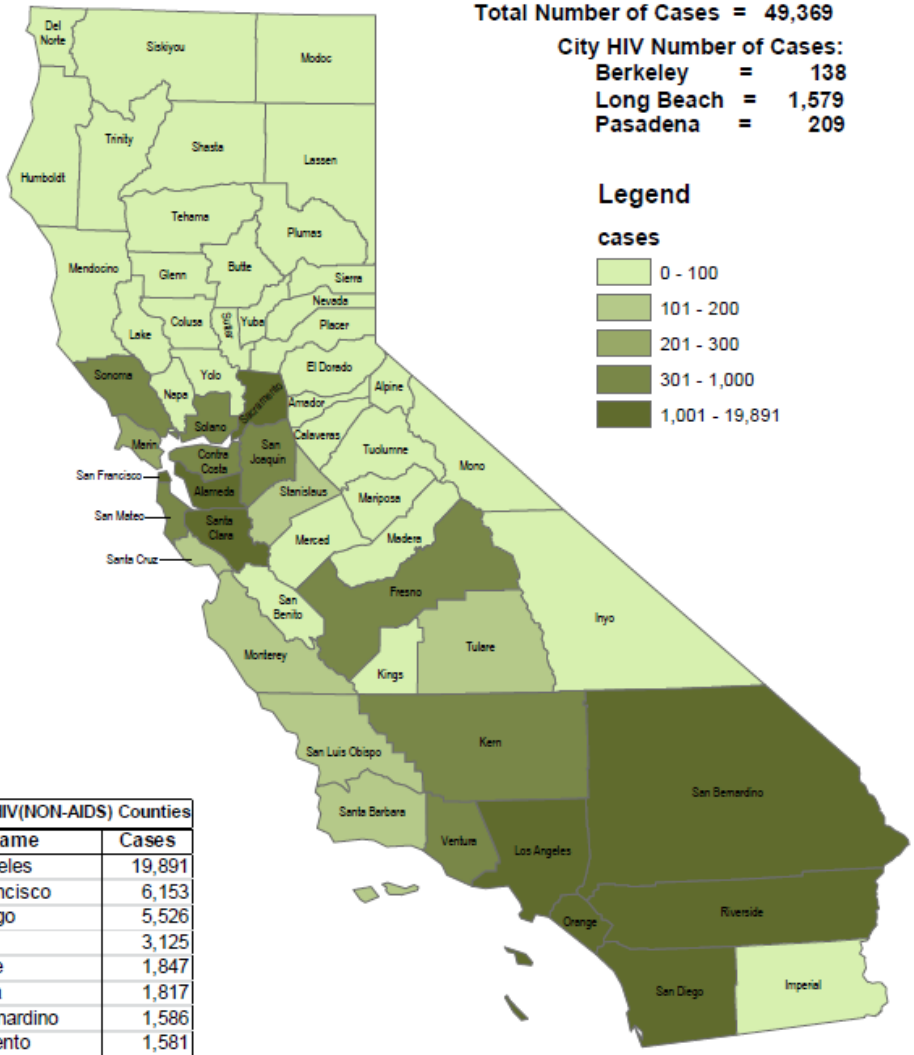


* Confidence intervals were calculated using Poisson exact method; not shown for counties with zero cases.

Note: Rates are per 100,000 population.

Source: California Department of Public Health, STD Control Branch

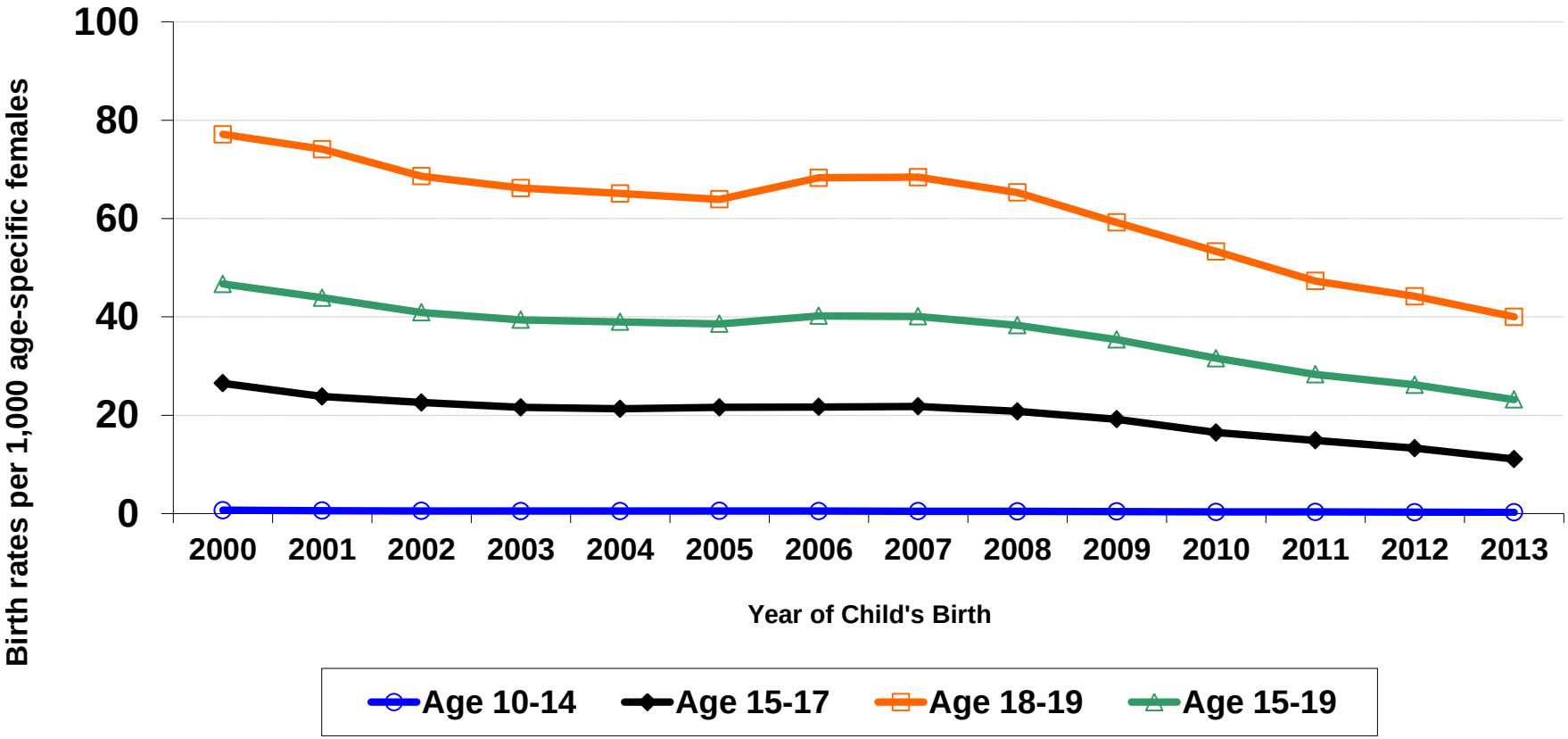
HIV (NON-AIDS) CASES IN CALIFORNIA
CUMULATIVE AS OF DECEMBER 31, 2013
Figure 5.



TOP 10 HIV(NON-AIDS) Counties	
Name	Cases
Los Angeles	19,891
San Francisco	6,153
San Diego	5,526
Orange	3,125
Riverside	1,847
Alameda	1,817
San Bernardino	1,586
Sacramento	1,581
Santa Clara	1,084
Contra Costa	770

HIV(non-AIDS) reporting by name began in April 2006.
Source: California Department of Public Health, Office of AIDS, HIV/AIDS Surveillance Section, data as of December 23, 2014.
For more information, call the HIV/AIDS Surveillance Section at (916) 449-5835.

Birth Rates by Mother's Age, Females Age 10-19: California, 2000 - 2013

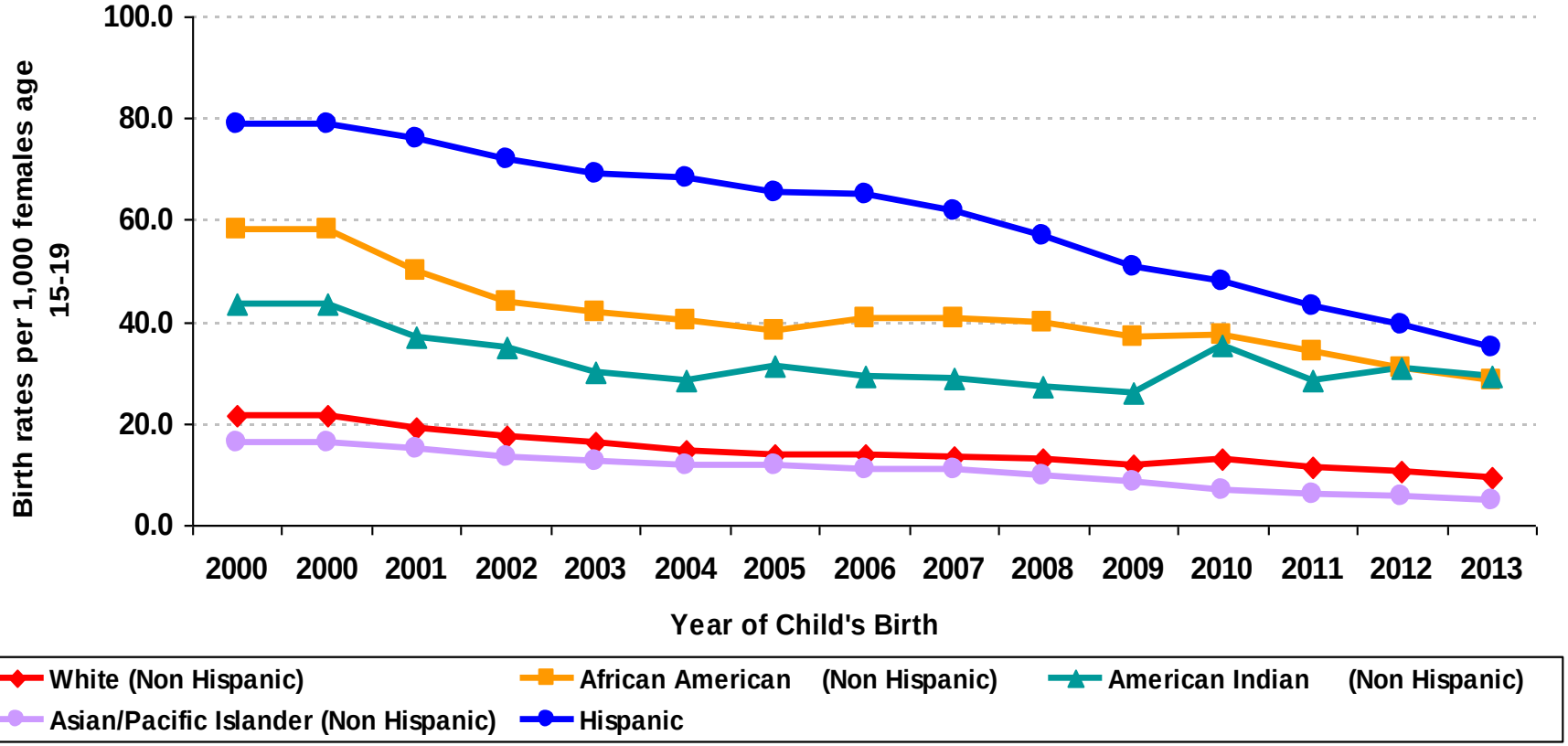


Data Sources: Births*: Birth Statistical Master File*, 2000-2013 California Department of Public Health, Center for Health Statistics and Informatics. Population: State of California, Department of Finance, *State and County Population Projections by Race/Ethnicity, Sex, and Age 2010-2060,* Sacramento, California, December 2014.

Notes: The California birth rates presented here differ from the rates computed on the basis of other population estimates such as those published by the National Center for Health Statistics. These revised rates differ and should not be compared to rates published previously, which were based on the California Department of Finance population projections as of July, 2007 or January 2013. Rates are not computed for fewer than 20 events.

Prepared by: California Department of Public Health, Maternal, Child and Adolescent Health Division, Epidemiology, Assessment and Program Development Branch.

Birth Rates for Females Age 15-19 by Race/Ethnicity
California, 2000 - 2013

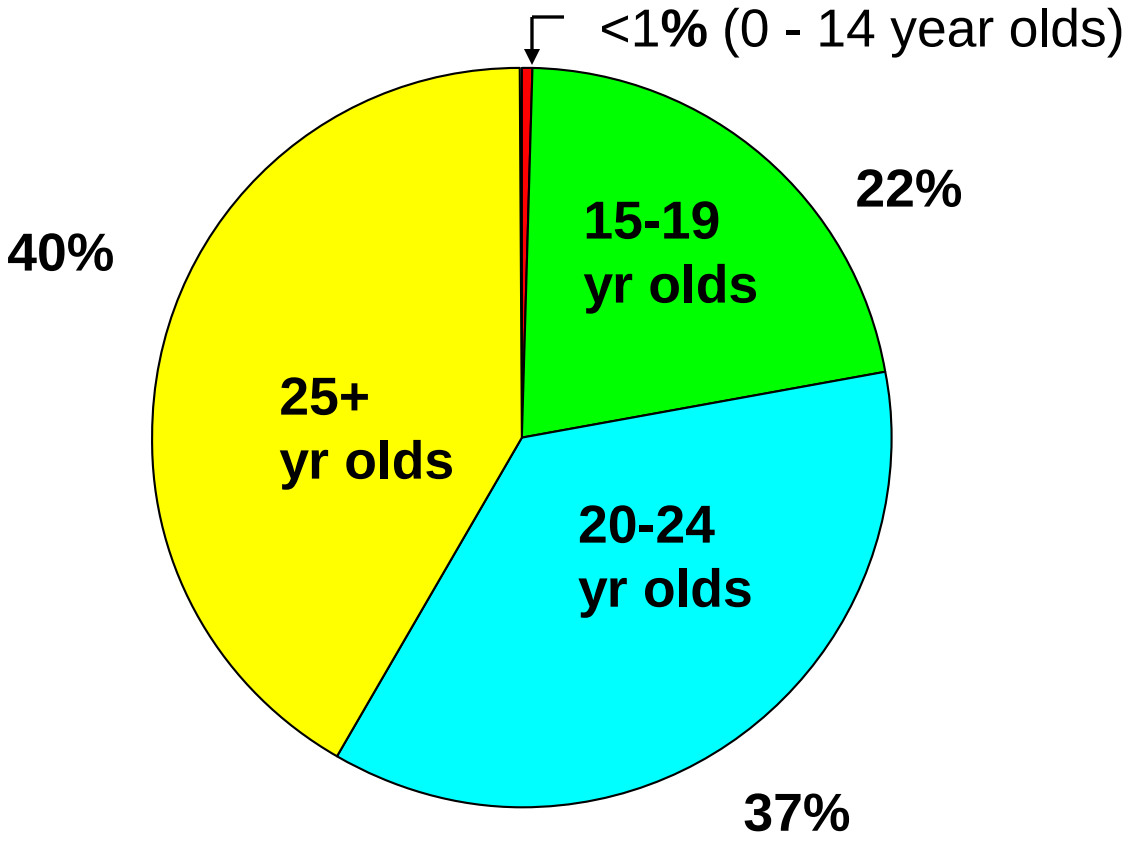


Data Sources: Births*: Birth Statistical Master File*, 2000-2013 California Department of Public Health, Center for Health Statistics and Informatics. Population: State of California, Department of Finance, *State and County Population Projections by Race/Ethnicity, Sex, and Age 2010-2060,* Sacramento, California, December 2014.

Notes: The California birth rates presented here differ from the rates computed on the basis of other population estimates such as those published by the National Center for Health Statistics. These revised rates differ and should not be compared to rates published previously, which were based on the California Department of Finance population projections as of July, 2007 or January 2013. Rates are not computed for fewer than 20 events.

Prepared by: California Department of Public Health, Maternal, Child and Adolescent Health Division, Epidemiology, Assessment and Program Development Branch.

In CA, 60% of Reported STDs Are Among Youth

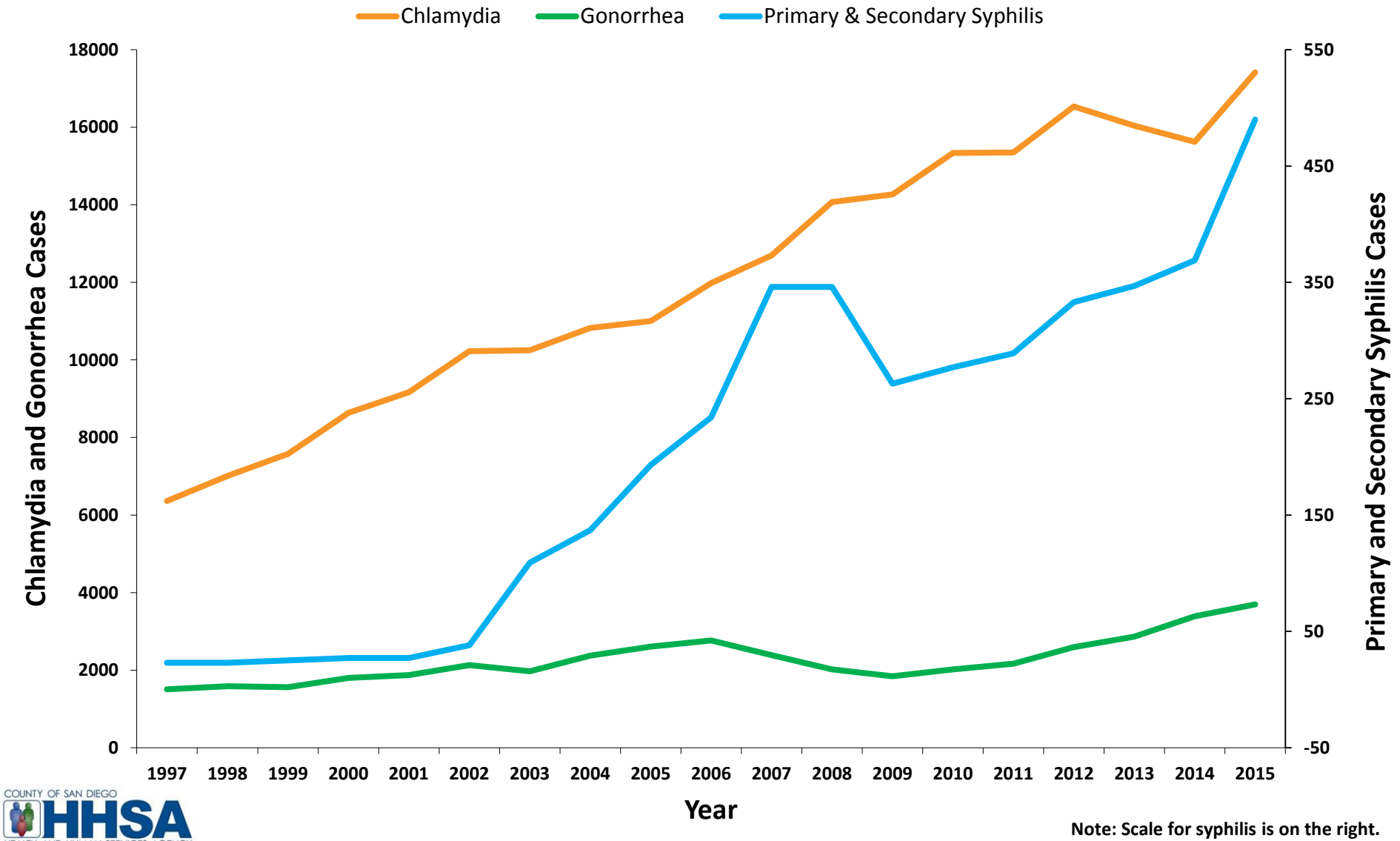


***** *Reported* STDs are chlamydia, gonorrhea, and early syphilis

Prepared by CDPH STD Control Branch, 2012 Data; January, 2014

Local STD Data

STDs Reported Among San Diego County Residents, 1997 – 2015



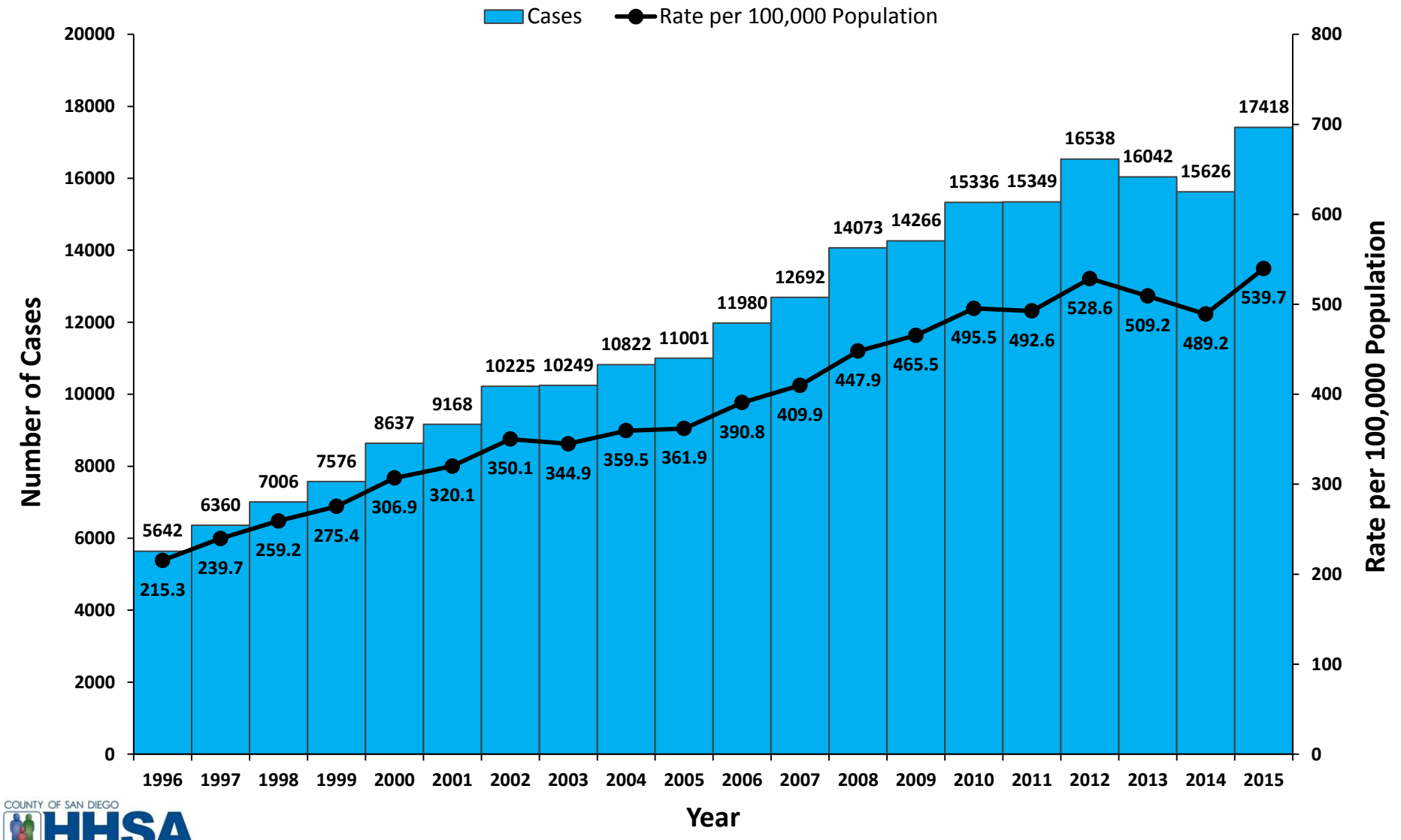
Note: Scale for syphilis is on the right.

THIS WEEK IN THE COUNTY OF SAN DIEGO…

- 308 residents will be diagnosed with chlamydia
- 48 residents will be diagnosed with gonorrhea
- 10 residents will be diagnosed with early syphilis
- 10 residents will be diagnosed with HIV or AIDS

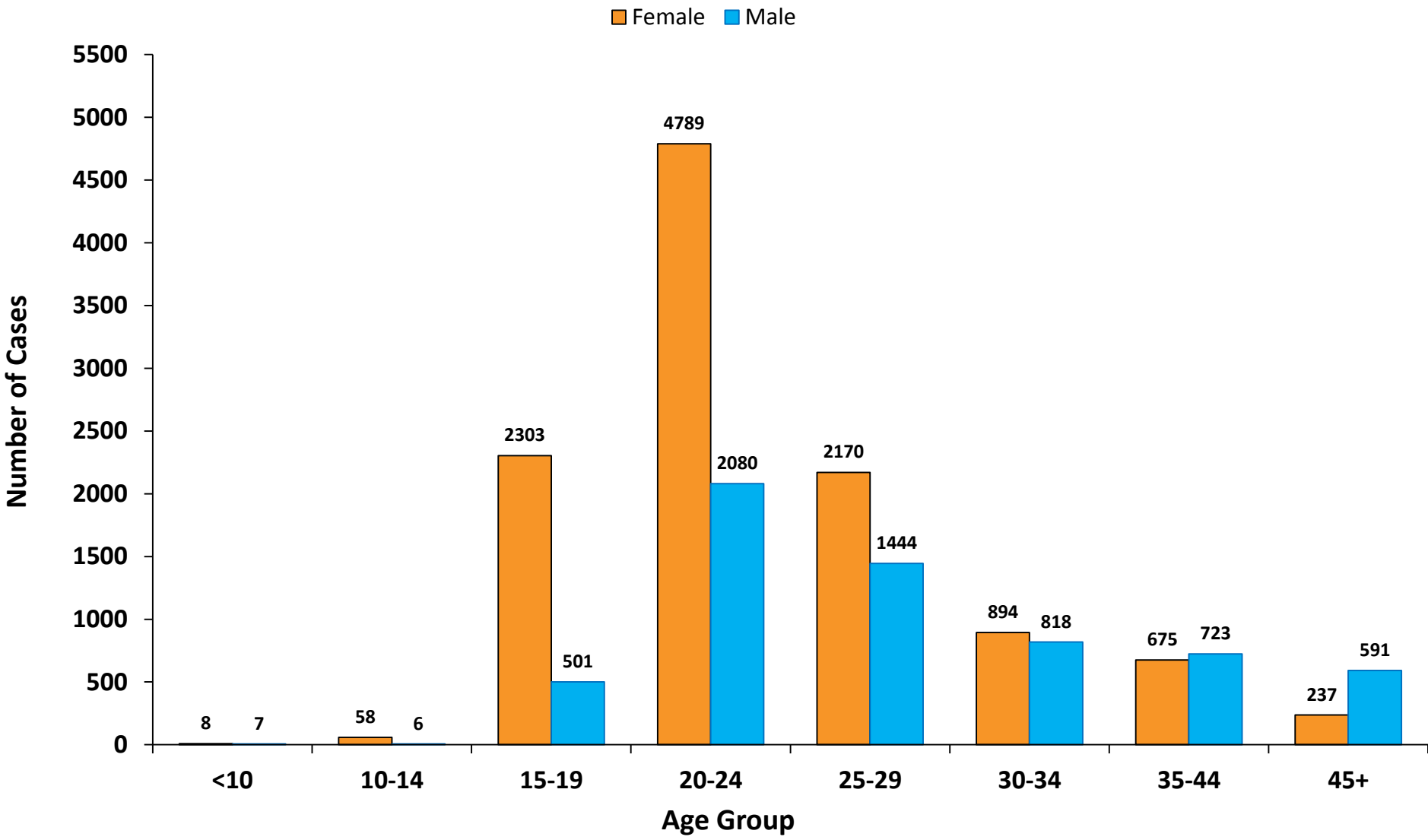
Based on 2013 data

Chlamydia Cases and Rates by Year
San Diego County, 1996 - 2015



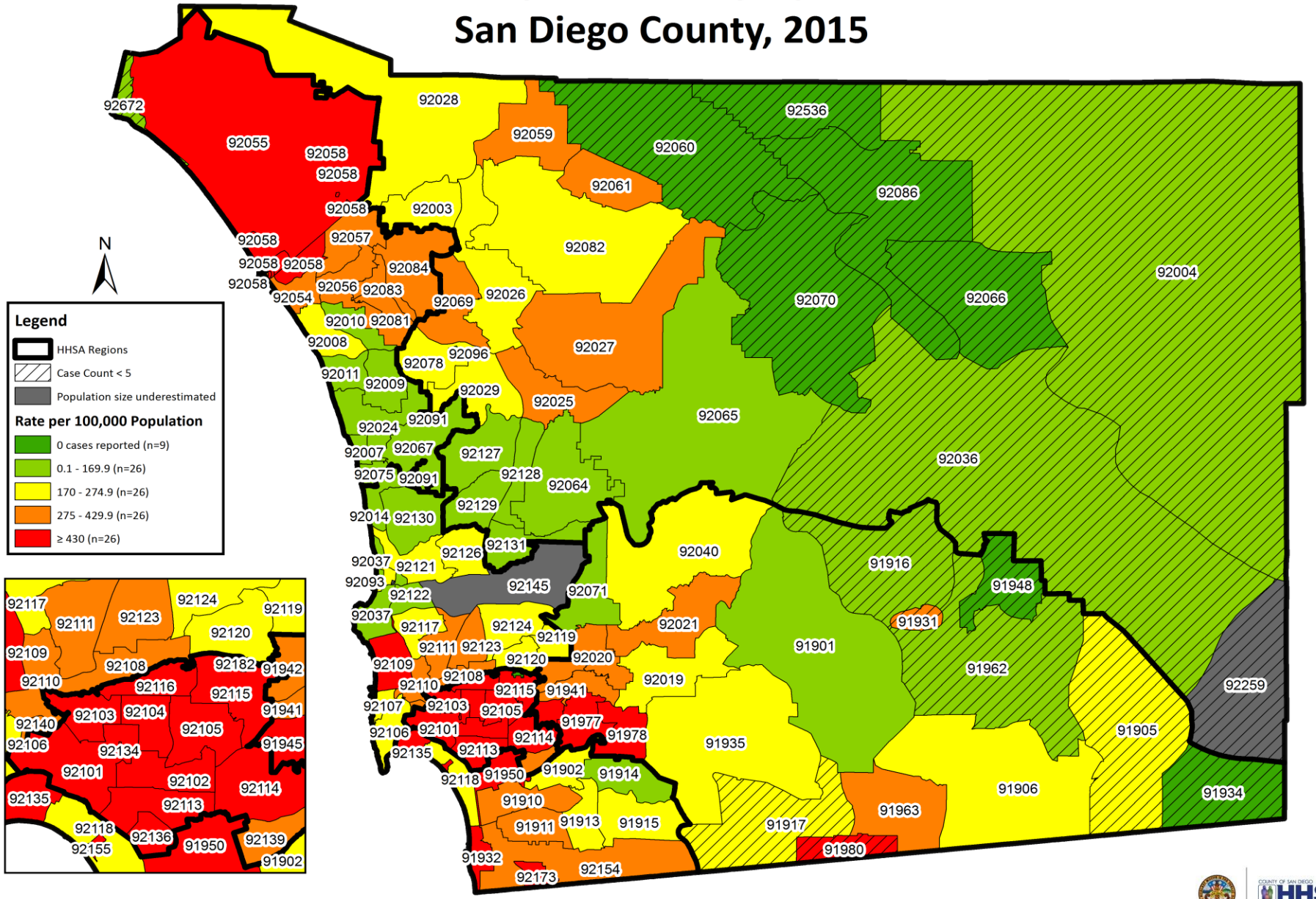
COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

Chlamydia Cases by Gender and Age
San Diego County, 2015



Note: Excludes 34 cases missing gender information and 80 cases missing age information.

Chlamydia Rates by Zip Code
San Diego County, 2015

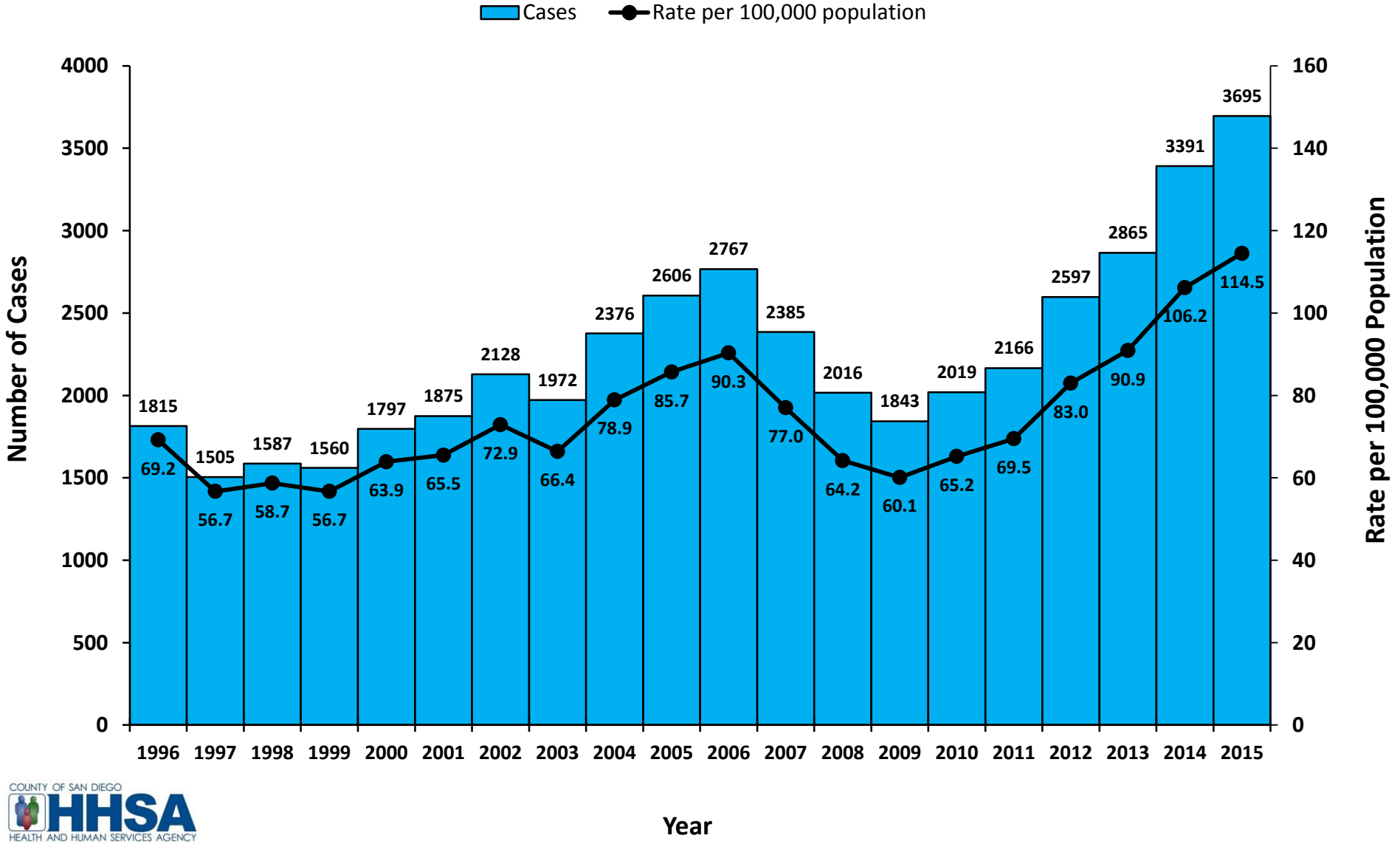


Note: Rate categories are dfiferent from the last iteration of this report
Source: County of San Diego, Health and Human Services Agency, HSHB (HIV, STD, Hepatitis Branch), CalREDIE Database
Map Date: June 10, 2016
Contact: Lawrence Wang

COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

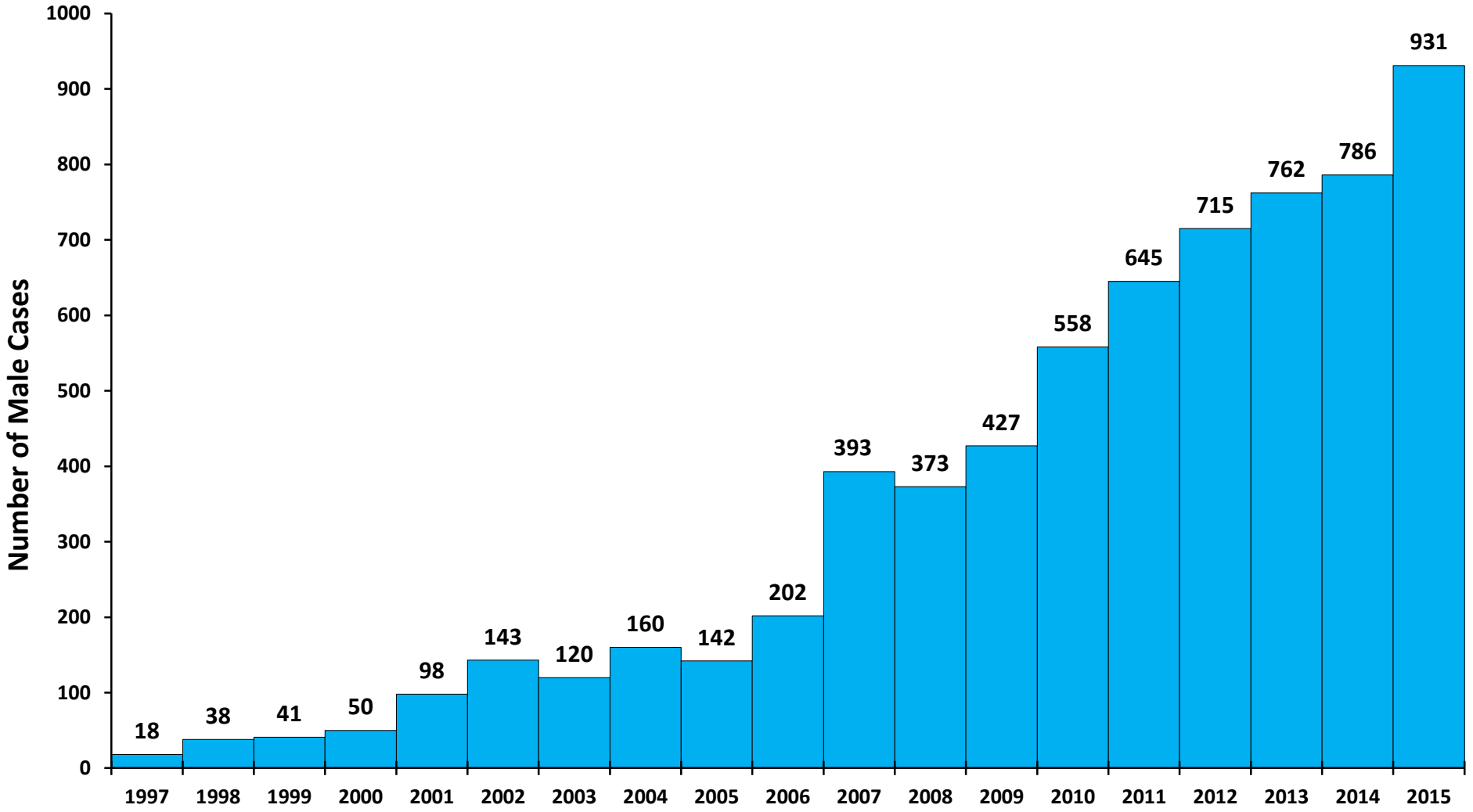
LIVE WELL SAN DIEGO

Gonorrhea Cases and Rates by Year
San Diego County, 1996 - 2015



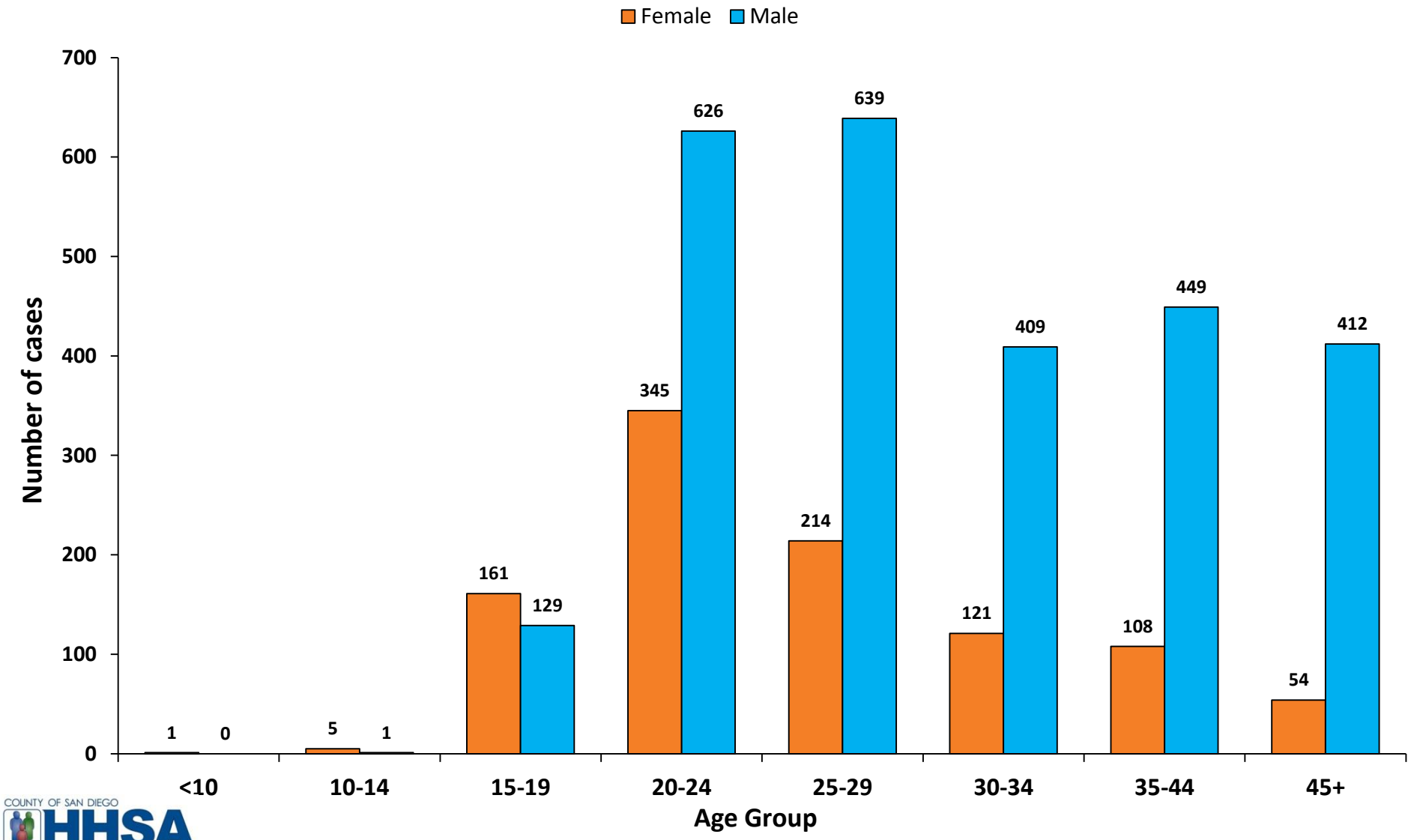
COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

Rectal or Pharyngeal Gonorrhea Infections in Males
San Diego County, 1997 - 2015



COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

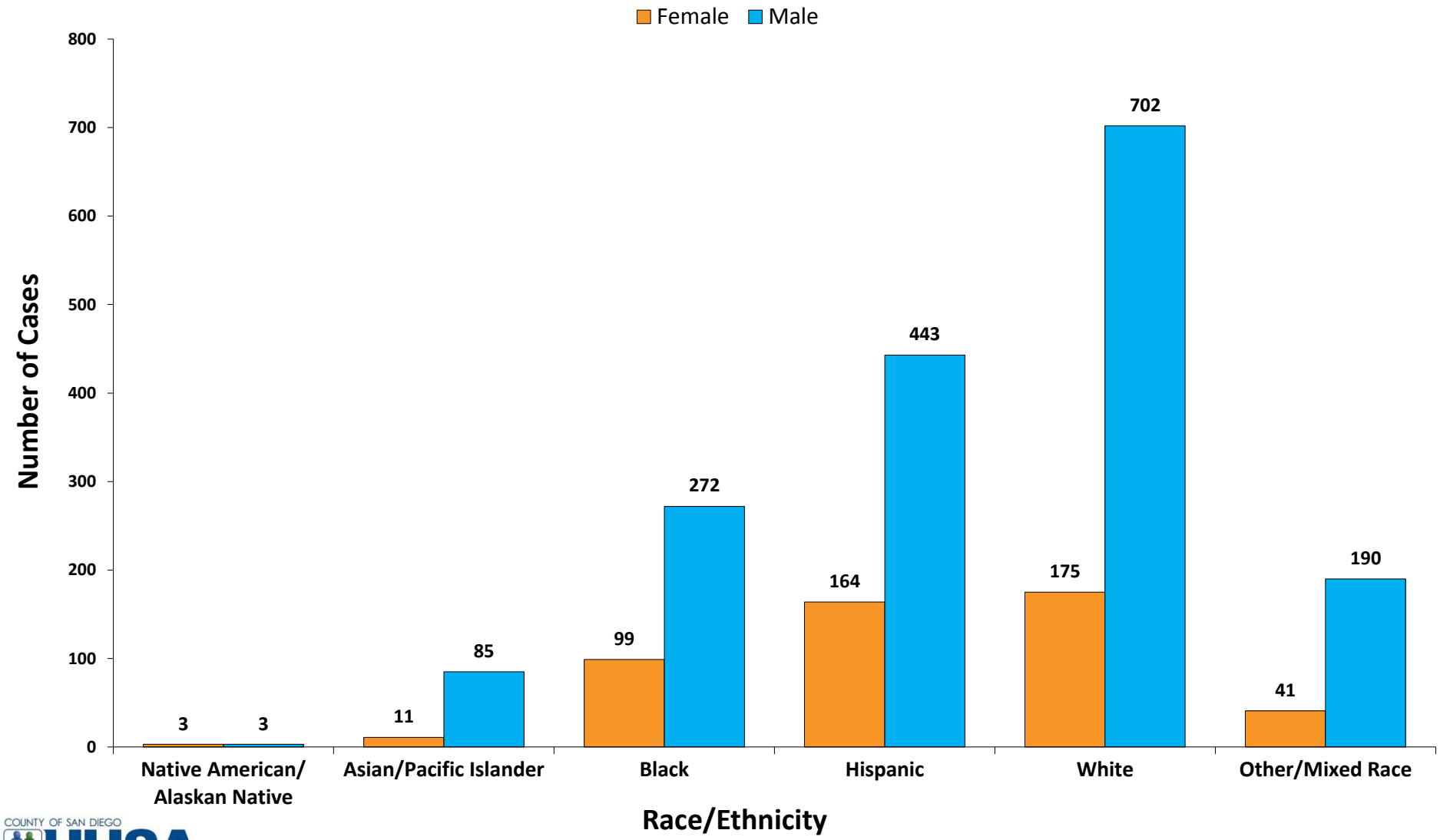
Gonorrhea Cases by Gender and Age
San Diego County, 2015



COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

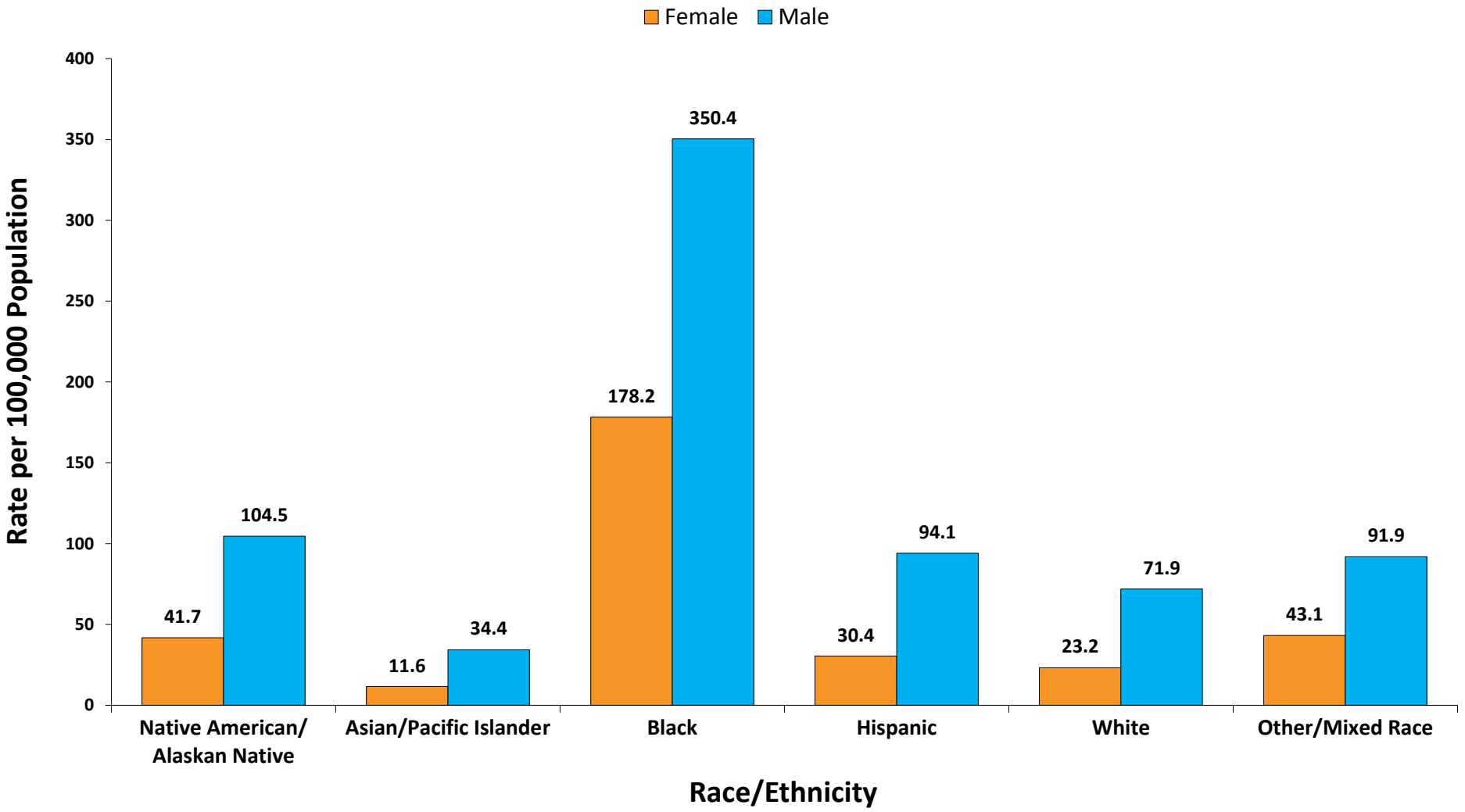
Note: Excludes 5 cases missing gender information and 16 cases missing age information.

Gonorrhea Cases by Gender and Race/Ethnicity
San Diego County, 2015



Note: 44.7% of cases are missing race/ethnicity data and are not included in counts above.

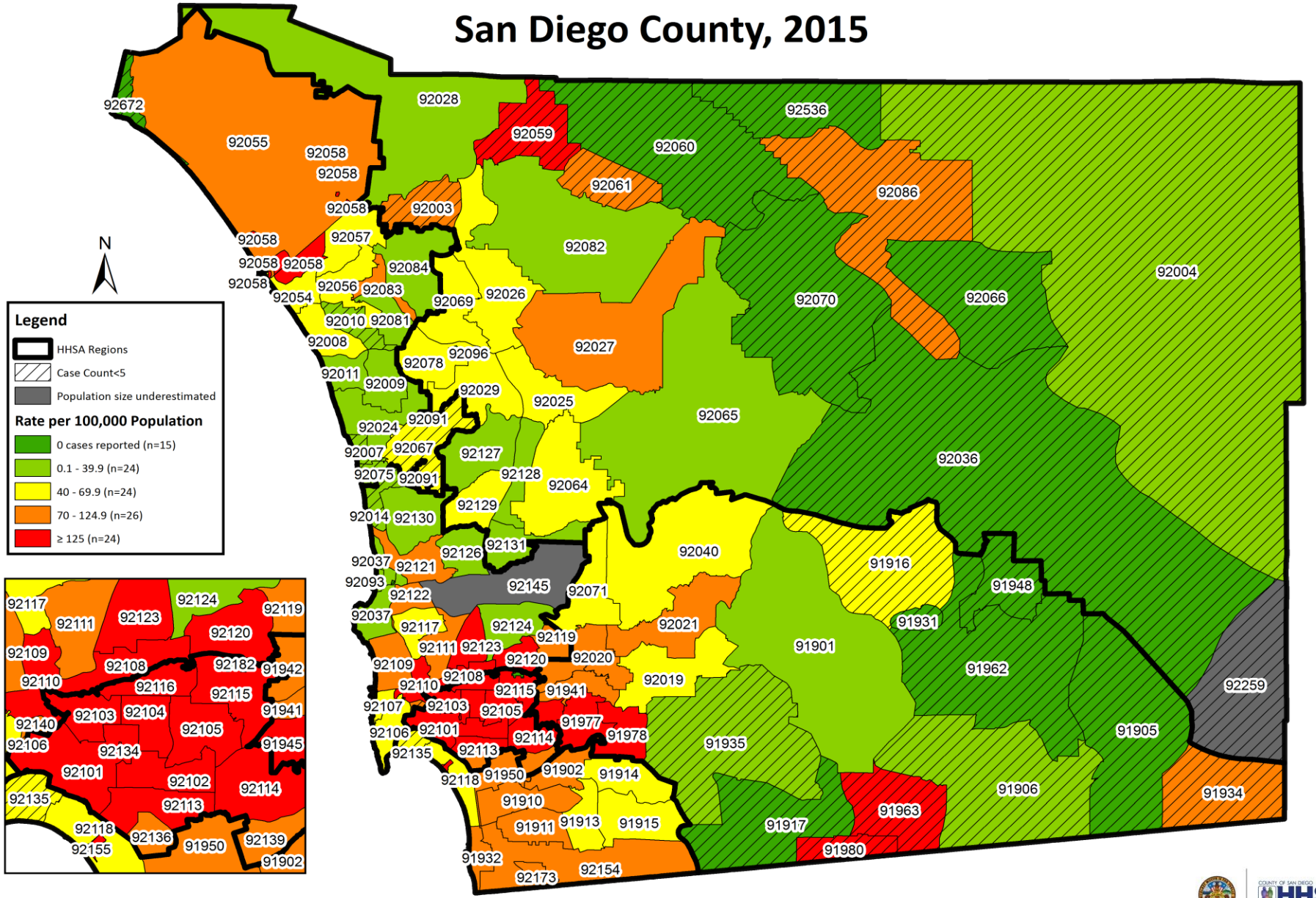
Gonorrhea Rates by Gender and Race/Ethnicity
San Diego County, 2015



COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

Note: 44.7% of cases are missing race/ethnicity data and are not included in rates above.

Gonorrhea Rates by Zip Code
San Diego County, 2015



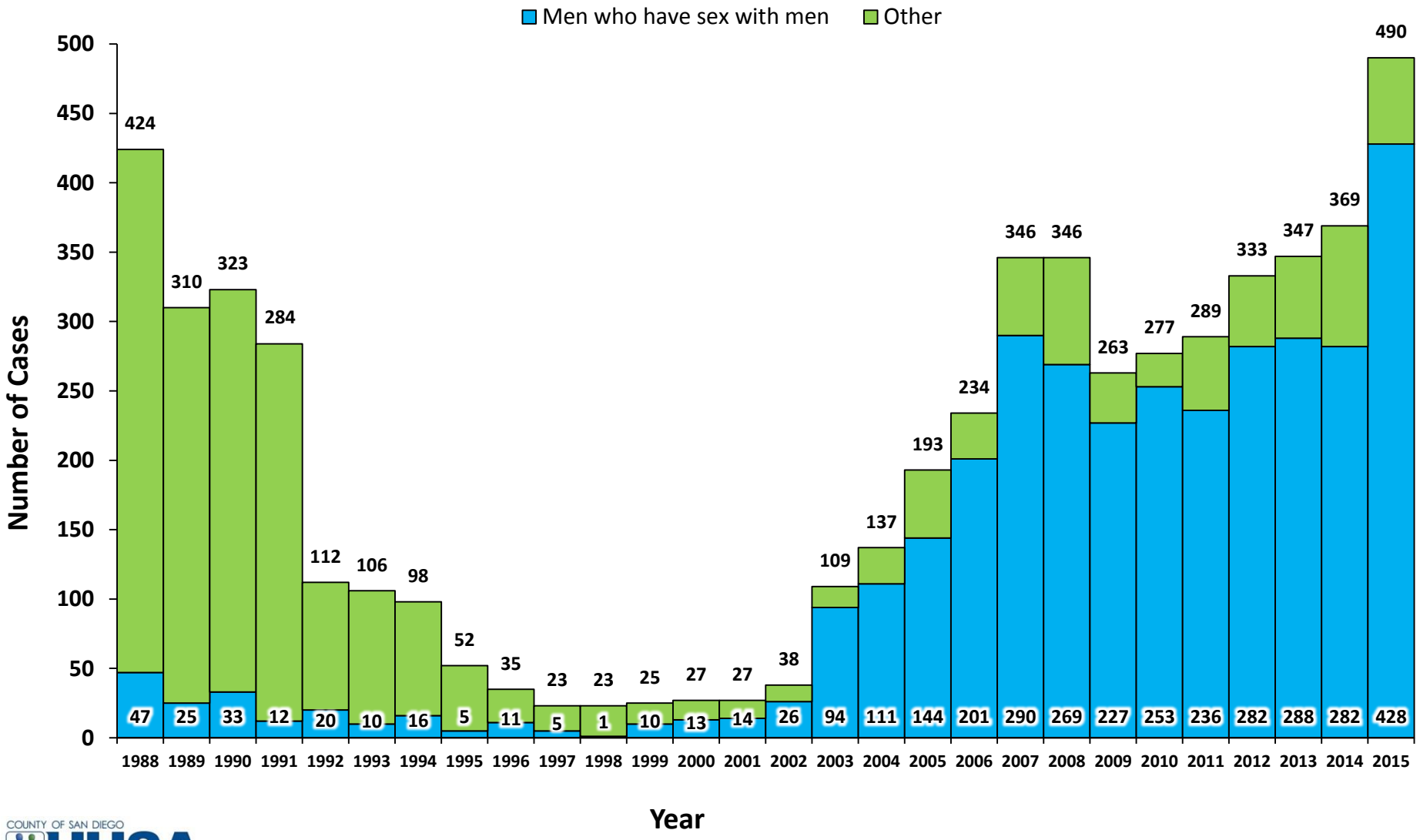
Note: Rate categories are dfiferent from the last iteration of this report
Source: County of San Diego, Health and Human Services Agency, HSHB (HIV, STD, Hepatitis Branch), CalREDIE Database
Map Date: June 10, 2016
Contact: Lawrence Wang

COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

LIVE WELL SAN DIEGO

Primary & Secondary Syphilis Cases by Year
San Diego County, 1988 - 2015

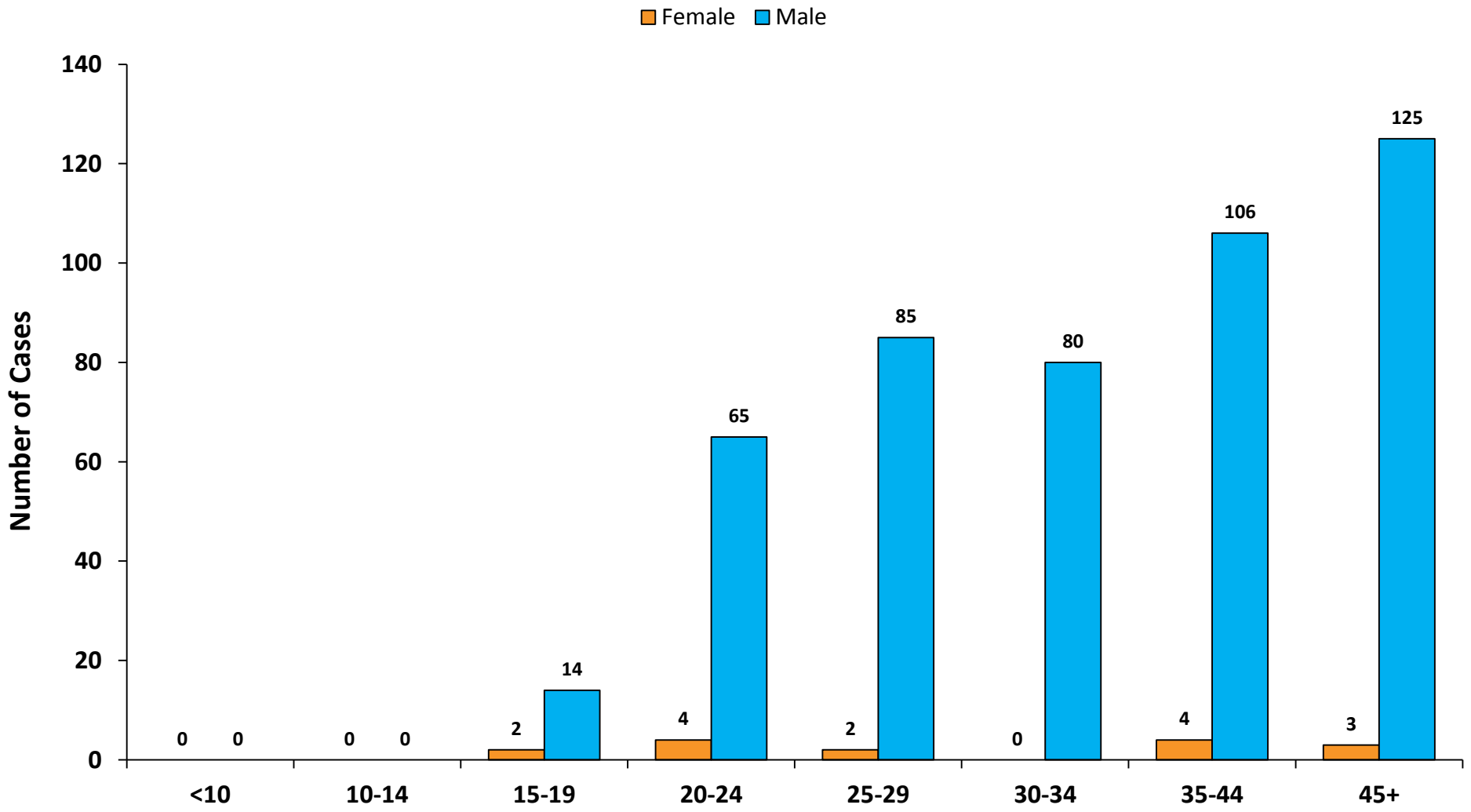
LIVE WELL SAN DIEGO



COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

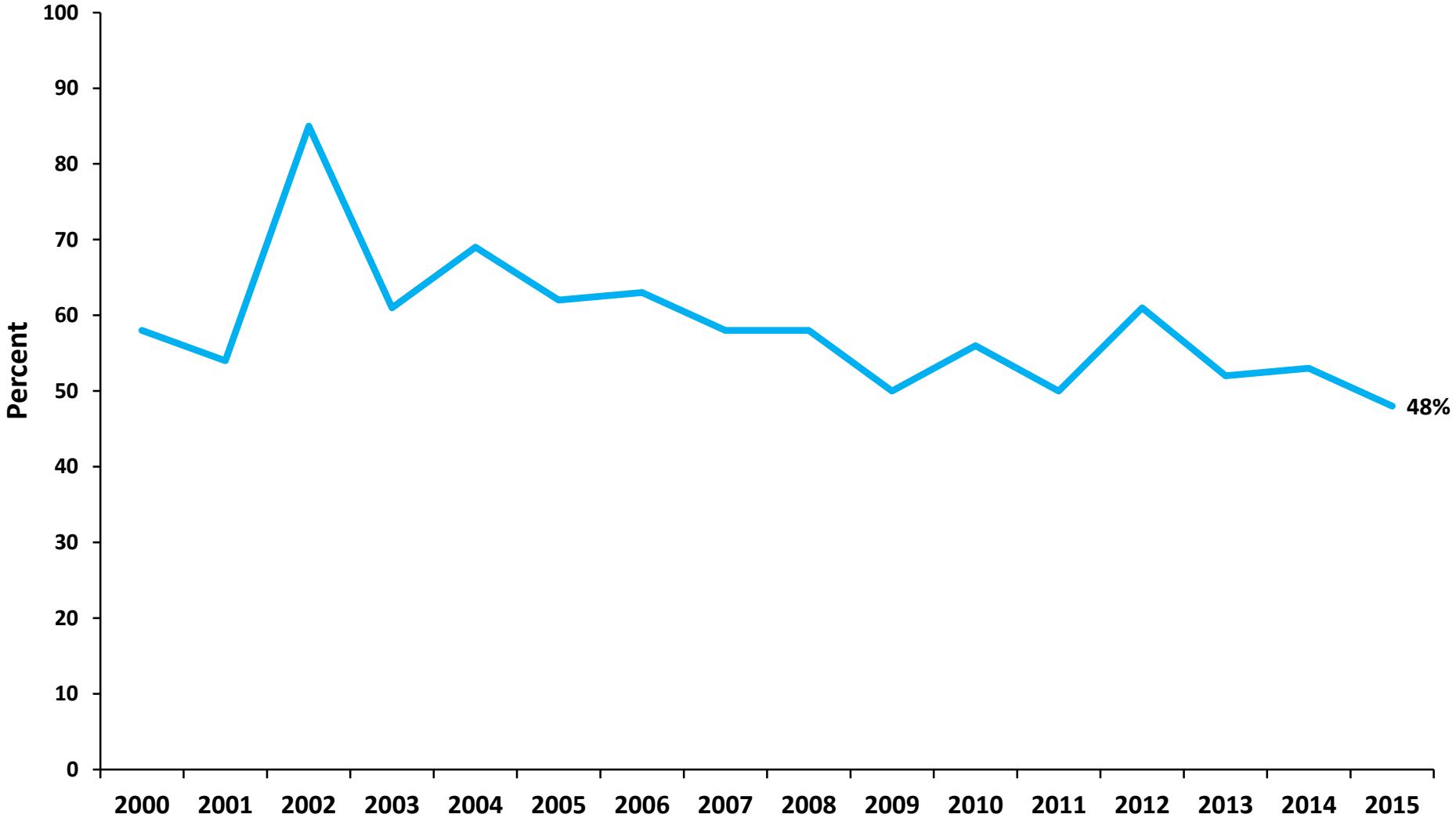
Note: The white-shaded numbers within the blue bars represent the number of cases in men who have sex with men per year. The numbers above the columns represents the total number of primary and secondary syphilis cases per year.

Primary & Secondary Syphilis Cases by Gender and Age
San Diego County, 2015



COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

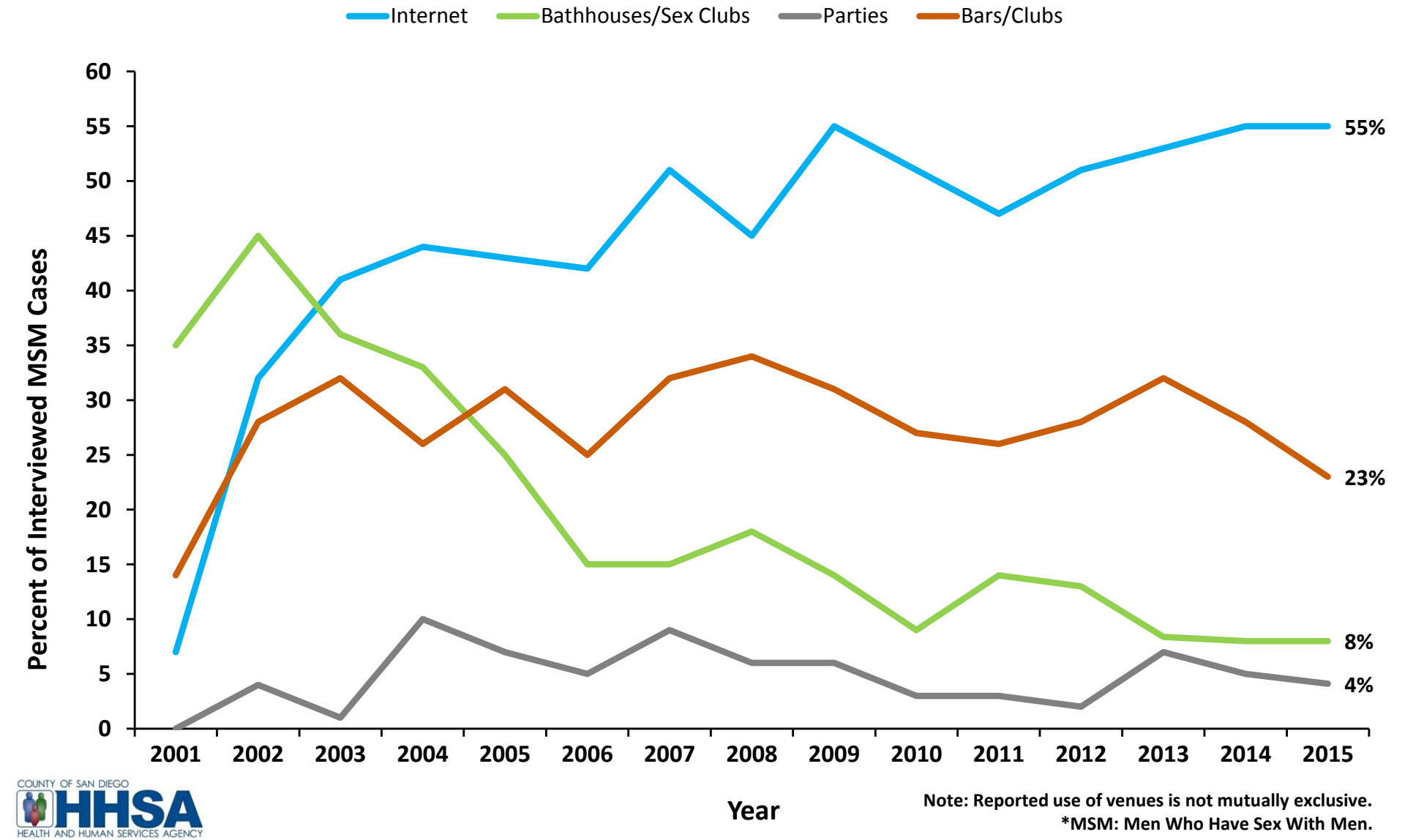
MSM* Primary & Secondary Syphilis Cases Co-Infected with HIV by Year San Diego County, 2000 - 2015



COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

*MSM: Men Who Have Sex With Men.

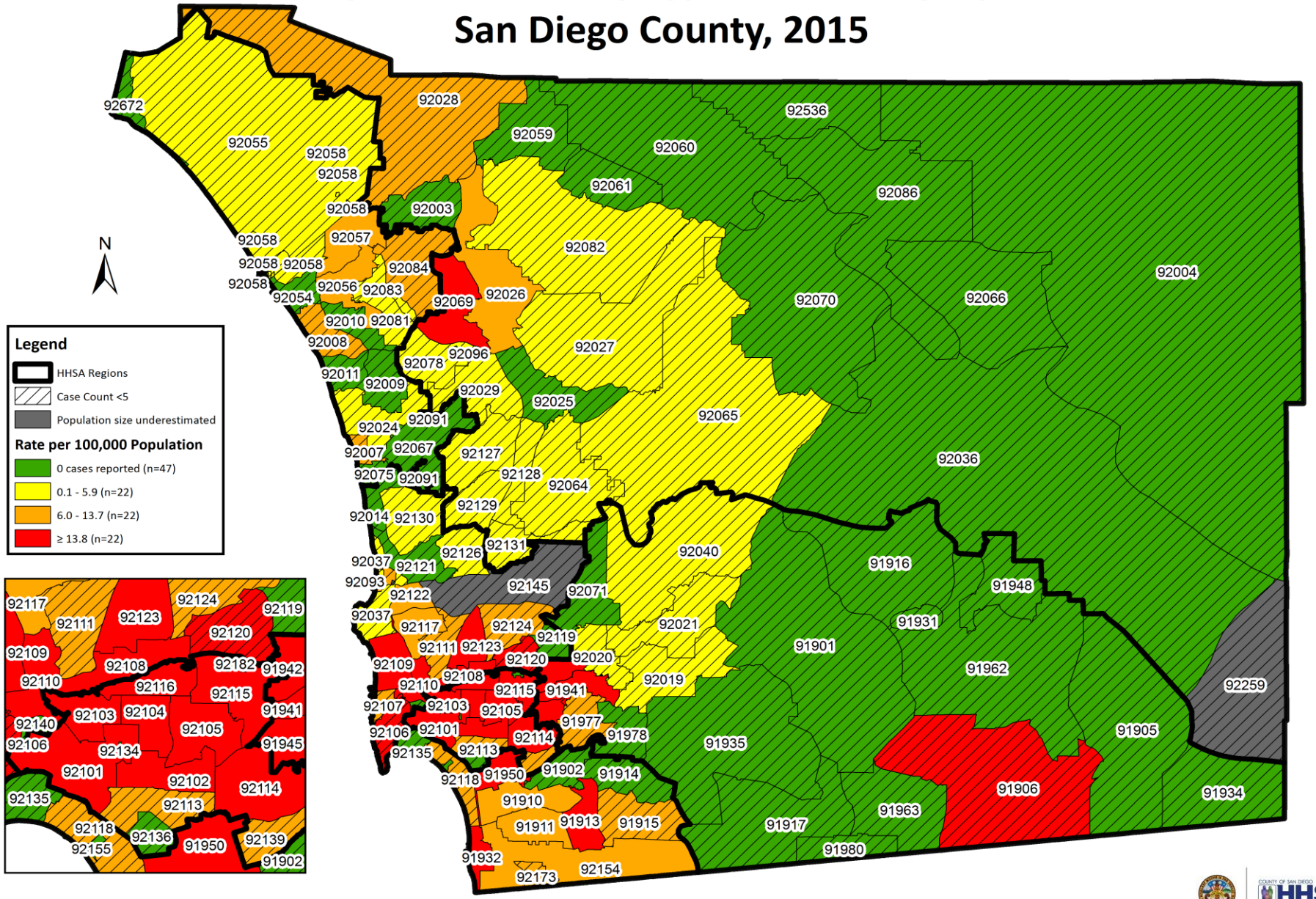
Meeting Venues Among Interviewed MSM*
Primary & Secondary Syphilis Cases
San Diego County, 2001 - 2015



COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

Note: Reported use of venues is not mutually exclusive.
*MSM: Men Who Have Sex With Men.

Primary and Secondary Syphilis Rates by Zip Code
San Diego County, 2015



Note: Rate categories are dfiferent from the last iteration of this report
Source: County of San Diego, Health and Human Services Agency, HSHB (HIV, STD, Hepatitis Branch), CalREDIE Database
Map Date: June 10, 2016
Contact: Lawrence Wang

COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

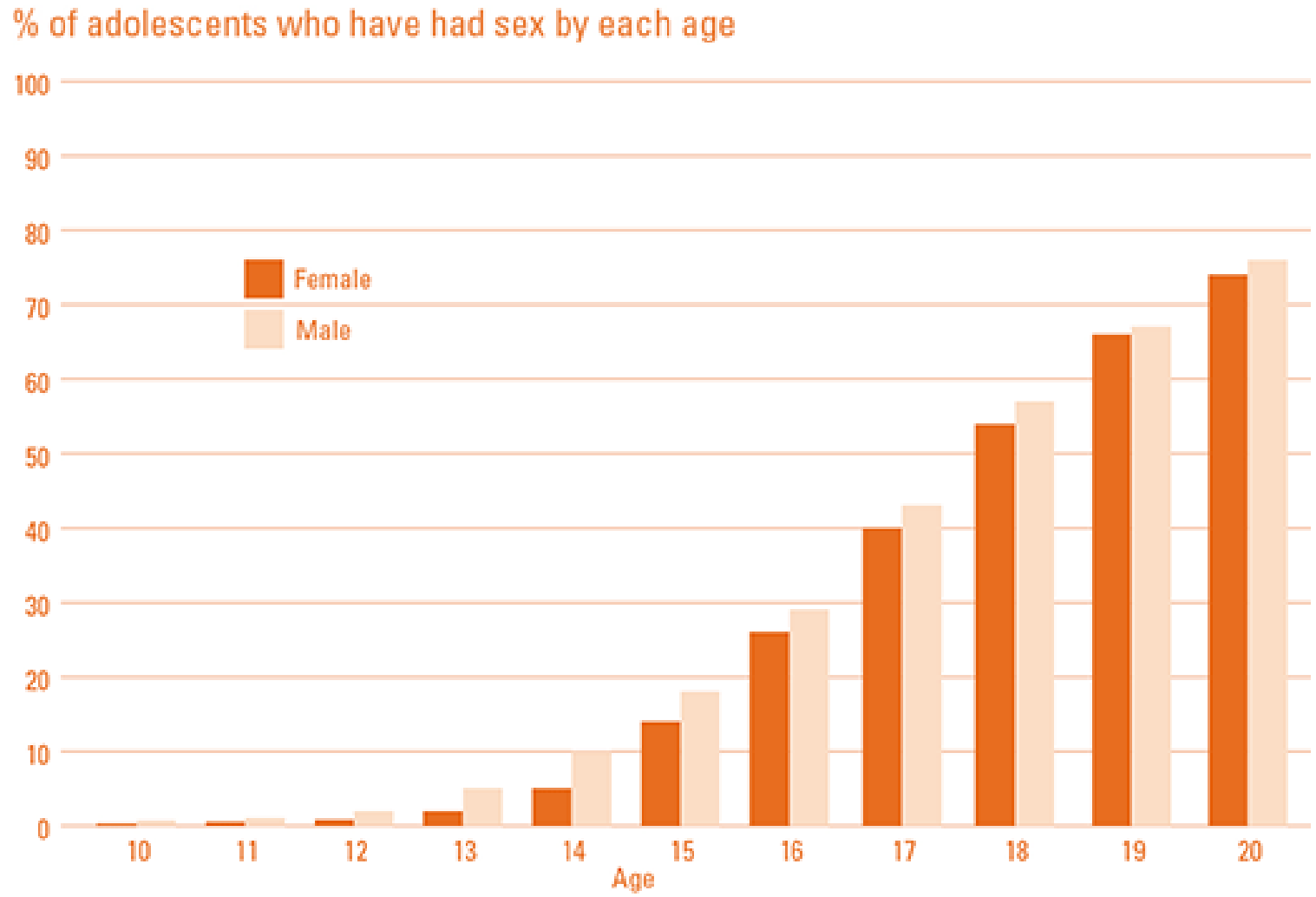
LIVE WELL SAN DIEGO

Behavioral Data Sources

- Local data
  - YRBSS for San Francisco, Los Angeles, San Diego https://nccd.cdc.gov/youthonline/App/QuestionsOrLocations.aspx?CategoryId=C4
  - California Health Interview Survey www.ask.chis.ucla.edu
  - California Healthy Kids Survey by school district https://chks.wested.org/indicators

Teen Sexual Activity

Adolescence is a time of rapid change.

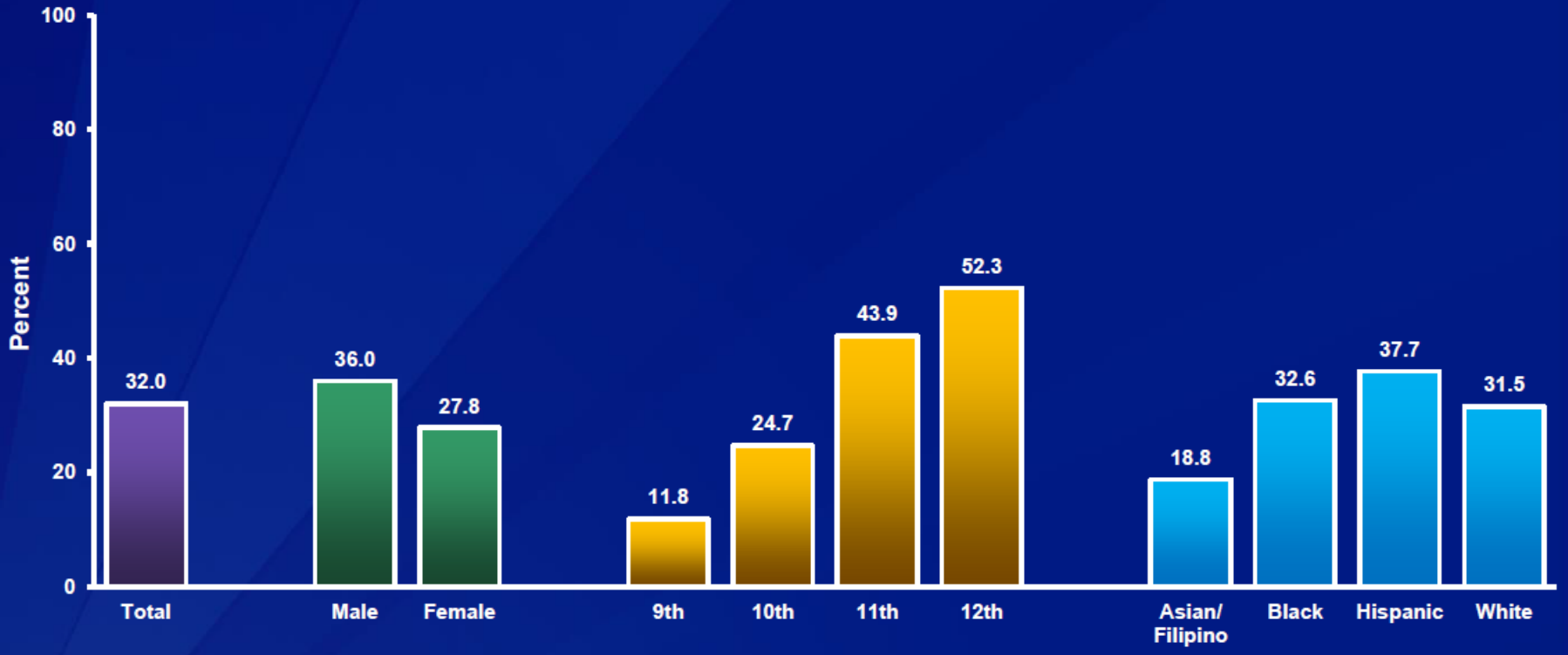


www.guttmacher.org

Percentage of High School Students Who Ever Had Sexual Intercourse, 1991-2015*

*Decreased 1991-2015 [Based on linear and quadratic trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$). Significant linear trends (if present) across all available years are described first followed by linear changes in each segment of significant quadratic trends (if present).]
Note: This graph contains weighted results.

Percentage of High School Students Who Ever Had Sexual Intercourse, by Sex,* Grade,* and Race/Ethnicity,* 2015



*M > F; 10th > 9th, 11th > 9th, 11th > 10th, 12th > 9th, 12th > 10th, 12th > 11th; B > A, H > A, H > W, W > A (Based on t-test analysis, $p < 0.05$.)
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
Note: This graph contains weighted results.

Percentage of High School Students Who Used a Condom,* 1991-2015†

*During last sexual intercourse among students who were currently sexually active

†Increased 1991-2015, increased 1991-2001, no change 2001-2015 [Based on linear and quadratic trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$). Significant linear trends (if present) across all available years are described first followed by linear changes in each segment of significant quadratic trends (if present).]

Note: This graph contains weighted results.

DATA: KEY MESSAGES

- STDs rates are increasing
- Youth, MSM and minorities have significant disparities
- Behavioral data are encouraging

RESOURCES

Curriculum Resources

California STD/HIV Prevention Training Center
www.stdhivtraining.org

California Healthy Kids Resource Center
www.californiahealthykids.org

SIECUS: Sex Education Library
http://www.sexedlibrary.org

Advocates for Youth:
http://www.advocatesforyouth.org

Contact trainer for additional resources

COUNTY STD CLINICS

Four County STD Clinics:

- **County Health Services Complex**
  - 3851 Rosecrans St
- **North Coastal**
  - 104 South Barnes St, Oceanside
- **Central Region**
  - 5202 University Ave
- **South Region**
  - 690 Oxford Street

COUNTY OF SAN DIEGO HHSA HEALTH AND HUMAN SERVICES AGENCY

Services: Testing and treatment for most STDs, vaccines for hepatitis A & B, and HIV testing for a waivable $15 fee.

In Conclusion…

Key Messages

- Don’t forget about STDs!
- STDs are very common.
- Most STDs can be cured.
- Abstinence is the only 100% safe method.
- Condoms are very effective but not for all STDs.
- The most common sign or symptom is none at all.
- Having an STD increases your chance of getting HIV.
- The only way to know is to get tested.
- Testing is painless, confidential and low-cost.

Trainer Contact Information

Tara Beeston

STD Prevention Program Manager

County of San Diego,
Health and Human Services Agency

HIV, STD & Hepatitis Branch of
Public Health Services

619 293 4744

Tara.Beeston@sdcounty.ca.gov

Sandee Differding

Health Communication Specialist

California Department of Public Health, STD Control Branch
Health Education Unit

510 620 3411

Sandra.Differding@cdph.ca.gov

COUNTY OF SAN DIEGO
HHSA
HEALTH AND HUMAN SERVICES AGENCY