Sexually Transmitted Disease

Surveillance 2011

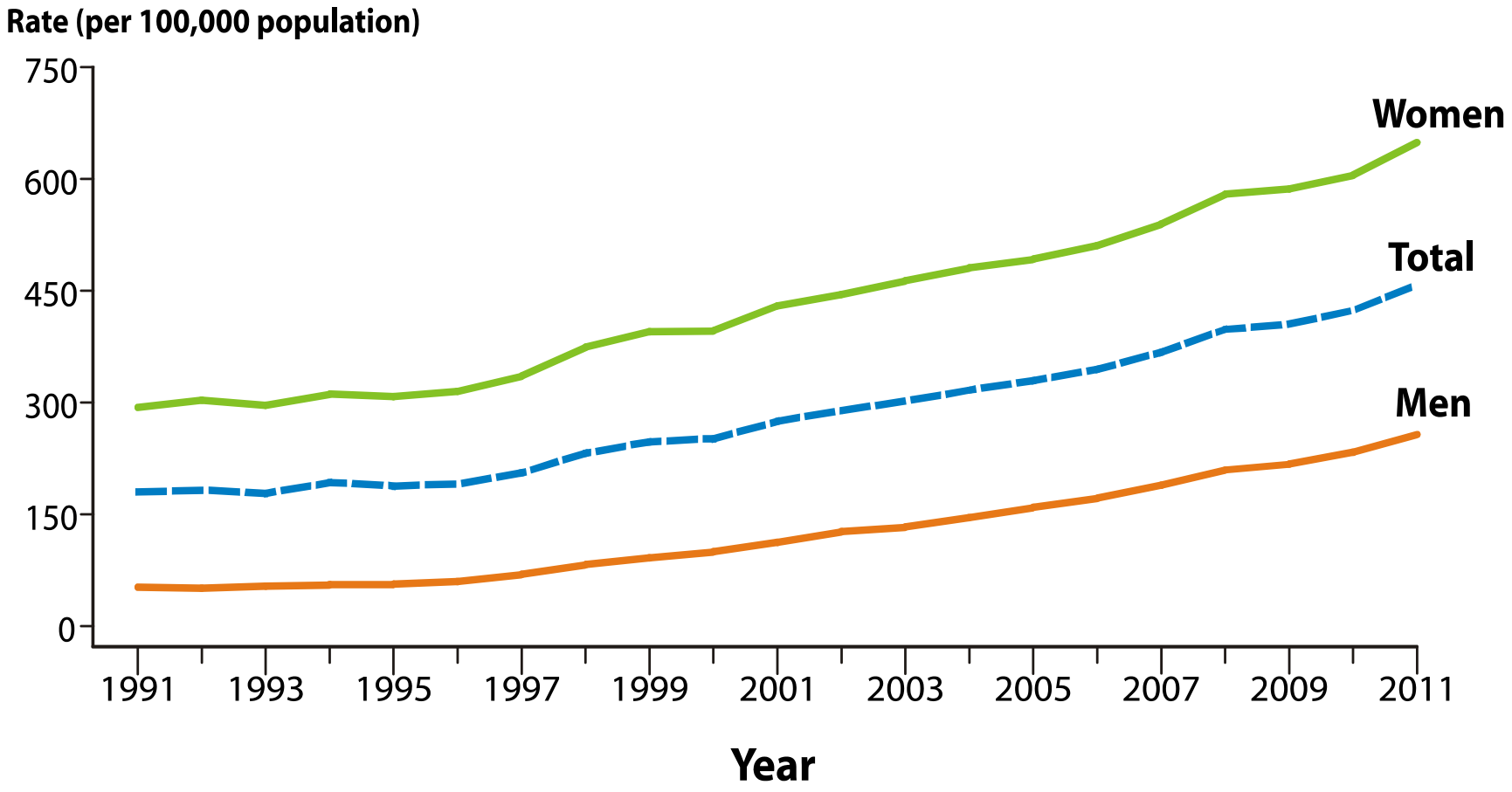
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of Sexually Transmitted Disease Prevention

CHLAMYDIA

Sexually Transmitted Disease Surveillance 2011

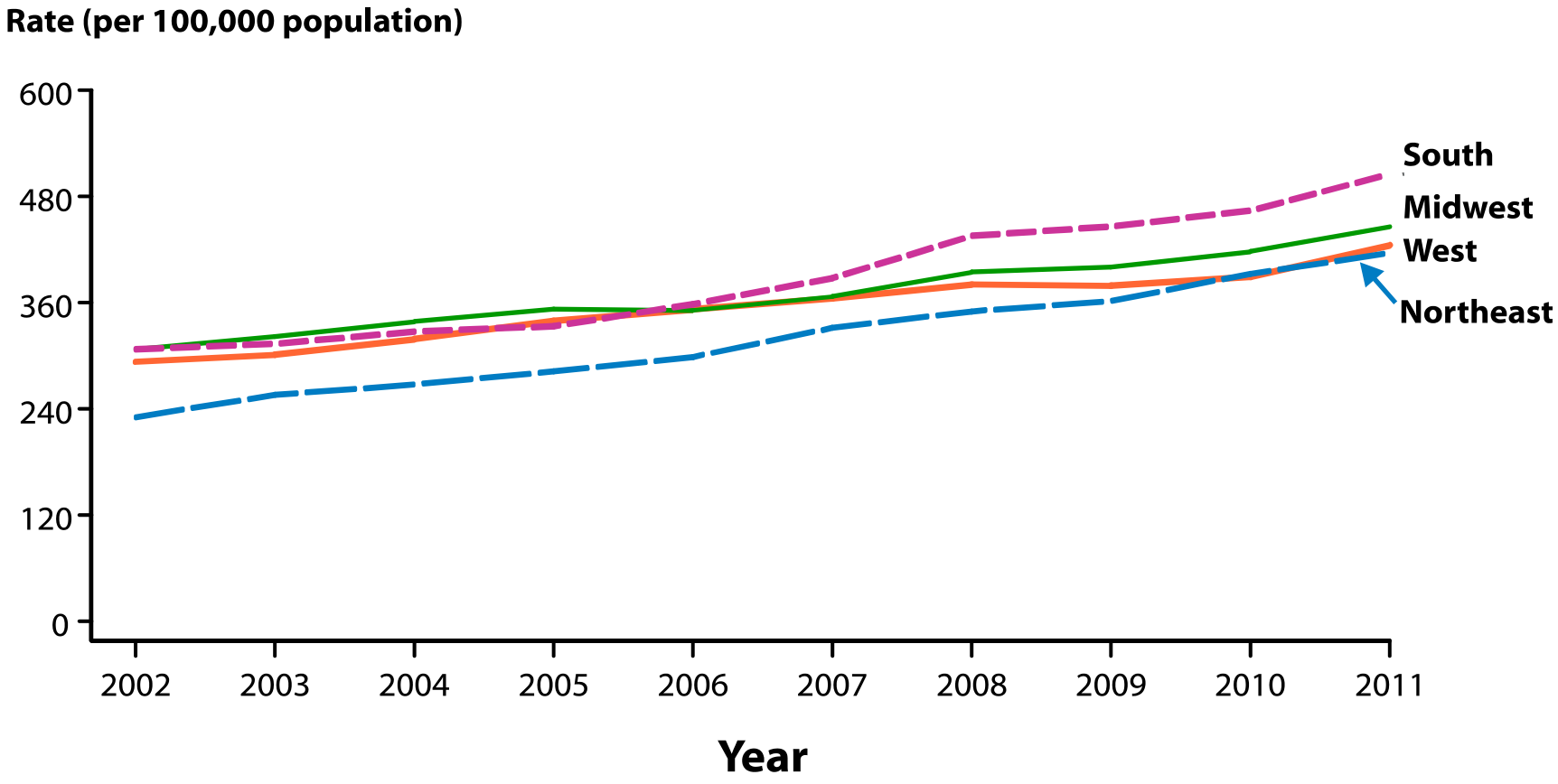
Division of STD Prevention

Chlamydia—Rates by Sex, United States, 1991–2011



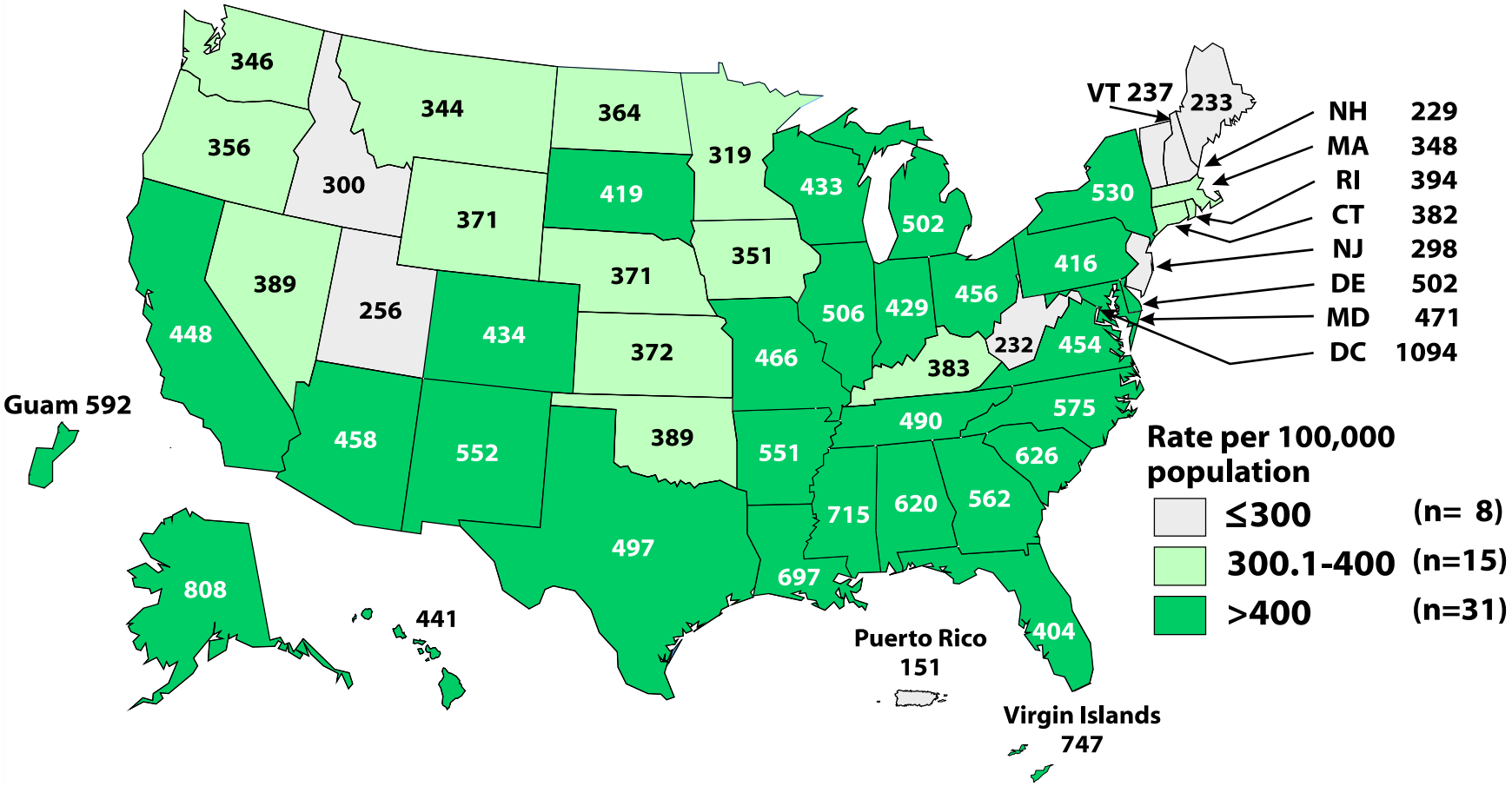
NOTE: As of January 2000, all 50 states and the District of Columbia have regulations that require the reporting of chlamydia cases.

Chlamydia—Rates by Region, United States, 2002–2011



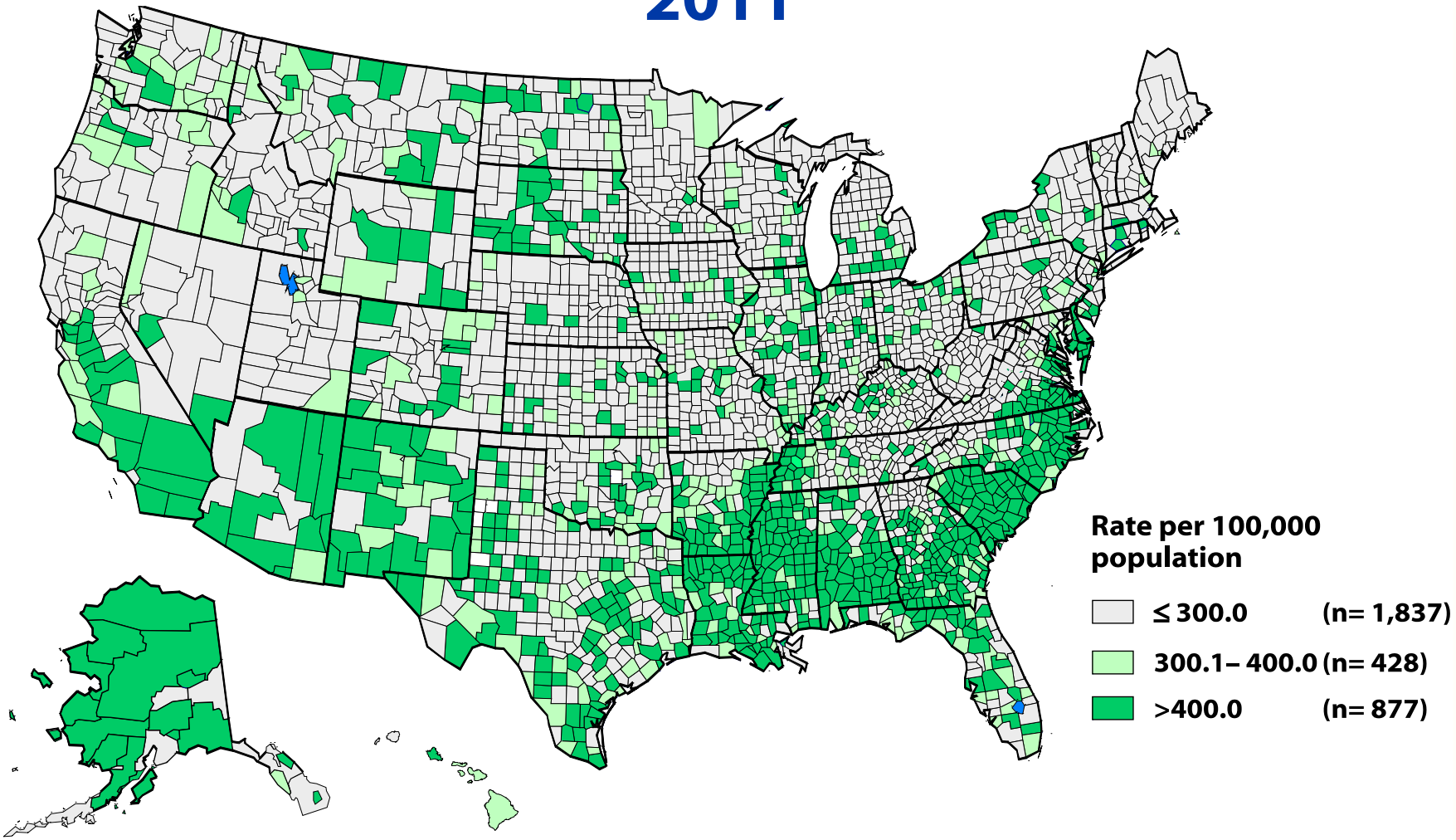
2011-Fig 2. SR

Chlamydia—Rates by State, United States and Outlying Areas, 2011



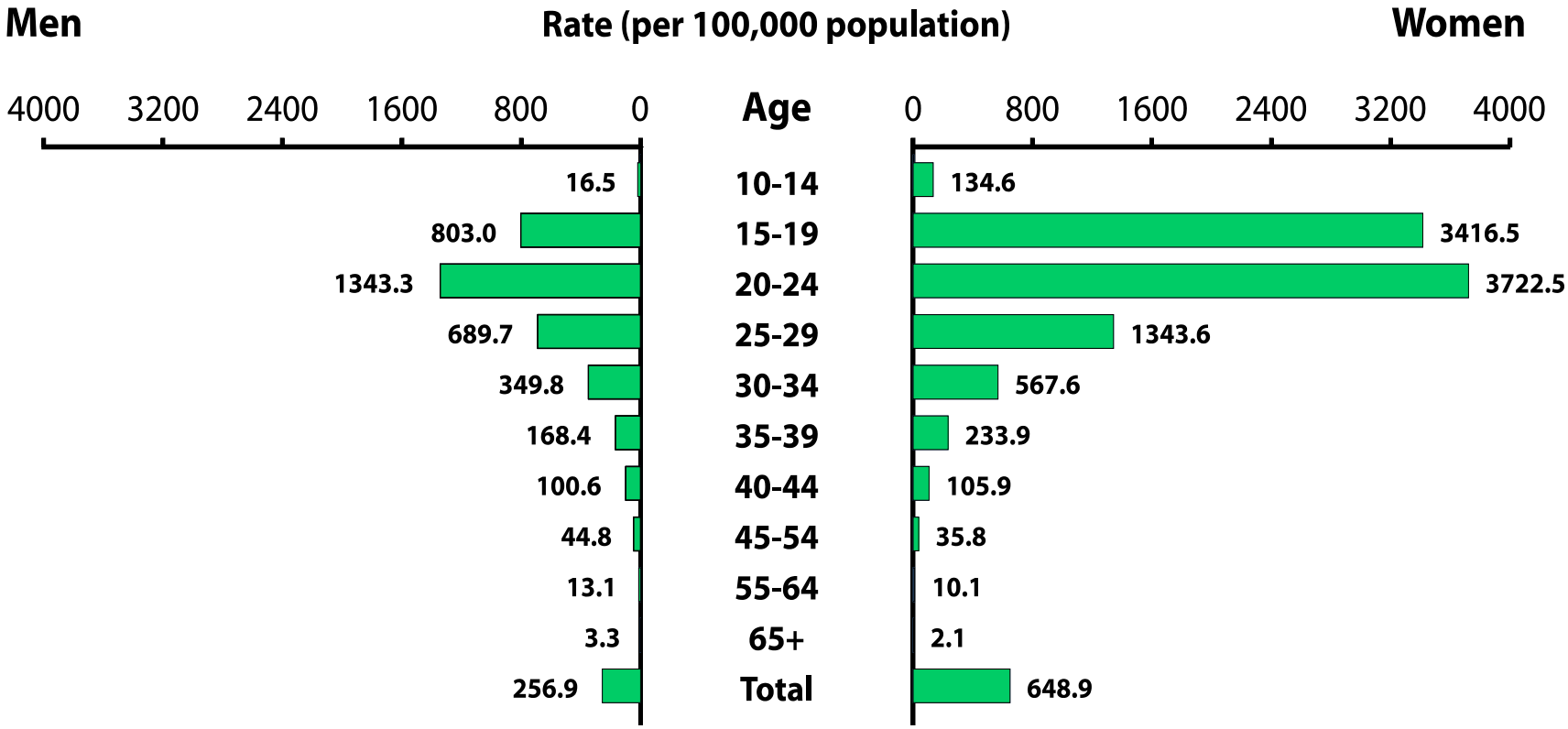
NOTE: The total rate of chlamydia for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 454.1 per 100,000 population.

Chlamydia—Rates by County, United States, 2011

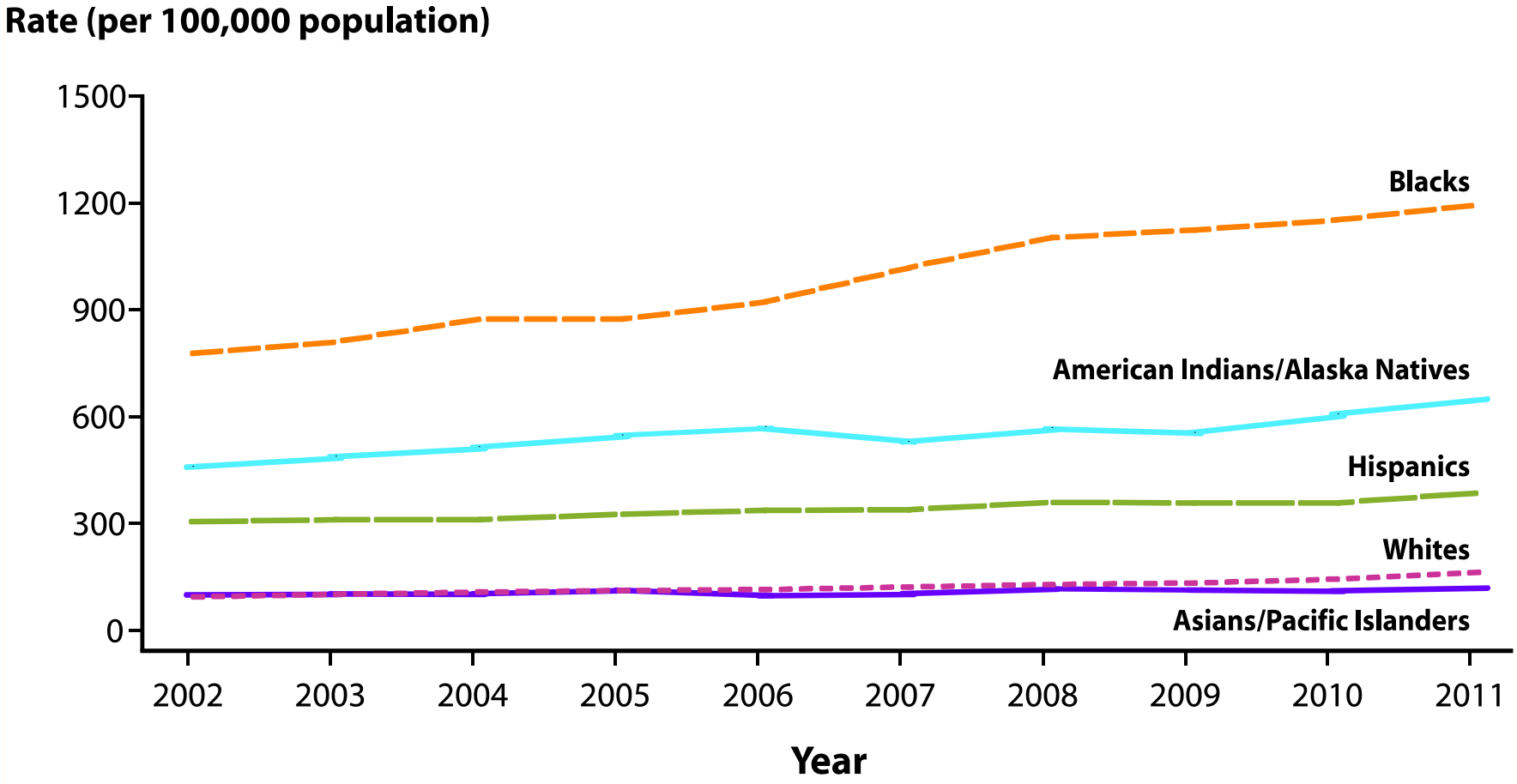


2011-Fig 4. SR

Chlamydia—Rates by Age and Sex, United States, 2011

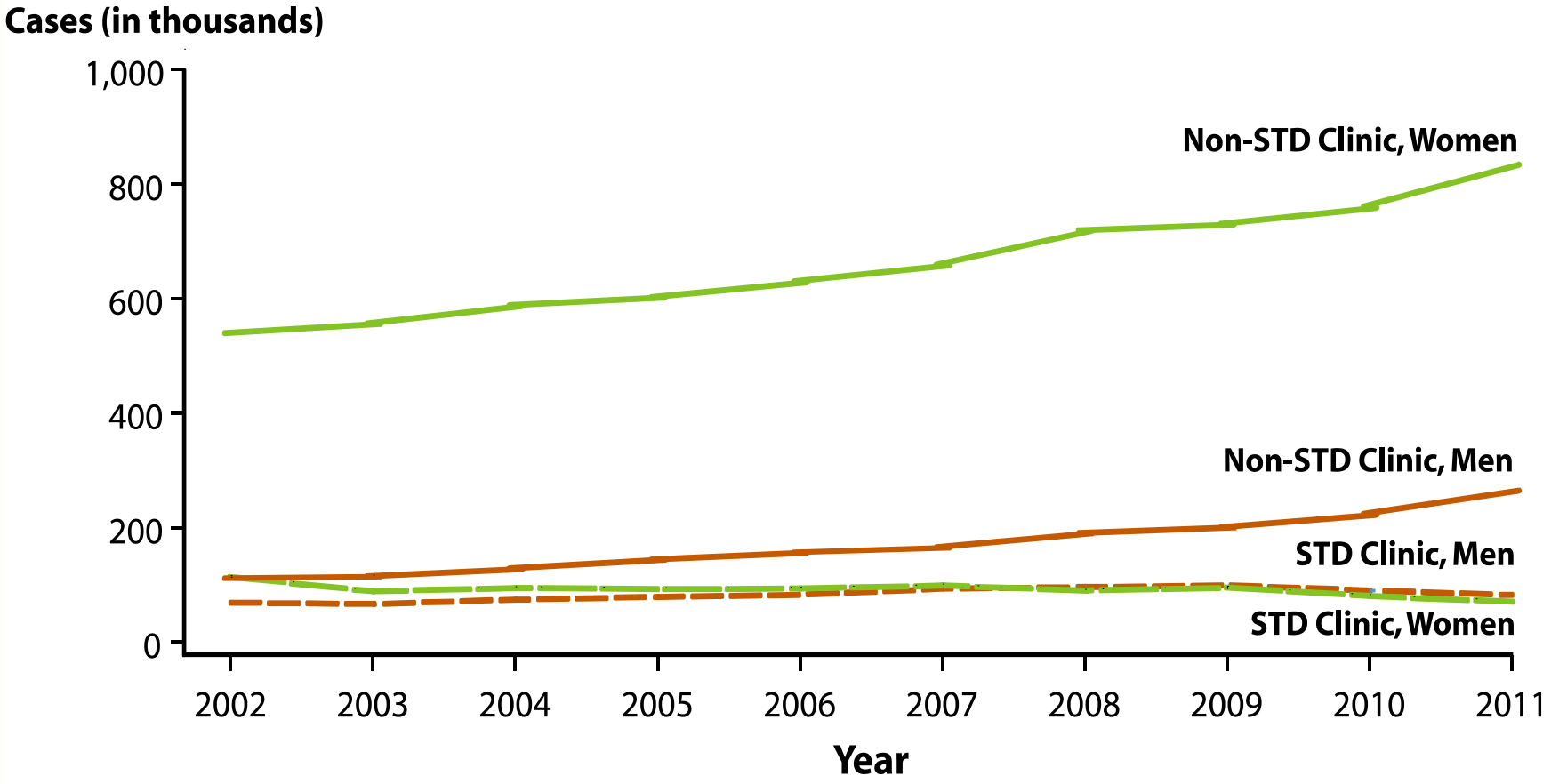


Chlamydia—Rates by Race/Ethnicity, United States, 2002–2011



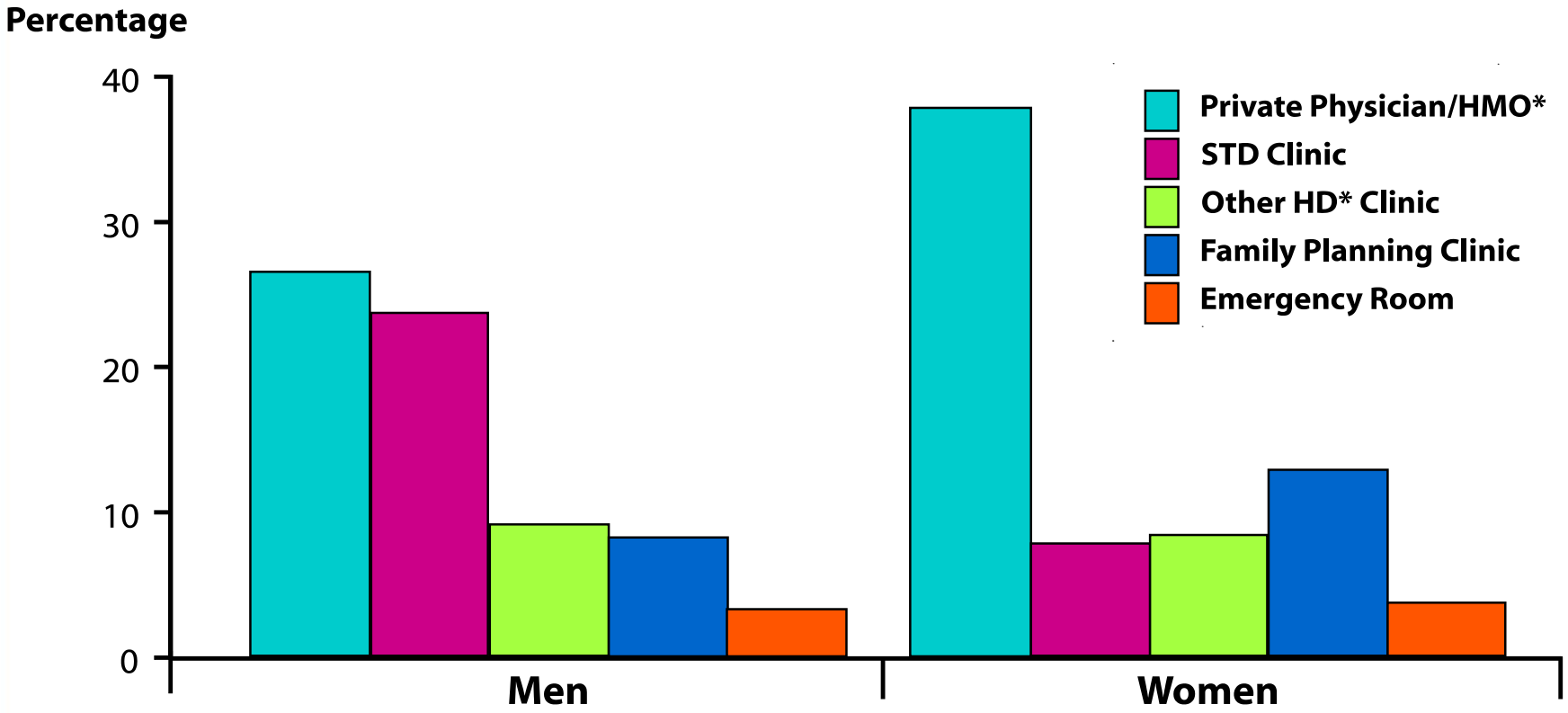
2011-Fig 6. SR

Chlamydia—Cases by Reporting Source and Sex, United States, 2002–2011



2011-Fig 7. SR

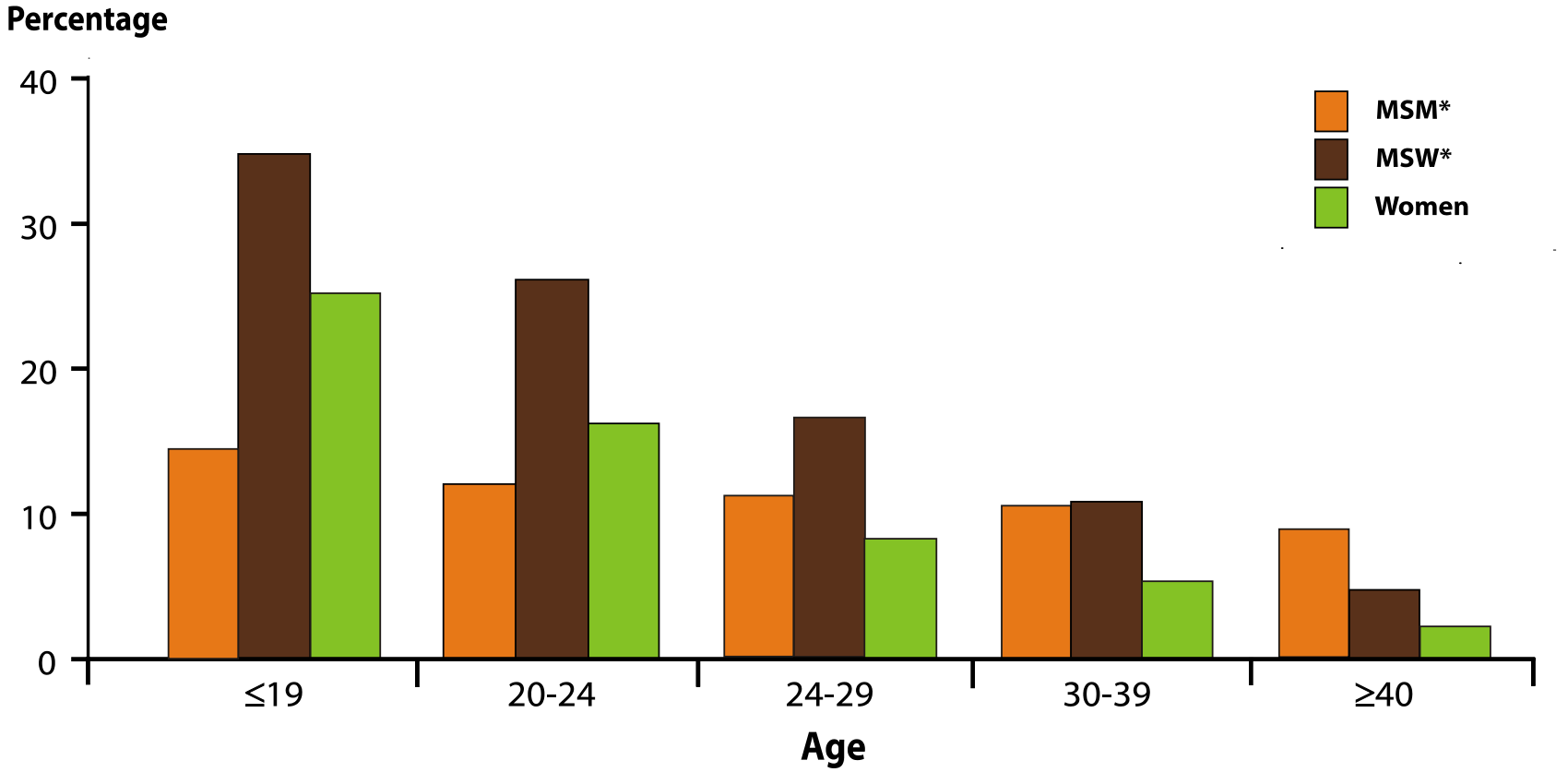
Chlamydia—Percentage of Reported Cases by Sex and Selected Reporting Sources, United States, 2011



*__HMO__=health maintenance organization; __HD__=health department

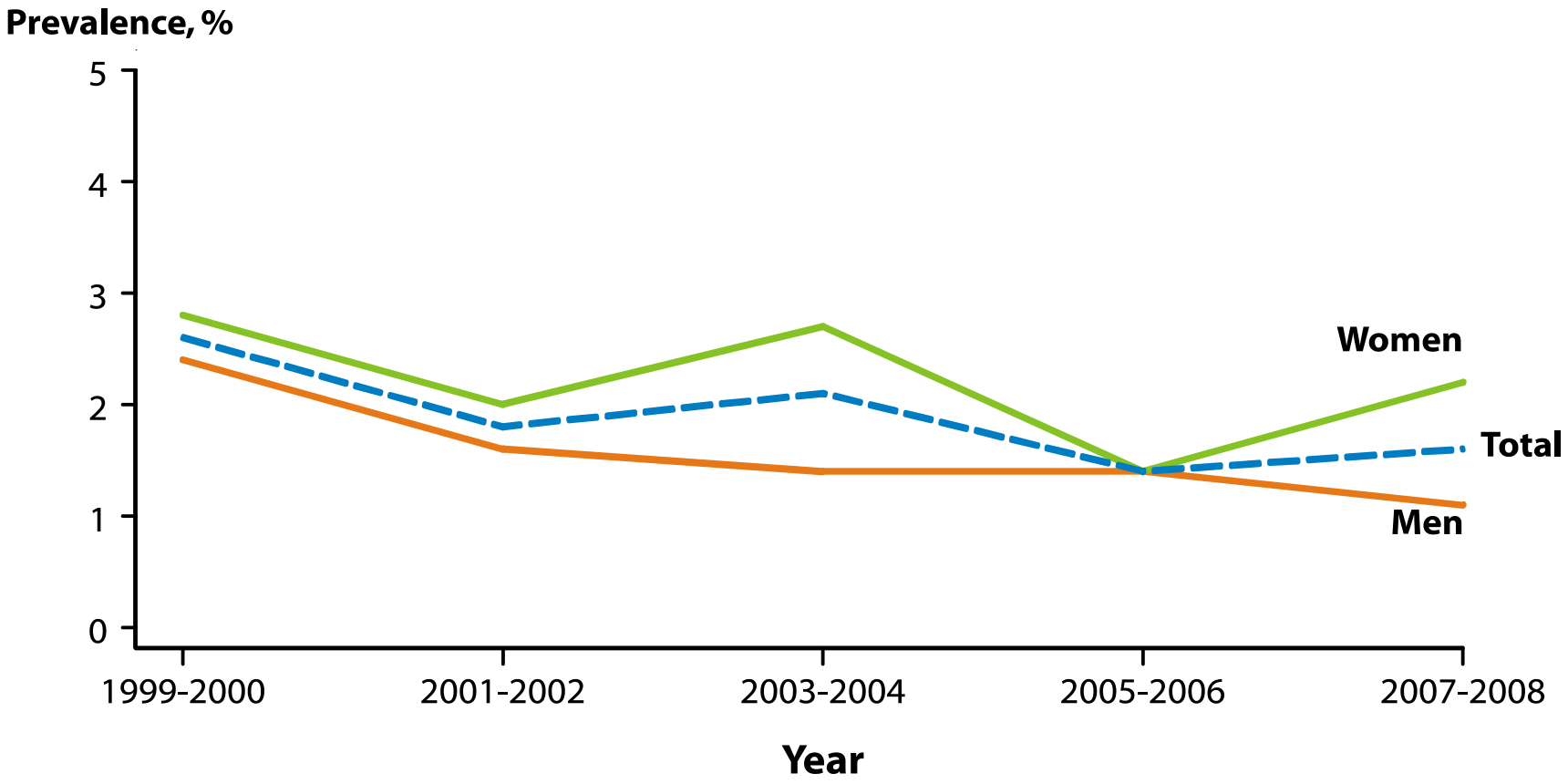
__NOTE:__ These categories represent 70.2% of cases with a known reporting source. Of all cases, 11.2% has a missing or unknown reporting source.

Chlamydia—Proportion of Sexual Transmitted Disease (STD) Clinic Patients Testing Positive by Age, Sex and Sexual Behavior, STD Surveillance Network (SSuN), 2011



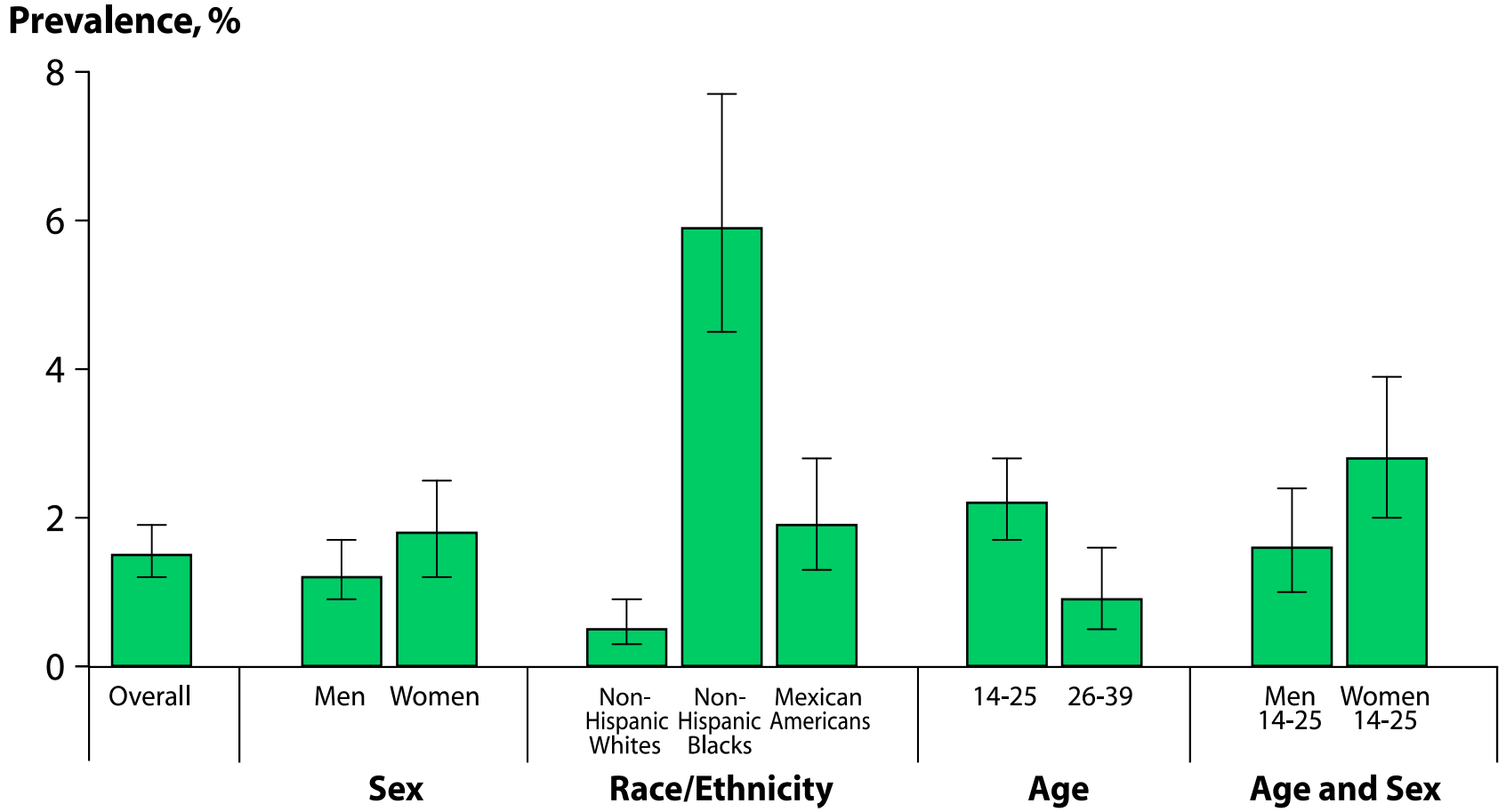
*__MSM__=men who have sex with men; __MSW__=men who have sex with women only.

Chlamydia—Prevalence Among Persons Aged 14–39 Years by Sex and Survey Cycle, National Health and Nutrition Examination Survey, 1999–2008



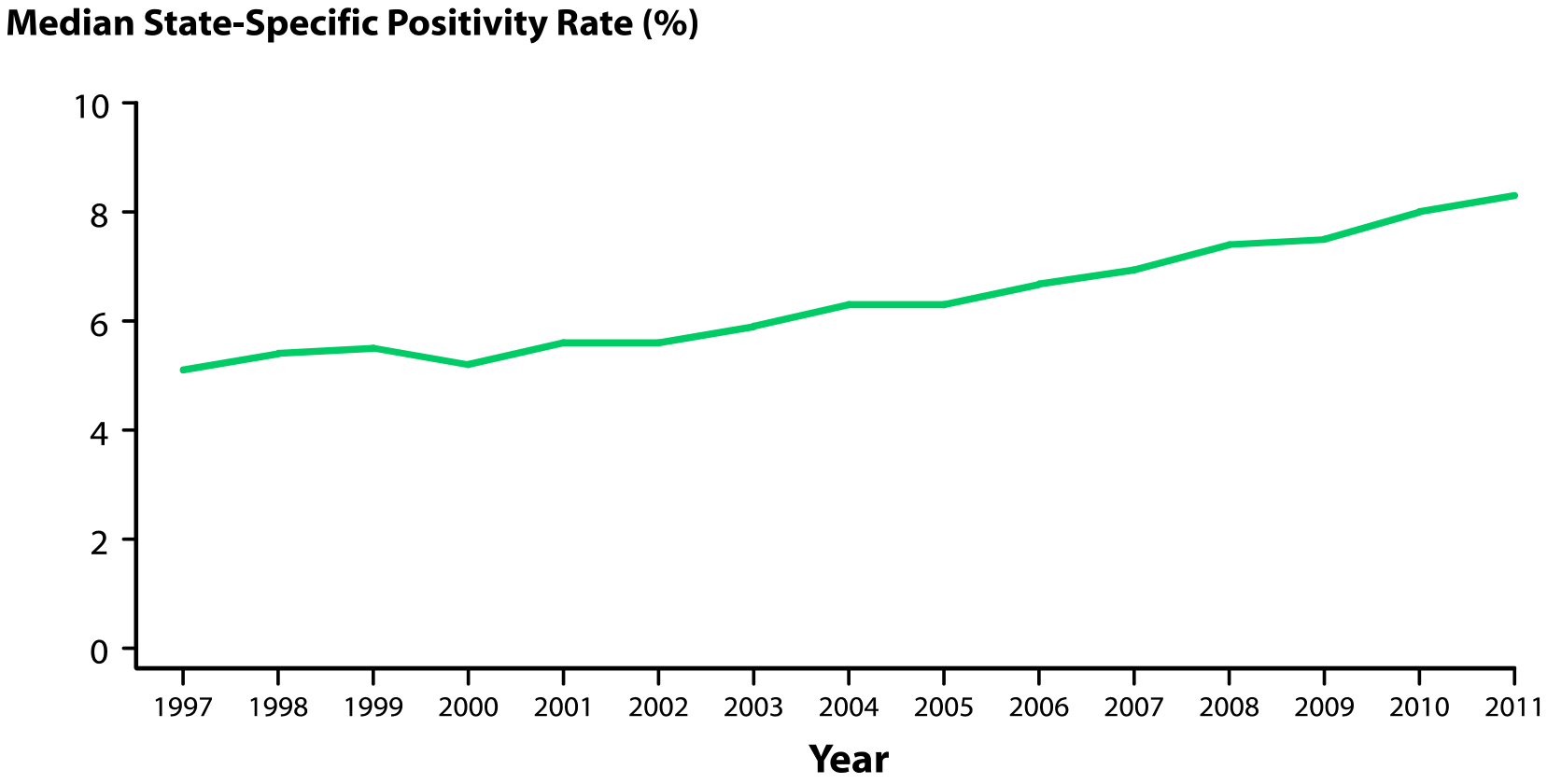
SOURCE: Datta SC, Torrone E, Kruszon-Moran D,Berman S, Johsnon R, Satterwhite CL, Papp J, Weinstock H. *Chlamydia trachomatis* trends in the United States among persons 14 to 39 years of age, 1999-2008. Sex Transm Dis. 2012Feb;39(2):92-6.

Chlamydia—Prevalence Among Persons Aged 14–39 Years by Sex, Race/Ethnicity, or Age Group, National Health and Nutrition Examination Survey, 2005–2008



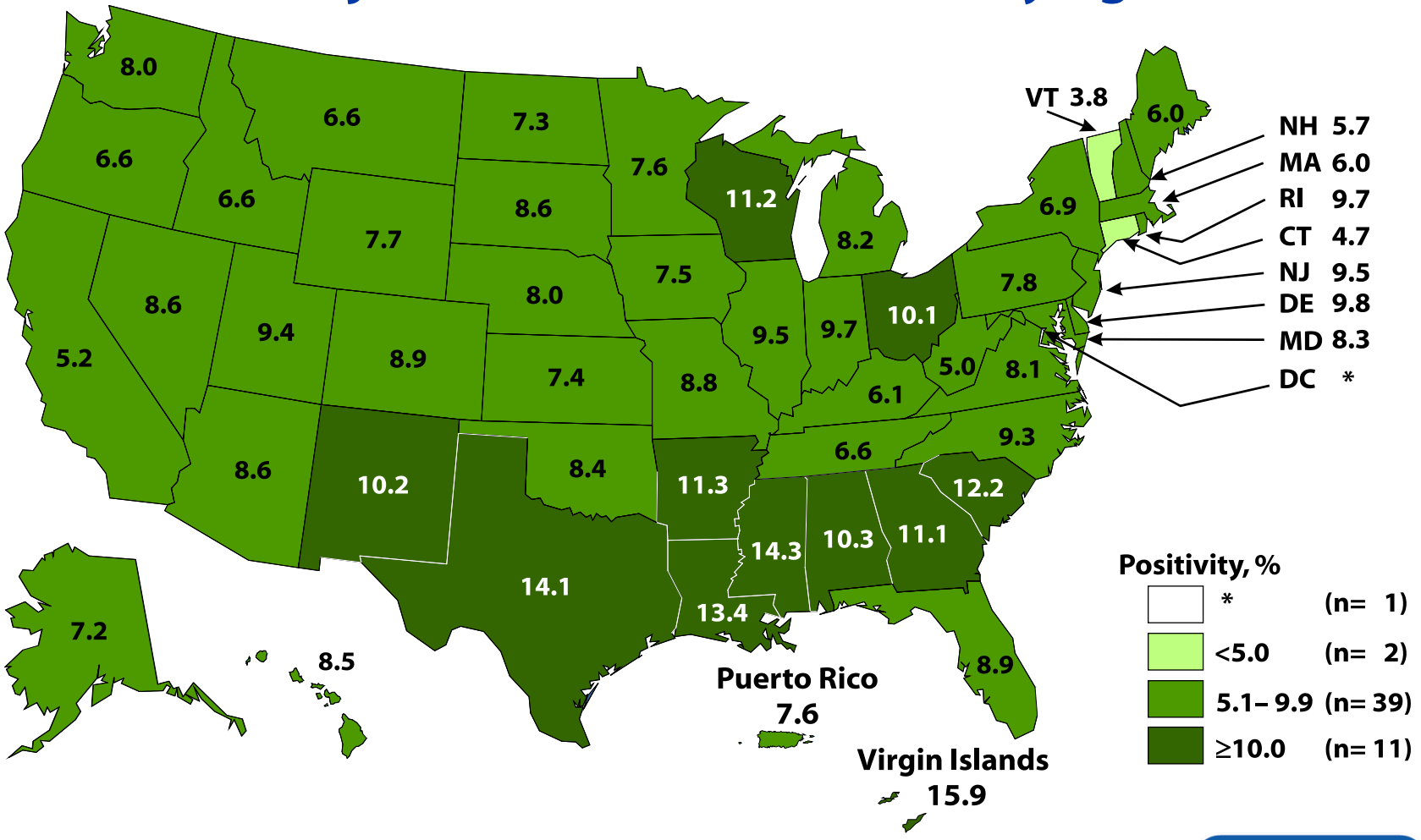
NOTE: Error bars indicate 95% confidence intervals.

Chlamydia—Median State-specific Positivity Rates Among Women Aged 15–24 Years Tested in Family Planning Clinics, Infertility Prevention Project, United States, 1997–2011



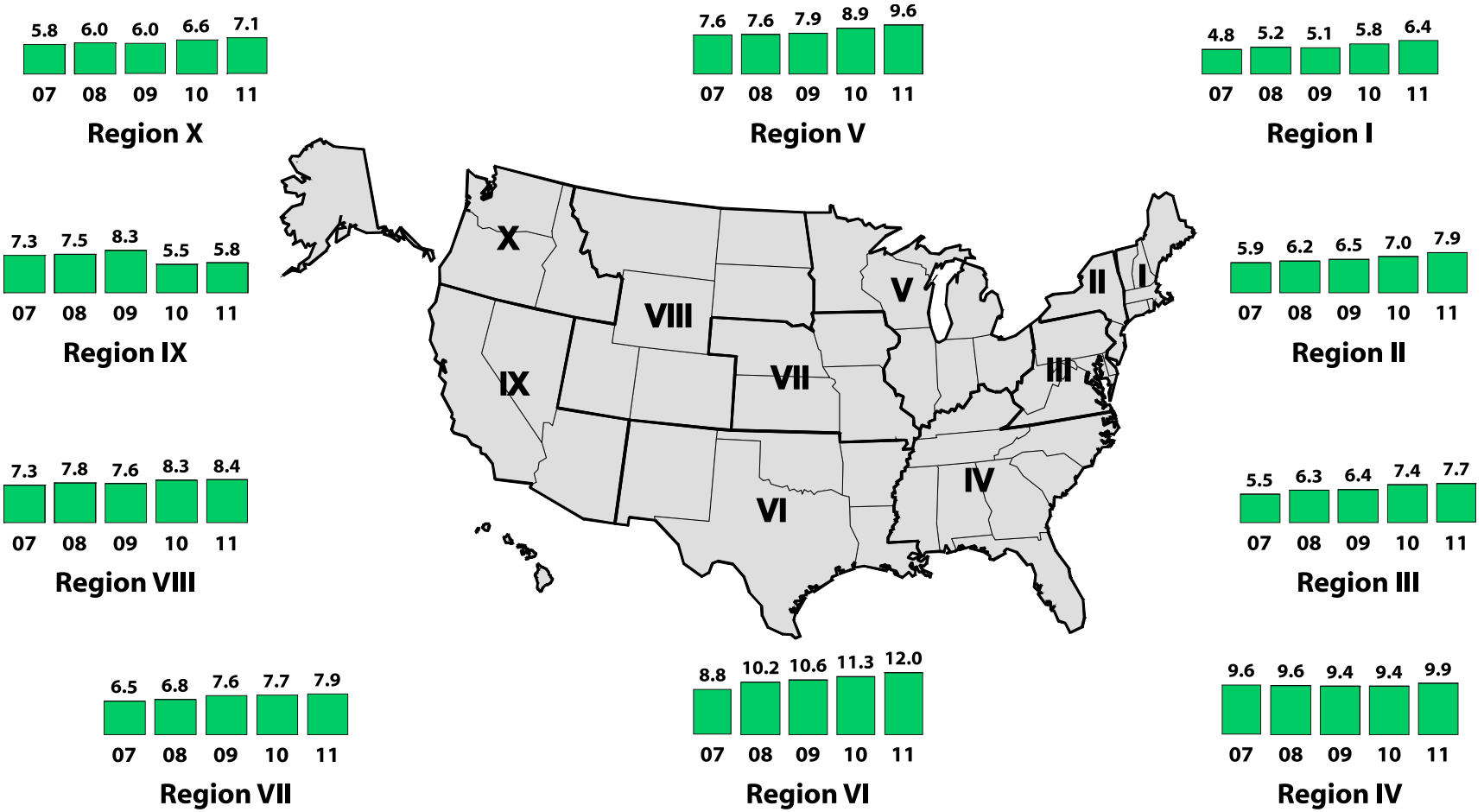
NOTE: As of 1997, all 10 U.S. Department of Health and Human Services (HHS) regions, which represent all 50 states, the District of Columbia, and outlying areas, reported chlamydia positivity data.

Chlamydia—Positivity Among Women Aged 15–24 Years Tested in Family Planning Clinics, by State, Infertility Prevention Project, United States and Outlying Areas, 2011



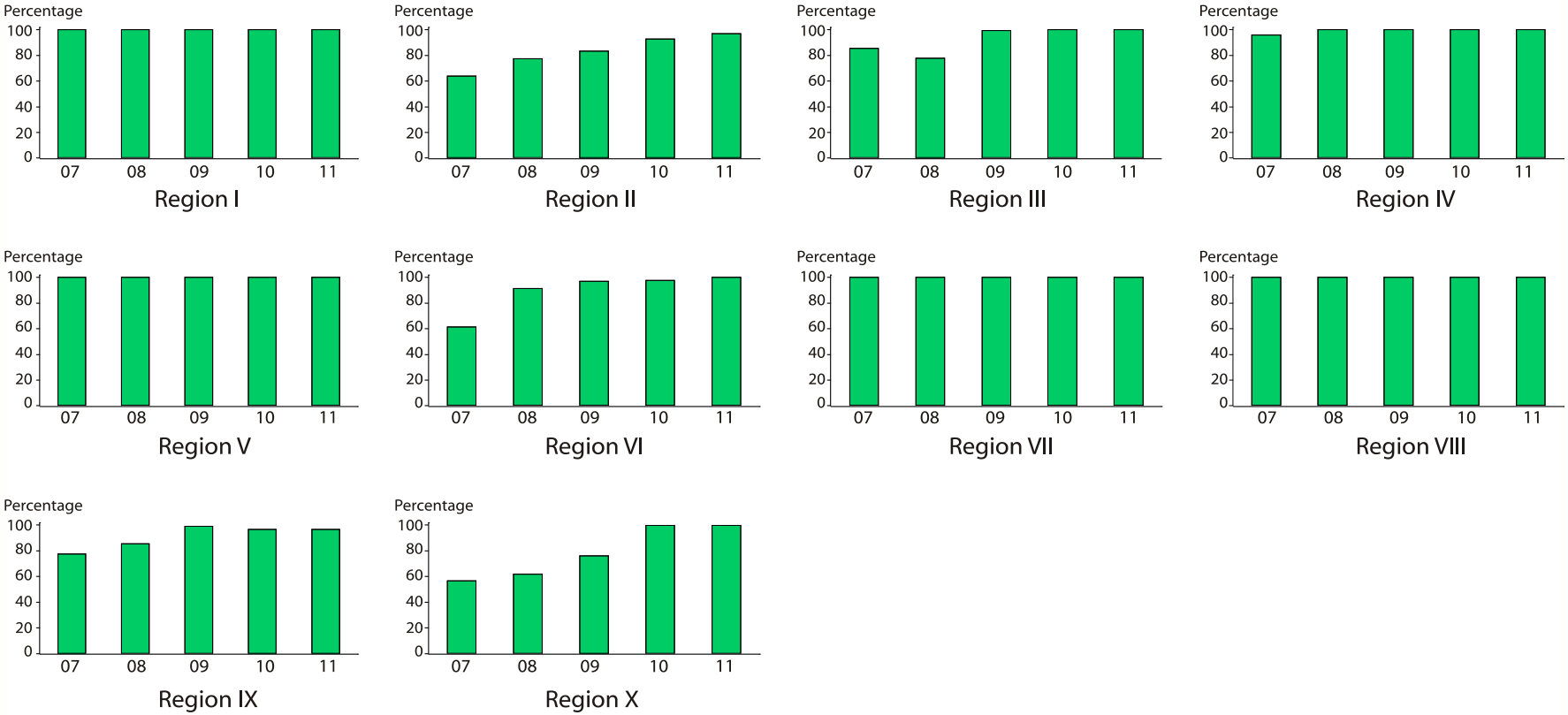
*States/areas reported chlamydia positivity data on fewer than 500 women aged 15-24 years in 2011.

Chlamydia—Trends in Positivity Rates Among Women Aged 15–24 Years Tested in Family Planning Clinics, by U.S. Department of Health and Human Services (HHS) Region, Infertility Prevention Project, 2007–2011



2011-Fig 14. SR

Chlamydia—Percentage of Nucleic Acid Amplification Tests Used Among Women Aged 15–24 Years Tested in Family Planning Clinics, by U.S. Department of Health and Human Services (HHS) Region, Infertility Prevention Project, 2007–2011



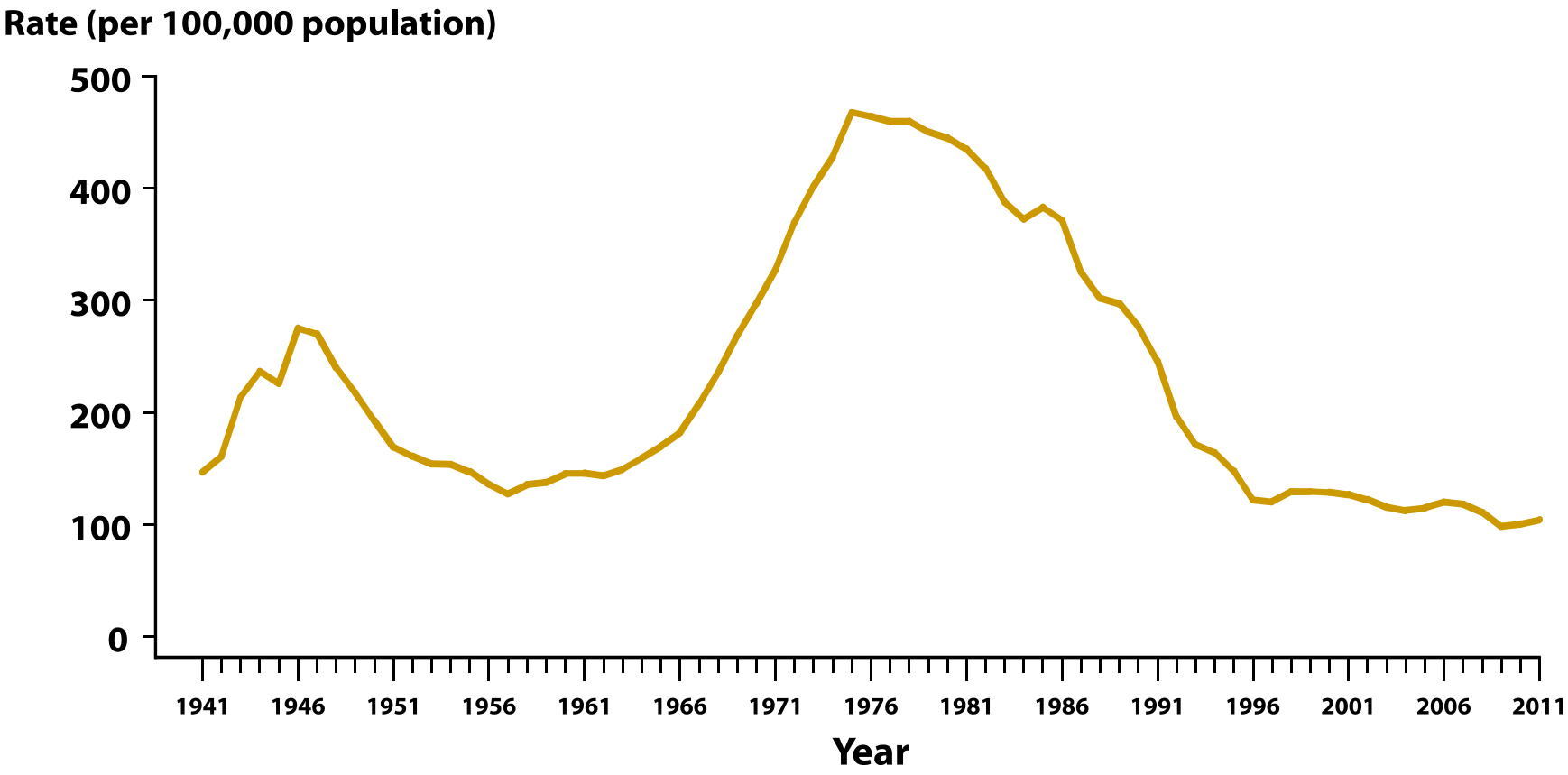
NOTE: Excludes tests where test type is not specified or otherwise unavailable.

GONORRHEA

Sexually Transmitted Disease Surveillance 2011

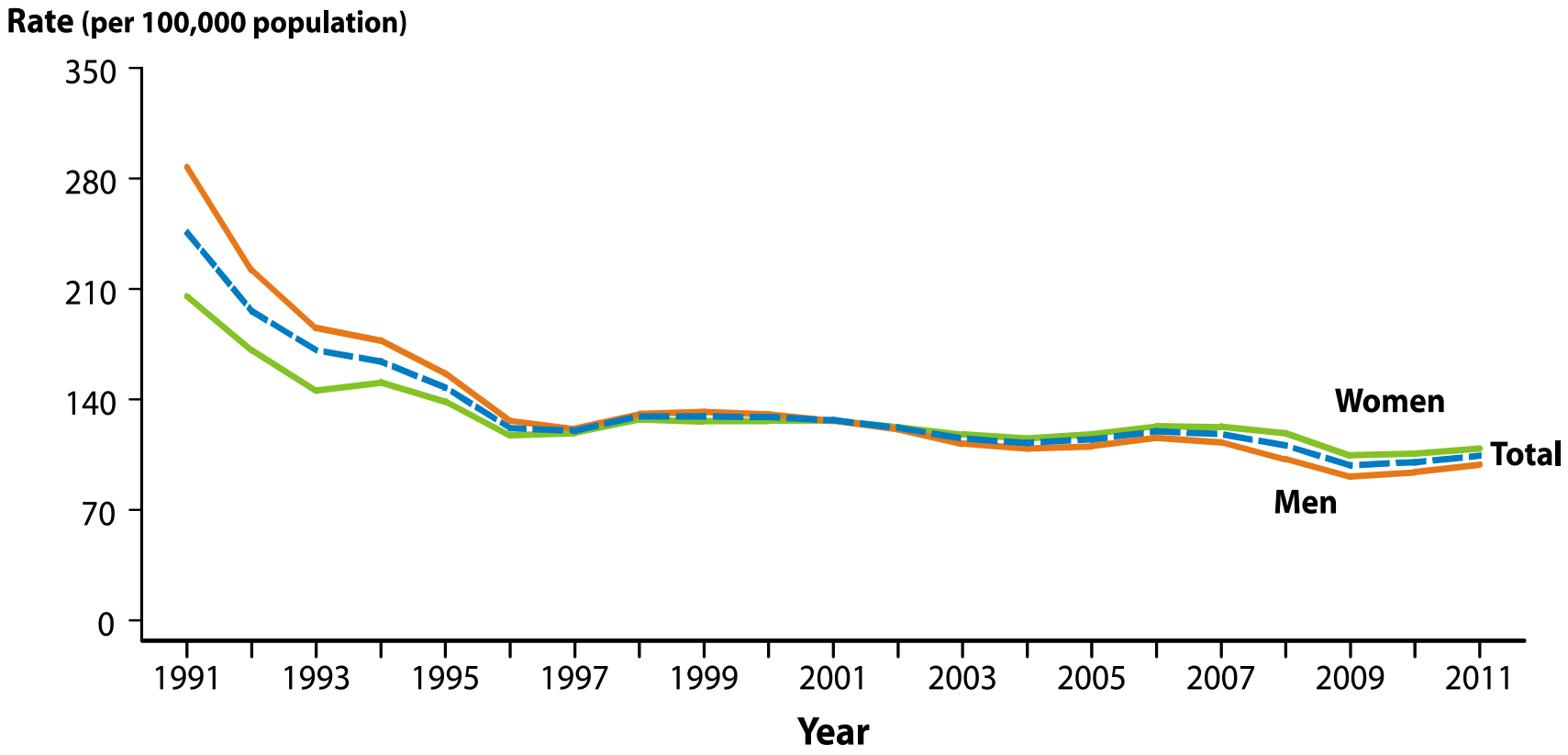
Division of STD Prevention

Gonorrhea—Rates, United States, 1941–2011



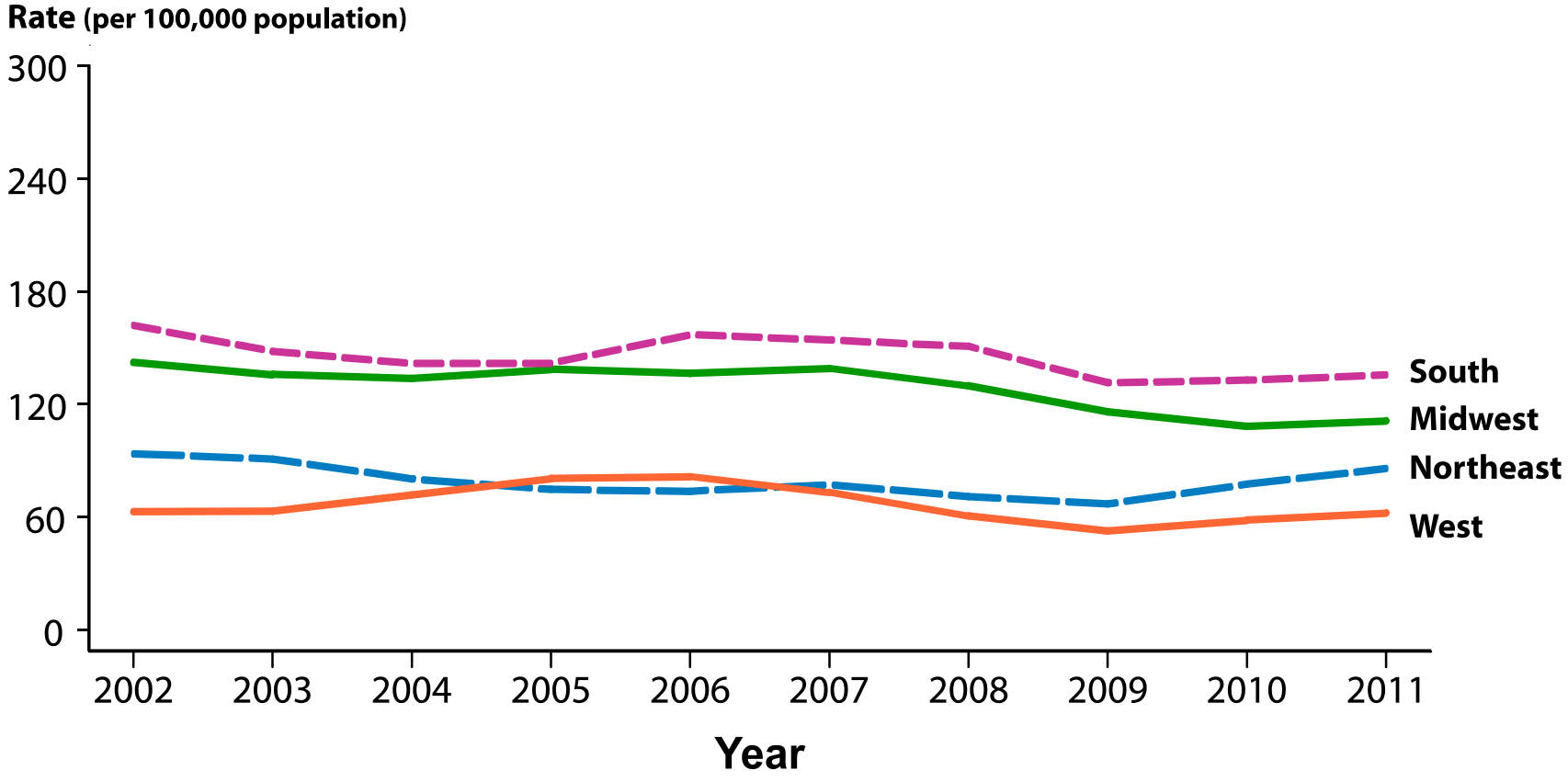
2011-Fig 16. SR

Gonorrhea—Rates by Sex, United States, 1991–2011



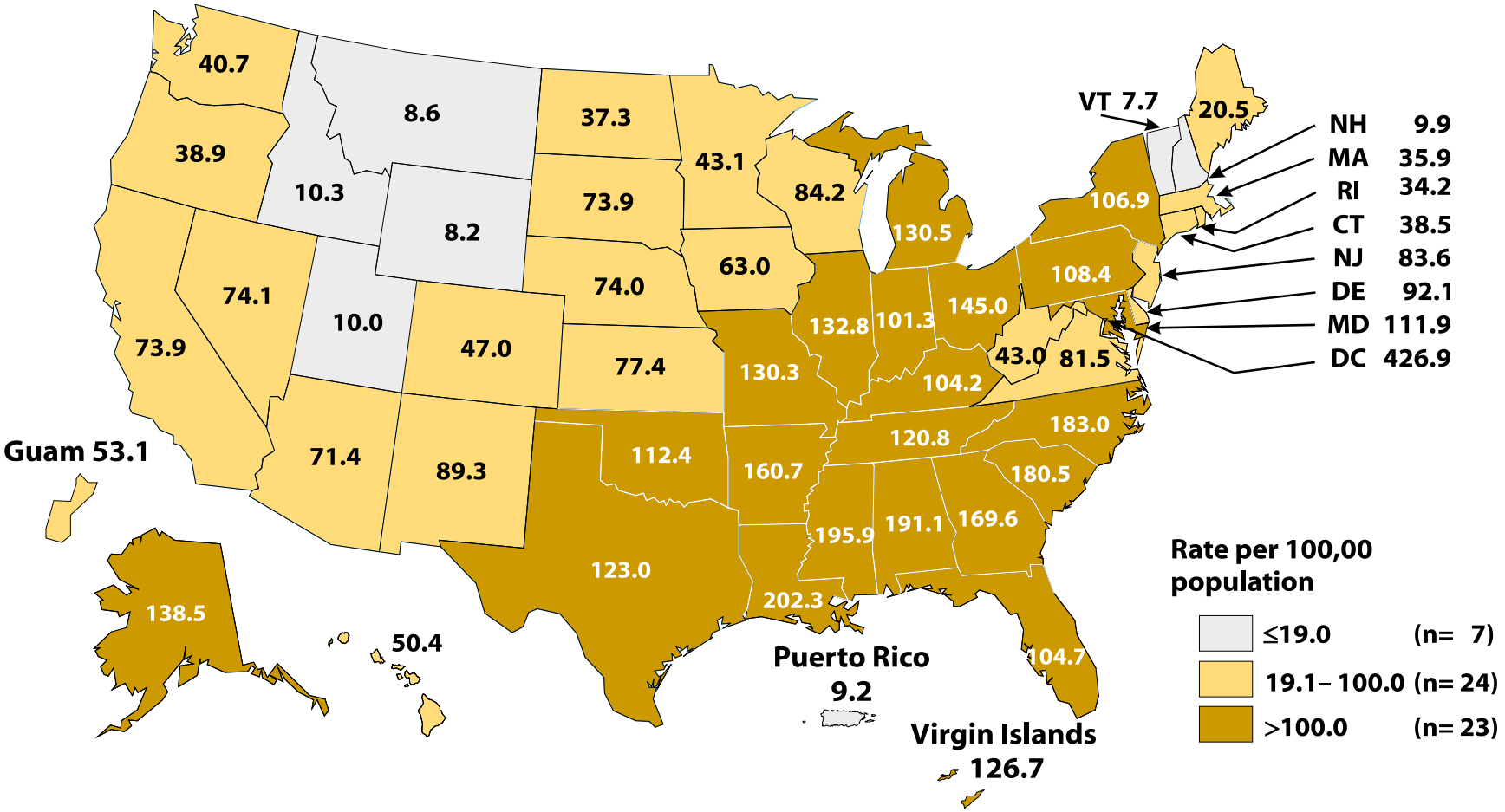
2011-Fig 17. SR

Gonorrhea—Rates by Region, United States, 2002–2011



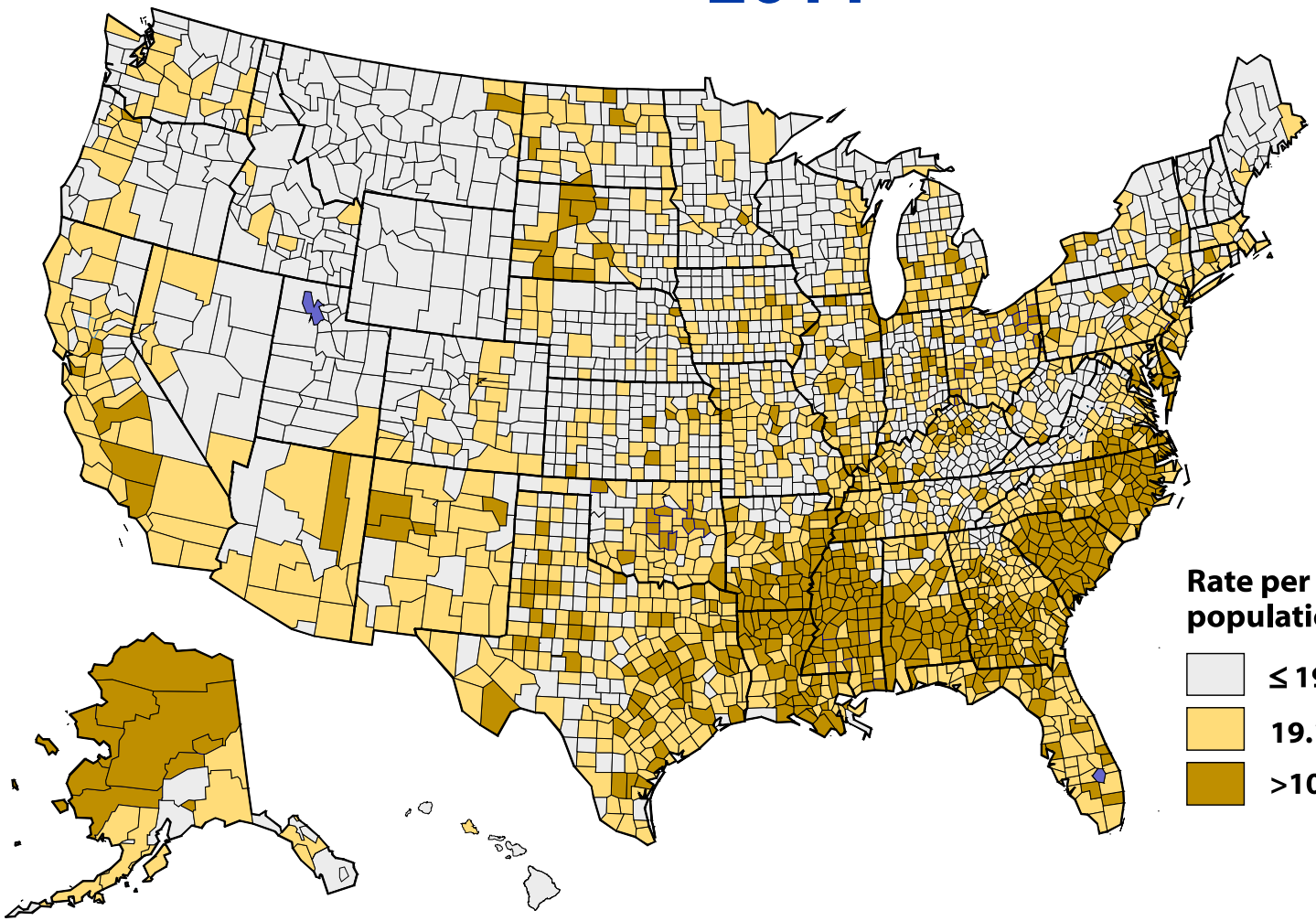
2011-Fig 18. SR

Gonorrhea—Rates by State, United States and Outlying areas, 2011



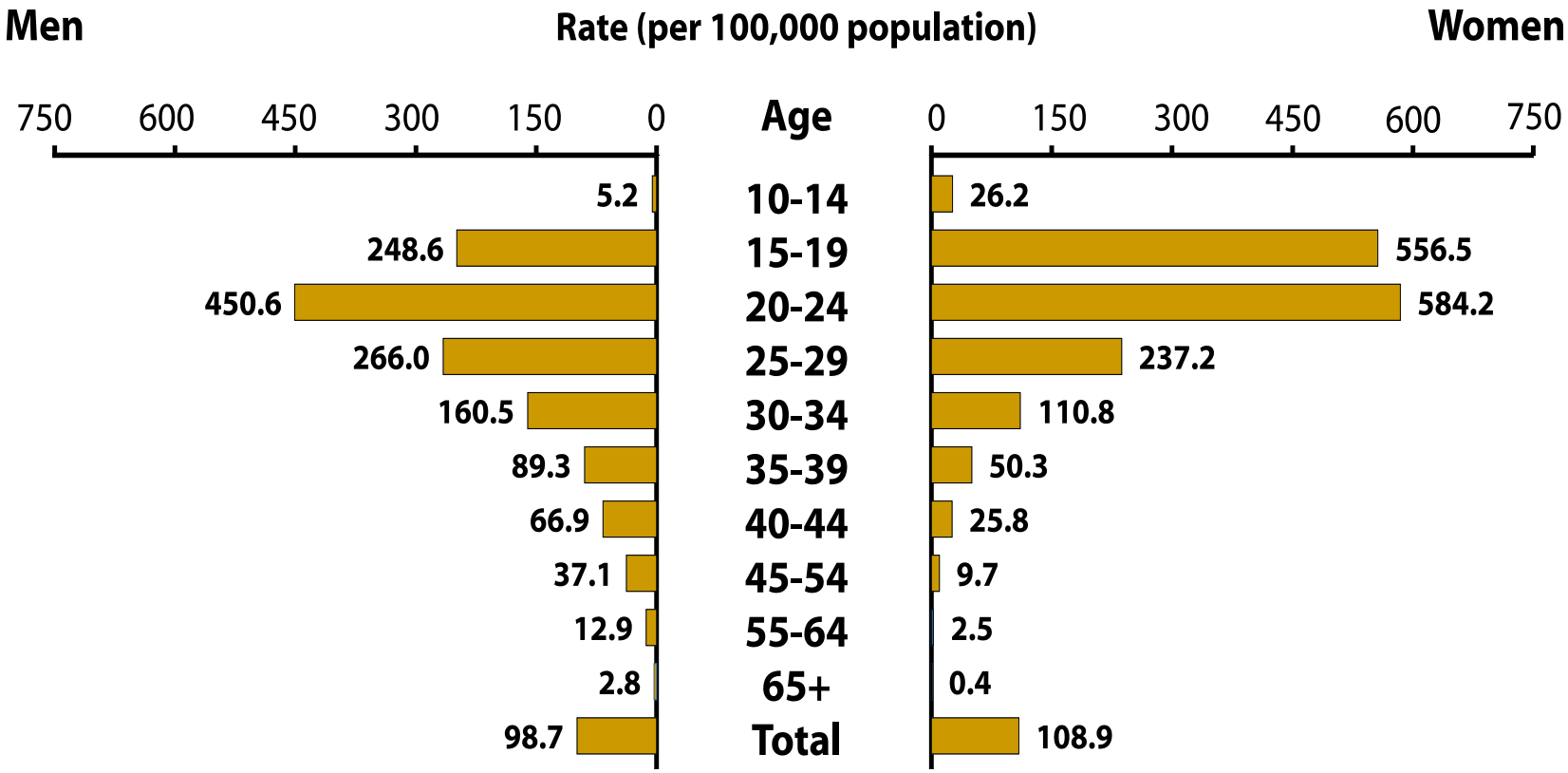
NOTE: The total rate of gonorrhea for the United States and outlying area (Guam, Puerto Rico, and Virgin Islands) was 103.1 per 100,000 population.

Gonorrhea—Rates by County, United States, 2011

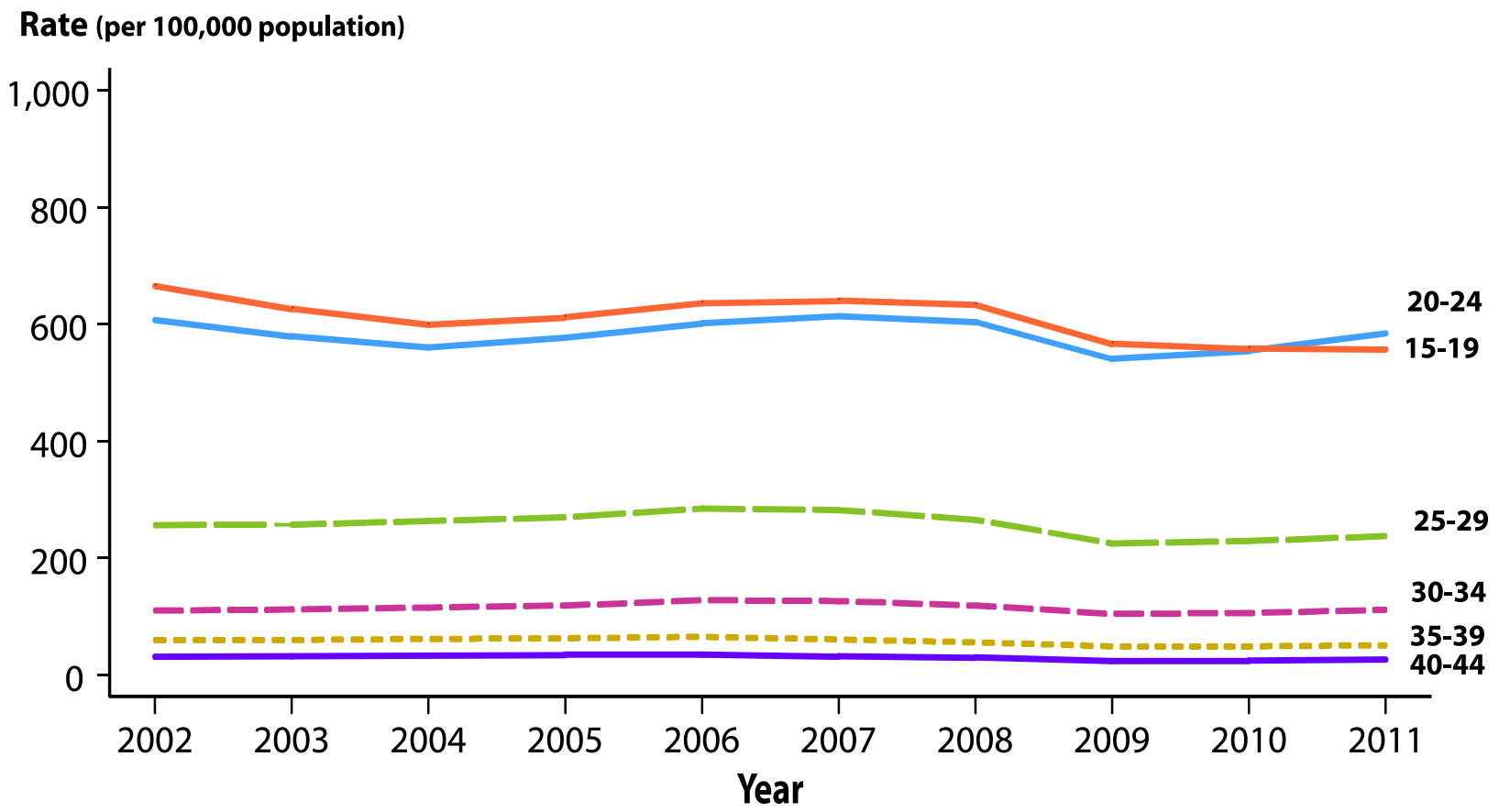


2011-Fig 20. SR

Gonorrhea—Rates by Age and Sex, United States, 2011

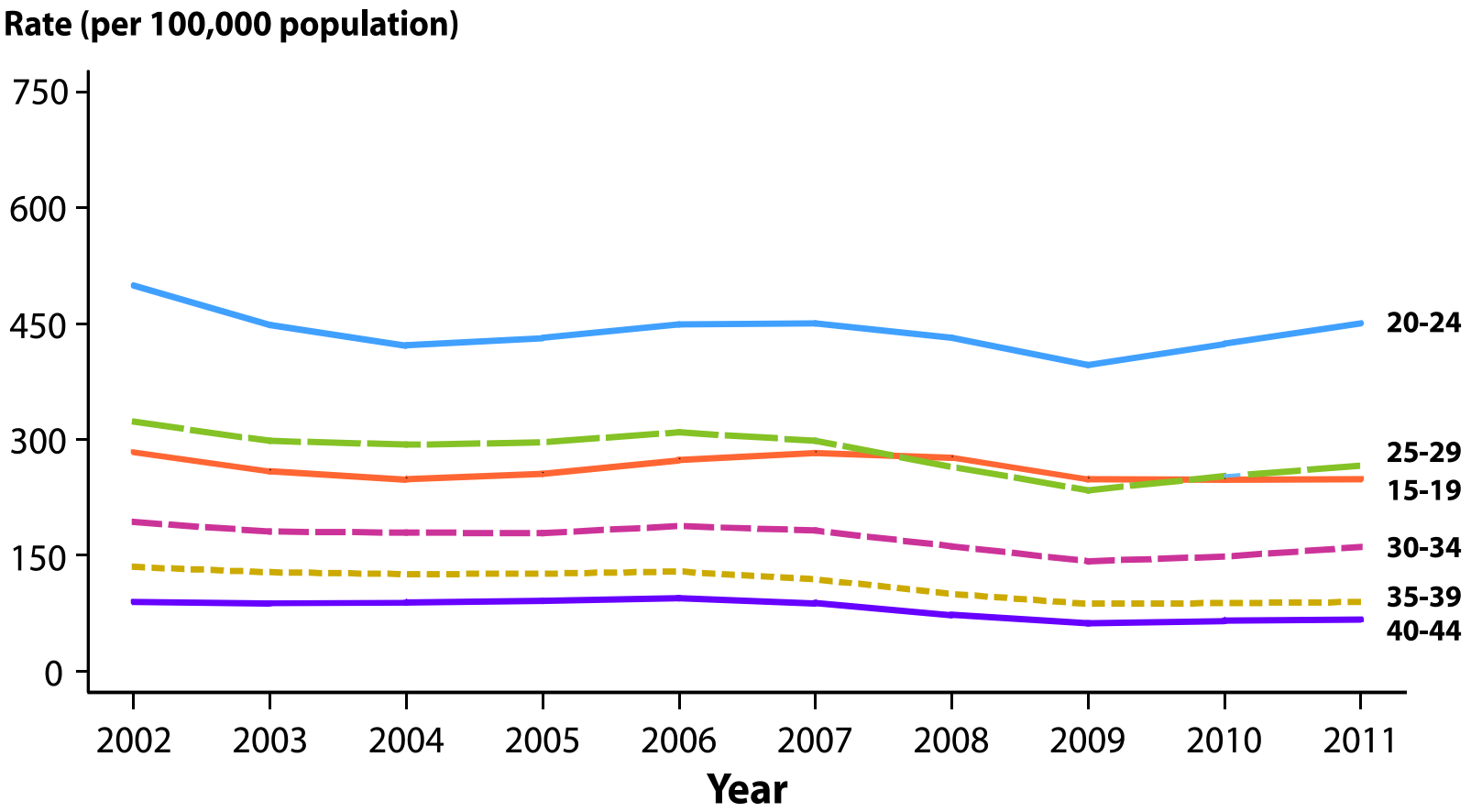


Gonorrhea—Rates by Age Among Women Aged 15–44 Years, United States, 2002–2011



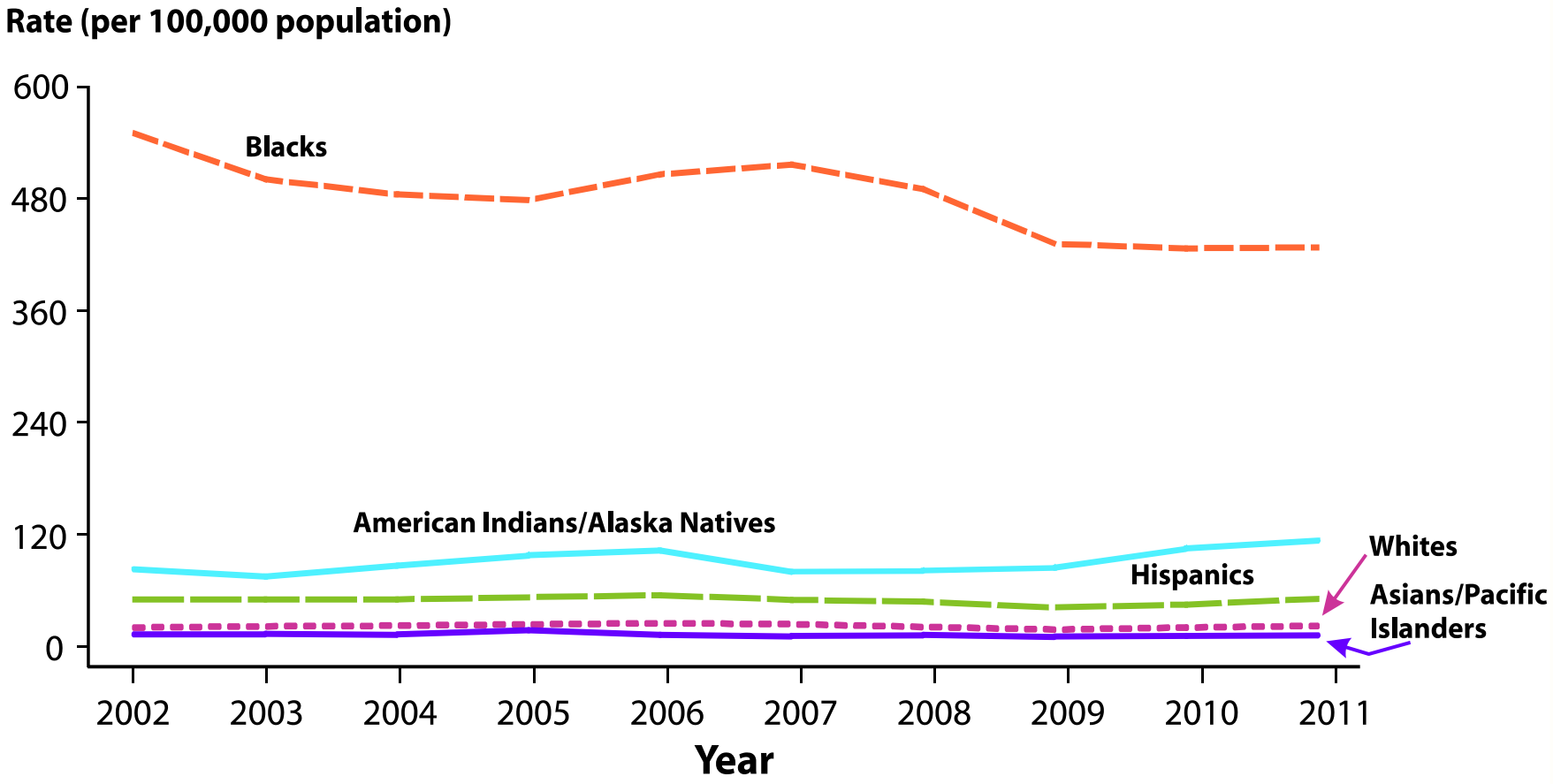
2011-Fig 22. SR

Gonorrhea—Rates by Age Among Men Aged 15–44 Years, United States, 2002–2011



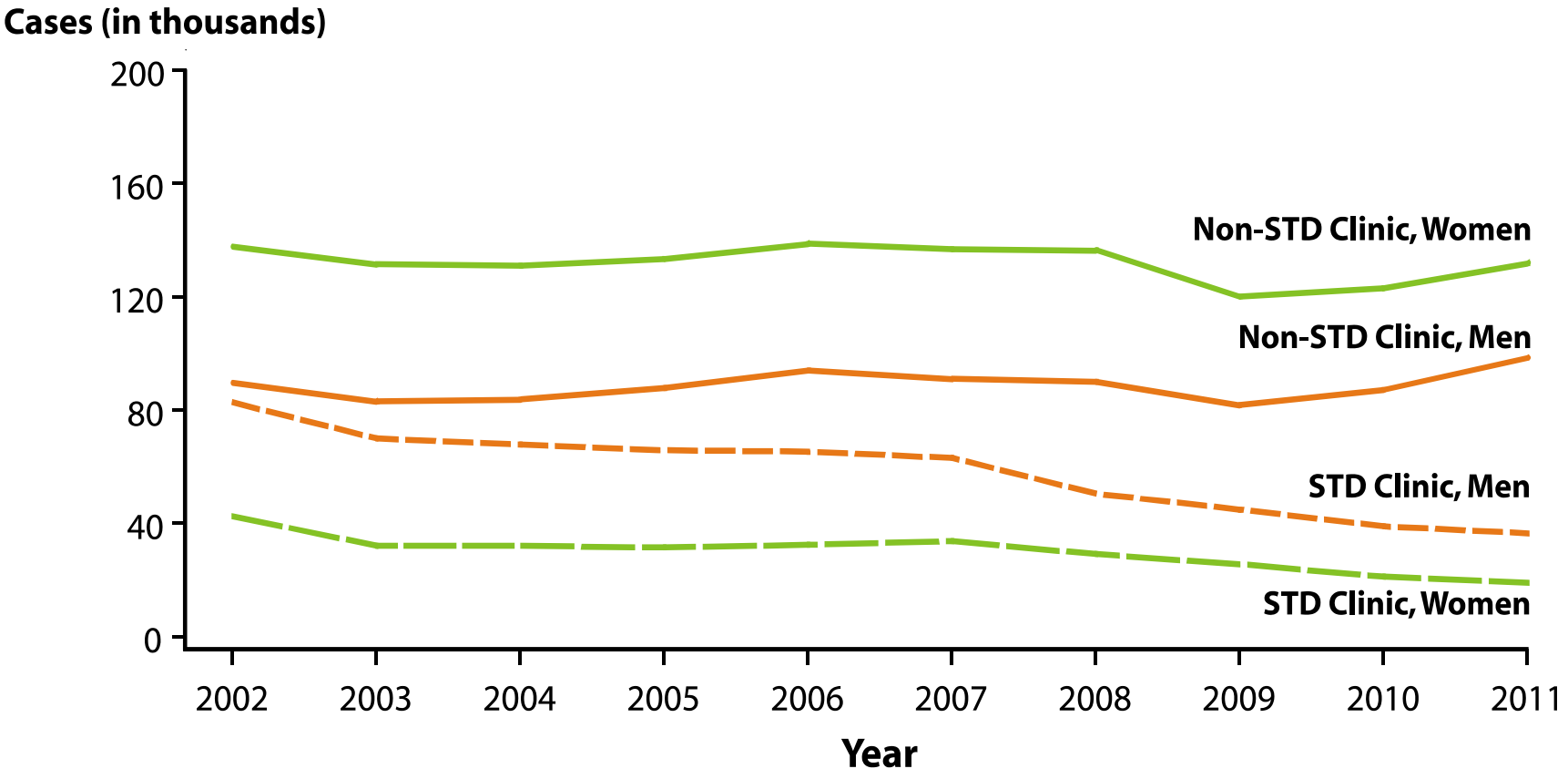
2011-Fig 23. SR

Gonorrhea—Rates by Race/Ethnicity, United States, 2002–2011



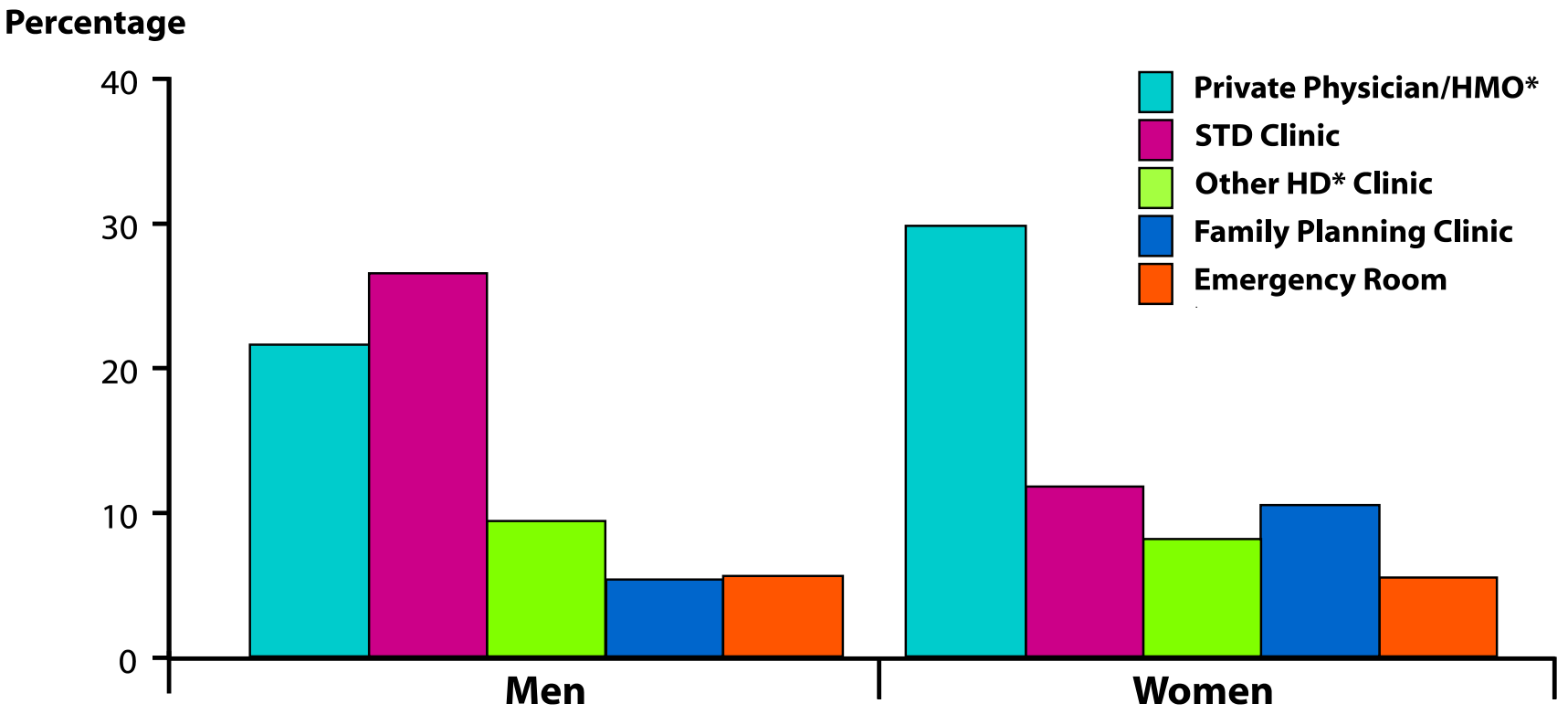
2011-Fig 24. SR

Gonorrhea—Cases by Reporting Source and Sex, United States, 2002–2011



2011-Fig 25. SR

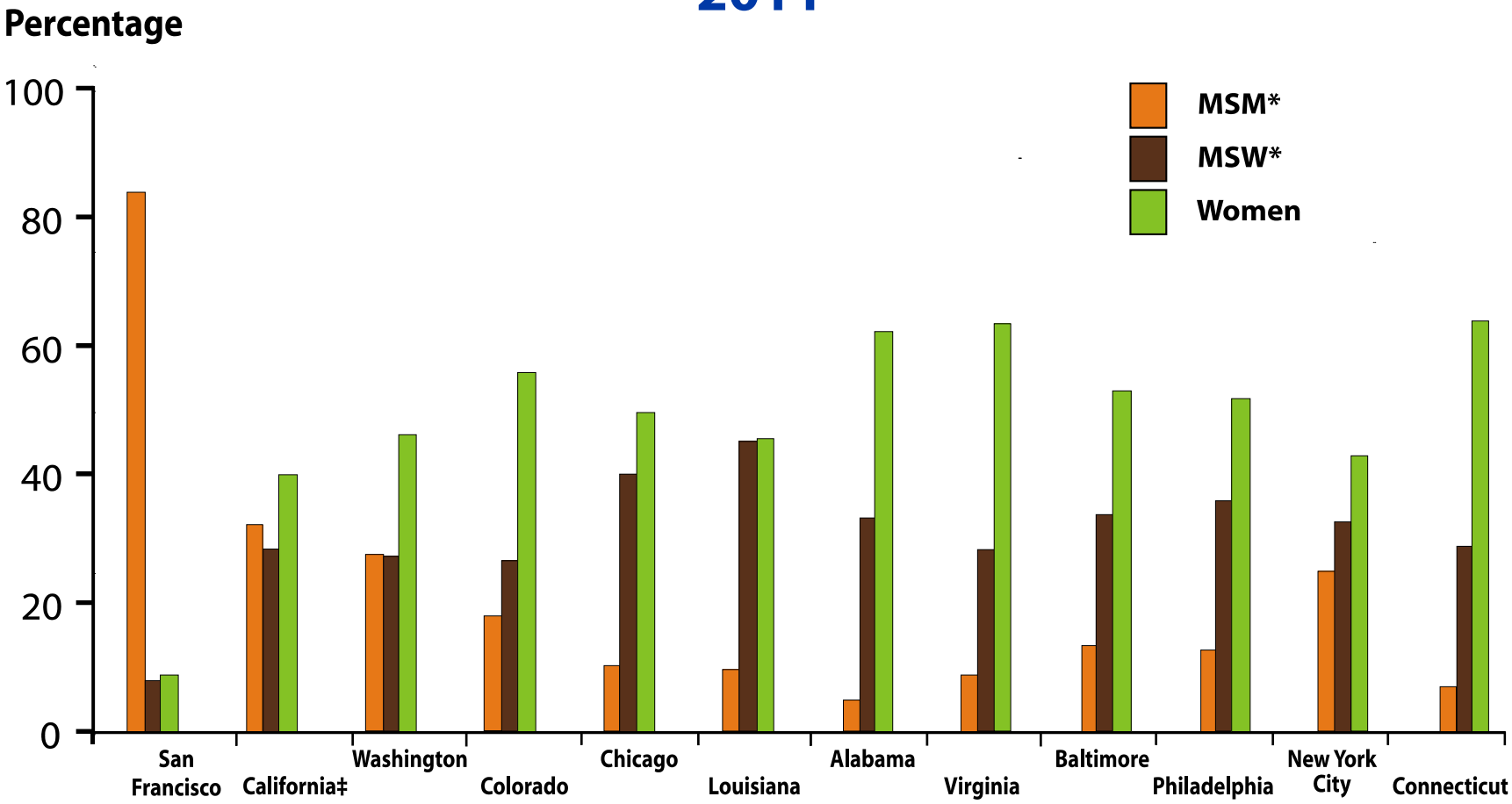
Gonorrhea—Percentage of Reported Cases by Sex and Selected Reporting Sources, United States, 2011



*__HMO__=health maintenance organization; __HD__=health department

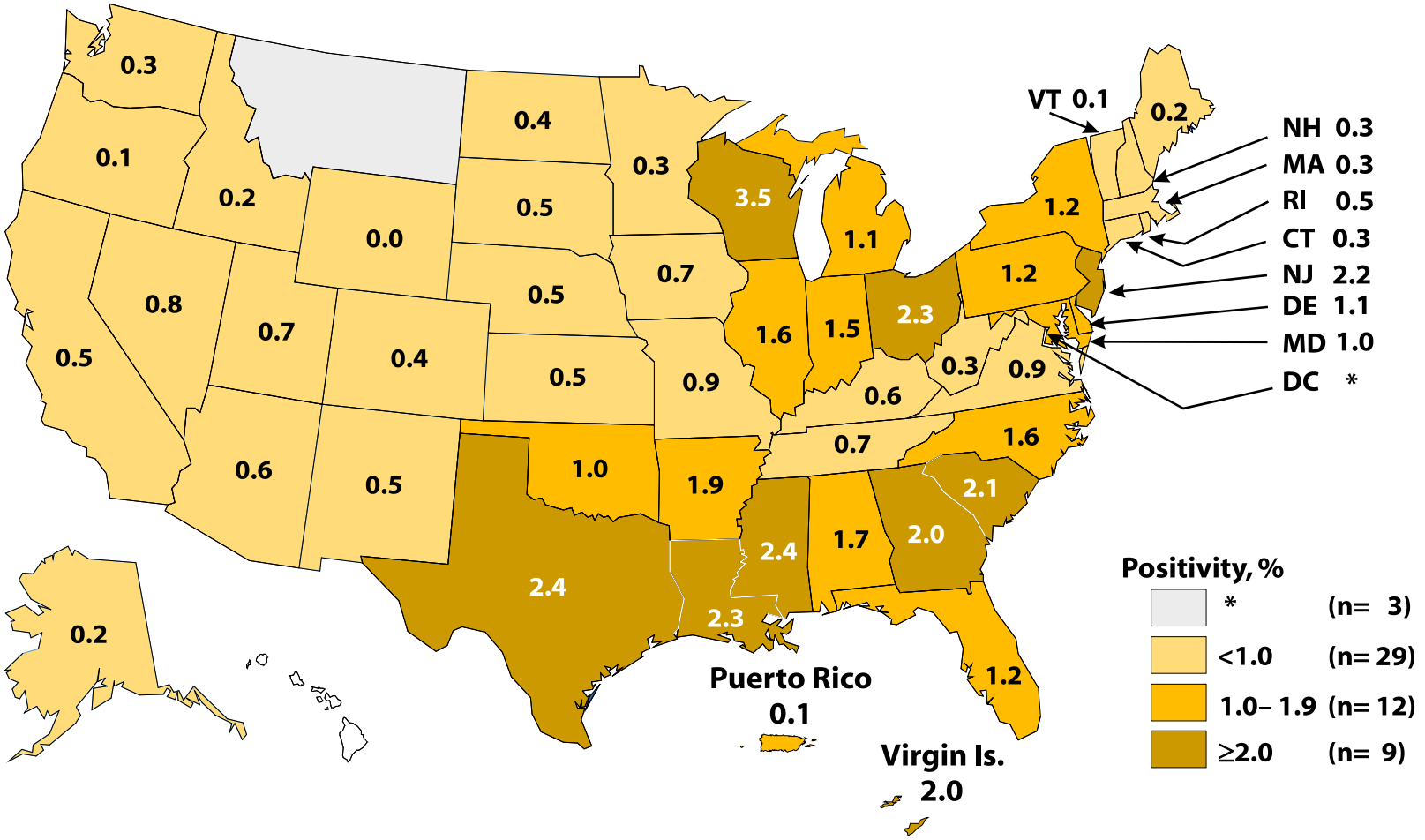
__NOTE:__ These categories represent 66.5% of cases with a known reporting source. Of all cases, 11.7% has a missing or unknown reporting source.

Proportion MSM*, MSW*, and Women Among Interviewed† Gonorrhea Cases by Site, STD Surveillance Network (SSuN), 2011



*__MSM__=men who have sex with men; __MSW__=men who have sex with women only.
†SSuN interviews conducted in a randomly selected sample of the patient population with gonorrhea (n=4,540).
‡California data excludes San Francisco.
NOTE: See Appendix for included jurisdictions within each state.

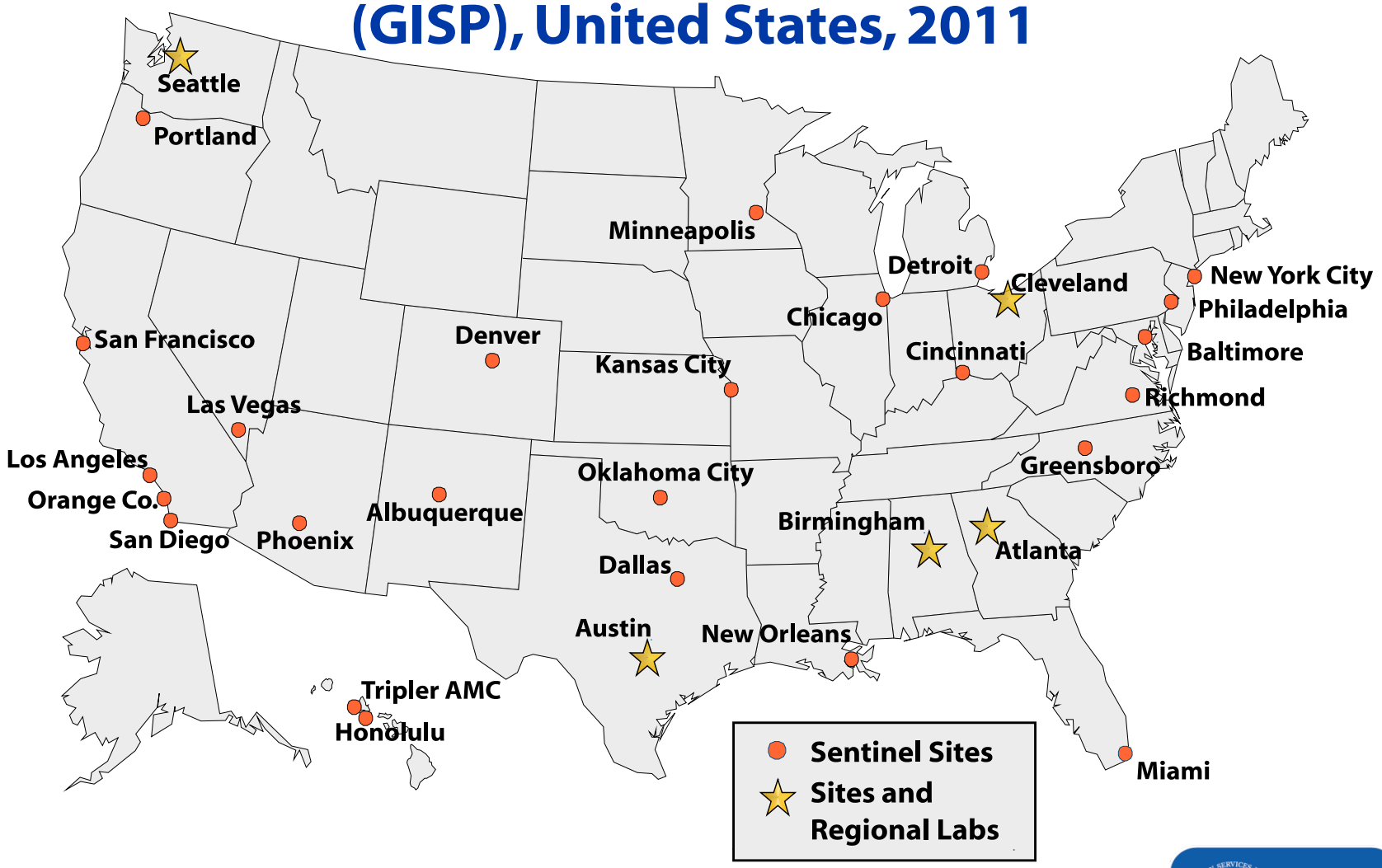
Gonorrhea—Positivity Among Women Aged 15–24 Years Tested in Family Planning Clinics, by State, Infertility Prevention Project, United States and Outlying Areas, 2011



*States/areas had incomplete data or reported gonorrhea positivity data on fewer than 500 women aged 15-24 years in 2011.

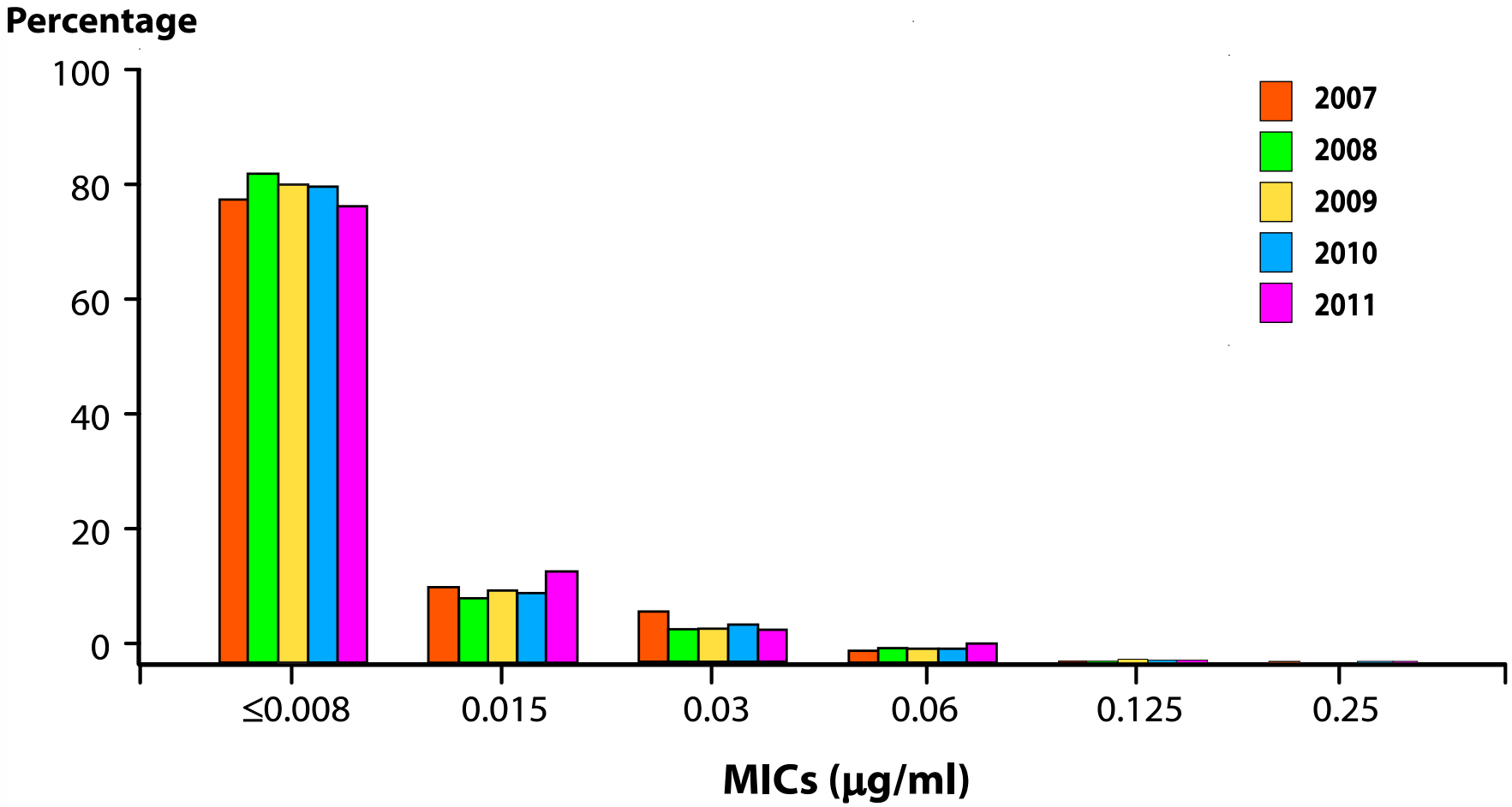
2011-Fig 28. SR

Location of Participating Sentinel Sites and Regional Laboratories, Gonococcal Isolate Surveillance Project (GISP), United States, 2011



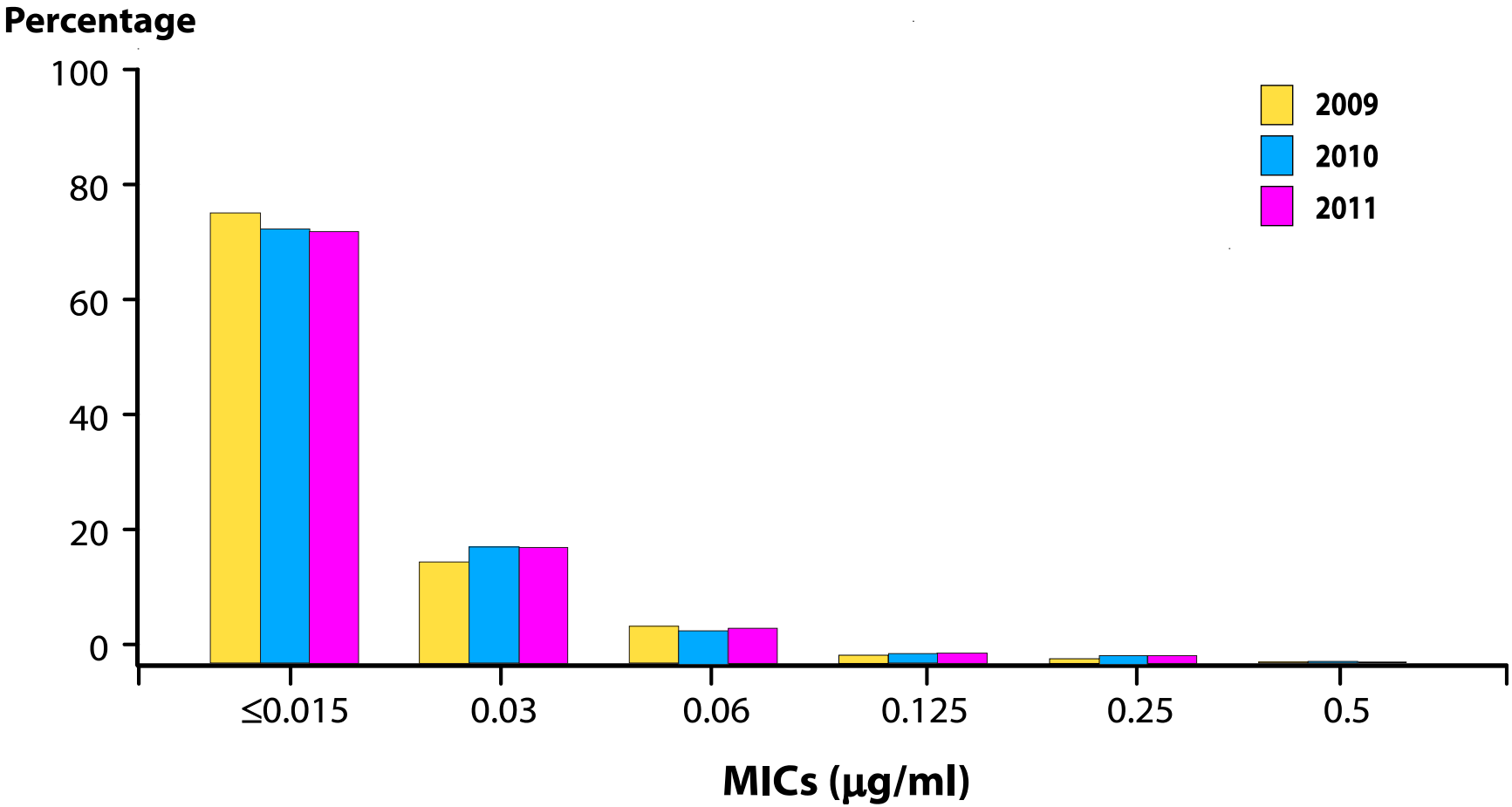
***NOTE:** The Austin site is a regional laboratory only.

Distribution of Minimum Inhibitory Concentrations (MICs) of Ceftriaxone Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), 2007–2011



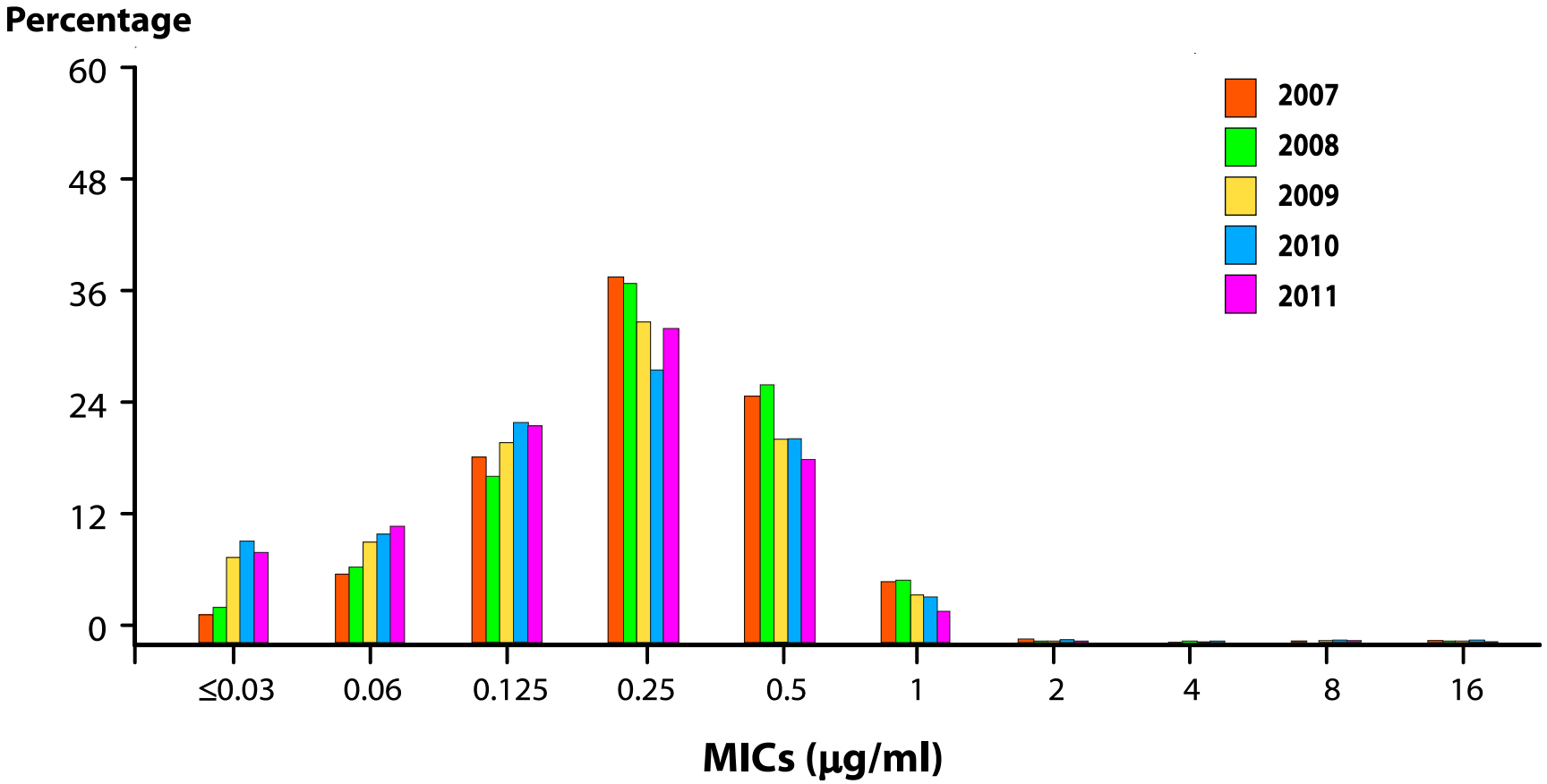
2011-Fig 30. SR

Distribution of Minimum Inhibitory Concentrations (MICs) of Cefixime Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), 2009–2011

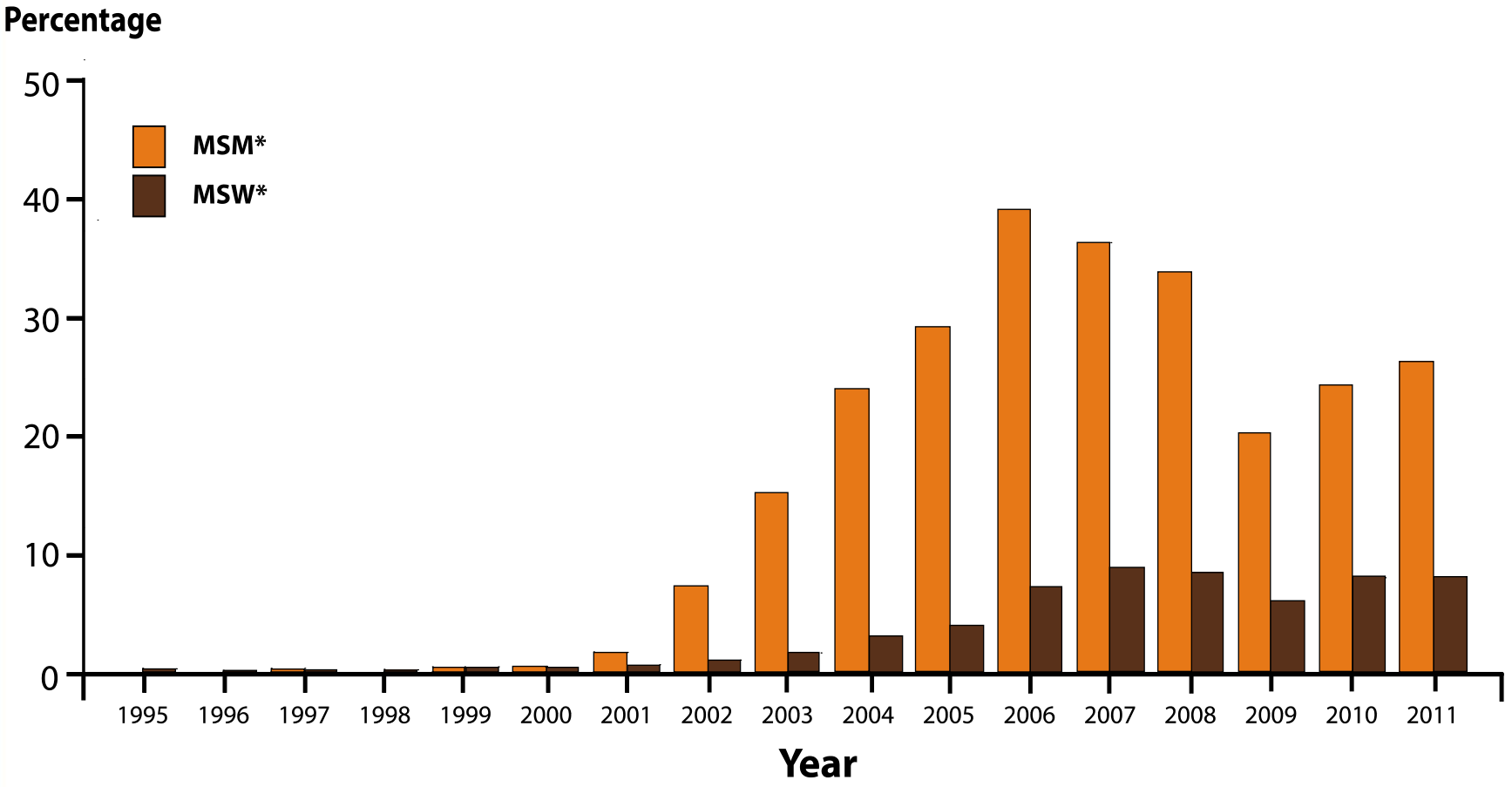


NOTE: Isolates were not tested for cefixime susceptibility in 2007 and 2008

Distribution of Minimum Inhibitory Concentrations (MICs) of Azithromycin Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), 2007–2011



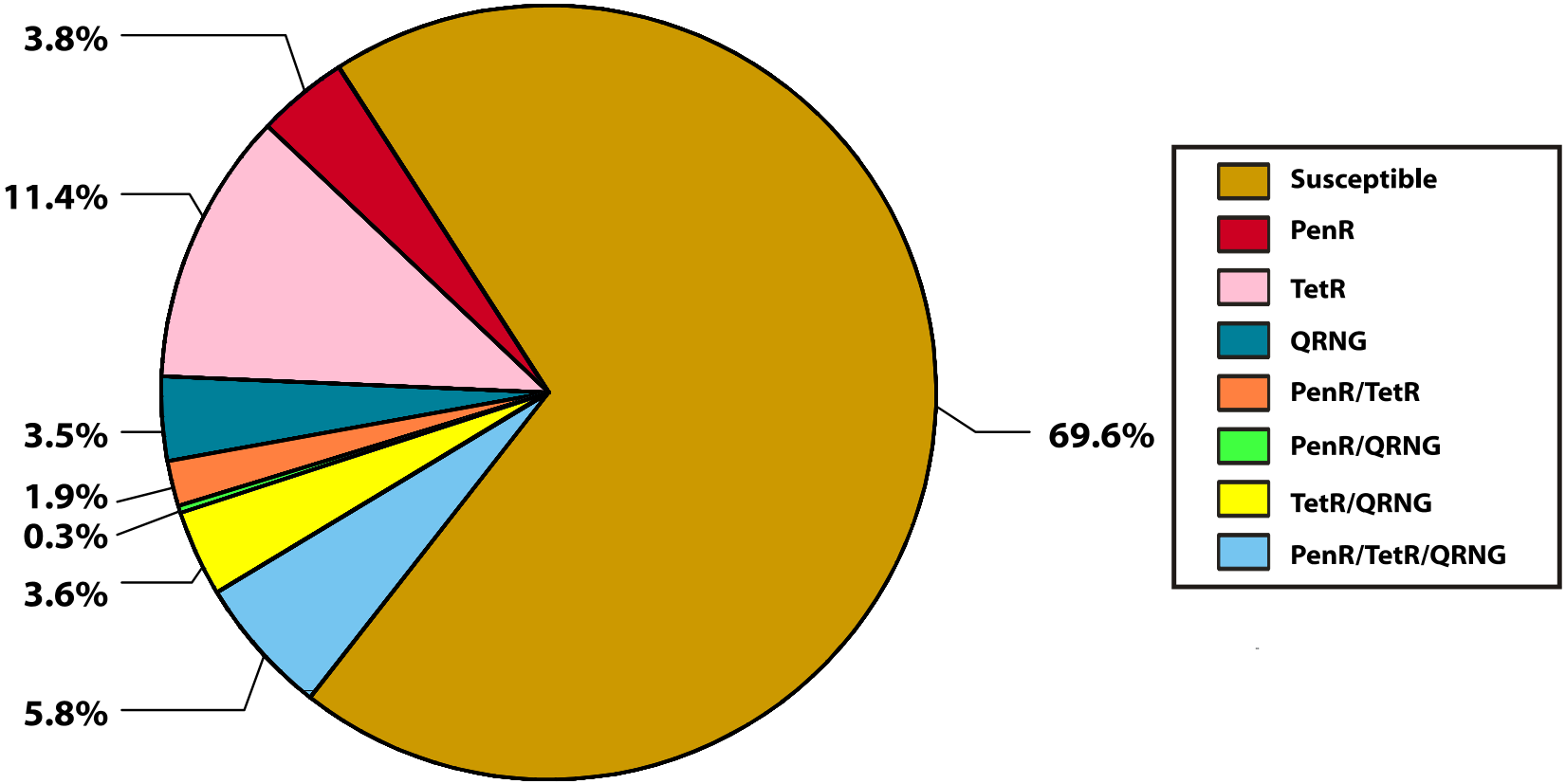
Percentage of *Neisseria gonorrhoeae* Isolates that are Ciprofloxacin-Resistant by Sex of Sex Partner, Gonococcal Isolate Surveillance Project (GISP), 1995–2011



*__MSM__=men who have sex with men; __MSW__=men who have sex with women only.

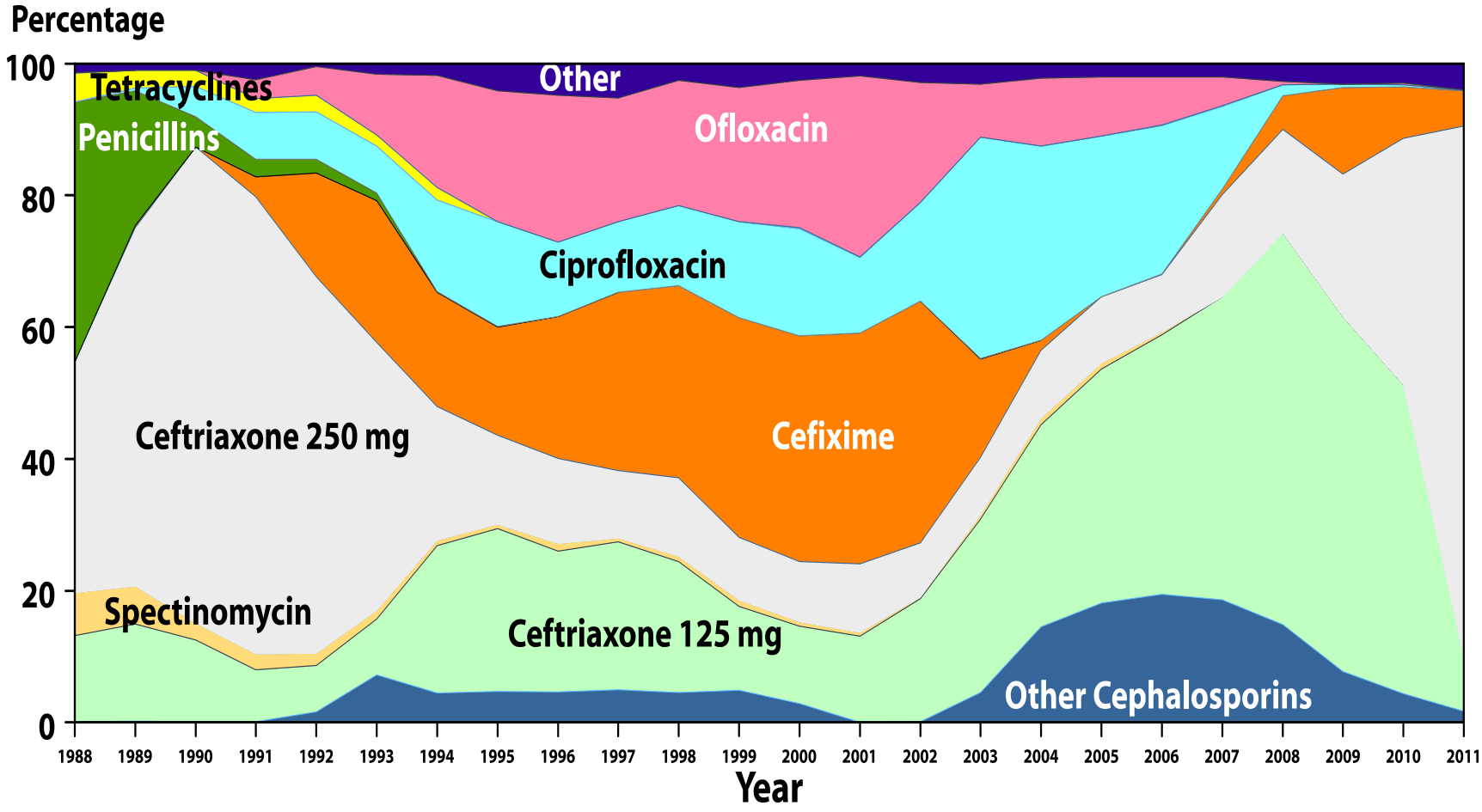
2011-Fig 33. SR

Penicillin, Tetracycline, and Ciprofloxacin Resistance Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), 2011



NOTE: PenR = penicillinase producing *Neisseria gonorrhoeae* and chromosomally mediated penicillin-resistant *N. gonorrhoeae*; TetR = chromosomally and plasmid mediated tetracycline-resistant *N. gonorrhoeae*; and QRNG = quinolone-resistant *N. gonorrhoeae*.

Antimicrobial Drugs Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), 1988–2011



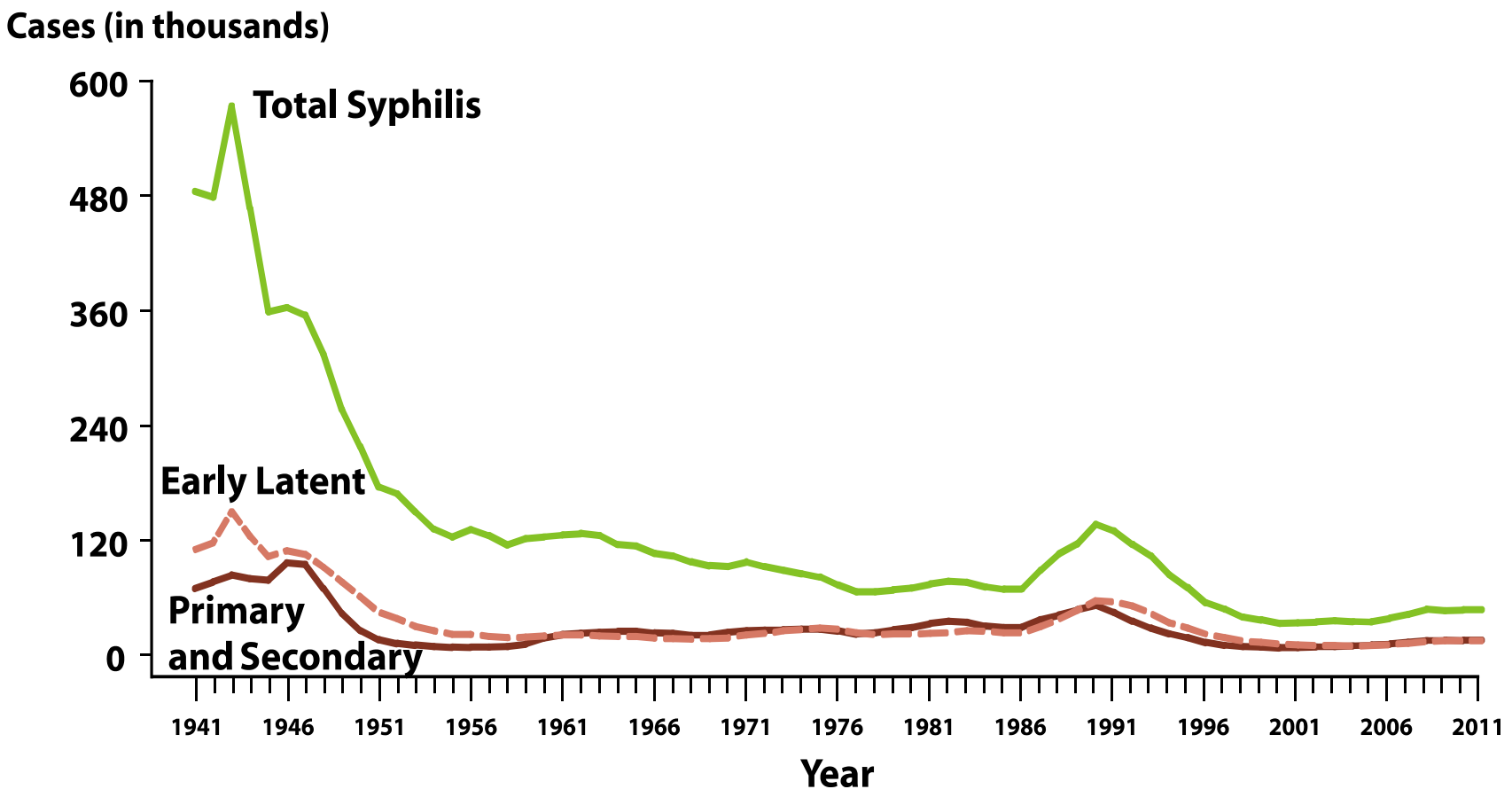
NOTE: For 2011, "Other" includes no therapy (1.2%), azithromycin 2g (2.3%), and other less frequently used drugs.

SYPHILIS

Sexually Transmitted Disease Surveillance 2011

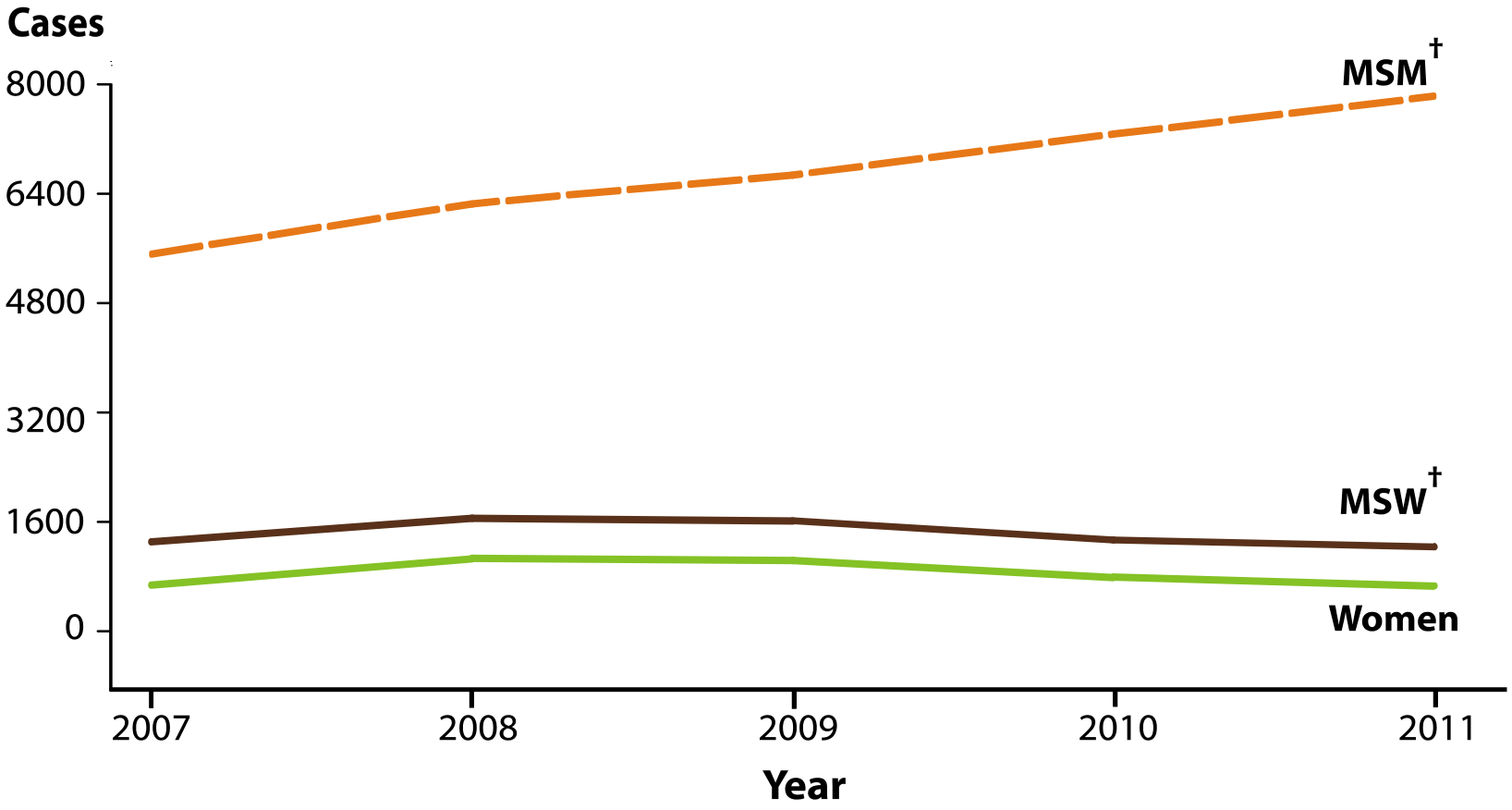
Division of STD Prevention

Syphilis—Reported Cases by Stage of Infection, United States, 1941–2011



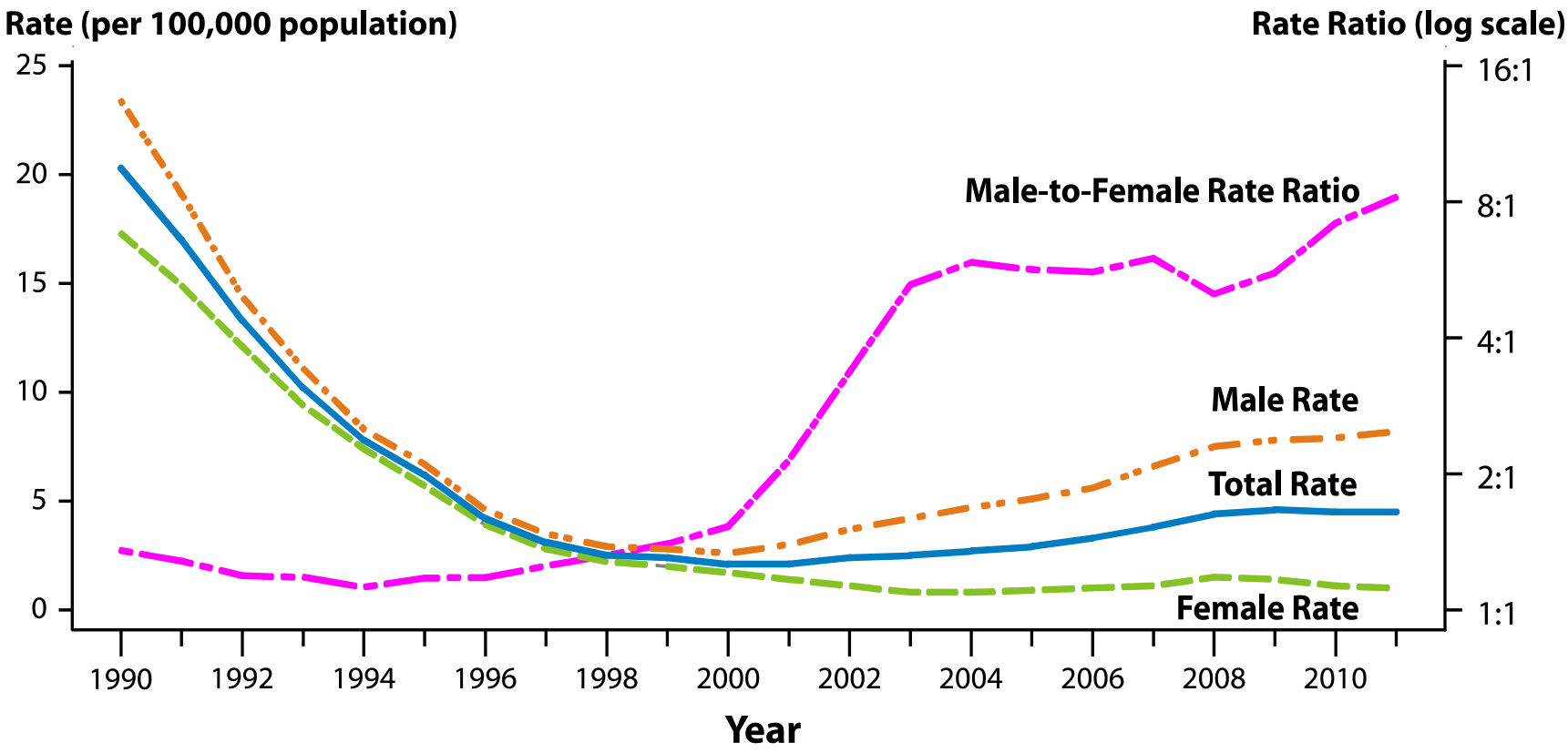
2011-Fig 36. SR

Primary and Secondary Syphilis—by Sex and Sexual Behavior, 33 Areas*, 2007–2011



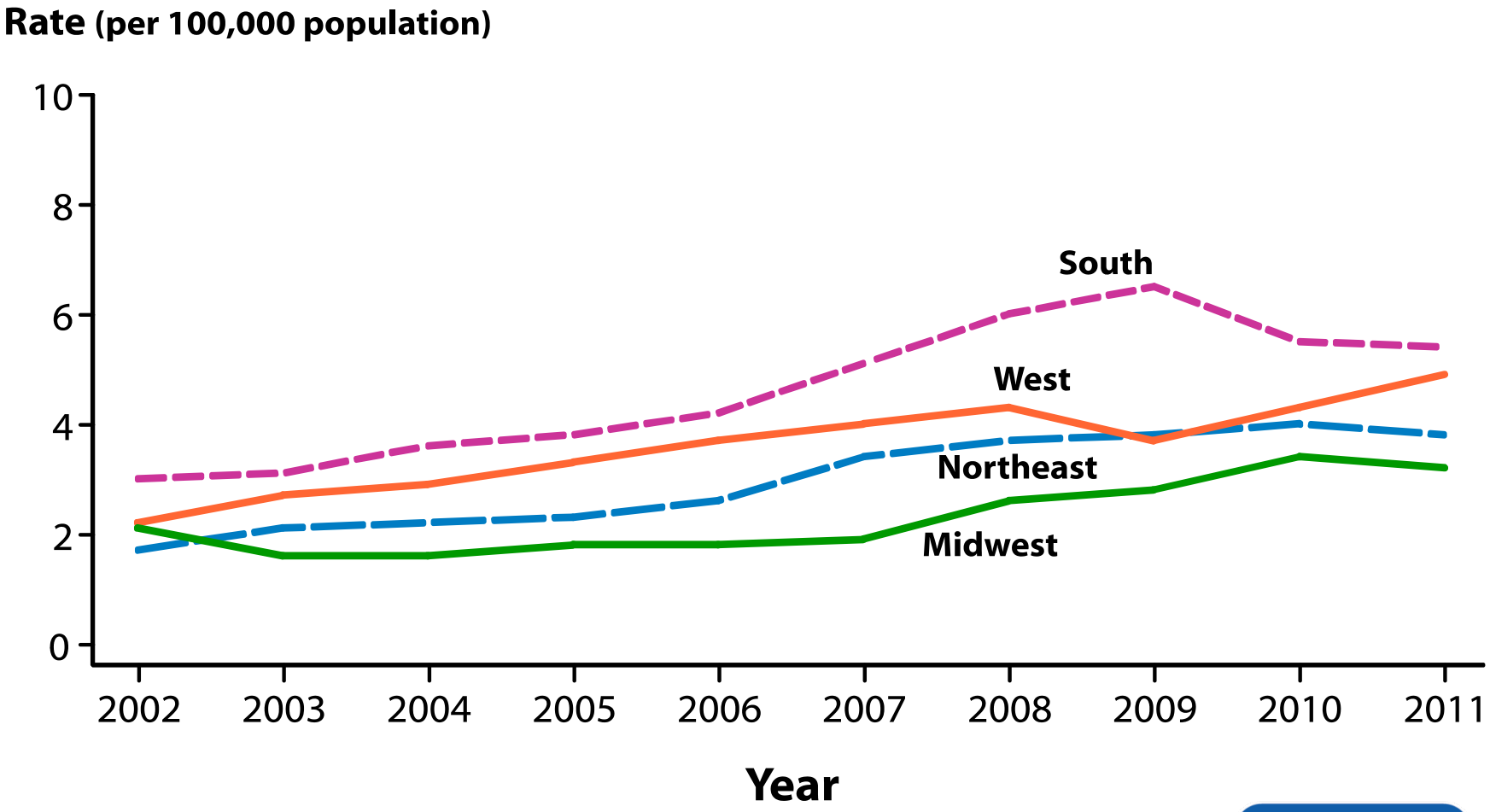
*32 states and Washington, DC reported sex of partner data for ≥70% of cases of P&S syphilis for each year during 2007-2011.
†**MSM**=men who have sex with men; **MSW**=men who have sex with women only.

Primary and Secondary Syphilis—Rates by Sex and Male-to-Female Rate Ratios, United States, 1990–2011



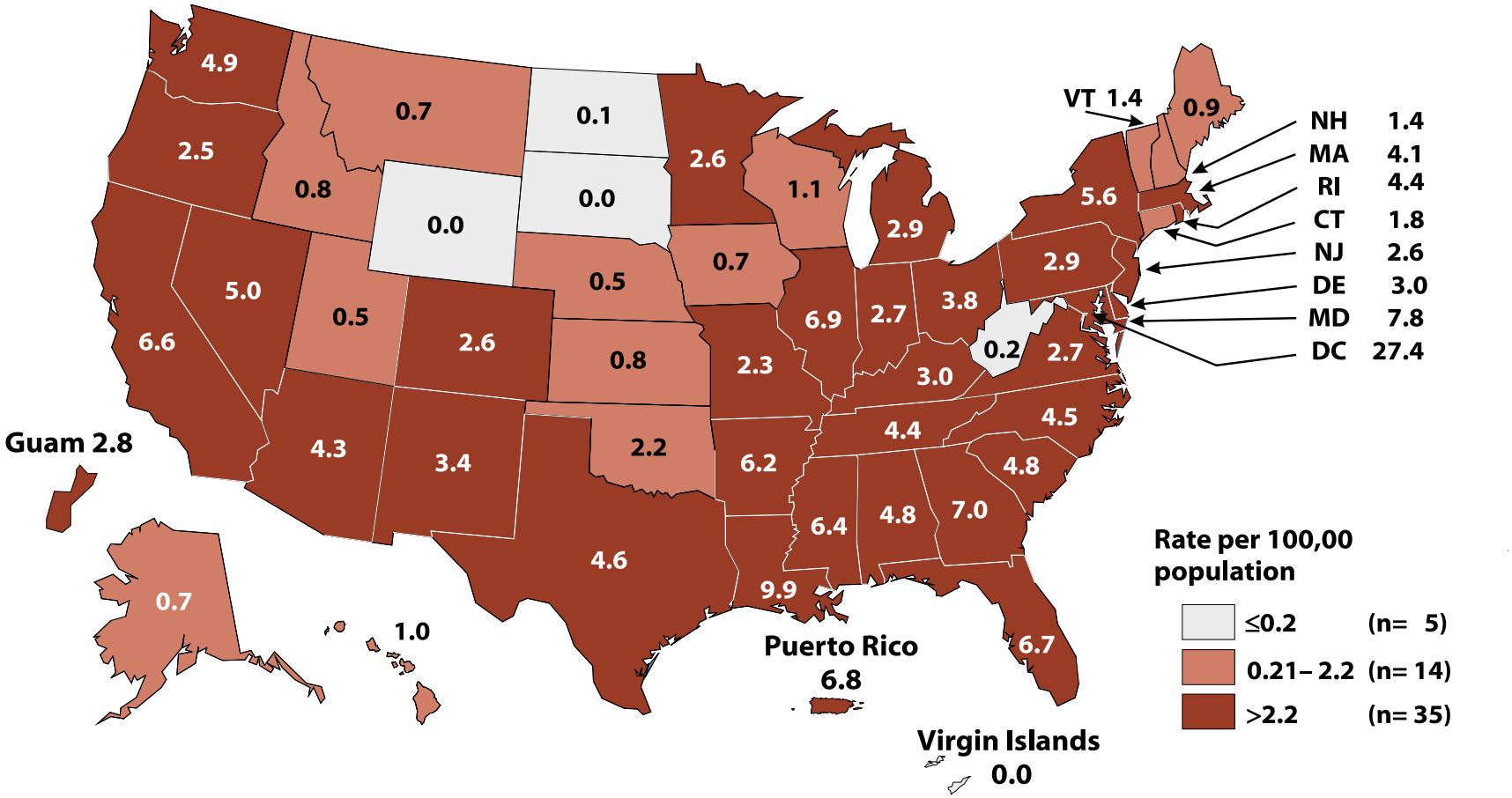
2011-Fig 38. SR

Primary and Secondary Syphilis—Rates by Region, United States, 2002–2011



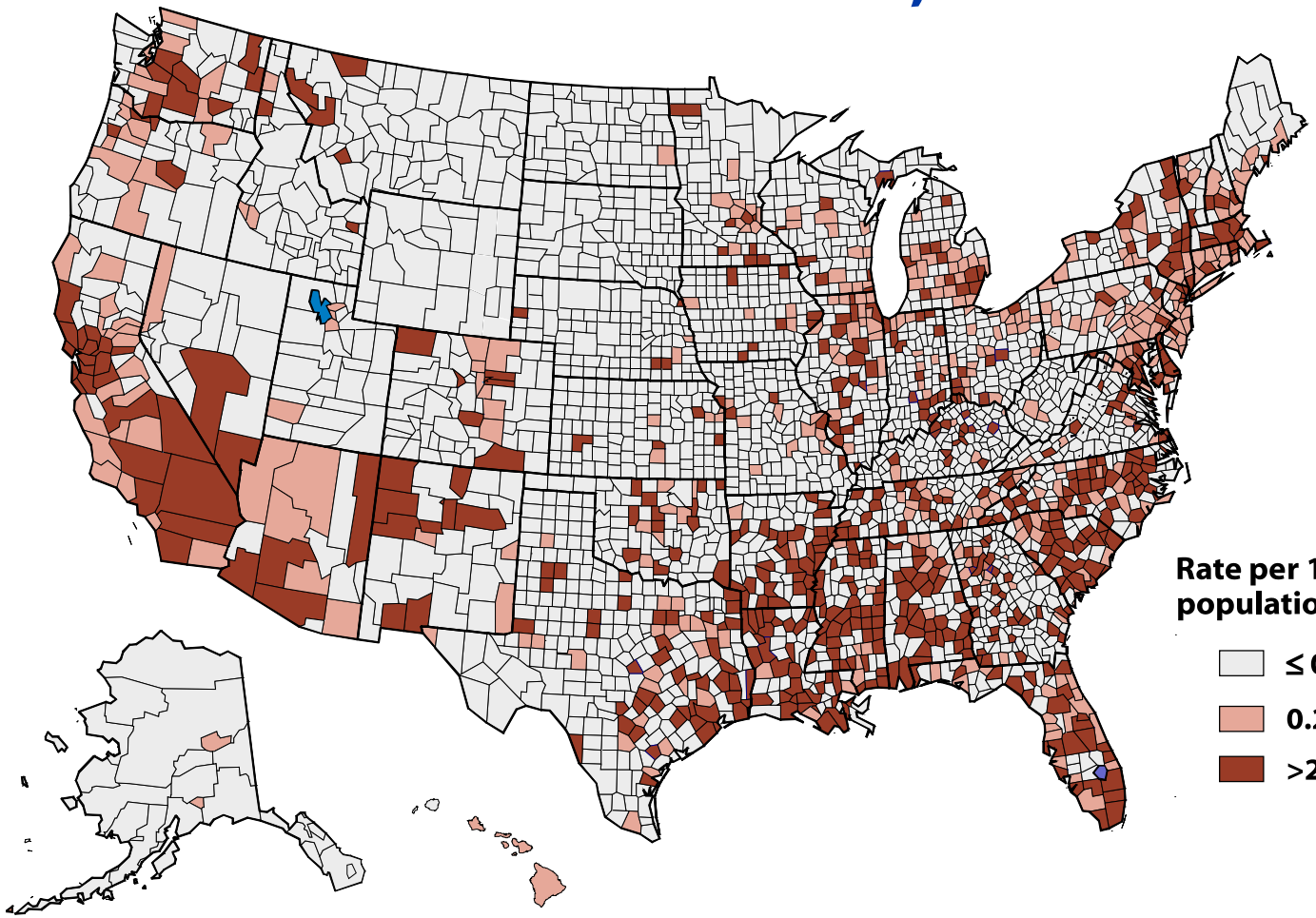
2011-Fig 39. SR

Primary and Secondary Syphilis—Rates by State, United States and Outlying Areas, 2011



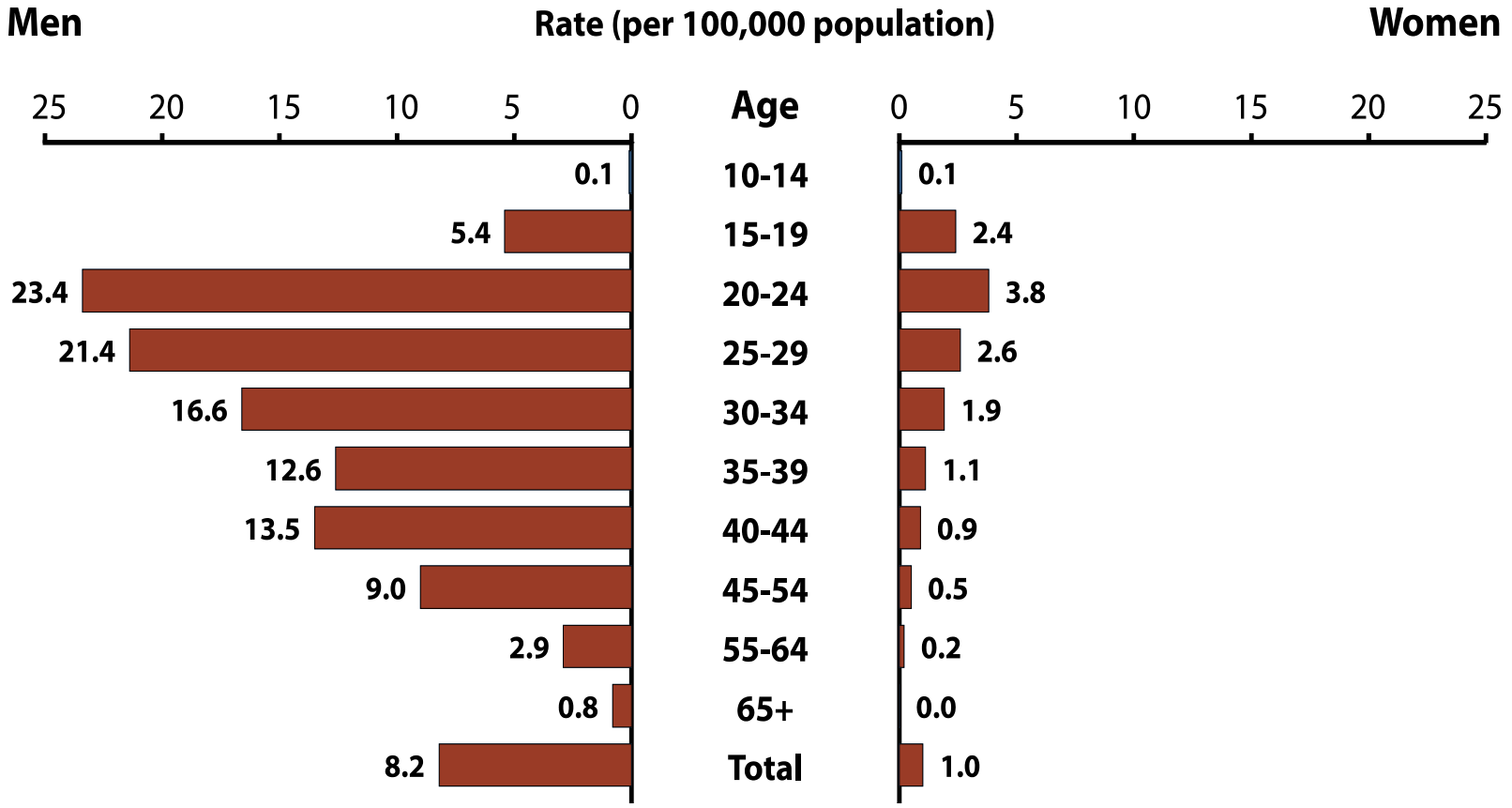
NOTE: The total rate of primary and secondary syphilis for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 4.5 per 100,000 population.

Primary and Secondary Syphilis—Rates by County, United States, 2011



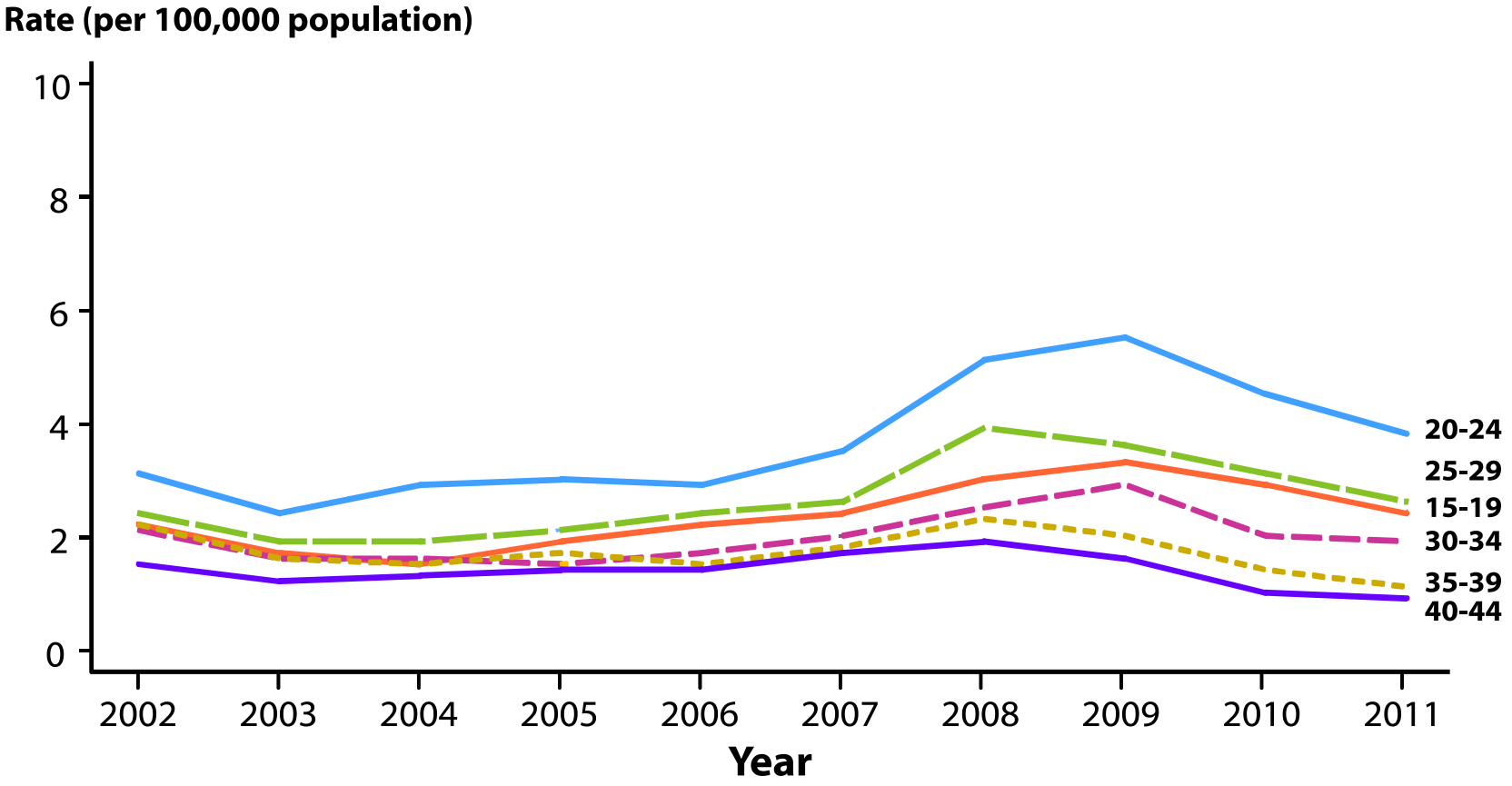
NOTE: In 2011, 2,154 (68.5%) of 3,142 counties in the United States reported no cases of primary and secondary syphilis.

Primary and Secondary Syphilis—Rates by Age and Sex, United States, 2011



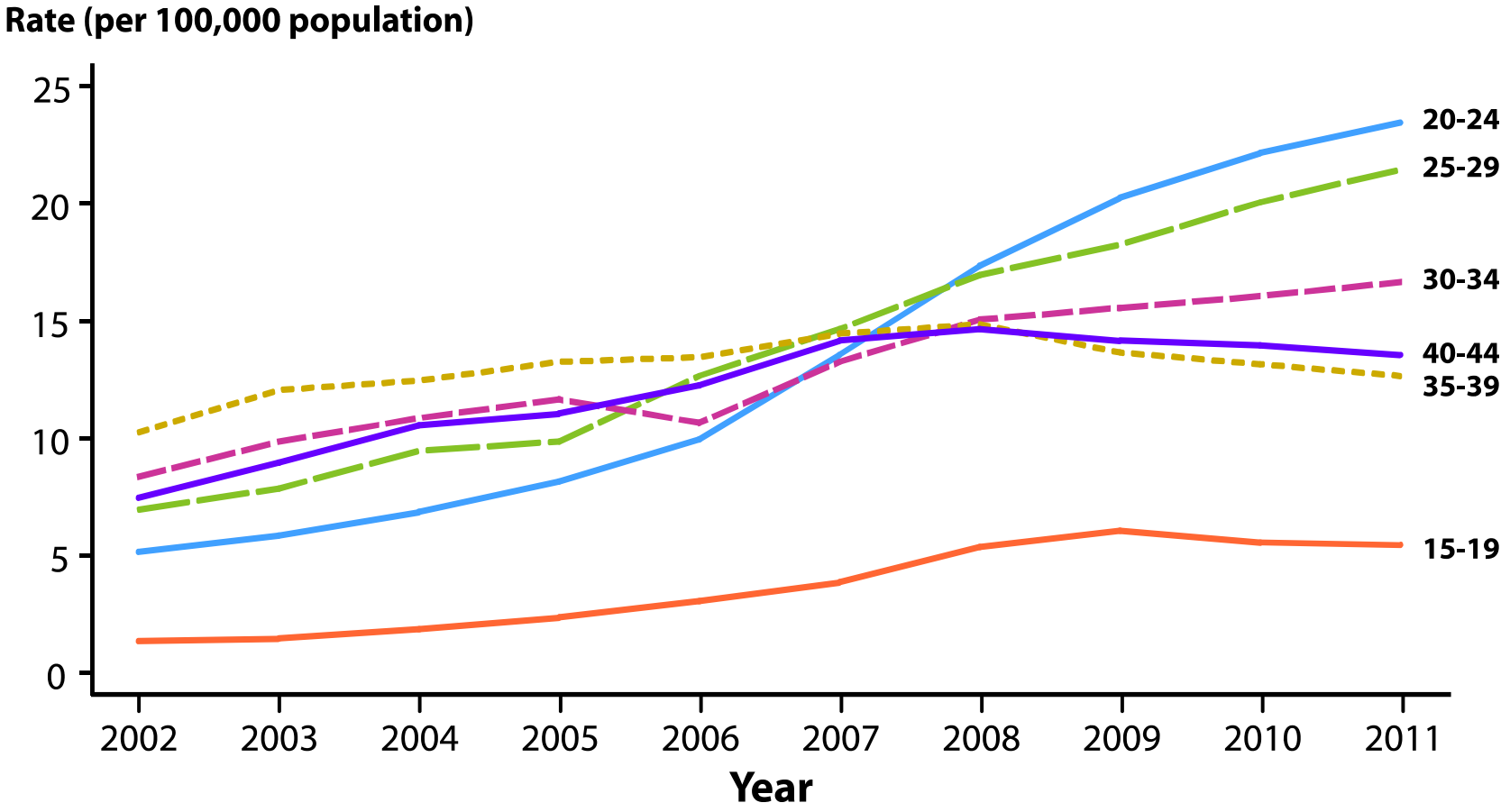
2011-Fig 42. SR

Primary and Secondary Syphilis—Rates by Age Among Women Aged 15–44 Years, United States, 2002–2011



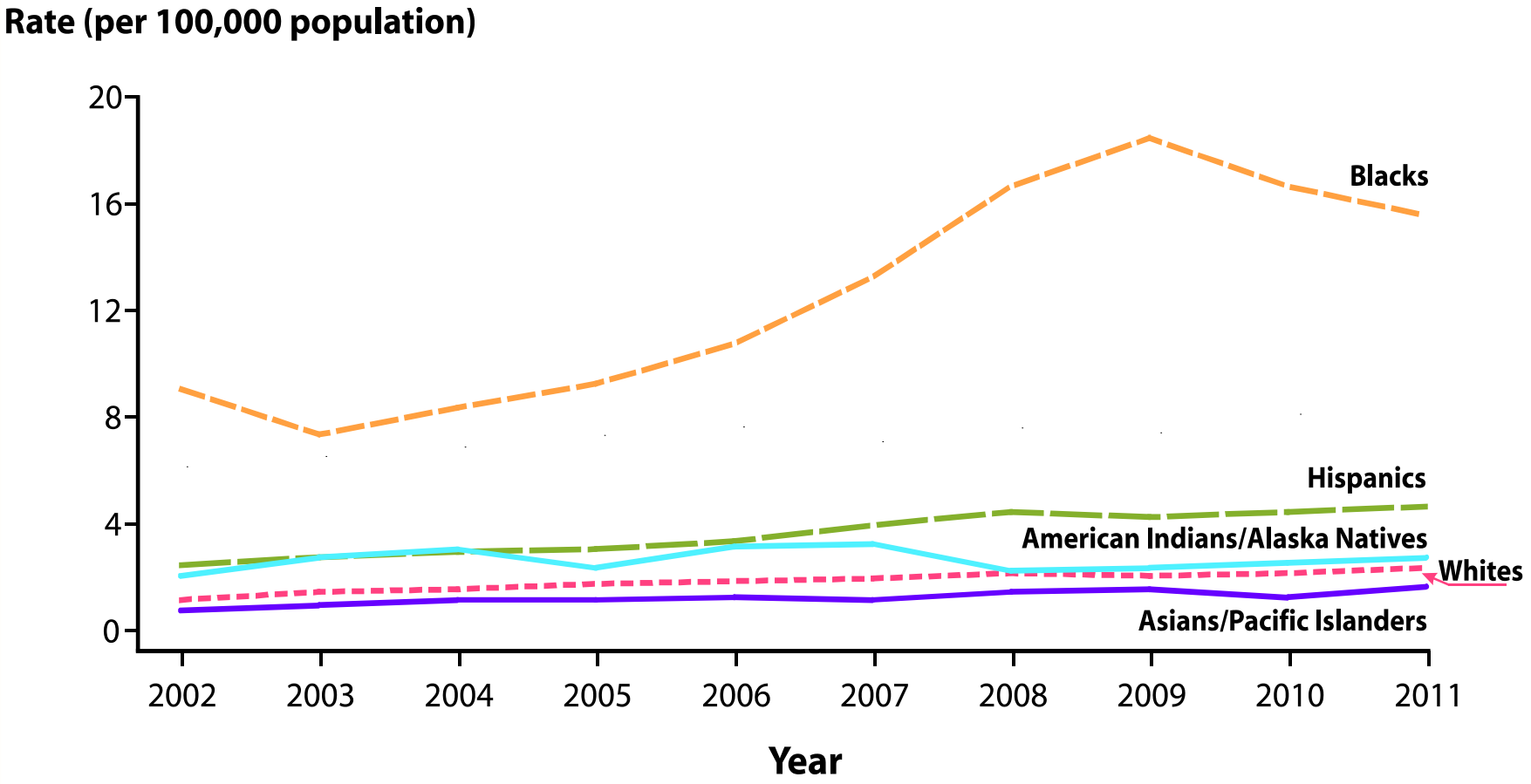
2011-Fig 43. SR

Primary and Secondary Syphilis—Rates by Age Among Men Aged 15–44 Years, United States, 2002–2011



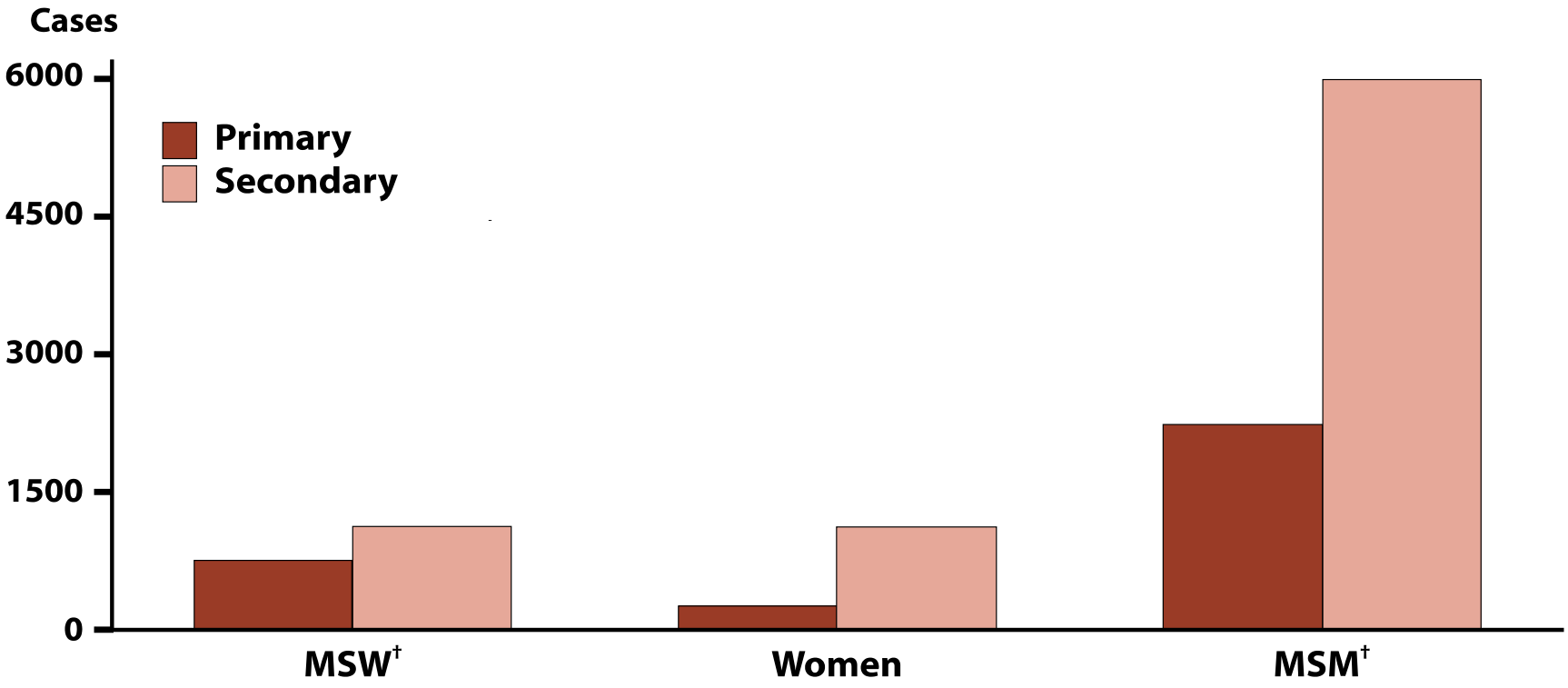
2011-Fig 44. SR

Primary and Secondary Syphilis—Rates by Race/Ethnicity, United States, 2002–2011



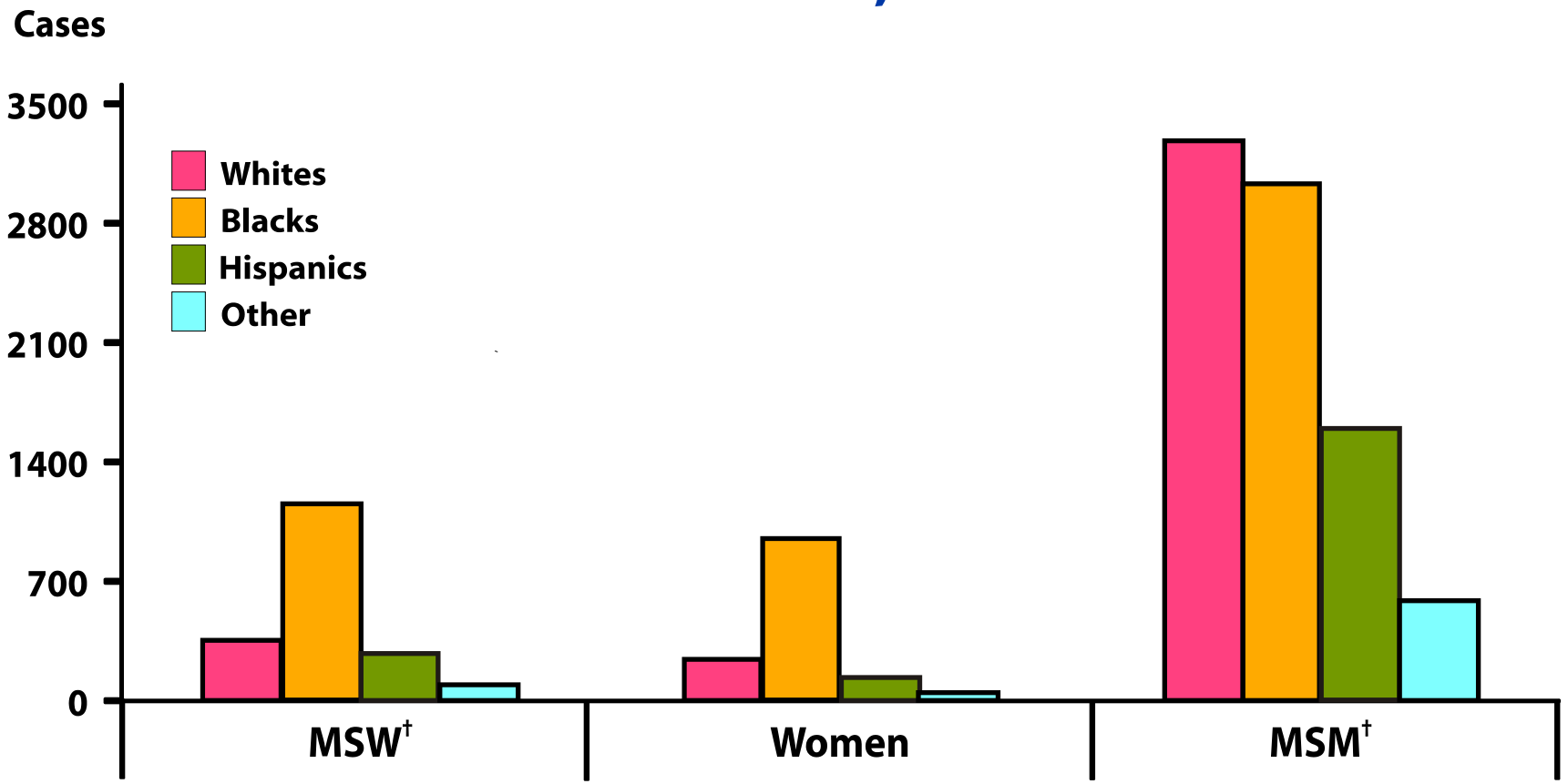
2011-Fig 45. SR

Primary and Secondary Syphilis—Reported Cases* by Stage, Sex, and Sexual Behavior, United States, 2011



*Of the reported male cases of primary and secondary syphilis, 17.0% were missing sex of sex partner information.
†**MSM**=men who have sex with men; **MSW**=men who have sex with women only.

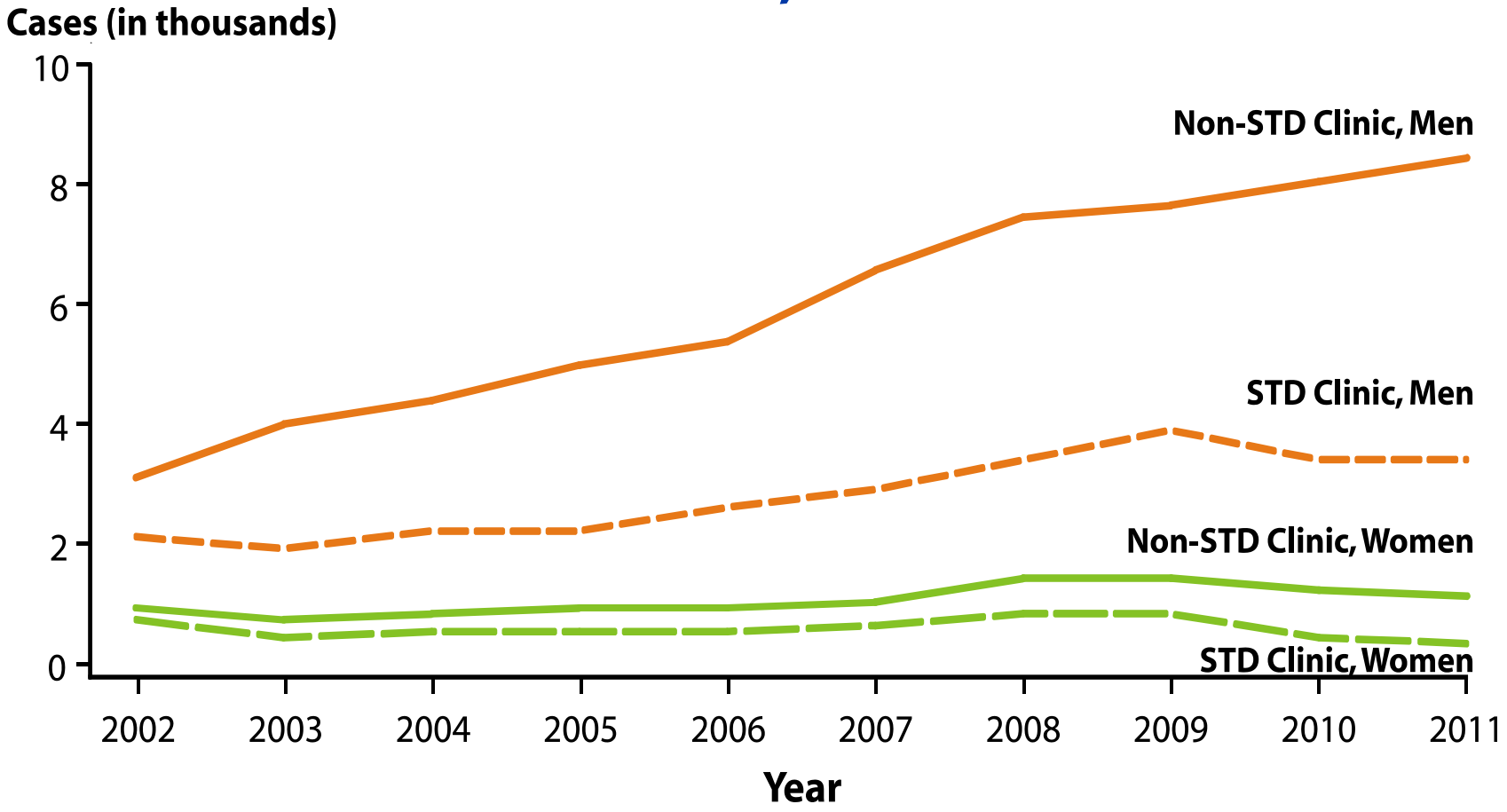
Primary and Secondary Syphilis—Reported Cases* by Sex, Sexual Behavior, and Race/Ethnicity, United States, 2011



*Of the reported male cases of primary and secondary syphilis, 17.0% were missing sex of sex partner information; 2.4% of sex partner data were missing race/ethnicity data.

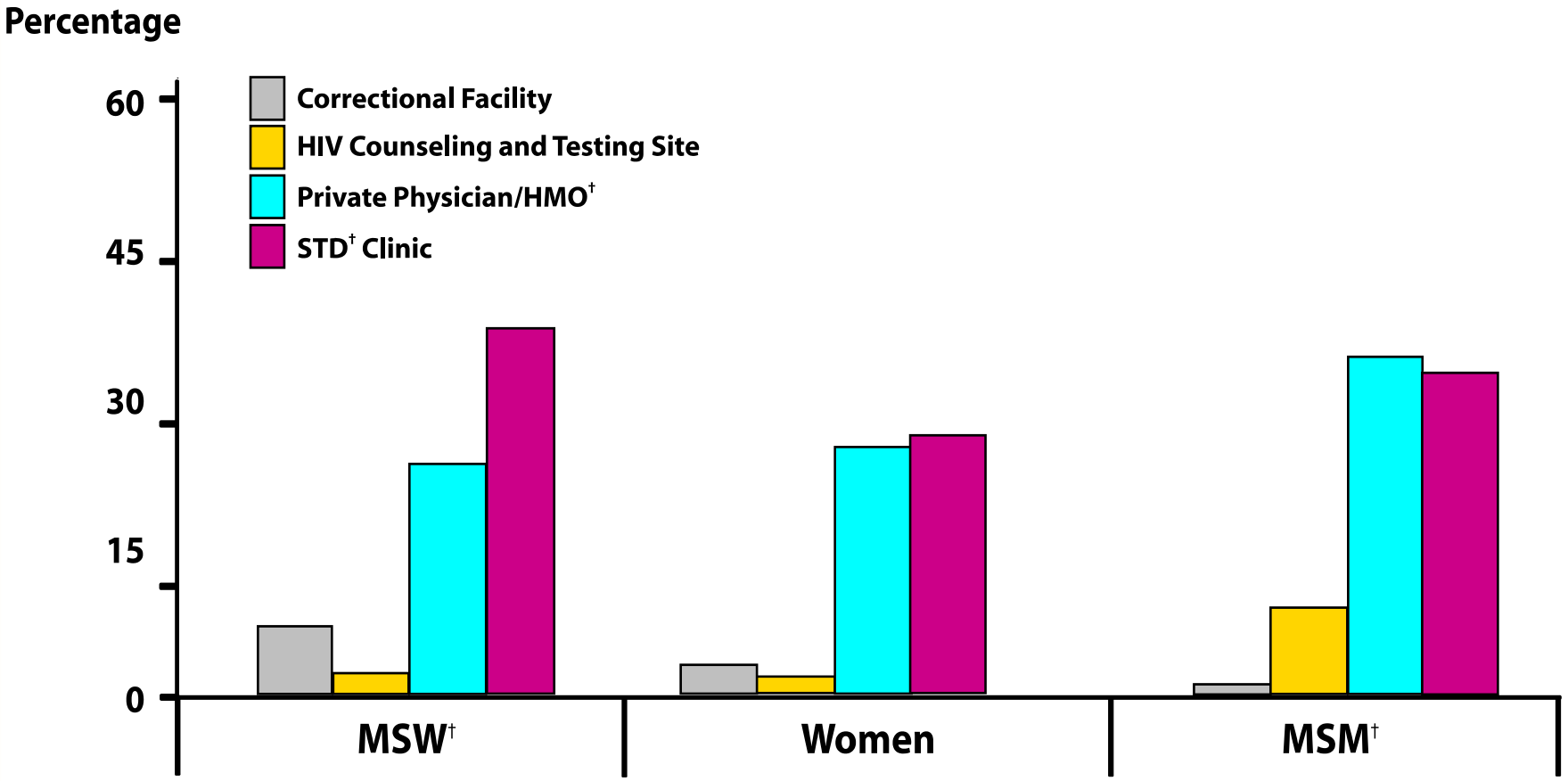
†**MSW**=men who have sex with women only; **MSM**=men who have sex with men;

Primary and Secondary Syphilis—Reported Cases by Reporting Source and Sex, United States, 2002–2011



2011-Fig 48. SR

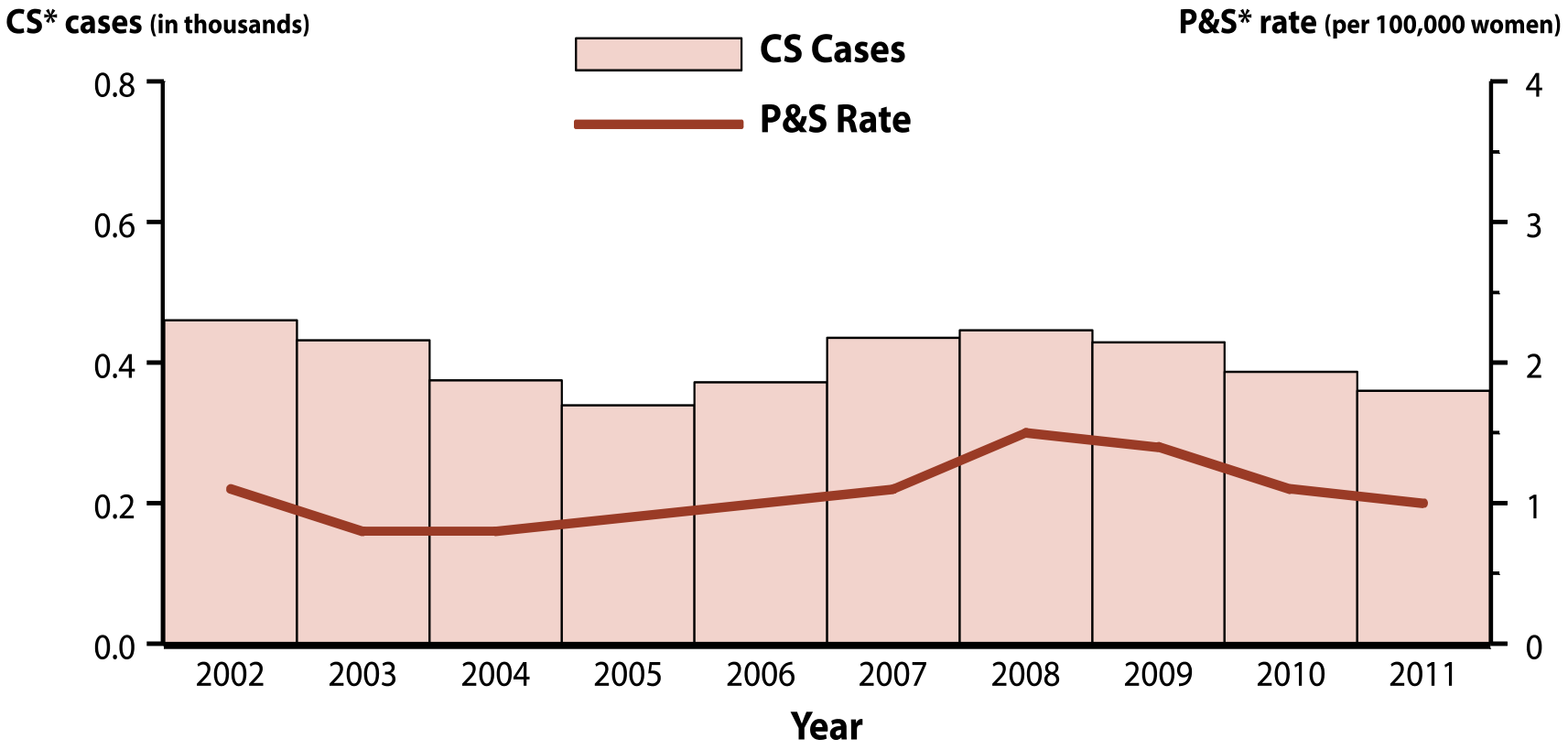
Primary and Secondary Syphilis—Percentage of Reported Cases* by Sex, Sexual Behavior, and Selected Reporting Sources, 2011



*Of the reported male cases of primary and secondary syphilis, 17.0% were missing sex of sex partner information; 3.9% of sex partner data were missing race/ethnicity data.

† **HMO**=health maintenance organization; **MSW**=men who have sex with women only; **MSM**=men who have sex with men

Congenital Syphilis—Reported Cases Among Infants by Year of Birth and Rates of Primary and Secondary Syphilis Among Women, United States, 2002—2011



* **CS**=congenital syphilis; **P&S**=primary and secondary syphilis.

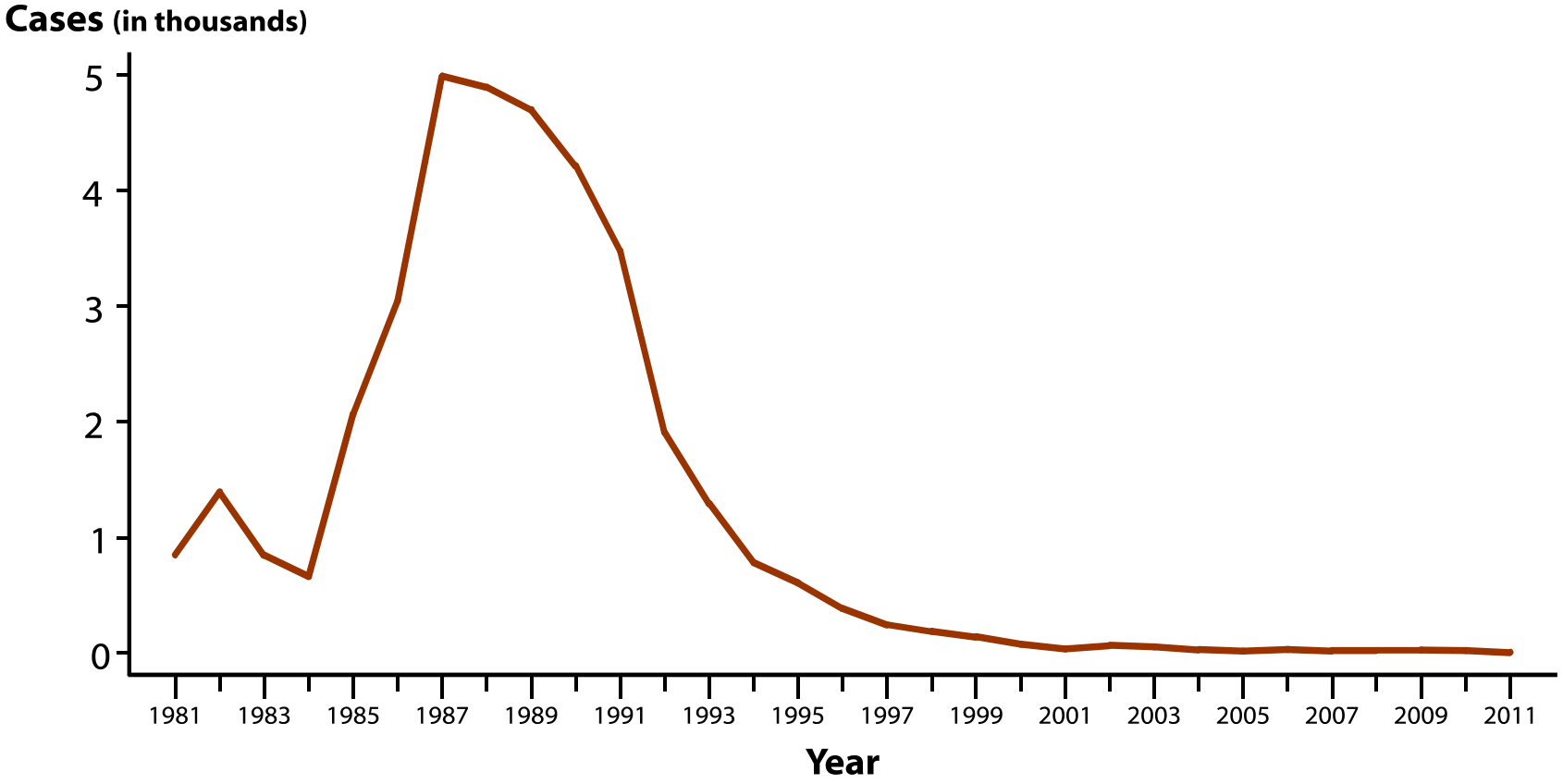
2011-Fig 50. SR

Other Sexually Transmitted Diseases

Sexually Transmitted Disease Surveillance 2011

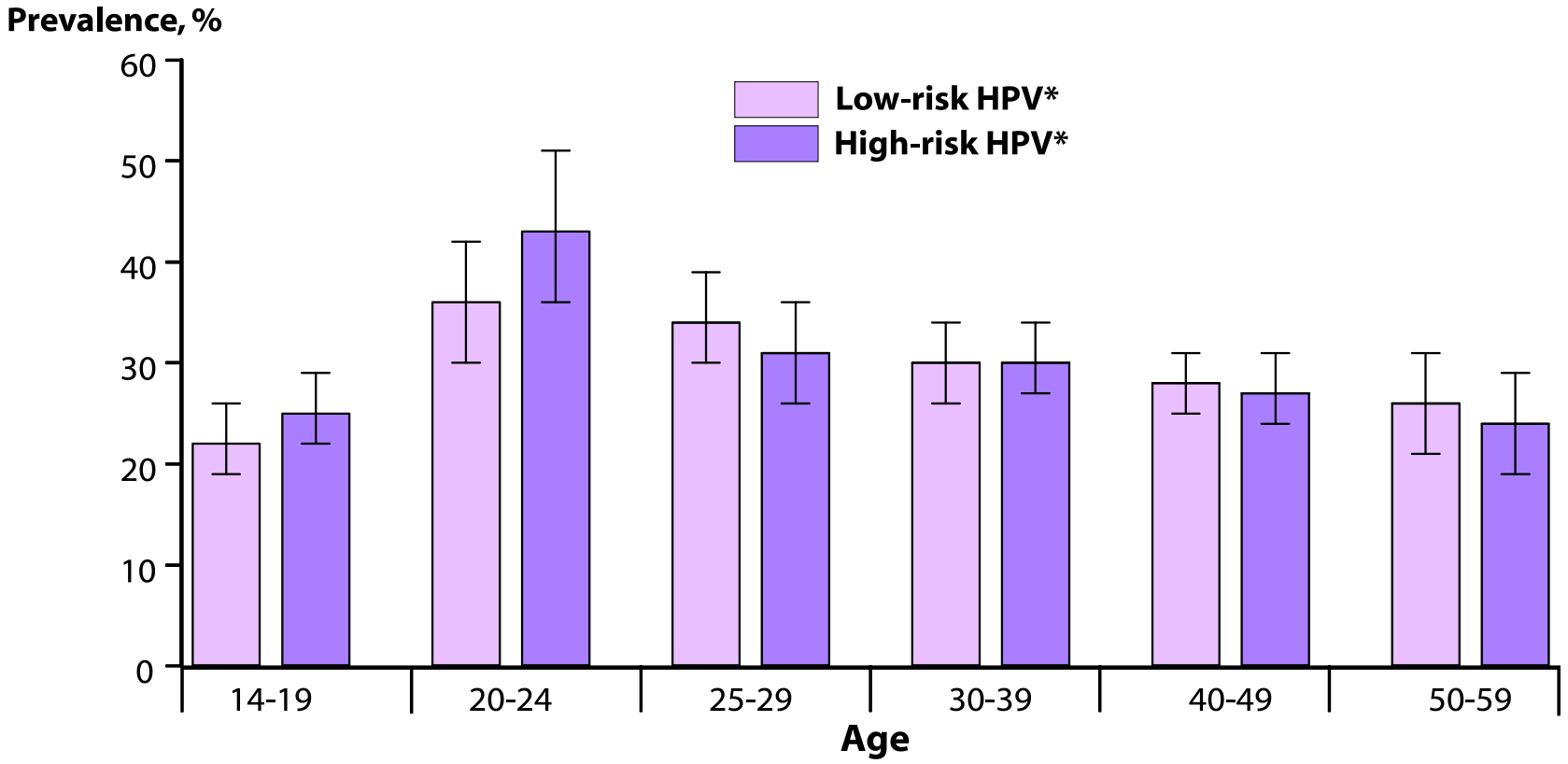
Division of STD Prevention

Chancroid—Reported Cases, United States, 1981–2011



2011-Fig 51. SR

Human Papillomavirus—Prevalence of High-risk and Low-risk Types Among Females Aged 14–59 Years, National Health and Nutrition Examination Survey, 2003–2006

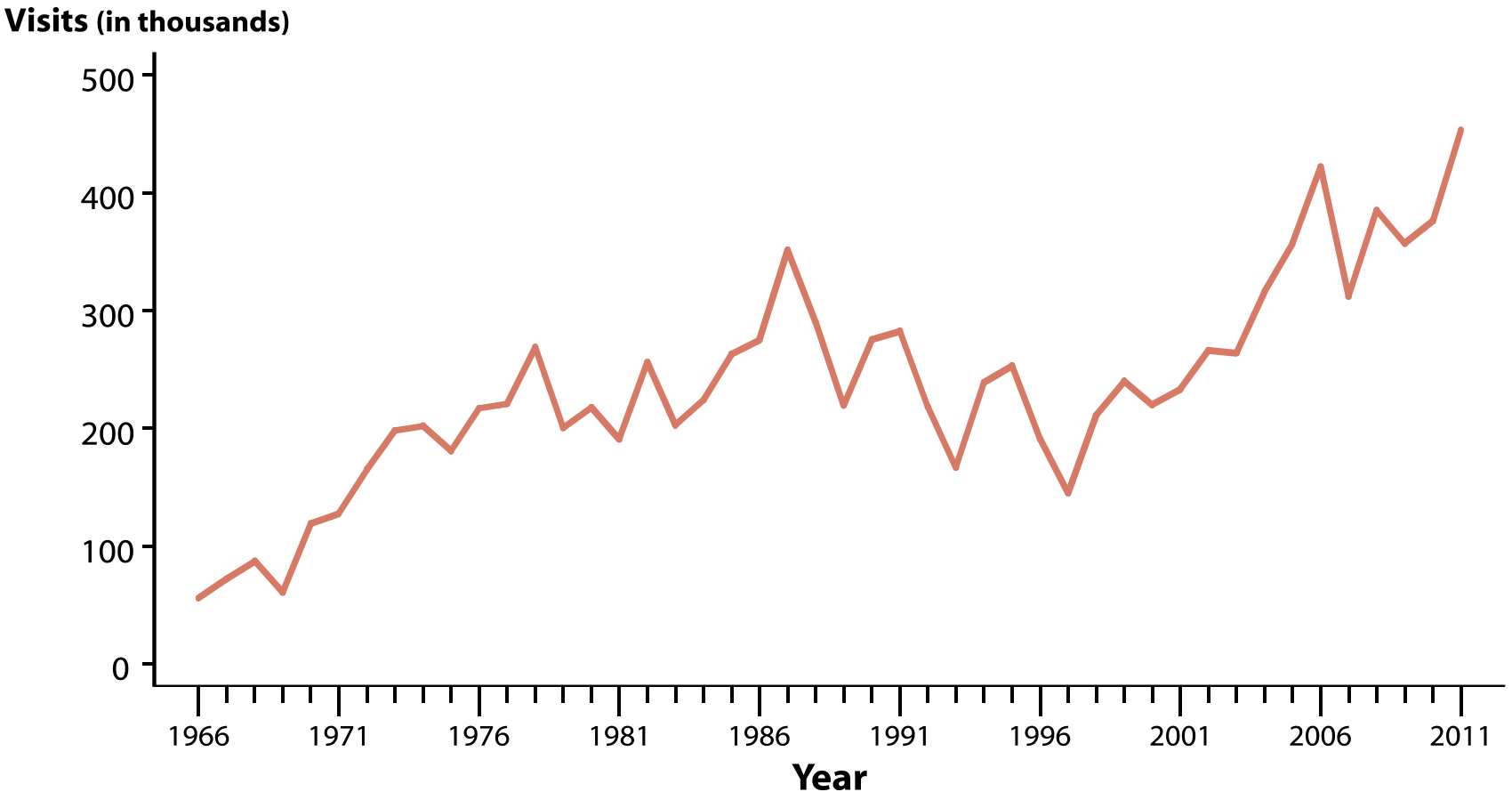


*__HPV__=human papillomavirus.

__NOTE:__ Error bars indicate 95% confidence intervals. Both high-risk and low-risk HPV types were detected in some females.

__SOURCE:__ Hariri S, Unger ER, Sternberg M, Dunne EF, Swan D, Patel S, et al. Prevalence of genital HPV among females in the United States, the National Health and Nutrition Examination Survey, 2003-2006. J Infect Dis. 2011;204(4):566-73

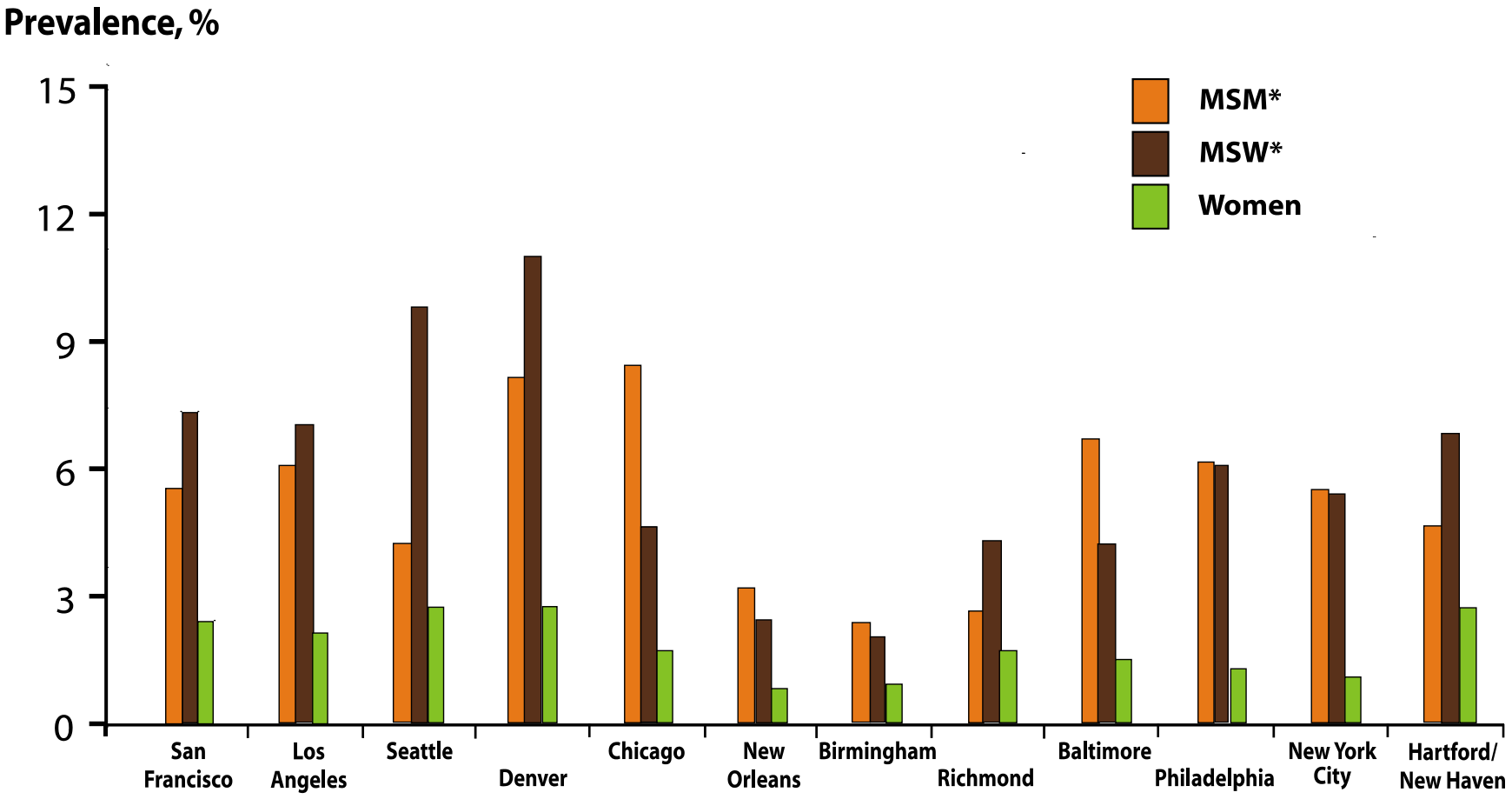
Genital Warts—Initial Visits to Physicians' Offices, United States, 1966–2011



NOTE: The relative standard errors for genital warts estimates of more than 100,000 range from 18% to 30%.

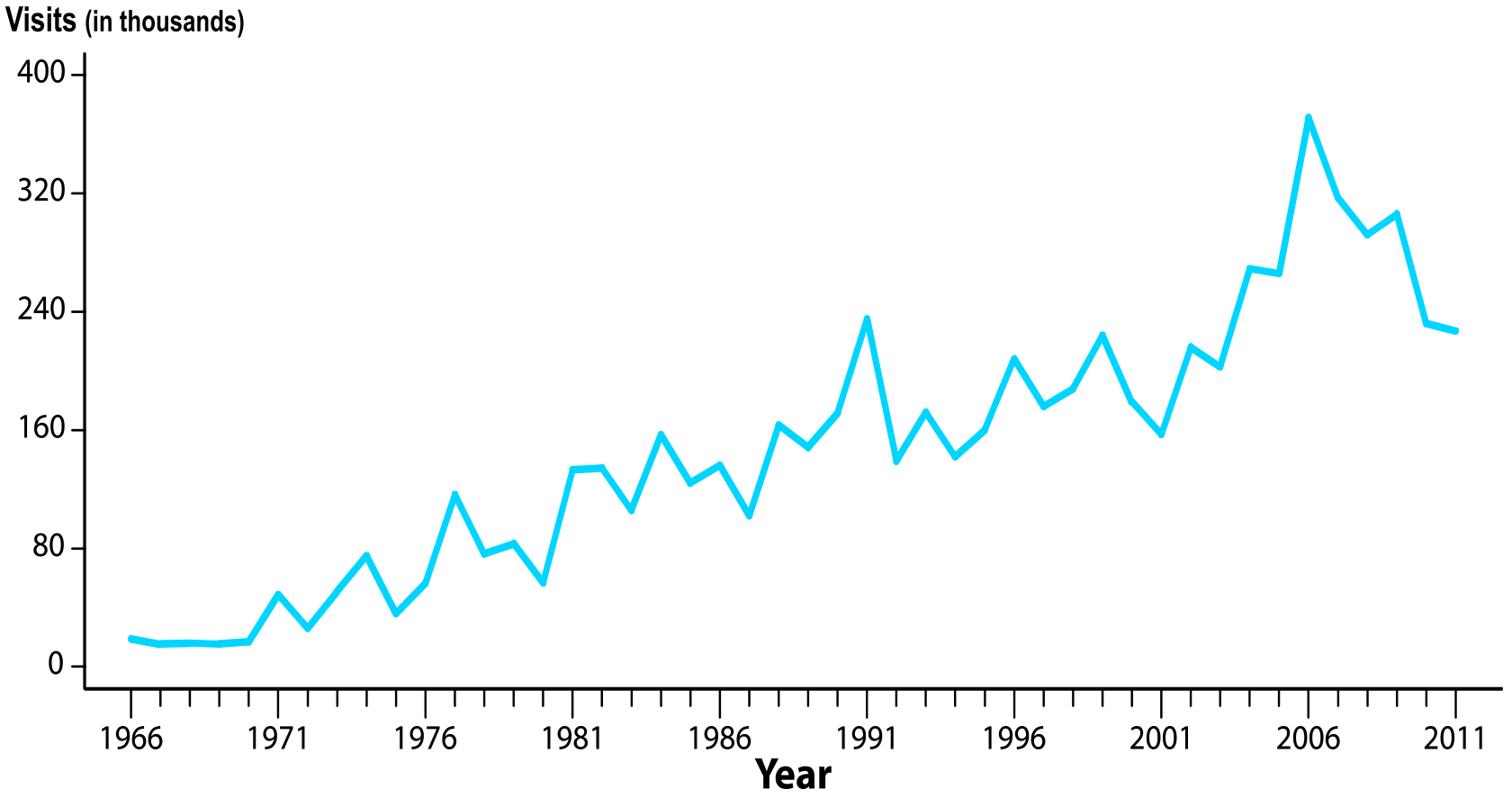
SOURCE: IMS Health, Integrated Promotional Services ™. IMS Health Report, 1966–2011.

Genital Warts—Prevalence Among Sexually Transmitted Disease (STD) Clinic Patients by Sex, Sex of Partners, and Site, STD Surveillance Network (SSuN), 2011



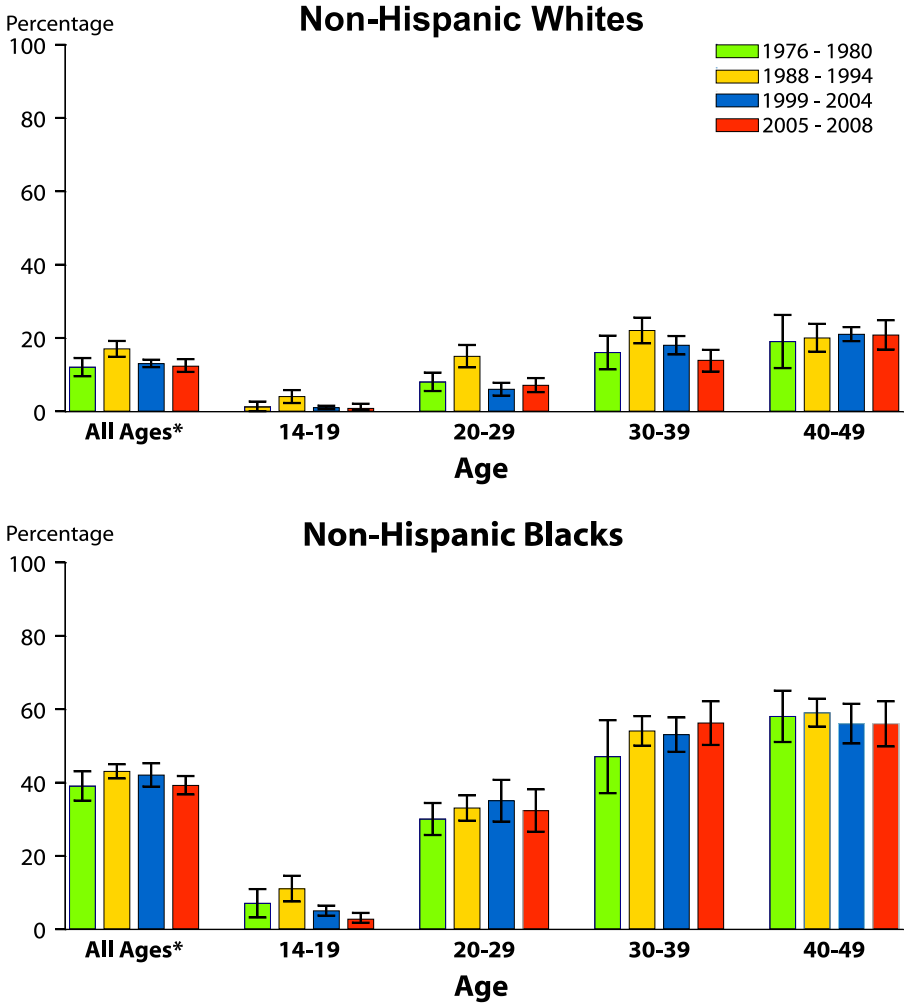
*__MSM__=men who have sex with men; __MSW__=men who have sex with women only.

Genital Herpes—Initial Visits to Physicians' Offices, United States, 1966–2011



NOTE: The relative standard errors for genital herpes estimates of more than 100,000 range from 18% to 30%.
SOURCE: IMS Health, Integrated Promotional Services ™. IMS Health Report, 1966–2011.

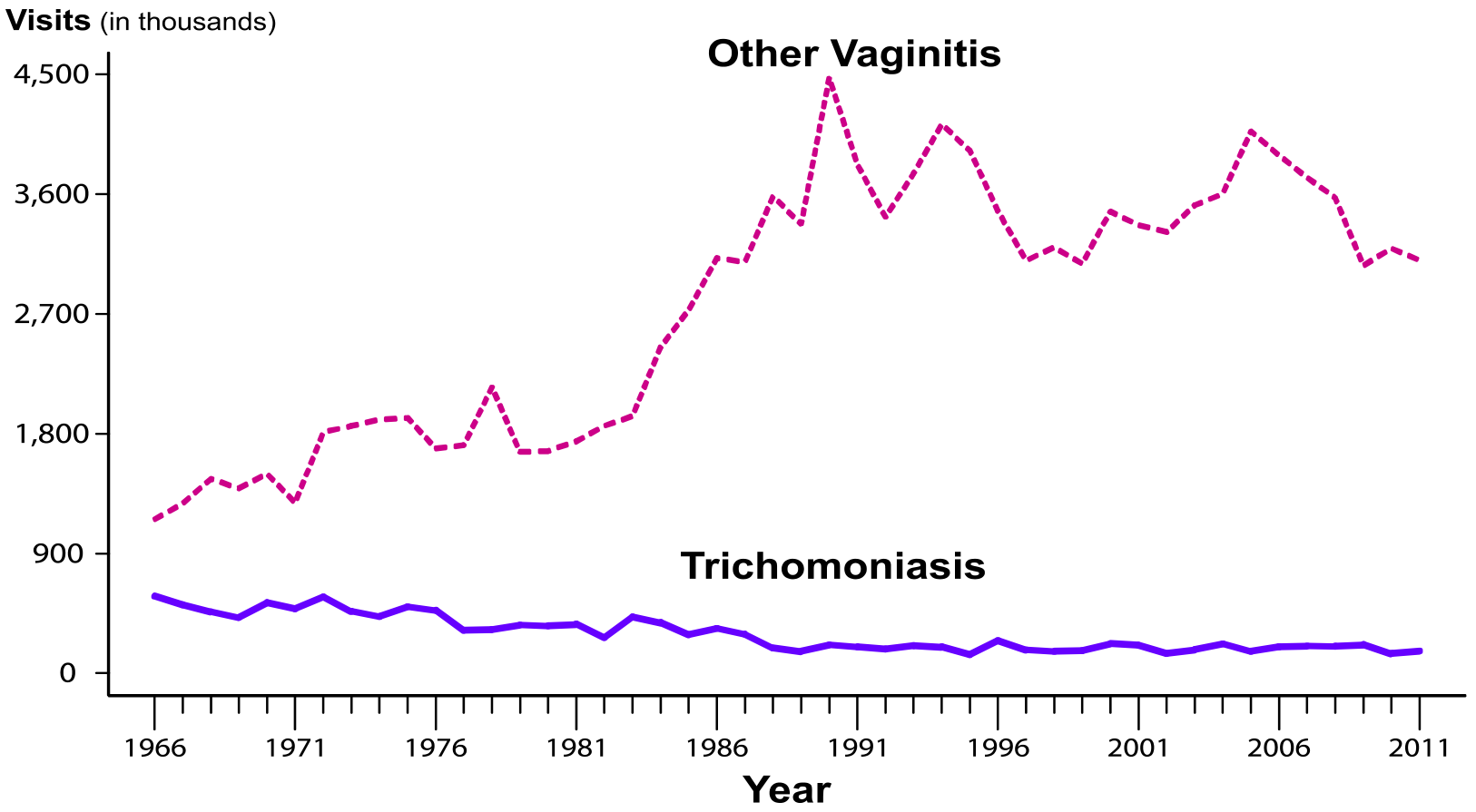
Herpes Simplex Virus Type 2—Seroprevalence in Non-Hispanic Whites and Non-Hispanic Blacks by Age Group, National Health and Nutrition Examination Survey, 1976–1980, 1988–1994, 1999–2004, 2005–2008



*Age-adjusted by using the 2000 U.S. Census civilian, non-institutionalized population aged 14-49 years as the standard.

NOTE: Error bars indicate 95% confidence intervals.

Trichomoniasis and Other Vaginal Infections—Women—Initial Visits to Physicians' Offices, United States, 1966–2011



NOTE: The relative standard errors for trichomoniasis estimates range from 16% to 27% and for other vaginitis estimates range from 8% to 13%.
SOURCE: IMS Health, Integrated Promotional Services™, IMS Health Report, 1966–2011.

Special Focus Profiles

Sexually Transmitted Disease Surveillance 2011

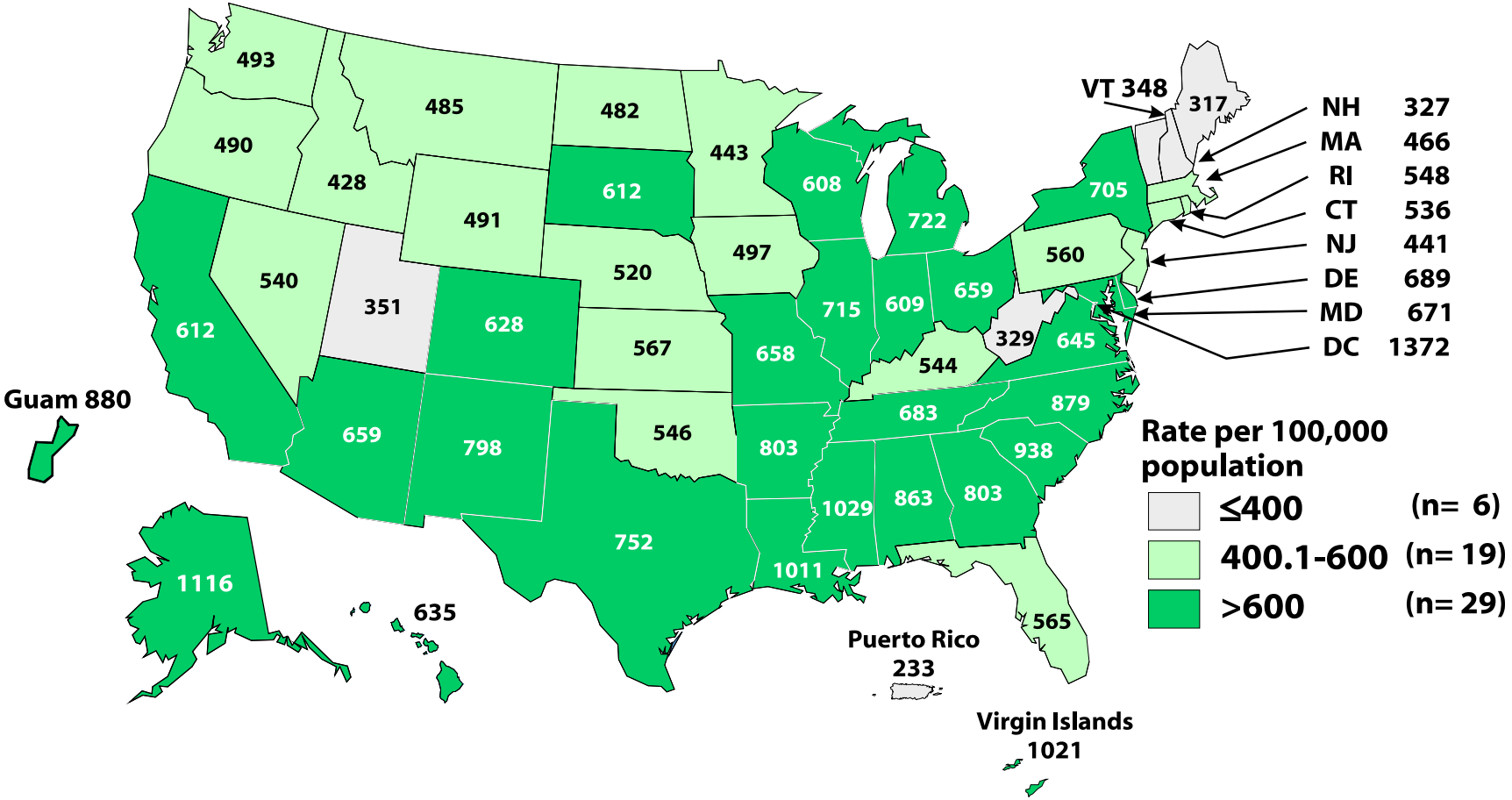
Division of STD Prevention

STDs in Women and Infants

Sexually Transmitted Disease Surveillance 2011

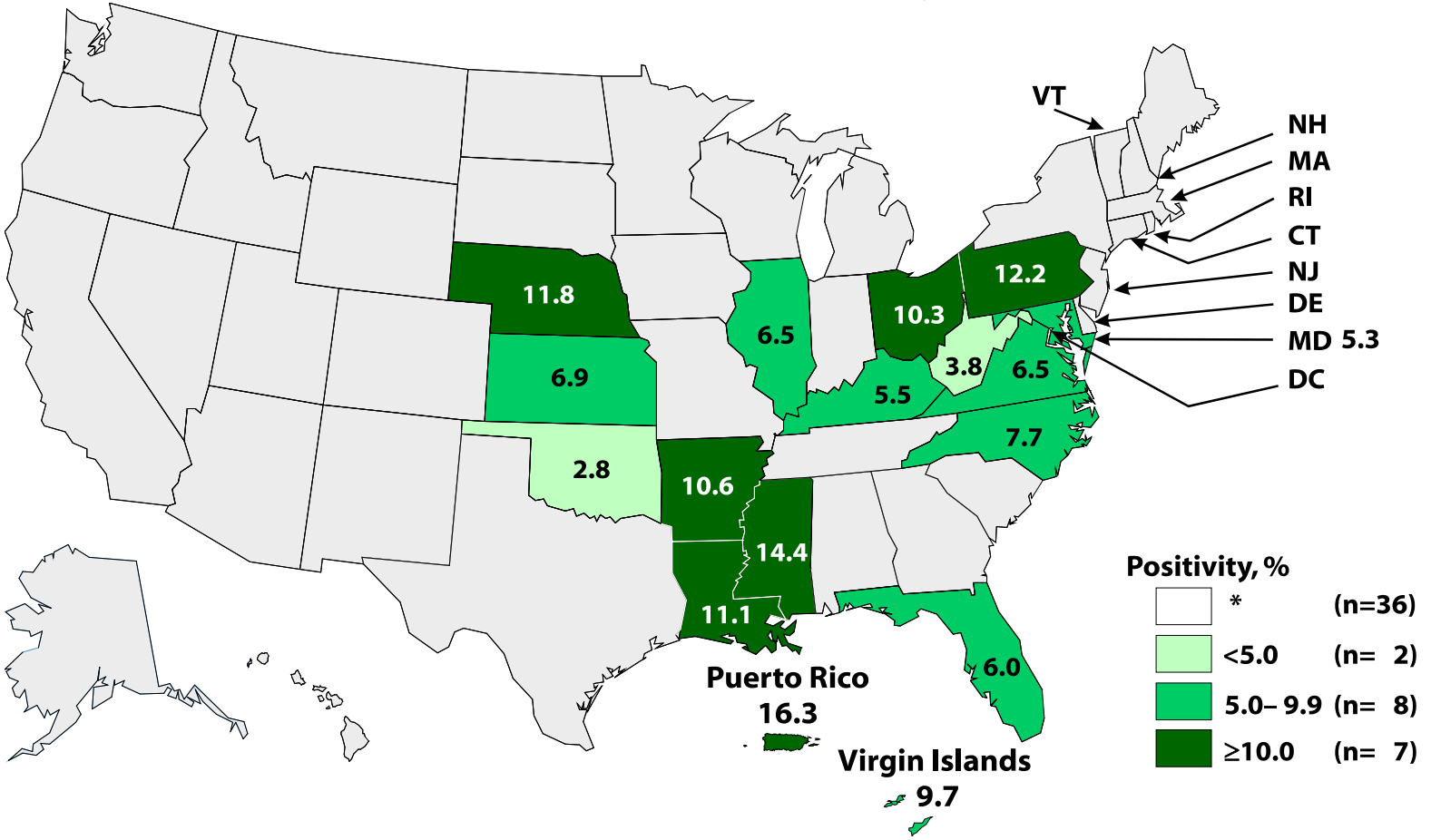
Division of STD Prevention

Chlamydia—Women—Rates by State, United States and Outlying Areas, 2011



NOTE: The total chlamydial infection rate among women in the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 644.1 per 100,000 female population.

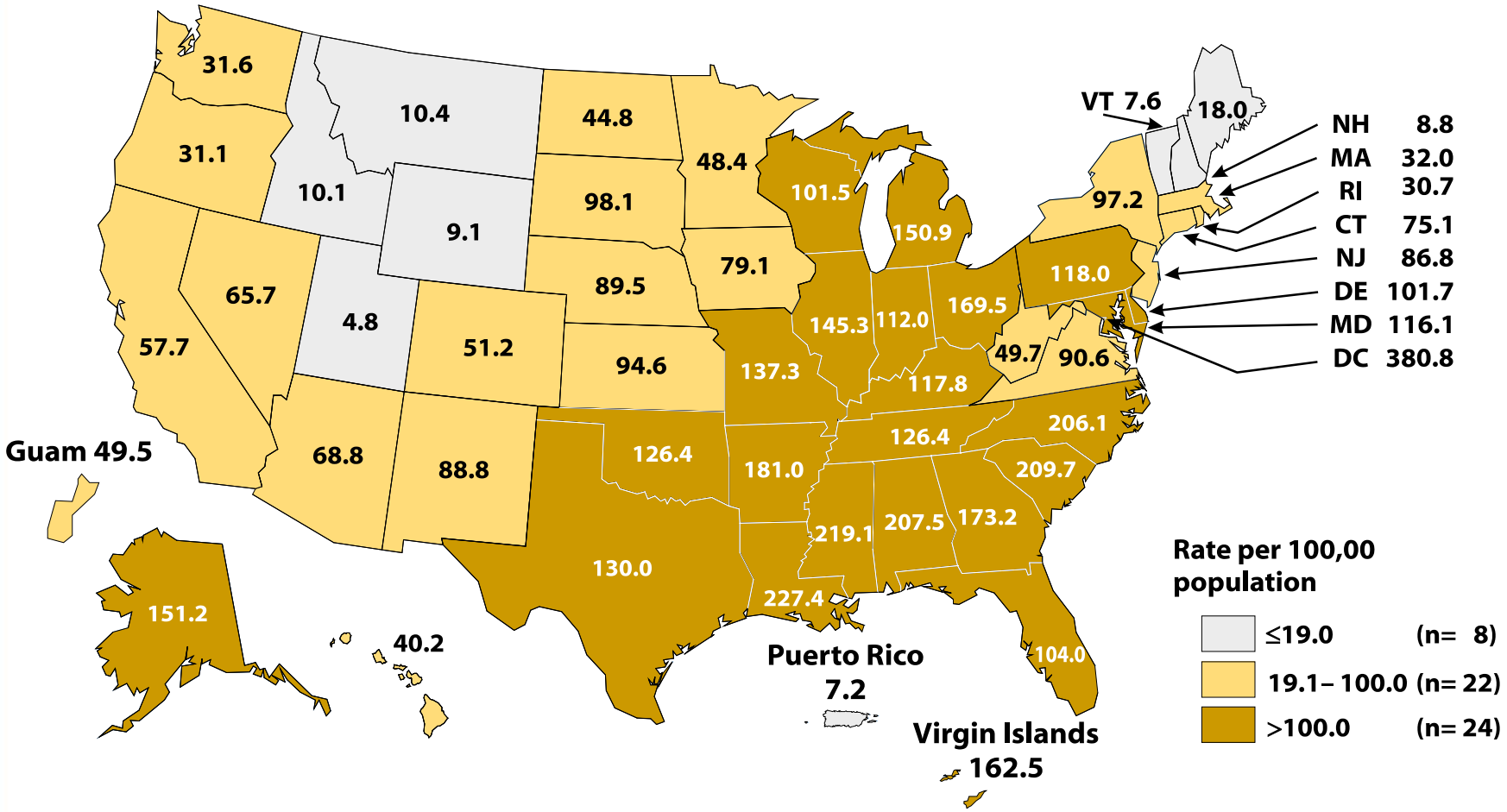
Chlamydia—Positivity Among Women Aged 15–24 Years Tested in Prenatal Clinics, by State, Infertility Prevention Project, United States and Outlying Areas, 2011



*States/areas reported chlamydia positivity data on fewer than 100 women aged 15-24 years in 2011.

2011-Fig B. SR

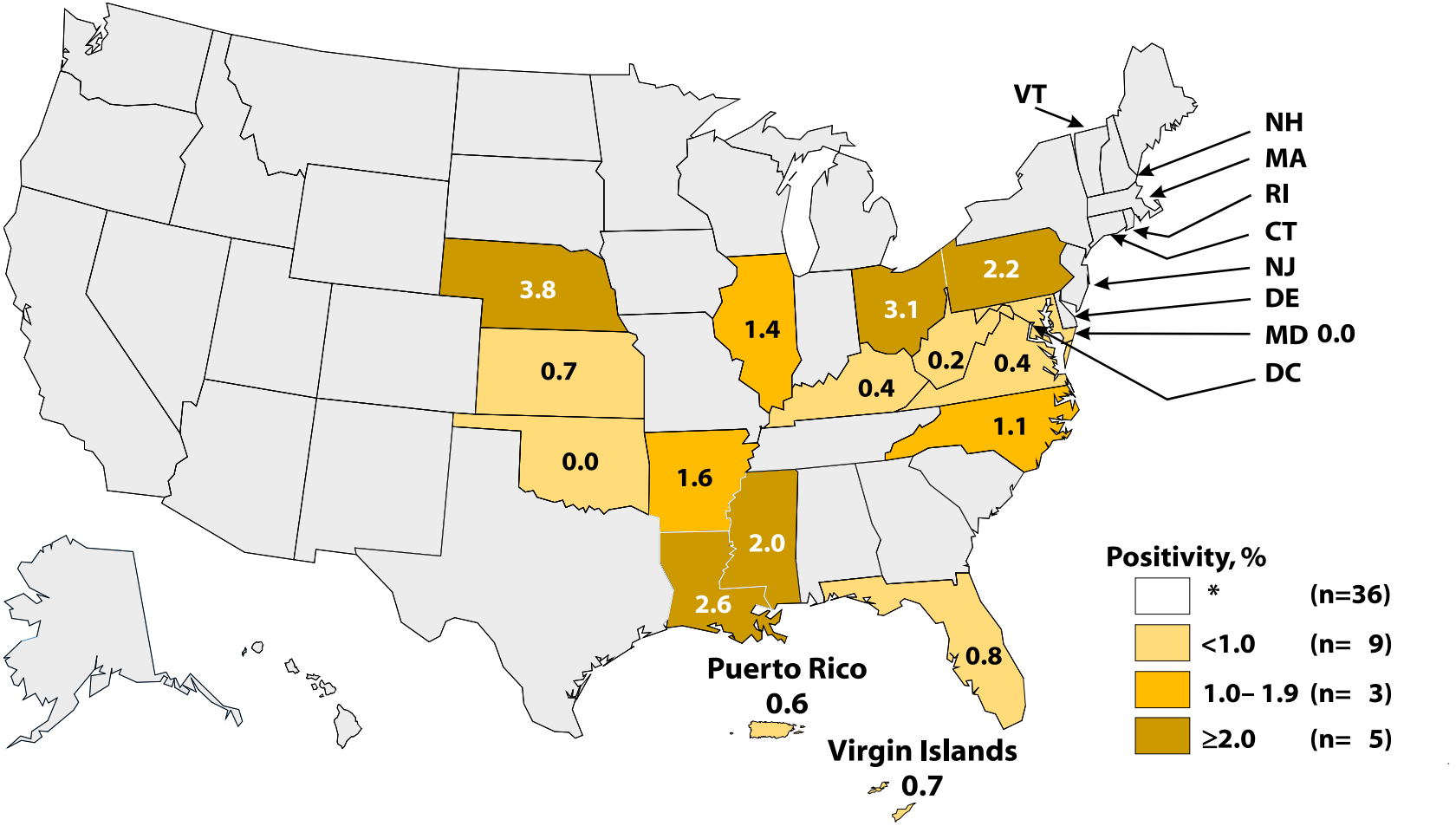
Gonorrhea—Women—Rates by State, United States and Outlying areas, 2011



NOTE: The total gonorrhea infection rate among women in the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 107.7 per 100,000 female population.

2011-Fig C. SR

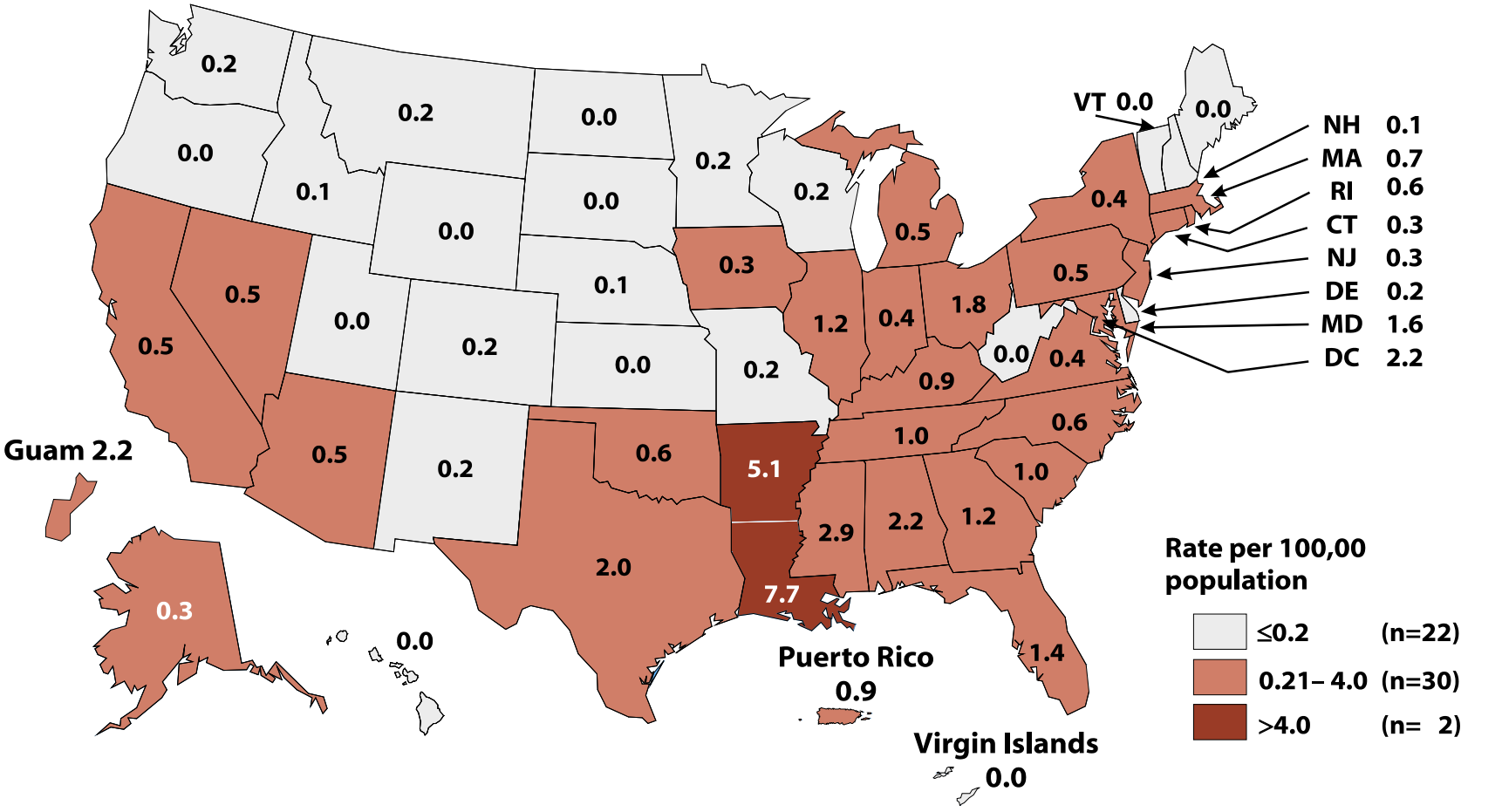
Gonorrhea—Positivity Among Women Aged 15–24 Years Tested in Prenatal Clinics, by State, Infertility Prevention Project, United States and Outlying Areas, 2011



*States/areas reported gonorrhea positivity data on fewer than 100 women aged 15-24 years in 2011.

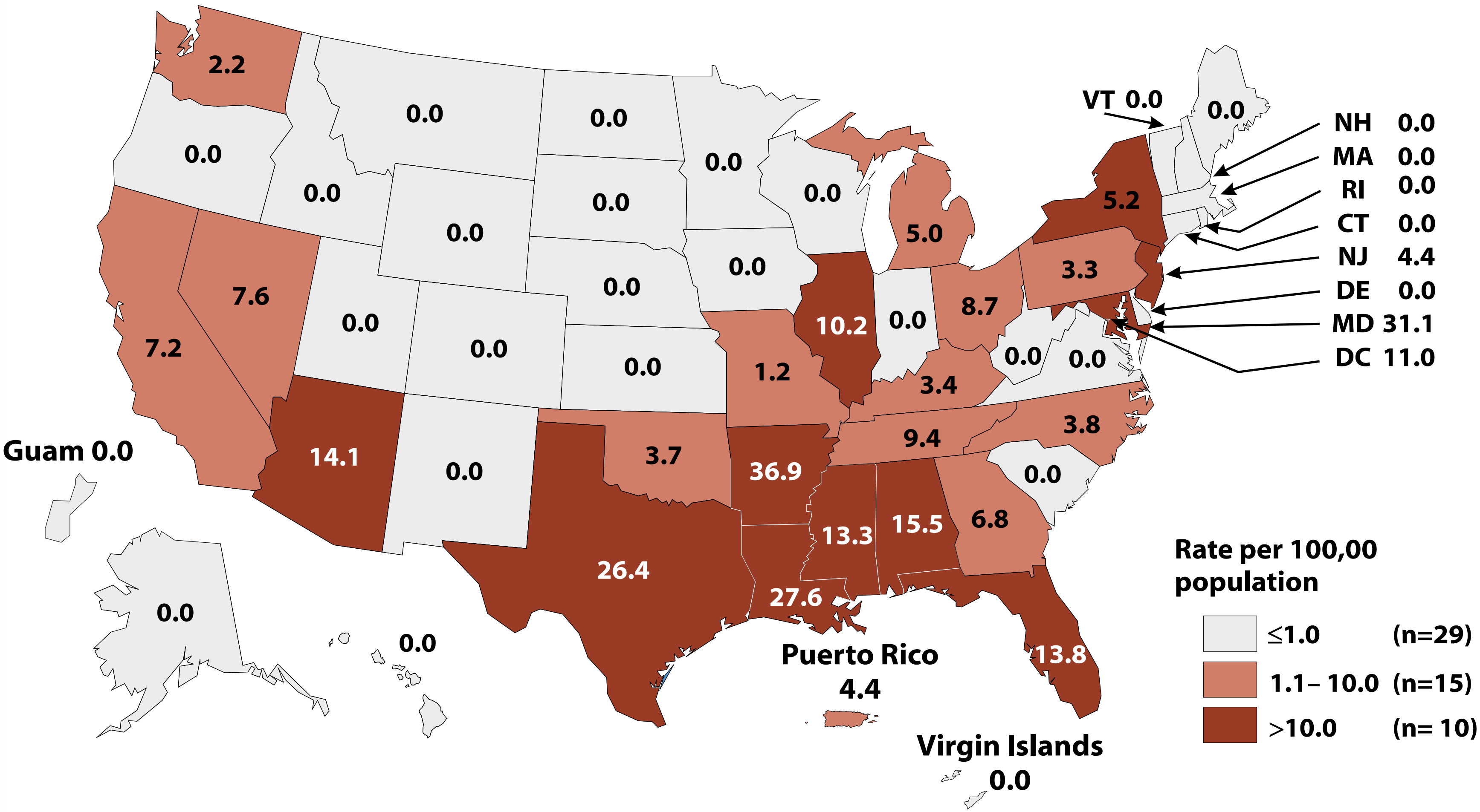
2011-Fig D. SR

Primary and Secondary Syphilis—Women—Rates by State, United States and Outlying Areas, 2011



NOTE: The total rate of primary and secondary syphilis among women in the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 1.0 per 100,000 females.

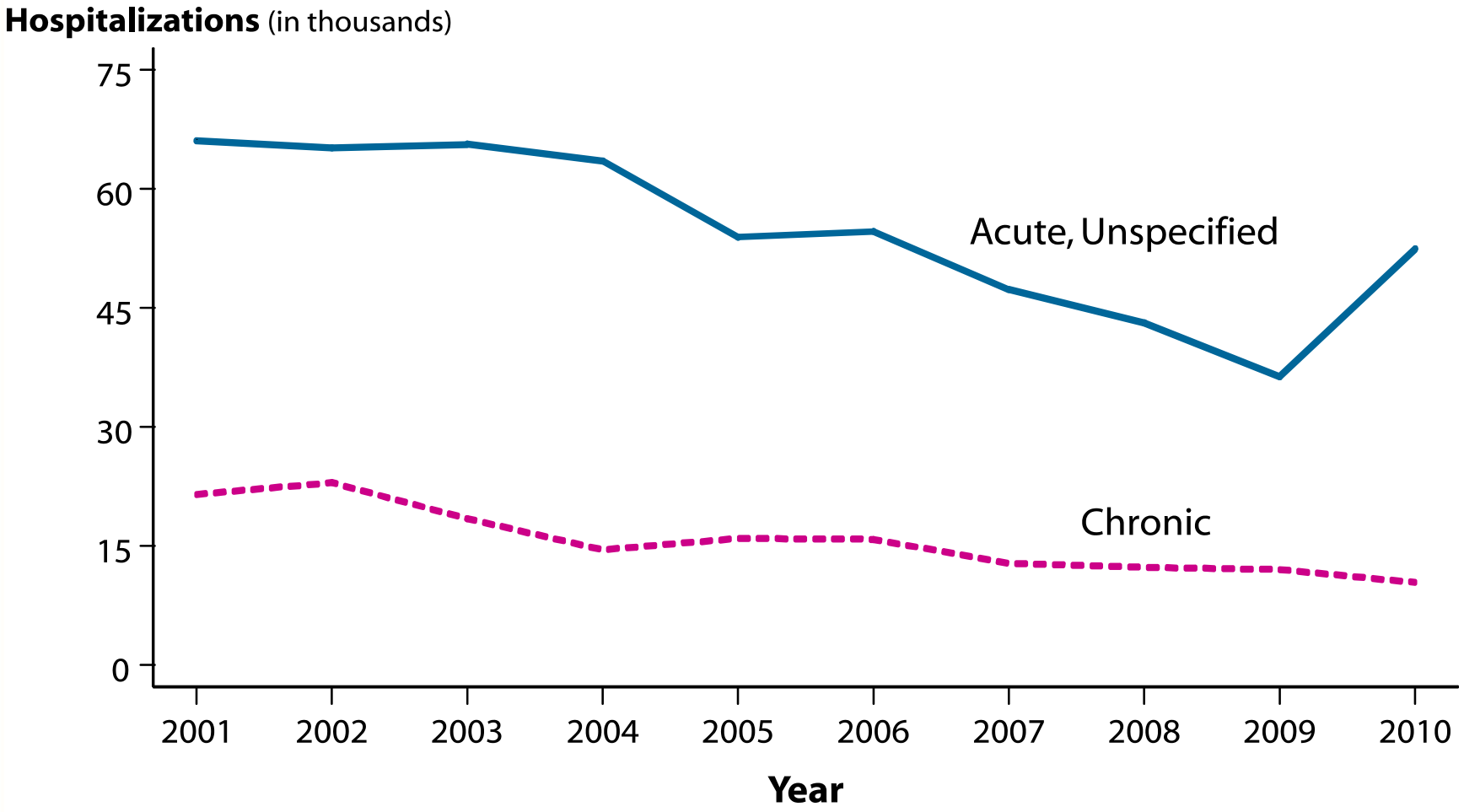
Congenital Syphilis—Infants—Rates by Year of Birth and State, United States and Outlying areas, 2011



NOTE: The total rate of congenital syphilis for infants by year of birth for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 8.5 per 100,000 live births.

2011-Fig F. SR

Pelvic Inflammatory Disease—Hospitalizations of Women Aged 15—44 Years, United States, 2001-2010



NOTE: The relative standard errors for acute and unspecified pelvic inflammatory disease (PID) cases ranges from 8%-18%. The relative standard error for chronic PID cases ranges from 12%–28%. Data only available through 2010.

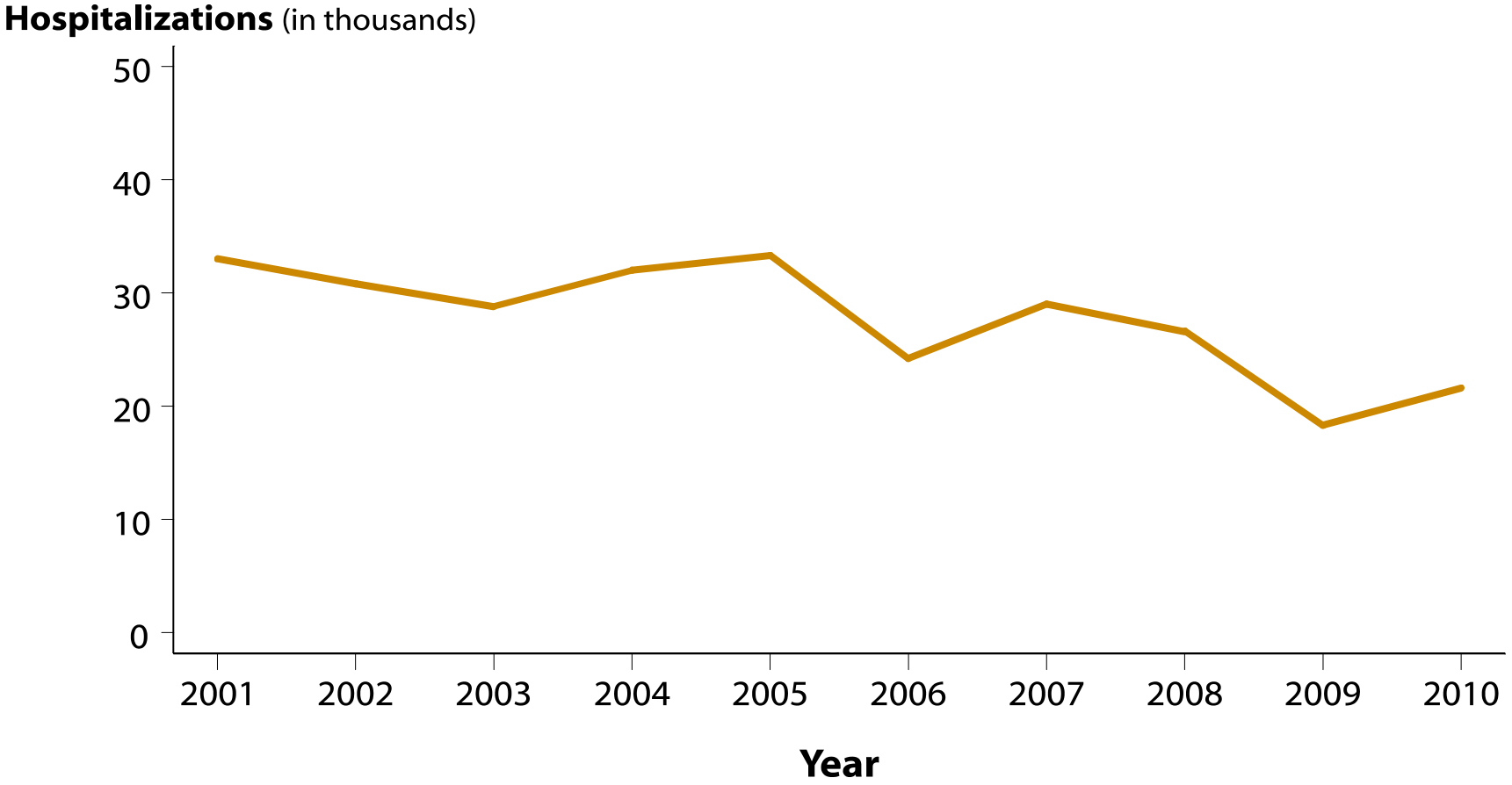
SOURCE: 2010 National Hospital Discharge Survey [Internet]. Atlanta: Centers for Disease Control and Prevention. Available from: http://www.cdc.gov/nchs/nhds.htm.

Pelvic Inflammatory Disease—Initial Visits to Physicians' Offices by Women Aged 15—44 Years, United States, 2002-2011

NOTE: The relative standard errors for these estimates are 21.6–30% .

SOURCE: IMS Health, Integrated Promotional Services ™. IMS Health Report, 1966–2011.

Ectopic Pregnancy—Hospitalizations of Women Aged 15–44 Years, United States, 2001-2010



NOTE: The relative standard errors for these estimates are 10%–23% . Data only available through 2010.

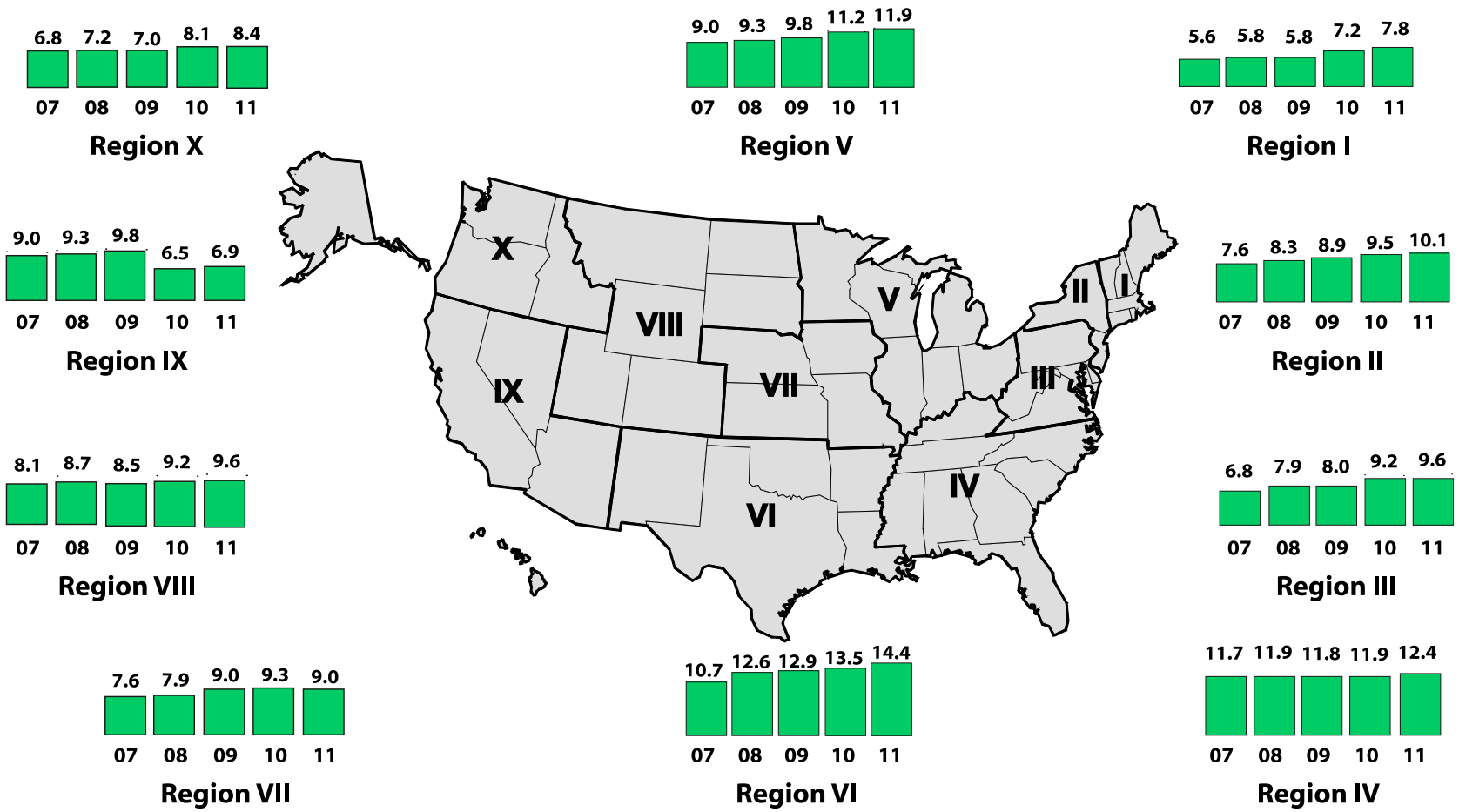
SOURCE: 2010 National Hospital Discharge Survey [Internet]. Atlanta: Centers for Disease Control and Prevention. Available from: http://www.cdc.gov/nchs/nhds.htm.

STDs in Adolescents and Young Adults

Sexually Transmitted Disease Surveillance 2011

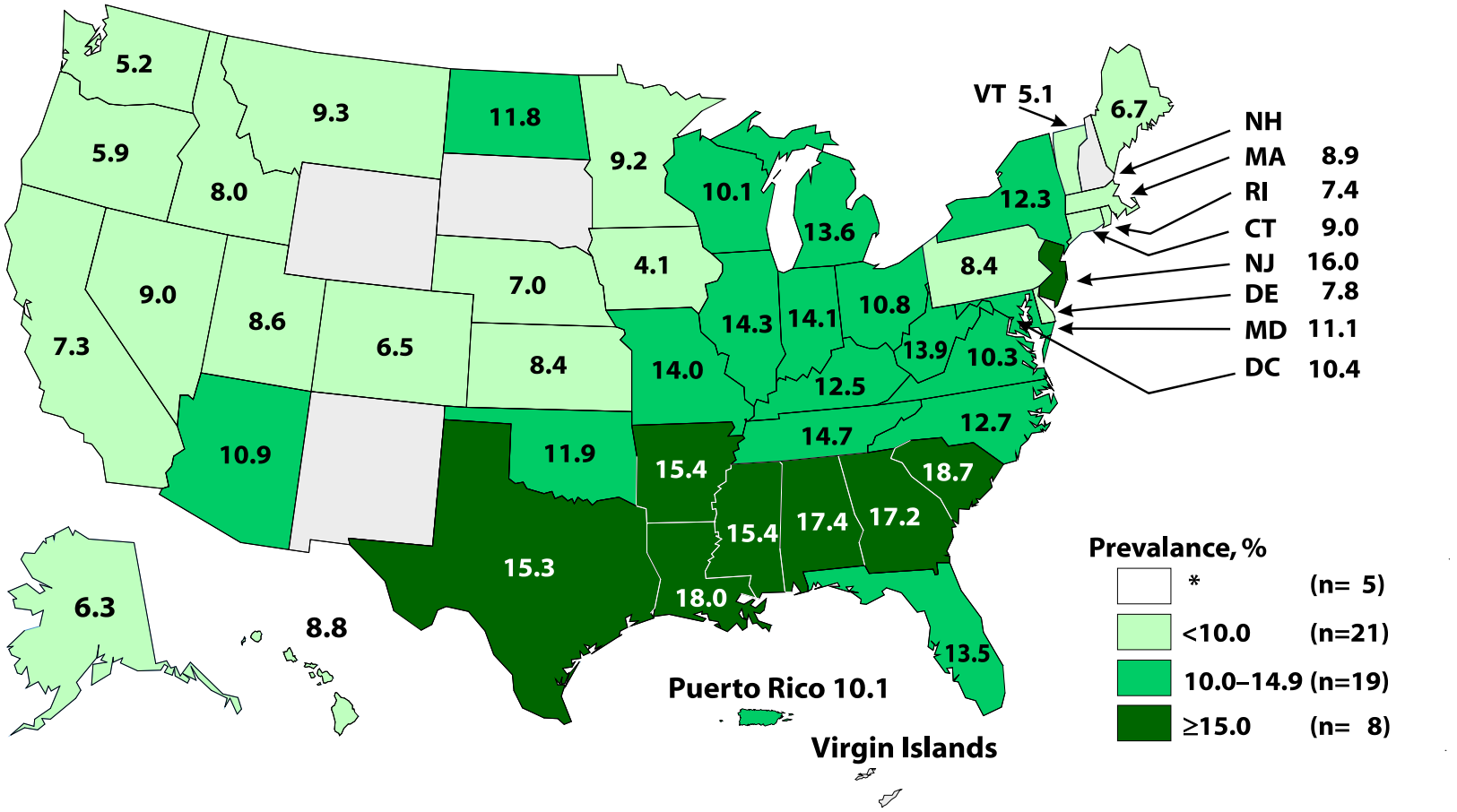
Division of STD Prevention

Chlamydia—Trends in Positivity Rates Among Women Aged 15–19 Years Tested in Family Planning Clinics, by U.S. Department of Health and Human Services (HHS) Region, Infertility Prevention Project, 2007–2011



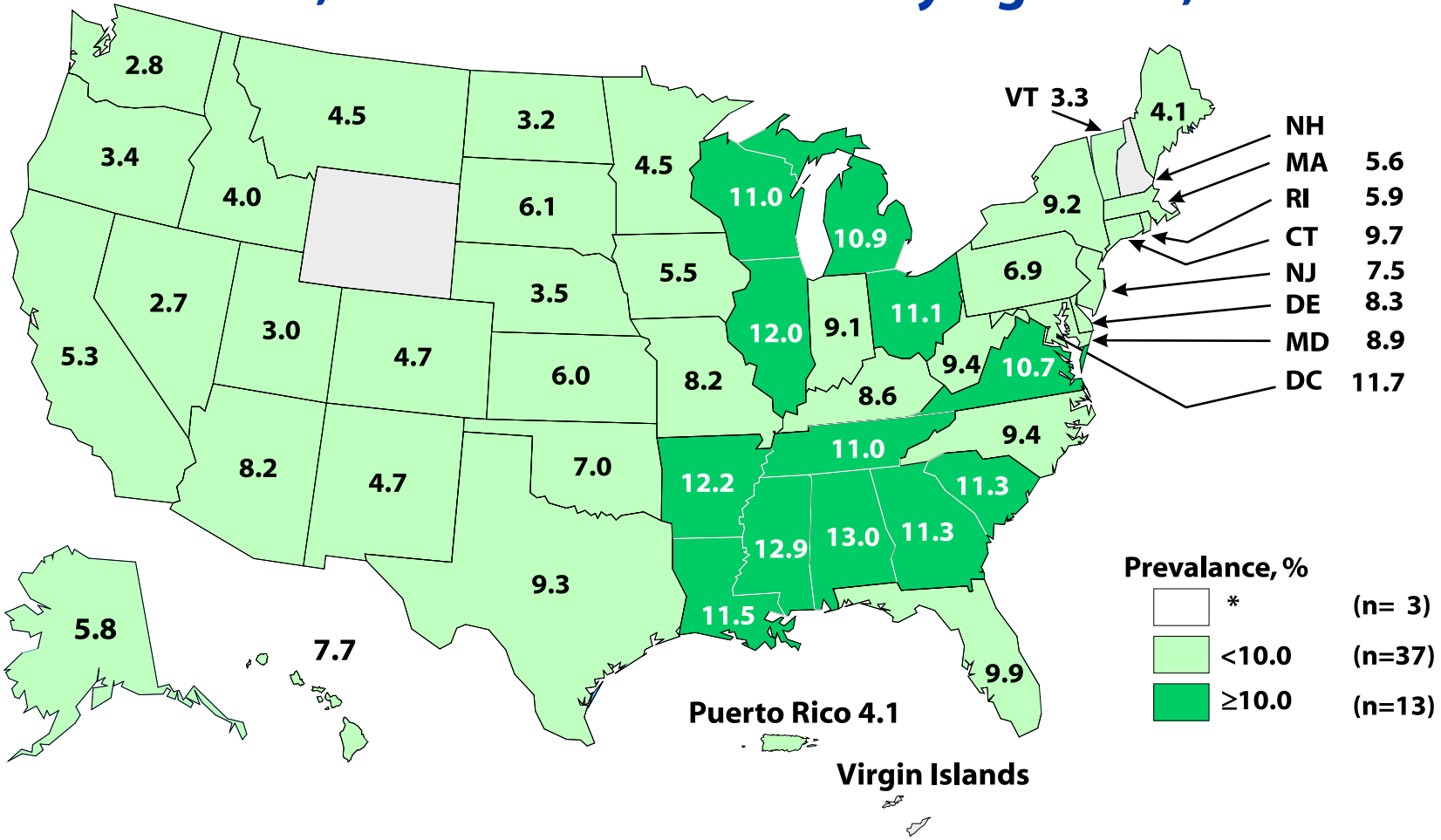
2011-Fig J. SR

Chlamydia—Prevalence Among Women Aged 16–24 Years Entering the National Job Training Program, by State of Residence, United States and Outlying Areas, 2011



*Fewer than 100 women who resided in these states/areas and entered the National Job Training Program were screened for chlamydia in 2011.

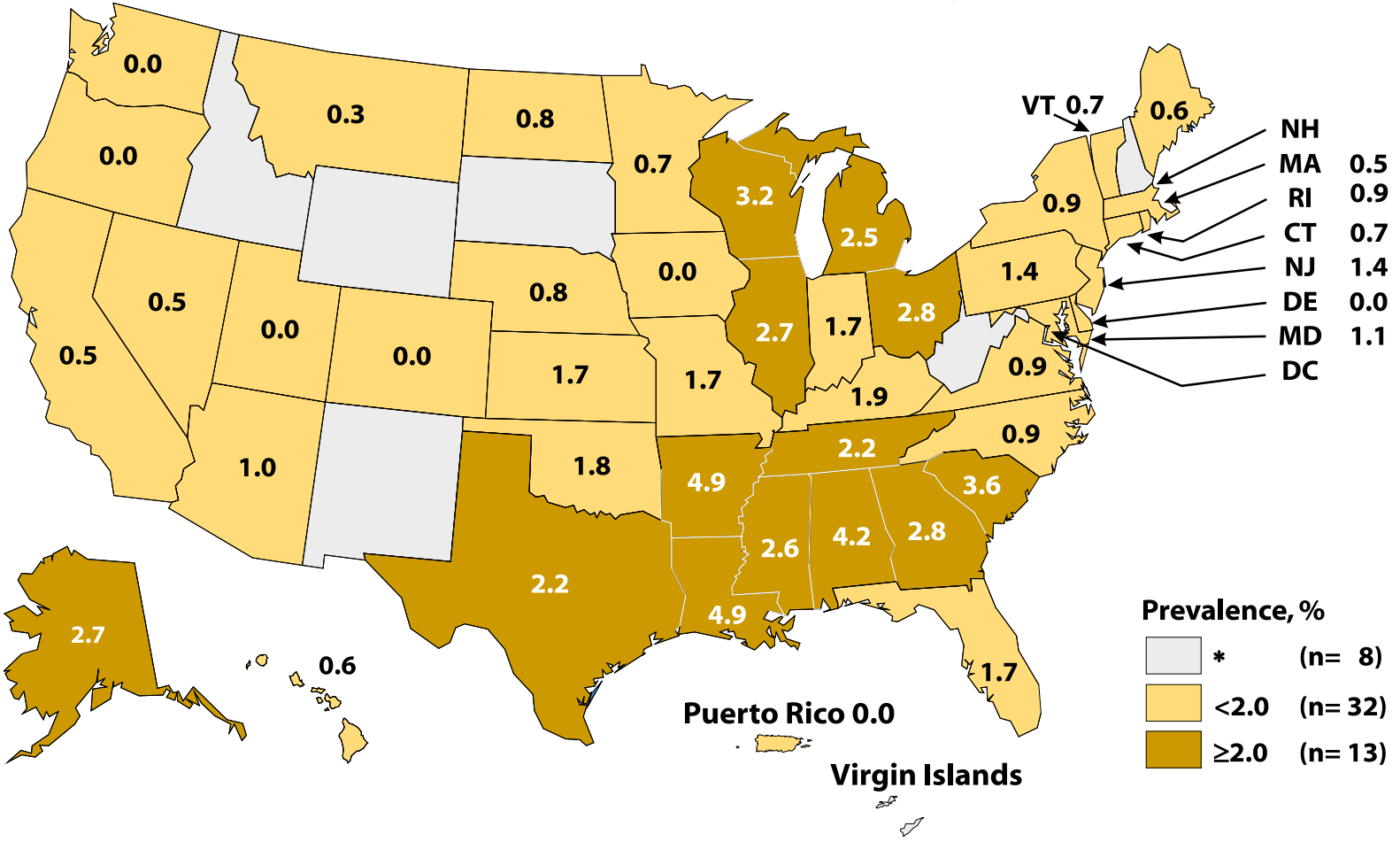
Chlamydia—Prevalence Among Men Aged 16–24 Years Entering the National Job Training Program, by State of Residence, United States and Outlying Areas, 2011



*Fewer than 100 men who resided in these states/areas and entered the National Job Training Program were screened for chlamydia in 2011.

2011-Fig L. SR

Gonorrhea—Prevalence Among Women Aged 16–24 Years Entering the National Job Training Program, by State of Residence, United States and Outlying Areas, 2011

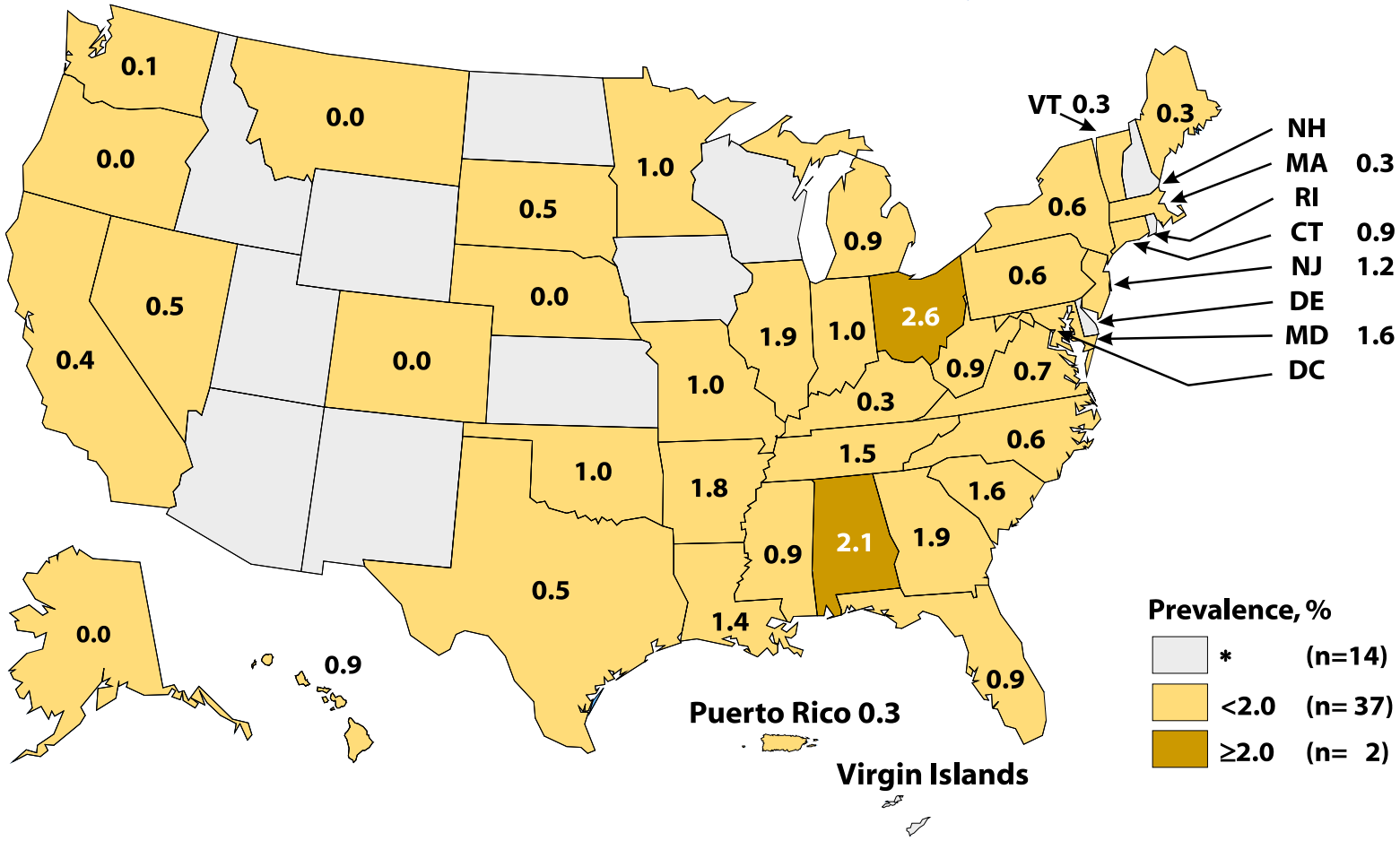


*Fewer than 100 women who resided in these states/areas and entered the National Job Training Program were screened for gonorrhea in 2011.

NOTE: Many training centers use local laboratories to test female students for gonorrhea; these results are not available to CDC. For this map, gonorrhea test results for students at centers that submitted specimens to the national contract laboratory were included if the number of gonorrhea tests submitted was greater than 90% of the number of chlamydia tests submitted

2011-Fig M. SR

Gonorrhea—Prevalence Among Men Aged 16–24 Years Entering the National Job Training Program, by State of Residence, United States and Outlying Areas, 2011



*Fewer than 100 men who resided in these states/areas and entered the National Job Training Program were screened for gonorrhea in 2011.

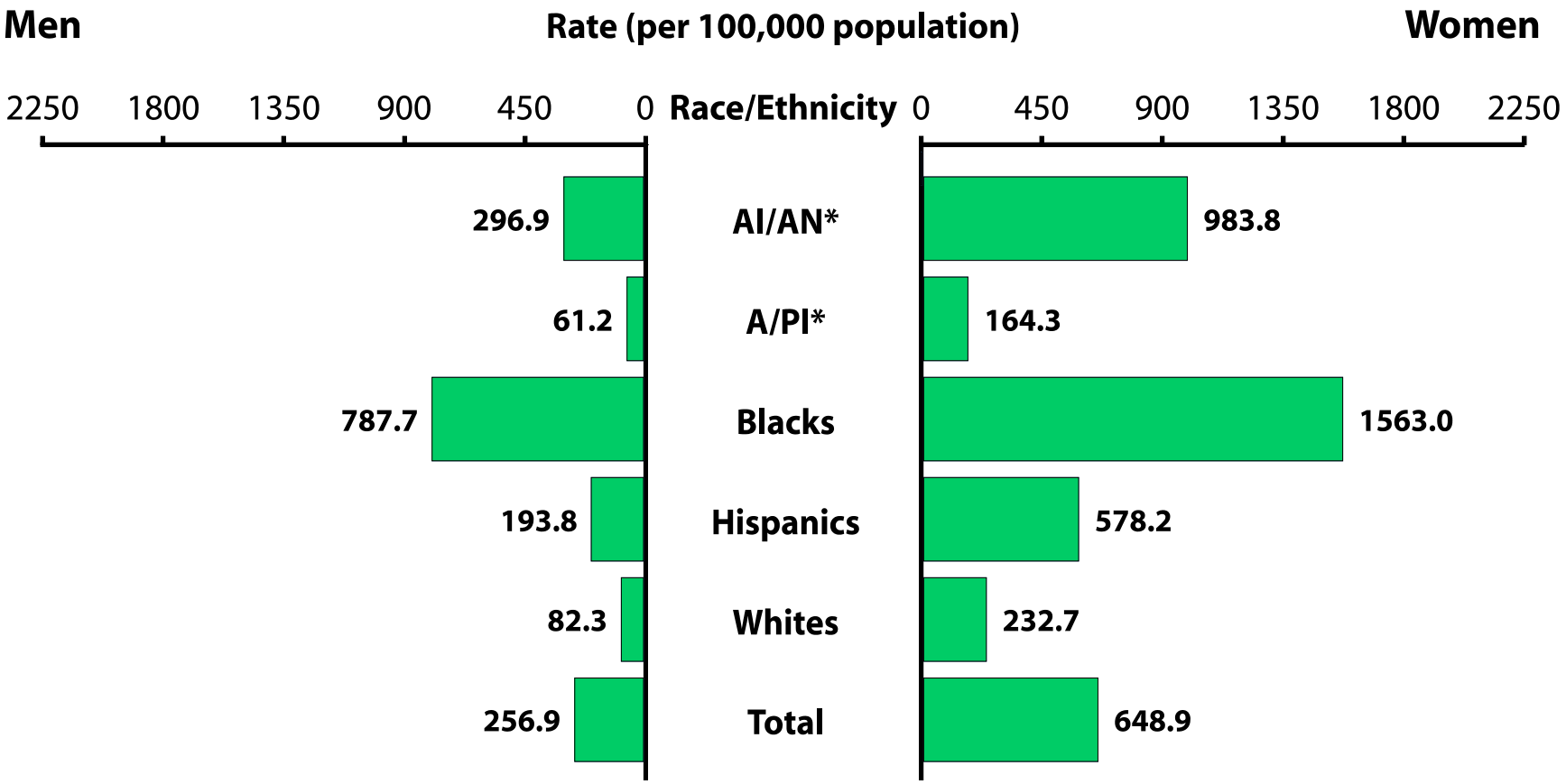
NOTE: Many training centers use local laboratories to test male students for gonorrhea; these results are not available to CDC. For this map, gonorrhea test results for students at centers that submitted specimens to the national contract laboratory were included if the number of gonorrhea tests submitted was greater than 90% of the number of chlamydia tests submitted

STDs in Racial and Ethnic Minorities

Sexually Transmitted Disease Surveillance 2011

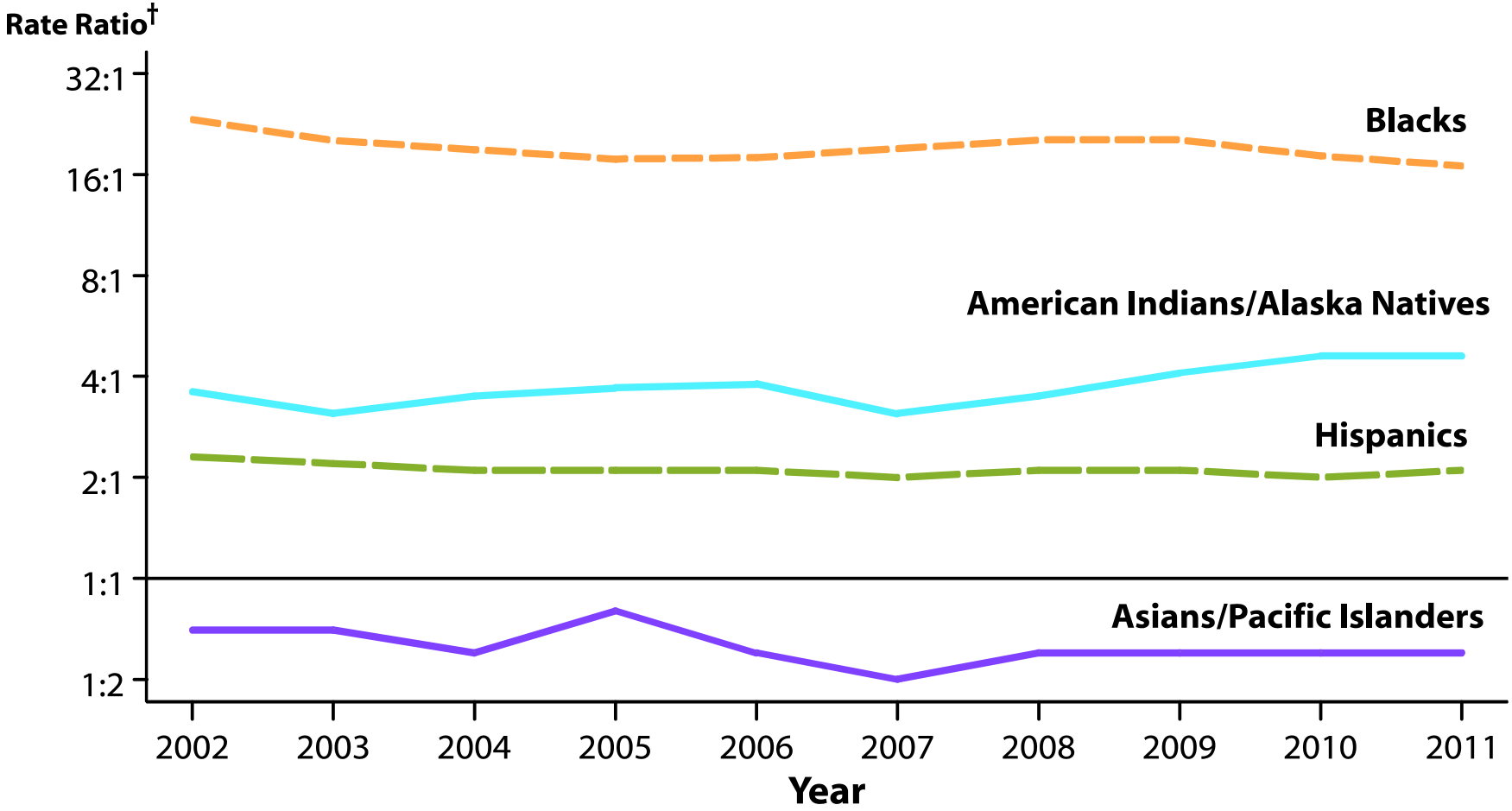
Division of STD Prevention

Chlamydia—Rates by Race/Ethnicity and Sex, United States, 2011



*__AI/AN__=American Indians/Alaska Natives; __A/PI__=Asians/Pacific Islanders.

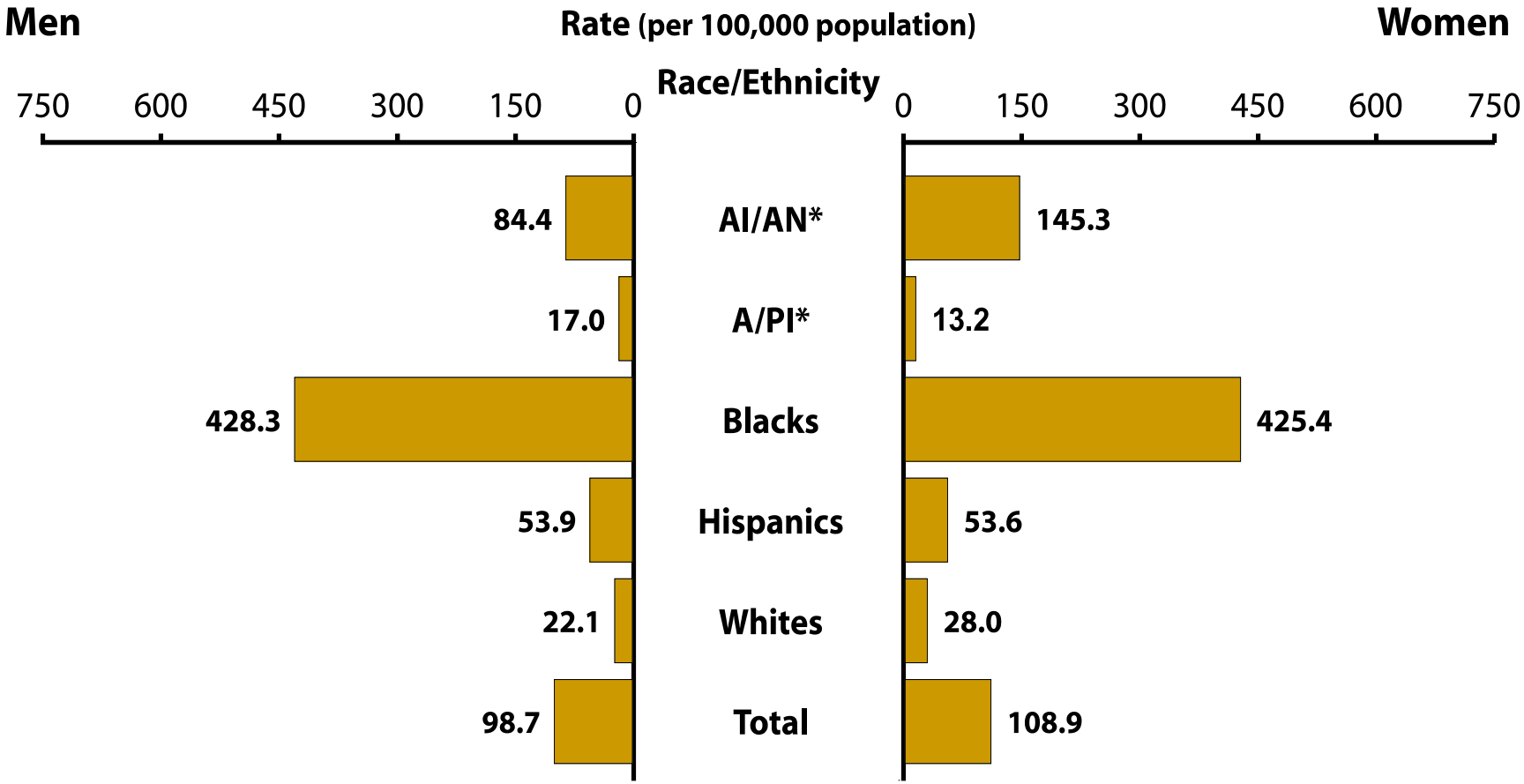
Gonorrhea—Rate Ratios* by Race/Ethnicity, United States, 2002–2011



*Rate ratios are calculated as the gonorrhea rate per 100,000 population for a given racial or ethnic minority population divided by the gonorrhea rate per 100,000 population for non-Hispanic whites. Any population with a lower rate of gonorrhea than the non-Hispanic white population will have a rate ration of less than 1:1.

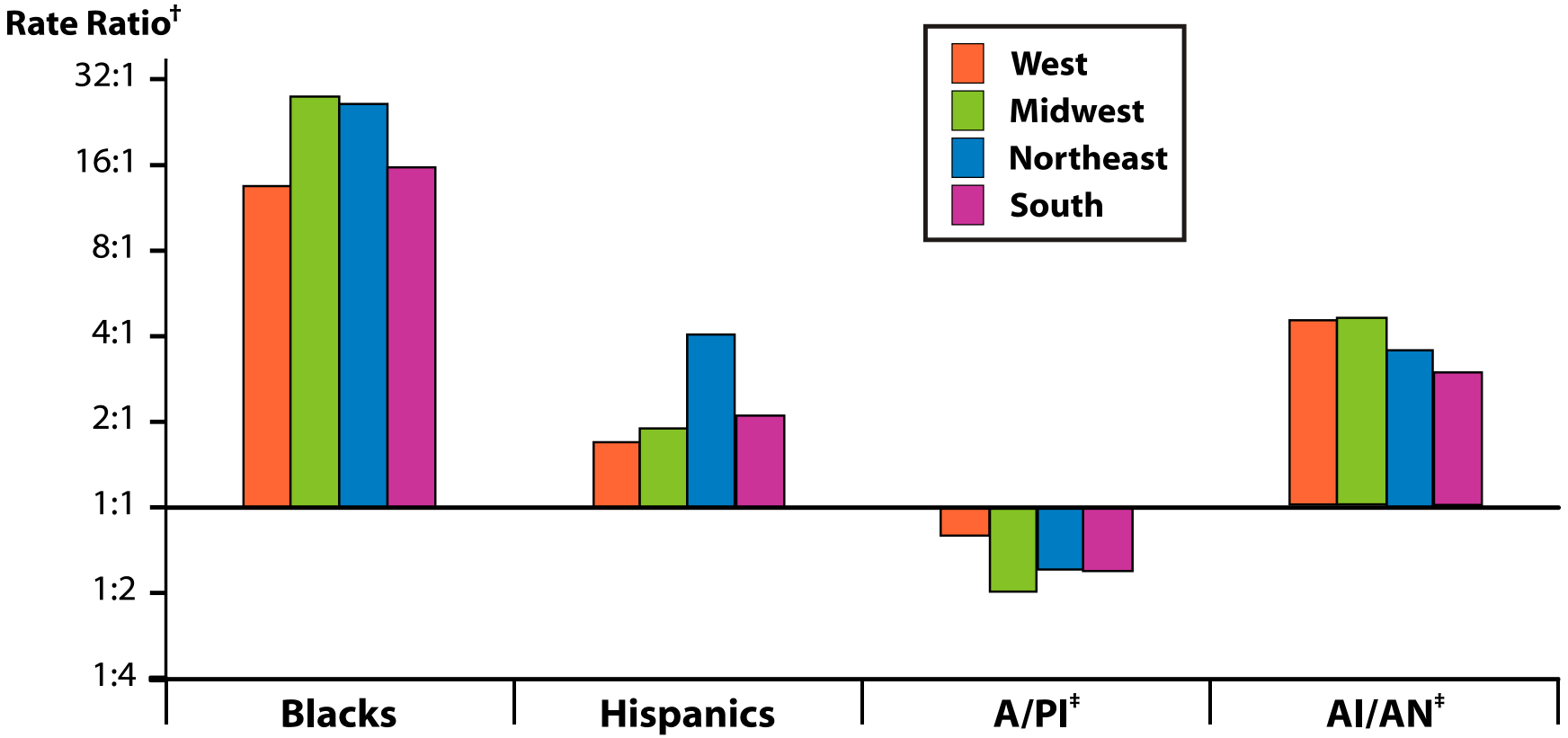
†Y-axis is log scale.

Gonorrhea—Rates by Race/Ethnicity and Sex, United States, 2011



*__AI/AN__=American Indians/Alaska Natives; __A/PI__=Asians/Pacific Islanders.

Gonorrhea—Rate Ratios* by Race/Ethnicity and Region, United States, 2011

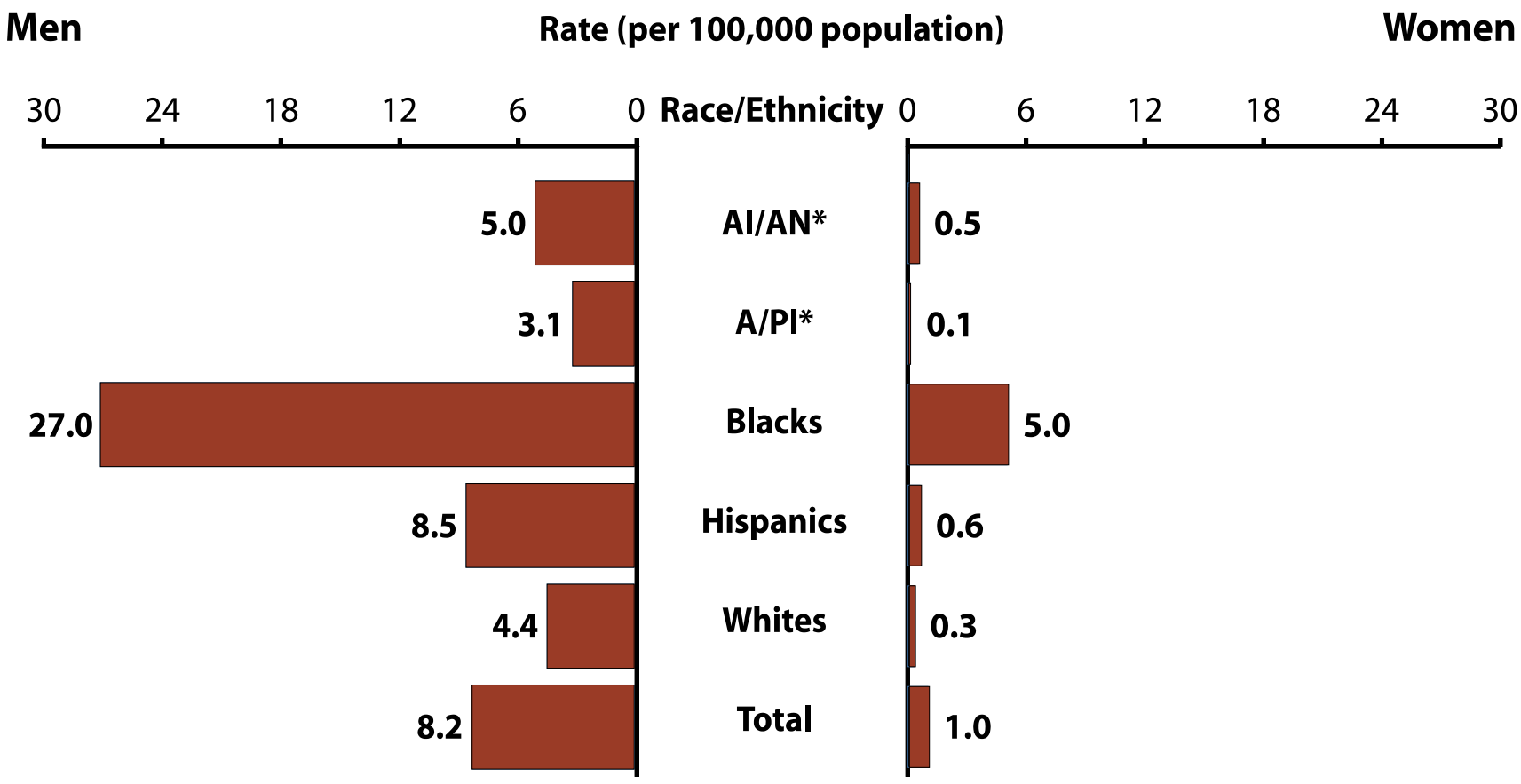


*Rate ratios are calculated as the gonorrhea rate per 100,000 population for a given racial or ethnic minority population divided by the gonorrhea rate per 100,000 population for non-Hispanic whites. Any population with a lower rate of gonorrhea than the non-Hispanic white population will have a rate ration of less than 1:1.

†Y-axis is log scale.

‡**AI/AN**=American Indians/Alaska Natives; **A/PI**=Asians/Pacific Islanders.

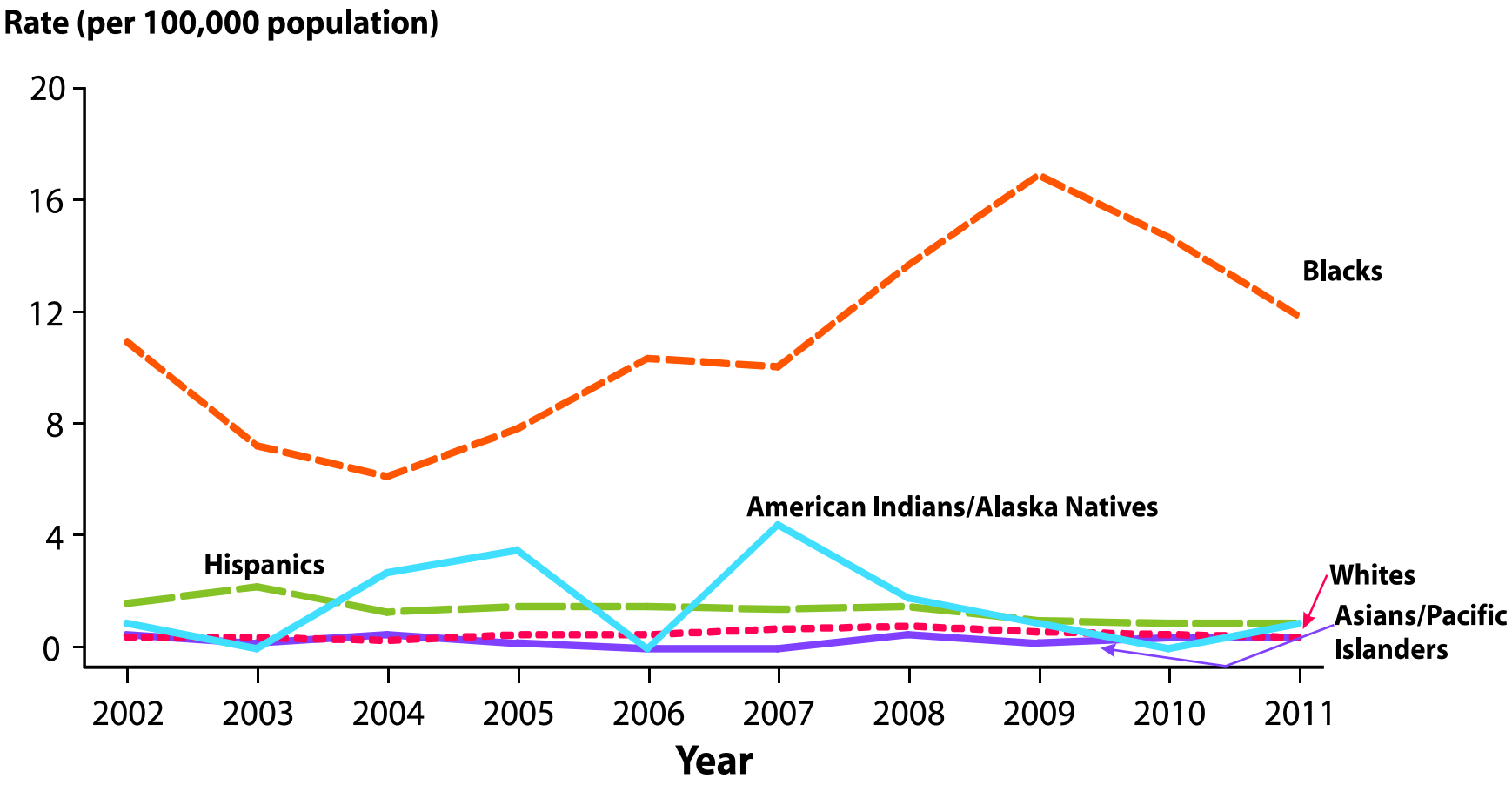
Primary and Secondary Syphilis—Rates by Race/Ethnicity and Sex, United States, 2011



*__AI/AN__=American Indians/Alaska Natives; __A/PI__=Asians/Pacific Islanders.

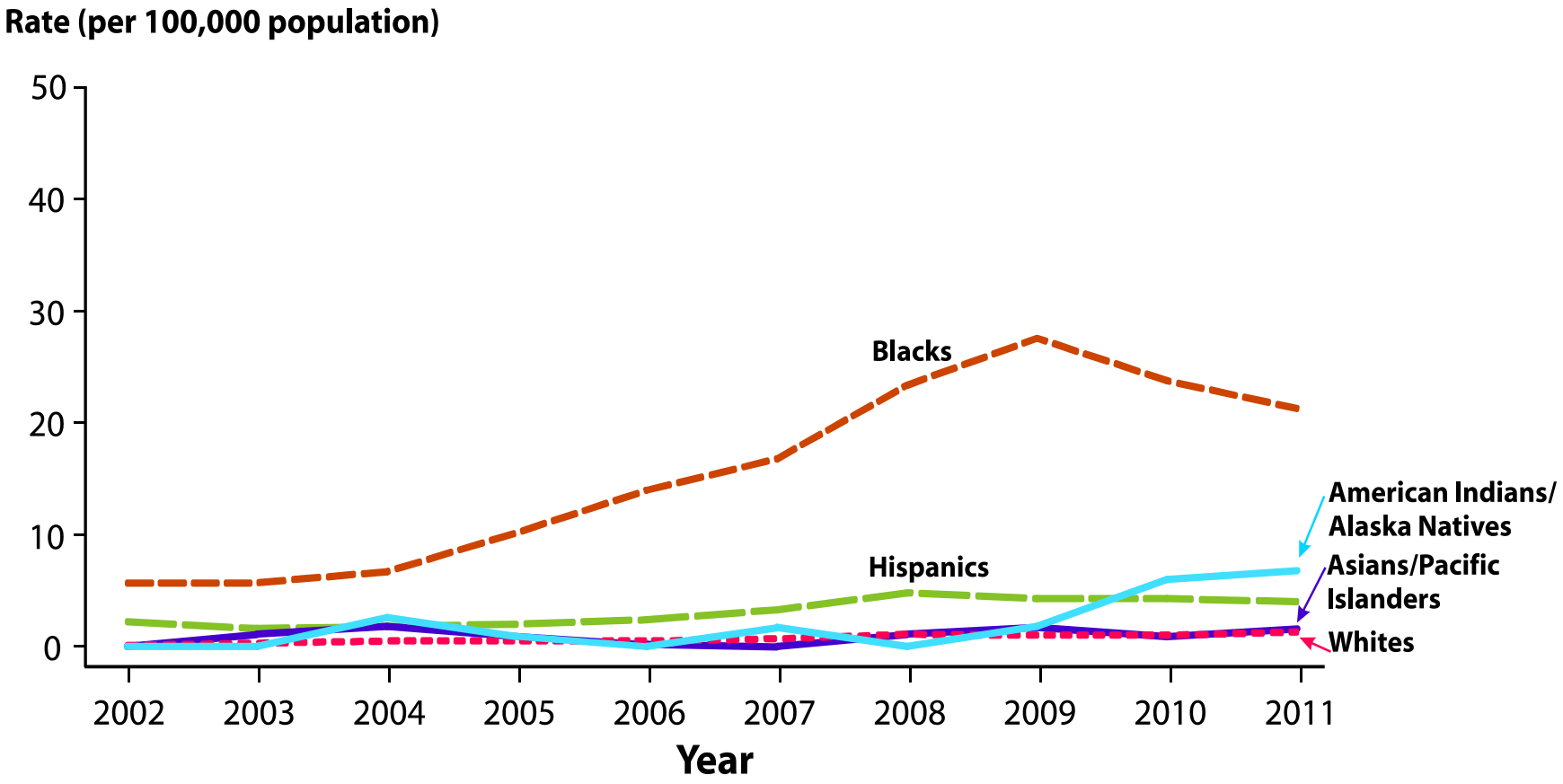
2011-Fig S. SR

Primary and Secondary Syphilis—Rates Among Females Aged 15-19 Years by Race/Ethnicity, United States, 2002–2011

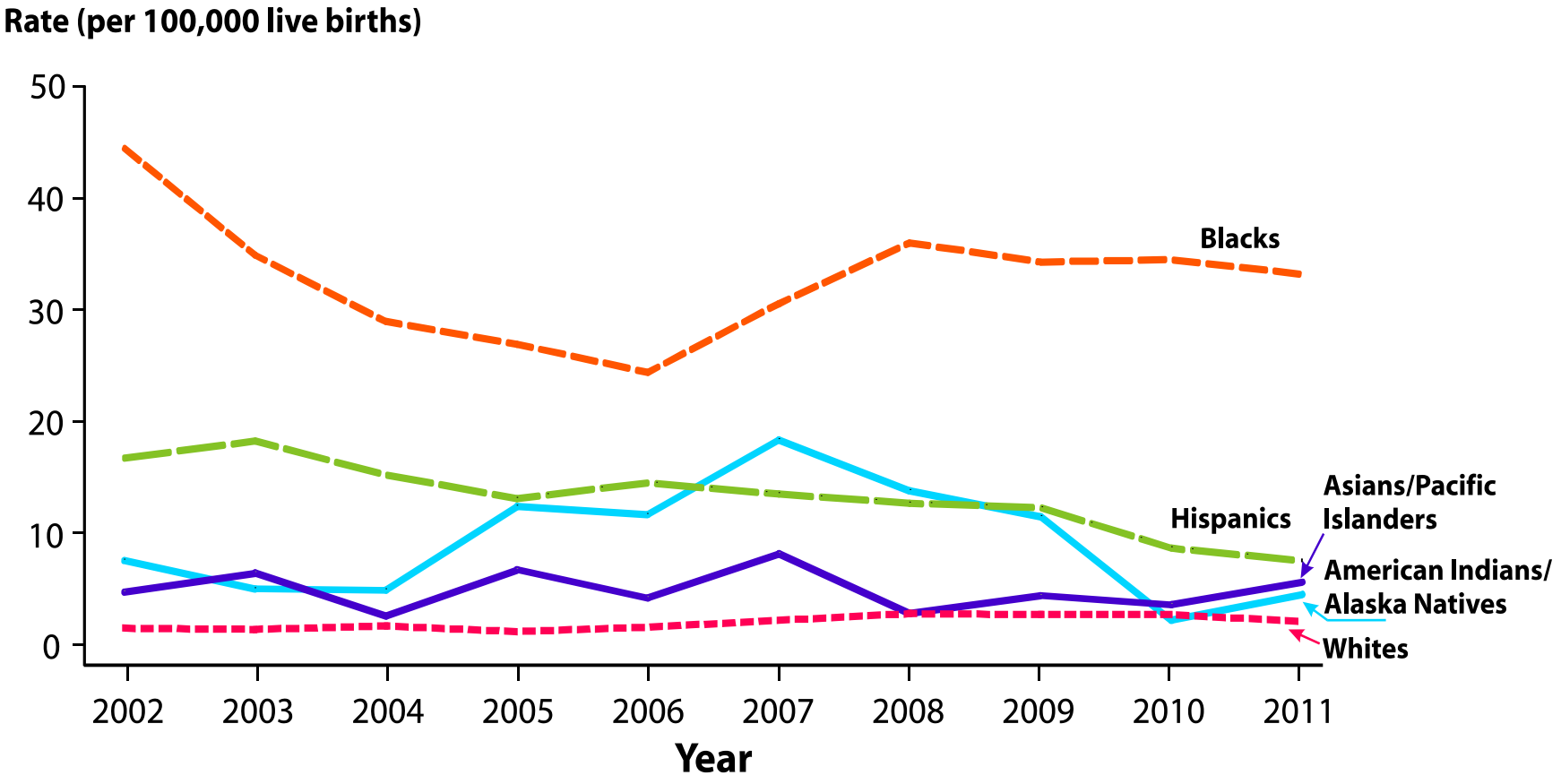


2011-Fig T. SR

Primary and Secondary Syphilis—Rates Among Males Aged 15-19 Years by Race/Ethnicity, United States, 2002–2011



Congenital Syphilis—Infants—Rates by Year of Birth and Mother's Race/Ethnicity, United States, 2002—2011



NOTE: Cases missing maternal race/ethnicity information were excluded (<1% of cases).

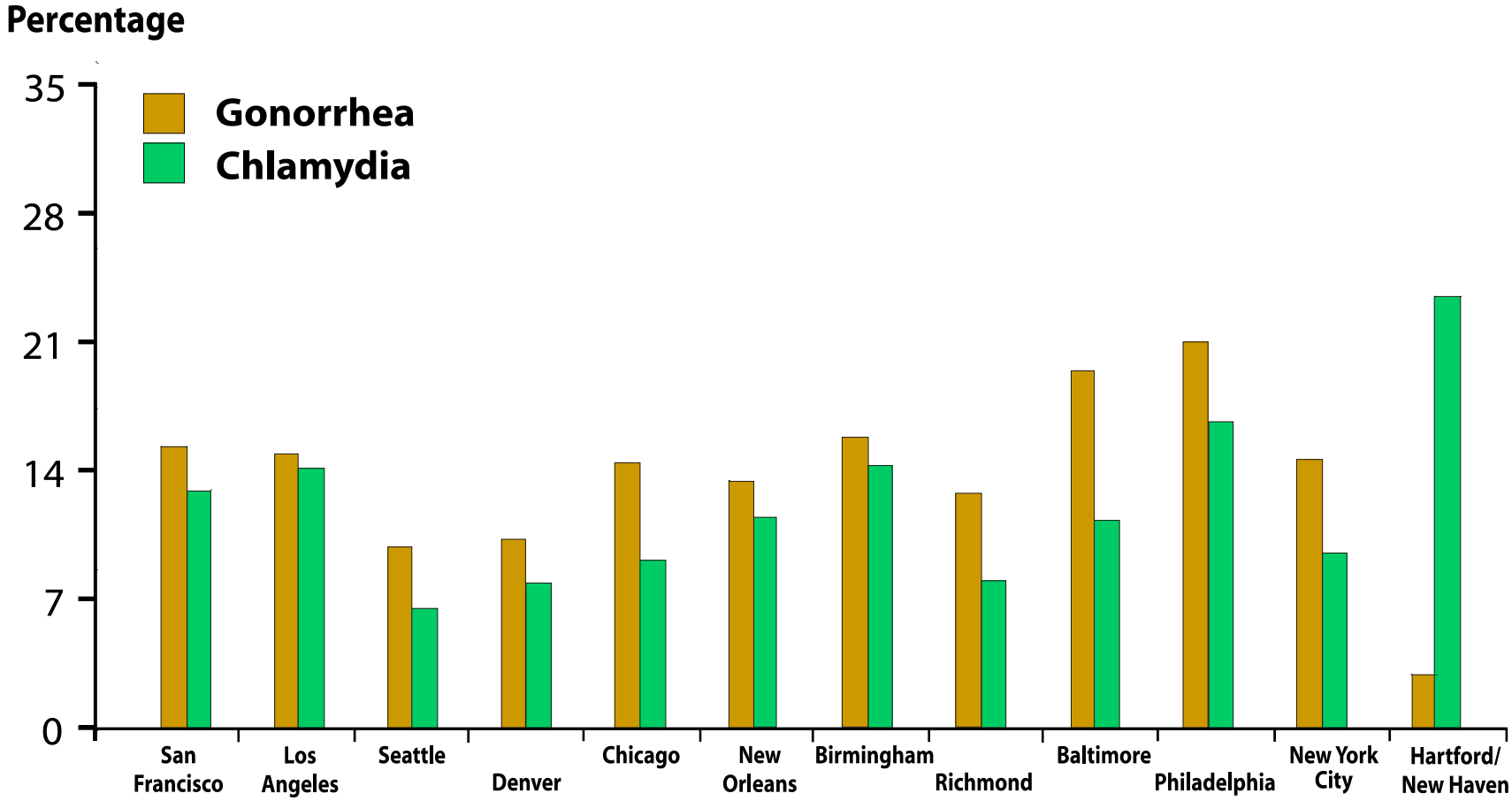
2011-Fig V. SR

STDs in Men Who Have Sex with Men (MSM)

Sexually Transmitted Disease Surveillance 2011

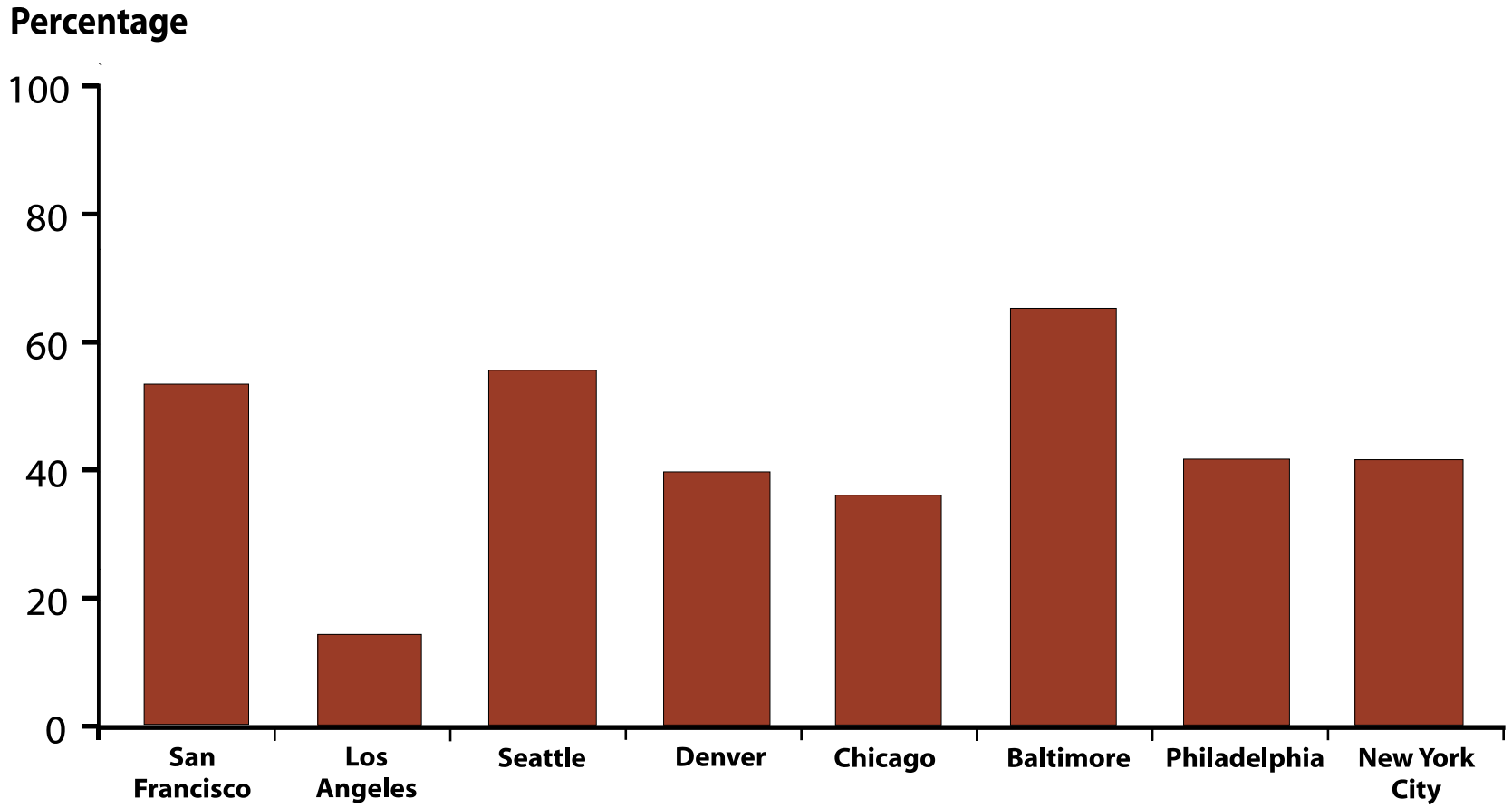
Division of STD Prevention

Gonorrhea and Chlamydia—Proportion of MSM* Attending STD Clinics Testing Positive for Gonorrhea and Chlamydia, STD Surveillance Network (SSuN), 2011



***MSM**=men who have sex with men.

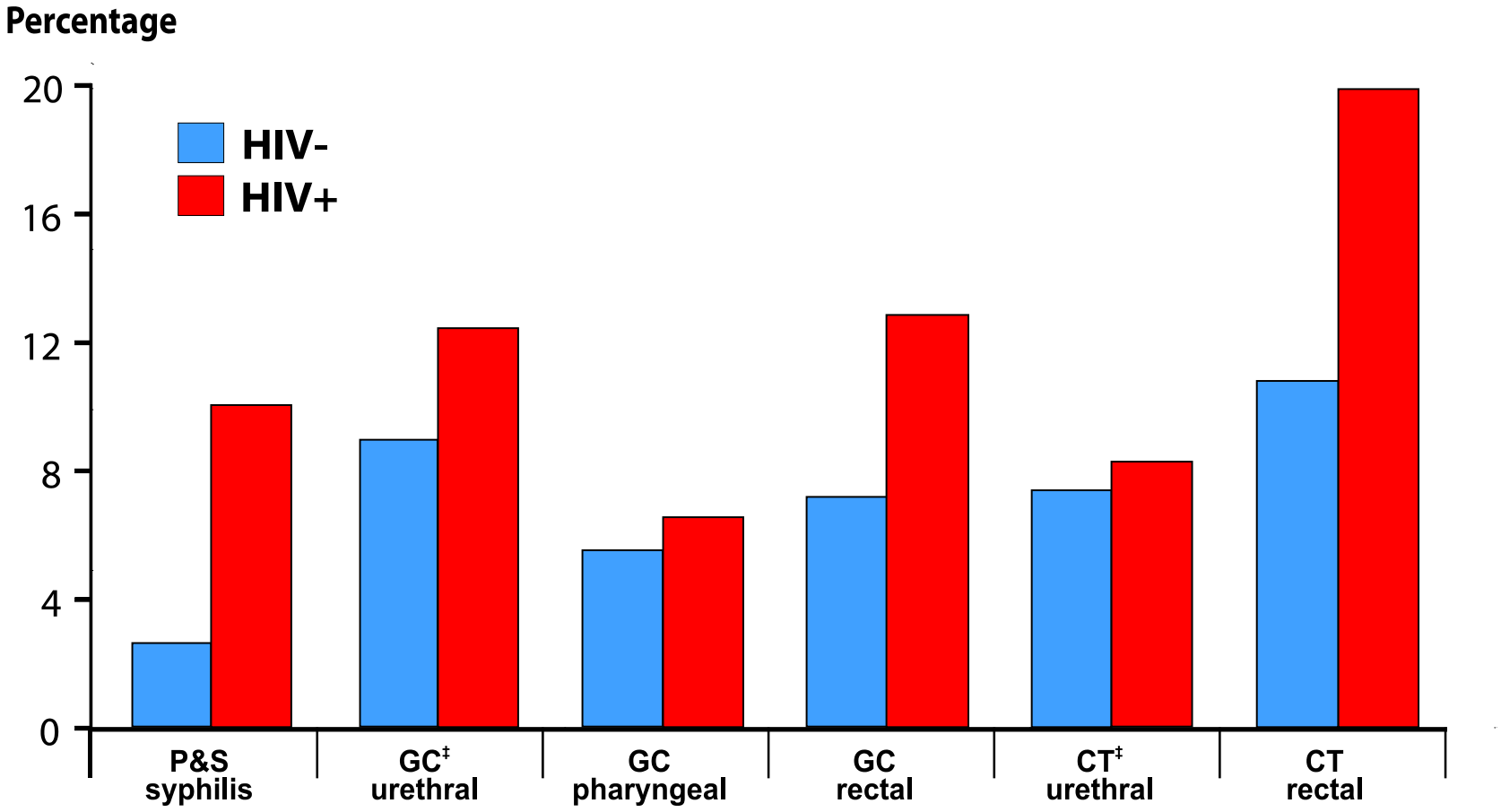
Primary and Secondary Syphilis and HIV—Proportion of MSM* Attending STD Clinics with Primary and Secondary Syphilis who are Co-infected with HIV, STD Surveillance Network (SSuN), 2011



*__MSM__=men who have sex with men.

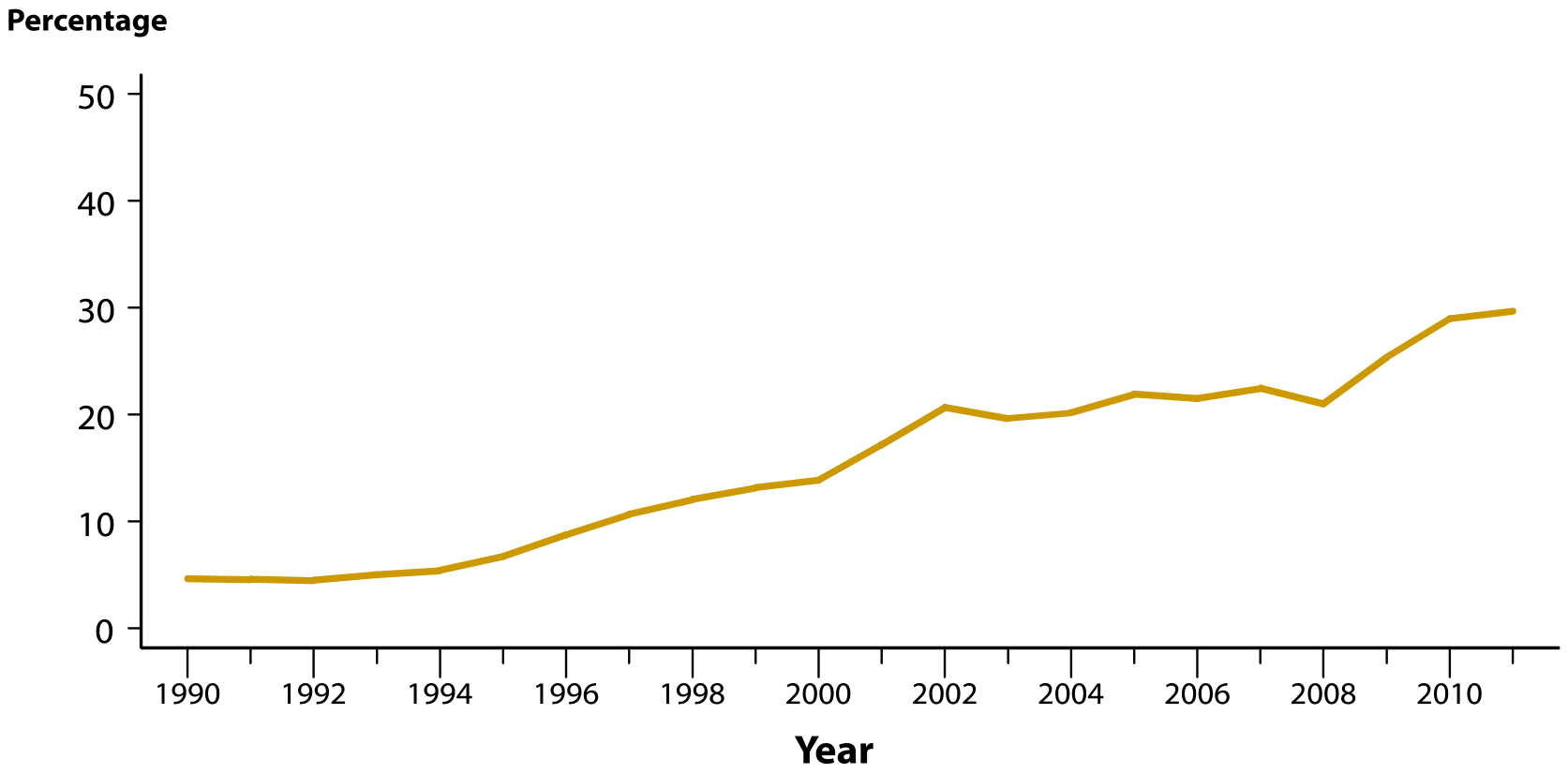
__NOTE__: Includes sites that reported data on at least 25 MSM with primary and secondary syphilis in 2011.

Proportion of MSM* Attending STD Clinics with Primary and Secondary Syphilis, Gonorrhea or Chlamydia by HIV Status†, STD Surveillance Network (SSuN), 2011



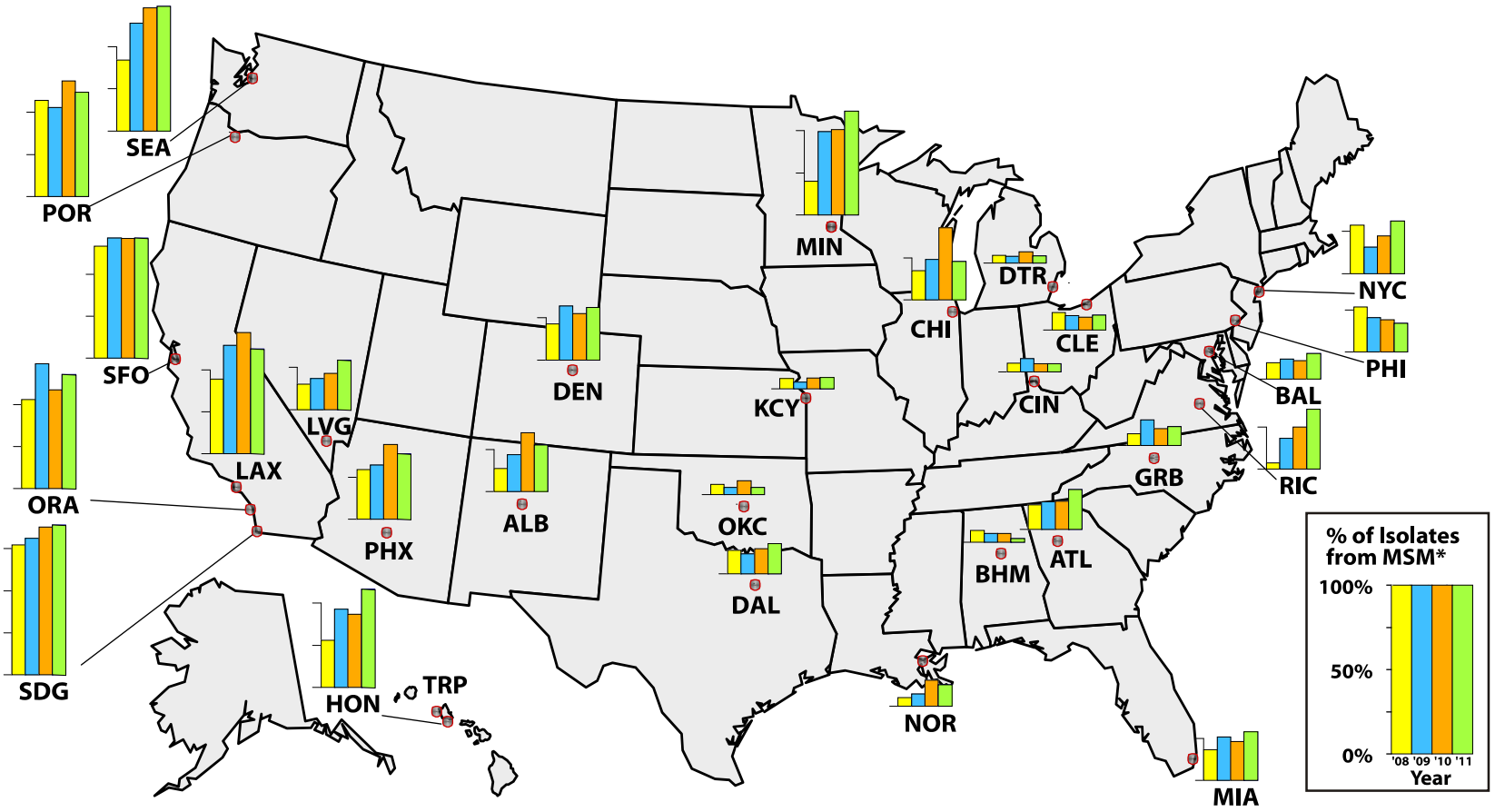
*MSM=men who have sex with men.
†Excludes all persons for whom there was no laboratory documentation or self-report of HIV status.
‡GC urethral and CT urethral include results from both urethral and urine specimens.

Percentage of Urethral *Neisseria gonorrhoeae* Isolates Obtained from MSM* Attending STD Clinics, Gonococcal Isolate Surveillance Project (GISP), 1990–2011



***MSM**=men who have sex with men

Percentage of Urethral *Neisseria gonorrhoeae* Isolates Obtained from MSM* Attending STD* Clinics, by Site Gonococcal Isolate Surveillance Project (GISP), 2008–2011



*__MSM__=men who have sex with men; __STD__=sexually transmitted disease.

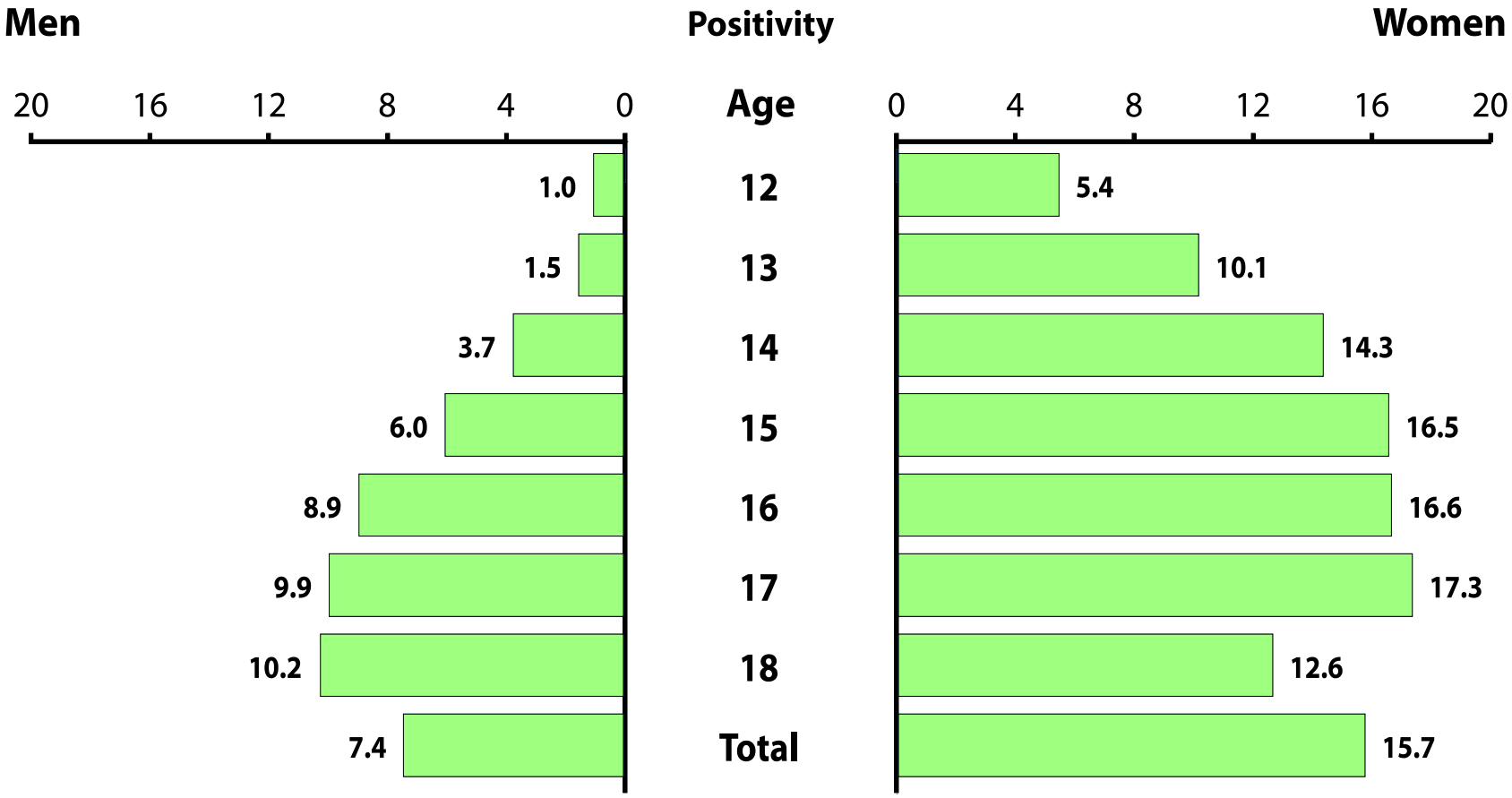
NOTE: Participating sites include ALB = Albuquerque, NM; ATL = Atlanta, GA; BAL = Baltimore, MD; BHM = Birmingham, AL; CHI = Chicago, IL; CIN = Cincinnati, OH; CLE = Cleveland, OH; DAL = Dallas, TX; DEN = Denver, CO; DTR = Detroit, MI; GRB = Greensboro, NC; HON = Honolulu, HI; KCY = Kansas City, MO; LAX = Los Angeles, CA; LVG = Las Vegas, NV; MIA = Miami, FL; MIN = Minneapolis, MN; NOR = New Orleans, LA; NYC = New York City, NY; OKC = Oklahoma City, OK; ORA = Orange County, CA; PHI = Philadelphia, PA; PHX = Phoenix, AZ; POR = Portland, OR; RIC = Richmond, VA; SDG = San Diego, CA; SEA = Seattle, WA; SFO = San Francisco, CA; and TRP = Tripler Army Medical Center, HI (does not provide sexual risk behavior data)

STDs in Persons Entering Corrections Facilities

Sexually Transmitted Disease Surveillance 2011

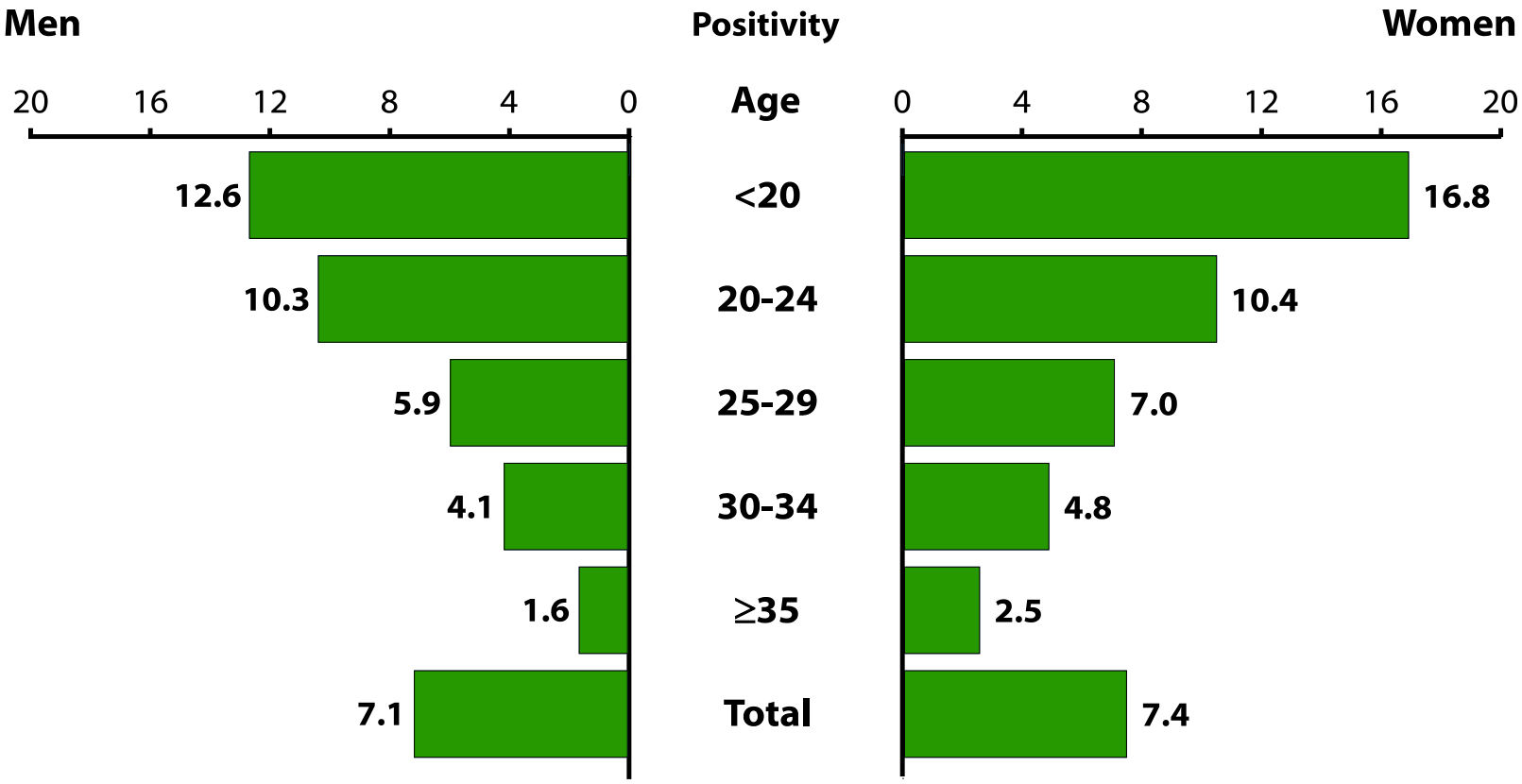
Division of STD Prevention

Chlamydia—Positivity by Age and Sex, Juvenile Corrections Facilities, 2011



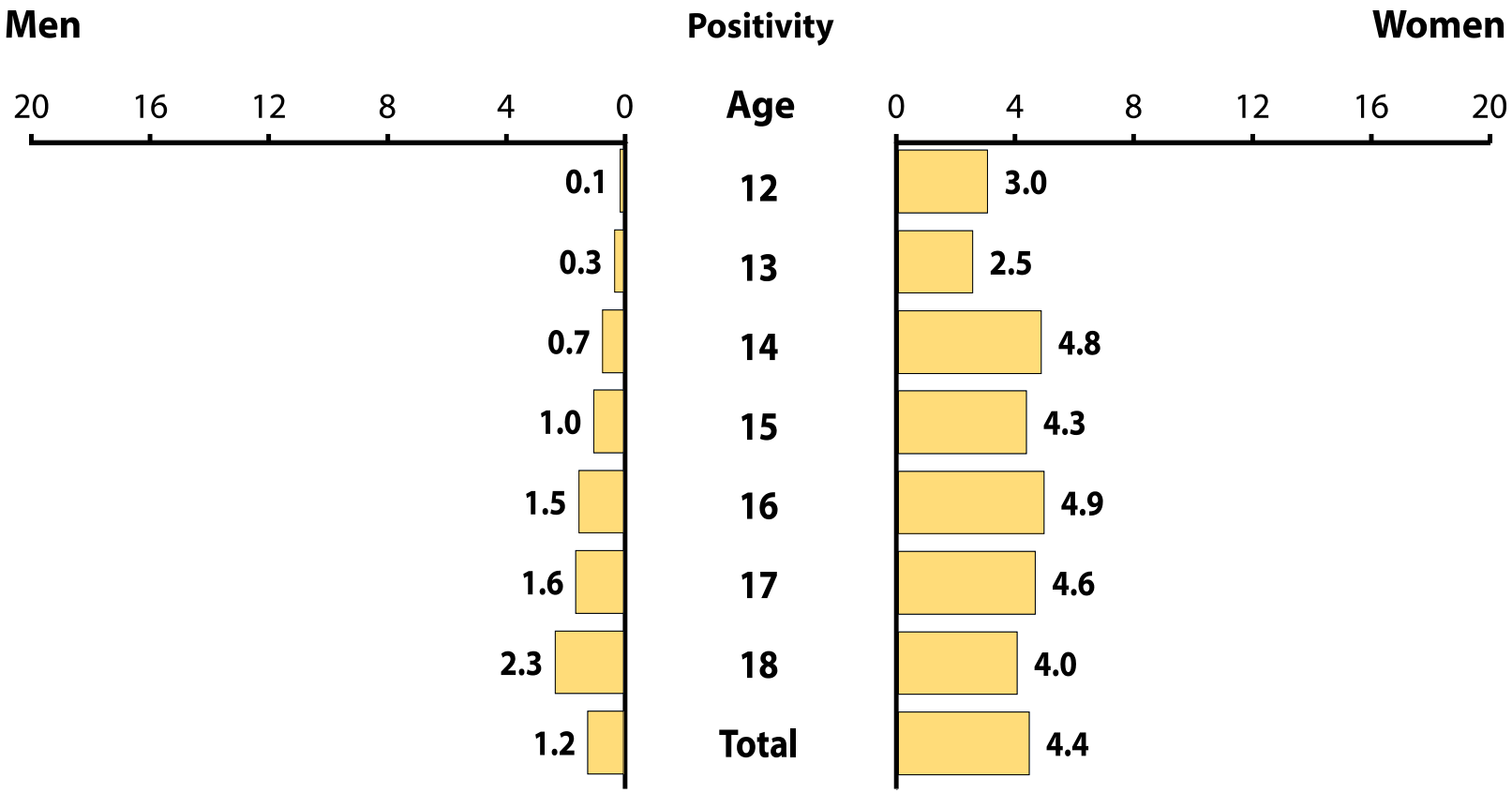
NOTE: Includes chlamydia positivity data from facilities reporting more than 100 results.

Chlamydia—Positivity by Age and Sex, Adult Corrections Facilities, 2011



NOTE: Includes chlamydia positivity data from facilities reporting more than 100 results.

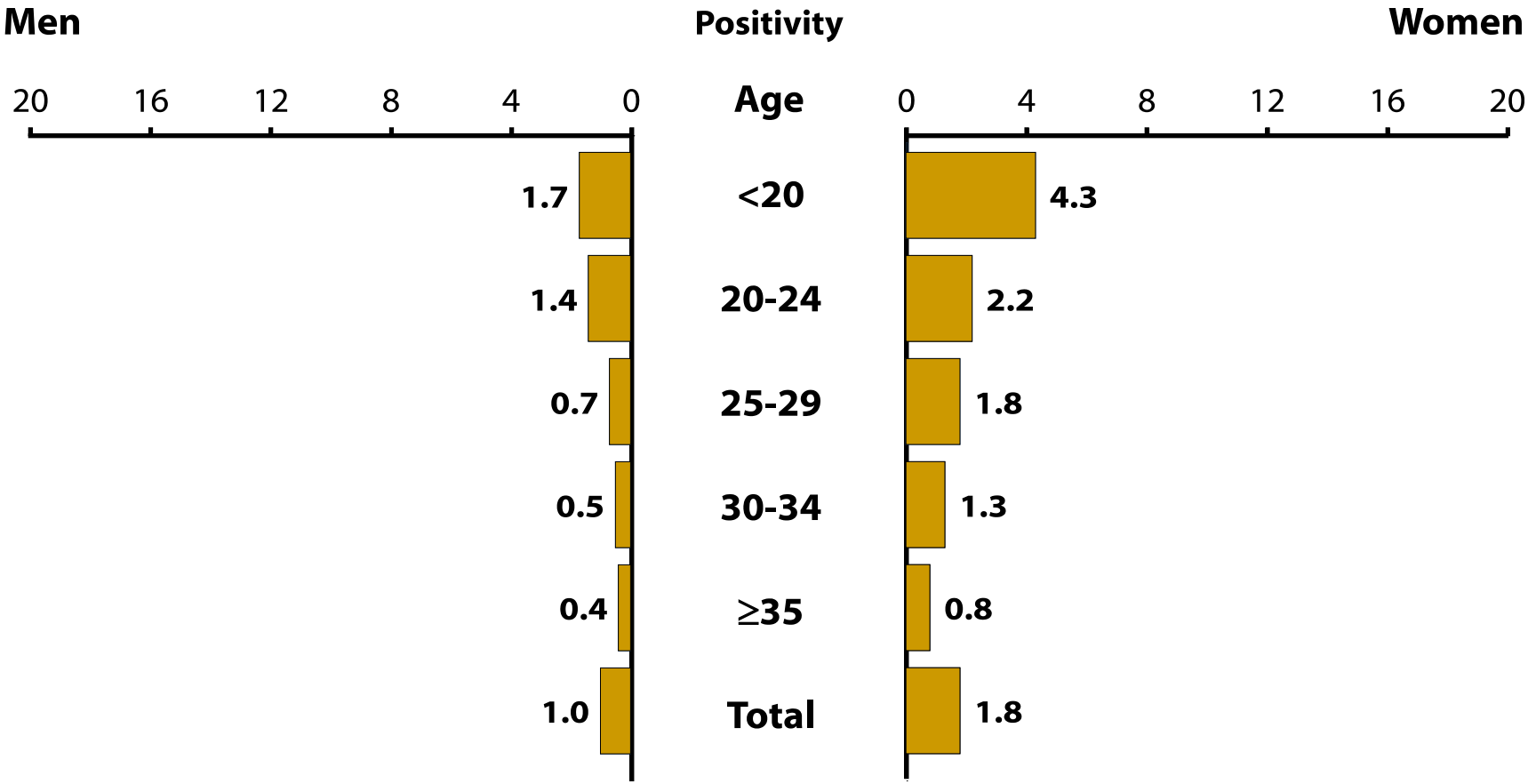
Gonorrhea—Positivity by Age and Sex, Juvenile Corrections Facilities, 2011



NOTE: Includes gonorrhea positivity data from facilities reporting more than 100 results.

2011-Fig DD. SR

Gonorrhea—Positivity by Age and Sex, Adult Corrections Facilities, 2011



NOTE: Includes gonorrhea positivity data from facilities reporting more than 100 results.

Sexually Transmitted Disease Surveillance 2011

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For more information please contact Centers for Disease Control and Prevention

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

National Center for HIV/AIDS, Viral Hepatitis, STD , and TB Prevention
Division of Sexually Transmitted Disease Prevention