Sexually Transmitted Disease Surveillance

STDs 2015

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

Sexually Transmitted Disease Surveillance 2015

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Division of STD Prevention
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The online version of this report is available at https://www.cdc.gov/std/stats.

Selected STD Surveillance and Prevention References and Web Sites

STD Surveillance Reports 1993–2014
https://www.cdc.gov/std/stats/

STD Data in the NCHHSTP Atlas
https://www.cdc.gov/nchhstp/atlas/

STD Data on Wonder
https://wonder.cdc.gov/std.html

STD Data Management & Information Technology
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STD Program Operation Guidelines
https://www.cdc.gov/std/program/GL-2001.htm

Recommendations for Public Health Surveillance of Syphilis in the United States
https://www.cdc.gov/std/SyphSurvReco.pdf

Behavioral Surveillance
Youth Risk Behavior Surveillance System:
https://www.cdc.gov/healthyyouth/data/yrbs/index.htm

National Survey of Family Growth
https://www.cdc.gov/nchs/nsfg.htm

Foreword

Sexually transmitted diseases (STDs) have long been an underestimated opponent in the public health battle. A 1997 Institute of Medicine (IOM) report described STDs as, "hidden epidemics of tremendous health and economic consequence in the United States," and stated that the "scope, impact, and consequences of STDs are under-recognized by the public and healthcare professionals."[1] Since well before this report was published, and nearly two decades later, those facts remain unchanged.

It is estimated that there are 20 million new STDs in the U.S. each year, and half of these are among young people ages 15 to 24 years. Across the nation, at any given time, there are more than 110 million total (new and existing) infections.[2] These infections can lead to long-term health consequences, such as infertility; they can facilitate HIV transmission; and they have stigmatized entire subgroups of Americans.

Yet not that long ago, gonorrhea rates were at historic lows, syphilis was close to elimination, and we were able to point to advances in STD prevention, such as better chlamydia diagnostic tests and more screening, contributing to increases in detection and treatment of chlamydial infections. That progress has since unraveled. The number of reported syphilis cases is climbing after being largely on the decline since 1941, and gonorrhea rates are now increasing. This is especially concerning given that we are slowly running out of treatment options to cure *Neisseria gonorrhoeae*. Many young women continue to have undiagnosed chlamydial infections, putting them at risk for infertility.

Beyond the impact on an individual's health, STDs are also an economic drain on the U.S. healthcare system. Data suggest the direct cost of treating STDs in the U.S. is nearly $16 billion annually.[3] STD public health programs are increasingly facing challenges and barriers in achieving their mission. In 2012, 52% of state and local STD programs experienced budget cuts. This amounts to reductions in clinic hours, contact tracing, and screening for common STDs. CDC estimates that 21 local health department STD clinics closed that year.

It is imperative that federal, state, and local programs employ strategies that maximize long-term population impact by reducing STD incidence and promoting sexual, reproductive, maternal, and infant health. The resurgence of syphilis, and particularly congenital syphilis, is not an arbitrary event, but rather a symptom of a deteriorating public health infrastructure and lack of access to health care. It is exposing hidden, fragile populations in need that are not getting the health care and preventive services they deserve. This points to our need for public health and health care action for each of the cases in this report, as they represent real people, not just numbers.

We also need to modernize surveillance to move beyond counting only those cases in persons who have access to diagnosis and treatment, to develop innovative strategies to understand the burden of disease in those who may not access care, and to improve our surveillance systems to collect the information needed to target prevention activities. Further, it will be important for us to measure and monitor the adverse health consequences of STDs, such as ocular and neurosyphilis, pelvic inflammatory disease, ectopic pregnancy, infertility, HIV, congenital syphilis, and neonatal herpes.

It is my hope that a decade from now, we will be reporting on progress, instead of more health inequity in our society. This is our challenge and our call to effectively respond to the information shared in this report.

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National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
U.S. Centers for Disease Control and Prevention

[1] Eng TR, Butler WT, editors; Institute of Medicine (US). Summary: The hidden epidemic: confronting sexually transmitted diseases. Washington (DC): National Academy Press; 1997. p. 43.

[2] Satterwhite CL, Torrone E, Meites E, et al. Sexually transmitted infections among US women and men: prevalence and incidence estimates, 2008. Sex Transm Dis. 2013 Mar;40(3):187–93. doi: 10.1097/OLQ.0b013e318286bb53. Review.

[3] Owusu-Edusei K Jr, Chesson HW, Gift TL, et al. The estimated direct medical cost of selected sexually transmitted infections in the United States, 2008. Sex Transm Dis. 2013 Mar;40(3):197–201. doi: 10.1097/OLQ.0b013e318285c6d2.

Preface

Sexually Transmitted Disease Surveillance 2015 presents statistics and trends for sexually transmitted diseases (STDs) in the United States through 2015. This annual publication is intended as a reference document for policy makers, program managers, health planners, researchers, and others who are concerned with the public health implications of these diseases. The figures and tables in this edition supersede those in earlier publications of these data.

The surveillance information in this report is based on the following sources of data: (1) notifiable disease reporting from state and local STD programs; (2) projects that monitor STD positivity and prevalence in various settings, including the National Job Training Program, the STD Surveillance Network, and the Gonococcal Isolate Surveillance Project; and (3) other national surveys implemented by federal and private organizations.

The STD surveillance systems operated by state and local STD control programs, which provide the case report data for chlamydia, gonorrhea, syphilis, and chancroid, are the data sources of many of the figures and most of the statistical tables in this publication. These systems are an integral part of program management at all levels of STD prevention and control in the United States. Because of incomplete diagnosis and reporting, the number of STD cases reported to the Centers for Disease Control and Prevention is less than the actual number of cases occurring in the U.S. population. National summary data of case reports for other STDs are not available because they are not nationally notifiable diseases.

The collection of information on race/ethnicity has been standardized since 1997 in the United States from the Office of Management and Budget (OMB). Following a revision in the National Electronic Telecommunication System for Surveillance (NETSS) implementation guide in April 2008, jurisdictions reporting STD data were to collect race according to the OMB standard categories: American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, White and Multirace. While 49 states collect and report data for all STDs in formats compliant with these standards as of 2015, some jurisdictions only recently adopted this standard and used previous standards to report their case data to CDC in past years. Consequently, historical trend and rate data by race/ethnicity displayed in figures and interpreted in this report for 2011–2015 include only those jurisdictions reporting in the current standard consistently for 2011 through 2015.

Sexually Transmitted Disease Surveillance 2015 consists of four sections: the National Profile, the Special Focus Profiles, the Tables, and the Appendix. The National Profile section contains figures that provide an overview of STD morbidity in the United States. The accompanying text identifies major findings and trends for selected STDs. The Special Focus Profiles section contains figures and text that describe STDs in selected populations that are a focus of national and state prevention efforts. The Tables section provides statistical information about STDs at county, metropolitan statistical area, regional, state, and national levels. The Appendix includes information on how to interpret the STD surveillance data used to produce this report, as well as information about *Healthy People 2020* STD objectives and progress toward meeting these objectives, Government Performance and Results Act goals and progress toward meeting these goals, and STD surveillance case definitions.

Any comments and suggestions that would improve future publications are appreciated and should be sent to:

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Guide to Acronyms

ACA	Patient Protection and Affordable Care Act
AI/AN	American Indians/Alaska Natives
CDC	Centers for Disease Control and Prevention
CI	confidence interval
CIA	chemiluminescence immunoassay
CSF	cerebrospinal fluid
CSTE	Council of State and Territorial Epidemiologists
EIA	enzyme immunoassay
EP	ectopic pregnancy
FTA-ABS	fluorescent treponemal antibody absorbed
GISP	Gonococcal Isolate Surveillance Project
HEDIS	Healthcare Effectiveness Data and Information Set
HMOs	health maintenance organizations
HIV	human immunodeficiency virus
HP2020	*Healthy People 2020*
HPV	human papillomavirus
HSV	herpes simplex virus
IHC	immunohistochemistry
MHA-TP	microhemagglutination assay for antibody to *Treponema pallidum*
MICs	minimum inhibitory concentrations
MPC	mucopurulent cervicitis
MSAs	metropolitan statistical areas
MSM	gay, bisexual, and other men who have sex with men
MSW	men who have sex with women only
NAATs	nucleic acid amplification tests
NCHHSTP	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
NCHS	National Center for Health Statistics
NHOPI	Native Hawaiians/Other Pacific Islanders
NDTI	National Disease and Therapeutic Index
NGU	nongonococcal urethritis
NHANES	National Health and Nutrition Examination Survey
NJTP	National Job Training Program
NNDSS	National Notifiable Diseases Surveillance System
OMB	Office of Management and Budget
P&S	primary and secondary
PCR	polymerase chain reaction
PID	pelvic inflammatory disease
RPR	rapid plasma reagin
SSuN	STD Surveillance Network
STD	sexually transmitted disease
TP-PA	*T. pallidum* particle agglutination
VDRL	Venereal Disease Research Laboratory
WBC	white blood cell

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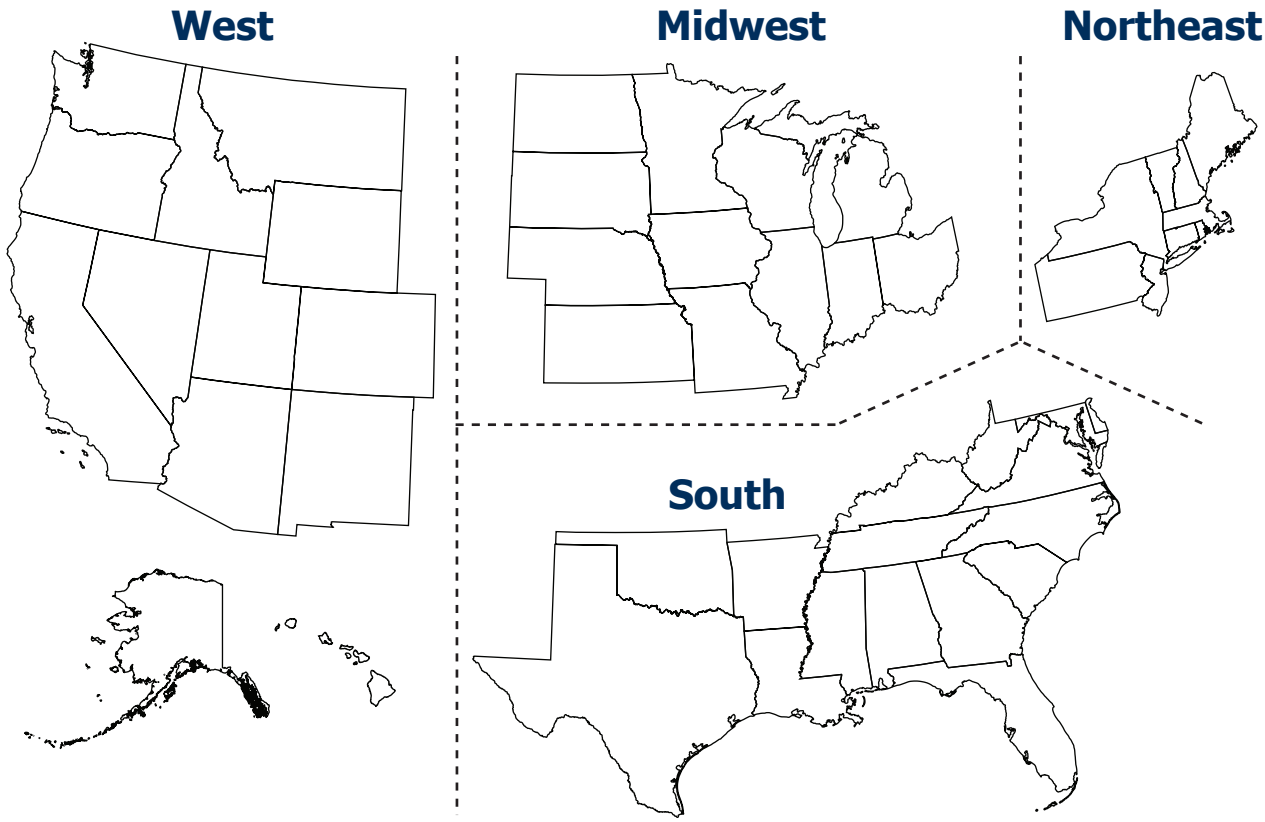

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Delaware
District of Columbia
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Georgia
Kentucky
Louisiana
Maryland
Mississippi
North Carolina
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South Carolina
Tennessee
Texas
Virginia
West Virginia

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New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont

National Overview of Sexually Transmitted Diseases (STDs), 2015

All Americans should have the opportunity to make choices that lead to health and wellness. Working together, interested, committed public and private organizations, communities, and individuals can take action to prevent sexually transmitted diseases (STDs) and their related health consequences. In addition to federal, state, and local public support for STD prevention activities, local community leaders can promote STD prevention education. Health care providers can assess their patients' risks and talk to them about testing. Parents can better educate their children about STDs and sexual health. Individuals can use condoms consistently and correctly, and openly discuss ways to protect their health with partners and providers. As noted in the Institute of Medicine report, *The Hidden Epidemic: Confronting Sexually Transmitted Diseases*, surveillance is a key component of all our efforts to prevent and control these diseases.[1]

This overview summarizes national surveillance data for 2015 on the three notifiable diseases for which there are federally funded control programs: chlamydia, gonorrhea, and syphilis.

Chlamydia

In 2015, a total of 1,526,658 cases of *Chlamydia trachomatis* infection were reported to the CDC. This case count corresponds to a rate of 478.8 cases per 100,000 population, an increase of 5.9% compared with the rate in 2014. During 2014–2015, the rate of reported chlamydia cases among women increased 3.8% and the rate among men increased 10.5%. Following three years of decreases in rates during 2011–2014, the rate among women aged 15–19 years increased 1.5% during 2014–2015.

In 2015, the overall rate of chlamydial infection in the United States among women (645.5 cases per 100,000 females) based on reported cases was over two times the rate among men (305.2 cases per 100,000 males), reflecting the larger number of women screened for this infection. However, with the increased availability of urine testing and extragenital testing, men, including gay, bisexual, and other men who have sex with men (collectively referred to as MSM) are increasingly being tested for chlamydial infection. During 2011–2015, the chlamydia rate in men increased 20.0%, compared with a 0.3% increase in women during this period.

The facilities reporting chlamydial infections have changed over the last 10 years. In 2015, over 75% of chlamydia cases were reported from venues outside of STD clinics. Among women, only 4.5% of chlamydia cases were reported through an STD clinic and about a third of cases were reported from private physicians/health maintenance organizations.

Rates of reported chlamydia varied among different racial and ethnic minority populations. In 2015, the rate of chlamydia among Blacks was 5.9 times the rate among Whites, and the rate among American Indians/Alaska Natives was 3.8 times the rate among Whites.

Gonorrhea

In 2009, the national rate of reported gonorrhea cases reached an historic low of 98.1 cases per 100,000 population. However, during 2009–2012, the rate increased slightly each year to 106.7 cases per 100,000 population in 2012 and then increased again during 2013–2015. In 2015, 395,216 gonorrhea cases were reported for a rate of 123.9 cases per 100,000 population, an increase of 12.8% from 2014.

During 2014–2015 the rate of reported gonorrhea increased 18.3% among men and 6.8% among women. Gonorrhea rates among both men and women increased in every region of the United States, with largest increases in the West and the South. The magnitude of the increase among males suggest either increased transmission or increased case ascertainment (e.g., through increased extra-genital screening) among MSM or both.

In 2015, the rate of reported gonorrhea cases remained highest among Blacks (424.9 cases per 100,000 population) and among American Indians/Alaska Natives (192.8 cases per 100,000 population). While rates of gonorrhea declined 4.0% among Blacks during 2011–2015, rates increased among all other racial and ethnic groups, including a 71.3% increase among American Indians/Alaska Natives.

Antimicrobial resistance remains an important consideration in the treatment of gonorrhea. With increased resistance to the fluoroquinolones and declining susceptibility to cefixime, dual therapy with ceftriaxone and azithromycin is now the only CDC recommended treatment for gonorrhea.[2] In 2015, the percentage of isolates with elevated minimum inhibitory concentrations

(MICs) of cefixime and ceftriaxone remained low (0.5% and 0.3%, respectively). During 2013–2015, the percentage of isolates with reduced azithromycin susceptibility increased from 0.6% to 2.6%. Continued monitoring of susceptibility patterns to these antibiotics is critical.

Syphilis

In 2000 and 2001, the national rate of reported primary and secondary (P&S) syphilis cases was 2.1 cases per 100,000 population, the lowest rate since reporting began in 1941. However, the P&S syphilis rate has increased almost every year since 2001. In 2015, a total of 23,872 P&S syphilis cases were reported, and the national P&S syphilis rate increased to 7.5 cases per 100,000 population, a 19.0% increase from 2014.

During 2014–2015, the P&S syphilis rate increased both among men (18.1%) and women (27.3%) and rates increased among both sexes in every region of the country. Nationally, P&S syphilis rates increased in every 5-year age group among those aged 15–64 years and in every racial and ethnic group except for American Indians/Alaska Natives during 2014–2015.

During 2000–2015, the rise in the P&S syphilis rate was primarily attributable to increased cases among men and, specifically, among MSM. In 2015, men accounted for over 90% of all cases of P&S syphilis. Of those male cases for whom sex of sex partner was known, 81.7% were MSM. Reported cases of P&S syphilis continued to be characterized by a high rate of HIV co-infection, particularly among MSM. In the 31 states able to classify at least 70.0% of reported P&S syphilis cases as MSM, men who have sex with women (MSW), or women and at least 70.0% of reported cases as HIV-positive or HIV-negative, 49.8% of MSM with P&S syphilis were also reported as HIV-positive compared with 10.0% of cases among MSW and 3.9% of cases among women.

The 2013 rate of congenital syphilis (9.2 cases per 100,000 live births) marked the first increase in congenital syphilis since 2008. During 2013–2014, the rate increased 27.2% and during 2014–2015 increased 6.0%, primarily attributable to an increase in the West. There were 487 cases of congenital syphilis reported in 2015 compared with 461 in 2014. Rates of congenital syphilis were highest among Blacks (35.2 cases per 100,000 live births), followed by Hispanics (15.5 cases per 100,000 live births) and American Indians/Alaska Natives (10.3 cases per 100,000 live births).

[1] Eng TR, Butler WT, editors; Institute of Medicine (US). The hidden epidemic: confronting sexually transmitted diseases. Washington (DC): National Academy Press; 1997. p 43.

[2] Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines, 2015. MMWR Morb Mortal Wkly Rep 2015; 64(No. RR-3): 1–137

NATIONAL PROFILE

NATIONAL PROFILE

National Profile

The National Profile section contains figures that show trends and the distribution of nationally reportable STDs (chlamydia, gonorrhea, syphilis, and chancroid) by age, sex, race/ethnicity, and location for the United States.

Chlamydia

Background

Chlamydia, caused by infection with *Chlamydia trachomatis,* is the most common notifiable disease in the United States. It is among the most prevalent of all STDs, and since 1994, has comprised the largest proportion of all STDs reported to CDC (Table 1). Studies also demonstrate the high prevalence of chlamydial infections in the general U.S. population, particularly among young women.[1]

Chlamydial infections in women are usually asymptomatic.[2] Untreated infection can result in pelvic inflammatory disease (PID), which is a major cause of infertility, ectopic pregnancy, and chronic pelvic pain. Data from randomized controlled trials of chlamydia screening suggested that screening programs can lead to a reduction in the incidence of PID.[3,4] As with other inflammatory STDs, chlamydial infection could facilitate the transmission of HIV infection.[5] In addition, pregnant women infected with chlamydia can pass the infection to their infants during delivery, potentially resulting in ophthalmia neonatorum, which can lead to blindness, and pneumonia. Because of the large burden of disease and risks associated with infection, CDC recommends annual chlamydia screening for all sexually active women younger than age 25 years and women ≥25 years at increased risk for infection (e.g., women with new or multiple sex partners).[6]

The Healthcare Effectiveness Data and Information Set (HEDIS) contains a measure which assesses chlamydia screening coverage of sexually active young women who receive medical care through commercial or Medicaid managed care organizations. Among sexually-active women aged 16–24 years in commercial health maintenance organization (HMO) plans, chlamydia screening increased from 23.1% in 2001 to 47.0% in 2014. Among sexually-active women aged 16–24 years covered by Medicaid, screening rates increased from 40.4% in 2001 to 58.0% in 2011, then decreased to 54.6% in 2014.[7] Although chlamydia screening has expanded over the past two decades, many women who are at risk are still not being tested—reflecting, in part, the lack of awareness among some health care providers and the limited resources available to support these screenings.

Interpreting Rates of Reported Cases of Chlamydia

Trends in rates of reported cases of chlamydia are influenced by changes in incidence of infection, as well as changes in diagnostic, screening, and reporting practices. As chlamydial infections are usually asymptomatic, the number of infections identified and reported can increase as more people are screened even when incidence is flat or decreasing. Expanded use of more sensitive diagnostic tests (e.g., nucleic acid amplification tests [NAATs]) can also increase the number of infections identified and reported independently of increases in incidence. Although chlamydia has been a nationally notifiable condition since 1994, it was not until 2000 that all 50 states and the District of Columbia required reporting of chlamydia cases. National case rates prior to 2000 reflect incomplete reporting. Additionally, increasing use of electronic laboratory reporting has likely increased the proportion of diagnosed cases that are reported. Consequently, an increasing chlamydia case rate may reflect increases in incidence of infection, screening coverage, and use of more sensitive tests, as well as more complete reporting. Likewise, decreases in chlamydia case rates may suggest decreases in incidence of infection or screening coverage.

Chlamydia — United States

In 2015, a total of 1,526,658 chlamydial infections were reported to CDC in 50 states and the District of Columbia (Table 1). This case count corresponds to a rate of 478.8 cases per 100,000 population. During 2000–2011, the rate of reported chlamydial infection increased from 251.4 to 453.4 cases per 100,000 population (Figure 1, Table 1). During 2011–2013, the rate of reported cases decreased to 443.5 cases per 100,000 population. The rate of reported cases then increased in 2014 and again in 2015. During 2014–2015, the rate increased 5.9%, from 452.2 to 478.8 cases per 100,000 population (Figure 1, Table 1).

Chlamydia by Region

In 2015, rates of reported cases of chlamydia were highest in the South (520.5 cases per 100,000 population, 7.0% increase from 2014), followed by the Midwest (464.8, 3.8% increase from 2014), West (464.4, 6.4% increase from 2014), and Northeast (425.9, 5.1% increase from 2014) (Table 3). During 2006–2012, rates of reported cases of chlamydia increased in all regions (Figure 2). During 2012–2013, rates decreased in the Northeast, Midwest, and South and remained stable in the West. During 2013–2015, rates increased in all regions, with the largest increase occurring in the West (421.1 to 464.4 cases per 100,000 population, 10.3% increase) (Table 3).

Chlamydia by State

In 2015, rates of reported cases of chlamydia by state ranged from 233.3 cases per 100,000 population in New Hampshire to 768.3 cases in Alaska (Figure 3, Table 2);

the rate in the District of Columbia was 1,198.1 cases per 100,000 population (Table 3). During 2014–2015, rates of reported chlamydia increased in 37 states and the District of Columbia. The rate of reported chlamydia cases in 2015 was above the U.S. total in 18 states.

Chlamydia by Metropolitan Statistical Area

The rate of reported cases of chlamydia per 100,000 population in the 50 most populous metropolitan statistical areas (MSAs) increased 5.5% during 2014–2015 (469.1 to 494.8 cases per 100,000 population, respectively) (Table 6). In 2015, 56.7% of chlamydia cases were reported by these MSAs. During 2014–2015, the rate of reported cases of chlamydia in these MSAs increased 3.1% among women (626.7 to 646.4 cases per 100,000 females) and 10.5% among men (303.4 to 335.4 cases per 100,000 males) (Tables 7 and 8).

Chlamydia by County

In 2015, 784 (25.0%) of 3,141 counties had rates of reported chlamydia higher than 444 cases per 100,000 population (Figure 4). Seventy counties and independent cities reported 43.0% of all chlamydia cases in 2015 (Table 9). Of the 70 counties and independent cities reporting the highest number of chlamydia cases, 49 (70.0%) were located in the South and West (Table 9).

Chlamydia by Sex

In 2015, 1,045,143 cases of chlamydia were reported among females for a rate of 645.5 cases per 100,000 females (Table 4). After increasing each year during 2000–2011, the rate among females decreased during 2011–2013 from 643.4 to 619.0 cases per 100,000 females (Figure 1). The rate among females increased 0.4% during 2013–2014 and increased 3.8% during 2014–2015, for a total increase of 4.3% since 2013.

After remaining stable during 2012–2013, the rate of reported cases of chlamydia among males increased each year during 2013–2015 (for a total increase of 17.1%). During 2014–2015, the rate among men increased 10.5%, from 276.1 to 305.2 per 100,000 males. As in previous years, the rate of reported chlamydia cases among females was about two times the rate among males in 2015, likely reflecting a larger number of women screened for this infection (Figure 1, Tables 4 and 5). The lower rate among men also suggests that many of the sex partners of women with chlamydia are not receiving a diagnosis of chlamydia or being reported as having chlamydia.

However, with the advent of highly sensitive NAATs that can be performed on urine, chlamydial infection is increasingly being diagnosed in symptomatic and asymptomatic men. During 2011–2015, rates of reported cases among men increased 20.0% (from 254.4 to 305.2 cases per 100,000 males) compared with a 0.3% increase among women during the same time period (from 643.4 to 645.5 cases per 100,000 females) (Tables 4 and 5).

Chlamydia by Age

The rates of reported cases of chlamydia are highest among adolescents and young adults aged 15–24 years (Table 10). In 2015, the rate of reported cases of chlamydia among 15–19 year olds was 1,857.8 cases per 100,000 population and the rate among 20–24 year olds was 2,574.9 cases per 100,000 population (Table 10).

Among females, the highest age-specific rates of reported cases of chlamydia in 2015 were among those aged 15–19 years (2,994.4 cases per 100,000 females) and 20–24 years (3,730.3 cases per 100,000 females) (Figure 5, Table 10). Within these age groups, rates were highest among women aged 19 years (4,790.9 cases per 100,000 females) and 20 years (4,646.2 cases per 100,000 females) (Table 12). After increasing steadily during 2000–2011, the rate among women aged 15–19 years decreased each year during 2011–2014 (for a total decrease of 15.4%), but increased 1.5% during 2014–2015. The rate increased 2.7% among women aged 20–24 years during 2014–2015 (3,632.7 to 3730.3 per 100,000 females) (Table 10).

In 2015, the age-specific rates of reported cases of chlamydia among men, although substantially lower than rates among women, were highest in those aged 20–24 years (1,467.8 cases per 100,000 males) (Figure 5, Table 10). Similar to trends in women, after increasing for the last decade, rates among men aged 15–19 years decreased each year during 2011–2014 (for a total decrease of 11.5%), but increased 6.3% during 2014–2015 (722.4 to 767.6 per 100,000 males). Among men aged 20–24 years, the rate increased 7.8% during 2014–2015 (1,361.3 to 1,467.8 cases per 100,000 males).

Chlamydia by Race/Ethnicity

Among the 50 states that submitted race and ethnicity data in 2015 according to Office of Management and Budget (OMB) standards (see Section A1.5 in the Appendix), rates of reported cases of chlamydia were highest among Black men and women (Figure P, Table 11B). The rate of reported cases of chlamydia among Blacks was 5.9 times the rate among Whites (1,097.6 and 187.2 cases per 100,000 population, respectively). The rate among American Indians/Alaska Natives (709.1 cases per 100,000 population) was 3.8 times the rate among Whites. The rate among Hispanics (372.7 cases per 100,000 population) was 2.0 times the rate among Whites. The rate among Native Hawaiians/Other Pacific Islanders (622.1 cases per 100,000 population) was 3.3 times the rate among Whites.

The rate among Asians was lower than the rate among Whites (114.1 cases per 100,000 population).

During 2011–2015, 45 states submitted race and ethnicity data according to the OMB standards (see Section A1.5 in the Appendix). During 2011–2015, rates of reported chlamydia cases increased among Asians (7.8%), Native Hawaiians/Other Pacific Islanders (8.9%), Whites (14.6%), and Multirace (43.1%), and decreased in Blacks (11.2%) (Figure 6). Rates were stable among American Indians/Alaska Natives and Hispanics during 2011–2015. During 2014–2015, rates increased among Whites (2.6%), Asians (7.2%), Multirace (5.2%), and Hispanics (2.0%), and decreased among American Indians/Alaska Natives (3.5%). Rates were stable among Blacks and Native Hawaiians/Other Pacific Islanders during 2014–2015 (Figure 6).

More information on chlamydia rates among race/ethnicity groups can be found in the Special Focus Profiles.

Chlamydia by Reporting Source

In 2015, 7.2% of chlamydia cases were reported from STD clinics, 78.4% were reported from venues outside of STD clinics, and 14.4% had an unknown source of report (Table A2). Over time, the proportion of male cases reported from STD clinic sites has decreased substantially, from 32.7% in 2006 to 12.9% in 2015 (Figure 7). In 2015, among women, only 4.5% of chlamydia cases were reported through an STD clinic (Table A2). A large proportion of cases among women (32.8%) were reported from private physicians/HMOs (Figure 8). Among men, 12.9% of chlamydia cases were reported from an STD clinic in 2015 and 24.4% were reported from private physicians/HMOs (Table A2, Figure 7).

Chlamydia Prevalence in the Population

The National Health and Nutrition Examination Survey (NHANES; see Section A2.4 in the Appendix) is a nationally representative survey of the U.S. civilian, non-institutionalized population that provides an important measure of chlamydia disease burden in respondents aged 14–39 years. During 2007–2012, the overall prevalence of chlamydia among persons aged 14–39 years was 1.7% (95% Confidence Interval [CI]: 1.4–2.0) (Figure 10). Among sexually active females aged 14–24 years, the population targeted for screening, prevalence was 4.7% (95% CI: 3.2–6.1), with the highest prevalence among non-Hispanic Black females (13.5%, 95% CI: 9.2–17.7) (Figure 11).[1]

Chlamydia Positivity in Selected Populations

The STD Surveillance Network (SSuN) is an ongoing collaboration of 10 state, county, and city health departments collecting enhanced clinical and behavioral information among patients attending 30 STD clinics in the SSuN jurisdictions (See Section A2.2 of the Appendix).

In 2015, the proportion of STD clinic patients testing positive for chlamydia varied by age, sex, and sexual behavior. Adolescent men who have sex with women only (MSW) had the highest prevalence (31.2%), either reflecting disproportionate testing of men with urethritis or targeted testing of partners of women diagnosed with chlamydia. Prevalence among all those tested decreased with age, though the variation in prevalence by age was not as pronounced for gay, bisexual, and other men who have sex with men (collectively referred to as MSM) (Figure 9).

Chlamydia Among Special Populations

More information on chlamydia among women of reproductive age, adolescents and young adults, MSM, and minority populations is presented in the Special Focus Profiles.

Chlamydia Summary

Chlamydia continues to be the most commonly reported nationally notifiable disease, with 1,526,658 cases reported in 2015 and increasing rates of reported cases over each of the last two years. Rates of reported chlamydia cases increased 5.9% during 2014–2015. The Southern region of the U.S. reported the highest rate of chlamydial infection in 2015, as well as the largest rate increase during 2014–2015, at 7.0%. However, the Western region experienced the largest rate increase in reported chlamydia cases during 2011–2015, at 10.7%. In 2015, the rate of reported cases of chlamydia in women was 2.1 times the rate in men; however, the rate in men increased 20.0% during 2011–2015, whereas, the rate in women increased only 0.3% during the same time frame. After decreasing during 2011–2014, the rate among women aged 15–19 years increased 1.5% during 2014–2015.

The facilities reporting chlamydial infections have changed over the last 10 years, with most (78.4%) chlamydia cases in 2015 reported from venues outside of STD clinics. The proportion of men being diagnosed with chlamydia in STD clinics decreased 60.6% from 32.7% in 2006 to 12.9%

in 2015, and approximately one-third of chlamydia cases among women were reported from private physicians/ HMOs. Racial differences also persist; reported case rates and prevalence estimates among Blacks continue to be substantially higher than among all other racial/ethnic groups. However, both test positivity and the number of reported cases of *C. trachomatis* infections remain high among most age groups, racial/ethnic groups, geographic areas, and both sexes.

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[1] Torrone E, Papp J, Weinstock H. Prevalence of *Chlamydia trachomatis* genital infection among persons aged 14-39 years - United States, 2007-2012. MMWR. 2014 September 26, 2014; 63(38): 834-8.

[2] Stamm WE. *Chlamydia trachomatis* infections in the adult. Sexually Transmitted Diseases. 4th ed. New York, NY: McGraw-Hill; 2008. p. 575-606.

[3] Scholes D, Stergachis A, Heidrich FE, et al. Prevention of pelvic inflammatory disease by screening for cervical chlamydial infection. N Engl J Med. 1996; 334(21): 1362-6.

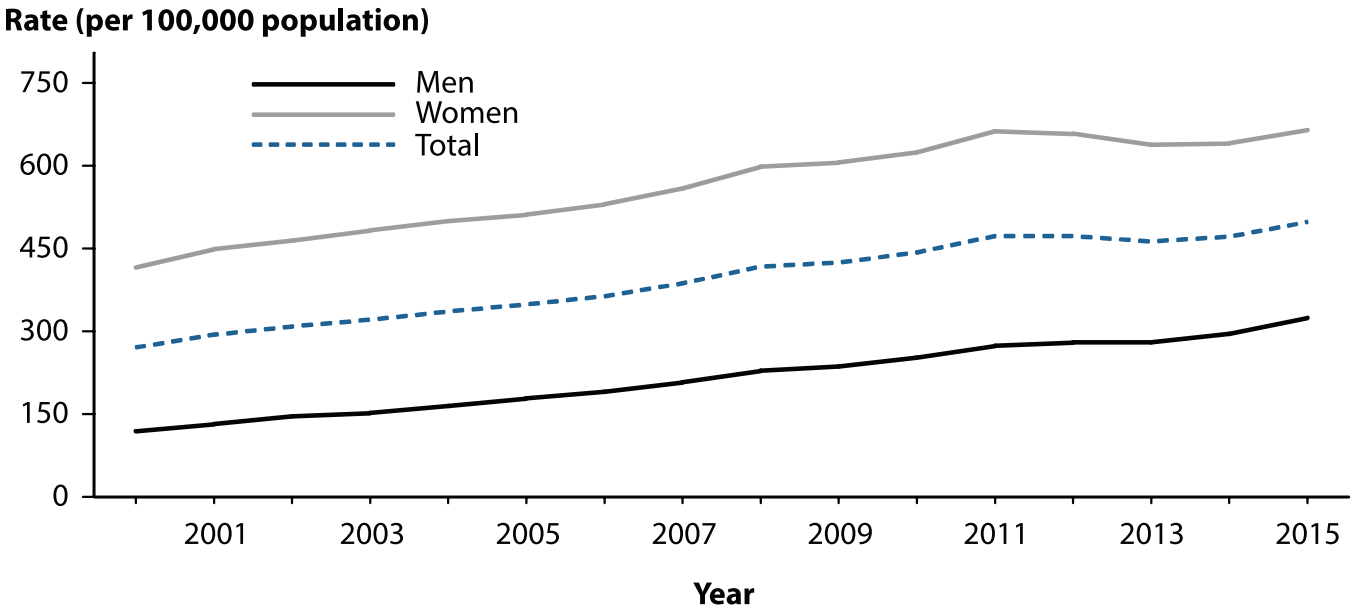
[4] Oakeshott P, Kerry S, Aghaizu A, et al. Randomised controlled trial of screening for *Chlamydia trachomatis* to prevent pelvic inflammatory disease: the POPI (prevention of pelvic infection) trial. BMJ. 2010; 340: c1642.

[5] Fleming DT, Wasserheit JN. From epidemiological synergy to public health policy and practice: the contribution of other sexually transmitted diseases to sexual transmission of HIV infection. Sex Transm Infect. 1999; 75(1): 3-17.

[6] Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines, 2015. MMWR Recomm Rep. 2015; 64(RR-3): 1-137. Erratum in: MMWR 2015; 64(33): 924.

[7] National Committee for Quality Assurance. The state of healthcare quality 2015. Washington, DC: National Committee for Quality Assurance; 2015: p. 67-68.

Figure 1. Chlamydia — Rates of Reported Cases by Sex, United States, 2000–2015



NOTE: Data collection for chlamydia began in 1984 and chlamydia was made nationally notifiable in 1995; however, chlamydia was not reportable in all 50 states and the District of Columbia until 2000. Refer to the National Notifiable Disease Surveillance System (NNDSS) website for more information: https://wwwn.cdc.gov/nndss/conditions/chlamydia-trachomatis-infection/.

Figure 2. Chlamydia — Rates of Reported Cases by Region, United States, 2006–2015

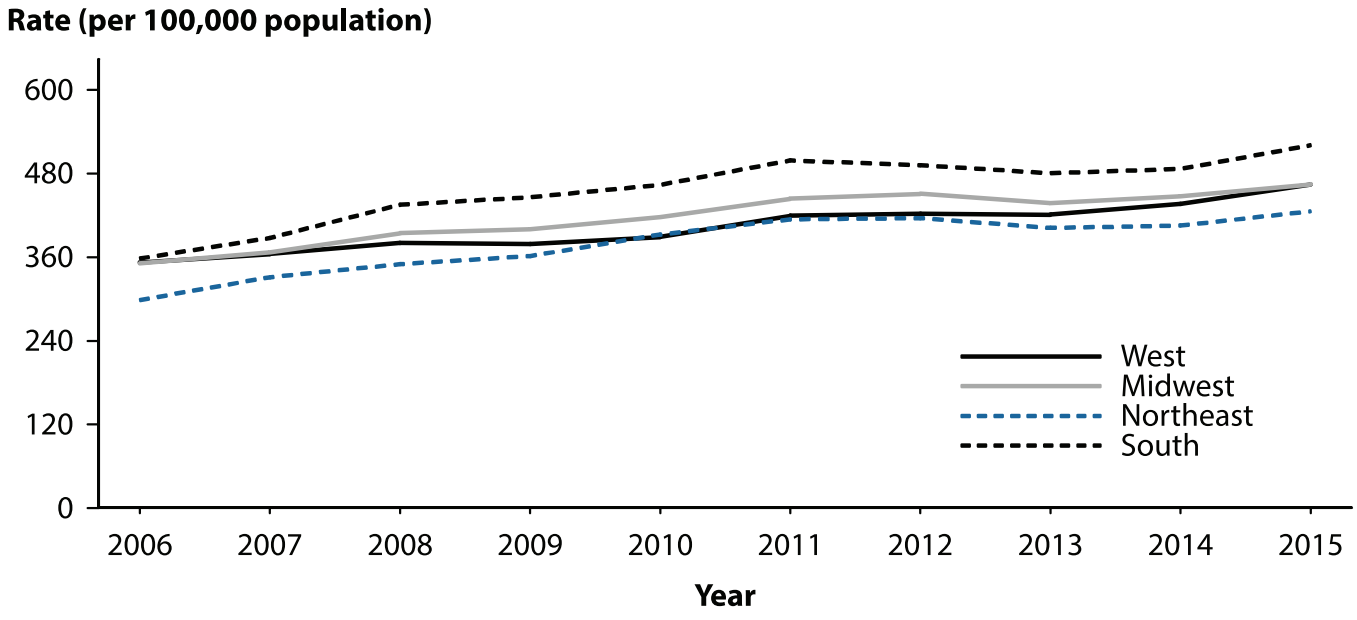
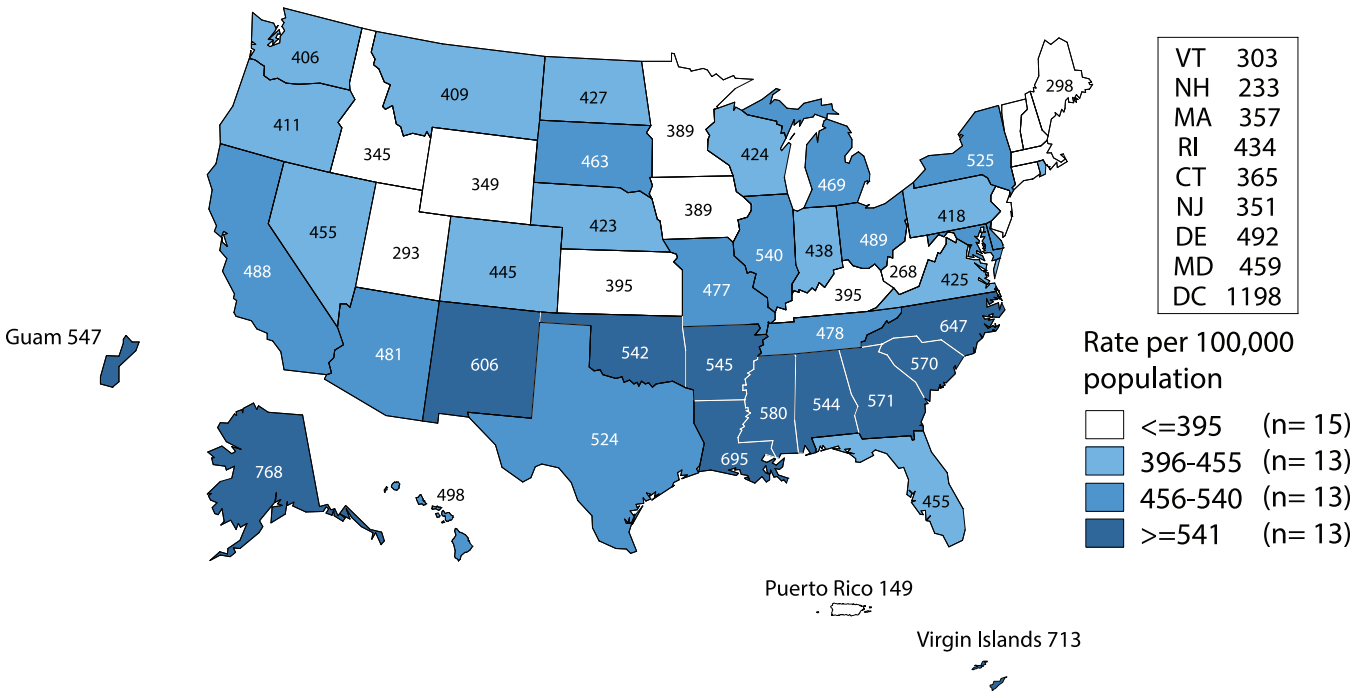
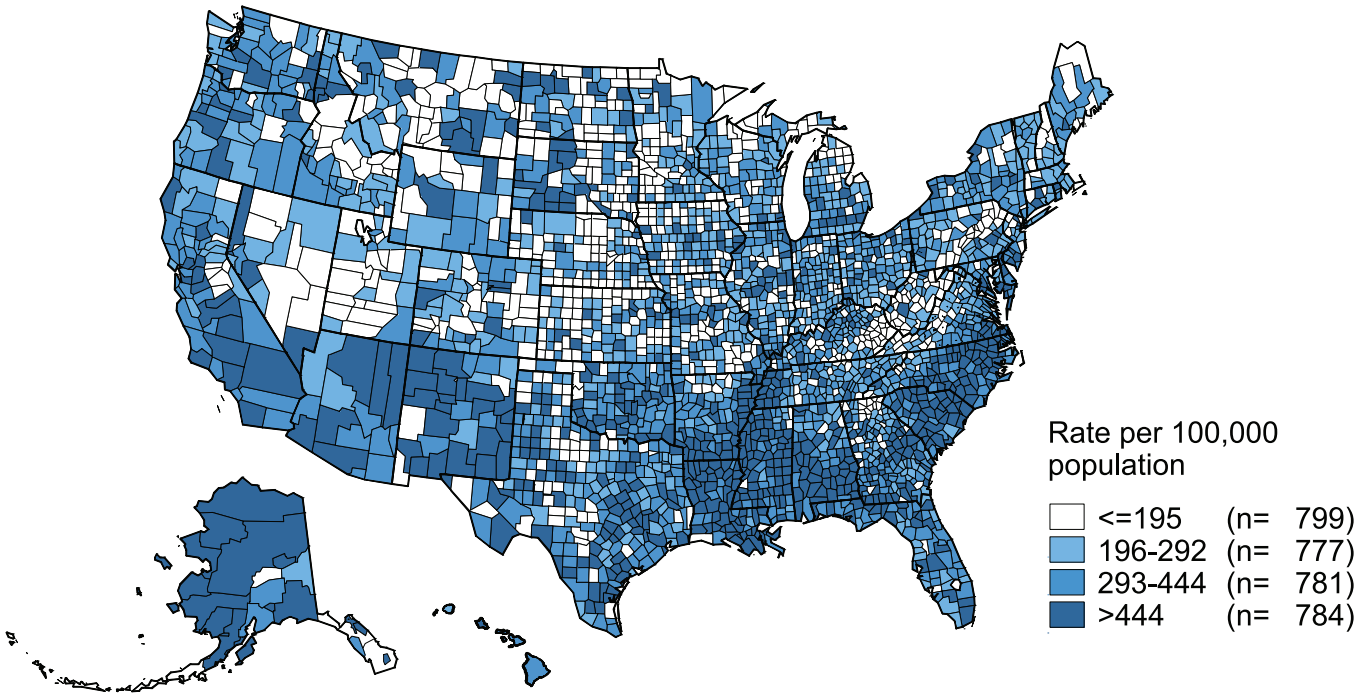


Figure 3. Chlamydia — Rates of Reported Cases by State, United States and Outlying Areas, 2015



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.

Figure 4. Chlamydia — Rates of Reported Cases by County, United States, 2015



NOTE: Refer to the NCHHSTP Atlas for further county-level rate information: https://www.cdc.gov/nchhstp/atlas/.

Figure 5. Chlamydia — Rates of Reported Cases by Age Group and Sex, United States, 2015

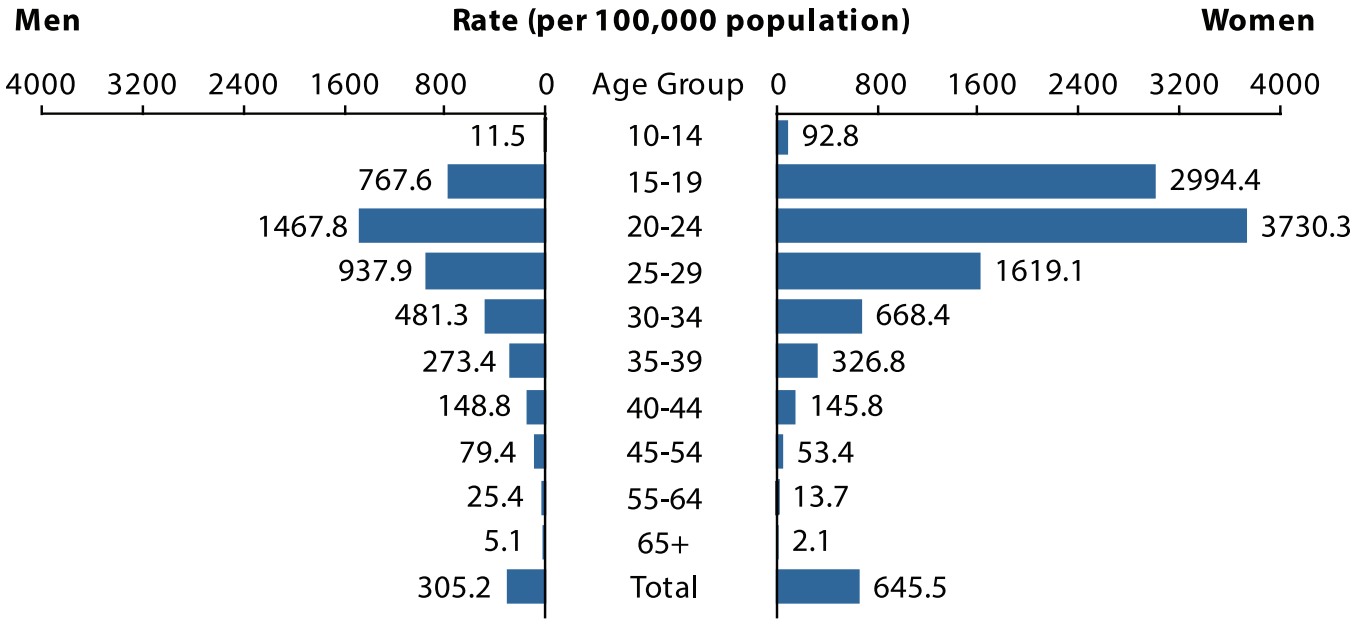
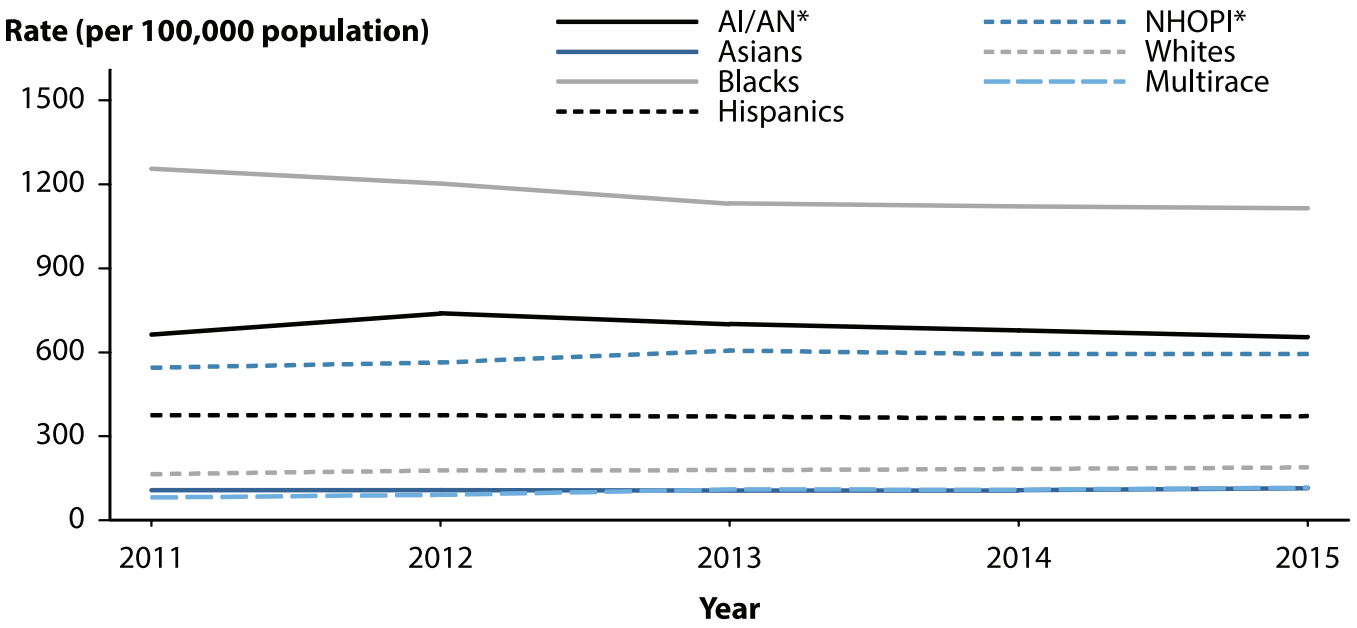
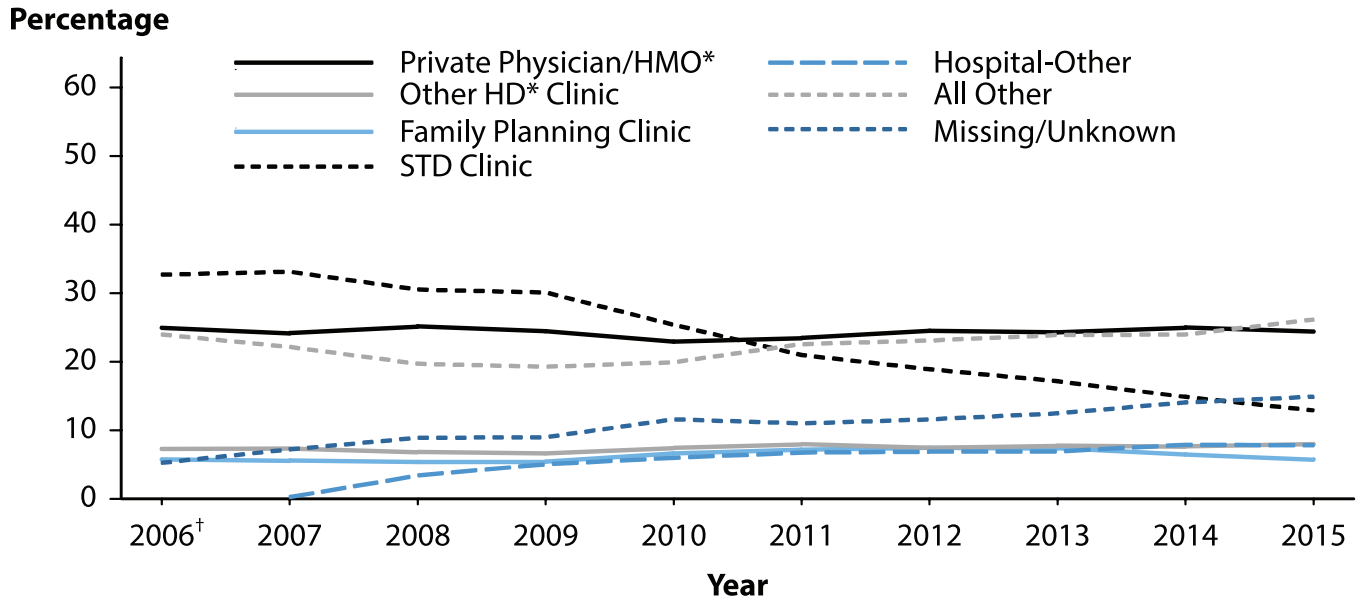


Figure 6. Chlamydia — Rates of Reported Cases by Race/Ethnicity, United States, 2011–2015



* AI/AN = American Indians/Alaska Natives; NHOPI = Native Hawaiians/Other Pacific Islanders.
NOTE: Includes 45 states reporting race/ethnicity data in Office of Management and Budget compliant formats during 2011–2015 (see Section A1.5 in the Appendix).

Figure 7. Chlamydia — Reported Cases Among Men by Reporting Source, United States, 2006–2015

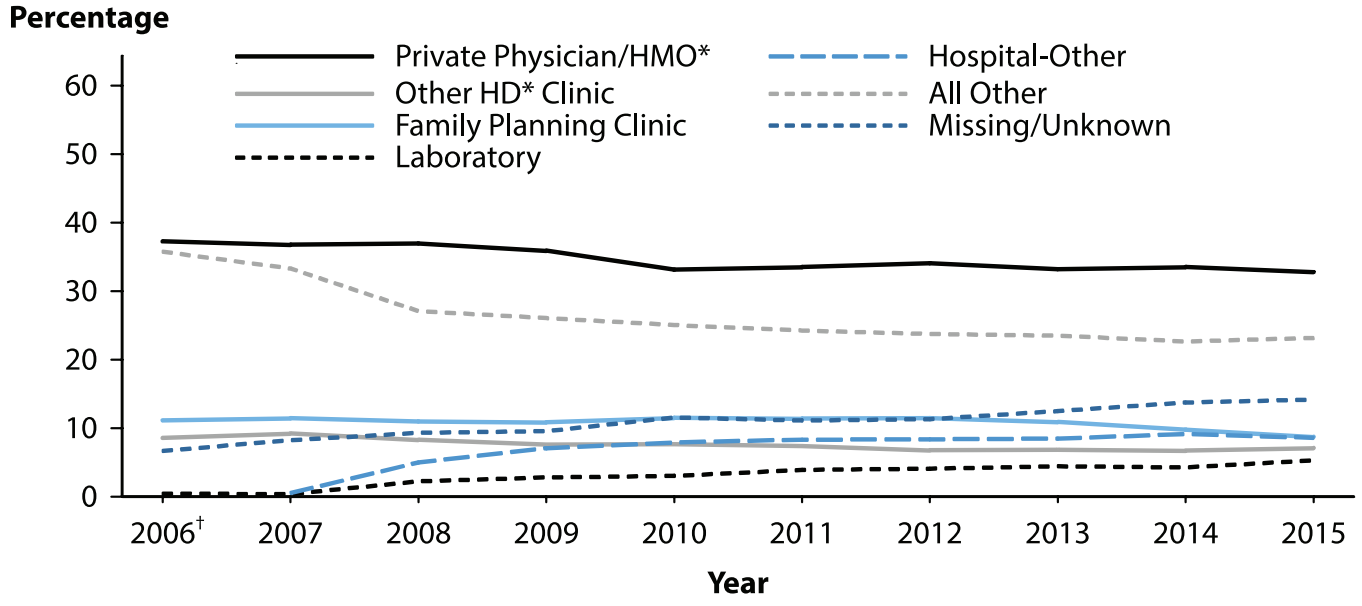


* HMO = health maintenance organization; HD = health department.

† The variable "Hospital-Other" (i.e., other hospital clinics/facilities) was not added as a response option for reporting source until calendar year 2007; therefore, there are no data available for the "Hospital-Other" variable in 2006.

NOTE: All Other includes: Drug Treatment, Tuberculosis Clinic, Correctional Facility, Laboratory, Blood Bank, Labor and Delivery, Prenatal Care, National Job Training Program, School-based Clinic, Mental Health Provider, Indian Health Service, Military, Emergency Room, and HIV Counseling and Testing Site.

Figure 8. Chlamydia — Reported Cases Among Women by Reporting Source, United States, 2006–2015

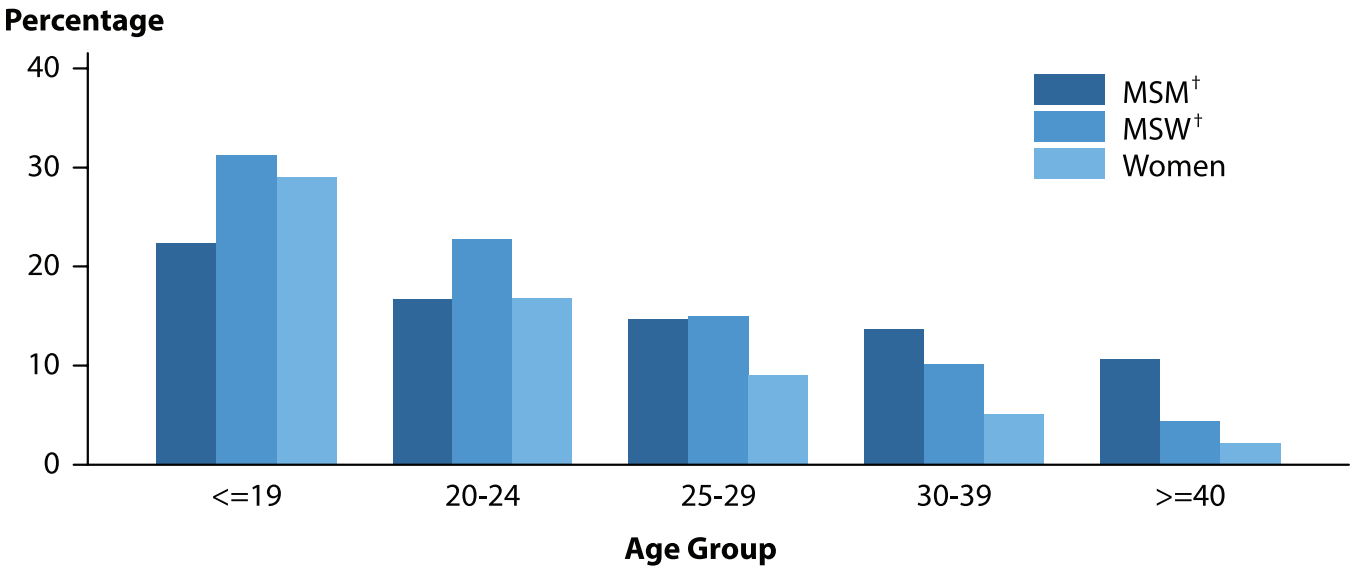


* HMO = health maintenance organization; HD = health department.

† The variable "Hospital-Other" (i.e., other hospital clinics/facilities) was not added as a response option for reporting source until calendar year 2007; therefore, there are no data available for the "Hospital-Other" variable in 2006.

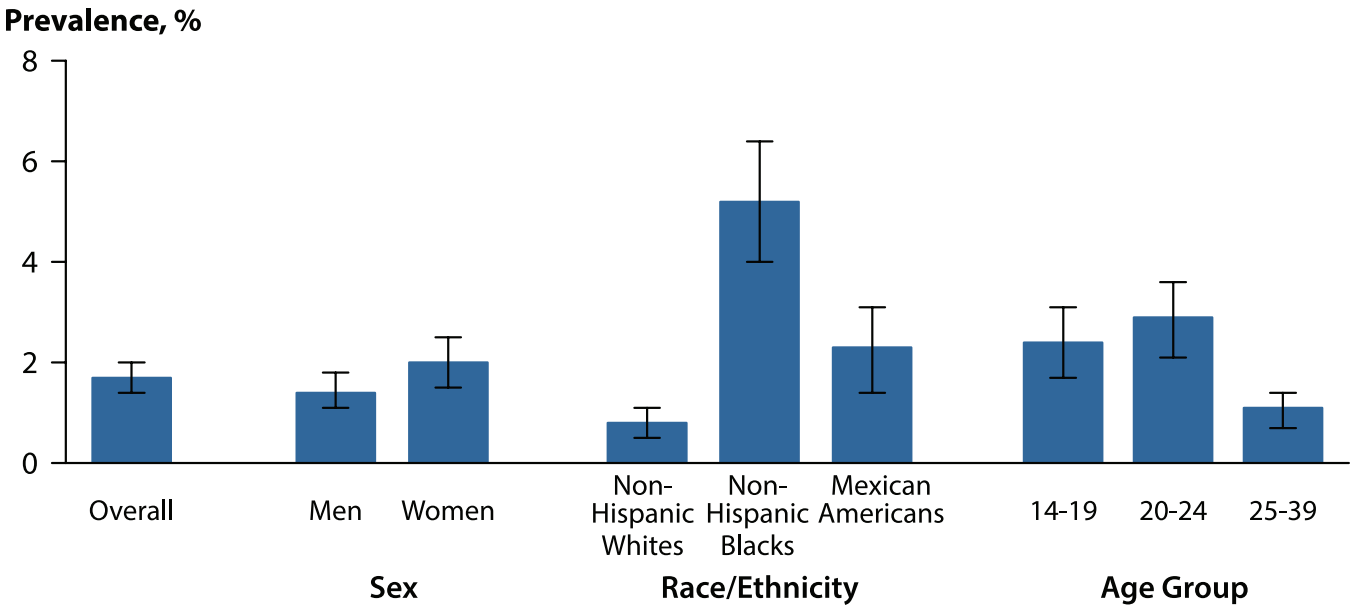
NOTE: All Other includes: Drug Treatment, Tuberculosis Clinic, Correctional Facility, Blood Bank, Labor and Delivery, Prenatal Care, National Job Training Program, School-based Clinic, Mental Health Provider, Indian Health Service, Military, Emergency Room, STD Clinic, and HIV Counseling and Testing Site.

Figure 9. Chlamydia — Proportion of STD Clinic Patients Testing Positive* by Age Group, Sex, and Sexual Behavior, STD Surveillance Network (SSuN), 2015



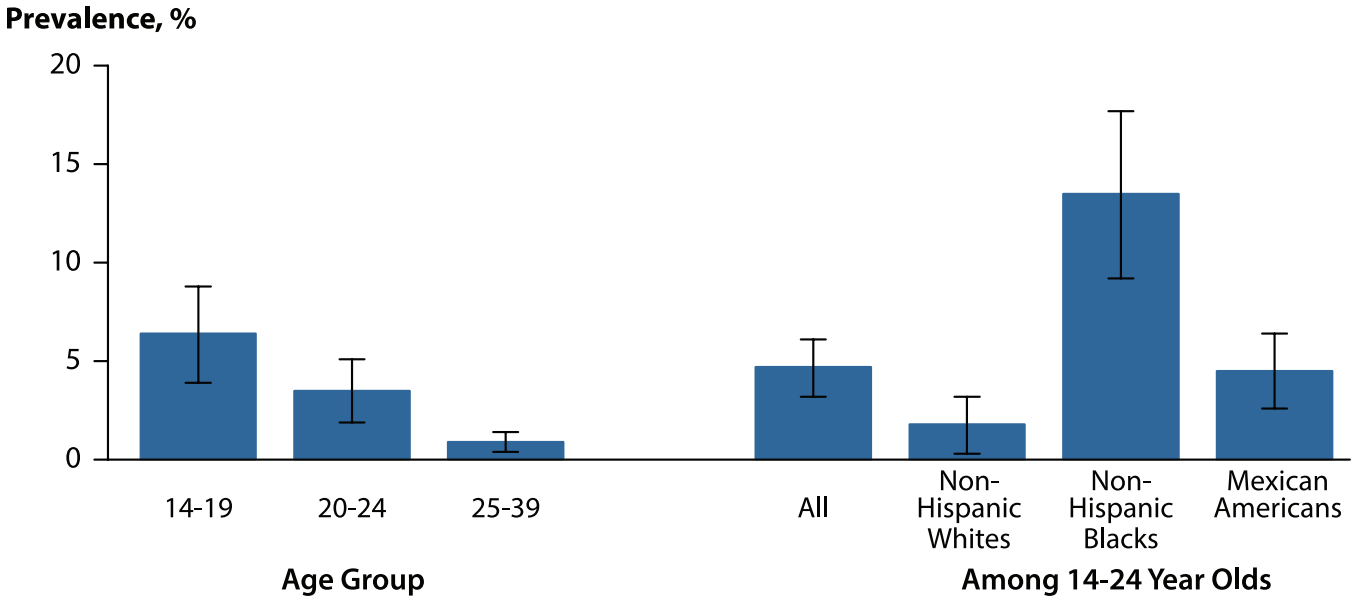
* Results based on data obtained from patients (n=125,238) attending SSuN STD clinics in 2015 in all SSuN jurisdictions, excluding Minnesota.
† MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only.
NOTE: See Section A2.2 in the Appendix for SSuN methods.

Figure 10. Chlamydia — Prevalence Among Persons Aged 14–39 Years by Sex, Race/Ethnicity, or Age Group, National Health and Nutrition Examination Survey, 2007–2012



NOTE: Error bars indicate 95% confidence intervals.
SOURCE: Torrone E, Papp J, Weinstock H; Centers for Disease Control and Prevention (CDC). Prevalence of *Chlamydia trachomatis* genital infection among persons aged 14–39 — United States, 2007–2012. MMWR Morb Mortal Wkly Rep. 2014 Sep 26;63(38):834–8.

Figure 11. Chlamydia — Prevalence Among Sexually-Active Women Aged 14–39 Years by Race/ Ethnicity and Age Group, National Health and Nutrition Examination Survey, 2007–2012



NOTE: Error bars indicate 95% confidence intervals.
SOURCE: Torrone E, Papp J, Weinstock H; Centers for Disease Control and Prevention (CDC). Prevalence of *Chlamydia trachomatis* genital infection among persons aged 14–39 — United States, 2007–2012. MMWR Morb Mortal Wkly Rep. 2014 Sep 26;63(38):834–8.

Gonorrhea

Background

Gonorrhea is the second most commonly reported notifiable disease in the United States. Infections due to *Neisseria gonorrhoeae*, like those resulting from *Chlamydia trachomatis*, are a major cause of pelvic inflammatory disease (PID) in the United States. PID can lead to serious outcomes in women, such as tubal infertility, ectopic pregnancy, and chronic pelvic pain. In addition, epidemiologic and biologic studies provide evidence that gonococcal infections facilitate the transmission of HIV infection.[1] Together, sexual behavior and community prevalence can increase the risk of acquiring gonorrhea. Social determinants of health, such as socioeconomic status, discrimination, and access to quality health care, may contribute to the burden of gonorrhea in a community.[2]

In 2009, the national rate of reported gonorrhea cases reached an historic low of 98.1 cases per 100,000 population (Figure 12, Table 1). However, during 2009–2012, the rate increased slightly each year to 106.7 cases per 100,000 population in 2012. In 2013, the rate decreased slightly to 105.3 cases per 100,000 population and then during 2013–2015, the rate increased each year. In 2015, a total of 395,216 cases were reported for a rate of 123.9 gonorrhea cases per 100,000 population (Figure 12, Table 1).

The increase in the gonorrhea rate during 2014–2015 was observed among both males and females; however, the increase was larger among males (Figure 13). During 2014–2015, the gonorrhea rate increased in all regions and during 2011–2015, with the largest increase in the West (92.2%; 61.4 to 118.0 cases per 100,000 population) (Figure 14, Table 14). The rate of gonorrhea continued to increase among persons in every age group among those aged 15 years and older during 2014–2015 (Table 21).

N. gonorrhoeae has progressively developed resistance to each of the antimicrobials used for treatment of gonorrhea. Most recently, declining susceptibility to cefixime (an oral cephalosporin antibiotic) resulted in a change to the CDC treatment guidelines, so that dual therapy with ceftriaxone (an injectable cephalosporin) and azithromycin is now the only CDC-recommended treatment regimen for gonorrhea.[3] The emerging threat of cephalosporin resistance highlights the need for continued surveillance of *N. gonorrhoeae* antimicrobial susceptibility.

The combination of persistently high gonorrhea morbidity in some populations and the threat of cephalosporin-resistant gonorrhea reinforces the need to better understand the epidemiology of gonorrhea.

Interpreting Rates of Reported Cases of Gonorrhea

Although gonorrhea case reporting is useful for monitoring disease trends, the number of gonorrhea cases reported to CDC is affected by many factors in addition to the actual occurrence of the infection within the population. Changes in the burden of gonorrhea may be masked by changes in screening practices (e.g., screening for chlamydia with tests that also detect *N. gonorrhoeae* infections or increased screening at extra-genital anatomic sites), the use of diagnostic tests with different test performance (e.g., the broader use of nucleic acid amplification tests [NAATs]), and changes in reporting practices. As with other STDs, the reporting of gonorrhea cases to CDC is incomplete.[4] For these reasons, supplemental data on gonorrhea prevalence in persons screened in a variety of settings are useful in assessing the burden of disease in selected populations.

Gonorrhea — United States

In 2015, a total of 395,216 cases of gonorrhea were reported in the United States, yielding a rate of 123.9 gonorrhea cases per 100,000 population (Table 1). Since 2014, the rate of reported gonorrhea cases increased 12.8% since 2014, and increased 19.9% since 2011.

Gonorrhea by Region

In 2015, as in previous years, the South had the highest rate of reported gonorrhea cases (146.3 cases per 100,000 population) among the four regions of the United States, followed by the West (118.0 cases per 100,000 population), the Midwest (115.7 cases per 100,000 population), and the Northeast (94.2 cases per 100,000 population) (Figure 14, Table 14). This is the first year that the West has had a higher rate than both the Midwest and Northeast. During 2014–2015, the gonorrhea rate increased in all four regions: 18.1% in the West, 12.6% in the South, 11.6% in the Northeast, and 8.9% in the Midwest (Figure 14, Table 14). During 2011–2015, the rate of gonorrhea in the West increased by 92.2% (61.4 to 118.0 cases per 100,000 population) while other regions had smaller overall increases during this time period (i.e., 10.3% in the Northeast, 9.3% in the South, and 4.4% in the Midwest).

Gonorrhea by State

In 2015, rates of reported gonorrhea cases per 100,000 population ranged by state from 18.5 in New Hampshire to 221.1 in Louisiana; the gonorrhea rate in the District of

Columbia was 416.2 cases per 100,000 population (Figure 15, Table 13).

During 2014–2015, gonorrhea rates increased in 80% of states and the District of Columbia, decreased in 18% of states, and remained the same in 2% (Table 14).

Gonorrhea by Metropolitan Statistical Area

The overall rate of reported gonorrhea cases in the 50 most populous metropolitan statistical areas (MSAs) was 137.0 cases per 100,000 population in 2015 and represents a 12.9% increase compared with the rate in 2014 (121.4 cases per 100,000 population) (Table 17). In 2015, 60.6% of reported gonorrhea cases were reported by these MSAs. Since 2011, the gonorrhea rate among females in the 50 most populous MSAs has been lower than the rate among males (Tables 18 and 19). In 2015, the rate among females in these MSAs was 107.0 cases per 100,000 females, while the rate among males was 167.9 cases per 100,000 males.

Gonorrhea by County

In 2015, 51% of reported gonorrhea cases occurred in just 70 counties or independent cities (Table 20). In 2015, 806 counties (25.7%) in the United States had a rate less than or equal to 16 cases per 100,000 population (Figure 16). The rate ranged from 17 to 41 cases per 100,000 population in 766 counties (24.3%), ranged from 42 to 97 cases per 100,000 population in 787 counties (25.1%), and was more than 97 cases per 100,000 population in 782 counties (24.9%). As in previous years, counties with the highest gonorrhea rates were concentrated in the South.

Gonorrhea by Sex

As was observed during 2013–2014, the rate of reported gonorrhea cases among males was higher than the rate among females in 2015 (Figure 13, Tables 15 and 16). During 2014–2015, the gonorrhea rate among males increased 18.3% (119.0 to 140.9 cases per 100,000 males), and the rate among females increased 6.8% (100.4 to 107.2 cases per 100,000 females). During 2011–2015, the rate among males increased 44.2% (97.7 to 140.9 cases per 100,000 males), while the rate among females decreased 0.7% (108.0 to 107.2 cases per 100,000 females). The magnitude of the increase among males suggest either increased transmission or increased case ascertainment (e.g., through increased extra-genital screening) among gay, bisexual, and other men who have sex with men (collectively referred to as MSM). However, most jurisdictions do not routinely report sex of sex partner or site of infection for gonorrhea cases, so trends in gonorrhea rates among MSM over time cannot be assessed.

Gonorrhea by Region and Sex

In all regions, the rate of gonorrhea increased among both males and females during 2014–2015 and the rate of increase among males was larger than the rate of increase among females (Tables 15 and 16). The rate of reported gonorrhea cases increased the most in the West (20.7% among males and 13.8% among females) and in the South, where the rate of reported gonorrhea cases increased 19.2% among males and 6.2% among females (Tables 15 and 16).

Gonorrhea by Age

In 2015, rates of reported gonorrhea cases continued to be highest among adolescents and young adults (Figure 17, Table 21). In 2015, the highest rates among females were observed among those aged 20–24 years (546.9 cases per 100,000 females) and 15–19 years (442.2 cases per 100,000 females). Among males, the rate was also highest among those aged 20–24 years (539.1 cases per 100,000 males) and 25–29 years (448.8 cases per 100,000 males).

In 2015, persons aged 15–44 years accounted for 92.7% of reported gonorrhea cases with known age. Among 15–19 year olds, rates decreased during 2011–2014; however, during 2014–2015, rates increased 5.2%. During 2014–2015, the gonorrhea rate also increased among other age groups: 7.2% among those aged 20–24 years, 19.1% among those aged 25–29 years, 19.0% among those aged 30–34 years, 25.7% among those aged 35–39 years, and 18.5% among those aged 40–44 years (Figures 18 and 19, Table 21). Among persons aged 15–44 years, increases were observed in all age groups for both men and women.

Gonorrhea by Race/Ethnicity

In 2015, among the 50 states that submitted data in the race and ethnicity categories according to Office of Management and Budget (OMB) standards (see Section A1.5 in the Appendix), the rate of reported gonorrhea cases remained highest among Blacks (424.9 cases per 100,000 population) (Table 22B). The rate among Blacks was 9.6 times the rate among Whites (44.2 cases per 100,000 population). The gonorrhea rate among American Indians/Alaska Natives (192.8 cases per 100,000 population) was 4.4 times that of Whites, the rate among Native Hawaiians/Other Pacific Islanders (123.0 cases per 100,000 population) was 2.8 times that of Whites, the rate among Hispanics (80.5 cases per 100,000 population) was 1.8 times that of Whites, and the rate among Asians (22.9 cases per 100,000 population) was half the rate of Whites (Table 22B).

During 2011–2015, among the 45 states that submitted race and ethnicity data according to OMB standards (see Section A1.5 in the Appendix) for all five years during that period, the gonorrhea rate increased among Whites

(75.1%), American Indians/Alaska Natives (71.3%), Asians (70.0%), Native Hawaiians/Other Pacific Islanders (61.0%), and Hispanics (53.8%) (Figure 20). During this same time period, the gonorrhea rate decreased 4.0% among Blacks.

More information on gonorrhea rates among race and ethnicity groups can be found in the Special Focus Profiles.

Gonorrhea by Reporting Source

In 2015, 11.9% of gonorrhea cases were reported from STD clinics, 74.2% were reported from venues outside of STD clinics, and 13.9% had an unknown source of report (Table A2).

During 2006–2015, the number of gonorrhea cases reported by STD clinics declined 60.1% among males and 53.3% among females. During 2014–2015, the number of gonorrhea cases reported by STD clinics continued to decrease; 12.2% among males and 4.9% among females (Figures 21 and 22).

In 2015, among males, private physicians/health maintenance organizations (HMOs) (20.3 %) and STD clinics (15.1 %) were the most common reporting sources, followed by other hospital clinics/facilities (11.5%), other health department clinics (8.9%), and emergency rooms (5.9%) (Figure 21). Among females, private physicians/HMOs (24.8%) were the most common reporting source, followed by other hospital clinics/facilities (12.7%), STD clinics (7.8%), family planning clinics (7.6%), and other health department clinics (6.8%) (Figure 22).

STD Surveillance Network

The STD Surveillance Network (SSuN) is an ongoing collaboration of states and independently funded cities collecting enhanced information on a representative sample of gonorrhea case reports received from all reporting sources in their jurisdiction. Enhanced gonorrhea case report data for this report were obtained from Cycle 3 of SSuN, which includes 10 jurisdictions, of which 8 collected data on randomly sampled cases in 2015. SSuN collaborators interviewed 2,278 gonorrhea cases representing 3% of total morbidity reported from participating jurisdictions during that time period. The estimated burden of disease represented by MSM, men who have sex with women only (MSW), and women varied substantially across collaborating sites (Figure 23). San Francisco had the highest proportion of estimated MSM cases (87.8 %), while the lowest proportion of morbidity estimated to be attributed to MSM was found in Baltimore at 16.9% (Figure 23). Across all SSuN collaborating jurisdictions in 2015, 42.2% of gonorrhea cases were estimated to be among MSM, 25.4% among MSW, and 32.4% among women.

Clinic data for this report include information from patients attending STD clinics during 2015 in the 10 jurisdictions participating in Cycle 3 of SSuN. In 2015, the proportion of STD clinic patients who tested positive for gonorrhea varied by age group, sex, and sex of sex partner (Figure 24). Among those attending these clinics, MSM disproportionately had higher positivity rates when compared to MSW and women in all age groups. While positivity rates declined with increasing age for heterosexual males and females, a much slower decline by age was seen in MSM.

Additional information about SSuN methodology can be found in Section A2.2 of the Appendix.

Gonococcal Isolate Surveillance Project

Antimicrobial resistance remains an important consideration in the treatment of gonorrhea.[3,5–7] In 1986, the Gonococcal Isolate Surveillance Project (GISP), a national sentinel surveillance system, was established to monitor trends in antimicrobial susceptibilities of urethral *N. gonorrhoeae* strains in the United States.[7] Data are collected from selected STD clinic sentinel sites and from regional laboratories (Figure 25).

Antimicrobial susceptibility is measured by the minimum inhibitory concentration (MIC), the lowest antimicrobial concentration that inhibits bacterial growth in the laboratory. Increases in MICs demonstrate that the bacteria can survive at higher antimicrobial concentrations in the laboratory. Monitoring of MIC trends is useful because increasing MICs can oftentimes be an early indicator of the emergence of antimicrobial resistance.

Information on the antimicrobial susceptibility criteria used in GISP can be found in Section A2.3 in the Appendix. More information about GISP and additional data can be found at https://www.cdc.gov/std/GISP.

Ceftriaxone Susceptibility

Susceptibility testing for ceftriaxone began in 1987. During 2007–2015, the percentage of GISP isolates that exhibited elevated ceftriaxone MICs, defined as ≥0.125 µg/ml, fluctuated between 0.1% and 0.4% (Figure 26). Five isolates with decreased ceftriaxone susceptibility (MIC = 0.5 µg/ml) have been previously identified in GISP: one from San Diego, California (1987), two from Cincinnati, Ohio (1992 and 1993), one from Philadelphia, Pennsylvania (1997), and one from Oklahoma City, Oklahoma (2012).

Cefixime Susceptibility

Susceptibility testing for cefixime began in 1992, was discontinued in 2007, and was restarted in 2009. The percentage of isolates with elevated cefixime MICs (≥0.25µg/ ml) declined from 1.4% in 2011 to 0.5% in 2015 (Figure 26).

Azithromycin Susceptibility

Susceptibility testing for azithromycin began in 1992. Figure 27 displays the distribution of azithromycin MICs among GISP isolates collected during 2011–2015. Most isolates had MICs of 0.125–0.5 µg/ml. During 2011–2013, the percentage of isolates with reduced azithromycin susceptibility (MICs ≥ 2 µg/ml) ranged from 0.3% to 0.6%; during 2013–2015, the percentage increased from 0.6% to 2.6%.

Ciprofloxacin Susceptibility

During 1999–2007, the percentage of isolates that were resistant to ciprofloxacin increased from 0.4% to 14.8%. The percentage declined in 2008 and 2009 and then increased. In 2015, 22.3% of GISP isolates were resistant to ciprofloxacin. Among isolates from MSM, 32.1% were resistant; 16.4% of isolates from MSW exhibited ciprofloxacin resistance.

Susceptibility to Other Antimicrobials

In 2015, 39.6% of isolates collected from GISP sites were resistant to penicillin, tetracycline, ciprofloxacin, or some combination of those antimicrobials (Figure 28). Although these antimicrobials are no longer recommended for treatment of gonorrhea, the resistance phenotypes remain common. Conversely, 60.4% of isolates were susceptible to all three of these antimicrobials.

Antimicrobial Treatments Given for Gonorrhea

The antimicrobial agents given to GISP patients for gonorrhea therapy are shown in Figure 29. The proportion of patients treated with ceftriaxone 250 mg increased from 84.0% in 2011 to 96.9% in 2013, then decreased to 94.4% in 2015. In 2015, 1.5% of patients were treated with azithromycin 2 grams as monotherapy and 17 patients (0.3%) were treated with cefixime.

Gonorrhea Among Special Populations

More information about gonorrhea in race/ethnicity groups, women of reproductive age, adolescents, and MSM can be found in the Special Focus Profiles.

Gonorrhea Summary

The national rate of reported gonorrhea cases reached a historic low in 2009, but increased each year during 2009–2012. After a temporary decrease in 2013, the gonorrhea rate increased again during 2014–2015. This increase was largely attributable to increases among men. High gonorrhea rates persist in certain geographic areas, among adolescents and young adults, and in some racial/ethnic groups.

GISP continues to monitor for the emergence of decreased susceptibility and resistance to cephalosporins and azithromycin.

1 Fleming DT, Wasserheit JN. From epidemiological synergy to public health policy and practice: the contribution of other sexually transmitted diseases to sexual transmission of HIV infection. Sex Transm Infect 1999; 75(1): 3–17.

2 Hogben M, Leichliter JS. Social determinants and sexually transmitted disease disparities. Sex Transm Dis. 2008 Dec; 35(12 Suppl):S13-8.

3 Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines, 2015. MMWR Morb Mortal Wkly Rep 2015; 64(No. RR-3): 1–137.

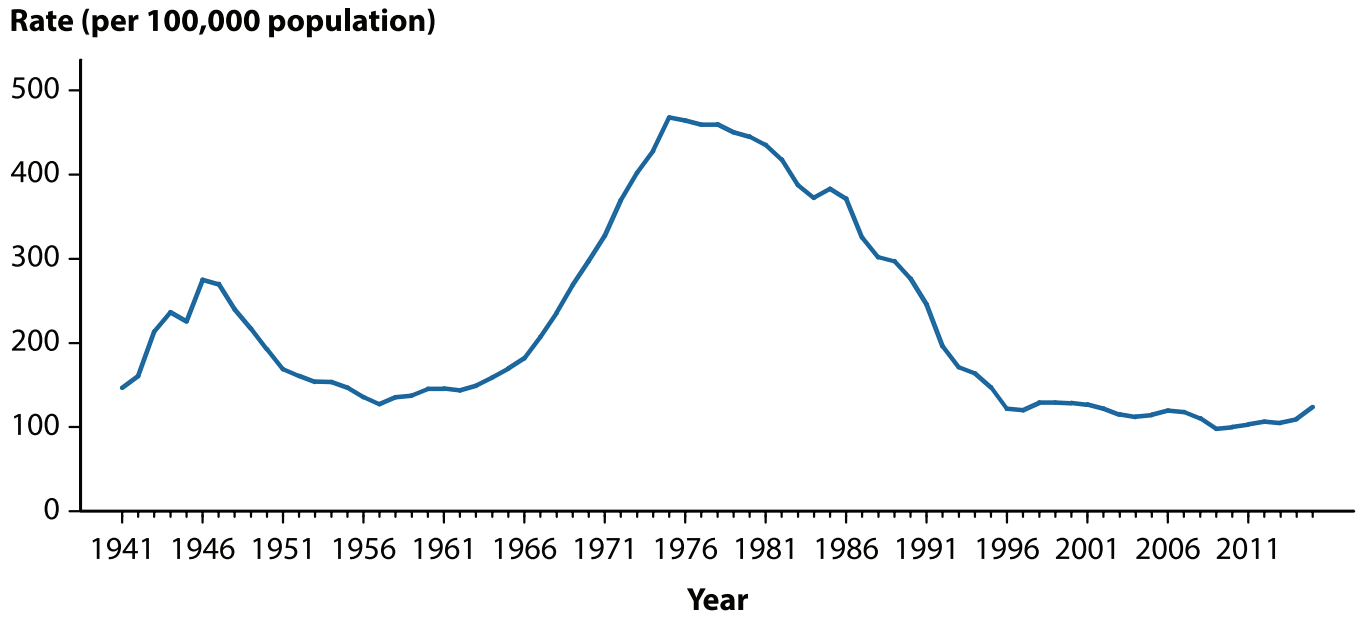
4 Satterwhite CL, Torrone E, Meites E, et al. Sexually transmitted infections among US women and men: prevalence and incidence estimates, 2008. Sex Transm Dis. 2013 Mar;40(3):187-93. doi: 10.1097/OLQ.0b013e318286bb53. Review.

5 Centers for Disease Control and Prevention. Update to CDC's sexually transmitted diseases treatment guidelines, 2006: fluoroquinolones no longer recommended for treatment of gonococcal infections. MMWR Morb Mortal Wkly Rep 2007; 56: 332–336.

6 Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines, 2010. MMWR Recomm Rep 2010; 59(No.RR-12): 1–110.

7 Schwarcz S, Zenilman J, Schnell D, et al. National surveillance of antimicrobial resistance in *Neisseria gonorrhoeae*. JAMA 1990; 1413–1417.

Figure 12. Gonorrhea — Rates of Reported Cases by Year, United States, 1941–2015



NOTE: Data collection for gonorrhea began in 1941; however, gonorrhea became nationally notifiable in 1944. Refer to the National Notifiable Disease Surveillance System (NNDSS) website for more information: https://wwwn.cdc.gov/nndss/conditions/gonorrhea/.

Figure 13. Gonorrhea — Rates of Reported Cases by Sex, United States, 2006–2015

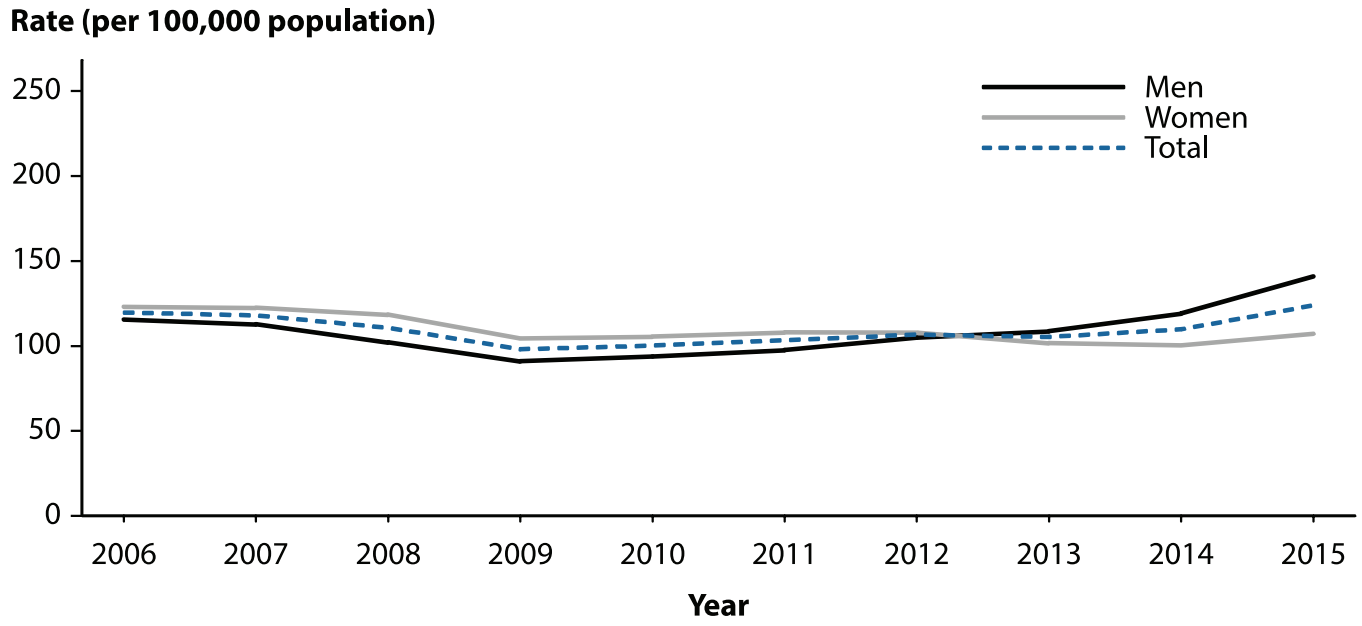


Figure 14. Gonorrhea — Rates of Reported Cases by Region, United States, 2006–2015

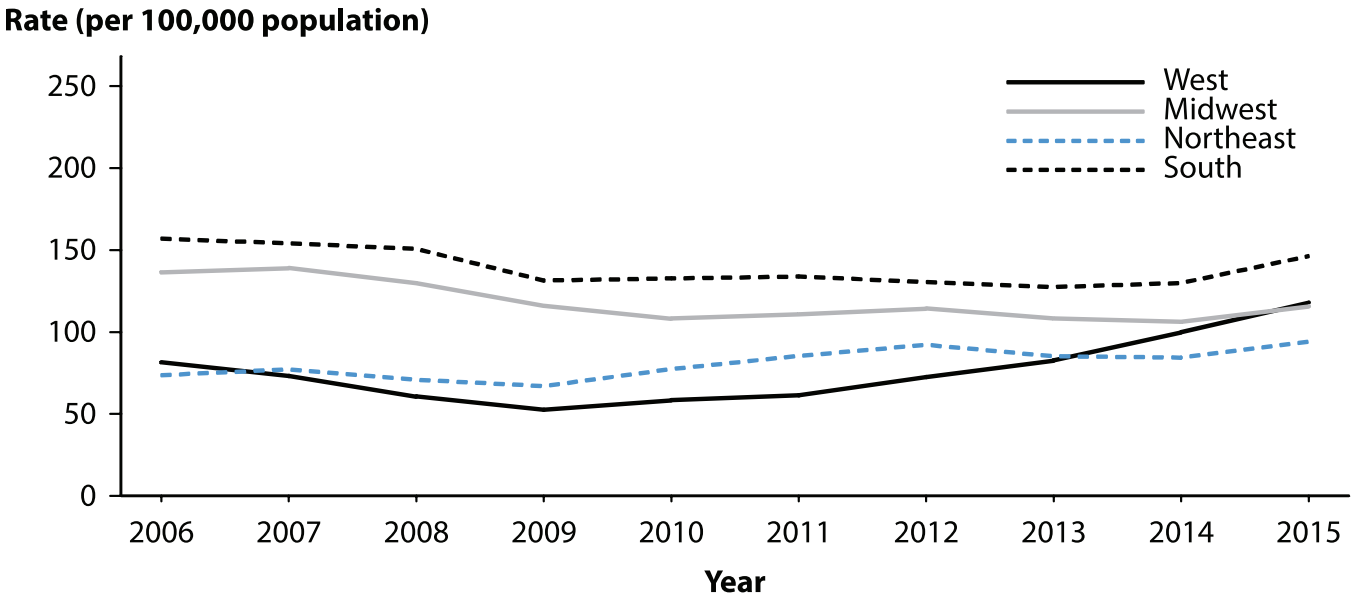
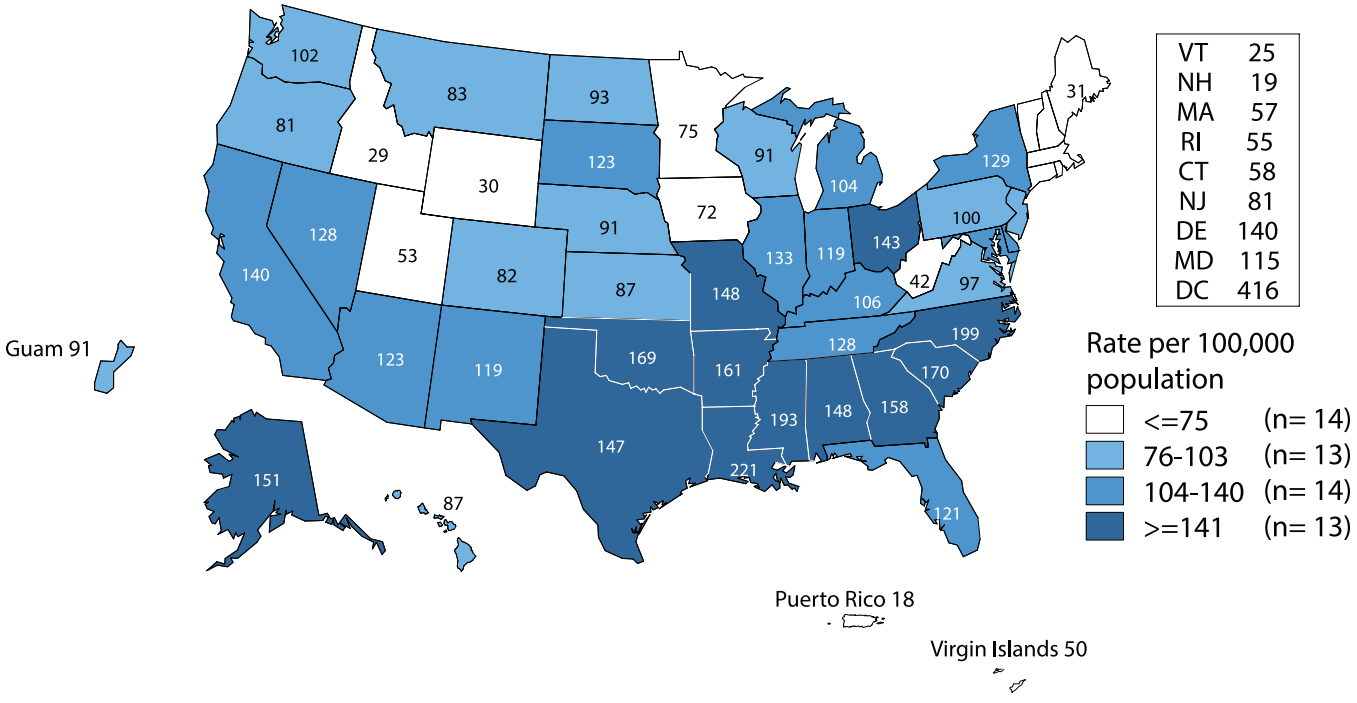
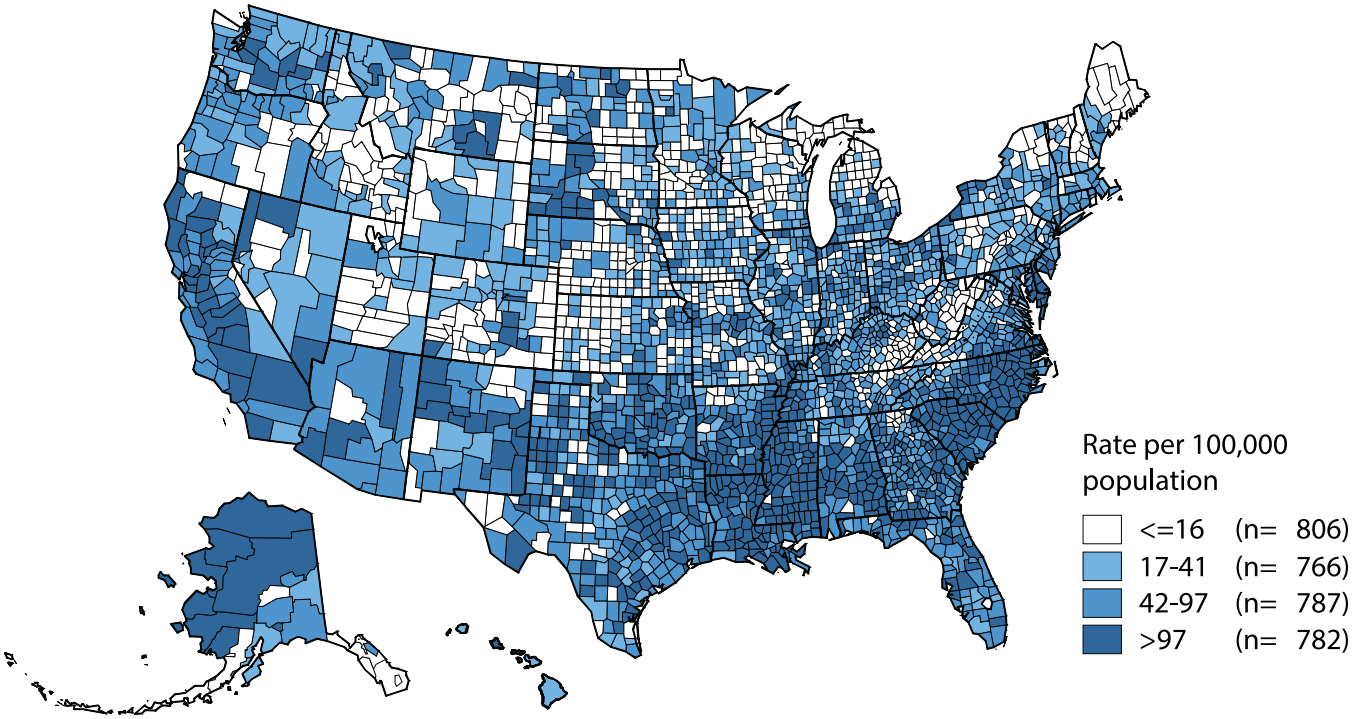


Figure 15. Gonorrhea — Rates of Reported Cases by State, United States and Outlying Areas, 2015



NOTE: The total rate of reported cases of gonorrhea for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 122.7 cases per 100,000 population.

Figure 16. Gonorrhea — Rates of Reported Cases by County, United States, 2015



NOTE: Refer to the NCHHSTP Atlas for further county-level rate information: https://www.cdc.gov/nchhstp/atlas/.

Figure 17. Gonorrhea — Rates of Reported Cases by Age Group and Sex, United States, 2015

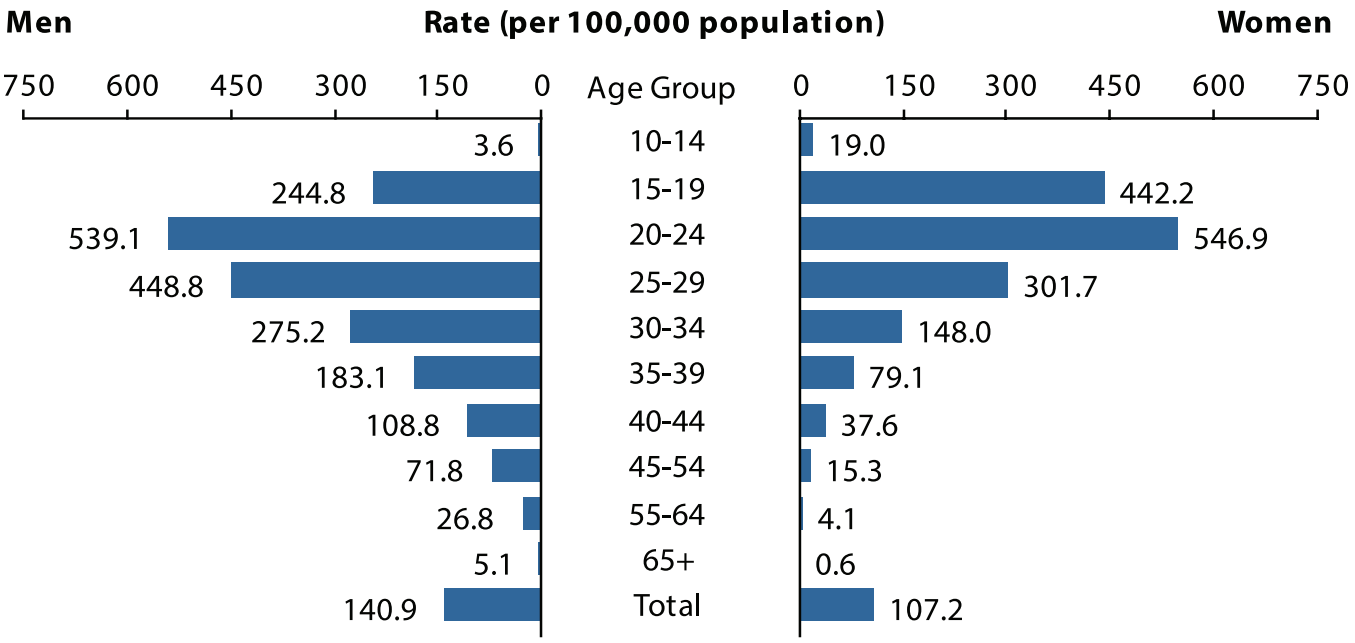


Figure 18. Gonorrhea — Rates of Reported Cases Among Women Aged 15–44 Years by Age Group, United States, 2006–2015

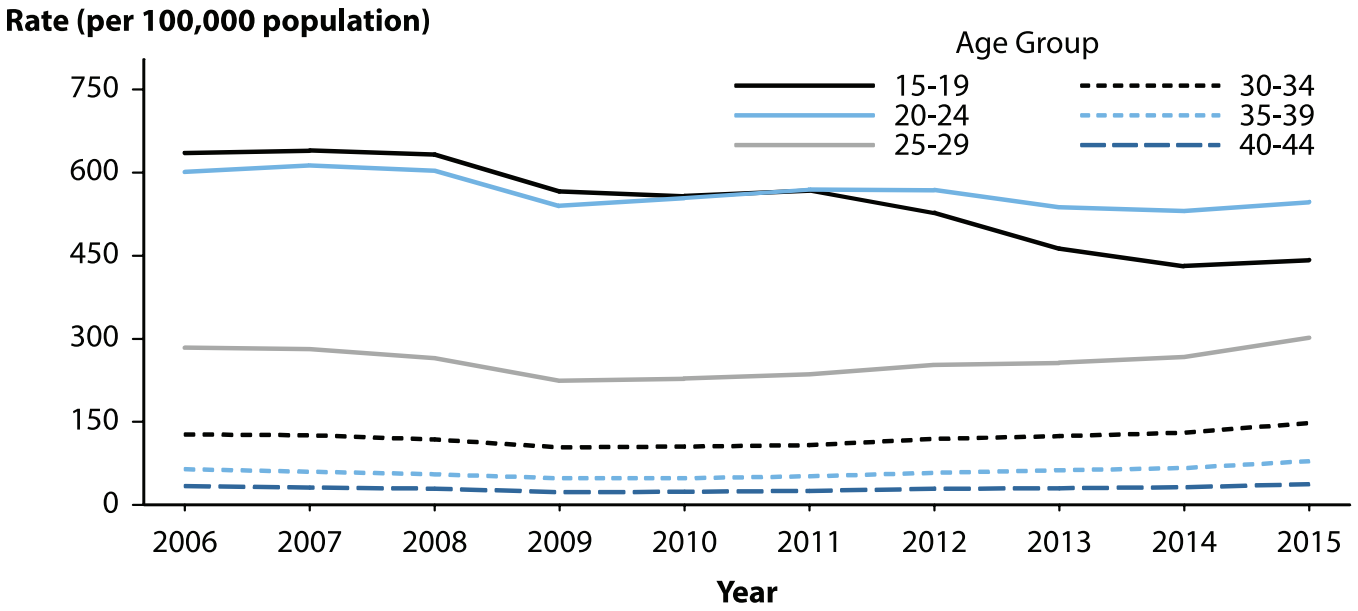


Figure 19. Gonorrhea — Rates of Reported Cases Among Men Aged 15–44 Years by Age Group, United States, 2006–2015

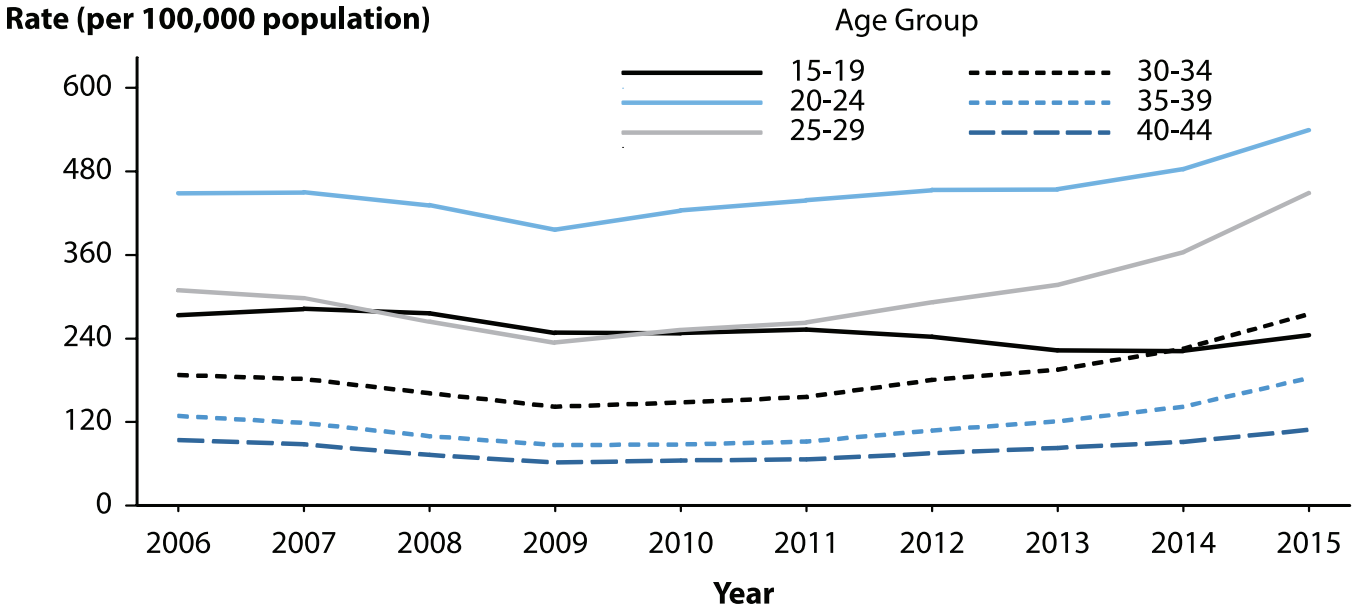
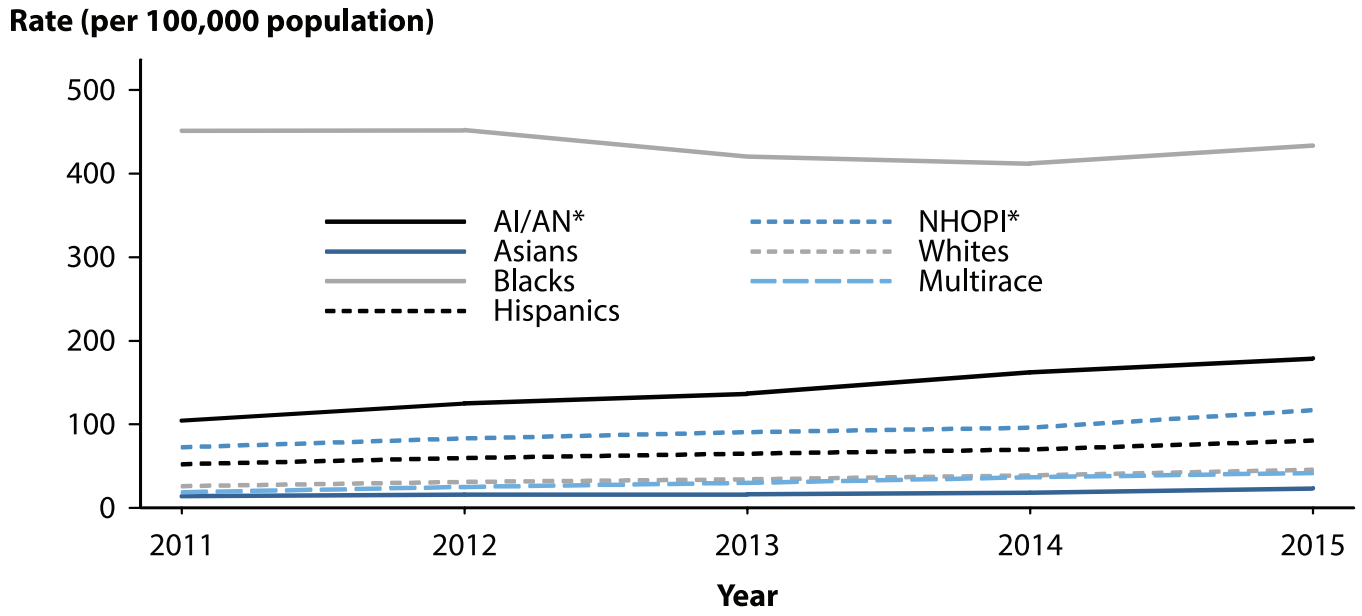
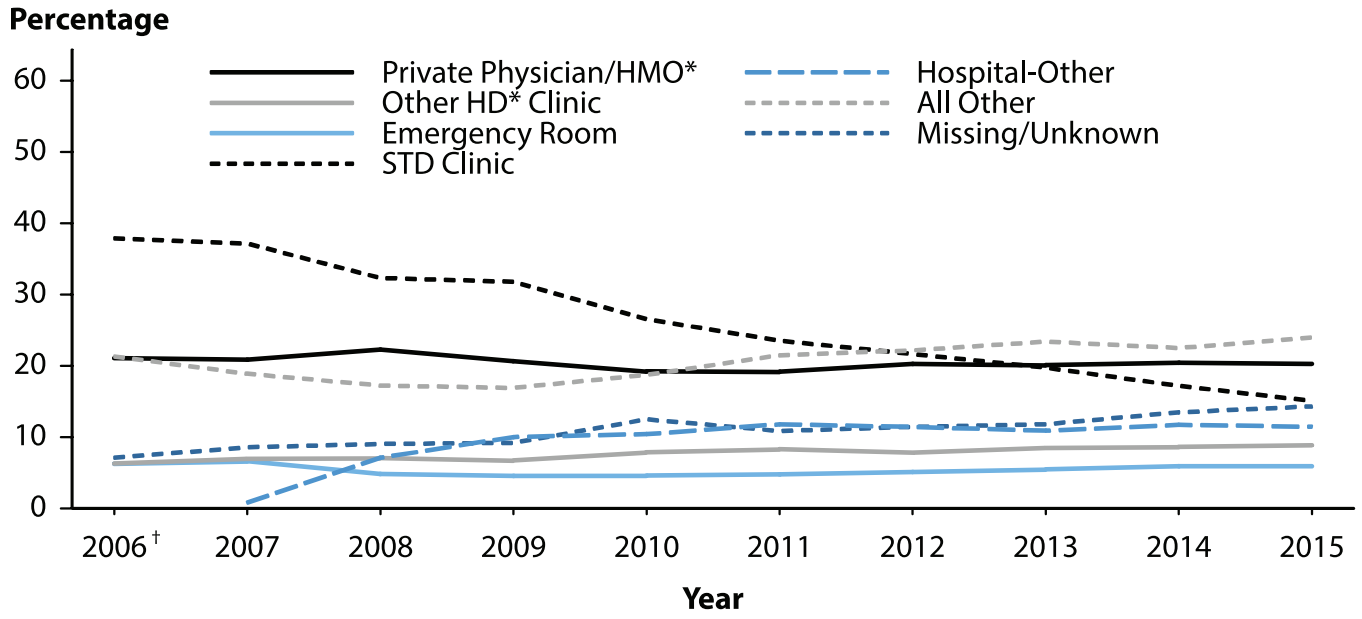


Figure 20. Gonorrhea — Rates of Reported Cases by Race/Ethnicity, United States, 2011–2015



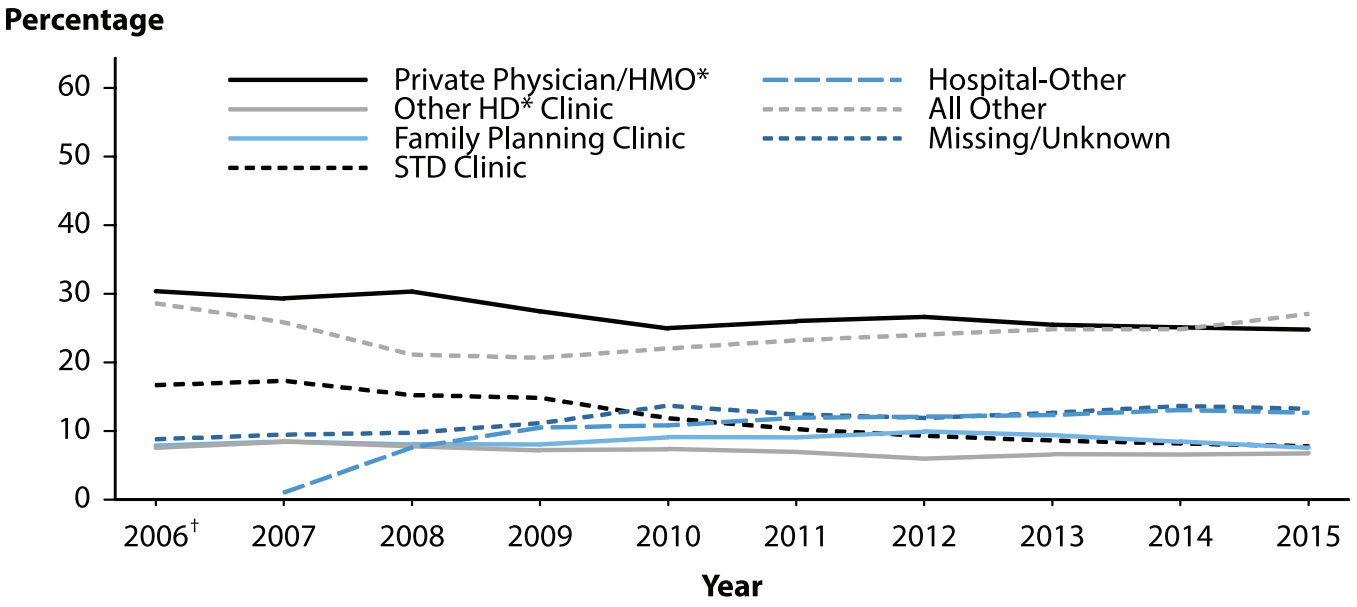
* AI/AN = American Indians/Alaska Natives; NHOPI = Native Hawaiians/Other Pacific Islanders.
NOTE: Includes 45 states reporting race/ethnicity data in Office of Management and Budget compliant formats during 2011–2015 (see Section A1.5 in the Appendix).

Figure 21. Gonorrhea — Reported Cases Among Men by Reporting Source, United States, 2006–2015



* HMO = health maintenance organization; HD = health department.
† The variable "Hospital-Other" (i.e., other hospital clinics/facilities) was not added as a response option for reporting source until calendar year 2007; therefore, there are no data available for the "Hospital-Other" variable in 2006.
NOTE: All Other includes: Drug Treatment, Tuberculosis Clinic, Correctional Facility, Laboratory, Blood Bank, Labor and Delivery, Prenatal Care, National Job Training Program, School-based Clinic, Mental Health Provider, Indian Health Service, Military, Family Planning, and HIV Counseling and Testing Site.

Figure 22. Gonorrhea — Reported Cases Among Women by Reporting Source, United States, 2006–2015

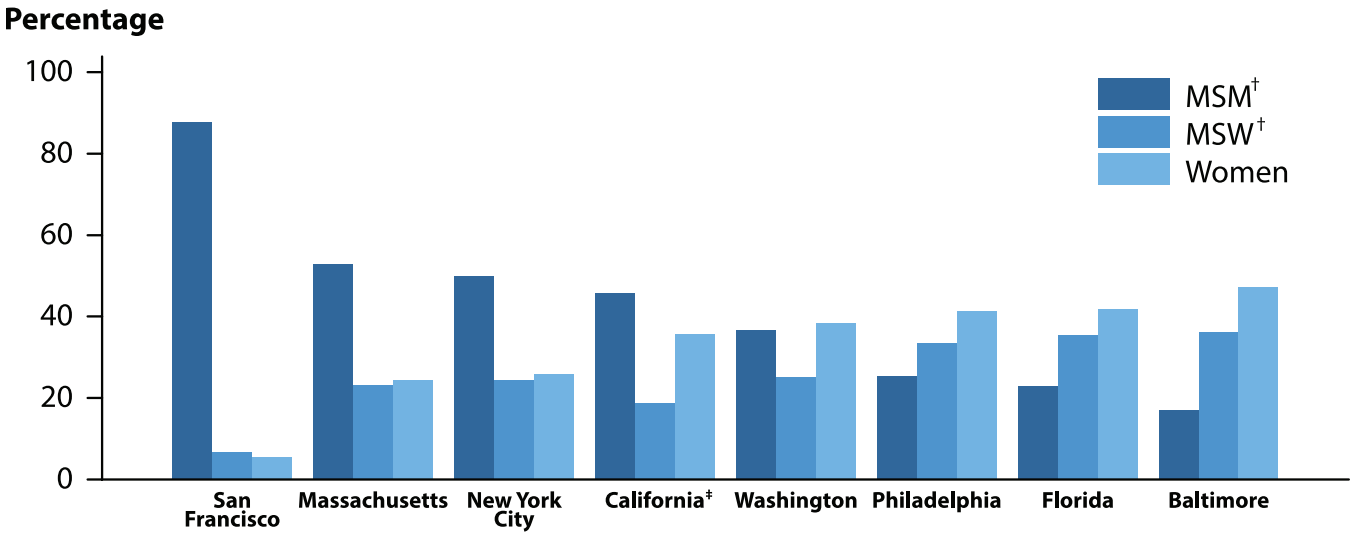


* HMO = health maintenance organization; HD = health department.

† The variable "Hospital-Other" (i.e., other hospital clinics/facilities) was not added as a response option for reporting source until calendar year 2007; therefore, there are no data available for the "Hospital-Other" variable in 2006.

NOTE: All Other includes: Drug Treatment, Tuberculosis Clinic, Correctional Facility, Laboratory, Blood Bank, Labor and Delivery, Prenatal Care, National Job Training Program, School-based Clinic, Mental Health Provider, Indian Health Service, Military, Emergency Room, and HIV Counseling and Testing Site.

Figure 23. Estimated Proportion* of MSM†, MSW†, and Women Among Gonorrhea Cases by Jurisdiction, STD Surveillance Network (SSuN), 2015



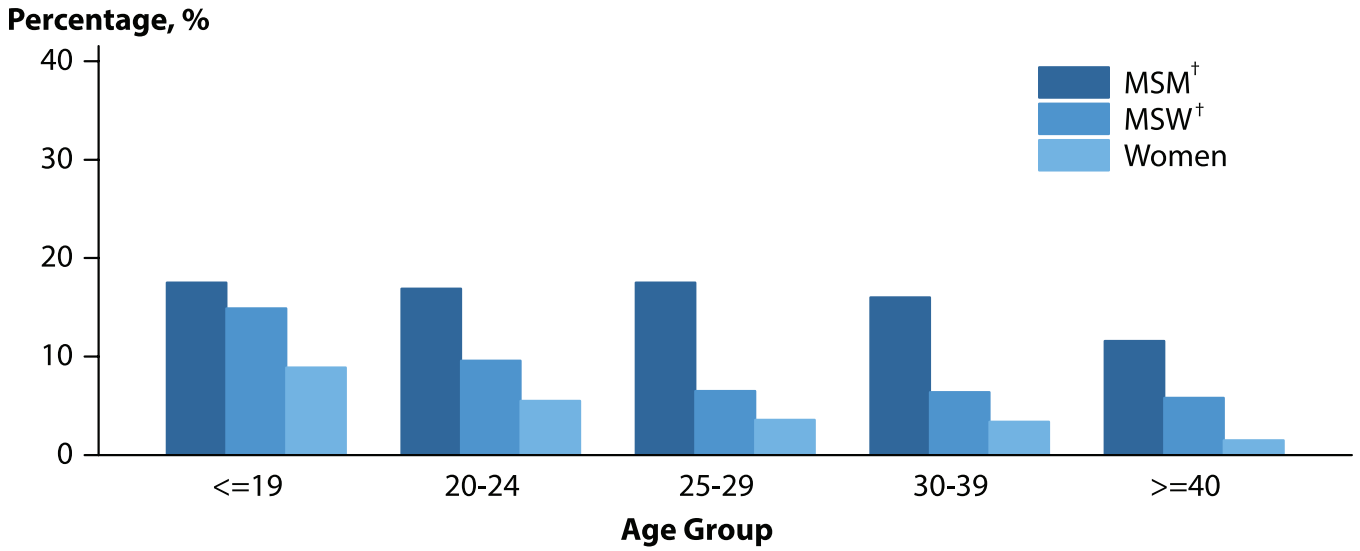
* Estimate based on weighted analysis of data obtained from interviews (n=2,278) conducted among a random sample of reported gonorrhea cases during June to December 2015.

† MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only.

‡ California data excludes San Francisco (shown separately).

NOTE: See section A2.2 in the Appendix for SSuN methods.

Figure 24. Gonorrhea — Proportion of STD Clinic Patients Testing Positive* by Age Group, Sex, and Sexual Behavior, STD Surveillance Network (SSuN), 2015

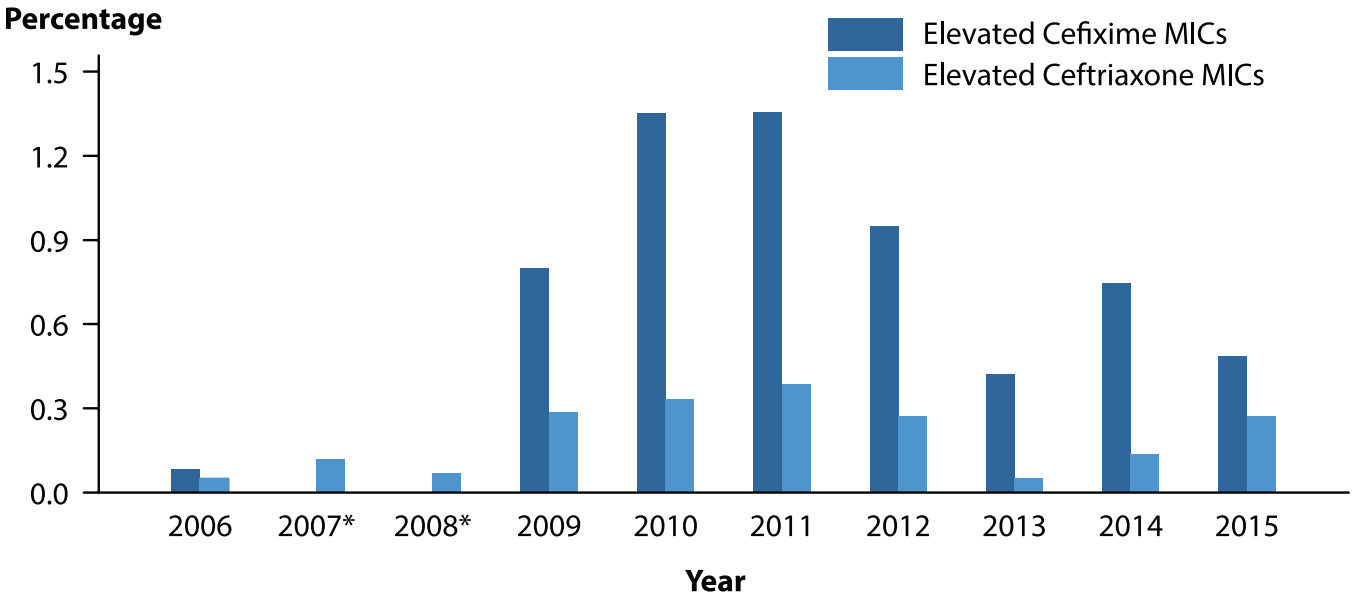


* Results based on data obtained from patients (n=124,441) attending SSuN STD clinics in 2015 in all SSuN jurisdictions, excluding Minnesota.
† MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only.
NOTE: See section A2.2 in the Appendix for SSuN methods.

Figure 25. Location of Participating Sentinel Sites and Regional Laboratories, Gonococcal Isolate Surveillance Project (GISP), United States, 2015

NOTE: Austin is a regional laboratory only.

Figure 26. *Neisseria gonorrhoeae* — Percentage of Isolates with Elevated Ceftriaxone Minimum Inhibitory Concentrations (MICs) (≥0.125 µg/ml) and Elevated Cefixime MICs (≥0.25 µg/ml), Gonococcal Isolate Surveillance Project (GISP), 2006–2015



* Isolates not tested for cefixime susceptibility in 2007 and 2008.

Figure 27. *Neisseria gonorrhoeae* — Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), 2011–2015

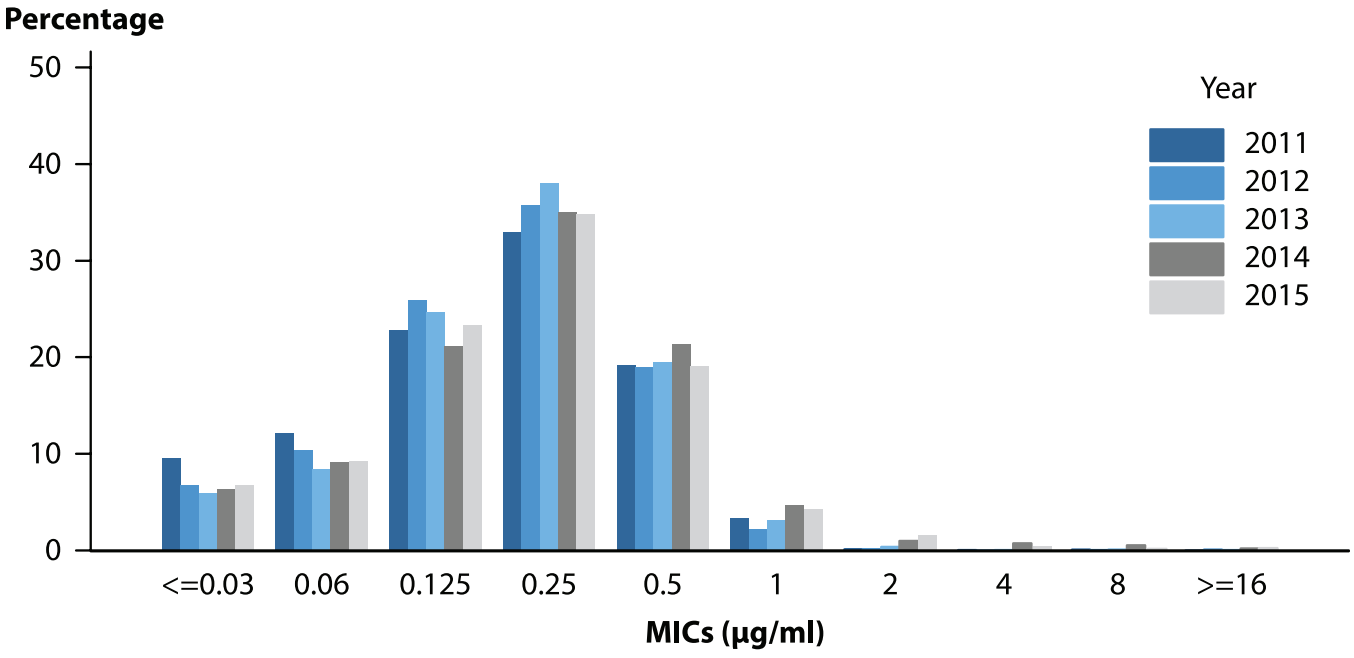
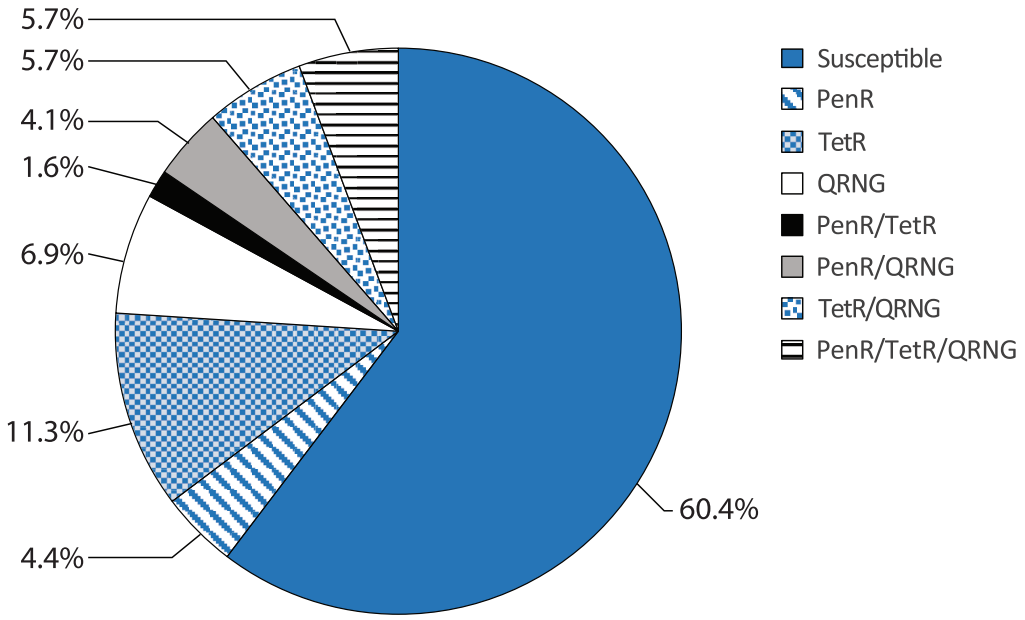
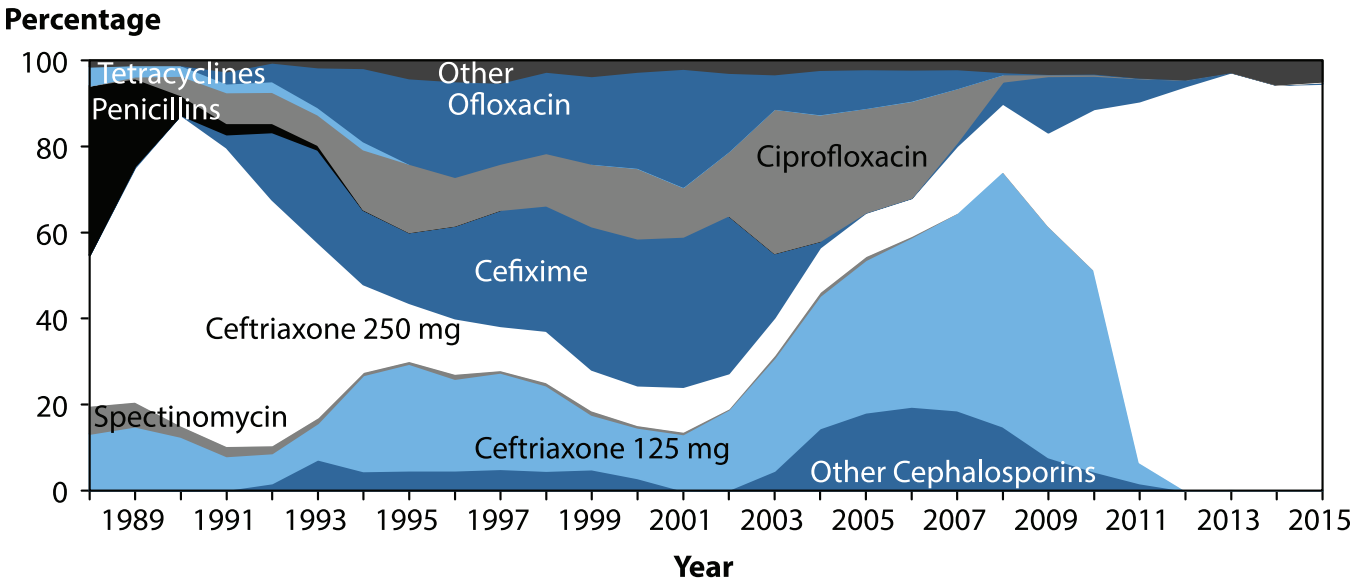


Figure 28. *Neisseria gonorrhoeae* — Distribution of Isolates with Penicillin, Tetracycline, and/or Ciprofloxacin Resistance, Gonococcal Isolate Surveillance Project (GISP), 2015



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*.

Figure 29. Distribution of Primary Antimicrobial Drugs Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), 1988–2015



NOTE: For 2015, "Other" includes clinical trial study drugs (2.7%), azithromycin 2g (1.5%), no therapy (0.6%), and other less frequently used drugs (0.1%).

Syphilis

Background

Syphilis, a genital ulcerative disease caused by the bacterium *Treponema pallidum*, is associated with significant complications if left untreated and can facilitate the transmission and acquisition of HIV infection.[1–3] Additionally, historical data demonstrate that untreated early syphilis in pregnant women, if acquired during the 4 years before delivery, can lead to infection of the fetus in up to 80% of cases and may result in stillbirth or death of the infant in up to 40% of cases.[4]

In 2000 and 2001, the national rate of reported primary and secondary (P&S) syphilis cases was 2.1 cases per 100,000 population, the lowest rate since reporting began in 1941 (Figure 30, Table 1). However, the P&S syphilis rate has increased almost every year since 2000–2001. In 2015, a total of 23,872 P&S syphilis cases were reported. During 2014–2015, the national P&S syphilis rate increased 19.0% to 7.5 cases per 100,000 population, the highest rate reported since 1994.

During 2000–2015, the rise in the rate of reported P&S syphilis was primarily attributable to increased cases among men and, specifically, among gay, bisexual, and other men who have sex with men (collectively referred to as MSM) (Figures 31 and 32). However, during 2013–2015, the rate increased both among men and women (Tables 28 and 29). During 2014–2015, the rate increased 18.1% among men and 27.3% among women. These increases among women are of particular concern because congenital syphilis cases tend to increase as the rate of P&S syphilis among women increases (Figure 44). During 2014–2015, the national, male, and female P&S syphilis rates increased in every region of the country (Figure 33, Tables 27, 28, and 29). Nationally, P&S syphilis rates increased in every age group among those aged 15–64 years and in every race/ethnicity group except for American Indians/Alaska Natives during 2014–2015 (Figures 38 and 39, Table 34).

As in recent years, MSM accounted for the majority of reported P&S syphilis cases in 2015 (Figures 31 and 40). Nationally, the highest rates of P&S syphilis in 2015 were observed among men aged 25–29 years and 20–24 years, among men in the West and in the South, and among Black men (Figure 36, Tables 29, 34 and 35B).

Interpreting Rates of Reported Cases of Syphilis

Left untreated, infection with syphilis can span decades. Primary and secondary syphilis are the earliest stages of infection, reflect symptomatic disease, and are indicators of incident infection.[5] For these reasons, trend analyses of syphilis focus on reported cases and rates of reported cases of P&S syphilis. When referring to "P&S syphilis", case counts are the sum of both primary and secondary cases, and "rate of P&S syphilis" refers to this sum per unit population.

Changes in reporting and screening practices can complicate interpretation of trends over time. To minimize the effect of changes in reporting over time, trend data in this report are restricted to jurisdictions that consistently report data of interest (e.g., sex of sex partner) for each year of a given time period. Details of these restrictions are provided in the text and footnotes of the pertinent text and figures.

P&S Syphilis — United States

In 2015, a total of 23,872 cases of P&S syphilis were reported in the United States, yielding a rate of 7.5 cases per 100,000 population (Table 1). This rate represents a 19.0% increase compared with 2014 (6.3 cases per 100,000 population), and a 66.7% increase compared with 2011 (4.5 cases per 100,000 population).

P&S Syphilis by Region

In 2015, the West had the highest rate of reported P&S syphilis cases (9.6 cases per 100,000 population), followed by the South (8.1 cases per 100,000 population), the Northeast (6.6 cases per 100,000 population), and the Midwest (4.8 cases per 100,000 population) (Table 27). During 2014–2015, the P&S syphilis rate increased in every region: 23.1% in the West, 20.0% in the Northeast, 19.1% in the South, and 9.1% in the Midwest (Figure 33, Table 27).

P&S Syphilis by State

In 2015, rates of reported P&S syphilis cases per 100,000 population ranged by state from 0.9 in Wyoming to 15.0 in Louisiana (Figure 34, Table 26). During 2014–2015, P&S syphilis rates increased in 74.0% (37/50) of states, and decreased in 26.0% (13/50) of states and in the District of Columbia (Table 27).

P&S Syphilis by Metropolitan Statistical Area

The overall rate of reported P&S syphilis cases in the 50 most populous metropolitan statistical areas (MSAs) was

9.9 cases per 100,000 population in 2015, which represents a 15.1% increase since 2014 (8.6 cases per 100,000 population) (Table 30). In 2015, 72.3% of reported P&S syphilis cases (74.0% of male cases and 55.7% of female cases) were reported by these 50 MSAs. In 2015, the rate among women in these MSAs was 1.4 cases per 100,000 females, while the rate among men was 18.6 cases per 100,000 males (Tables 31 and 32).

P&S Syphilis by County

In 2015, 65.3% of reported P&S syphilis cases occurred in 70 counties or independent cities (Table 33). Of 3,141 counties in the United States, 445 (14.2%) had a rate greater than 6.4 cases per 100,000 population, 451 (14.4%) reported a rate from 2.9 to 6.4 cases per 100,000 population, 434 (13.8%) reported a rate from 0.3 to 2.8 cases per 100,000 population, and 1,811 (57.7%) counties reported no cases of P&S syphilis in 2015 (Figure 35).

P&S Syphilis by Sex and Sexual Behavior

As has been observed in previous years, in 2015 the rate of reported P&S syphilis cases among men (13.7 cases per 100,000 males) was much higher than the rate among women (1.4 cases per 100,000 females), and men account for a large majority (90.3%) of P&S syphilis cases (Figure 40, Tables 28 and 29). Among men, the rate of P&S syphilis has increased every year since 2000, and during 2014–2015, the rate among men increased 18.1% (Figure 32, Table 29). In contrast, the P&S syphilis rate among women has fluctuated between 0.8 and 1.7 cases per 100,000 females since 2000 (Figure 32, Table 28). During 2014–2015, the P&S syphilis rate among women increased 27.3%.

These increases in male and female P&S syphilis rates were observed in every region of the country during 2014–2015. Among men, the rate increased 22.2% in the West, 19.6% in the Northeast, 18.6% in the South, and 8.9% in the Midwest (Table 29). Among women, the largest increases were observed in the West (41.7%) and Northeast (40.0%), followed by the South (20.0%) and the Midwest (11.1%) (Table 28).

MSM continued to account for the majority of P&S syphilis cases in 2015 (Figures 31 and 40). Of 23,872 reported P&S syphilis cases in 2015, 14,229 (59.6%) were among MSM, including 12,891 (54.0%) cases among men who had sex with men only and 1,338 (5.6%) cases among men who had sex with both men and women (Figure 40). Overall, 3,178 (13.3%) cases were among men who had sex with women only (MSW), 2,298 (9.6%) were among women, 4,140 (17.3%) were among men without information about sex of sex partner, and 27 (0.1%) were cases reported with unknown sex (Figure 40). Among the 17,407 male cases with information on sex of sex partner, 81.7% occurred among MSM.

A total of 37 states were able to classify at least 70.0% of reported P&S syphilis cases as MSM, MSW, or women each year during 2011–2015 (Figure 31). In these states during 2014–2015, the number of cases increased 12.8% among MSM, 22.5% among MSW, and 27.1% among women.

P&S Syphilis by Age

As in previous years, in 2015, rates of reported P&S syphilis cases were highest among persons aged 24–29 years and 20–24 years (Figure 36, Table 34). In 2015, the highest rates were observed among men aged 25–29 years (41.8 cases per 100,000 males) and 20–24 years (35.7 cases per 100,000 males). Similarly, the highest rates among women were among those aged 20–24 years (5.1 cases per 100,000 females) and those aged 25–29 years (4.5 cases per 100,000 females).

During 2014–2015, the P&S syphilis rate increased in all age groups among those aged 15–64 years (Table 34). Rates increased 10.2% among those aged 15–19 years, 14.9% among those aged 20–24 years, 26.3% among those aged 25–29 years, 23.1% among those aged 30–34 years, 21.4% among those aged 35–39 years, 8.2% among those aged 40–44 years, 17.6% among those aged 45–54 years, and 31.8% among those aged 55–64 years (Table 34).

In 2015, persons aged 15–44 years accounted for 79.6% of reported P&S syphilis cases with known age. Among both men and women, the P&S syphilis rate increased during 2014–2015 in all age groups among those aged 15–44 years (Figures 37 and 38).

P&S Syphilis by Race/Ethnicity

In 2015, among the 49 states that submitted data in the race and ethnicity categories according to Office of Management and Budget (OMB) standards (see Section A1.5 in the Appendix), the rate of reported P&S syphilis cases remained highest among Blacks (21.4 cases per 100,000 population) (Table 35B). The rate among Blacks was 5.2 times the rate among Whites (4.1 cases per 100,000 population). The P&S syphilis rates among Native Hawaiians/Other Pacific Islanders (10.4 cases per 100,000 population) was 2.5 times the rate among Whites, the rate among Hispanics (9.1 cases per 100,000 population) was 2.2 times the rate among Whites, the rate among American Indians/Alaska Natives (5.6 cases per 100,000 population) was 1.4 times the rate among Whites, and the rate among Asians (3.0 cases per 100,000 population) was 0.7 times the rate among Whites (Table 35B).

During 2011–2015, among the 45 states that submitted race and ethnicity data according to OMB standards (see

Section A1.5 in the Appendix) for all five years during that period, the P&S syphilis rate increased among all race/ethnicity groups (Figure 39). During 2014–2015, rates increased in every race/ethnicity group except for American Indians/Alaska Natives. The greatest increases during 2014–2015 were observed among Native Hawaiians/Other Pacific Islanders (63.1%) and those who identified as Multiracial (45.5%), followed by Hispanics (25.4%), Whites (17.6%), Asians (15.4%), and Blacks (13.1%).

More information on P&S syphilis rates among racial/ethnic groups can be found in the Special Focus Profiles.

P&S Syphilis and HIV Co-infection

Reported cases of P&S syphilis continue to be characterized by a high rate of HIV co-infection, particularly among MSM. In 2015, 31 states were able to classify at least 70.0% of reported P&S syphilis cases as MSM, MSW, or women and at least 70.0% of reported cases as HIV-positive or HIV-negative (Figure 41). Among P&S syphilis cases with known HIV-status in these states, 49.8% of cases among MSM were HIV-positive, compared with 10.0% of cases among MSW, and 3.9% of cases among women.

P&S Syphilis by Reporting Source

In 2015, 20.1% of cases were reported from STD clinics, 72.5% were reported from venues outside of STD clinics, and 7.4% of cases had an unknown source of report (Table A2). During 2014–2015, the number of P&S syphilis cases reported by STD clinics and by non-STD clinic settings increased (Figure 42). However, the proportion of P&S syphilis cases that were reported by STD clinics has declined over the last decade from 34.2% of cases in 2006 to 20.1% of cases in 2015. In 2015, private physicians/health maintenance organizations (HMOs) and STD clinics were the most common reporting sources among MSM (27.7% and 25.4%, respectively), MSW (21.8% and 23.9%, respectively), and women (25.4% and 16.7%, respectively) (Figure 43).

Congenital Syphilis

After decreasing from 10.5 to 8.4 reported congenital syphilis cases per 100,000 live births during 2008–2012, the rate of reported congenital syphilis has subsequently increased each year during 2012–2015 (Table 1). In 2015, there were a total of 487 reported cases of congenital syphilis, for a national rate of 12.4 cases per 100,000 live births. This rate represents a 6.0% increase relative to 2014 (11.7 cases per 100,000 live births) and a 36.3% increase relative to 2011 (9.1 cases per 100,000 live births). As has been observed historically, these increases paralleled increases in P&S syphilis among women during 2014–2015 (27.3%) and during 2011–2015 (55.6%) (Figure 44, Table 28).

During 2014–2015, the increase in reported congenital syphilis cases was primarily attributable to an increase in the West. During this time period, the congenital syphilis rate increased 42.3% in the West, but decreased 3.5% in the Midwest, 7.7% in the South, and 17.4% in the Northeast (Table 41). In 2015, the highest congenital syphilis rates were reported from the West (18.5 cases per 100,000 live births), followed by the South (14.4 cases per 100,000 live births), Midwest (8.2 cases per 100,000 live births), and the Northeast (3.8 cases per 100,000 live births). In addition, rates were highest among Blacks (35.2 cases per 100,000 live births), followed by Hispanics (15.5 cases per 100,000 live births), American Indians/Alaska Natives (10.3 cases per 100,000 live births), Asians/Pacific Islanders (5.9 cases per 100,000 live births), and Whites (4.4 cases per 100,000 live births) (Table 42).

Syphilis — All Stages (P&S, Early Latent, Late, Late Latent, and Congenital)

In 2015, total case counts and rates for reported syphilis were the highest recorded since 1994. The total number of cases of syphilis (P&S, early latent, late, late latent, and congenital) reported to CDC increased 17.7% during 2014–2015 (from 63,453 cases to 74,702 cases) (Table 1). The number of cases of early latent syphilis reported to CDC increased 24.3% (from 19,452 cases to 24,173 cases), and the number of cases of late and late latent syphilis increased 11.2% (from 23,541 cases to 26,170 cases) (Tables 1, 36, and 38).

Syphilis among Special Populations

More information about syphilis and congenital syphilis in racial/ethnic groups, women of reproductive age, adolescents, and MSM can be found in the Special Focus Profiles.

Syphilis Summary

The national rate of reported P&S syphilis cases reached an historic low in 2000 and 2001, but has increased almost every year since then. This increase was largely attributable to an increase among men, and in particular among MSM. However, during 2014–2015, rates increased among both men and women in every region of the country. Rates of reported congenital syphilis cases also increased during 2014–2015, although this increase was primarily attributable to an increase in the West.

MSM continued to account for the majority of reported P&S syphilis cases in 2015. Nationally, the highest rates of P&S syphilis in 2015 were observed among men aged 25–29 years and 20–24 years, among men in the West and in the South, and among Black men.

[1] Jarzebowski W, Caumes E, Dupin N, et al. Effect of early syphilis infection on plasma viral load and CD4 cell count in human immunodeficiency virus-infected men: results from the FHDH- ANRS CO4 cohort. Arch Intern Med 2012; 172: 1237–1243.

[2] Buchacz K, Patel P, Taylor M, et al. Syphilis increases HIV viral load and decreases CD4 cell counts in HIV-infected patients with new syphilis infections. AIDS 2004; 18:2075–2079.

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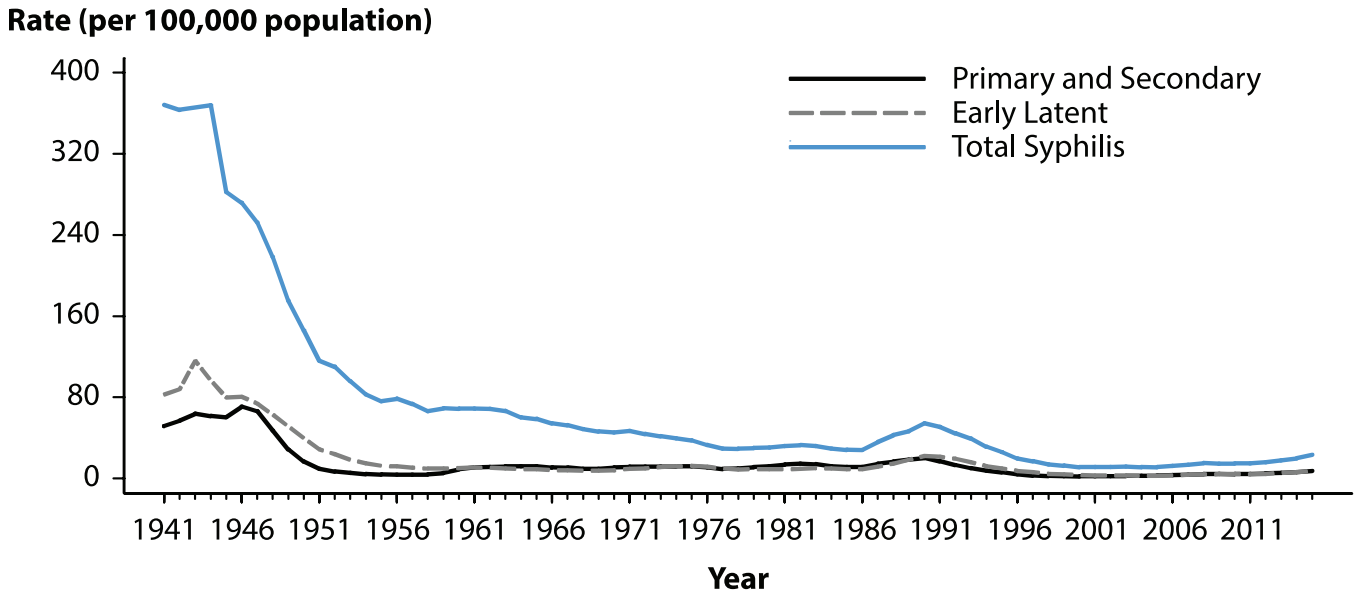
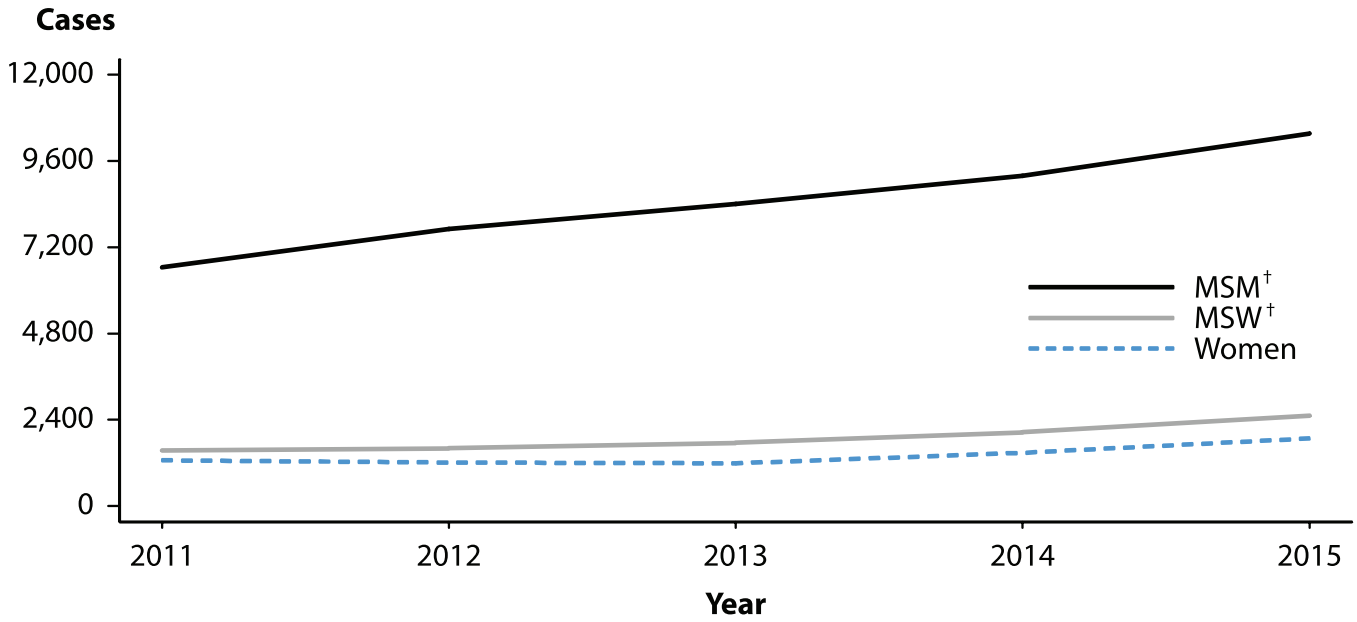
Figure 30. Syphilis — Rates of Reported Cases by Stage of Infection, United States, 1941–2015



NOTE: Data collection for syphilis began in 1941; however, syphilis became nationally notifiable in 1944. Refer to the National Notifiable Disease Surveillance System (NNDSS) website for more information: https://wwwn.cdc.gov/nndss/conditions/syphilis/.

Figure 31. Primary and Secondary Syphilis — Reported Cases by Sex and Sexual Behavior, 37 States*, 2011–2015



* 37 states were able to classify ≥70% of reported cases of primary and secondary syphilis as either MSM†, MSW†, or women for each year during 2011–2015.
† MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only.

Figure 32. Primary and Secondary Syphilis — Rates of Reported Cases by Sex and Male-to-Female Rate Ratios, United States, 1990–2015

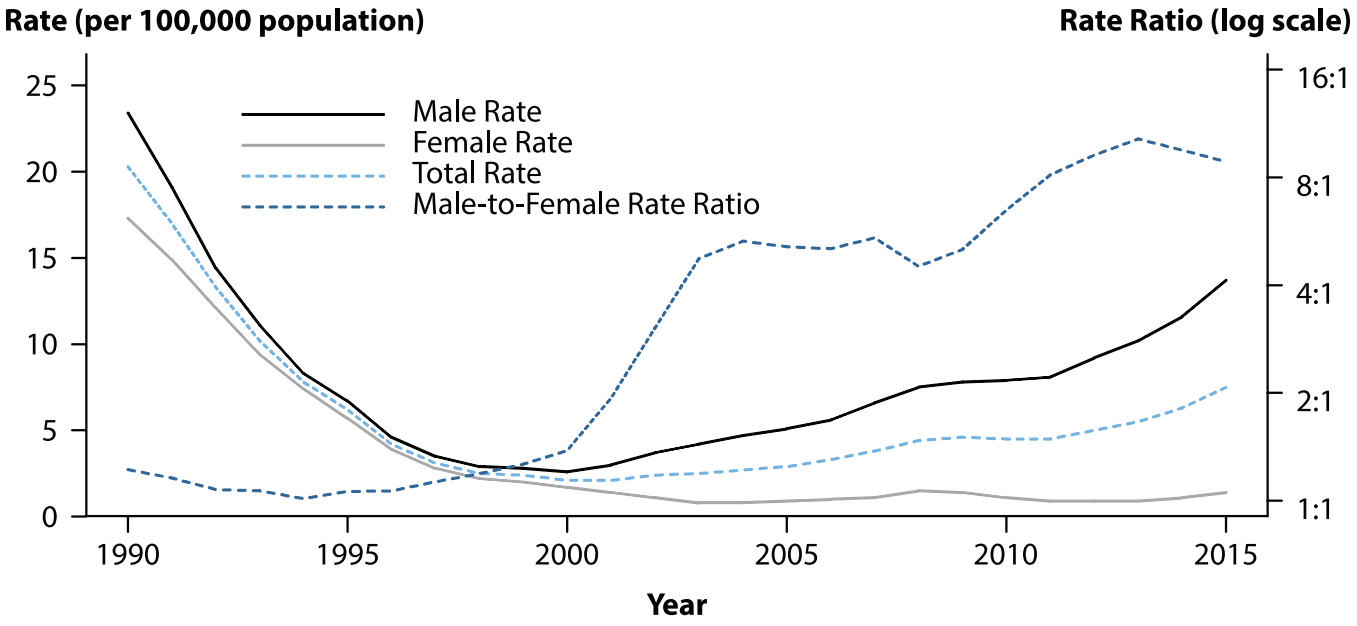


Figure 33. Primary and Secondary Syphilis — Rates of Reported Cases by Region, United States, 2006–2015

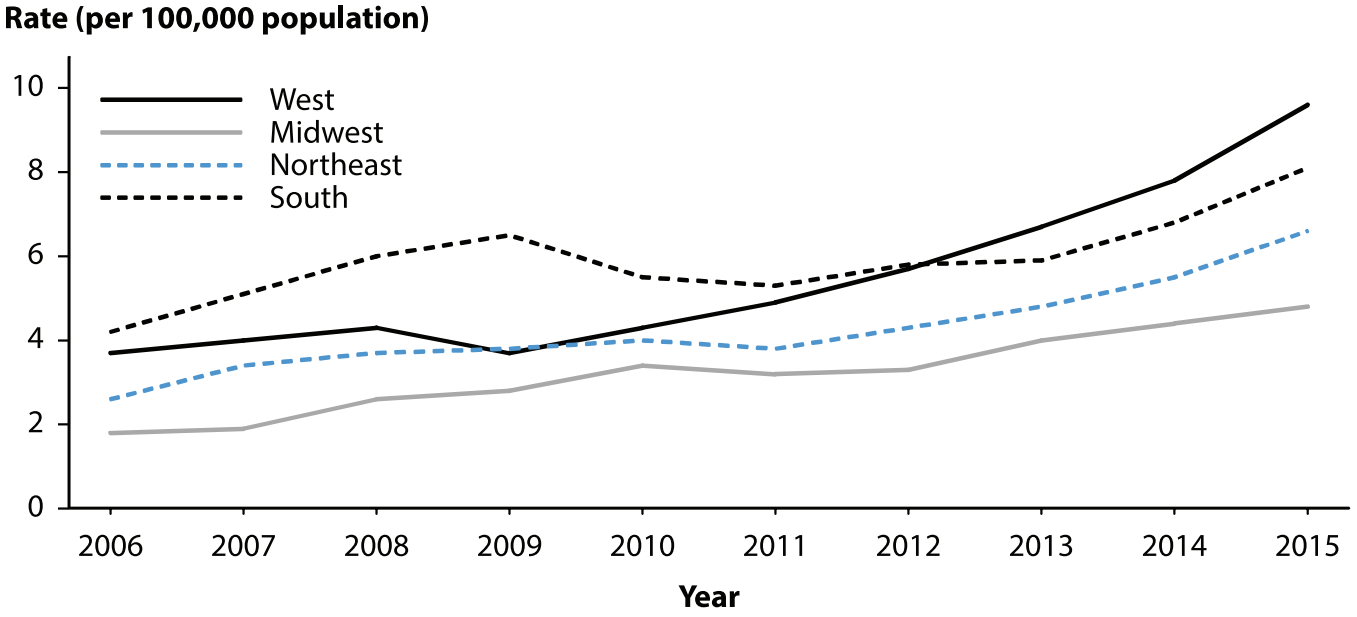
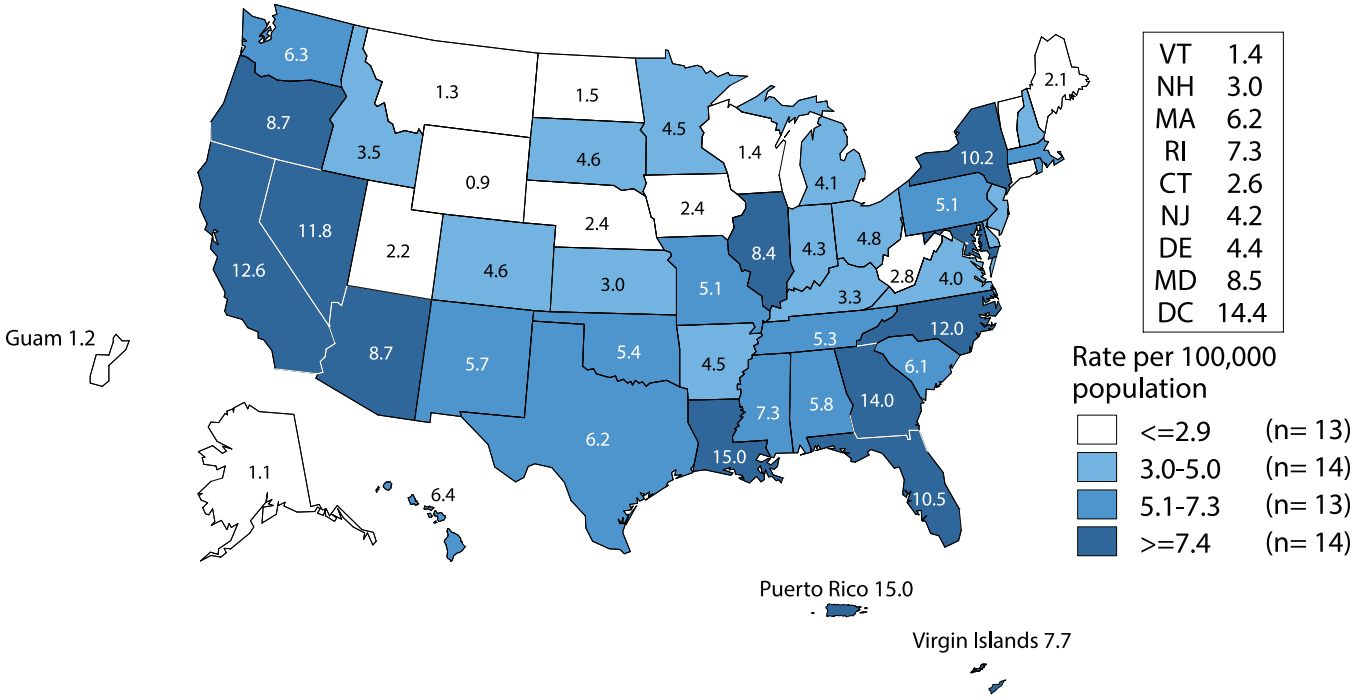
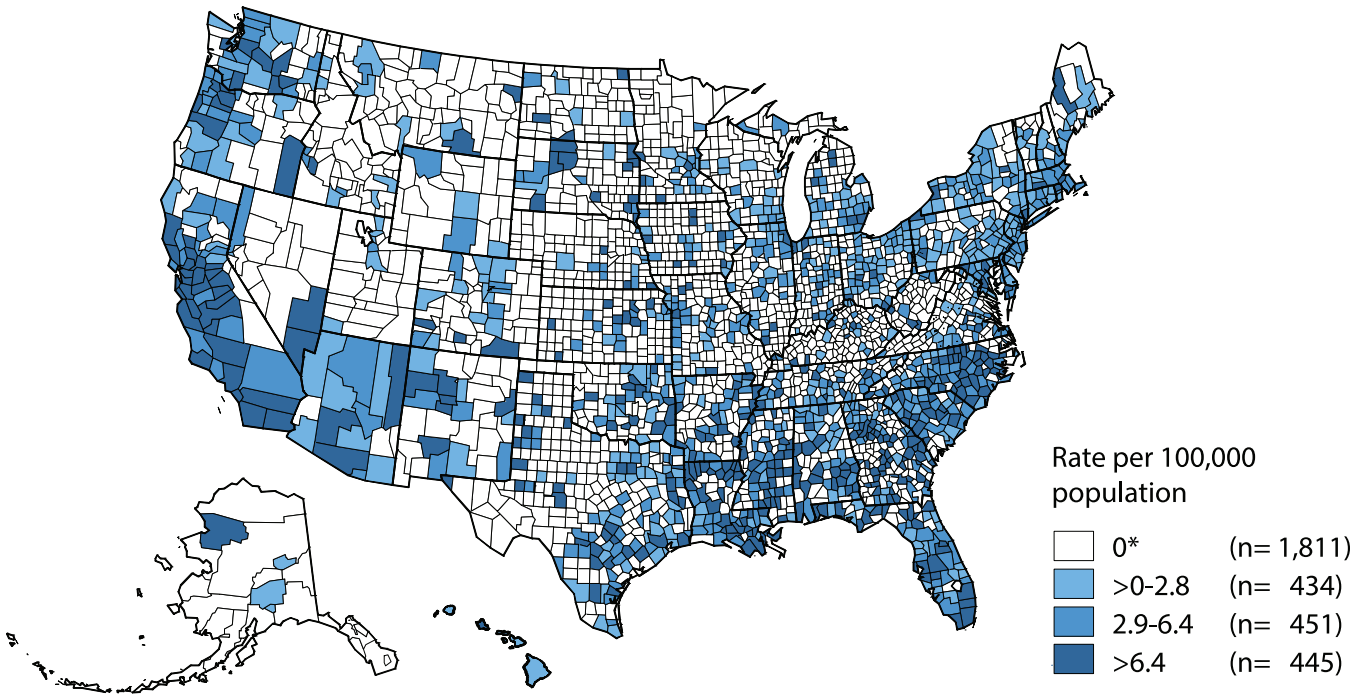


Figure 34. Primary and Secondary Syphilis — Rates of Reported Cases by State, United States and Outlying Areas, 2015



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.

Figure 35. Primary and Secondary Syphilis — Rates of Reported Cases by County, United States, 2015



* In 2015, 1,811 (57.7%) of 3,141 counties in the United States reported no cases of primary and secondary syphilis. Refer to the NCHHSTP Atlas for further county-level rate information: https://www.cdc.gov/nchhstp/atlas/.

Figure 36. Primary and Secondary Syphilis — Rates of Reported Cases by Age Group and Sex, United States, 2015

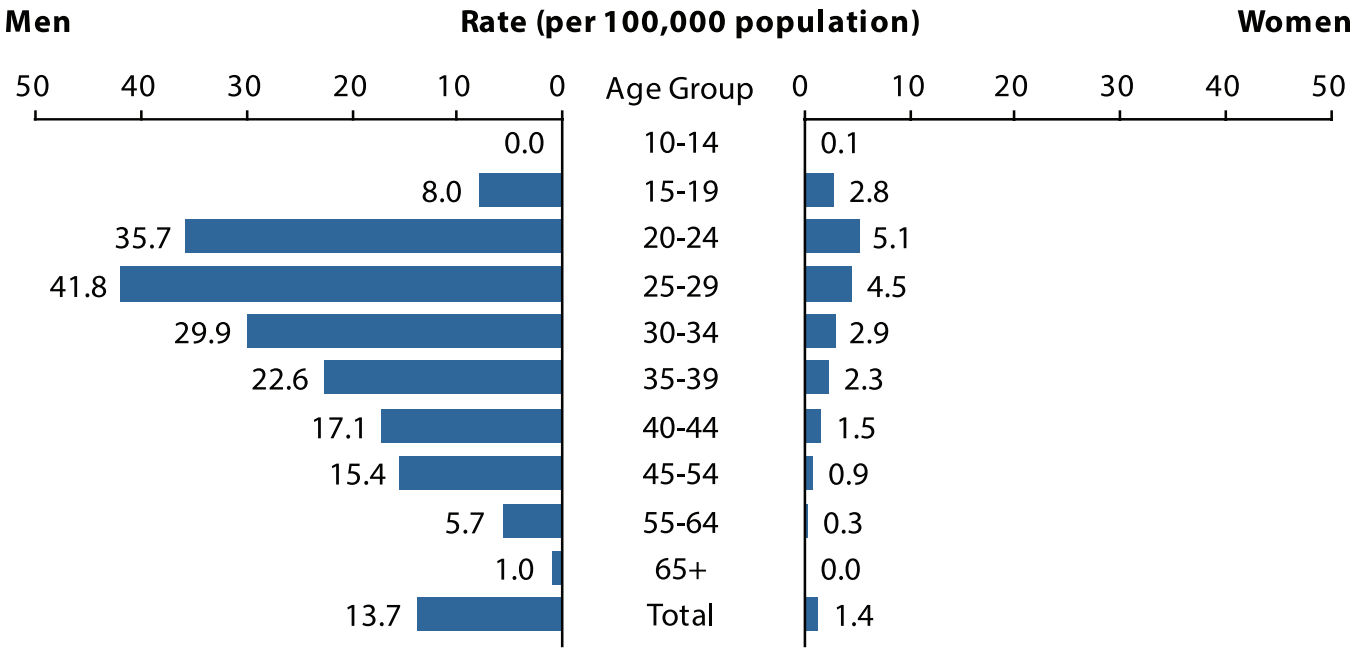


Figure 37. Primary and Secondary Syphilis — Rates of Reported Cases Among Women Aged 15–44 Years by Age Group, United States, 2006–2015

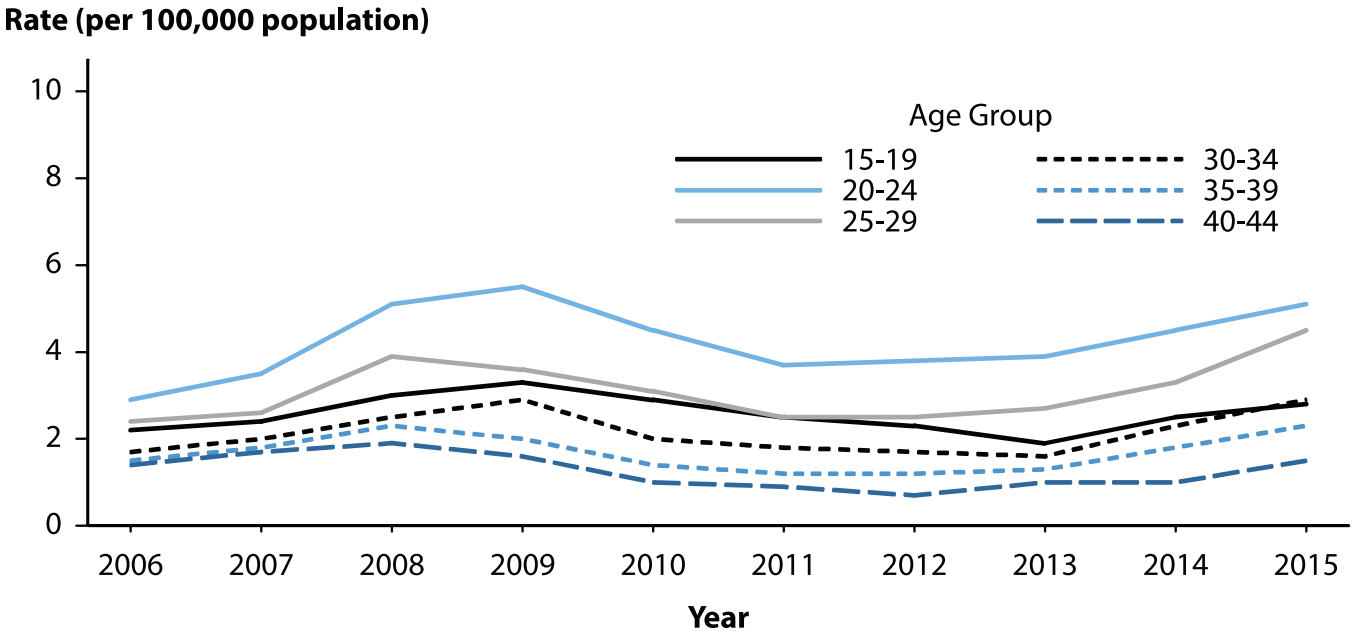


Figure 38. Primary and Secondary Syphilis — Rates of Reported Cases Among Men Aged 15–44 Years by Age Group, United States, 2006–2015

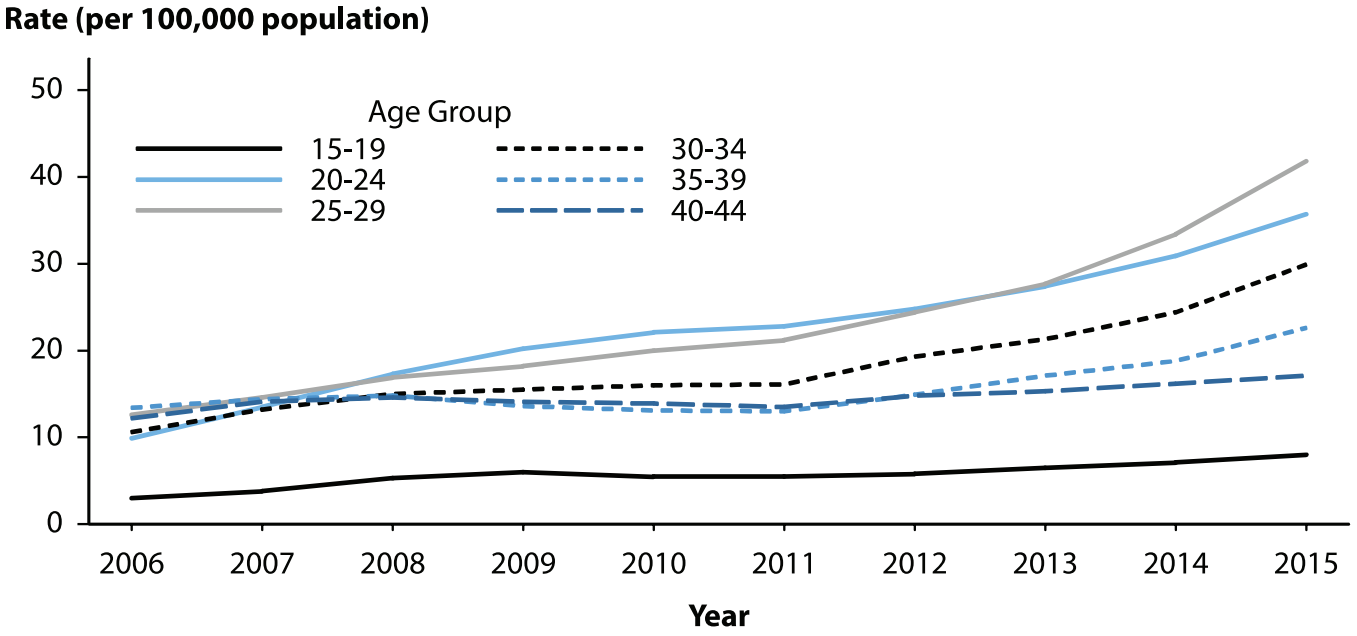
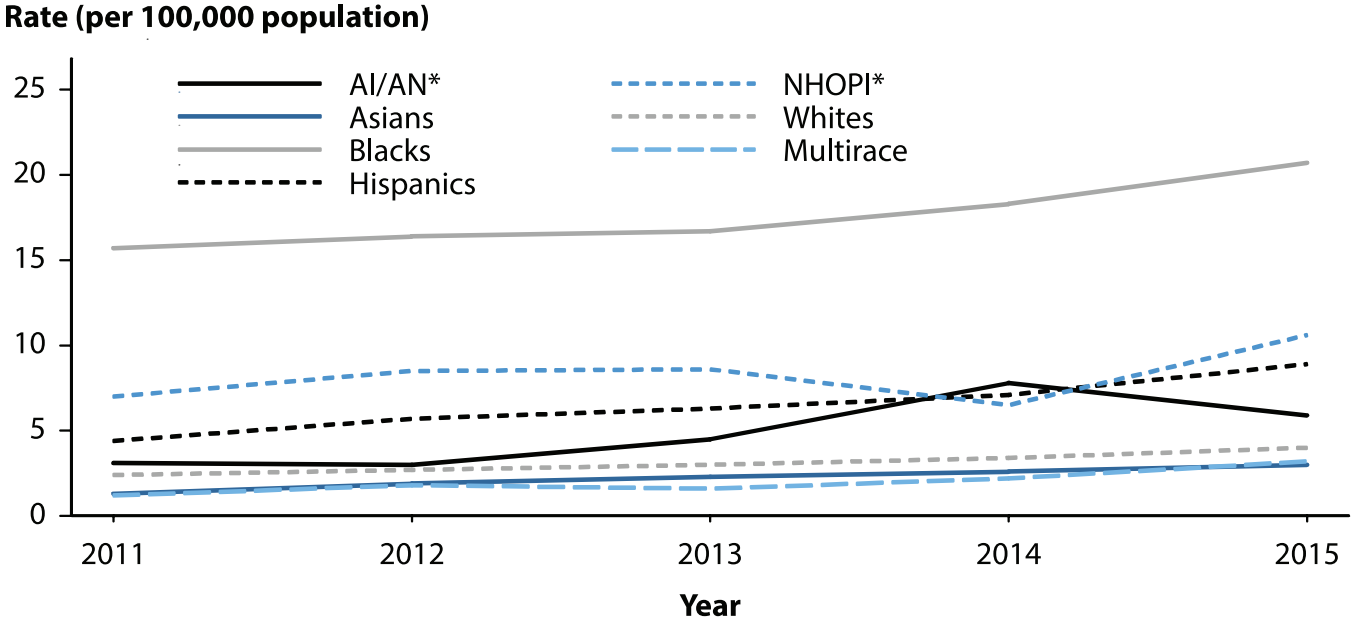


Figure 39. Primary and Secondary Syphilis — Rates of Reported Cases by Race/Ethnicity, United States, 2011–2015



* AI/AN = American Indians/Alaska Natives; NHOPI = Native Hawaiians/Other Pacific Islanders.
NOTE: Includes 45 states reporting race/ethnicity data in Office of Management and Budget compliant formats during 2011–2015 (see Section A1.5 in the Appendix).

Figure 40. Primary and Secondary Syphilis — Distribution of Cases by Sex and Sexual Behavior, 2015

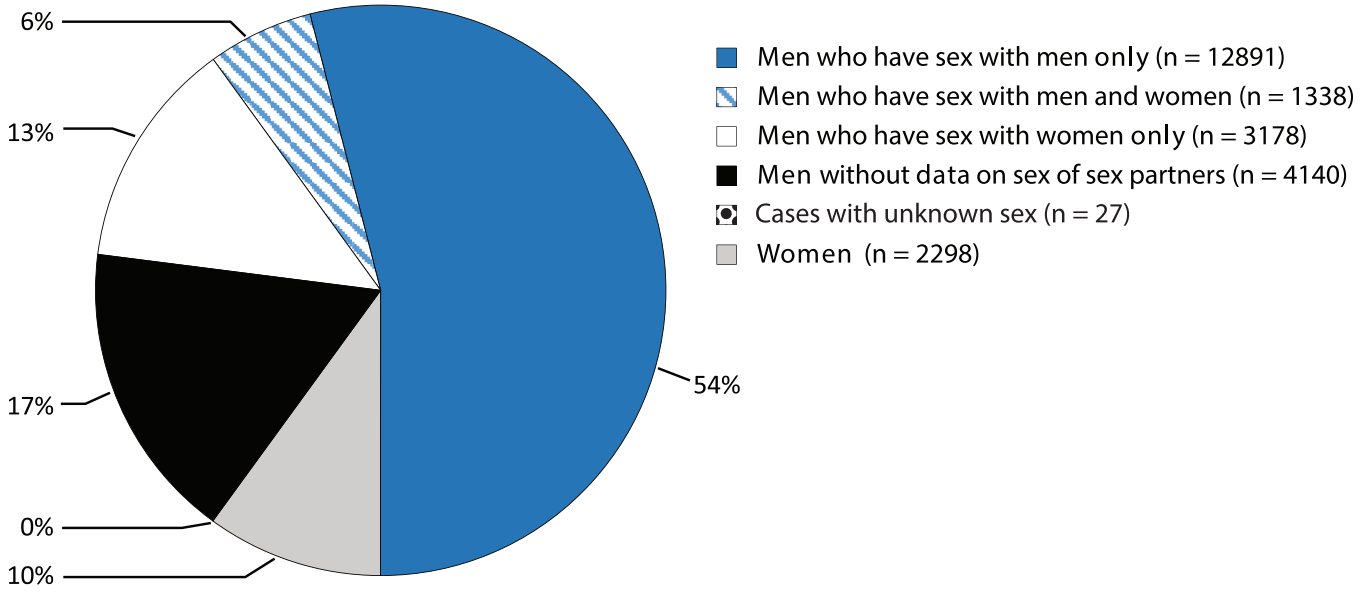
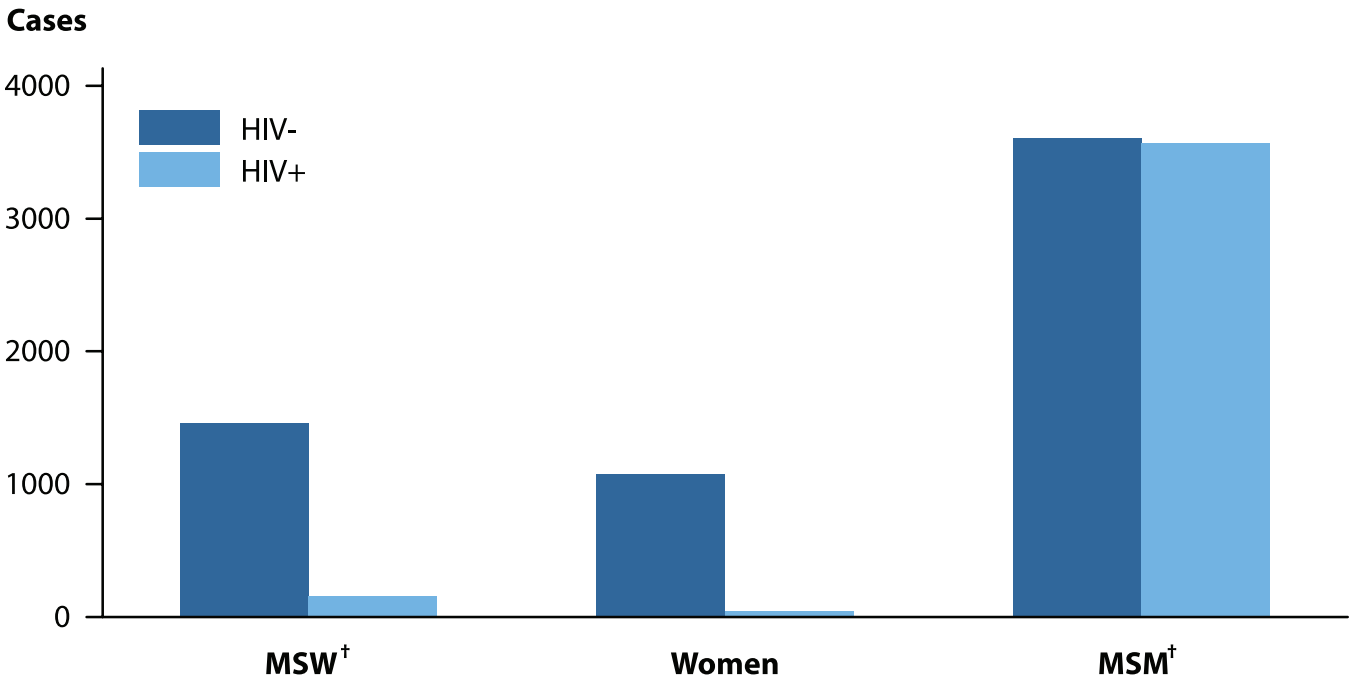


Figure 41. Primary and Secondary Syphilis — Reported Cases by Sex, Sexual Behavior, and HIV Status, 31 States*, 2015



* 31 states were able to classify ≥70% of reported cases of primary and secondary syphilis as MSW†, MSM†, or women and ≥70% of cases as HIV-positive or HIV-negative during 2015.

† MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only.

Figure 42. Primary and Secondary Syphilis — Reported Cases by Reporting Source and Sex, United States, 2006–2015

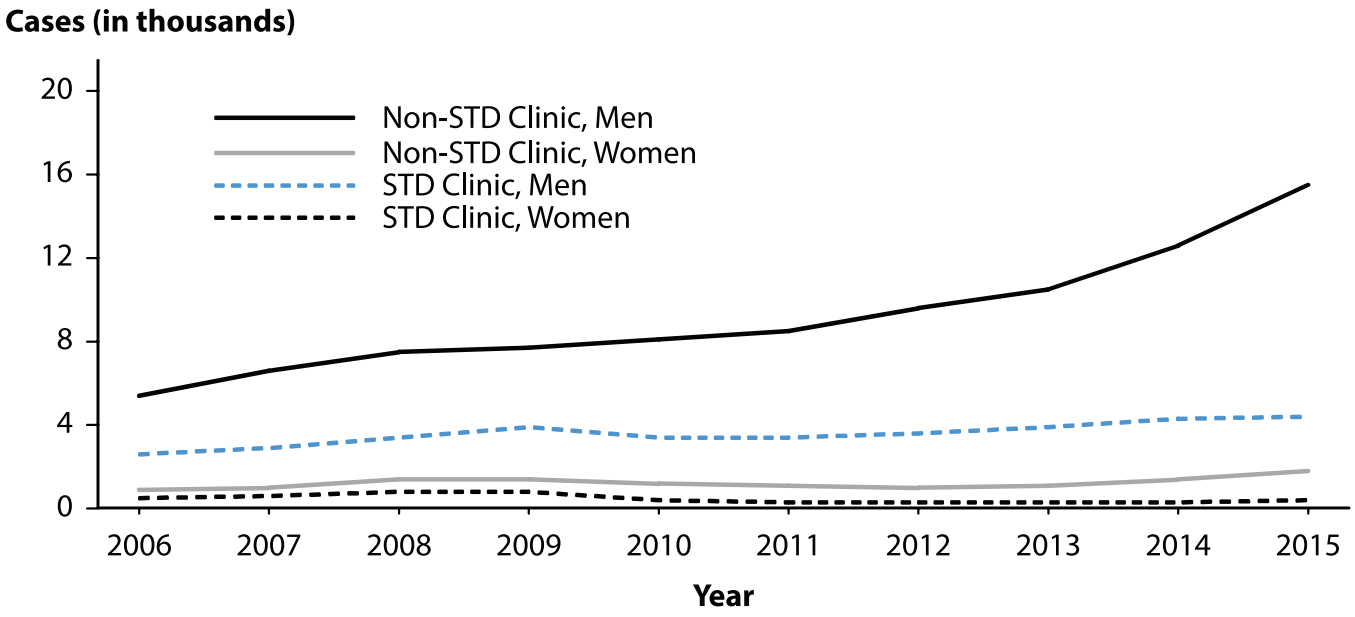
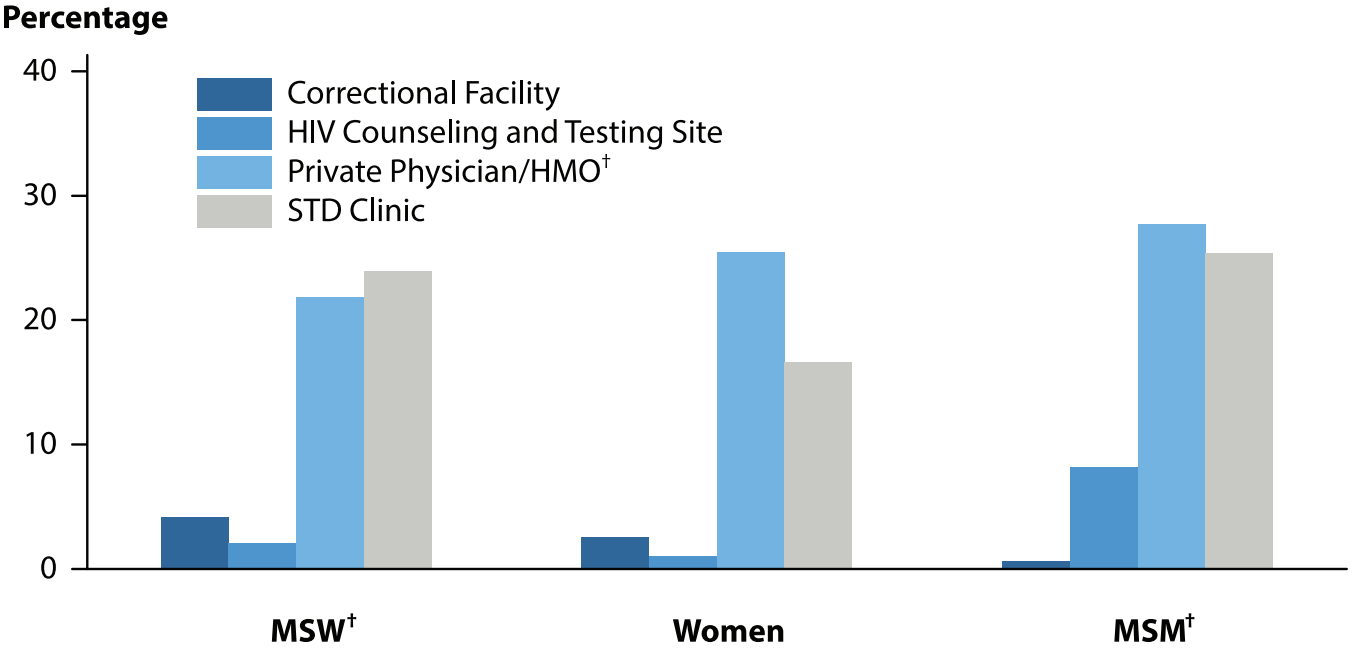


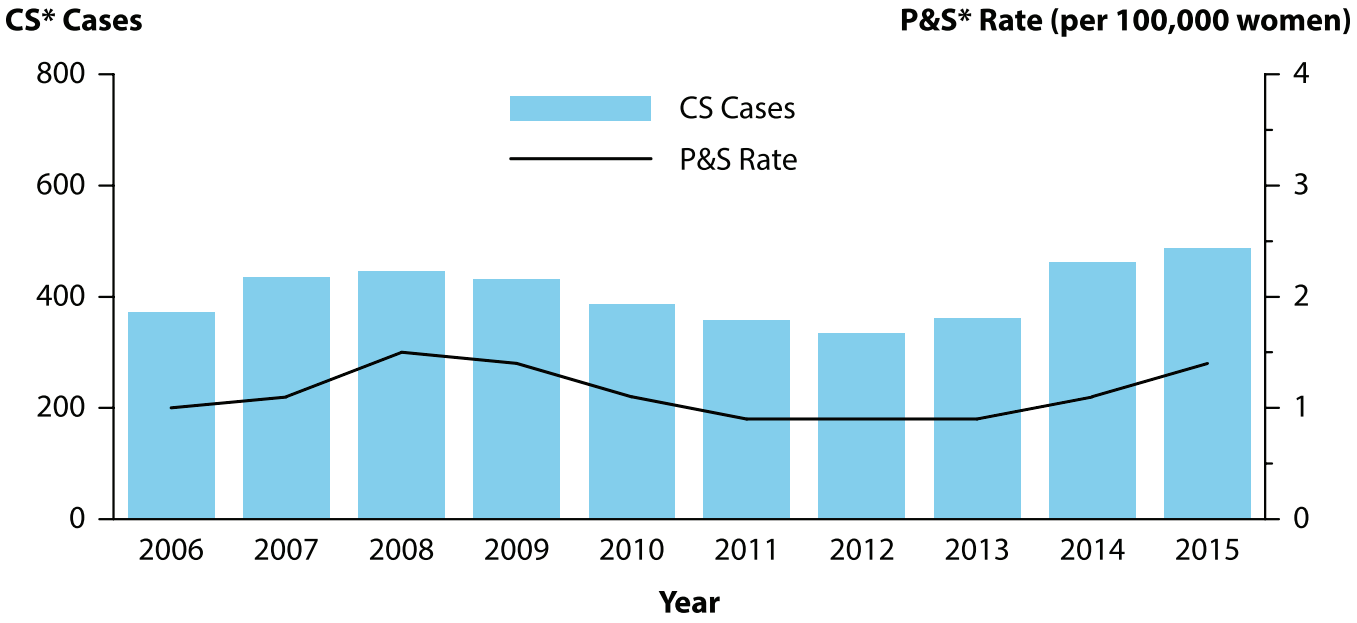
Figure 43. Primary and Secondary Syphilis — Percentage of Reported Cases* by Sex, Sexual Behavior, and Selected Reporting Sources, 2015



* Of all primary and secondary syphilis cases, 7.4% had a missing or unknown reporting source. Among all cases with a known reporting source, the reporting source categories presented represent 57.8% of cases; 42.2% were reported from sources other than those shown.

† HMO = health maintenance organization; MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only.

Figure 44. Congenital Syphilis — Reported Cases by Year of Birth and Rates of Primary and Secondary Syphilis Among Women, United States, 2006–2015



* CS = Congenital syphilis; P&S = Primary and secondary syphilis.

Other Sexually Transmitted Diseases

Chancroid

Chancroid is caused by infection with the bacterium *Haemophilus ducreyi*. Clinical manifestations include genital ulcers and inguinal lymphadenopathy or buboes.[1] Reported cases of chancroid declined steadily between 1987 and 2001 (Figure 45, Table 1). Since then, the number of reported cases has fluctuated somewhat, while still appearing to decline overall. In 2015, a total of 11 cases of chancroid were reported in the United States. Seven states reported one or more cases of chancroid in 2015 (Table 43).

Although the overall decline in reported chancroid cases most likely reflects a decline in the incidence of this disease, these data should be interpreted with caution because *Haemophilus ducreyi* is difficult to culture; as a result, this condition may be substantially underdiagnosed.[2,3]

Human Papillomavirus

Human papillomavirus (HPV) is the most common sexually transmitted infection in the United States.[4] Over 40 distinct types can infect the genital tract;[5] about 90% of infections are asymptomatic and resolve spontaneously within two years.[6] However, persistent infection with some HPV types can cause cancer and genital warts. HPV types 16 and 18 account for approximately 70% of cervical cancers worldwide,[7,8] while HPV types 6 and 11 are responsible for approximately 90% of genital warts.[9,10]

A quadrivalent HPV vaccine that protects against infection by HPV types 6, 11, 16 and 18 has been licensed in the United States for use in females since June 2006,[11] and in males since October 2009.[12] In October 2009, a bivalent HPV vaccine that protects against infection by HPV types 16 and 18 was licensed for use in females.[13] In December 2014, a 9-valent vaccine that protects against infection by the HPV types included in the quadrivalent vaccine, as well as five additional cancer causing types (HPV types 31, 33, 45, 52, and 58), was licensed for use in the United States.[14] For females, all three vaccines have been recommended for routine use in those aged 11 or 12 years, and through age 26 in those who have not been vaccinated previously.[14] For males, the quadrivalent and 9-valent vaccines have been recommended for routine use in those aged 11 or 12 years, and through age 21 in those who have not been vaccinated previously.[14] Vaccination of gay, bisexual, and other men who have sex with men (collectively referred to as MSM) through age 26 is also recommended; other males aged 22–26 years may be vaccinated.[14] Vaccination is also recommended through age 26 years for immunocompromised persons (including those infected with HIV) who have not been vaccinated previously.[14]

HPV vaccine uptake in the United States remains lower than the Healthy People 2020 goal of 80% coverage.[15] In 2015, a national survey found that 63% of girls aged 13–17 years had received at least 1 dose of the HPV vaccine, and 42% had received all 3 doses in the series.[16] HPV vaccine uptake is lower among boys; 50% aged 13–17 years received at least 1 dose, but only 28% received all 3 doses.[16]

HPV infection is not a nationally reportable condition. Cervicovaginal prevalence of quadrivalent HPV vaccine types 6, 11, 16, and/or 18 was estimated using data for females aged 14-34 years from the National Health and Nutrition Examination Survey (NHANES; see Section A2.4 in the Appendix). Prevalence decreased significantly from the pre-vaccine era (2003–2006) to the early post-vaccine era (2009–2012) in specimens from females aged 14–19 and 20–24 years, the age groups most likely to benefit from HPV vaccination (Figure 46).[17] Among those aged 25–34 years, vaccine-type HPV prevalence did not differ significantly between the two time periods, and no differences were observed in the prevalence of non-quadrivalent HPV vaccine types by time period for any age group. In a population-based study of female residents of four geographic catchment areas (Alameda County, California; New Haven County, Connecticut; Monroe County, New York; Washington and Multnomah Counties, Oregon), incidence of high-grade cervical intraepithelial neoplasia in 18–20 year olds, based on laboratory reports and medical record review, decreased during 2008–2012. However, cervical cancer screening, which was estimated using age-group-specific screening rates derived from a variety of data sources in three catchment areas, also declined in this age group during the same period.[18] The larger observed decrease in cervical neoplasia, relative to the estimated decline in screening, suggests that HPV vaccination may be impacting the true burden of cervical neoplasia in young women.

Data from the National Disease and Therapeutic Index (NDTI; see Section A2.5 in the Appendix) suggest that cases of genital warts, as measured by initial visits to physicians' offices, may have increased during the late 1990s through 2014 (Figure 47, Table 44). Although the number of visits appears to have decreased in 2012 and 2013, visits in 2014 (465,000) slightly exceeded those in 2011; more years of data are needed to better elucidate recent trends in initial genital wart visits from these data. The 2015 NDTI data were not obtained in time to

include them in this report. NHANES data for 1999–2004 indicated that 5.6% of sexually active adults aged 18–59 years self-reported a history of a genital wart diagnosis.[19]

Prevalence of genital warts during 2003–2010 was examined using health-care claims records from a large United States cohort of individuals with employer-provided private health insurance (Figure 48).[20] Prevalence among females aged 15–19 years was stable during 2003–2007, but then significantly declined during 2007–2010. Among females aged 20–24 years, genital wart prevalence significantly increased during 2003–2007, then was stable during 2007–2010; although prevalence in this age group appeared to decrease during 2009–2010, more years of data are needed to interpret this observation. Prevalence in females aged 25–39 years significantly increased throughout the time period, but among those aged 25–29 years a potential inflection in trend was observed in 2009, for which additional years of data are needed to appropriately assess. Genital wart prevalence significantly increased in males of all age groups during 2003–2010, although for those aged 20–24 years a potential inflection in trend again was observed in 2009.

For data reported in Figure 49, enhanced behavioral and demographic information on patients who presented for care in 2015 in 7 jurisdictions of the STD Surveillance Network (SSuN) was used (See Section A2.2 in the Appendix). Only jurisdictions that contributed data for all of 2015 were included in the figure. Genital warts were identified by provider diagnosis or by documentation from the physical examination. MSM and men who have sex with women only (MSW) were defined by self-report or by sex of reported sex partners. The prevalence of genital warts in 2015 is presented separately for MSM, MSW, and women by SSuN jurisdiction in the figure. Among women, the median prevalence of genital warts was 0.9% (range 0.7 to 2.2) across all sites, compared to 3.3% (range 1.9 to 4.6) for MSM and 4.3% (range 1.7 to 8.1) for MSW.

Pelvic Inflammatory Disease

For information on pelvic inflammatory disease, see Special Focus Profiles, STDs in Women and Infants.

Herpes Simplex Virus

Herpes simplex virus (HSV) is among the most prevalent of sexually transmitted infections.[4,21] Although most infections are subclinical,[22] clinical manifestations are characterized by recurrent, painful genital and/or anal lesions.[23] Most genital HSV infections in the United States are caused by HSV type 2 (HSV-2), while HSV type 1 (HSV-1) infections are typically orolabial and acquired during childhood.[22,24]

HSV infection is not a nationally reportable condition. Data on initial visits to physicians' offices for genital HSV infection are available from the NDTI; however the 2015 NDTI data were not obtained in time to include them in this report (Figure 50, Table 44). Visits have generally increased over time; the maximum number of initial visits (371,000) occurred in 2006, while 299,000 visits took place in 2014.

Most persons with genital HSV infection have not received a diagnosis. The overall percentage of HSV-2 seropositive NHANES participants aged 14–49 years who reported never being told by a doctor or health care professional that they had genital herpes did not change significantly between 1988–1994 and 2007–2010, and remained high (90.7% and 87.4%, respectively).[25] However, an overall increase in the number of physician visits for genital HSV infection over time, as suggested by the NDTI data, may indicate increased recognition of infection.

NHANES data on the gender- and race/ethnicity-specific seroprevalence of HSV-2 among those aged 14–49 years were compared across survey years 1988–1994, 1999–2002, 2003–2006, and 2007–2010 (Figure 51). Overall, HSV-2 seroprevalence decreased between 1988–1994 and 2007–2010, from 21.2% to 15.5%.[25] Among non-Hispanic White females, HSV-2 seroprevalence significantly decreased from 19.5% in 1988–1994 to 15.3% in 2007–2010; HSV-2 seroprevalence remained stable among non-Hispanic Black females, from 52.5% in 1988–1994 to 49.9% in 2007–2010. Similar race/ethnicity differences were observed for males. These data, along with data from NHANES survey years 1976–1980,[26] indicate that non-Hispanic Blacks had higher overall seroprevalence than non-Hispanic Whites in each survey period.

NHANES data also show that among adolescents aged 14–19 years HSV-1 seroprevalence has significantly decreased by almost 23%, from 39.0% in 1999–2004 to 30.1% in 2005–2010, indicating declining orolabial infection in this age group.[24] HSV-2 seroprevalence in this age group was much lower, less than 2% in both time periods.[24] Other studies have found that genital HSV-1 infections are increasing among young adults.[27,28] This has been attributed, in part, to the decline in orolabial HSV-1 infections, because those who lack HSV-1 antibodies at sexual debut are more susceptible to genital HSV-1 infection;[24,29] increasingly common oral sex behavior among adolescents and young adults also has been suggested as a contributing factor.[24,30] The absence of HSV-1 antibodies also increases the likelihood of developing symptomatic disease from newly-acquired (i.e., primary) genital HSV-2 infection.[31] Young women may therefore be increasingly likely to first acquire HSV-1 infection genitally, or acquire a primary genital HSV-2 infection, during their child-bearing years,[29,32] and first-episode primary HSV infection during pregnancy increases the risk of neonatal HSV transmission.[29,33]

For information on neonatal HSV infections, see Special Focus Profiles, STDs in Women and Infants.

Trichomonas vaginalis

Trichomonas vaginalis is a common sexually transmitted protozoal infection associated with adverse health outcomes such as preterm birth and symptomatic vaginitis.[4,34,35] It is not a nationally reportable condition, and trend data are limited to estimates of initial physician office visits from the NDTI (Figure 52, Table 44). Visits appear to be fairly stable since the 1990's; the number of initial visits for *Trichomonas vaginalis* infection in 2014 was 155,000. The 2015 NDTI data were not obtained in time to include them in this report. NHANES data from 2001–2004 indicated an overall *Trichomonas vaginalis* infection prevalence of 3.1%, with the highest prevalence of 13.3% observed among non-Hispanic Blacks.[35]

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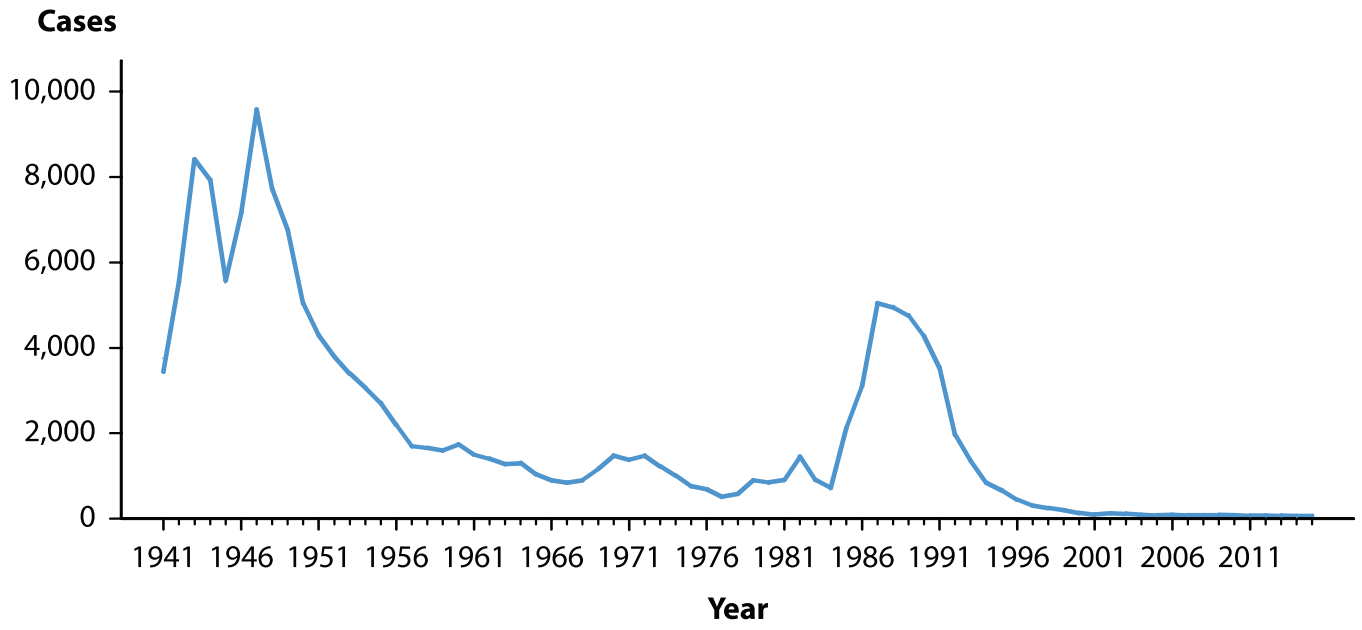
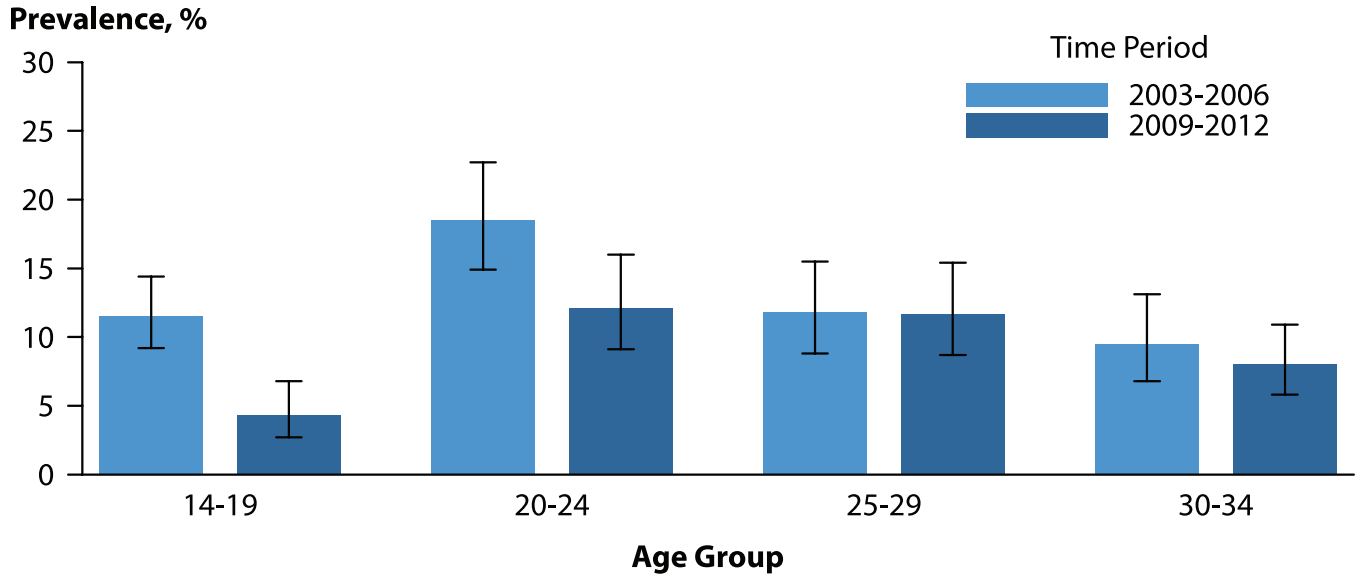
Figure 45. Chancroid — Reported Cases by Year, United States, 1941–2015



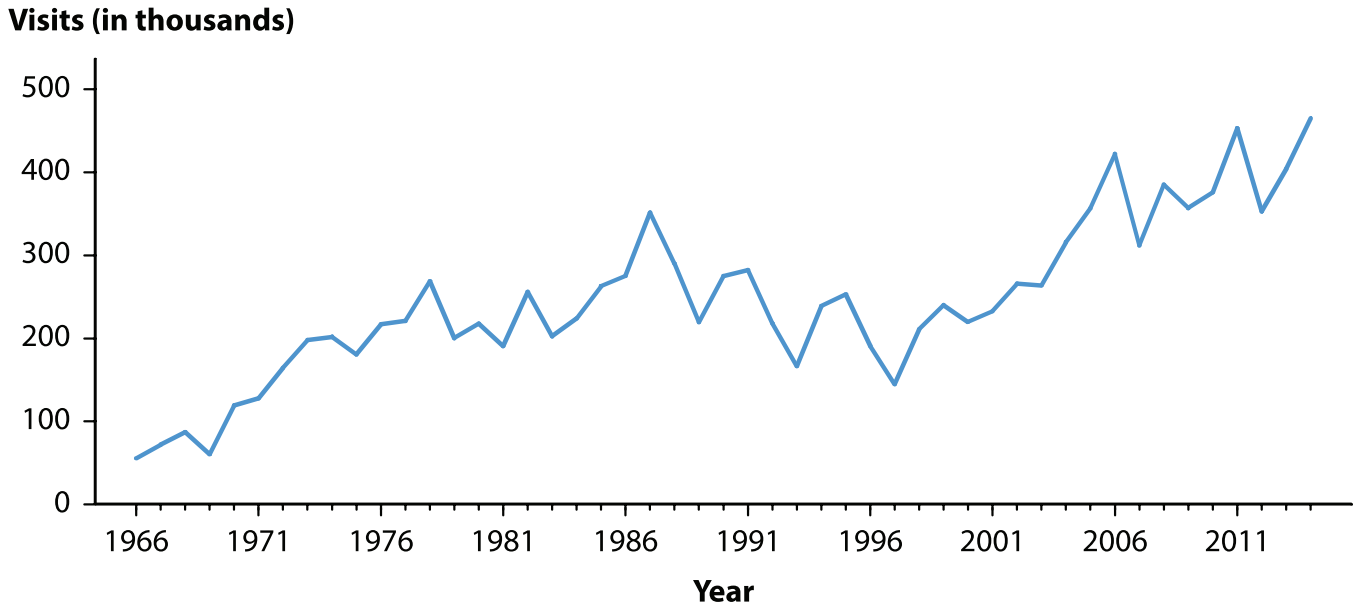
NOTE: Data collection for chancroid began in 1941; however, chancroid became nationally notifiable in 1944. Refer to the National Notifiable Disease Surveillance System (NNDSS) website for more information: https://wwwn.cdc.gov/nndss/conditions/chancroid/.

Figure 46. Human Papillomavirus — Cervicovaginal Prevalence of Types 6, 11, 16 and 18 Among Women Aged 14–34 Years by Age Group and Time Period, National Health and Nutrition Examination Survey, 2003–2006 and 2009–2012



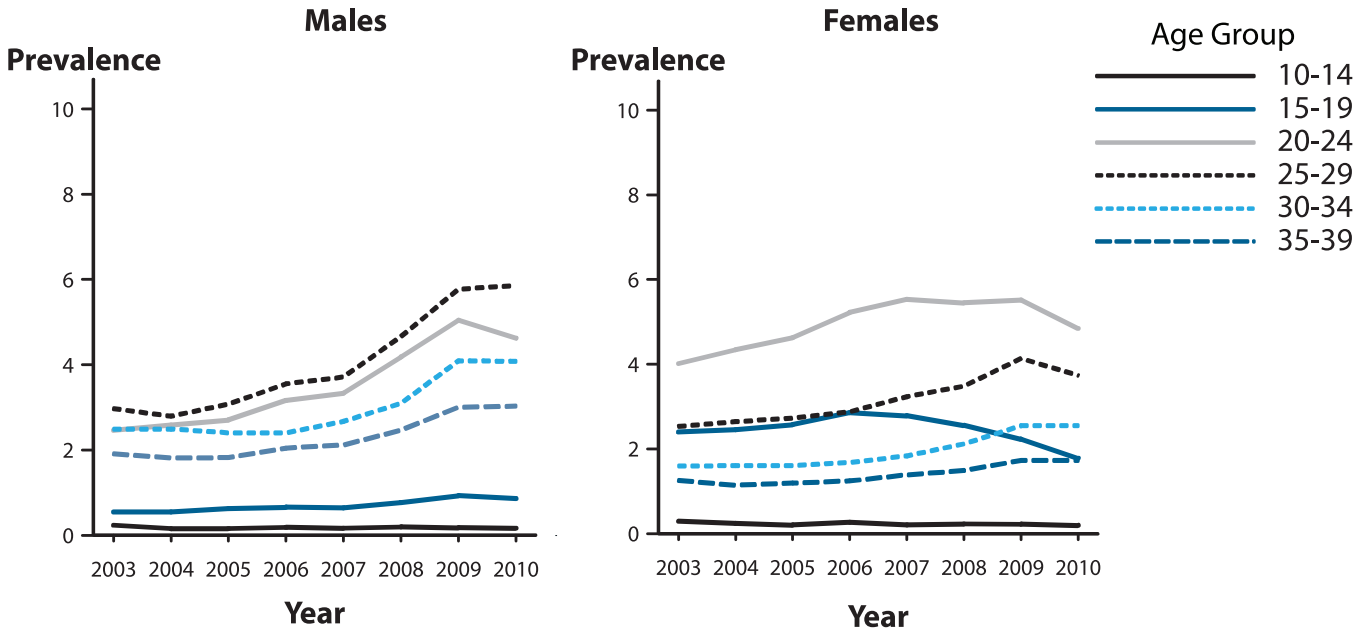
NOTE: Error bars indicate 95% confidence interval.
SOURCE: Markowitz LE, Liu G, Hariri S, et al. Prevalence of HPV after introduction of the vaccination program in the United States. Pediatrics 2016;137(3):e20151968.

Figure 47. Genital Warts — Initial Visits to Physicians' Offices, United States, 1966–2014



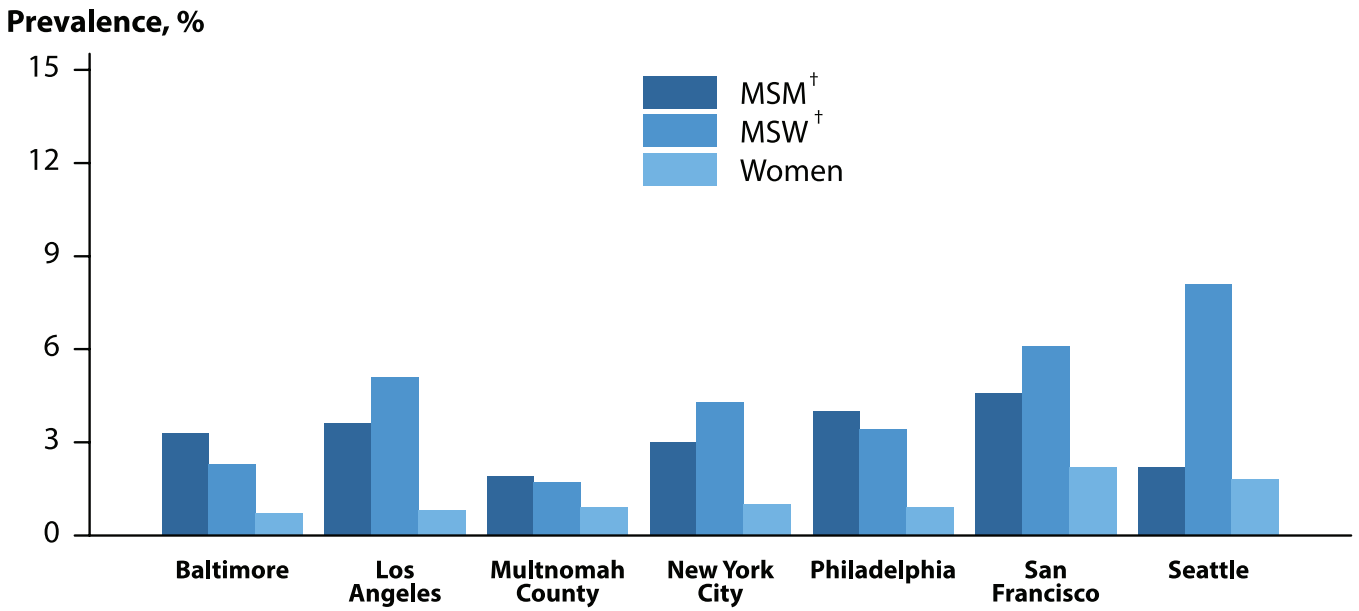
NOTE: The relative standard errors for genital warts estimates of more than 100,000 range from 18% to 23%. See Section A2.5 in the Appendix and Table 44.
SOURCE: National Disease and Therapeutic Index, IMS Health, Integrated Promotional Services™. IMS Health Report, 1966–2014. The 2015 data were not obtained in time to include them in this report.

Figure 48. Genital Warts — Prevalence per 1000 Person-Years Among Participants in Private Health Plans Aged 10–39 Years by Sex, Age Group, and Year, 2003–2010



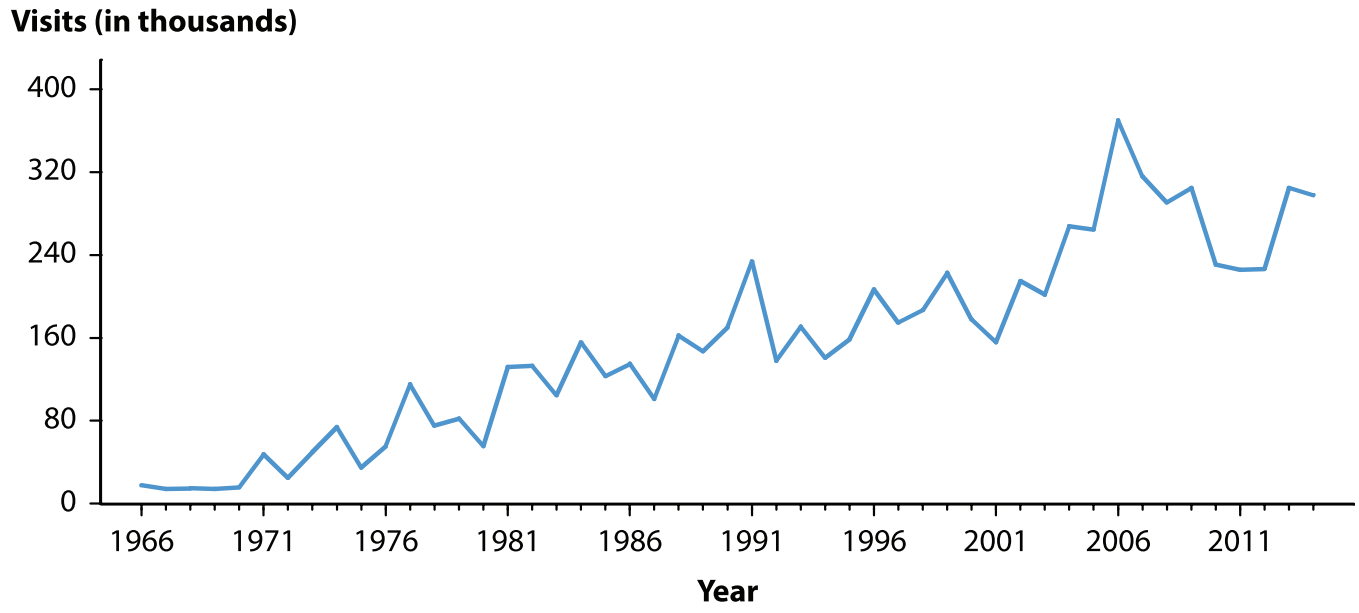
SOURCE: Flagg EW, Schwartz R, Weinstock H. Prevalence of anogenital warts among participants in private health plans in the United States, 2003–2010: potential impact of human papillomavirus vaccination. Am J Public Health 2013;103(8):1428–35.

Figure 49. Genital Warts — Prevalence Among STD Clinic Patients by Sex, Sex of Partners, and Jurisdiction*, STD Surveillance Network (SSuN), 2015



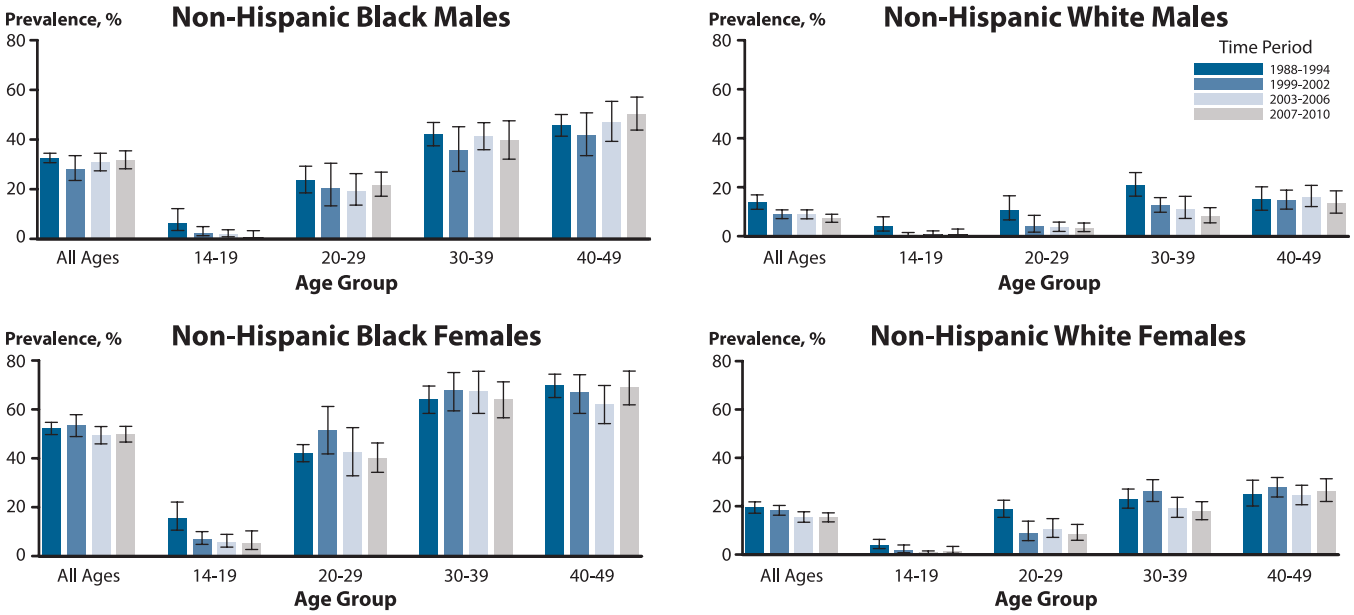
* Includes SSuN jurisdictions that contributed data for all of 2015.
† MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only.
NOTE: See section A2.2 in the Appendix for SSuN methods.

Figure 50. Genital Herpes Simplex Virus (HSV) Infections — Initial Visits to Physicians' Offices, United States, 1966–2014



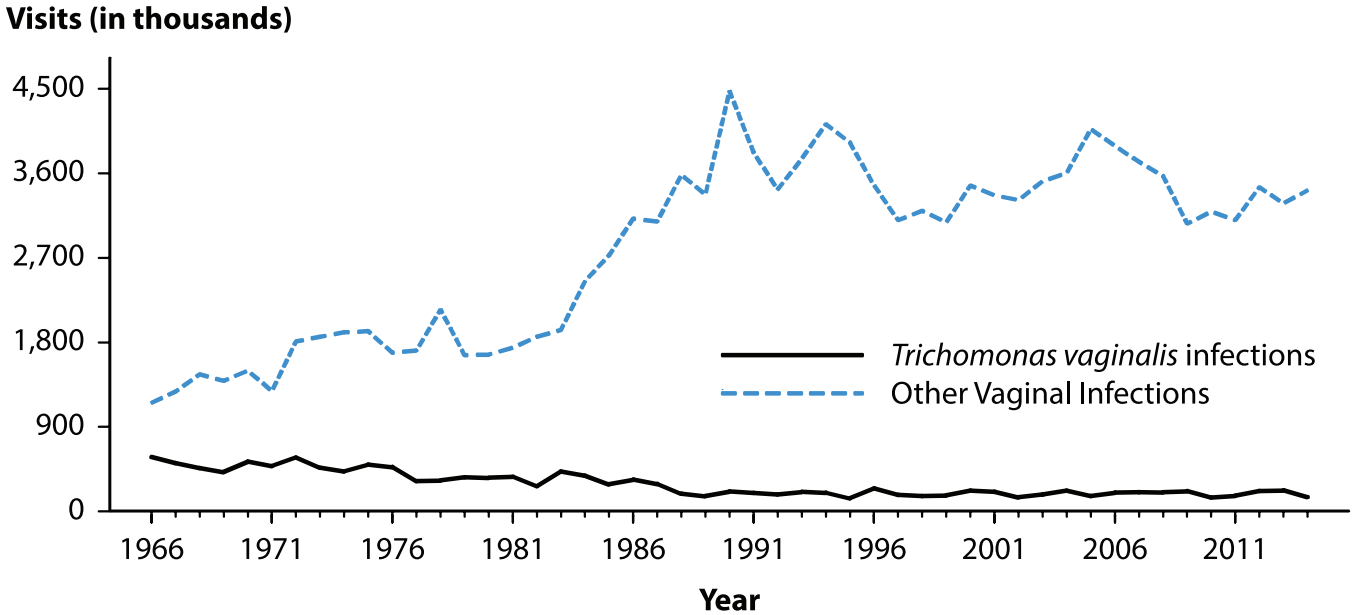
NOTE: The relative standard errors for genital HSV infection estimates of more than 100,000 range from 18% to 23%. See Section A2.5 in the Appendix and Table 44.
SOURCE: National Disease and Therapeutic Index, IMS Health, Integrated Promotional Services™. IMS Health Report, 1966–2014. The 2015 data were not obtained in time to include them in this report.

Figure 51. Herpes Simplex Virus (HSV) Type 2 — Seroprevalence Among Non-Hispanic Whites and Non-Hispanic Blacks by Sex and Age Group, National Health and Nutrition Examination Survey, 1988–1994, 1999–2002, 2003–2006, and 2007–2010



NOTE: Error bars indicate 95% confidence interval.
SOURCE: Fanfair RN, Zaidi A, Taylor LD, et al. Trends in seroprevalence of herpes simplex virus type 2 among non-Hispanic blacks and non-Hispanic whites aged 14 to 49 years — United States, 1988 to 2010. Sex Transm Dis 2013;40(11):860–4.

Figure 52. *Trichomonas vaginalis* and Other Vaginal Infections Among Women — Initial Visits to Physicians' Offices, United States, 1966–2014



NOTE: The relative standard errors for *Trichomonas vaginalis* infection estimates range from 16% to 21% and for other vaginal infection estimates range from 8% to 13%. See Section A2.5 in the Appendix and Table 44.
SOURCE: National Disease and Therapeutic Index, IMS Health, Integrated Promotional Services™, IMS Health Report, 1966–2014. The 2015 data were not obtained in time to include them in this report.

SPECIAL FOCUS PROFILES

SPECIAL FOCUS PROFILES

Special Focus Profiles

The Special Focus Profiles highlight trends and distribution of STDs in populations of particular interest to STD and HIV prevention programs in state and local health departments: women and infants, adolescents and young adults, racial and ethnic minority groups, and gay, bisexual, and other men who have sex with men (collectively referred to as MSM). These populations are most vulnerable to STDs and their consequences and often lack adequate access to healthcare services. In 2014, in the U.S., age was strongly associated with having health insurance. Older adults (65 years and older) and children (19 years and under) were most likely to have health insurance. Working-age adults (19 years to 64 years) had higher uninsured rates. The rates of non-insured for non-Hispanic Whites, non-Hispanic Blacks, and Hispanics were: 7.6%, 11.8%, and 19.9%, respectively.[1] The Patient Protection and Affordable Care Act (ACA) aims to increase access to sexual and reproductive health services through reforms based on the U.S. Preventive Services Task Force recommendations that include: chlamydia and gonorrhea screening (for sexually active women under 25 years and all women at increased risk), HIV screening (everyone 15–65 years old, pregnant, and higher risk), STD counseling (for all sexually active adolescents and higher-risk adults), and syphilis screening (for pregnant women and adults at higher risk).[2] However, although health insurance coverage has been expanded for most groups, including both men and women, and for most race and ethnic groups, evidence suggests that disparities in health insurance coverage and access to STD services remain.[3,4]

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STDs in Women and Infants

Public Health Impact

Women and infants are at significant risk for long-term consequences of STDs. A woman's relationship status with her male partner, such as the concurrency of the relationship, has been identified as an important predictor of her sexual health.[1-3] In addition to social factors such as poverty and lack of access to quality STD services, homelessness or unstable housing may increase a woman's risk for acquiring a sexually transmitted infection.[4] For some women maintaining the relationship with her partner may take a higher priority than STD risk reduction[5], thereby affecting her sexual and reproductive health, as well as the health of her unborn baby.[6, 7]

Because it may be her male partner's risk, rather than the woman's that increases a woman's risk for STDs, even a woman who has only one partner may be obliged to practice safer sex, such as using condoms.[8] A number of studies have found significant associations between condom use and socio-demographic characteristics, including age, income, education, and acculturation.[9]

Women infected with *Chlamydia trachomatis* or *Neisseria gonorrhoeae* can develop pelvic inflammatory disease (PID), which, in turn, can lead to reproductive morbidity such as ectopic pregnancy and tubal factor infertility. An estimated 10–20% of women with chlamydial and gonococcal infections may develop PID if they do not receive adequate treatment.[10, 11] Among women with PID, tubal scarring can cause infertility in 8% of women, ectopic pregnancy in 9%, and chronic pelvic pain in 18%.[12]

The majority of chlamydial and gonococcal infections in women are asymptomatic, and hence are detected primarily through screening. Because the symptoms associated with PID can be nonspecific, up to 85% of women with PID delay seeking medical care, thereby increasing the risk for infertility and ectopic pregnancy.[13] Data from two randomized controlled trials of chlamydia screening suggest that such screening programs reduce PID incidence.[14, 15]

Human papillomavirus (HPV) infections are highly prevalent in the United States, especially among young sexually active adults. Although most HPV infections in women are cleared within several years, high-risk HPV-type infections can be accompanied by abnormal changes in the uterine cervical epithelium, which are detected by cytological examination of Papanicolaou (Pap) smears. Persistent high-risk HPV-type infections may lead to cervical cancer precursors, which if undetected can result in cancer. Other low-risk HPV types cause genital warts, low-grade Pap smear abnormalities, and, rarely, recurrent respiratory papillomatosis in infants born to infected mothers.[16] For more information on adolescent and adult HPV infections, see Other STDs.

Impact on Maternal and Fetal Outcomes

As with non-pregnant women, a high proportion of pregnant women with chlamydial and gonococcal infections are asymptomatic. Documented sequelae of untreated infections in pregnancy include stillbirth, premature delivery, premature rupture of the membranes, and low birth weight. Maternal infection can also affect the neonate, leading to neonatal ophthalmia, and, in the case of *C. trachomatis*, neonatal pneumonia. Although topical prophylaxis of infants at delivery is effective for prevention of gonococcal ophthalmia neonatorum, prevention of neonatal pneumonia requires prenatal detection and treatment.

Genital infections with herpes simplex virus (HSV) are extremely common, can cause painful outbreaks, and can have serious consequences for pregnant women and their infants.[17] Neonatal herpes can be a severe illness presenting with pulmonary disease, seizures, fever, and a high case fatality rate following contact with infected genital secretions during delivery. Risk of transmission to the infant is greatest when the mother has primary genital lesions during delivery, especially if she acquires infection towards the end of her pregnancy.[18]

Syphilis has long been known to be an important risk factor for adverse pregnancy outcomes. The consequences of untreated maternal infection include fetal death, preterm birth, and also congenital infection in a proportion of surviving infants resulting in both physical and mental developmental disabilities. Most cases of congenital syphilis are easily preventable if women are screened for syphilis and treated early during prenatal care.[19]

Observations

Chlamydia

Chlamydial infections in women are usually asymptomatic and screening is necessary to identify most infections.[20] Routine chlamydia screening of sexually-active young women has been recommended by the CDC since 1993.[21] Rates of reported cases of chlamydia among women increased steadily from the early 1990s, likely reflecting expanded screening coverage and use of more sensitive

diagnostic tests (Figure 1). During 2011–2013, rates decreased from 643.4 to 619.0 cases per 100,000 females and then increased a total of 4.3% over the next 2 years, resulting in a rate of 645.5 cases per 100,000 females in 2015 (Table 4).

Chlamydia rates are highest among young women, the population targeted for screening (Figure 5, Table 10). During 2014–2015, rates of reported chlamydia cases increased 1.5% and 2.7% among females aged 15–19 and 20–24 years, respectively. Regionally, chlamydia case rates were highest among women in the South, with a rate of 720.2 cases per 100,000 females in 2015 (Table 4). Rates of reported chlamydia cases exceeded gonorrhea rates among women in all regions (Figures A and B, Tables 4 and 15).

Gonorrhea

Like chlamydia, gonorrhea is often asymptomatic in women. Thus, gonorrhea screening is an important strategy for the identification of gonorrhea among women. Large-scale screening programs for gonorrhea in women began in the 1970s. After an initial increase in cases detected through screening, rates of reported gonorrhea cases for both women and men declined steadily throughout the 1980s and early 1990s, and then declined more gradually in the late 1990s and the 2000s. However, more recently, there have been increases in cases since 2009 (Figure 12).

After reaching a 40-year low in 2009 (104.5 cases per 100,000 females), the rate of reported cases of gonorrhea for women increased slightly each year during 2009–2011, and then decreased each year during 2012–2014 (Figure 13). In 2015, the gonorrhea rate among women increased 6.8% to 107.2 cases per 100,000 females (Figure 13, Table 15).

The gonorrhea rate among women was slightly higher than the rate among men during 2006–2012; however, the rate among men was higher than the rate among women during 2013–2015 (Figure 13, Tables 15 and 16). During 2011–2015, gonorrhea rates were highest among young women and adolescents aged 15–24 years (Figure 17, Table 21). For women in this age group, rates were highest among 19-year olds in 2015 (666.0 cases per 100,000 females) (Table 23).

Congenital Syphilis

Trends in congenital syphilis usually follow trends in primary and secondary (P&S) syphilis among women, with a lag of 1–2 years (Figure 44). After plateauing at a relatively low rate (0.9 cases per 100,000 females) during 2011–2013, the rate of reported P&S syphilis cases among women increased to 1.1 cases per 100,000 females in 2014, and then increased 27.3%, to 1.4 cases per 100,000 females during 2014–2015 (Figure 32, Table 28).

Similarly, the rate of reported congenital syphilis cases has increased each year since 2012 (Figure 44, Table 1). In 2015, there were 487 reported cases of congenital syphilis and the national congenital syphilis rate was 12.4 cases per 100,000 live births. This increase in 2015 represents a 6.0% increase relative to 2014 and a 36.3% increase relative to 2011 (Table 41).

In 2015, the highest rates of P&S syphilis among women and the highest rates of congenital syphilis were observed in the South and in the West (Figures C and D, Tables 28 and 41). The P&S syphilis rates among women increased in every region during 2014–2015. However, only the West experienced an increase in the congenital syphilis rate during this time period. During 2014–2015, the largest increases in the P&S syphilis rates among women were seen in the West (41.7%), followed by the Northeast (40.0%), South (20.0%), and Midwest (11.1%). The congenital syphilis rate increased 42.3% in the West and decreased 17.4% in the Northeast, 7.7% in the South, and 3.5% in the Midwest (Table 44).

Although most cases of congenital syphilis occur among infants whose mothers have had some prenatal care, late or limited prenatal care has been associated with congenital syphilis. Failure of health care providers to adhere to maternal syphilis screening recommendations also contributes to the occurrence of congenital syphilis.[19]

Neonatal Herpes Simplex Virus

Neonatal herpes simplex virus (HSV) infections, although relatively rare, cause significant morbidity and mortality.[17] Most neonatal HSV infections result from perinatal transmission from mother to neonate,[22] but postnatal infection can occur.[23] Although reporting of neonatal HSV infection is required in a few jurisdictions,[24,25] it is not a nationally reportable disease.

An examination of inpatient records of infants aged 60 days or younger at admission using the Healthcare Cost and Utilization Project Kid's Inpatient Database showed an overall incidence of 9.6 cases per 100,000 live births in 2006.[26] Rates did not vary significantly by region or race/ethnicity; however prevalence was significantly higher among cases for which the expected primary payer was Medicaid (15.1 cases per 100,000) compared with private insurance or managed health care (5.4 cases per 100,000).

In New York City, 76 cases of neonatal HSV infection were identified through population-based surveillance during a 4.5 year period (April 2006–September 2010), for an average annual incidence of 13.3 cases per 100,000 live births.[25] Forty-one percent of the confirmed cases were

infected with HSV type 1. A review of certificates of death or stillbirth issued in New York City during 1981–2013 identified 34 deaths due to neonatal HSV infection, or 0.82 deaths per 100,000 live births.[27]

For information on adolescent and adult HSV infections, see Other STDs.

Pelvic Inflammatory Disease

Accurate estimates of PID and tubal factor infertility resulting from chlamydial and gonococcal infections are difficult to obtain, in part because definitive diagnoses of these conditions can be complex. Published data suggest overall declining U.S. rates of women diagnosed with PID in both hospital and ambulatory settings.[28-30] The National Disease and Therapeutic Index (NDTI; see Section A2.5 in the Appendix) provides estimates of initial visits to office-based, private physicians for PID. NDTI estimated that from 2005–2014 the number of initial visits to such physicians for PID among women aged 15–44 years have decreased by 71.0% from 176,000 to 51,000 visits (Figure E). The 2015 NDTI data were not obtained in time to include them in this report.

Differences in PID diagnoses or treatment by race/ethnicity have been observed in earlier research.[30] Data from the National Survey of Family Growth indicates that the overall proportion of sexually experienced women who have been treated for PID declined from 8.6% in 1995 to 4.1% during 2011–2013 (Figure F).[31] While this pattern was observed across all racial/ethnic groups, the proportion who had received PID treatment was higher in non-Hispanic Blacks than in Hispanics or non-Hispanic Whites. These disparities are consistent with the marked racial disparities observed for chlamydia and gonorrhea. However, because of the subjective methods by which PID is diagnosed, racial disparity data should be interpreted with caution.

Several factors may be contributing to declining PID rates, including increases in chlamydia and gonorrhea screening coverage, more sensitive diagnostic technologies, and availability of single-dose therapies that increase adherence to treatment.[29-30,32] While PID is declining nationally, it still causes an enormous amount of unnecessary and expensive morbidity.

Ectopic Pregnancy

Ectopic pregnancy (EP) is a potentially life-threatening condition that requires prompt evaluation and treatment. In 1992, CDC estimated the U.S. ectopic rate at 2% of all pregnancies.[33] Since then, reliable estimates using national healthcare surveys has been challenging because medical and surgical treatment of EP is currently provided in both inpatient and outpatient settings. More recent attempts to estimate EP incidence use data from administrative databases of public and private insurance and managed care systems.[34,35] Using data from a large administrative claims database of U.S. commercial health plans, trends in the rate of ectopic pregnancy among pregnancies in females aged 15–44 years during the period of 2003–2014 have remained relatively stable across all 5 year age groups (Figure G). Rates of ectopic pregnancy increased with age, with the greatest rate concentrated in the 35–39 and 40–44 year age groups.

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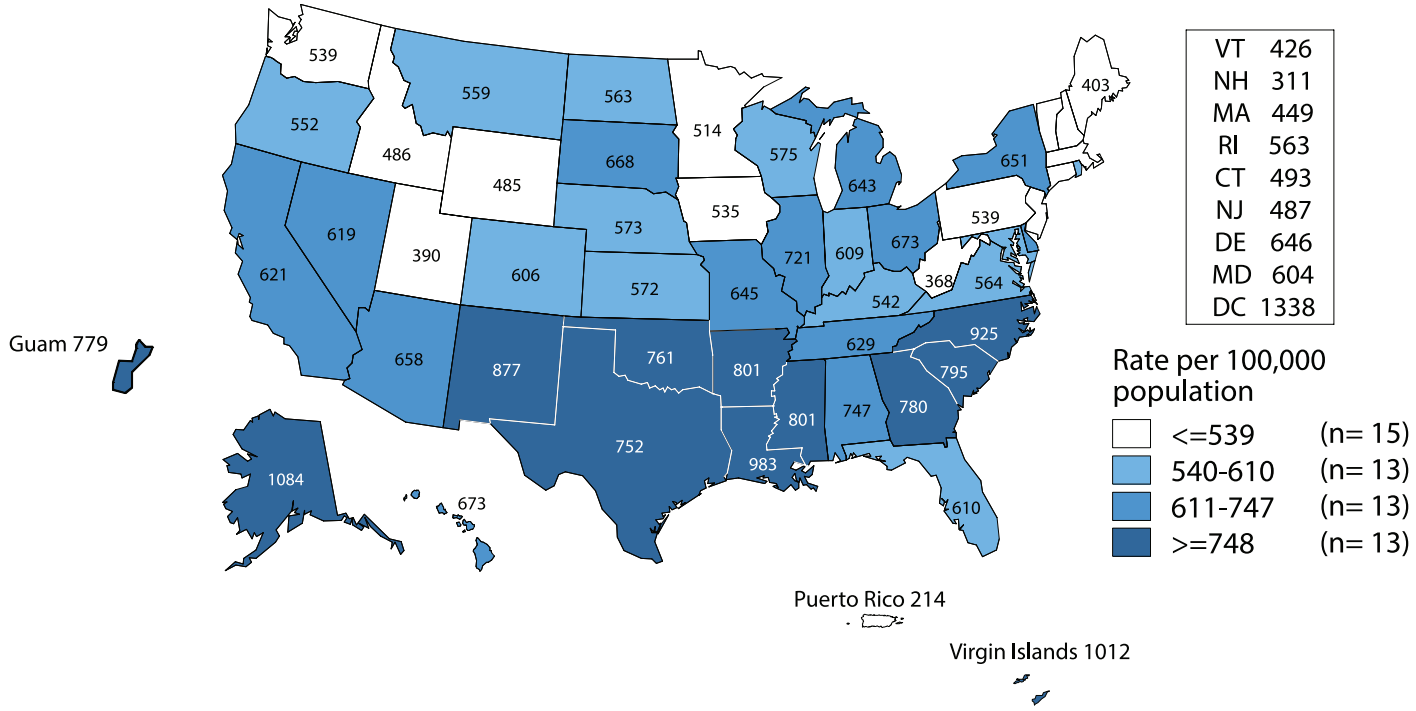
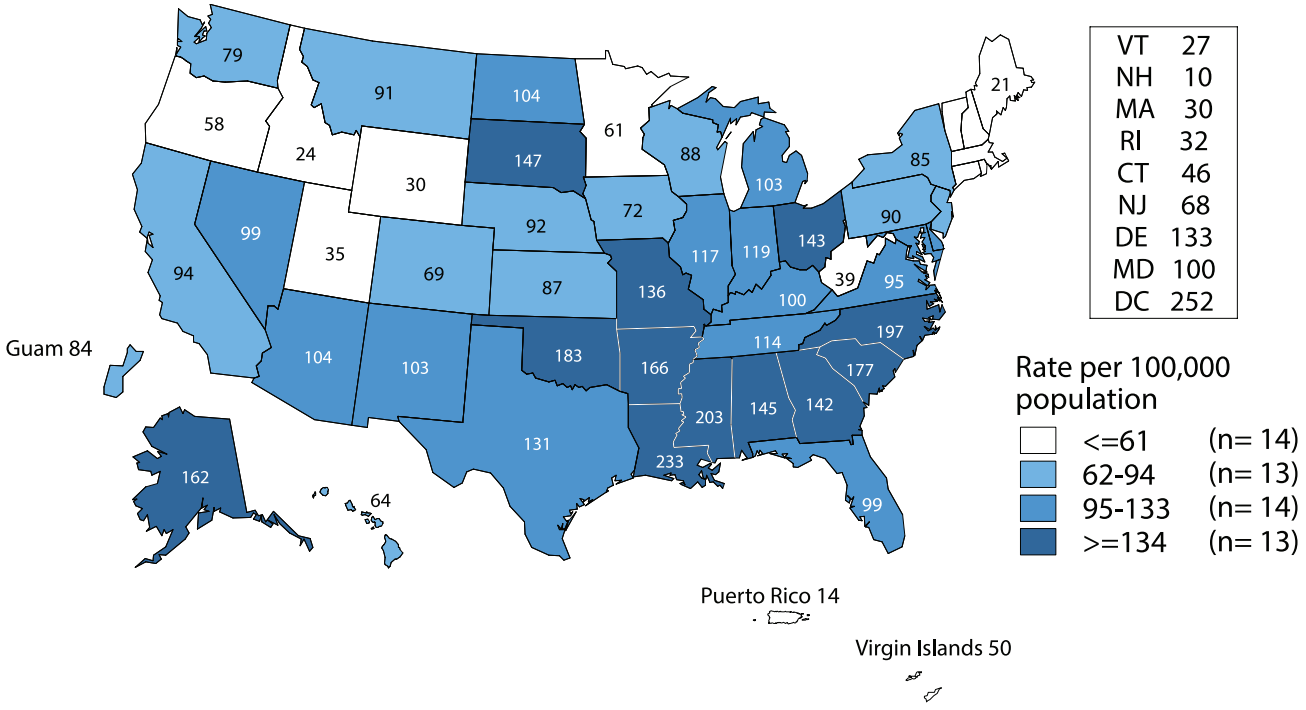
Figure A. Chlamydia — Rates of Reported Cases Among Women by State, United States and Outlying Areas, 2015



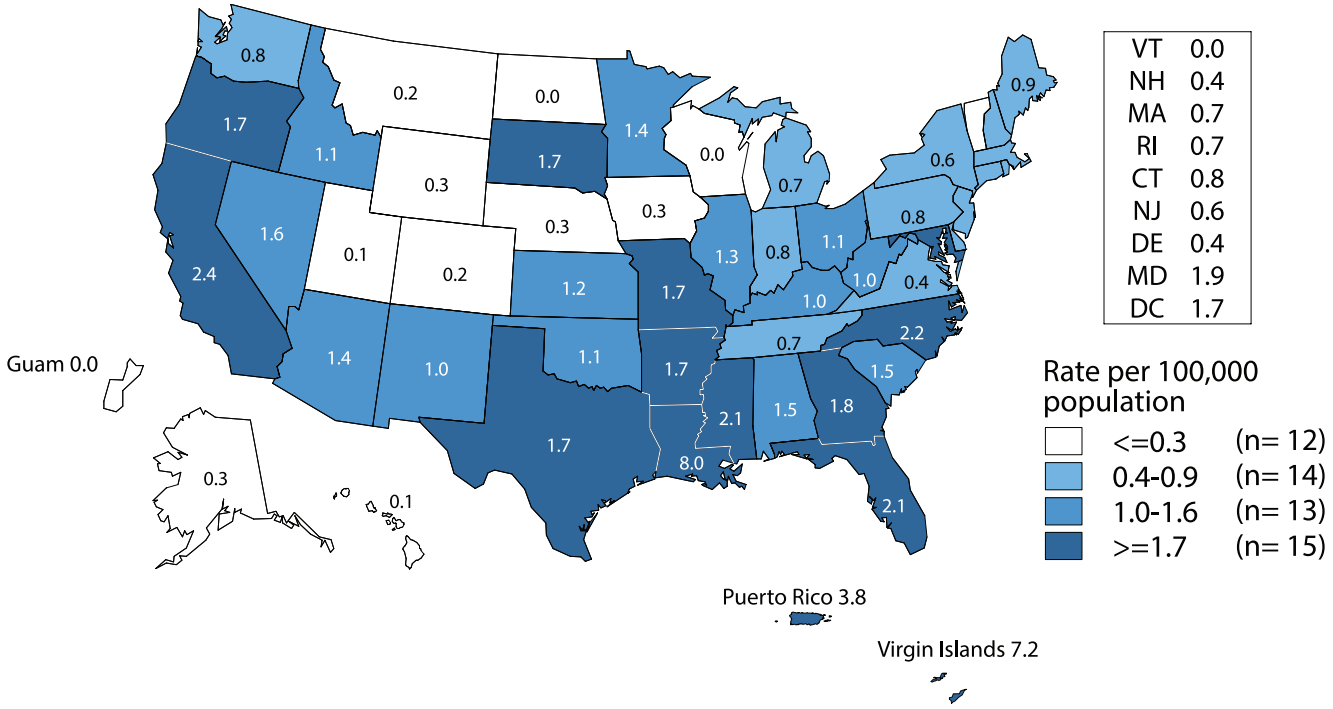
NOTE: The total rate of reported cases of chlamydia among women in the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 640.8 cases per 100,000 females.

Figure B. Gonorrhea — Rates of Reported Cases Among Women by State, United States and Outlying Areas, 2015



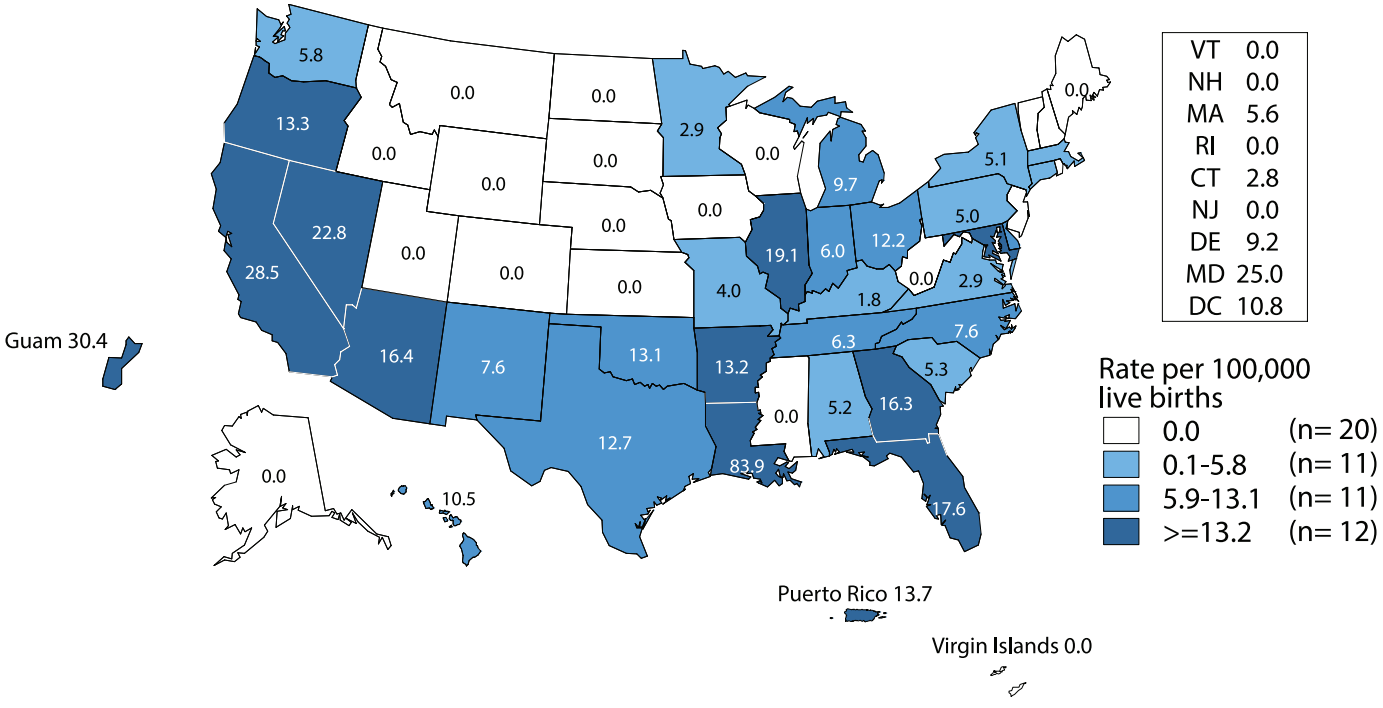
NOTE: The total rate of reported cases of gonorrhea among women in the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 106.1 cases per 100,000 females.

Figure C. Primary and Secondary Syphilis — Rates of Reported Cases Among Women by State, United States and Outlying Areas, 2015



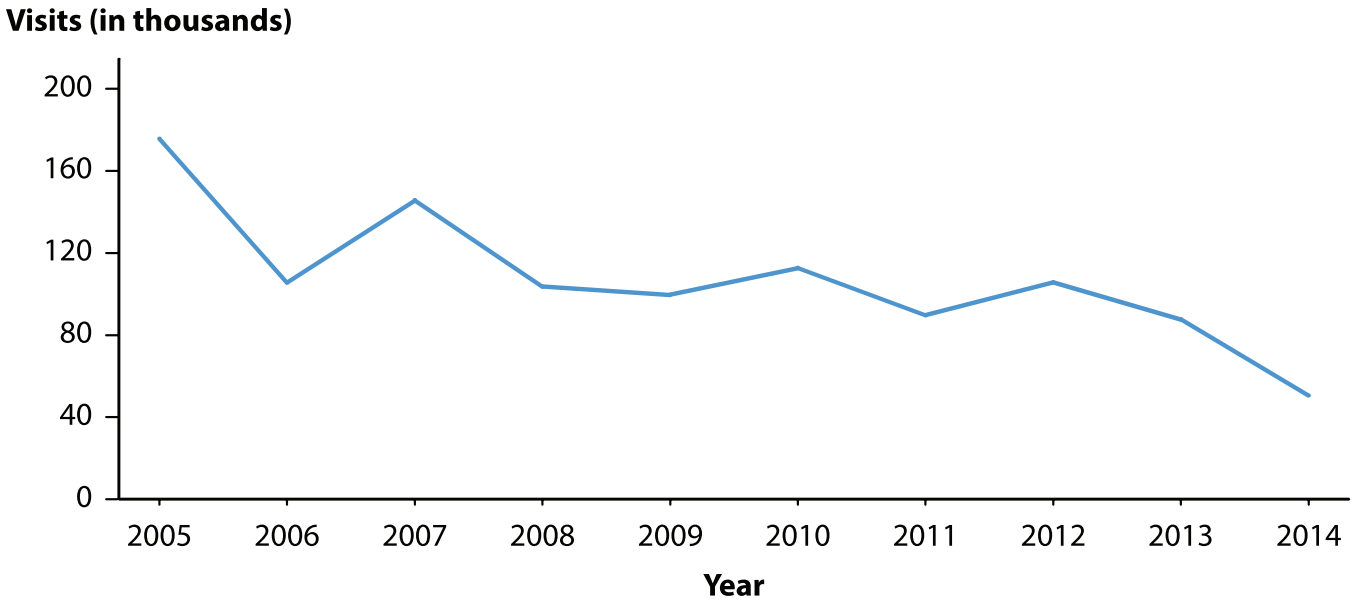
NOTE: The total rate of primary and secondary syphilis among women in the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 1.4 cases per 100,000 females.

Figure D. Congenital Syphilis — Rates of Reported Cases Among Infants by Year of Birth and State, United States and Outlying Areas, 2015



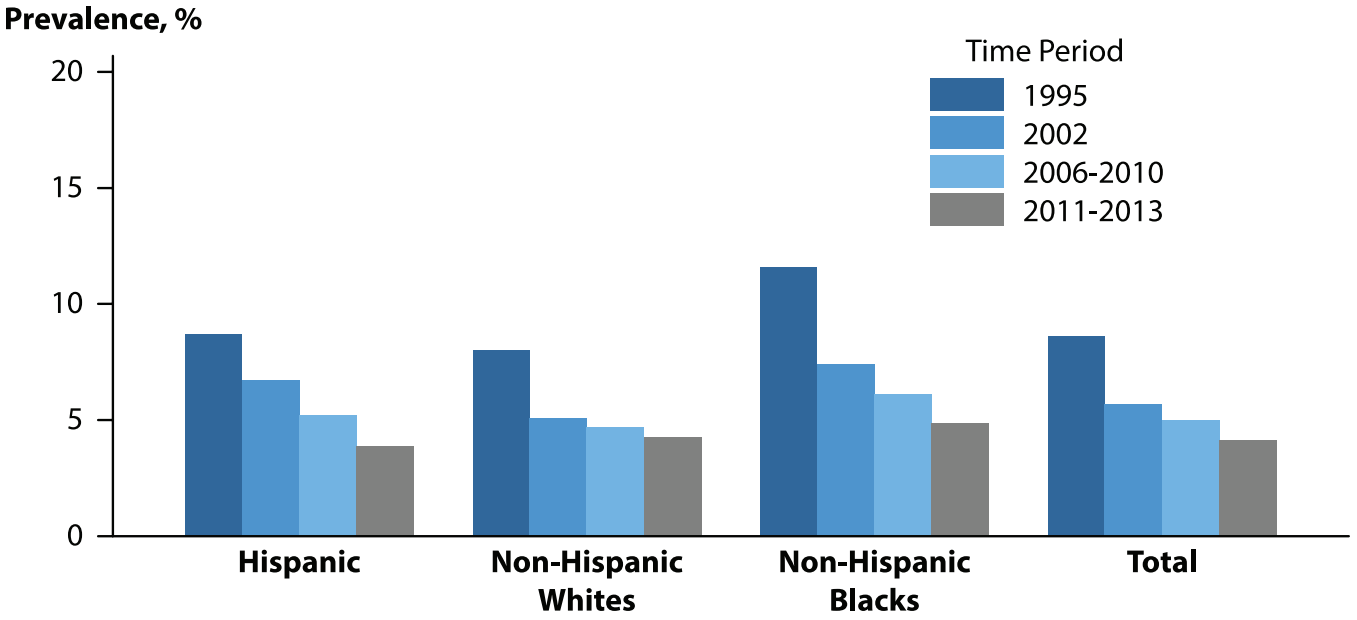
NOTE: The total rate of congenital syphilis for infants by year of birth for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 12.4 cases per 100,000 live births.

Figure E. Pelvic Inflammatory Disease — Initial Visits to Physicians' Offices Among Women Aged 15–44 Years, United States, 2006–2014



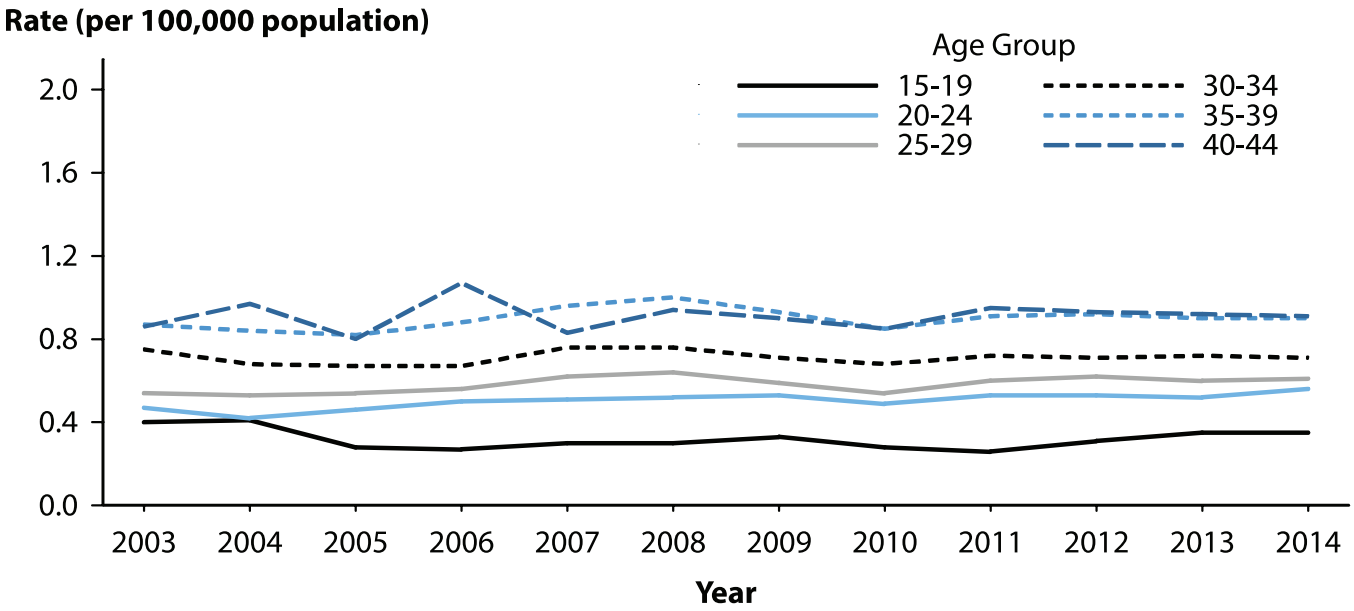
NOTE: The relative standard errors for these estimates are 16% to 23%. See section A2 in the Appendix for more information on other data sources and Table 45.
SOURCE: National Disease and Therapeutic Index, IMS Health, Integrated Promotional Services™, IMS Health Report, 1966–2014. The 2015 data were not obtained in time to include them in this report.

Figure F. Pelvic Inflammatory Disease — Lifetime Prevalence of Treatment Among Sexually Experienced Women Aged 15–44 Years by Race/Ethnicity and Time Period, National Survey of Family Growth, 1995, 2002, 2006–2010, 2011–2013



SOURCE: Leichliter, J, Chandra A, Aral SO. Correlates of Self-Reported Pelvic Inflammatory Disease Treatment in Sexually Experienced Reproductive-Aged Women in the United States, 1995, 2002, and 2006–2010. Sex Transm Dis. 2013;40(5):413–418. Additional data for 2011–2013 provided separately.

Figure G. Ectopic Pregnancy — Rates Among Commercially Insured Pregnant Women Aged 15–44 Years by Age Group, 2003–2014



SOURCE: MarketScan Commercial Claims and Encounters Database, Truven Health Analytics, Ann Arbor, MI, 2003–2014.

STDs in Adolescents and Young Adults

Public Health Impact

Incidence and prevalence estimates suggest that young people aged 15–24 years acquire half of all new STDs[1] and that 1 in 4 sexually active adolescent females has an STD, such as chlamydia or human papillomavirus (HPV).[2] Compared with older adults, sexually active adolescents aged 15–19 years and young adults aged 20–24 years are at higher risk of acquiring STDs for a combination of behavioral, biological, and cultural reasons. For some STDs, such as chlamydia, adolescent females may have increased susceptibility to infection because of increased cervical ectopy. Cervical ectopy refers to columnar cells, which are typically located within the cervical canal, being located on the outer surface of the cervix. Although this is a normal finding in adolescent and young women, these cells are more susceptible to infection. The higher prevalence of STDs among adolescents may also reflect multiple barriers to accessing quality STD prevention and management services, including inability to pay, lack of transportation, long waiting times, conflict between clinic hours and work and school schedules, embarrassment attached to seeking STD services, method of specimen collection, and concerns about confidentiality (e.g., Explanation of Benefits for services received mailed to parents or guardians).[3]

Traditionally, intervention efforts have targeted individual level factors associated with STD risk which do not address higher-level factors (e.g., peer norms and media influences) that may also influence behaviors.[4] Interventions for at-risk adolescents and young adults that address underlying aspects of the social and cultural conditions affecting sexual risk-taking behaviors are needed, as are strategies designed to improve the underlying social conditions themselves.[5,6] In addition, in designing STD programs, consideration should be given to the needs of adolescent and young adult populations including extended hours, optimizing privacy in waiting rooms, and urine based specimen collection.[3]

Observations

Chlamydia

In 2015, there were 981,359 reported cases of chlamydial infection among persons aged 15–24 years, representing 64.3% of all reported chlamydia cases. Among those aged 15–19 years, the rate of reported cases of chlamydia increased 2.5% during 2014–2015 (1,811.9 to 1,857.8 cases per 100,000 population) (Table 10). Among those aged 20–24 years, the rate increased 4.2% during 2014–2015 (2,472.0 to 2,574.9 cases per 100,000 population) (Table 10).

Among women aged 15–24 years, the population targeted for chlamydia screening, the overall rate of reported cases of chlamydia was 3,377.6 cases per 100,000 females. Among men aged 15–24 years, the overall rate of reported cases of chlamydia was 1,132.5 cases per 100,000 males. Rates varied by state for both males and females, with the majority of states having the highest reported case rates in the South (Figures H and I).

15–19 Year Old Females — In 2015, the rate of reported chlamydia cases among women aged 15–19 years was 2,994.4 cases per 100,000 females, a 1.5% increase from the 2014 rate of 2949.3 cases per 100,000 females (Table 10). Increases in rates of reported cases of chlamydia were largest among 17–, 18–, and 19–year old women (2.1%, 2.8%, and 2.2% increases, respectively) (Table 12). However, during 2011–2015, the rate for women in this age group decreased 14.1% (Table 10).

20–24 Year Old Females — In 2015, women aged 20–24 years had the highest rate of reported chlamydia cases (3,730.3 cases per 100,000 females) compared with any other age group for either sex (Figure 5, Table 10). The overall rate of reported chlamydia cases among women in this age group increased 2.7% during 2014–2015 (Table 10). However, increases in rates of reported cases of chlamydia were largest among 23– and 24–year old women (3.0% and 5.9% increases, respectively) (Table 12). Similarly, during 2011–2015, the rate for women in this age group increased 2.8% (Table 10).

15–19 Year Old Males — In 2015, the rate of reported chlamydia cases among men aged 15–19 years was 767.6 cases per 100,000 males. During 2014–2015, the rate of reported chlamydia cases for men in this age group increased 6.3% (Table 10). However, during 2011–2015, the rate for men aged 15–19 years decreased 6.0% (Table 10).

20–24 Year Old Males — In 2015, as in previous years, men aged 20–24 years had the highest rate of reported chlamydia cases among all men (1,467.8 cases per 100,000 males). The rate for men in this age group increased 7.8% during 2014–2015 (Table 10). Similarly, during 2011–2015, the rate for men aged 20–24 years increased 12.2% (Table 10).

Gonorrhea

During 2014–2015, the rate of reported gonorrhea cases increased 5.2% for persons aged 15–19 years and 7.2% for persons aged 20–24 years (Table 21). Among women aged 15–24 years, the rate was 496.7 cases per 100,000 females. Rates varied by state, with the majority of states with the highest reported case rates in the South (Figure J). Among men aged 15–24 years, the overall rate was 398.2 cases per 100,000 males. Rates varied by state, with the majority of states having the highest reported case rates in the South (Figure K).

15–19 Year Old Females — In 2015, women aged 15–19 years had the second highest rate of reported gonorrhea cases (442.2 cases per 100,000 females) compared with other women (Figure 17, Table 21). During 2014–2015, the rate of reported gonorrhea for women in this age group increased 2.4%. However, during 2011–2015, the rate for women in this age group decreased 22.1% (Table 21).

20–24 Year Old Females — In 2015, women aged 20–24 years had the highest rate of reported gonorrhea cases (546.9 cases per 100,000 females) compared with any other age group for either sex (Figure 17, Table 21). During 2014–2015, the rate of reported gonorrhea for women in this age group increased 3.0%. However, during 2011–2015, the rate for women in this age group decreased 4.0% (Table 21).

15–19 Year Old Males — In 2015, the rate of reported gonorrhea cases among men aged 15–19 years was 244.8 cases per 100,000 males (Figure 17, Table 21). During 2014–2015, the rate of reported gonorrhea for men in this age group increased 10.1%. However, during 2011–2015, the rate for men in this age group decreased 3.1% (Table 21).

20–24 Year Old Males — In 2015, as in previous years, men aged 20–24 years had the highest rate of reported gonorrhea cases (539.1 cases per 100,000 males) compared with other men (Figure 17, Table 21). During 2014–2015, the rate of reported gonorrhea for men in this age group increased 11.6%. Similarly, during 2011–2015, the rate for men in this age group increased 22.9% (Table 21).

Primary and Secondary Syphilis

During 2014–2015, the rate of reported primary and secondary (P&S) syphilis cases increased 10.2% among persons aged 15–19 years and 14.9% among persons aged 20–24 years (Table 34).

15–19 Year Old Females — The rate of reported P&S syphilis cases among women aged 15–19 years decreased each year during 2009–2013 (from 3.3 to 1.9 cases per 100,000 females) (Figure 37, Table 34). However, the rate increased in 2014 and again in 2015. During 2014–2015, the rate increased 12.0%, from 2.5 to 2.8 cases per 100,000 females (Figure 37, Table 34).

20–24 Year Old Females — In 2015, women aged 20–24 years had the highest rate of P&S syphilis (5.1 cases per 100,000 females) compared with other women (Figure 36, Table 34). The P&S syphilis rate among women in this age group has increased each year since 2011 (Figure 37, Table 34). During 2014–2015, the rate increased 13.3%.

15–19 Year Old Males — In 2015, the rate of reported P&S syphilis among men aged 15–19 years was 8.0 cases per 100,000 males (Figure 36, Table 34). The P&S syphilis rate among men in this age group has increased each year since 2011 (Figure 38, Table 34). During 2014–2015, the rate increased 12.7%.

20–24 Year Old Males — In 2015, men aged 20–24 years had the second highest rate of reported P&S syphilis cases compared with any other age group for either sex (Figure 36). The P&S syphilis rate among men in this age group has increased each year since 2006 (Figure 38, Table 34). During 2014–2015, the rate increased 15.5%, from 30.9 to 35.7 cases per 100,000 males.

National Job Training Program

The National Job Training Program (NJTP) is an educational program for socioeconomically disadvantaged youth aged 16–24 years and is administered at more than 100 sites throughout the country. The NJTP screens participants for chlamydia and gonorrhea within two days of entry to the program. All of NJTP's chlamydia screening tests and the majority of gonorrhea screening tests are conducted by a single national contract laboratory*. To increase the stability of the estimates, chlamydia or gonorrhea prevalence data are presented when valid test results for 100 or more students per year are available for the population subgroup and state. Additional information about NJTP can be found in Section A2.1 in the Appendix.

Among women entering the program in 43 states and Puerto Rico, the median state-specific chlamydia prevalence in 2015 was 12.7% (range: 5.4% to 20.5%) (Figure L). Among men entering the program in 48 states, the District of Columbia and Puerto Rico, the median state-specific chlamydia prevalence was 7.5% (range: 2.6% to 12.3%) (Figure M).

Among women entering the program in 43 states and Puerto Rico, the median state-specific gonorrhea prevalence in 2015 was 1.9% (range: 0.0% to 6.8%) (Figure N). Among men entering the program in 39 states and Puerto Rico, the median state-specific gonorrhea prevalence was 0.7% (range: 0.0% to 2.9%) (Figure O).

* Laboratory tests are conducted by the Center for Disease Detection, LLC San Antonio, Texas.

[1] Satterwhite CL, Torrone E, Meites E, et al. Sexually transmitted infections among US women and men: prevalence and incidence estimates, 2008. Sex Trans Dis. 2013;40(3)187-93.

[2] Forhan SE, Gottlieb SL, Sternberg MR, et al. Prevalence of sexually transmitted infections among female adolescents aged 14 to 19 in the United States. Pediatrics. 2009;124(6):1505-12.

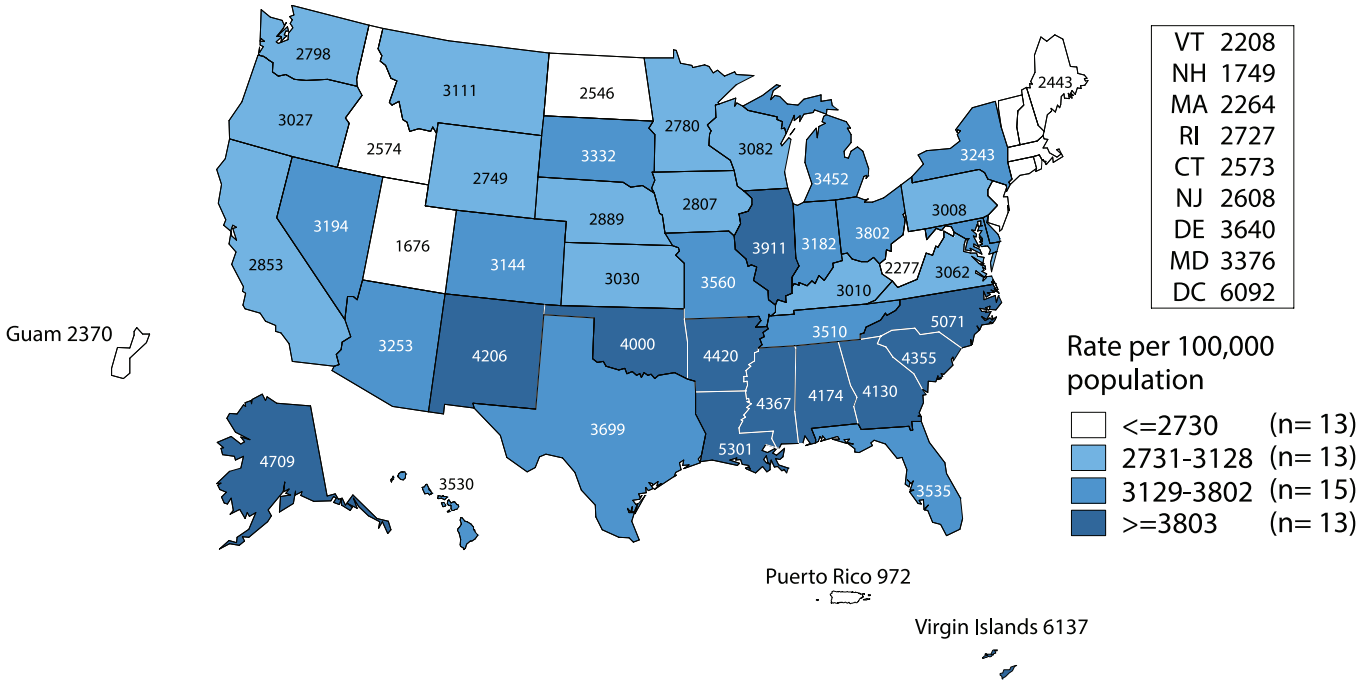
[3] Tilson EC, Sanchez V, Ford CL, et al. Barriers to asymptomatic screening and other STD services for adolescents and young adults: focus group discussions. BMC Public Health. 2004;4:21.

[4] DiClemente RJ, Salazar LF, Crosby RA. A review of STD/HIV preventive interventions for adolescents: sustaining effects using an ecological approach. J Pediatr Psychol. 2007;32(8):888-906.

[5] Sieving RE, Bernat DH, Resnick MD, et al. A clinic-based youth development program to reduce sexual risk behaviors among adolescent girls: prime time pilot study. Health Promot Pract. 2012;13(4):462-71.

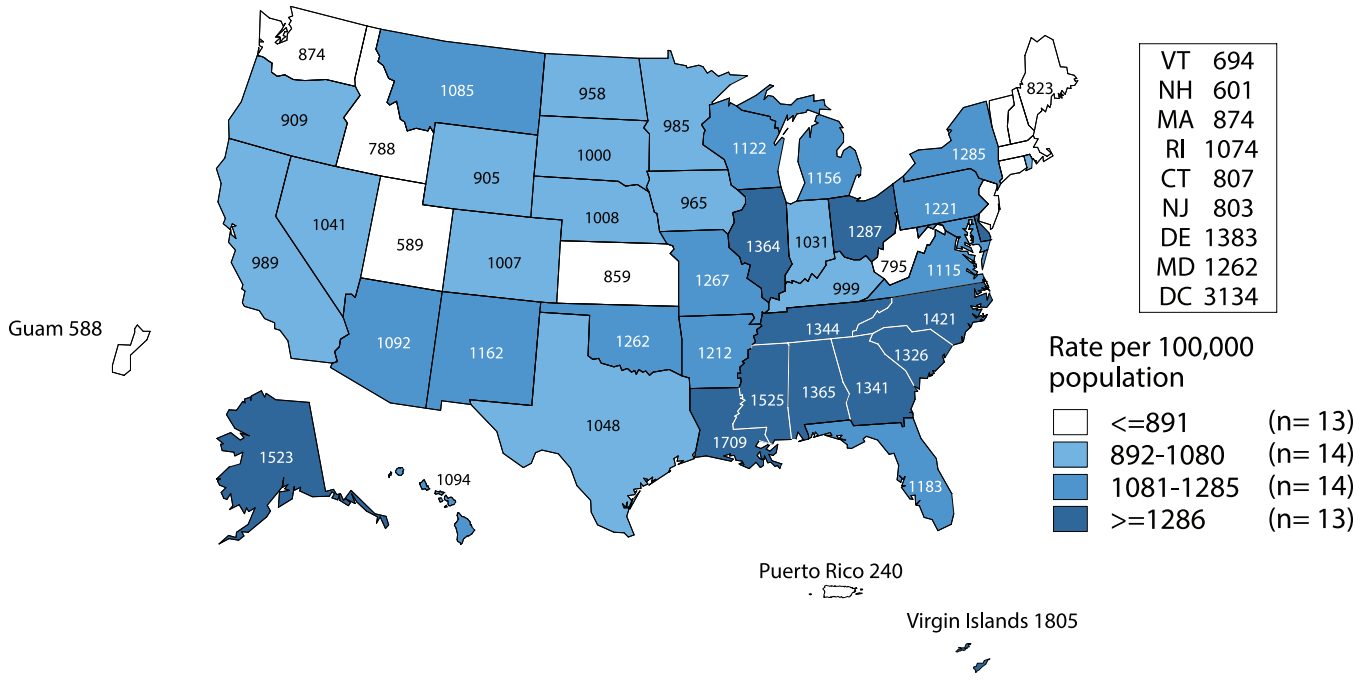
[6] Upchurch DM, Mason WM, Kusunoki Y, et al. Social and behavioral determinants of self-reported STD among adolescents. Perspect Sex Reprod Health. 2004;36(6):276-87.

Figure H. Chlamydia — Rates of Reported Cases Among Women Aged 15–24 Years by State, United States and Outlying Areas, 2015



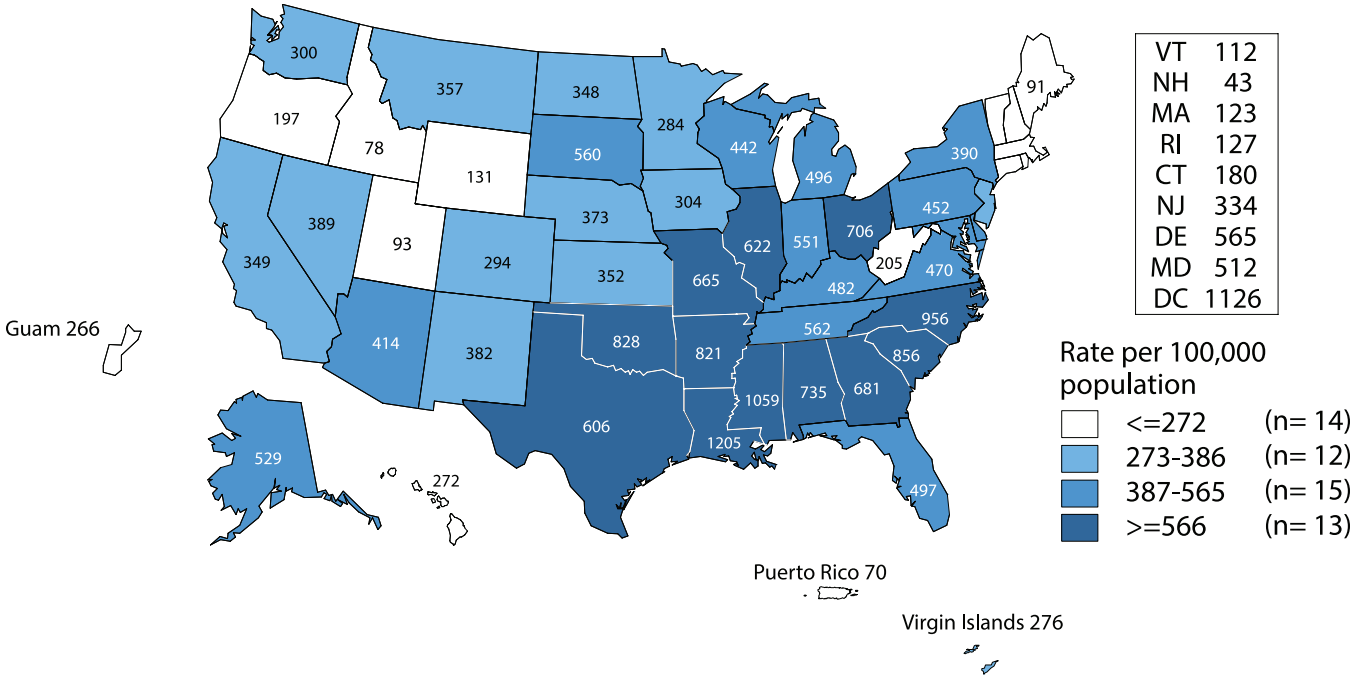
NOTE: Rates for Guam and the Virgin Islands were calculated by using the 2010 population estimates (see Section A1.2 in the Appendix).

Figure I. Chlamydia — Rates of Reported Cases Among Men Aged 15–24 Years by State, United States and Outlying Areas, 2015



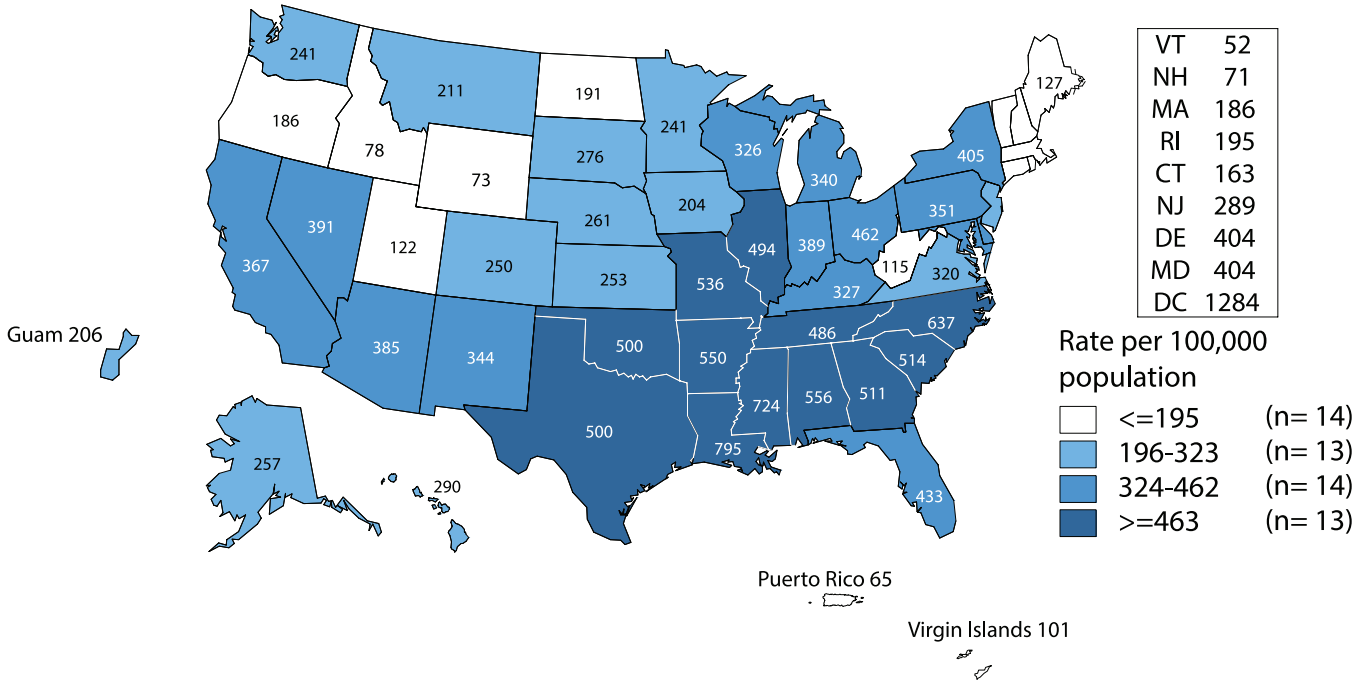
NOTE: Rates for Guam and the Virgin Islands were calculated by using the 2010 population estimates (see Section A1.2 in the Appendix).

Figure J. Gonorrhea — Rates of Reported Cases Among Women Aged 15–24 Years by State, United States and Outlying Areas, 2015



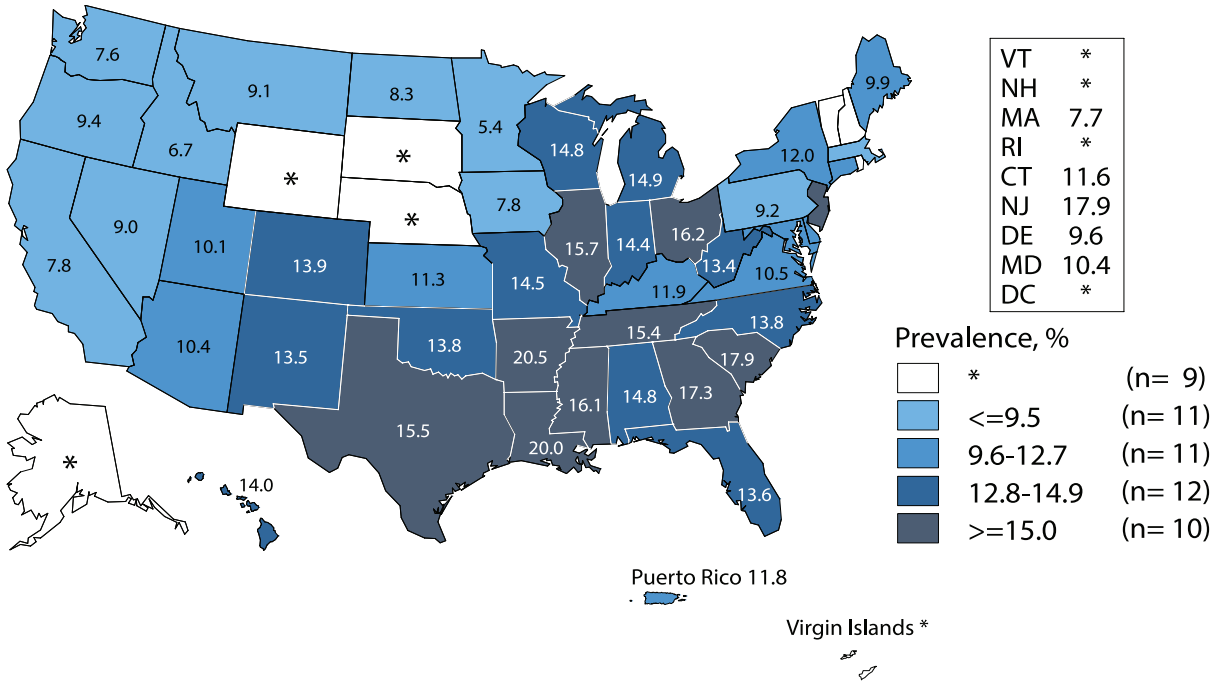
NOTE: Rates for Guam and the Virgin Islands were calculated by using the 2010 population estimates (see Section A1.2 in the Appendix).

Figure K. Gonorrhea — Rates of Reported Cases Among Men Aged 15–24 Years by State, United States and Outlying Areas, 2015



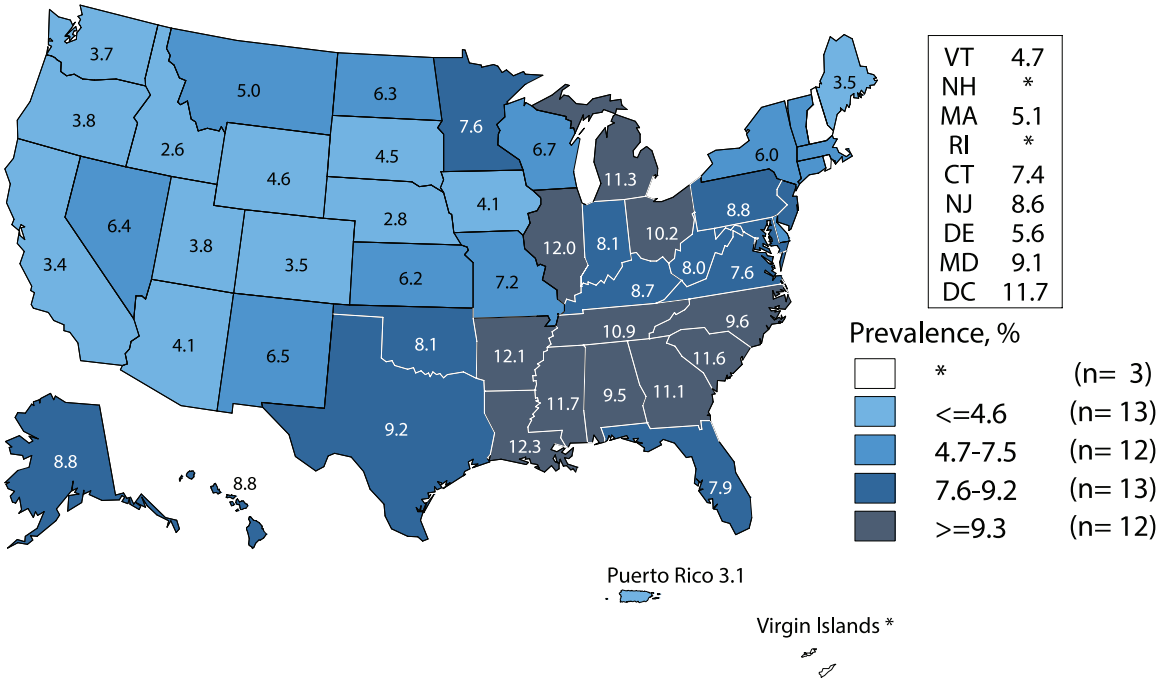
NOTE: Rates for Guam and the Virgin Islands were calculated by using the 2010 population estimates (see Section A1.2 in the Appendix).

Figure L. Chlamydia — Prevalence Among Women Aged 16–24 Years Entering the National Job Training Program (NJTP) by State of Residence, United States and Outlying Areas, 2015



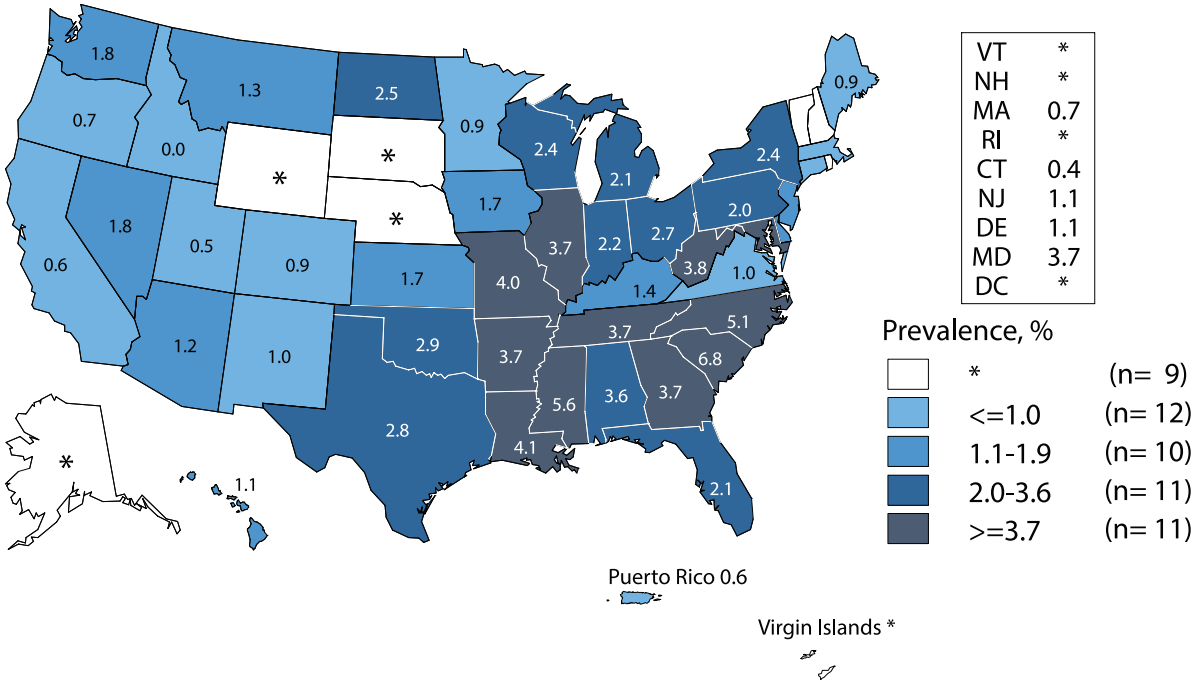
* Fewer than 100 women who resided in these states/areas and entered the NJTP were screened for chlamydia in 2015.
NOTE: See Section A2.1 in the Appendix for more information regarding NJTP methods.

Figure M. Chlamydia — Prevalence Among Men Aged 16–24 Years Entering the National Job Training Program (NJTP) by State of Residence, United States and Outlying Areas, 2015



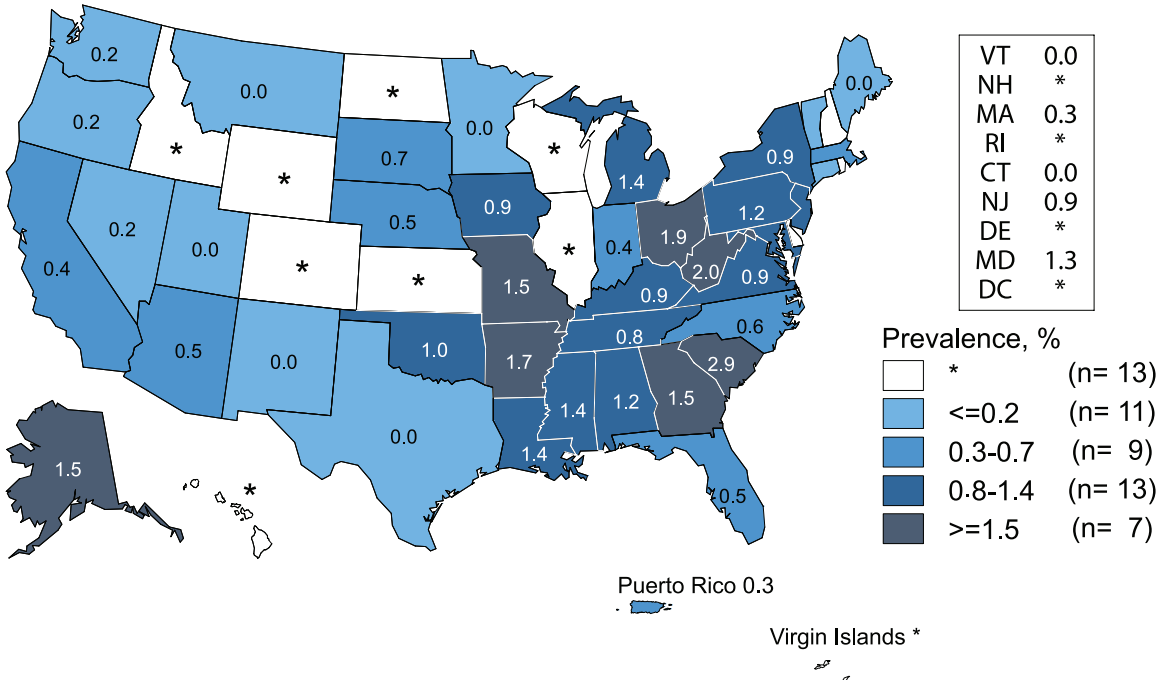
* Fewer than 100 men who resided in these states/areas and entered the NJTP were screened for chlamydia in 2015.
NOTE: See Section A2.1 in the Appendix for more information regarding NJTP methods.

Figure N. Gonorrhea — Prevalence Among Women Aged 16–24 Years Entering the National Job Training Program (NJTP) by State of Residence, United States and Outlying Areas, 2015



* Fewer than 100 women who resided in these states/areas and entered the NJTP were screened for gonorrhea in 2015.
NOTE: See Section A2.1 in the Appendix for more information regarding NJTP methods.

Figure O. Gonorrhea — Prevalence Among Men Aged 16–24 Years Entering the National Job Training Program (NJTP) by State of Residence, United States and Outlying Areas, 2015



* Fewer than 100 men who resided in these states/areas and entered the NJTP were screened for gonorrhea in 2015.
NOTE: See Section A2.1 in the Appendix for more information regarding NJTP methods.

STDs in Racial and Ethnic Minorities

Public Health Impact

Surveillance data show higher rates of reported STDs among some racial or ethnic minority groups when compared with rates among Whites.[1,2] Race and Hispanic ethnicity in the United States are population characteristics that are correlated with other fundamental determinants of health status such as high rates of poverty, income inequality, unemployment and low educational attainment.[3-5] Those who cannot afford basic necessities may have trouble accessing and affording quality sexual health services.[6] The overall proportion of the U.S. population living in poverty in 2014, the most recent year for which poverty statistics are available, was 14.8% (or 46.7 million) and remained statistically unchanged from the previous year. Although the overall poverty rate is currently stable, many Americans continue to face challenges overcoming inequalities in economic opportunity. The poverty rate for Whites was 10.1% (19.7 million), for Blacks it was 26.2% (or 10.8 million), and for Hispanics it was 23.6% (or 13.1 million).[3] People who struggle financially are often experiencing life circumstances that potentially increase their risk for STDs.[6]

Access to quality STD prevention and treatment services is key to reducing STD disparities in the United States. In March 2010 the Patient Protection and Affordable Care Act (ACA) was signed into law significantly increasing the availability of insurance coverage for all Americans, particularly for young adults aged 19–26 years – an important demographic for STD prevention.[7] Of the estimated 19 million new cases of sexually transmitted infections that occur each year, approximately half of the cases occur among people aged 15–24 years.[8] Although the overall proportion of adults without health insurance decreased from 13.3% in 2013 to 10.4% (or 316 million) in 2014, many people in the U.S. may still not have access to health care.[9] For example many of the states with the highest burden of STDs and disparities in STD incidence did not expand Medicaid coverage as the ACA allowed.[10] Among all races and ethnicities in the U.S., Hispanics had the lowest rate of health insurance coverage in 2014 at 80.1%.[9,12,14]

Non-U.S. citizens (i.e., immigrants or undocumented persons) may face additional barriers in accessing care. In 2014, 31.2% (or 7 million) of non-U.S. citizens did not have health insurance coverage. Even when health care is available, fear and distrust of health care institutions can negatively affect the health care-seeking experience for many racial/ethnic minorities when there is social discrimination, provider bias, or the perception that these may exist.[14] Moreover, the quality of care may differ substantially for minority patients.[15] Inequities in social and economic conditions are reflected in the profound disparities observed in the incidence of STDs among some racial and ethnic minorities.

In communities where STD prevalence is higher because of these inequalities, individuals may have a more difficult time reducing their risk for infection. With each sexual encounter, they face a greater chance of encountering an infected partner than those in lower prevalence settings.[2] Acknowledging inequities in STD rates by race or ethnicity is one of the first steps in empowering affected communities to organize and focus on this problem.

STD Reporting Practices

Surveillance data are based on cases of STDs reported to state and local health departments (see Section A.1 in the Appendix). In many state and local health departments, electronic laboratory reporting is increasingly a primary source of initial case notification. The reports are often missing race and ethnicity of the patient; ascertainment of information on race and Hispanic ethnicity is therefore a function of active follow-up, or dependent on previous information available about the patient in existing health department surveillance databases. Prevalence data from population-based surveys, such as the National Health and Nutrition Examination Survey (NHANES) and the National Longitudinal Study of Adolescent Health, confirm the existence of marked STD disparities in some minority populations.[16, 17]

Method of Classifying Race & Hispanic Ethnicity

Interpretation of racial and ethnic disparities among persons with STDs is influenced by data collection methods and by the categories by which these data are displayed. Race/ethnicity data are presented in Office of Management and Budget (OMB) race and ethnic categories, according to the 1997 revised OMB standards. However, the National Center for Health Statistics (NCHS) bridged-race categories are used where OMB categories are not available (i.e., congenital syphilis).[18] As of 2015, fifty states and/or reporting jurisdictions now collect and report data in OMB-compliant formats for chlamydia and gonorrhea and 49 states and/or reporting jurisdictions report syphilis cases in OMB-compliant formats. Historical trend and rate data by race and Hispanic ethnicity displayed in figures and interpreted in this report for 2011–2015 include only those states and/or reporting jurisdictions (45 jurisdictions for chlamydia, gonorrhea and syphilis) reporting in the current standard

consistently for all years from 2011 through 2015 (See Section A1.5 of the Appendix for additional information on reporting of race and Hispanic ethnicity).

Completeness of Race/Ethnicity Data in 2015

Chlamydia — 29.3% of chlamydia case reports were missing race or ethnicity data, ranging by jurisdiction from 0.9% to 100% (Table A1).

Gonorrhea — 19.8% of gonorrhea case reports were missing information on race or ethnicity, ranging by jurisdiction from 0.0% to 100% (Table A1).

Syphilis — 4.4% of P&S syphilis case reports were missing information on race or ethnicity, ranging from 0.0% to 100% among jurisdiction with 10 or more cases of P&S syphilis (Table A1).

Observations

Chlamydia

Among the 45 states that submitted data on race and ethnicity for each year during 2011–2015 according to the OMB standards, rates of reported chlamydia cases increased during that time frame among Asians (7.8%), Native Hawaiians/Other Pacific Islanders (8.9%), Whites (14.6%), and Multirace persons (43.1%), and decreased among Blacks (11.2%) (Figure 6). Rates were stable among American Indians/Alaska Natives and Hispanics during 2011–2015.

In 2015, 50 states submitted data on race and ethnicity according to the OMB standards. The following data pertain to those states:

Blacks — In 2015, the overall rate of reported chlamydia cases among Blacks in the United States was 1,097.6 cases per 100,000 population (Table 11B). The rate among Black women was 5.4 times the rate among White women (1,384.8 and 256.7 cases per 100,000 females, respectively) (Figure P and Table 11B). The rate among Black men was 6.8 times the rate among White men (782.0 and 115.4 cases per 100,000 males, respectively). Rates of reported cases of chlamydia were highest for Blacks aged 15–19 and 20–24 years in 2015 (Table 11B). The rate of reported chlamydia cases among Black women aged 15–19 years was 6,340.3 cases per 100,000 females, which was 4.7 times the rate among White women in the same age group (1,339.1 cases per 100,000 females). The rate among Black women aged 20–24 years was 3.9 times the rate among White women in the same age group (6,782.5 and 1,737.8 cases per 100,000 females, respectively) (Table 11B).

Similar racial disparities in reported chlamydia rates exist among men. Among males aged 15–19 years, the rate of reported chlamydia cases among Blacks was 8.8 times the rate among Whites (2,119.6 and 240.3 cases per 100,000 males, respectively) (Table 11B). The rate among Black men aged 20–24 years was 4.9 times the rate among White men of the same age group (3128.8 and 637.2 cases per 100,000 males, respectively).

American Indians/Alaska Natives — In 2015, the rate of reported chlamydia cases among American Indians/Alaska Natives was 709.1 cases per 100,000 population (Table 11B). Overall, the rate of chlamydia among American Indians/Alaska Natives in the United States was 3.8 times the rate among Whites.

Native Hawaiians/Other Pacific Islanders — In 2015, the rate of reported chlamydia cases among Native Hawaiians/Other Pacific Islanders was 622.1 cases per 100,000 population (Table 11B). The overall rate among Native Hawaiians/Other Pacific Islanders was 3.3 times the rate among Whites and 5.5 times the rate among Asians.

Hispanics — In 2015, the rate of reported chlamydia cases among Hispanics was 372.7 cases per 100,000 population, which is 2.0 times the rate among Whites (Table 11B).

Asians — In 2015, the rate of reported chlamydia cases among Asians was 114.1 cases per 100,000 population (Table 11B). The overall rate among Whites is 1.6 times the rate among Asians.

Gonorrhea

Among 45 states submitting race and ethnicity data consistently according to OMB standards for all years from 2011–2015, rates of reported gonorrhea cases increased 75.1% among Whites (26.1 to 45.7 cases per 100,00 population), 71.3% among American Indians/Alaska Natives (104.5 to 179.0 cases per 100,000 population), 70.0% among Asians (14.0 to 23.8 cases per 100,000 population), 61.0% among Native Hawaiians/Other Pacific Islanders (72.6 to 116.9 cases per 100,000 population), and 53.8% among Hispanics (52.4 to 80.6 cases per 100,000 population) (Figure 20). The gonorrhea rate decreased 4.0% among Blacks (451.3 to 433.3 cases per 100,000 population).

In 2015, 50 states submitted data on race and ethnicity according to the OMB standards. The following data pertain to those states:

Blacks — In 2015, 42.2% of reported gonorrhea cases with known race and ethnicity occurred among Blacks (excluding cases with missing information on race or ethnicity, and cases whose reported race or ethnicity was Other) (Table 22A). The rate of gonorrhea among Blacks

in 2015 was 424.9 cases per 100,000 population, which was 9.6 times the rate among Whites (44.2 cases per 100,000 population) (Table 22B). Although the calculated rate ratio for 2015 differs when considering only the 45 jurisdictions that submitted data in race and ethnic categories according to the OMB standards for each year during 2011–2015, this disparity has decreased slightly in recent years (Figure Q). In 2015, this disparity was similar for Black men (9.6 times the rate among White men) and Black women (9.7 times the rate among White women) (Figure R, Table 22B). As in previous years, the disparity in gonorrhea rates for Blacks in 2015 was larger in the Midwest and Northeast than in the West or the South (Figure S).

Considering all racial/ethnic and age categories, rates of gonorrhea were highest for Blacks aged 20–24, 15–19, and 25–29 years in 2015 (Table 22B). Black women aged 20–24 years had a gonorrhea rate of 1,760.5 cases per 100,000 females, which was 9.0 times the rate among White women in the same age group (195.8 cases per 100,000 females). Black women aged 15–19 years had a gonorrhea rate of 1,547.3 cases per 100,000 females, which was 11.3 times the rate among White women in the same age group (136.4 cases per 100,000 females). Black men aged 20–24 years had a gonorrhea rate of 1,681.5 cases per 100,000 males, which was 9.5 times the rate among White men in the same age group (176.1 cases per 100,000 males). Black men aged 25–29 years had a gonorrhea rate of 1,415.0 cases per 100,000 males, which was 8.2 times the rate among White men in the same age group (173.6 cases per 100,000 males).

American Indians/Alaska Natives — In 2015, the gonorrhea rate among American Indians/Alaska Natives was 192.8 cases per 100,000 population, which was 4.4 times the rate among Whites (Table 22B). The disparity between gonorrhea rates for American Indians/Alaska Natives and Whites was larger for American Indian/Alaska Native women (6.1 times the rate among White women) than for American Indian/Alaska Native men (3.0 times the rate among White men) (Figure R, Table 22B). The disparity in gonorrhea rates for American Indians/Alaska Natives in 2015 was larger in the Midwest than in the West, Northeast, and South (Figure S).

Native Hawaiians/Other Pacific Islanders — In 2015, the gonorrhea rate among Native Hawaiians/Other Pacific Islanders was 123.0 cases per 100,000 population, which was 2.8 times the rate among Whites (Table 22B). The disparity between gonorrhea rates for Native Hawaiians/Other Pacific Islanders and Whites was the same for Native Hawaiian/Other Pacific Islander women (2.8 times the rate among White women) and Native Hawaiian/Other Pacific Islander men (2.8 times the rate among White men) (Figure R, Table 22B). The disparity in gonorrhea rates for Native Hawaiians/Other Pacific Islanders in 2015 was lower in the West than in the Midwest, Northeast, and South (Figure S).

Hispanics — In 2015, the gonorrhea rate among Hispanics was 80.5 cases per 100,000 population, which was 1.8 times the rate among Whites (Table 22B). This disparity was similar for Hispanic women (1.7 times the rate among White women) and Hispanic men (1.9 times the rate among White men) (Figure R, Table 22B). The disparity in gonorrhea rates for Hispanics in 2015 was higher in the Northeast than in the Midwest, South, and West (Figure S).

Asians — In 2015, the gonorrhea rate among Asians was 22.9 cases per 100,000 population, which was 0.5 times the rate among Whites (Table 22B). This difference is larger for Asian women than for Asian men (Figure R, Table 22B). In 2015, rates among Asians were lower than rates among Whites in all four regions of the United States (Figure S).

Primary and Secondary Syphilis

During 2011–2015, 45 states submitted race and Hispanic ethnicity data for syphilis for each year according to the OMB standards. In these states, rates of reported primary and secondary (P&S) syphilis cases increased 130.8% among Asians (1.3 to 3.0 cases per 100,000 population), 102.3% among Hispanics (4.4 to 8.9 cases per 100,000 population), 90.3% among American Indians/Alaska Natives (3.1 to 5.9 cases per 100,000 population), 66.7% among Whites (2.4 to 4.0 cases per 100,000 population), 51.4% among Native Hawaiians/Other Pacific Islanders (7.0 to 10.6 cases per 100,000 population), and 31.8% among Blacks (15.7 to 20.7 cases per 100,000 population) (Figure 39).

In 2015, 49 states submitted syphilis data by race and ethnicity according to the OMB standards. The following data pertain to those states:

Blacks — In 2015, 37.6% of reported P&S syphilis cases with known race/ethnicity occurred among Blacks (excluding cases with missing information on race or ethnicity, and cases whose reported race or ethnicity was Other) (Table 35A). The P&S syphilis rate among Blacks in 2015 was 21.4 cases per 100,000 population, which was 5.2 times the rate among Whites (4.1 cases per 100,000 population) (Table 35B). The disparity was higher for Black women (8.8 times the rate among White women) than for Black men (5.1 times the rate among White men) (Figure T, Table 35B).

Considering all race/ethnicity, sex, and age categories, P&S syphilis rates were highest among Black men aged 20–24 years and 25–29 years in 2015 (Table 35B). Black men aged 20–24 years had a P&S syphilis rate of 110.1 cases per 100,000 males. This rate was 7.6 times the rate

among White men in the same age group (14.5 cases per 100,000 males). Black men aged 25–29 years had a P&S syphilis rate of 133.2 cases per 100,000 males, which was 6.9 times the rate among White men in the same age group (19.4 cases per 100,000 males).

Native Hawaiians/Other Pacific Islanders — In 2015, the P&S syphilis rate among Native Hawaiians/Other Pacific Islanders was 10.4 cases per 100,000 population, which was 2.5 times the rate among Whites (Table 35B). This disparity was similar for Native Hawaiian/Other Pacific Islander women (2.7 times the rate among White women) and Native Hawaiian/Other Pacific Islander men (2.5 times the rate among White men).

Hispanics — In 2015, the P&S syphilis rate among Hispanics was 9.1 cases per 100,000 population, which was 2.2 times the rate among Whites (Table 35B). This disparity was similar for Hispanic women (2.3 times the rate among White women) and Hispanic men (2.2 times the rate among White men).

American Indians/Alaska Natives — In 2015, the P&S syphilis rate among American Indians/Alaska Natives was 5.6 cases per 100,000 population, 1.4 times the rate among Whites (Table 35B). This disparity was larger for American Indian/Alaska Native women (3.5 times the rate among White women) than for American Indian/Alaska Native men (1.2 times the rate among White men).

Asians — In 2015, the P&S syphilis rate among Asians was 3.0 cases per 100,000 population, which was 0.7 times the rate among Whites (Table 35B). This difference was larger for Asian women (0.5 times the rate among White women) than for Asian men (0.8 times the rate among White men).

Congenital Syphilis

Race/ethnicity for cases of congenital syphilis is based on the mother's race/ethnicity. During 2014–2015, rates of reported congenital syphilis cases increased 25.0% among Hispanics and 18.9% among Whites (Figure U, Table 42). However, rates decreased 19.5% among American Indians/Alaska Natives, 15.7% among Asians/Pacific Islanders, and 8.8% among Blacks.

In 2015, 44.9% of congenital syphilis cases with known race/ethnicity occurred among Blacks (excluding cases with missing information on race or ethnicity, and cases whose reported race or ethnicity was 'Other') (Table 42). The rate of congenital syphilis among Blacks in 2015 was 35.2 cases per 100,000 live births, which was 8.0 times the rate among Whites (4.4 cases per 100,000 live births). The rate of congenital syphilis was 15.5 cases per 100,000 live births among Hispanics (3.5 times the rate among Whites), 10.3 cases per 100,000 live births among American Indians/Alaska Natives (2.3 times the rate among Whites), and 5.9 cases per 100,000 live births among Asians/Pacific Islanders (1.3 times the rate among Whites).

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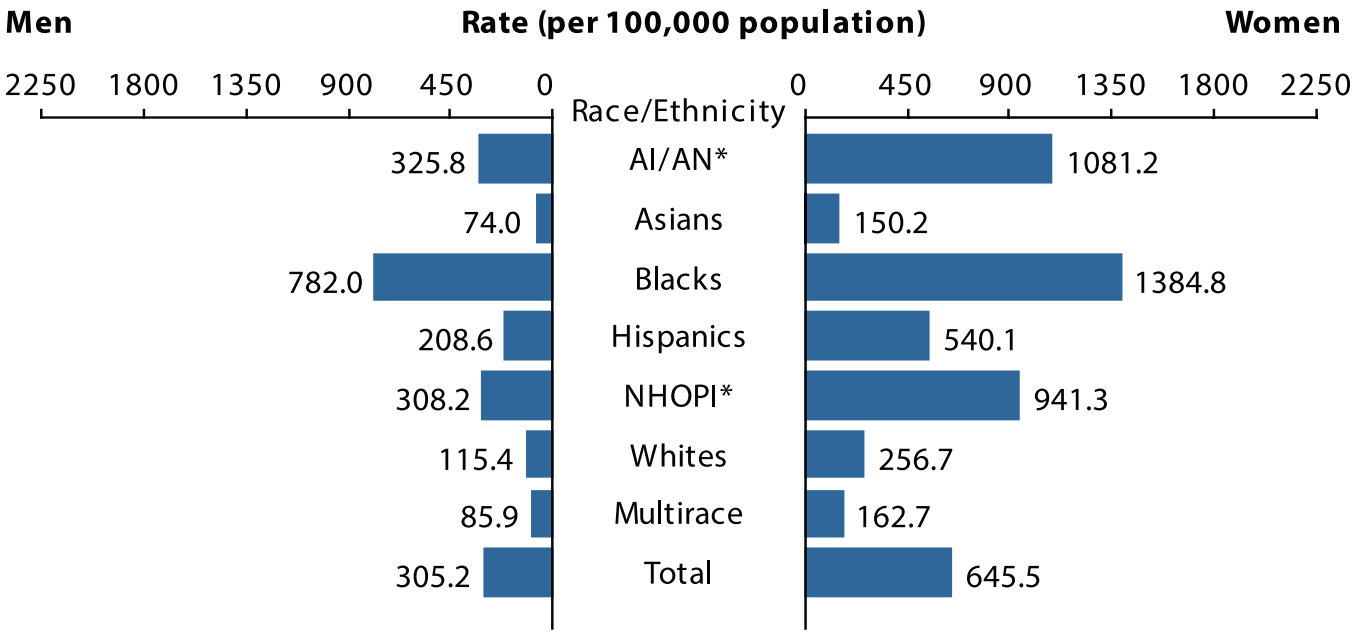
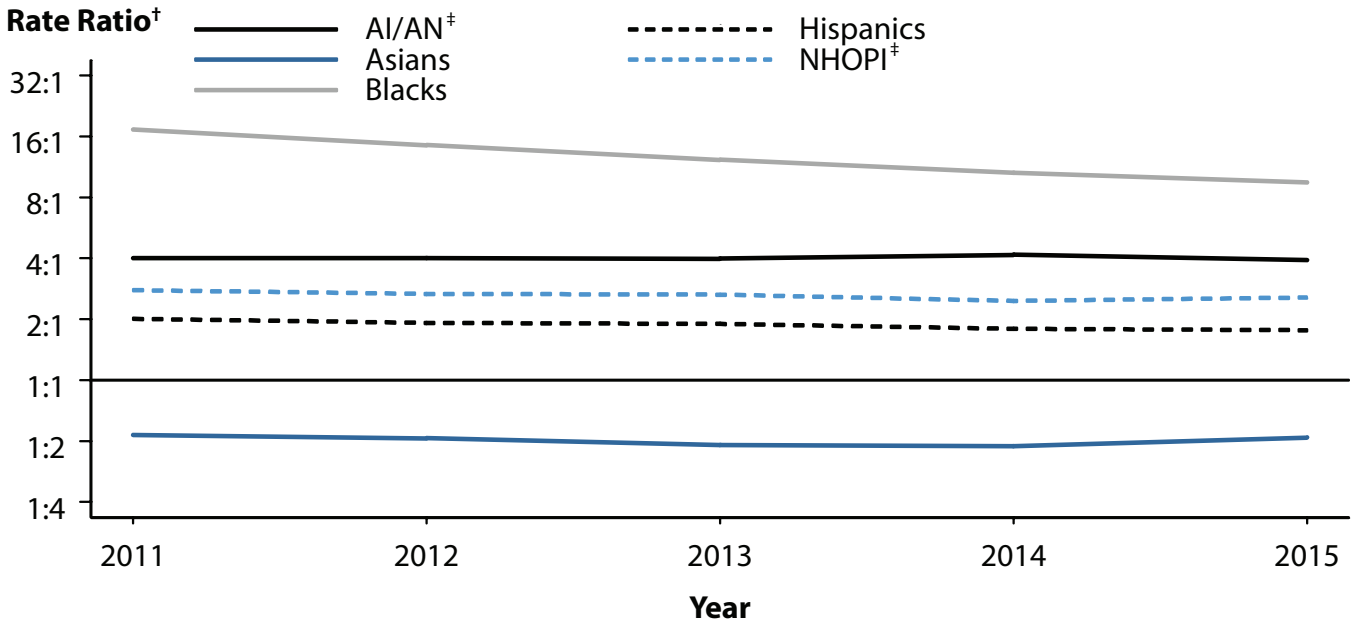
Figure P. Chlamydia — Rates of Reported Cases by Race/Ethnicity and Sex, United States, 2015



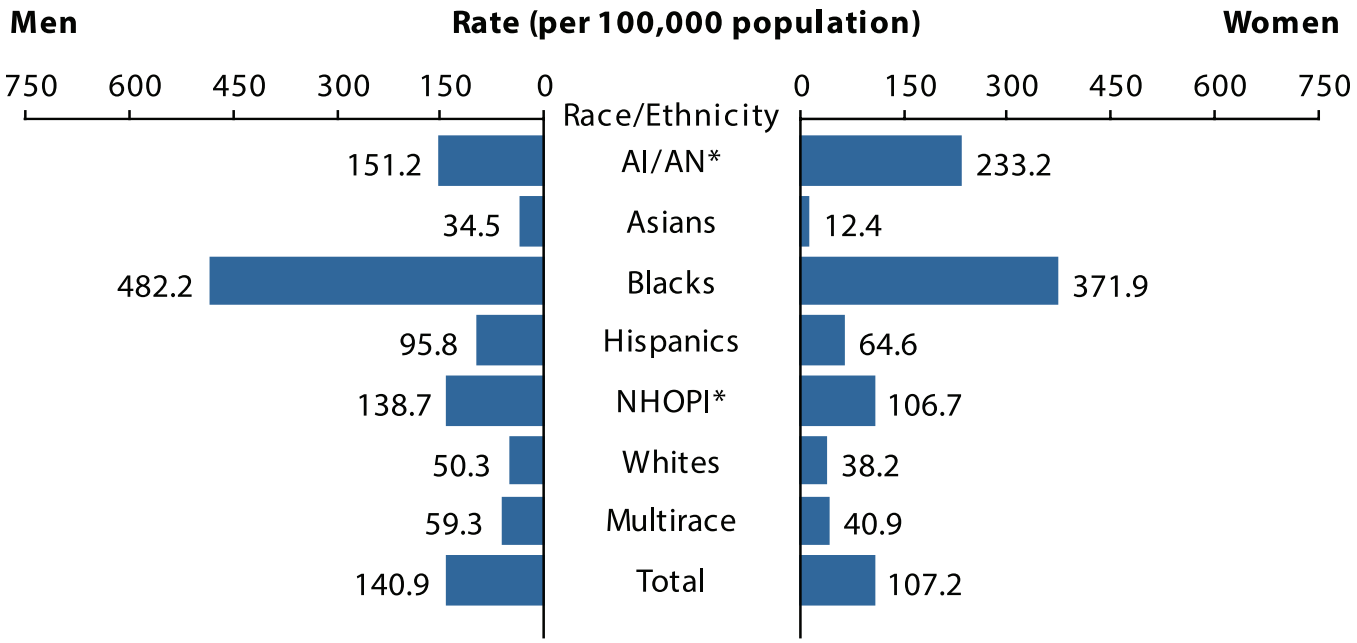
* AI/AN = American Indians/Alaska Natives; NHOPI = Native Hawaiians/Other Pacific Islanders.
NOTE: Includes 50 states reporting race/ethnicity data in Office of Management and Budget compliant formats in 2015 (see Section A1.5 in the Appendix).

Figure Q. Gonorrhea — Rate Ratios* by Race/Ethnicity, United States, 2011–2015



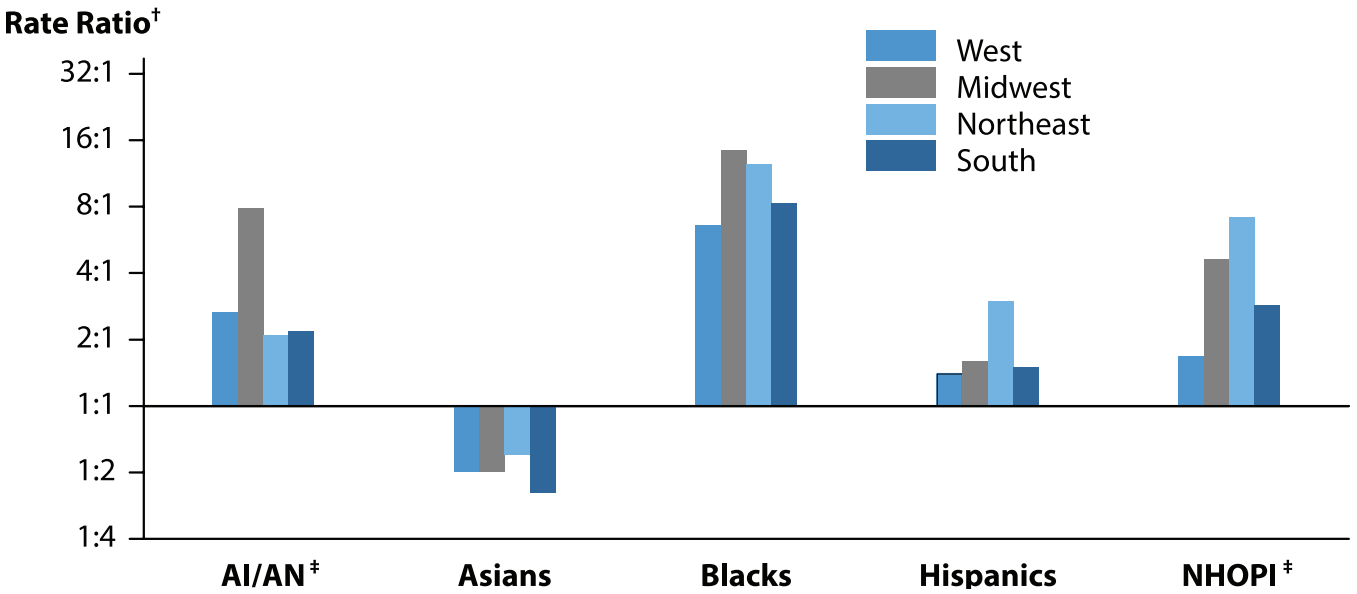
* Rate ratios are calculated as the rate of reported gonorrhea cases per 100,000 population for a given racial or ethnic minority population divided by the rate of reported gonorrhea cases per 100,000 population for Whites. Any population with a lower rate of reported cases of gonorrhea than the White population will have a rate ratio of less than 1:1.
† Y-axis is log scale.
‡ AI/AN = American Indians/Alaska Natives; NHOPI = Native Hawaiians/Other Pacific Islanders.
NOTE: Includes 45 states reporting race/ethnicity data in Office of Management and Budget compliant formats in 2011–2015 (see Section A1.5 in the Appendix).

Figure R. Gonorrhea — Rates of Reported Cases by Race/Ethnicity and Sex, United States, 2015



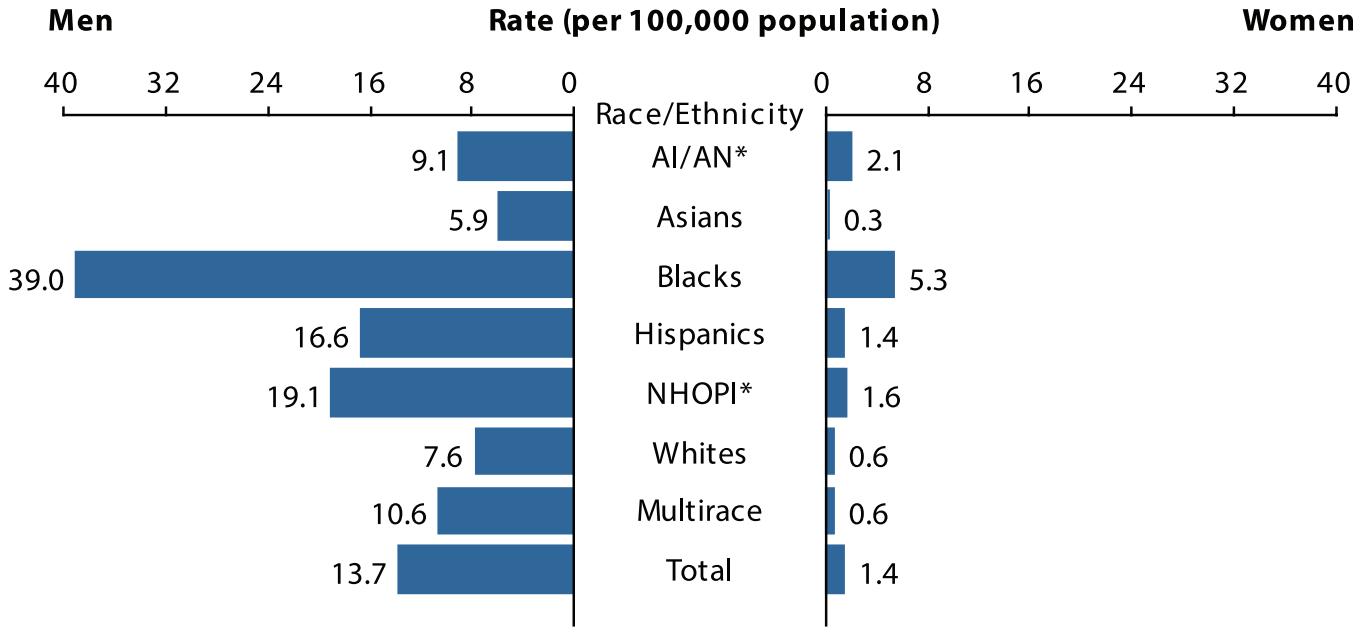
* AI/AN = American Indians/Alaska Natives; NHOPI = Native Hawaiians/Other Pacific Islanders.
NOTE: Includes 50 states reporting race/ethnicity data in Office of Management and Budget compliant formats in 2015 (see Section A1.5 in the Appendix).

Figure S. Gonorrhea — Rate Ratios* by Race/Ethnicity and Region, United States, 2015



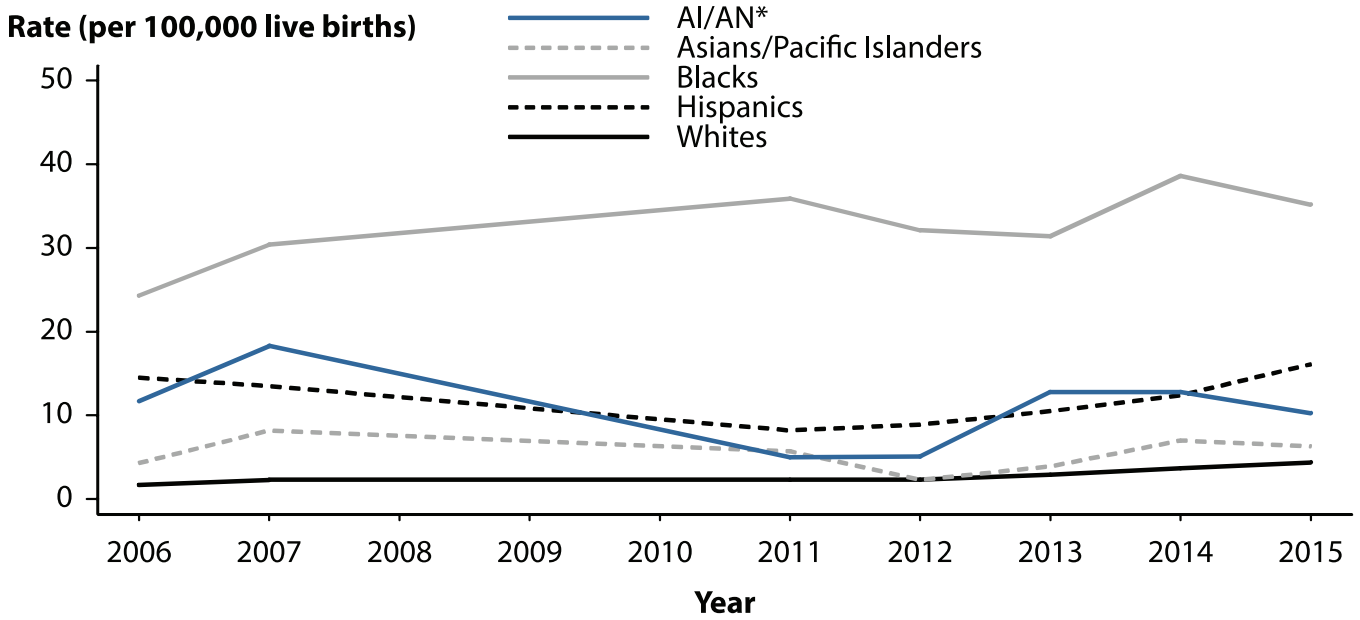
* Rate ratios are calculated as the rate of reported gonorrhea cases per 100,000 population for a given racial or ethnic minority population divided by the rate of reported gonorrhea cases per 100,000 population for Whites. Any population with a lower rate of reported cases of gonorrhea than the White population will have a rate ratio of less than 1:1.
† Y-axis is log scale.
‡ AI/AN = American Indians/Alaska Natives; NHOPI = Native Hawaiians/Other Pacific Islanders.
NOTE: Includes 50 states reporting race/ethnicity data in Office of Management and Budget compliant formats in 2015 (see Section A1.5 in the Appendix).

Figure T. Primary and Secondary Syphilis — Rates of Reported Cases by Race/Ethnicity and Sex, United States, 2015



* AI/AN = American Indians/Alaska Natives; NHOPI = Native Hawaiians/Other Pacific Islanders.
NOTE: Includes 49 states reporting race/ethnicity data in Office of Management and Budget compliant formats in 2015 (see Section A1.5 in the Appendix).

Figure U. Congenital Syphilis — Rates of Reported Cases Among Infants, by Year of Birth and Mother's Race/Ethnicity, United States, 2006–2015



* AI/AN = American Indians/Alaska Natives.
NOTE: National Center for Health Statistics bridged race categories are presented to allow the display of data across several years.

STDs in Men Who Have Sex With Men

Public Health Impact

Gay, bisexual, and other men who have sex with men (collectively referred to as MSM) are at increased risk for STDs, including antimicrobial resistant gonorrhea, when compared to women and exclusively heterosexual men.[1–4] Because STDs, and the behaviors associated with acquiring them, increase the likelihood of acquiring and transmitting HIV infection, STD incidence among MSM may also be an indicator of higher risk for subsequent HIV infection.[5, 6]

Individual-level risk behaviors, such as number of lifetime sex partners, rate of partner exchange and frequency of unprotected sex, may contribute to disparities observed in the sexual health of MSM. However, population-level factors such as limited or overlapping social and sexual networks are also associated with higher rates of STDs, including HIV among MSM.[7]

MSM of lower economic status may be particularly vulnerable to poor health outcomes, especially if they belong to racial and ethnic minority populations.[8, 9] Among Black MSM, factors such as community isolation and limited social support may drive sexual risk-taking. Similarly, for Hispanic MSM, the relationship between individual experiences of oppression (e.g., social discrimination and financial hardship) and risk for sexually transmitted infections in the United States has also been documented.[10]

With the exception of reported syphilis cases, most nationally notifiable STD surveillance data do not include information on sexual behaviors; therefore, trends in STDs among MSM in the United States are based on findings from sentinel and enhanced surveillance systems. Testing strategies are also evolving to include more extragenital STD screening, which may increase detection of asymptomatic infections. Until recently, testing for gonorrhea and chlamydia in MSM largely focused on detecting urethral infections, which are more likely to be symptomatic than pharyngeal or rectal infections.[11]

Data from the STD Surveillance Network (SSuN), a sentinel and enhanced surveillance project established in 2005, are presented in this section to provide supplemental information on STDs in MSM. SSuN is an ongoing collaboration of state, county and city health departments collecting enhanced provider and patient-based information among a random sample of reported gonorrhea cases, as well as clinical and behavioral information among all patients attending STD clinics in collaborating jurisdictions.[12] Additional information about SSuN can be found in Section A2.2 of the Appendix.

Incidence of Gonorrhea among MSM, STD Surveillance Network, 2010–2013

The proportion of all diagnosed and reported gonorrhea cases attributable to MSM was estimated based on patient interviews conducted among a random sample of cases reported to collaborating health departments between January 2010 and June 2013. Estimates of the size of the MSM population in each area were developed to calculate the incidence of gonorrhea among all MSM. The estimated incidence of gonorrhea among MSM in SSuN sites increased from 1,169.7 cases per 100,000 MSM in 2010 to 1,474.4 cases per 100,000 MSM in 2013.[13] The estimated rate-ratio of MSM to female and MSM to heterosexual males during the study period ranged from 10.7 to 13.9 demonstrating a substantial and increasing inequality in the burden of disease between MSM and heterosexuals.[13]

Prevalence of STDs among MSM Who Visit STD Clinics, STD Surveillance Network, 2015

Data for 2015 were obtained from 30 STD clinics in ten SSuN jurisdictions. For data reported in this section, MSM were defined as men who either reported having one or more male sex partners or who self-reported as gay/homosexual or bisexual. Men who have sex with women (MSW) were defined as men who reported having sex with women only or who did not report the sex of their sex partner, but reported that they considered themselves straight/heterosexual.

Gonorrhea and Chlamydial Infection

In 2015, the proportion of MSM who tested positive for gonorrhea and chlamydia at STD clinics varied by SSuN jurisdiction (Figure W). Among jurisdictions providing sexual behavior data, a larger proportion of MSM who visited STD clinics tested positive for gonorrhea than tested positive for chlamydia (except Massachusetts, Multnomah County, and Philadelphia).

Across the participating STD clinics, 26,878 MSM were tested for gonorrhea and 26,694 MSM were tested for chlamydia. The median site-specific gonorrhea prevalence among those tested was 19.0% (range by site: 10.9%–22.7%). The median site-specific chlamydia prevalence among those tested was 16.0% (range by site: 11.8%–17.6%). For this report, a person who tested positive for gonorrhea or chlamydia at any anatomic site more

than one time in a year was counted only once for each infection.

Primary and Secondary Syphilis and HIV

Among MSM who presented to participating STD clinics with primary and secondary (P&S) syphilis infection in 2015, the proportion who were also infected with HIV ranged from 20.9% in Los Angeles to 58.6% in Baltimore (Figure X). P&S syphilis was identified by provider diagnosis and HIV was identified by laboratory report, self-report, or provider diagnosis.

HIV Status and STDs

Among MSM visiting SSuN STD clinics, the burden of STDs was higher among HIV-positive MSM than among HIV-negative MSM (Figure Y). Among HIV-positive MSM, 10.3% were diagnosed with P&S syphilis compared to 2.6% among HIV-negative MSM. Among HIV-positive MSM, urethral gonorrhea positivity was 11.3%, pharyngeal gonorrhea positivity was 9.2%, and rectal gonorrhea positivity was 17.1% (compared to 6.8%, 7.7%, and 7.3%, respectively, among HIV-negative MSM). Among HIV-positive MSM, urethral chlamydia positivity was 5.6% and rectal chlamydia positivity was 18.6% (compared to 6.4% and 8.1%, respectively, among HIV-negative MSM).

Nationally Notifiable Syphilis Surveillance Data

The number of reported cases of P&S syphilis among MSM has been increasing since at least 2000.[3,14] Thirty-seven states were able to classify at least 70% of reported P&S syphilis cases as MSM, MSW, or women each year during 2011–2015. Among these states, cases among MSM increased 12.8% during 2014–2015, and 56.1% during 2011–2015 (Figure 31). Among all cases reported in 2015, MSM accounted for 81.7% of all male P&S syphilis cases with known information about sex of sex partners (Figure 40). In 31 states able to classify at least 70.0% of reported P&S syphilis cases as MSM, MSW, or women and at least 70.0% of reported cases as HIV-positive or HIV-negative, 49.8% of MSM with P&S syphilis were also reported to be HIV-positive (Figure 41). Among MSM P&S cases, the proportion attributed to White MSM was 37.8% while the proportion of cases attributable to Black MSM was 33.0%, and 23.4% for Hispanic MSM, demonstrating a significant inequality in the burden of disease for non-White MSM. Moreover, non-Whites comprise a large plurality of cases reported among MSW and women as well (Figure V). More information about syphilis can be found in the Syphilis section of the National Profile.

Gonococcal Isolate Surveillance Project

The Gonococcal Isolate Surveillance Project (GISP) is a national sentinel surveillance system designed to monitor trends in antimicrobial susceptibilities of *Neisseria gonorrhoeae* strains in the United States.[15] Overall, the proportion of isolates from MSM in selected STD clinics from GISP sentinel sites has increased steadily, from 3.9% in 1989 to 38.1% in 2015 (Figure Z). The reason for this increase is unclear, but might reflect changes in the epidemiology of gonorrhea or in health care seeking behavior of men infected with gonorrhea. GISP has demonstrated that gonococcal isolates from MSM are more likely to exhibit antimicrobial resistance than isolates from MSW.[4] During 2007–2015, the prevalence of elevated ceftriaxone minimum inhibitory concentrations (MICs) (≥0.125 µg/ml) was higher in isolates from MSM than from MSW (Figure AA).

More information on GISP can be found in the Gonorrhea section of the National Profile.

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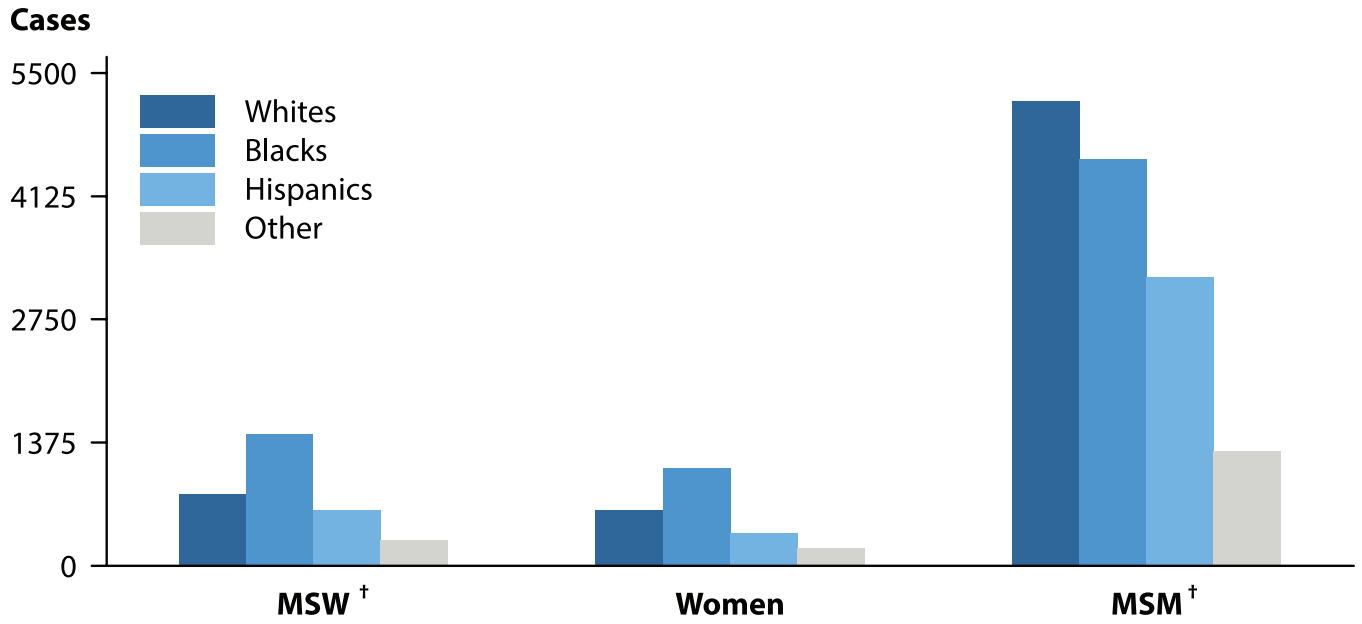
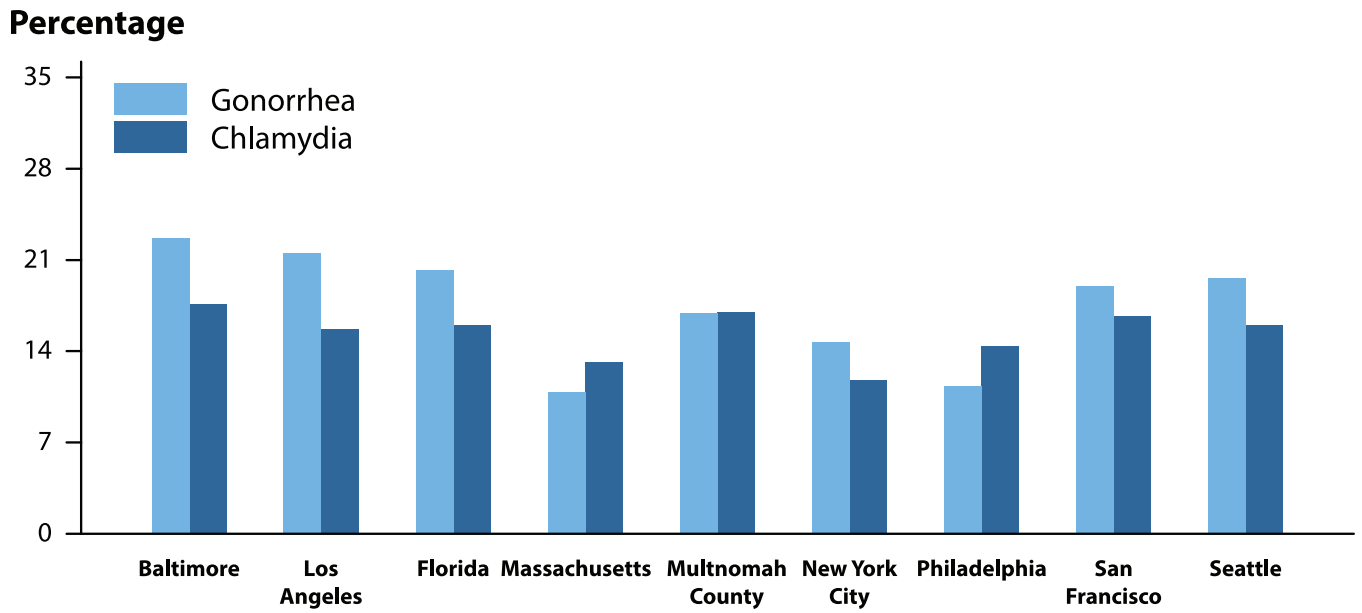
Figure V. Primary and Secondary Syphilis — Reported Cases* by Sex, Sexual Behavior, and Race/Ethnicity, United States, 2015



* Of all reported cases of primary and secondary syphilis, 17.3% were among men without data on sex of sex partner, and <1% were cases with unknown sex; 5.0% of all cases had missing or unknown race/ethnicity.

† MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only.

Figure W. Gonorrhea and Chlamydia — Proportion of MSM* Attending STD Clinics Testing Positive† for Gonorrhea and Chlamydia by Jurisdiction, STD Surveillance Network (SSuN), 2015

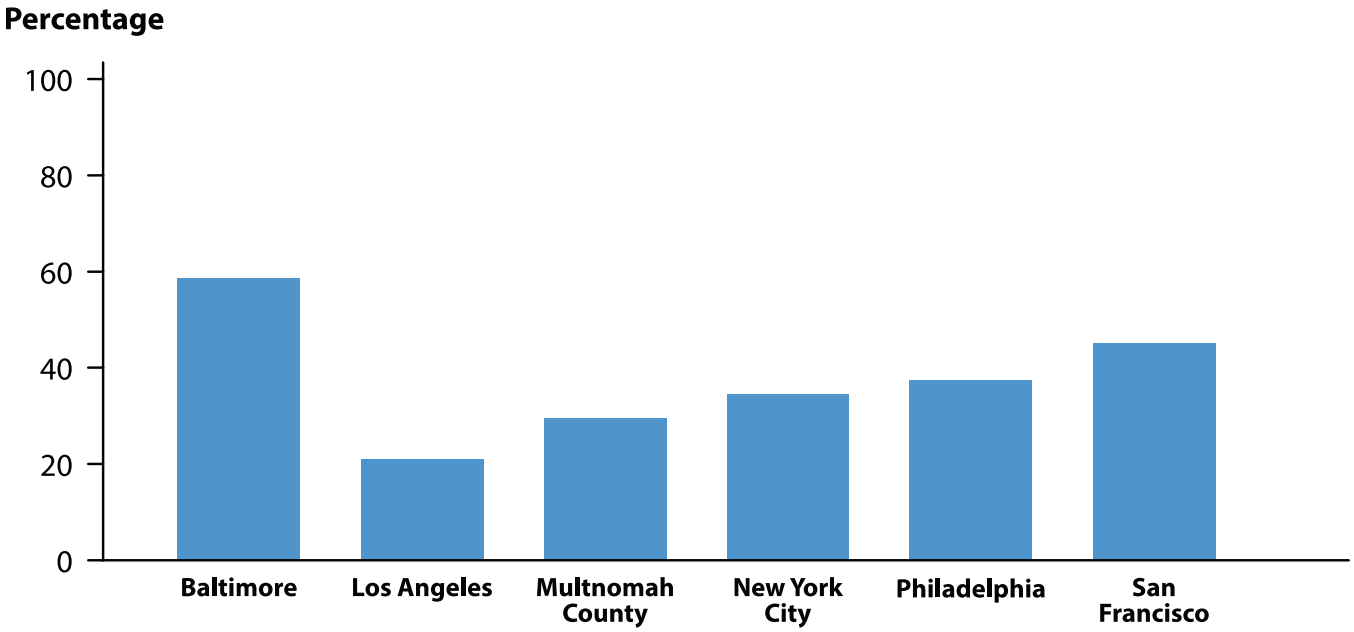


* MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM).

† Results based on data obtained from 26,878 patients tested for gonorrhea and 26,694 patients tested for chlamydia attending STD clinics in 2015 in all SSuN jurisdictions, excluding Minnesota.

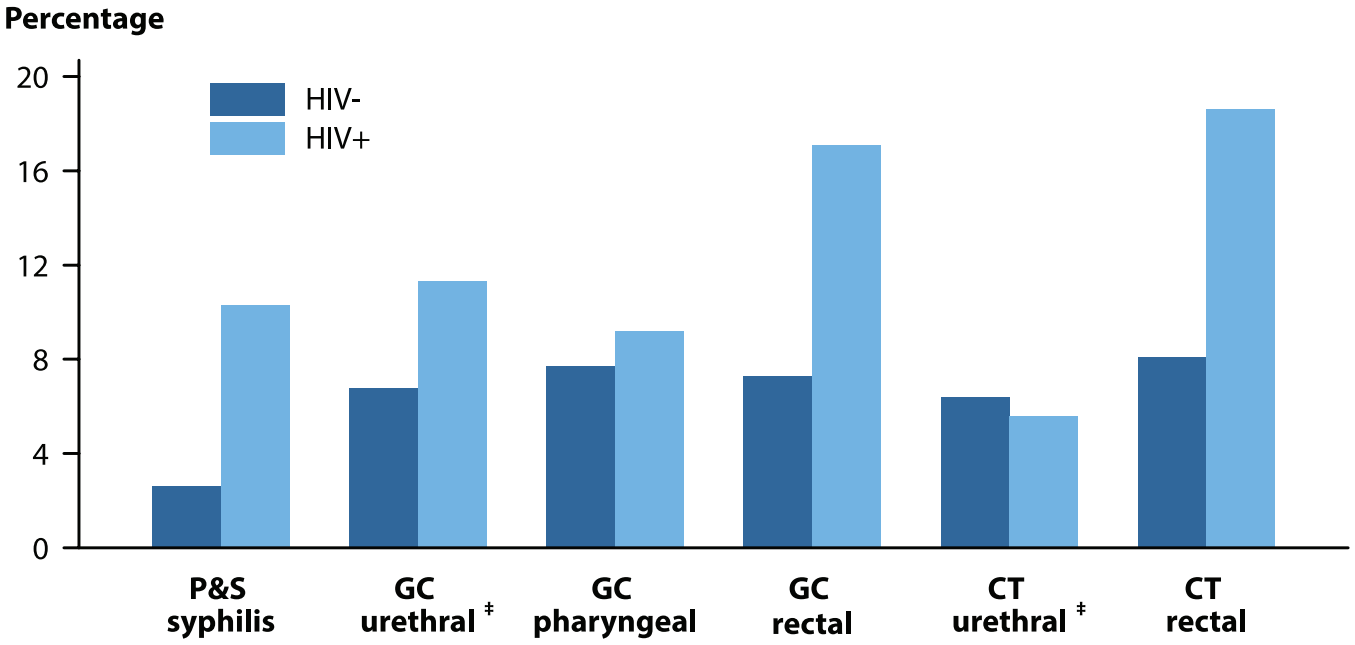
NOTE: See section A2.2 in the Appendix for SSuN methods.

Figure X. Primary and Secondary Syphilis and HIV — Proportion of MSM* Attending STD Clinics† with Primary and Secondary Syphilis Co-infected with HIV by Jurisdiction, STD Surveillance Network (SSuN), 2015



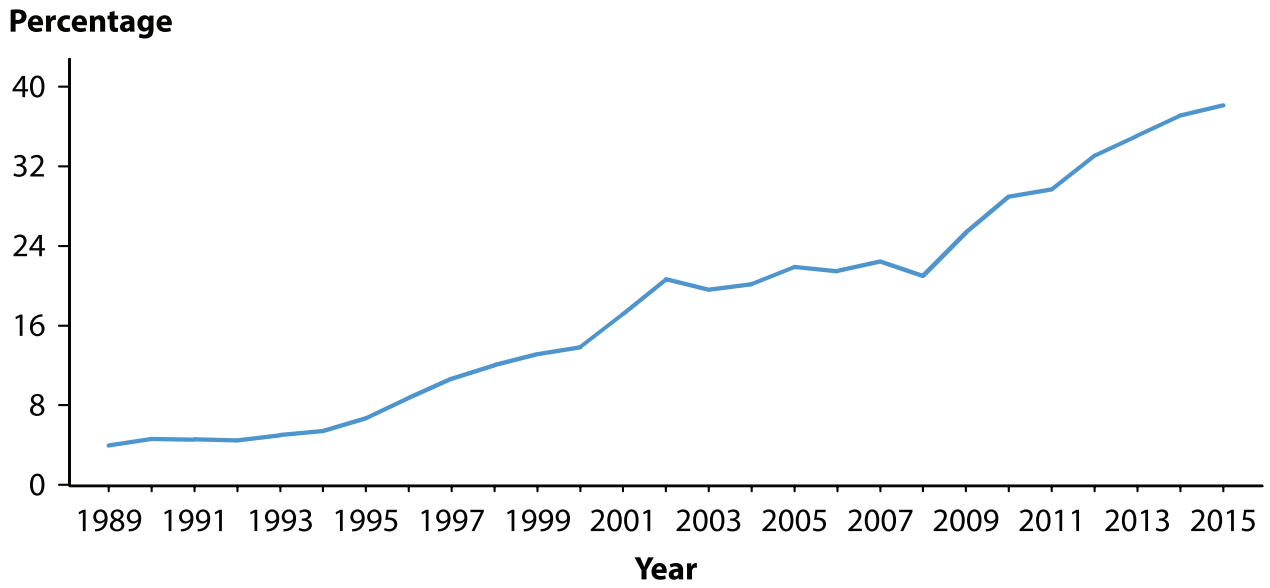
* MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM).
† Includes STD clinics that reported data on at least 25 patients with a diagnosis of primary and secondary syphilis in 2015.
NOTE: See section A2.2 in the Appendix for SSuN methods.

Figure Y. Proportion of MSM* Attending STD Clinics with Primary and Secondary Syphilis, Gonorrhea (GC) or Chlamydia (CT) by HIV Status†, STD Surveillance Network (SSuN), 2015



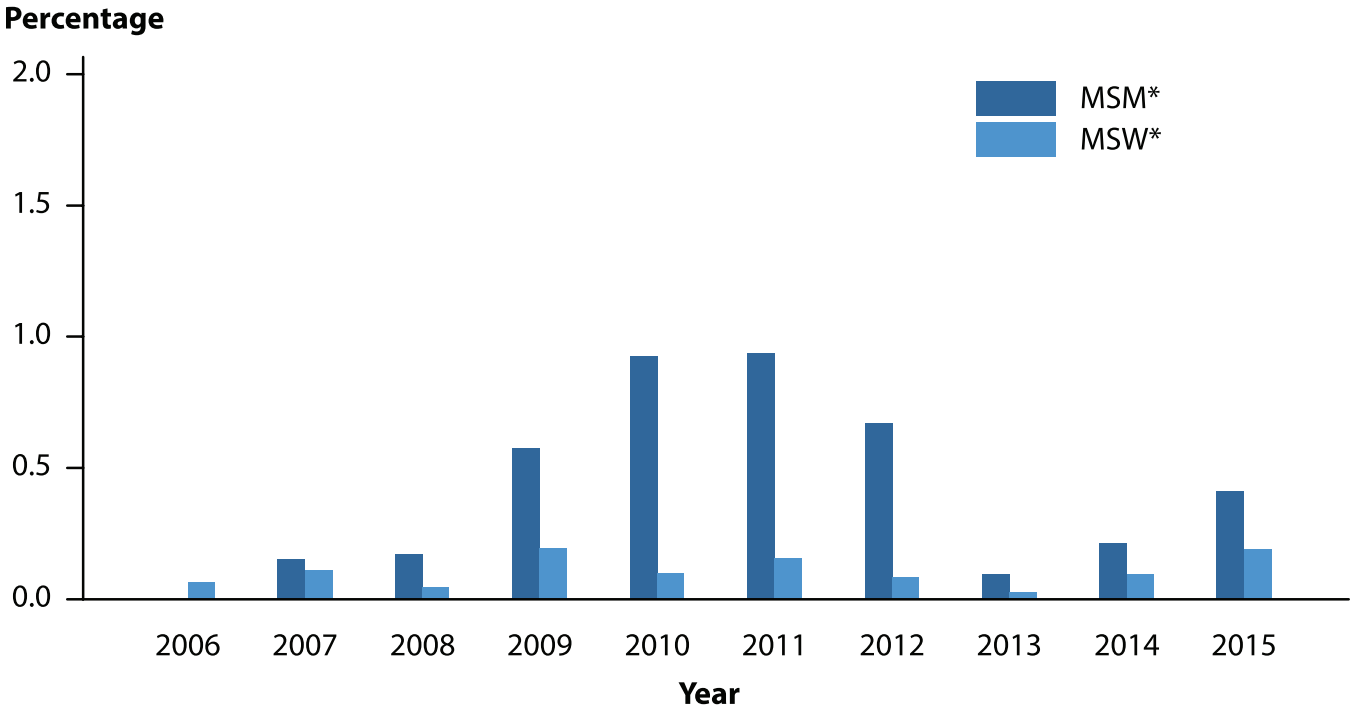
* MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM).
† Excludes all persons for whom there was no laboratory documentation or self-report of HIV status.
‡ GC urethral and CT urethral include results from both urethral and urine specimens.
NOTE: See section A2.2 in the Appendix for SSuN methods.

Figure Z. ***Neisseria gonorrhoeae*** **— Percentage of Urethral Isolates Obtained from MSM* Attending STD Clinics, Gonococcal Isolate Surveillance Project (GISP), 1989–2015**



* MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM).

Figure AA. ***Neisseria gonorrhoeae*** **— Percentage of Urethral Isolates with Elevated Ceftriaxone Minimum Inhibitory Concentrations (MICs) (≥0.125 µg/ml) by Reported Sex of Sex Partner, Gonococcal Isolate Surveillance Project (GISP), 2006–2015**



* MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only.

TABLES

TABLES

Table 1. Sexually Transmitted Diseases — Reported Cases and Rates of Reported Cases per 100,000 Population, United States, 1941–2015

	Syphilis															
	All Stages[†]		Primary and Secondary		Early Latent		Late and Late Latent[‡]		Congenital		Chlamydia		Gonorrhea		Chancroid	
Year*	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate[§]	Cases	Rate	Cases	Rate	Cases	Rate
1941	485,560	368.2	68,231	51.7	109,018	82.6	202,984	153.9	17,600	651.1	NR	—	193,468	146.7	3,384	2.5
1942	479,601	363.4	75,312	57.0	116,245	88.0	202,064	153.1	16,918	566.0	NR	—	212,403	160.9	5,477	4.1
1943	575,593	447.0	82,204	63.8	149,390	116.0	251,958	195.7	16,164	520.7	NR	—	275,070	213.6	8,354	6.4
1944	467,755	367.9	78,443	61.6	123,038	96.7	202,848	159.6	13,578	462.0	NR	—	300,676	236.5	7,878	6.1
1945	359,114	282.3	77,007	60.5	101,719	79.9	142,187	111.8	12,339	431.7	NR	—	287,181	225.8	5,515	4.3
1946	363,647	271.7	94,957	70.9	107,924	80.6	125,248	93.6	12,106	354.9	NR	—	368,020	275.0	7,091	5.2
1947	355,592	252.3	93,545	66.4	104,124	73.9	122,089	86.6	12,200	319.6	NR	—	380,666	270.0	9,515	6.7
1948	314,313	218.2	68,174	47.3	90,598	62.9	123,312	85.6	13,931	383.0	NR	—	345,501	239.8	7,661	5.3
1949	256,463	175.3	41,942	28.7	75,045	51.3	116,397	79.5	13,952	382.4	NR	—	317,950	217.3	6,707	4.6
1950	217,558	146.0	23,939	16.7	59,256	39.7	113,569	70.2	13,377	368.3	NR	—	286,746	192.5	4,977	3.3
1951	174,924	116.1	14,485	9.6	43,316	28.7	98,311	65.2	11,094	290.4	NR	—	254,470	168.9	4,233	2.8
1952	167,762	110.2	10,449	6.9	36,454	24.0	105,238	69.1	8,553	218.8	NR	—	244,957	160.8	3,738	2.5
1953	148,573	95.9	8,637	5.6	28,295	18.3	98,870	63.8	7,675	193.9	NR	—	238,340	153.9	3,338	2.2
1954	130,697	82.9	7,147	4.5	23,861	15.1	89,123	56.5	6,676	164.0	NR	—	242,050	153.5	3,003	1.9
1955	122,392	76.2	6,454	4.0	20,054	12.5	86,526	53.8	5,354	130.7	NR	—	236,197	147.0	2,649	1.7
1956	130,201	78.7	6,392	3.9	19,783	12.0	95,097	57.5	5,491	130.4	NR	—	224,346	135.7	2,135	1.3
1957	123,758	73.5	6,576	3.9	17,796	10.6	91,309	54.2	5,288	123.0	NR	—	214,496	127.4	1,637	1.0
1958	113,884	66.4	7,176	4.2	16,556	9.7	83,027	48.4	4,866	114.6	NR	—	232,386	135.6	1,595	0.9
1959	120,824	69.2	9,799	5.6	17,025	9.8	86,740	49.7	5,130	119.7	NR	—	240,254	137.6	1,537	0.9
1960	122,538	68.8	16,145	9.1	18,017	10.1	81,798	45.9	4,416	103.7	NR	—	258,933	145.4	1,680	0.9
1961	124,658	68.8	19,851	11.0	19,486	10.8	79,304	43.8	4,163	97.5	NR	—	264,158	145.8	1,438	0.8
1962	126,245	68.7	21,067	11.5	19,585	10.7	79,533	43.3	4,070	97.7	NR	—	263,714	143.6	1,344	0.7
1963	124,137	66.5	22,251	11.9	18,235	9.8	78,076	41.8	4,031	98.4	NR	—	278,289	149.0	1,220	0.7
1964	114,325	60.4	22,969	12.1	17,781	9.4	68,629	36.3	3,516	87.3	NR	—	300,666	158.9	1,247	0.7
1965	112,842	58.9	23,338	12.2	17,458	9.1	67,317	35.1	3,564	94.8	NR	—	324,925	169.5	982	0.5
1966	105,159	54.2	21,414	11.0	15,950	8.2	63,541	32.7	3,170	87.9	NR	—	351,738	181.2	838	0.4
1967	102,581	52.2	21,053	10.7	15,554	7.9	61,975	31.5	2,894	82.2	NR	—	404,836	205.9	784	0.4
1968	96,271	48.4	19,019	9.6	15,150	7.6	58,564	29.4	2,381	68.0	NR	—	464,543	233.4	845	0.4
1969	92,162	45.7	19,130	9.5	15,402	7.6	54,587	27.1	2,074	57.6	NR	—	534,872	265.4	1,104	0.5
1970	91,382	44.8	21,982	10.8	16,311	8.0	50,348	24.7	1,953	52.3	NR	—	600,072	294.2	1,416	0.7
1971	95,997	46.4	23,783	11.5	19,417	9.4	49,993	24.2	2,052	57.7	NR	—	670,268	324.1	1,320	0.6
1972	91,149	43.6	24,429	11.7	20,784	9.9	43,456	20.8	1,758	54.0	NR	—	767,215	366.6	1,414	0.7
1973	87,469	41.4	24,825	11.7	23,584	11.2	37,054	17.5	1,527	48.7	NR	—	842,621	398.7	1,165	0.6
1974	83,771	39.3	25,385	11.9	25,124	11.8	31,854	14.9	1,138	36.0	NR	—	906,121	424.7	945	0.4
1975	80,356	37.3	25,561	11.9	26,569	12.3	27,096	12.6	916	29.1	NR	—	999,937	464.1	700	0.3
1976	71,761	33.0	23,731	10.9	25,363	11.7	21,905	10.1	626	19.8	NR	—	1,001,994	460.6	628	0.3
1977	64,621	29.4	20,399	9.3	21,329	9.7	22,313	10.2	463	13.9	NR	—	1,002,219	456.0	455	0.2
1978	64,875	29.2	21,656	9.8	19,628	8.8	23,038	10.4	434	13.0	NR	—	1,013,436	456.3	521	0.2
1979	67,049	29.9	24,874	11.1	20,459	9.1	21,301	9.5	332	9.5	NR	—	1,004,058	447.1	840	0.4
1980	68,832	30.3	27,204	12.0	20,297	8.9	20,979	9.2	277	7.7	NR	—	1,004,029	442.1	788	0.3
1981	72,799	31.7	31,266	13.6	21,033	9.2	20,168	8.8	287	7.9	NR	—	990,864	431.8	850	0.4
1982	75,579	32.6	33,613	14.5	21,894	9.5	19,779	8.5	259	7.0	NR	—	960,633	414.7	1,392	0.6
1983	74,637	31.9	32,698	14.0	23,738	10.2	17,896	7.7	239	6.6	NR	—	900,435	385.1	847	0.4

Table 1. Sexually Transmitted Diseases — Reported Cases and Rates of Reported Cases per 100,000 Population, United States, 1941–2015 (continued)

	Syphilis															
	All Stages†		Primary and Secondary		Early Latent		Late and Late Latent‡		Congenital		Chlamydia		Gonorrhea		Chancroid	
Year*	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate§	Cases	Rate	Cases	Rate	Cases	Rate
1984	69,872	29.6	28,607	12.1	23,131	9.8	17,829	7.6	305	8.3	7,594	6.5	878,556	372.5	665	0.3
1985	67,563	28.4	27,131	11.4	21,689	9.1	18,414	7.7	329	8.7	25,848	17.4	911,419	383.0	2,067	0.9
1986	67,779	28.2	27,667	11.5	21,656	9.0	18,046	7.5	410	10.9	58,001	35.2	892,229	371.5	3,045	1.3
1987	87,286	36.0	35,585	14.7	28,233	11.7	22,988	9.5	480	12.6	91,913	50.8	787,532	325.0	4,986	2.1
1988	104,546	42.8	40,474	16.6	35,968	14.7	27,363	11.2	741	19.0	157,854	87.1	738,160	301.9	4,891	2.0
1989	115,089	46.6	45,826	18.6	45,394	18.4	22,032	8.9	1,837	45.5	200,904	102.5	733,294	297.1	4,697	1.9
1990	135,590	54.3	50,578	20.3	55,397	22.2	25,750	10.3	3,865	92.9	323,663	160.2	690,042	276.4	4,212	1.7
1991	128,719	50.9	42,950	17.0	53,855	21.3	27,490	10.9	4,424	107.6	381,228	179.7	621,918	245.8	3,476	1.4
1992	114,730	44.7	34,009	13.3	49,929	19.5	26,725	10.4	4,067	100.0	409,694	182.3	502,858	196.0	1,906	0.7
1993	102,612	39.5	26,527	10.2	41,919	16.1	30,746	11.8	3,420	85.5	405,332	178.0	444,649	171.1	1,292	0.5
1994	82,713	31.4	20,641	7.8	32,017	12.2	27,603	10.5	2,452	62.0	451,785	192.5	419,602	163.9	782	0.3
1995	69,359	26.0	16,543	6.2	26,657	10.0	24,296	9.1	1,863	47.8	478,577	187.8	392,651	147.5	607	0.2
1996	53,240	19.8	11,405	4.2	20,187	7.5	20,366	7.6	1,282	32.9	492,631	190.6	328,169	121.8	386	0.1
1997	46,716	17.1	8,556	3.1	16,631	6.1	20,447	7.5	1,082	27.9	537,904	205.5	327,665	120.2	246	0.1
1998	38,289	13.9	7,007	2.5	12,696	4.6	17,743	6.4	843	21.4	614,250	231.8	356,492	129.2	189	0.1
1999	35,386	12.7	6,617	2.4	11,534	4.1	16,655	6.0	580	14.6	662,647	247.2	360,813	129.3	110	0.0
2000	31,618	11.2	5,979	2.1	9,465	3.4	15,594	5.5	580	14.3	709,452	251.4	363,136	128.7	78	0.0
2001	32,286	11.3	6,103	2.1	8,701	3.0	16,976	5.9	506	12.6	783,242	274.5	361,705	126.8	38	0.0
2002	32,919	11.4	6,862	2.4	8,429	2.9	17,168	6.0	460	11.4	834,555	289.4	351,852	122.0	48	0.0
2003	34,289	11.8	7,177	2.5	8,361	2.9	18,319	6.3	432	10.6	877,478	301.7	335,104	115.2	54	0.0
2004	33,423	11.4	7,980	2.7	7,768	2.6	17,300	5.9	375	9.1	929,462	316.5	330,132	112.4	30	0.0
2005	33,288	11.2	8,724	2.9	8,176	2.8	16,049	5.4	339	8.2	976,445	329.4	339,593	114.6	17	0.0
2006	36,958	12.3	9,756	3.3	9,186	3.1	17,644	5.9	372	8.7	1,030,911	344.3	358,366	119.7	19	0.0
2007	40,925	13.6	11,466	3.8	10,768	3.6	18,256	6.1	435	10.1	1,108,374	367.5	355,991	118.0	23	0.0
2008	46,292	15.2	13,500	4.4	12,401	4.1	19,945	6.6	446	10.5	1,210,523	398.1	336,742	110.7	25	0.0
2009	44,832	14.6	13,997	4.6	13,066	4.3	17,338	5.6	431	10.4	1,244,180	405.3	301,174	98.1	28	0.0
2010	45,844	14.8	13,774	4.5	13,604	4.4	18,079	5.9	387	9.7	1,307,893	423.6	309,341	100.2	24	0.0
2011	46,040	14.8	13,970	4.5	13,136	4.2	18,576	6.0	358	9.1	1,412,791	453.4	321,849	103.3	8	0.0
2012	49,915	15.9	15,667	5.0	14,503	4.6	19,411	6.2	334	8.4	1,422,976	453.3	334,826	106.7	15	0.0
2013	56,484	17.9	17,375	5.5	16,929	5.4	21,819	6.9	361	9.2	1,401,906	443.5	333,004	105.3	10	0.0
2014	63,453	19.9	19,999	6.3	19,452	6.1	23,541	7.4	461	11.7	1,441,789	452.2	350,062	109.8	6	0.0
2015	74,702	23.4	23,872	7.5	24,173	7.6	26,170	8.2	487	12.4	1,526,658	478.8	395,216	123.9	11	0.0

* For 1941–1946, data were reported for the federal fiscal year ending June 30 of the year indicated. From 1947 to the present, data were reported for the calendar year ending December 31. For 1941–1958, data for Alaska and Hawaii were not included.

† Includes stage of syphilis not stated.

‡ Late and late latent syphilis includes late latent syphilis, latent syphilis of unknown duration, neurosyphilis, late syphilis with clinical manifestations other than neurosyphilis, and late syphilis with clinical manifestations (including late benign syphilis and cardiovascular syphilis).

§ Rates include all cases of congenitally acquired syphilis per 100,000 live births. As of 1995, cases of congenital syphilis are obtained in hardcopy and electronic format on the basis of case reporting form CDC 73.126.

NR = No report.

NOTE: Adjustments to the number of cases reported from state health departments were made for hardcopy forms and for electronic data submissions through June 8, 2016. The number of cases and the rates shown here supersede those published in previous reports. See Section A1.1 in the Appendix for more information. Cases and rates shown in this table exclude the outlying areas of Guam, Puerto Rico, and Virgin Islands. Case definitions have changed over time. See Section C.1 in the Appendix for more information.

Table 2. Chlamydia — Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States, 2015

Rank*	State	Cases	Rate per 100,000 Population
1	Alaska	5,660	768.3
2	Louisiana	32,325	695.2
3	North Carolina	64,376	647.4
4	New Mexico	12,632	605.7
5	Mississippi	17,371	580.2
6	Georgia	57,639	570.8
7	South Carolina	27,538	569.9
8	Arkansas	16,166	545.0
9	Alabama	26,359	543.6
10	Oklahoma	21,025	542.2
11	Illinois	69,610	540.4
12	New York	103,615	524.7
13	Texas	141,158	523.6
14	Hawaii	7,074	498.3
15	Delaware	4,605	492.2
16	Ohio	56,726	489.3
17	California	189,170	487.5
18	Arizona	32,387	481.1
	U.S. TOTAL†	**1,526,658**	**478.8**
19	Tennessee	31,272	477.5
20	Missouri	28,948	477.4
21	Michigan	46,486	469.1
22	South Dakota	3,949	462.9
23	Maryland	27,450	459.3
24	Nevada	12,925	455.3
25	Florida	90,468	454.8
26	Colorado	23,857	445.4
27	Indiana	28,886	437.9
28	Rhode Island	4,575	433.6
29	North Dakota	3,159	427.2
30	Virginia	35,349	424.5
31	Wisconsin	24,381	423.5
32	Nebraska	7,956	422.9
33	Pennsylvania	53,460	418.1
34	Oregon	16,305	410.7
35	Montana	4,184	408.8
36	Washington	28,699	406.4
37	Kentucky	17,444	395.2
38	Kansas	11,464	394.8
39	Minnesota	21,243	389.3
40	Iowa	12,085	388.9
41	Connecticut	13,126	364.9
42	Massachusetts	24,100	357.3
43	New Jersey	31,337	350.6
44	Wyoming	2,037	348.7
45	Idaho	5,631	344.5
46	Vermont	1,901	303.4
47	Maine	3,965	298.1
48	Utah	8,633	293.3
49	West Virginia	4,958	268.0
50	New Hampshire	3,095	233.3

* States were ranked by rate, then by case count, then in alphabetical order, with rates shown rounded to the nearest tenth.

† Total includes cases reported by the District of Columbia with 7,894 cases and a rate of 1,198.1, but excludes outlying areas (Guam with 881 cases and rate of 547.2, Puerto Rico with 5,295 cases and rate of 149.2, and Virgin Islands with 743 cases and rate of 713.3).

Table 3. Chlamydia — Reported Cases and Rates of Reported Cases by State/Area and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	29,626	30,621	29,464	29,010	26,359	616.9	635.0	609.6	598.2	543.6
Alaska	5,739	5,462	5,774	5,789	5,660	794.1	746.7	785.4	785.8	768.3
Arizona	29,251	30,444	30,564	32,397	32,387	451.2	464.6	461.2	481.3	481.1
Arkansas	16,052	16,611	15,447	15,605	16,166	546.4	563.3	522.0	526.1	545.0
California	166,773	167,695	167,346	176,308	189,170	442.5	440.8	436.6	454.4	487.5
Colorado	21,811	21,631	20,386	21,863	23,857	426.3	417.0	387.0	408.2	445.4
Connecticut	13,649	13,065	12,775	13,382	13,126	381.2	363.9	355.2	372.1	364.9
Delaware	4,508	4,438	5,213	4,473	4,605	496.9	483.9	563.1	478.1	492.2
District of Columbia	6,585	6,808	6,414	5,293	7,894	1,065.5	1,076.7	992.2	803.3	1,198.1
Florida	76,033	77,644	80,182	84,194	90,468	399.0	401.9	410.1	423.2	454.8
Georgia	54,403	52,418	51,070	51,945	57,639	554.3	528.4	511.1	514.4	570.8
Hawaii	6,001	6,340	6,640	6,419	7,074	436.5	455.4	472.9	452.2	498.3
Idaho	4,699	4,550	5,428	5,442	5,631	296.5	285.1	336.7	333.0	344.5
Illinois	64,939	67,701	63,797	66,536	69,610	504.6	525.8	495.2	516.6	540.4
Indiana	27,801	29,505	28,023	28,519	28,886	426.6	451.3	426.5	432.3	437.9
Iowa	10,705	11,377	10,953	11,804	12,085	349.6	370.1	354.4	379.9	388.9
Kansas	10,598	11,135	11,012	11,116	11,464	369.1	385.8	380.5	382.8	394.8
Kentucky	16,629	17,273	17,134	17,664	17,444	380.6	394.3	389.8	400.2	395.2
Louisiana	31,614	27,353	28,739	28,955	32,325	691.0	594.4	621.3	622.7	695.2
Maine	3,094	3,413	3,438	3,530	3,965	232.9	256.8	258.8	265.4	298.1
Maryland	27,212	26,534	26,723	27,424	27,450	466.9	450.9	450.7	458.9	459.3
Massachusetts	22,764	23,550	23,210	21,271	24,100	345.6	354.3	346.8	315.3	357.3
Michigan	49,568	47,566	44,835	44,256	46,486	501.9	481.3	453.1	446.6	469.1
Minnesota	16,902	18,056	18,742	19,907	21,243	316.2	335.7	345.8	364.8	389.3
Mississippi	21,216	23,054	17,464	19,605	17,371	712.3	772.3	583.8	654.8	580.2
Missouri	27,887	27,835	27,328	27,981	28,948	464.0	462.2	452.1	461.5	477.4
Montana	3,406	3,827	3,818	4,193	4,184	341.2	380.7	376.1	409.6	408.8
Nebraska	6,780	6,748	7,301	7,499	7,956	368.0	363.7	390.7	398.6	422.9
Nevada	10,507	11,137	11,781	11,841	12,925	385.8	403.7	422.2	417.1	455.3
New Hampshire	3,010	3,072	3,119	3,586	3,095	228.3	232.6	235.7	270.3	233.3
New Jersey	26,209	27,271	28,327	29,904	31,337	297.1	307.6	318.3	334.6	350.6
New Mexico	11,374	11,898	12,249	11,558	12,632	546.2	570.5	587.4	554.2	605.7
New York	102,763	100,546	95,803	98,814	103,615	527.9	513.8	487.5	500.4	524.7
North Carolina	54,819	50,596	48,416	47,147	64,376	567.7	518.8	491.6	474.1	647.4
North Dakota	2,445	2,908	2,932	3,451	3,159	357.5	415.6	405.3	466.7	427.2
Ohio	52,653	53,141	53,121	54,858	56,726	456.1	460.3	459.1	473.2	489.3
Oklahoma	14,596	16,843	18,278	20,662	21,025	385.0	441.5	474.7	532.8	542.2
Oregon	13,643	13,454	14,181	15,508	16,305	352.4	345.0	360.8	390.6	410.7
Pennsylvania	52,884	54,993	52,056	50,536	53,460	415.0	430.9	407.5	395.2	418.1
Rhode Island	4,146	4,313	4,312	4,349	4,575	394.4	410.6	410.1	412.2	433.6
South Carolina	28,932	27,149	25,594	28,087	27,538	618.3	574.7	536.0	581.2	569.9
South Dakota	3,409	3,924	3,927	4,166	3,949	413.7	470.9	464.8	488.3	462.9
Tennessee	31,105	32,525	30,370	30,793	31,272	485.8	503.8	467.5	470.2	477.5
Texas	124,882	127,036	129,861	131,219	141,158	486.4	487.5	491.0	486.8	523.6
Utah	7,086	7,615	7,535	8,223	8,633	251.5	266.7	259.7	279.4	293.3
Vermont	1,483	1,724	1,842	2,237	1,901	236.7	275.4	294.0	357.0	303.4
Virginia	36,314	34,963	33,316	36,048	35,349	448.5	427.1	403.3	432.9	424.5
Washington	23,280	24,596	24,950	26,577	28,699	340.8	356.6	357.9	376.4	406.4
West Virginia	4,295	4,790	5,139	4,719	4,958	231.5	258.2	277.1	255.0	268.0
Wisconsin	24,619	23,726	23,572	23,154	24,381	431.0	414.3	410.5	402.1	423.5
Wyoming	2,092	2,102	2,005	1,972	2,037	368.2	364.7	344.1	337.6	348.7
U.S. TOTAL	**1,412,791**	**1,422,976**	**1,401,906**	**1,441,789**	**1,526,658**	**453.4**	**453.3**	**443.5**	**452.2**	**478.8**
Northeast	230,002	231,947	224,882	227,609	239,174	414.3	416.0	402.0	405.3	425.9
Midwest	298,306	303,622	295,543	303,247	314,893	444.2	451.0	437.5	447.6	464.8
South	578,821	576,656	568,824	582,843	623,397	498.8	491.8	480.5	486.6	520.5
West	305,662	310,751	312,657	328,090	349,194	419.5	422.3	421.1	436.4	464.4
Guam	1,071	1,031	937	839	881	671.1	644.7	584.2	521.1	547.2
Puerto Rico	5,634	6,227	5,969	4,899	5,295	152.0	169.8	165.1	138.1	149.2
Virgin Islands	820	802	775	791	743	775.2	761.8	739.9	759.3	713.3
OUTLYING AREAS	**7,525**	**8,060**	**7,681**	**6,529**	**6,919**	**189.4**	**205.0**	**198.0**	**171.2**	**181.4**
TOTAL	**1,420,316**	**1,431,036**	**1,409,587**	**1,448,318**	**1,533,577**	**450.1**	**450.2**	**440.5**	**448.9**	**475.3**

Table 4. Chlamydia Among Women — Reported Cases and Rates of Reported Cases by State/Area and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	21,217	22,099	21,096	20,619	18,674	857.9	889.8	847.8	825.0	747.1
Alaska	3,801	3,670	3,899	3,940	3,786	1,093.7	1,047.9	1,115.4	1,127.5	1,083.5
Arizona	21,196	22,087	21,950	22,747	22,299	650.5	670.4	658.9	671.5	658.2
Arkansas	11,921	12,247	11,334	11,625	12,088	797.3	816.1	752.7	770.4	801.0
California	114,657	114,396	112,460	115,339	121,387	605.3	598.2	583.7	590.5	621.4
Colorado	15,751	15,476	14,336	14,906	16,151	617.8	598.9	546.8	559.4	606.1
Connecticut	9,824	9,464	9,210	9,512	9,089	535.1	514.2	500.0	516.4	493.4
Delaware	3,191	3,181	3,714	3,084	3,118	682.9	672.9	777.3	638.6	645.6
District of Columbia	4,357	4,426	3,992	3,709	4,632	1,337.4	1,328.0	1,173.4	1,071.1	1,337.6
Florida	54,262	55,628	56,688	58,800	62,048	557.3	563.6	567.4	578.2	610.1
Georgia	39,829	37,456	36,559	36,871	40,302	794.6	738.9	715.3	713.1	779.5
Hawaii	4,314	4,452	4,646	4,469	4,720	629.8	644.9	669.0	637.1	672.9
Idaho	3,345	3,206	3,885	3,895	3,963	422.7	402.2	482.6	477.3	485.7
Illinois	46,728	48,575	45,764	46,516	47,268	712.9	740.9	698.1	709.1	720.6
Indiana	20,065	21,633	20,307	20,586	20,385	606.2	651.8	609.0	615.0	609.0
Iowa	7,647	8,194	7,895	8,385	8,372	495.0	528.7	507.1	536.1	535.3
Kansas	8,158	8,440	8,323	8,276	8,325	564.4	581.8	573.2	568.1	571.5
Kentucky	11,990	12,366	12,086	12,404	12,140	540.2	556.3	541.5	553.7	541.9
Louisiana	23,390	20,507	21,258	21,297	23,351	1,001.1	872.7	900.2	896.4	982.9
Maine	2,149	2,420	2,404	2,478	2,735	316.9	356.5	354.5	365.0	402.9
Maryland	20,004	19,295	19,049	19,162	18,612	665.1	635.9	623.7	622.1	604.3
Massachusetts	15,744	16,319	15,851	14,000	15,588	463.3	476.4	459.7	402.9	448.6
Michigan	36,367	34,510	32,056	31,470	32,425	723.0	685.7	636.5	624.2	643.2
Minnesota	11,827	12,568	12,950	13,484	14,112	439.7	464.3	474.9	491.2	514.1
Mississippi	15,697	16,771	12,676	14,008	12,335	1,024.6	1,092.1	824.9	909.9	801.2
Missouri	20,097	19,745	19,303	19,549	19,926	655.4	643.0	626.7	632.8	645.0
Montana	2,390	2,655	2,701	2,878	2,846	480.9	530.8	534.5	564.9	558.6
Nebraska	4,783	4,628	4,945	5,110	5,409	515.7	495.9	526.8	540.9	572.6
Nevada	7,215	7,628	8,183	8,039	8,743	534.9	557.7	591.0	569.2	619.1
New Hampshire	2,184	2,150	2,187	2,452	2,089	327.3	321.6	326.5	365.2	311.2
New Jersey	19,886	20,231	20,771	21,556	22,274	439.9	445.5	456.0	471.0	486.7
New Mexico	8,309	8,724	9,033	8,395	9,227	789.7	828.6	858.9	797.5	876.5
New York	70,466	68,337	64,454	65,114	66,164	702.3	677.9	637.2	640.6	650.9
North Carolina	42,992	39,140	37,146	35,494	47,178	868.1	782.9	735.9	696.0	925.2
North Dakota	1,603	1,898	1,923	2,202	2,028	474.7	551.9	544.2	610.9	562.6
Ohio	38,914	38,879	38,293	39,033	39,825	658.9	658.8	647.8	659.4	672.8
Oklahoma	10,349	12,341	13,065	14,855	14,904	540.8	641.1	672.3	758.7	761.2
Oregon	9,489	9,425	9,932	10,545	11,075	485.3	478.8	500.2	525.6	552.1
Pennsylvania	36,463	37,569	35,657	34,170	35,201	558.5	575.0	545.9	523.0	538.8
Rhode Island	2,984	3,091	3,044	3,037	3,064	549.5	570.3	561.5	558.5	563.4
South Carolina	22,278	20,497	19,103	20,581	19,743	927.2	844.7	779.2	828.8	795.1
South Dakota	2,491	2,801	2,793	2,942	2,831	606.2	674.9	664.2	694.1	667.9
Tennessee	22,200	22,732	21,057	21,203	21,112	676.3	687.3	632.6	631.6	628.9
Texas	95,326	96,405	96,923	96,959	102,141	737.1	735.3	728.7	714.3	752.4
Utah	4,821	5,149	5,050	5,414	5,704	343.9	362.8	350.2	370.0	389.8
Vermont	1,106	1,296	1,319	1,613	1,352	348.3	408.5	415.5	507.7	425.5
Virginia	26,283	24,670	23,167	24,754	23,859	637.9	592.4	551.8	585.1	563.9
Washington	16,641	17,271	17,452	18,193	19,047	486.5	499.8	500.2	515.1	539.3
West Virginia	3,092	3,405	3,624	3,356	3,449	328.8	362.2	386.1	358.4	368.3
Wisconsin	17,402	16,727	16,448	16,063	16,660	605.1	580.1	569.0	554.3	574.9
Wyoming	1,357	1,492	1,387	1,352	1,387	487.4	528.8	486.0	472.5	484.8
U.S. TOTAL	**1,018,552**	**1,018,272**	**993,348**	**1,006,441**	**1,045,143**	**643.4**	**638.7**	**619.0**	**621.6**	**645.5**
Northeast	160,806	160,877	154,897	153,932	157,556	563.8	562.0	539.7	534.4	547.0
Midwest	216,082	218,598	211,000	213,616	217,566	633.7	639.9	615.9	621.9	633.4
South	428,378	423,166	412,537	418,781	439,686	724.2	708.3	684.1	685.9	720.2
West	213,286	215,631	214,914	220,112	230,335	583.9	584.6	577.5	583.6	610.7
Guam	783	726	700	595	618	996.9	921.9	885.8	749.6	778.6
Puerto Rico	4,528	5,102	4,766	3,770	3,950	234.3	267.1	252.7	204.4	214.2
Virgin Islands	591	592	579	590	563	1,051.7	1,056.8	1,037.1	1,060.7	1,012.2
OUTLYING AREAS	**5,902**	**6,420**	**6,045**	**4,955**	**5,131**	**285.5**	**314.0**	**299.1**	**250.4**	**259.3**
TOTAL	**1,024,454**	**1,024,692**	**999,393**	**1,011,396**	**1,050,274**	**638.8**	**634.6**	**615.0**	**617.1**	**640.8**

NOTE: Cases reported with unknown sex are not included in this table.

Table 5. Chlamydia Among Men — Reported Cases and Rates of Reported Cases by State/Area and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	7,648	8,295	8,201	8,318	7,549	328.3	354.7	349.7	354.0	321.2
Alaska	1,938	1,792	1,875	1,849	1,871	516.5	470.0	486.3	477.4	483.1
Arizona	8,052	8,354	8,610	9,650	10,028	249.8	256.4	261.3	288.6	299.9
Arkansas	4,125	4,360	4,104	3,964	4,078	285.9	301.0	282.3	272.0	279.8
California	51,554	52,983	54,679	60,687	67,475	275.0	280.1	286.8	314.9	350.2
Colorado	6,057	6,155	6,050	6,957	7,706	235.9	236.4	228.6	258.5	286.3
Connecticut	3,825	3,524	3,481	3,757	3,926	219.2	201.4	198.4	214.1	223.8
Delaware	1,317	1,257	1,499	1,389	1,487	299.4	282.9	334.6	306.8	328.5
District of Columbia	2,225	2,345	2,400	1,555	3,108	761.4	784.2	783.7	497.4	994.2
Florida	21,685	22,009	23,300	25,239	28,332	232.6	233.0	243.7	259.6	291.4
Georgia	13,978	14,521	14,063	14,736	17,212	291.0	299.3	288.1	299.1	349.3
Hawaii	1,687	1,888	1,994	1,950	2,352	244.6	269.0	281.0	271.6	327.5
Idaho	1,347	1,344	1,528	1,547	1,663	169.7	168.3	189.3	189.0	203.2
Illinois	18,083	18,977	17,943	19,908	21,966	286.4	300.3	283.6	315.0	347.5
Indiana	7,681	7,850	7,708	7,921	8,492	239.5	243.9	238.2	243.8	261.3
Iowa	3,058	3,183	3,058	3,419	3,712	201.5	208.8	199.4	221.6	240.6
Kansas	2,440	2,695	2,689	2,840	3,139	171.1	187.8	186.5	196.2	216.9
Kentucky	4,577	4,851	4,989	5,194	5,273	212.9	224.8	230.6	239.0	242.6
Louisiana	7,568	6,846	7,481	7,655	8,974	338.1	304.0	330.4	336.6	394.6
Maine	944	990	1,031	1,050	1,230	145.2	152.2	158.6	161.2	188.9
Maryland	7,197	7,193	7,654	8,237	8,780	255.2	252.4	266.2	284.4	303.1
Massachusetts	7,000	7,193	7,341	7,197	8,406	219.5	223.4	226.2	220.0	257.0
Michigan	13,095	12,962	12,683	12,723	14,015	270.2	267.2	261.0	261.3	287.9
Minnesota	5,075	5,430	5,791	6,414	7,122	191.2	203.2	215.0	236.5	262.6
Mississippi	5,519	6,281	4,788	5,588	5,018	381.5	433.4	329.2	384.2	345.0
Missouri	7,790	8,090	8,025	8,432	9,022	264.6	274.1	270.8	283.5	303.3
Montana	1,016	1,172	1,116	1,314	1,338	202.7	232.1	218.9	255.6	260.2
Nebraska	1,987	2,093	2,196	2,357	2,531	217.1	226.9	236.2	251.6	270.2
Nevada	3,290	3,508	3,590	3,786	4,152	239.3	252.2	255.4	265.4	291.0
New Hampshire	826	922	932	1,130	1,006	126.9	141.4	142.6	172.4	153.5
New Jersey	6,231	6,958	7,476	8,272	9,025	144.9	160.9	172.1	189.6	206.9
New Mexico	3,054	3,170	3,209	3,148	3,400	296.5	307.0	310.5	304.8	329.2
New York	32,126	32,147	31,273	33,634	37,346	340.6	338.8	327.9	351.0	389.8
North Carolina	11,585	11,354	11,254	11,638	17,195	246.3	238.9	234.4	240.2	354.9
North Dakota	841	1,010	1,009	1,249	1,131	242.9	283.9	272.7	329.5	298.4
Ohio	13,731	14,262	14,828	15,825	16,901	243.5	252.8	262.0	278.9	297.8
Oklahoma	3,851	4,498	5,213	5,802	6,121	205.1	238.0	273.3	302.2	318.8
Oregon	4,154	4,028	4,243	4,953	5,223	216.7	208.6	218.2	252.2	265.9
Pennsylvania	16,364	17,388	16,360	16,315	18,201	263.3	279.1	262.1	260.9	291.0
Rhode Island	1,162	1,222	1,268	1,312	1,511	228.6	240.4	248.9	256.6	295.5
South Carolina	6,585	6,588	6,432	7,376	7,705	289.2	286.8	276.9	314.0	328.0
South Dakota	914	1,123	1,134	1,224	1,118	221.2	268.5	267.2	285.1	260.4
Tennessee	8,905	9,754	9,311	9,587	10,158	285.3	309.8	294.0	300.3	318.2
Texas	29,533	30,532	31,980	34,110	38,539	231.8	235.8	243.2	254.9	288.0
Utah	2,265	2,466	2,485	2,808	2,929	160.0	171.7	170.3	189.8	197.9
Vermont	377	428	523	622	549	122.1	138.6	169.2	201.4	177.8
Virginia	9,929	10,247	10,112	11,244	11,460	249.7	254.8	248.9	274.6	279.8
Washington	6,639	7,325	7,498	8,384	9,651	194.7	212.8	215.3	237.5	273.4
West Virginia	1,203	1,385	1,514	1,363	1,509	131.5	151.3	165.4	149.1	165.1
Wisconsin	7,203	6,999	7,114	7,077	7,703	254.0	246.2	249.4	247.5	269.4
Wyoming	734	610	617	619	643	253.3	207.3	207.5	207.7	215.7
U.S. TOTAL	**389,970**	**402,557**	**405,652**	**433,325**	**478,981**	**254.4**	**260.6**	**260.6**	**276.1**	**305.2**
Northeast	68,855	70,772	69,685	73,289	81,200	255.0	260.8	255.8	268.0	296.9
Midwest	81,898	84,674	84,178	89,389	96,852	247.7	255.4	252.9	267.7	290.0
South	147,430	152,316	154,295	162,995	182,498	259.1	264.8	265.7	277.6	310.8
West	91,787	94,795	97,494	107,652	118,431	252.6	258.3	263.2	287.3	316.0
Guam	288	305	234	244	263	355.3	375.8	287.6	298.9	322.2
Puerto Rico	1,106	1,125	1,203	1,126	1,319	62.3	64.0	69.6	66.1	77.4
Virgin Islands	229	210	196	201	180	461.8	426.3	400.7	414.0	370.8
OUTLYING AREAS	**1,623**	**1,640**	**1,633**	**1,571**	**1,762**	**85.2**	**86.9**	**87.8**	**85.6**	**96.0**
TOTAL	**391,593**	**404,197**	**407,285**	**434,896**	**480,743**	**252.3**	**258.5**	**258.6**	**273.9**	**302.8**

NOTE: Cases reported with unknown sex are not included in this table.

Table 6. Chlamydia — Reported Cases and Rates of Reported Cases in Selected Metropolitan Statistical Areas (MSAs)* in Alphabetical Order, United States, 2011–2015

MSAs	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Atlanta-Sandy Springs-Roswell, GA	27,372	26,470	16,429	25,744	19,106	509.0	485.0	297.5	458.5	340.3
Austin-Round Rock, TX	9,360	9,810	10,138	10,920	11,679	524.8	534.8	538.4	561.9	601.0
Baltimore-Columbia-Towson, MD	14,399	13,578	13,749	14,095	14,016	527.6	493.2	496.2	505.9	503.1
Birmingham-Hoover, AL	6,834	6,868	6,552	6,309	5,839	603.6	604.2	574.6	551.6	510.5
Boston-Cambridge-Newton, MA-NH	15,703	16,339	16,127	14,264	14,378	342.0	352.1	344.3	301.4	303.8
Buffalo-Cheektowaga-Niagara Falls, NY	5,965	6,010	5,724	5,841	5,900	526.0	529.9	504.7	514.0	519.2
Charlotte-Concord-Gastonia, NC-SC	13,257	11,548	11,418	11,766	16,284	587.2	502.8	488.9	494.3	684.1
Chicago-Naperville-Elgin, IL-IN-WI	49,590	51,329	47,837	51,457	54,248	521.7	539.0	501.6	538.6	567.8
Cincinnati, OH-KY-IN	10,044	10,234	10,207	10,516	11,219	473.2	480.8	477.5	489.2	521.9
Cleveland-Elyria, OH	12,348	12,339	12,126	11,363	11,312	597.0	598.0	587.3	550.6	548.2
Columbus, OH	9,031	8,946	9,734	10,258	11,327	469.3	460.2	494.8	514.3	567.9
Dallas-Fort Worth-Arlington, TX	32,002	31,697	30,684	30,549	35,900	486.2	473.0	450.5	439.3	516.2
Denver-Aurora-Lakewood, CO	12,710	12,764	12,131	13,346	13,942	488.9	482.5	449.7	484.6	506.2
Detroit-Warren-Dearborn, MI	26,237	24,229	22,567	21,012	22,238	612.2	564.5	525.4	489.0	517.6
Hartford-West Hartford-East Hartford, CT	4,837	4,562	4,311	4,713	4,689	398.7	375.7	354.8	388.1	386.1
Houston-The Woodlands-Sugar Land, TX	26,508	26,807	29,120	30,554	32,823	437.4	434.0	461.3	470.8	505.7
Indianapolis-Carmel-Anderson, IN	11,117	12,714	11,835	11,952	11,544	582.1	659.1	605.7	606.3	585.6
Jacksonville, FL	7,264	6,813	7,138	7,391	8,012	534.0	494.5	511.8	520.8	564.6
Kansas City, MO-KS	10,038	10,152	9,513	9,866	10,240	495.3	498.0	463.0	476.4	494.4
Las Vegas-Henderson-Paradise, NV	8,337	8,587	9,286	9,485	10,049	423.2	429.2	457.9	458.3	485.5
Los Angeles-Long Beach-Anaheim, CA	58,552	60,231	59,386	64,263	68,285	452.3	461.4	452.2	484.6	514.9
Louisville-Jefferson County, KY-IN	6,483	6,658	6,384	6,751	6,735	520.6	532.1	505.8	531.7	530.4
Memphis, TN-MS-AR	11,720	12,744	10,763	10,554	10,342	878.3	949.8	802.2	785.7	769.9
Miami-Fort Lauderdale-West Palm Beach, FL	19,561	20,933	22,821	24,599	26,746	345.0	363.2	391.6	414.8	451.0
Milwaukee-Waukesha-West Allis, WI	11,712	10,929	10,754	10,303	10,645	749.7	697.5	685.1	655.3	677.1
Minneapolis-St. Paul-Bloomington, MN-WI	12,143	12,144	12,227	13,589	14,709	358.5	354.9	353.5	388.8	420.8
Nashville-Davidson-Murfreesboro-Franklin, TN	6,990	7,151	7,356	7,878	8,066	411.5	414.1	418.5	439.5	449.9
New Orleans-Metairie, LA	8,124	7,118	8,134	8,595	9,291	669.8	580.1	655.5	686.6	742.2
New York-Newark-Jersey City, NY-NJ-PA	95,088	92,763	89,211	93,515	97,835	483.0	467.7	447.2	465.4	486.9
Oklahoma City, OK	5,087	5,640	6,190	7,293	7,633	398.0	435.0	469.1	545.6	571.0
Orlando-Kissimmee-Sanford, FL	9,545	9,928	10,230	11,001	12,026	439.6	446.5	451.1	473.9	518.0
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	34,799	35,513	34,741	33,376	34,910	580.7	590.0	575.7	551.6	576.9
Phoenix-Mesa-Scottsdale, AZ	17,746	20,358	20,164	21,576	21,795	416.3	470.2	458.4	480.6	485.5
Pittsburgh, PA	8,436	8,994	8,605	8,059	8,604	357.5	381.0	364.5	342.1	365.2
Portland-Vancouver-Hillsboro, OR-WA	8,509	7,797	8,536	9,283	9,982	376.1	340.5	368.8	395.3	425.1
Providence-Warwick, RI-MA	5,559	5,941	5,828	5,695	5,907	347.4	371.0	363.3	353.9	367.0
Raleigh, NC	5,693	5,373	4,966	5,126	6,911	489.3	452.1	408.9	412.4	556.0
Richmond, VA	7,698	7,224	6,817	7,817	7,878	631.5	586.4	547.2	620.4	625.2
Riverside-San Bernardino-Ontario, CA	20,749	20,994	19,819	19,560	20,778	482.0	482.6	452.4	440.4	467.8
Sacramento-Roseville-Arden-Arcade, CA	10,866	9,852	9,771	9,674	10,621	499.3	448.5	441.0	431.0	473.2
Salt Lake City, UT	3,767	4,041	3,947	4,423	4,751	339.9	359.6	346.1	383.5	411.9
San Antonio-New Braunfels, TX	13,066	13,023	13,335	11,573	14,465	595.3	582.9	585.5	497.0	621.2
San Diego-Carlsbad, CA	15,346	16,524	14,706	15,754	17,378	488.7	520.1	458.0	482.7	532.5
San Francisco-Oakland-Hayward, CA	18,745	17,171	18,254	20,377	23,519	426.9	385.4	404.2	443.6	511.9
San Jose-Sunnyvale-Santa Clara, CA	5,965	4,676	6,717	6,278	6,898	319.8	246.8	349.9	321.5	353.2
Seattle-Tacoma-Bellevue, WA	12,329	12,965	12,971	13,861	15,257	352.3	365.0	359.3	377.5	415.6
St. Louis, MO-IL	15,517	14,843	14,783	14,711	14,961	555.7	530.9	527.8	524.2	533.1
Tampa-St. Petersburg-Clearwater, FL	12,595	12,274	12,752	12,952	13,472	445.9	431.7	444.2	444.2	462.1
Virginia Beach-Norfolk-Newport News, VA-NC	13,674	12,409	11,852	12,192	11,281	811.5	730.0	694.2	710.2	657.2
Washington-Arlington-Alexandria, DC-VA-MD-WV	22,839	23,872	23,531	18,342	18,890	396.6	407.3	395.5	304.0	313.1
SELECTED MSAs TOTAL	**811,856**	**811,879**	**792,177**	**820,371**	**865,316**	**479.2**	**474.2**	**458.3**	**469.1**	**494.8**

* MSAs were selected on the basis of the largest population in the 2010 U.S. Census.

Table 7. Chlamydia Among Women — Reported Cases and Rates of Reported Cases in Selected Metropolitan Statistical Areas (MSAs)* in Alphabetical Order, United States, 2011–2015

MSAs	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Atlanta-Sandy Springs-Roswell, GA	19,507	18,298	11,221	17,564	12,640	707.7	652.7	395.0	607.2	437.0
Austin-Round Rock, TX	6,644	6,909	6,691	7,513	7,779	746.6	755.2	712.3	773.7	801.1
Baltimore-Columbia-Towson, MD	10,668	9,933	9,848	9,780	9,453	754.3	696.7	686.9	678.0	655.4
Birmingham-Hoover, AL	4,834	4,866	4,486	4,300	3,940	824.1	826.1	759.2	724.5	663.8
Boston-Cambridge-Newton, MA-NH	10,747	11,234	10,791	9,243	9,137	454.1	469.9	447.5	379.6	375.2
Buffalo-Cheektowaga-Niagara Falls, NY	4,370	4,317	4,024	4,077	4,035	745.7	737.4	688.0	696.2	689.1
Charlotte-Concord-Gastonia, NC-SC	10,024	8,731	8,605	8,633	11,672	864.7	740.1	717.0	705.1	953.3
Chicago-Naperville-Elgin, IL-IN-WI	35,360	36,701	34,216	35,696	36,547	728.0	754.3	702.5	730.9	748.3
Cincinnati, OH-KY-IN	7,763	7,750	7,527	7,724	8,050	715.9	713.0	690.0	703.9	733.6
Cleveland-Elyria, OH	9,065	8,877	8,550	7,914	7,815	844.7	829.5	799.4	740.8	731.5
Columbus, OH	6,266	6,280	6,749	6,895	7,704	640.2	635.3	674.7	680.3	760.1
Dallas-Fort Worth-Arlington, TX	24,221	24,018	22,744	22,213	25,902	726.5	707.6	658.7	628.6	732.9
Denver-Aurora-Lakewood, CO	9,143	9,117	8,447	9,020	9,265	700.4	686.4	624.1	652.7	670.4
Detroit-Warren-Dearborn, MI	19,161	17,460	16,152	14,822	15,410	867.8	789.8	730.5	670.3	696.9
Hartford-West Hartford-East Hartford, CT	3,470	3,301	3,109	3,349	3,226	557.6	529.8	499.0	538.2	518.5
Houston-The Woodlands-Sugar Land, TX	20,956	20,858	22,027	22,832	23,828	688.2	672.3	695.0	699.6	730.1
Indianapolis-Carmel-Anderson, IN	7,579	8,899	8,149	8,398	7,816	776.3	902.5	816.1	832.9	775.2
Jacksonville, FL	5,213	4,812	5,131	5,238	5,637	746.9	680.7	717.4	719.3	774.1
Kansas City, MO-KS	7,278	7,295	6,795	6,991	7,108	703.8	701.5	649.2	662.4	673.4
Las Vegas-Henderson-Paradise, NV	5,777	5,942	6,571	6,486	6,885	590.2	597.1	650.5	627.4	666.0
Los Angeles-Long Beach-Anaheim, CA	38,802	39,470	38,456	40,401	42,385	592.0	597.1	578.5	600.7	630.2
Louisville-Jefferson County, KY-IN	4,745	4,884	4,574	4,827	4,686	744.1	762.7	708.1	742.6	721.0
Memphis, TN-MS-AR	8,767	9,367	7,717	7,758	7,238	1,263.3	1,342.7	1,105.5	1,109.2	1,034.8
Miami-Fort Lauderdale-West Palm Beach, FL	13,815	14,692	15,645	16,473	17,461	473.5	495.4	521.9	539.6	571.9
Milwaukee-Waukesha-West Allis, WI	8,397	7,760	7,463	7,183	7,242	1,047.4	964.7	926.6	890.0	897.3
Minneapolis-St. Paul-Bloomington, MN-WI	8,371	8,326	8,293	8,957	9,497	488.7	481.1	474.2	507.0	537.6
Nashville-Davidson-Murfreesboro-Franklin, TN	4,942	4,928	5,084	5,278	5,322	568.7	557.8	565.0	574.5	579.3
New Orleans-Metairie, LA	6,056	5,326	6,062	6,301	6,710	972.3	843.9	948.7	975.3	1,038.6
New York-Newark-Jersey City, NY-NJ-PA	65,988	63,588	60,539	62,097	62,905	648.2	620.5	587.7	598.4	606.2
Oklahoma City, OK	3,518	3,951	4,430	5,255	5,420	543.3	601.6	662.5	775.0	799.4
Orlando-Kissimmee-Sanford, FL	6,993	7,373	7,503	8,021	8,505	631.1	649.6	648.3	675.8	716.6
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	23,928	24,166	23,532	22,317	22,967	772.0	776.5	754.4	713.7	734.5
Phoenix-Mesa-Scottsdale, AZ	12,696	14,396	14,206	14,841	14,607	592.8	661.6	642.4	656.9	646.5
Pittsburgh, PA	5,963	6,325	6,046	5,509	5,681	489.5	519.7	497.4	454.6	468.8
Portland-Vancouver-Hillsboro, OR-WA	5,824	5,359	5,809	6,158	6,559	508.8	462.8	496.1	518.4	552.2
Providence-Warwick, RI-MA	4,022	4,256	4,124	3,945	3,989	486.9	515.3	498.7	475.6	480.9
Raleigh, NC	3,951	3,691	3,490	3,502	4,685	663.4	606.8	561.5	550.1	735.9
Richmond, VA	5,599	5,083	4,792	5,311	5,330	889.1	798.4	744.7	815.9	818.8
Riverside-San Bernardino-Ontario, CA	15,241	15,296	14,536	13,988	14,693	704.9	700.5	661.1	626.6	658.2
Sacramento-Roseville-Arden-Arcade, CA	7,874	7,122	6,915	6,686	7,284	709.9	635.9	611.8	583.6	635.8
Salt Lake City, UT	2,517	2,679	2,541	2,873	3,067	457.0	479.6	448.0	500.3	534.1
San Antonio-New Braunfels, TX	9,286	9,436	9,576	8,158	10,005	832.0	832.1	829.5	690.9	847.4
San Diego-Carlsbad, CA	10,395	11,102	9,684	10,211	11,154	664.9	702.5	606.3	628.9	687.0
San Francisco-Oakland-Hayward, CA	11,733	10,391	10,845	11,509	12,508	527.7	460.5	474.3	494.3	537.2
San Jose-Sunnyvale-Santa Clara, CA	4,187	3,260	4,530	4,100	4,328	450.7	345.9	474.6	422.3	445.8
Seattle-Tacoma-Bellevue, WA	8,259	8,460	8,411	8,751	9,306	470.9	474.8	465.4	476.5	506.7
St. Louis, MO-IL	11,077	10,351	10,364	10,271	10,158	769.0	717.8	717.6	709.9	702.1
Tampa-St. Petersburg-Clearwater, FL	8,913	8,738	8,948	9,066	9,269	612.5	596.5	604.2	602.5	616.0
Virginia Beach-Norfolk-Newport News, VA-NC	9,798	8,771	8,259	8,425	7,677	1,141.0	1,015.2	952.5	966.9	881.1
Washington-Arlington-Alexandria, DC-VA-MD-WV	15,946	16,349	15,768	12,501	12,517	540.4	544.5	518.1	405.0	405.5
SELECTED MSAs TOTAL	**575,649**	**570,494**	**549,975**	**559,361**	**577,004**	**665.7**	**653.1**	**623.8**	**626.7**	**646.4**

* MSAs were selected on the basis of the largest population in the 2010 U.S. Census.
NOTE: Cases reported with unknown sex are not included in this table.

Table 8. Chlamydia Among Men — Reported Cases and Rates of Reported Cases in Selected Metropolitan Statistical Areas (MSAs)* in Alphabetical Order, United States, 2011–2015

MSAs	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Atlanta-Sandy Springs-Roswell, GA	7,563	7,917	5,061	7,979	6,429	288.6	298.3	188.7	293.2	236.2
Austin-Round Rock, TX	2,710	2,890	2,592	3,372	3,871	303.2	314.3	274.7	346.8	398.1
Baltimore-Columbia-Towson, MD	3,723	3,608	3,889	4,294	4,514	283.2	271.8	290.9	319.6	336.0
Birmingham-Hoover, AL	1,852	1,985	2,031	1,990	1,886	339.4	362.5	369.7	361.6	342.7
Boston-Cambridge-Newton, MA-NH	4,946	5,086	5,328	4,988	5,211	222.4	226.0	234.4	217.2	226.9
Buffalo-Cheektowaga-Niagara Falls, NY	1,595	1,693	1,700	1,764	1,865	291.1	308.5	309.5	320.3	338.6
Charlotte-Concord-Gastonia, NC-SC	3,191	2,794	2,804	3,125	4,607	290.5	250.2	247.0	270.4	398.6
Chicago-Naperville-Elgin, IL-IN-WI	14,110	14,518	13,553	15,679	17,517	303.6	311.8	290.4	335.7	375.0
Cincinnati, OH-KY-IN	2,279	2,482	2,676	2,787	3,168	219.5	238.3	255.7	264.9	301.1
Cleveland-Elyria, OH	3,283	3,462	3,576	3,449	3,497	329.9	348.5	359.4	346.5	351.4
Columbus, OH	2,762	2,666	2,985	3,363	3,623	292.2	279.0	308.7	342.8	369.3
Dallas-Fort Worth-Arlington, TX	7,778	7,669	7,916	8,313	9,941	239.5	231.9	235.7	243.0	290.6
Denver-Aurora-Lakewood, CO	3,564	3,647	3,684	4,326	4,677	275.4	276.9	274.1	315.2	340.8
Detroit-Warren-Dearborn, MI	7,011	6,718	6,350	6,153	6,795	337.4	322.8	304.7	295.0	325.8
Hartford-West Hartford-East Hartford, CT	1,367	1,245	1,181	1,333	1,443	231.3	210.5	199.4	225.1	243.7
Houston-The Woodlands-Sugar Land, TX	5,550	5,944	7,078	7,700	8,939	184.1	193.3	225.1	238.6	277.0
Indianapolis-Carmel-Anderson, IN	3,513	3,802	3,681	3,544	3,723	376.3	403.2	385.3	368.0	386.6
Jacksonville, FL	2,047	2,001	1,989	2,138	2,367	309.1	298.2	292.7	309.4	342.6
Kansas City, MO-KS	2,760	2,857	2,718	2,875	3,132	278.1	286.1	269.7	283.1	308.4
Las Vegas-Henderson-Paradise, NV	2,558	2,644	2,708	2,986	3,139	258.1	262.9	266.1	288.3	303.0
Los Angeles-Long Beach-Anaheim, CA	19,577	20,633	20,831	23,766	25,764	306.3	320.3	321.3	363.6	394.2
Louisville-Jefferson County, KY-IN	1,710	1,744	1,781	1,896	2,031	281.4	285.4	289.0	305.9	327.7
Memphis, TN-MS-AR	2,953	3,377	3,046	2,795	3,104	461.1	524.3	473.2	434.1	482.1
Miami-Fort Lauderdale-West Palm Beach, FL	5,721	6,238	7,134	8,086	9,270	207.8	223.0	252.0	281.1	322.2
Milwaukee-Waukesha-West Allis, WI	3,312	3,169	3,284	3,111	3,394	435.5	415.5	429.7	406.6	443.6
Minneapolis-St. Paul-Bloomington, MN-WI	3,772	3,813	3,933	4,623	5,206	225.3	225.4	229.9	267.5	301.2
Nashville-Davidson-Murfreesboro-Franklin, TN	2,048	2,185	2,271	2,598	2,744	246.8	259.1	264.6	297.3	314.0
New Orleans-Metairie, LA	2,043	1,792	2,072	2,294	2,581	346.3	300.7	344.2	378.7	426.1
New York-Newark-Jersey City, NY-NJ-PA	28,877	29,065	28,546	31,310	34,799	303.7	303.3	295.8	322.3	358.2
Oklahoma City, OK	1,457	1,688	1,760	2,036	2,213	231.1	263.8	270.4	309.1	335.9
Orlando-Kissimmee-Sanford, FL	2,539	2,555	2,708	2,964	3,511	238.8	234.7	243.9	261.2	309.5
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	10,817	11,314	11,178	11,010	11,912	373.9	389.2	383.4	376.5	407.4
Phoenix-Mesa-Scottsdale, AZ	5,047	5,960	5,957	6,735	7,173	237.9	276.8	272.3	302.0	321.7
Pittsburgh, PA	2,471	2,668	2,550	2,541	2,909	216.5	233.3	222.6	222.1	254.3
Portland-Vancouver-Hillsboro, OR-WA	2,685	2,437	2,723	3,124	3,416	240.2	215.3	238.1	269.2	294.4
Providence-Warwick, RI-MA	1,536	1,683	1,702	1,744	1,913	198.4	217.1	218.9	223.6	245.3
Raleigh, NC	1,723	1,673	1,474	1,622	2,226	303.4	288.3	248.6	267.5	367.1
Richmond, VA	2,053	2,129	2,011	2,503	2,540	348.4	357.6	333.9	410.9	417.0
Riverside-San Bernardino-Ontario, CA	5,412	5,683	5,271	5,542	6,070	252.6	262.3	241.5	250.8	274.7
Sacramento-Roseville-Arden-Arcade, CA	2,960	2,712	2,846	2,976	3,322	277.4	251.9	262.2	270.9	302.3
Salt Lake City, UT	1,250	1,362	1,406	1,550	1,684	224.2	241.0	245.2	267.7	290.8
San Antonio-New Braunfels, TX	3,780	3,587	3,757	3,412	4,459	350.4	326.1	334.5	297.2	388.4
San Diego-Carlsbad, CA	4,925	5,418	5,013	5,508	6,190	312.3	339.3	310.6	335.9	377.5
San Francisco-Oakland-Hayward, CA	6,948	6,739	7,370	8,823	10,961	320.5	306.5	330.5	389.4	483.8
San Jose-Sunnyvale-Santa Clara, CA	1,667	1,353	2,186	2,163	2,565	178.0	142.1	226.5	220.3	261.2
Seattle-Tacoma-Bellevue, WA	4,070	4,505	4,560	5,110	5,951	233.1	254.5	253.0	278.5	324.3
St. Louis, MO-IL	4,436	4,474	4,411	4,429	4,762	328.1	330.5	325.1	325.8	350.3
Tampa-St. Petersburg-Clearwater, FL	3,657	3,532	3,752	3,835	4,195	267.0	256.3	270.0	271.8	297.3
Virginia Beach-Norfolk-Newport News, VA-NC	3,857	3,631	3,584	3,748	3,595	466.8	434.3	426.5	443.4	425.3
Washington-Arlington-Alexandria, DC-VA-MD-WV	6,867	7,461	7,725	5,813	6,359	244.6	261.1	265.8	197.2	215.8
SELECTED MSAs TOTAL	**234,332**	**240,208**	**240,342**	**259,825**	**287,163**	**282.5**	**286.5**	**283.8**	**303.4**	**335.4**

* MSAs were selected on the basis of the largest population in the 2010 U.S. Census.

NOTE: Cases reported with unknown sex are not included in this table.

Table 9. Chlamydia — Reported Cases and Rates of Reported Cases in Counties and Independent Cities* Ranked by Number of Reported Cases, United States, 2015

Rank*	County/Independent City	Cases	Rate per 100,000 Population	Cumulative Percentage
1	Los Angeles County, CA	56,968	563.1	3
2	Cook County, IL	39,539	753.6	6
3	Harris County, TX	25,881	582.7	8
4	Maricopa County, AZ	20,483	501.2	9
5	Philadelphia County, PA	19,169	1,228.5	10
6	Kings County, NY	18,332	699.2	11
7	San Diego County, CA	17,378	532.5	12
8	Bronx County, NY	16,540	1,150.1	14
9	Dallas County, TX	16,350	649.2	15
10	Wayne County, MI	14,899	844.2	16
11	New York County, NY	13,841	845.9	16
12	Bexar County, TX	13,148	708.5	17
13	Queens County, NY	12,471	537.2	18
14	Miami-Dade County, FL	11,851	445.0	19
15	Orange County, CA	11,317	359.8	20
16	San Bernardino County, CA	11,011	521.2	20
17	Clark County, NV	10,049	485.5	21
18	Riverside County, CA	9,767	419.3	22
19	Milwaukee County, WI	9,663	1,010.3	22
20	Tarrant County, TX	9,589	492.9	23
21	Broward County, FL	9,529	509.8	24
22	Mecklenburg County, NC	9,276	916.1	24
23	Franklin County, OH	9,193	746.6	25
24	Cuyahoga County, OH	9,073	720.2	25
25	Marion County, IN	8,869	949.3	26
26	King County, WA	8,447	406.1	27
27	Sacramento County, CA	8,421	568.2	27
28	Alameda County, CA	8,132	504.8	28
29	Shelby County, TN	8,054	857.9	28
30	Orange County, FL	8,002	638.6	29
31	Travis County, TX	7,951	690.7	29
32	San Francisco County, CA	7,648	897.2	30
33	Hillsborough County, FL	7,588	576.5	30
34	Hennepin County, MN	7,016	578.8	31
35	Hamilton County, OH	6,834	847.2	31
36	Santa Clara County, CA	6,733	355.4	32
37	Baltimore (City), MD	6,728	1,080.3	32
38	Duval County, FL	6,484	722.3	32
39	Prince George's County, MD	6,153	680.3	33
40	Denver County, CO	6,106	919.8	33
41	Kern County, CA	6,081	695.3	34
42	Fresno County, CA	5,946	615.5	34
43	Allegheny County, PA	5,854	475.4	34
44	Wake County, NC	5,771	577.9	35
45	Essex County, NJ	5,555	698.1	35
46	St. Louis County, MO	5,517	550.7	35
47	Honolulu County, HI	5,494	553.9	36
48	Pima County, AZ	5,480	545.5	36
49	Palm Beach County, FL	5,366	383.9	37
50	Jackson County, MO	5,252	768.7	37
51	Oklahoma County, OK	5,235	683.2	37
52	Jefferson County, KY	5,141	676.4	38
53	Erie County, NY	5,063	548.6	38
54	Fulton County, GA	4,990	500.8	38
55	Collin County, TX	4,899	553.4	39
56	Bernalillo County, NM	4,851	718.1	39
57	Guilford County, NC	4,781	933.6	39
58	Monroe County, NY	4,735	631.5	39
59	Contra Costa County, CA	4,697	422.6	40
60	El Paso County, TX	4,670	560.3	40
61	Multnomah County, OR	4,646	598.2	40
62	Jefferson County, AL	4,626	700.1	41
63	Pierce County, WA	4,617	555.0	41
64	Salt Lake County, UT	4,586	420.1	41
65	Orleans Parish, LA	4,418	1,149.6	42
66	Davidson County, TN	4,403	658.8	42
67	Tulsa County, OK	4,310	684.6	42
68	Pinellas County, FL	4,156	443.0	42
69	Middlesex County, MA	4,152	264.4	43
70	St. Louis (City), MO	4,042	1,273.4	43

* The top 70 counties and independent cities ranked in descending order by number of cases reported in 2015 then by rate are displayed.

Table 10. Chlamydia — Reported Cases and Rates of Reported Cases by Age Group and Sex, United States, 2011–2015

Age Group	Cases				Rates per 100,000 Population*			
	Total	Male	Female	Unknown Sex	Total	Male	Female	
0–4	747	284	458	5	3.7	2.8	4.6	2011
5–9	143	24	118	1	0.7	0.2	1.2	
10–14	15,405	1,743	13,588	74	74.4	16.5	134.3	
15–19	459,029	90,764	366,818	1,447	2,120.8	816.3	3,485.2	
20–24	542,947	147,948	393,534	1,465	2,450.8	1,307.8	3,630.0	
25–29	214,534	73,357	140,628	549	1,008.2	681.7	1,337.0	
30–34	91,787	34,971	56,562	254	447.5	340.1	553.0	
35–39	40,734	16,911	23,711	112	207.9	173.2	241.1	
40–44	21,654	10,460	11,120	74	102.9	100.0	105.2	
45–54	18,136	9,910	8,182	44	40.6	45.0	36.0	
55–64	4,210	2,300	1,903	7	11.1	12.5	9.7	
65+	1,064	569	486	9	2.6	3.2	2.1	
Unknown Age	2,401	729	1,444	228				
TOTAL	**1,412,791**	**389,970**	**1,018,552**	**4,269**	**453.4**	**254.4**	**643.4**	
0–4	774	272	495	7	3.9	2.7	5.1	2012
5–9	151	17	134	0	0.7	0.2	1.3	
10–14	14,355	1,655	12,673	27	69.5	15.7	125.5	
15–19	433,239	86,150	346,430	659	2,028.2	785.8	3,331.7	
20–24	554,173	152,772	400,629	772	2,453.9	1,322.8	3,630.9	
25–29	224,014	77,666	146,037	311	1,046.9	716.2	1,383.8	
30–34	97,736	38,011	59,594	131	467.4	362.2	572.1	
35–39	43,660	18,274	25,313	73	224.0	188.1	259.0	
40–44	23,882	11,596	12,245	41	113.6	110.9	115.9	
45–54	20,321	11,332	8,961	28	45.9	52.0	39.9	
55–64	4,950	2,783	2,161	6	12.8	15.0	10.8	
65+	1,134	602	525	7	2.6	3.2	2.2	
Unknown Age	4,587	1,427	3,075	85				
TOTAL	**1,422,976**	**402,557**	**1,018,272**	**2,147**	**453.3**	**260.6**	**638.7**	
0–4	681	266	402	13	3.4	2.6	4.1	2013
5–9	145	20	123	2	0.7	0.2	1.2	
10–14	12,585	1,554	11,001	30	60.9	14.7	108.9	
15–19	395,612	78,404	316,438	770	1,869.7	722.9	3,068.4	
20–24	553,658	153,102	399,545	1,011	2,428.8	1,310.9	3,594.2	
25–29	233,429	82,190	150,733	506	1,081.7	749.9	1,419.3	
30–34	103,675	41,017	62,414	244	487.6	384.0	589.8	
35–39	46,991	20,157	26,720	114	239.7	206.0	272.1	
40–44	24,774	12,200	12,501	73	118.8	117.8	119.2	
45–54	21,511	12,180	9,299	32	49.1	56.5	41.9	
55–64	5,424	3,154	2,259	11	13.8	16.6	11.1	
65+	1,377	750	616	11	3.1	3.8	2.5	
Unknown Age	2,044	658	1,297	89				
TOTAL	**1,401,906**	**405,652**	**993,348**	**2,906**	**443.5**	**260.6**	**619.0**	
0–4	603	200	388	15	3.0	2.0	4.0	2014
5–9	181	26	152	3	0.9	0.2	1.5	
10–14	11,406	1,342	10,041	23	55.2	12.7	99.2	
15–19	381,717	77,908	303,294	515	1,811.9	722.4	2,949.3	
20–24	566,385	159,804	405,876	705	2,472.0	1,361.3	3,632.7	
25–29	253,825	91,729	161,793	303	1,154.4	821.8	1,494.4	
30–34	113,208	45,990	67,060	158	525.9	425.5	625.6	
35–39	52,536	22,894	29,545	97	263.7	230.3	296.0	
40–44	27,426	13,711	13,662	53	133.2	134.2	131.7	
45–54	24,773	14,318	10,424	31	57.0	66.8	47.3	
55–64	6,527	3,911	2,603	13	16.3	20.2	12.5	
65+	1,449	871	570	8	3.1	4.3	2.2	
Unknown Age	1,753	621	1,033	99				
TOTAL	**1,441,789**	**433,325**	**1,006,441**	**2,023**	**452.2**	**276.1**	**621.6**	
0–4	518	196	322	0	2.6	1.9	3.3	2015
5–9	148	18	130	0	0.7	0.2	1.3	
10–14	10,642	1,216	9,394	32	51.5	11.5	92.8	
15–19	391,396	82,775	307,937	684	1,857.8	767.6	2,994.4	
20–24	589,963	172,313	416,772	878	2,574.9	1,467.8	3,730.3	
25–29	280,429	104,679	175,291	459	1,275.4	937.9	1,619.1	
30–34	123,866	52,019	71,653	194	575.4	481.3	668.4	
35–39	59,905	27,180	32,621	104	300.7	273.4	326.8	
40–44	30,379	15,210	15,118	51	147.5	148.8	145.8	
45–54	28,833	17,011	11,764	58	66.3	79.4	53.4	
55–64	7,756	4,901	2,840	15	19.4	25.4	13.7	
65+	1,596	1,043	546	7	3.5	5.1	2.1	
Unknown Age	1,227	420	755	52				
TOTAL	**1,526,658**	**478,981**	**1,045,143**	**2,534**	**478.8**	**305.2**	**645.5**	

* No population data are available for unknown sex and age; therefore, rates are not calculated.

NOTE: This table should be used only for age comparisons. Cases in the 0–4 age group may include cases due to perinatal transmission.

Table 11A. Chlamydia — Reported Cases by Race/Ethnicity, Age Group, and Sex, United States*, 2015

Age Group	American Indians/ Alaska Natives			Asians			Blacks			Native Hawaiians/ Other Pacific Islanders		
	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female
0–4	4	1	3	4	2	2	123	40	83	1	0	1
5–9	2	0	2	0	0	0	46	5	41	0	0	0
10–14	168	8	160	42	3	39	4,215	575	3,636	19	3	16
15–19	4,065	701	3,362	2,656	404	2,248	125,272	32,090	93,081	709	109	598
20–24	5,833	1,256	4,577	6,766	1,662	5,097	168,671	54,126	114,437	1,325	315	1,010
25–29	3,435	925	2,510	4,344	1,562	2,779	75,111	30,211	44,854	703	211	492
30–34	1,663	457	1,206	2,341	920	1,418	29,763	13,857	15,877	359	107	252
35–39	769	205	563	1,298	556	741	13,472	7,109	6,358	152	53	99
40–44	338	90	248	756	351	405	6,156	3,665	2,483	53	21	32
45–54	292	97	195	672	329	342	5,620	3,625	1,993	49	19	30
55–64	61	21	40	183	81	102	1,559	1,007	549	14	8	6
65+	10	6	4	41	22	19	232	154	78	0	0	0
Unknown Age	12	4	8	16	2	14	175	70	102	9	3	5
TOTAL	**16,652**	**3,771**	**12,878**	**19,119**	**5,894**	**13,206**	**430,415**	**146,534**	**283,572**	**3,393**	**849**	**2,541**

Age Group	Whites			Multirace			Hispanics			Other/ Unknown		
	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female
0–4	89	38	51	4	1	3	65	25	40	215	82	133
5–9	20	2	18	1	0	1	29	3	26	46	8	38
10–14	1,664	92	1,568	73	2	71	1,305	150	1,154	3,039	366	2,652
15–19	89,407	14,240	75,106	2,316	369	1,947	49,487	9,314	40,138	115,522	25,013	90,068
20–24	148,222	41,176	106,961	3,007	855	2,150	77,198	19,982	57,150	176,303	52,067	123,662
25–29	69,337	26,103	43,176	1,304	596	707	39,781	13,494	26,247	84,831	30,878	53,681
30–34	29,965	12,981	16,965	593	360	232	19,281	7,170	12,089	39,202	15,783	23,316
35–39	13,944	6,650	7,280	280	195	84	9,579	3,764	5,807	20,057	8,420	11,570
40–44	7,114	3,864	3,249	163	130	32	4,728	2,024	2,693	10,890	4,939	5,924
45–54	7,485	5,170	2,309	182	148	34	3,768	1,959	1,803	10,536	5,491	5,012
55–64	2,192	1,685	507	34	27	7	684	367	317	2,975	1,666	1,299
65+	448	342	105	8	7	1	111	63	47	735	442	288
Unknown Age	178	55	120	5	0	5	176	47	126	607	220	345
TOTAL	**370,065**	**112,398**	**257,415**	**7,970**	**2,690**	**5,274**	**206,192**	**58,362**	**147,637**	**464,958**	**145,375**	**317,988**

* Includes 50 states reporting race/ethnicity data in the Office of Management and Budget compliant formats in 2015.
† Total includes cases reported with unknown sex.
NOTE: These tables should be used only for race/ethnicity comparisons. See Table 10 for age-specific cases and rates and Tables 3–5 for total and sex-specific cases and rates. Cases in the 0–4 age group may include cases due to perinatal transmission.

Table 11B. Chlamydia — Rates of Reported Cases per 100,000 Population by Race/Ethnicity, Age Group, and Sex, United States*, 2015

Age Group	American Indians/ Alaska Natives			Asians			Blacks			Native Hawaiians/ Other Pacific Islanders		
	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female
0–4	2.4	1.2	3.6	0.4	0.4	0.4	4.5	2.9	6.2	2.5	0.0	5.1
5–9	1.1	0.0	2.3	0.0	0.0	0.0	1.6	0.4	3.0	0.0	0.0	0.0
10–14	94.6	8.8	183.6	4.2	0.6	7.9	148.9	40.1	260.6	48.1	14.8	82.9
15–19	2,229.6	754.8	3,758.4	267.9	80.6	458.9	4,200.8	2,119.6	6,340.3	1,770.9	526.6	3,092.0
20–24	2,887.9	1,213.8	4,646.5	552.1	267.2	844.6	4,936.0	3,128.8	6,782.5	2,759.8	1,277.4	4,325.3
25–29	1,944.5	1,033.3	2,880.7	309.1	228.5	385.0	2,546.1	2,079.7	2,995.5	1,398.3	812.6	2,023.9
30–34	1,032.3	570.5	1,489.0	162.3	135.6	185.6	1,088.7	1,057.5	1,115.3	756.1	437.3	1,095.0
35–39	531.7	285.2	773.9	95.1	87.3	101.8	535.7	597.7	479.8	376.5	255.6	504.3
40–44	232.1	125.6	335.1	54.9	54.6	55.2	239.1	302.7	182.1	144.5	113.7	175.9
45–54	93.1	63.9	120.5	29.2	30.6	27.8	106.4	146.1	71.2	72.0	56.0	87.9
55–64	22.7	16.6	28.2	9.9	9.7	10.0	35.1	49.7	22.7	27.2	31.8	22.9
65+	4.3	5.8	3.1	2.2	2.7	1.8	5.8	9.7	3.3	0.0	0.0	0.0
Unknown Age												
TOTAL	**709.1**	**325.8**	**1,081.2**	**114.1**	**74.0**	**150.2**	**1,097.6**	**782.0**	**1,384.8**	**622.1**	**308.2**	**941.3**

Age Group	Whites			Multirace			Hispanics		
	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female
0–4	0.9	0.7	1.1	0.4	0.2	0.7	1.3	1.0	1.6
5–9	0.2	0.0	0.4	0.1	0.0	0.2	0.6	0.1	1.0
10–14	15.1	1.6	29.2	9.7	0.5	19.2	26.9	6.1	48.5
15–19	775.2	240.3	1,339.1	349.4	109.9	594.9	1,067.0	391.9	1,775.2
20–24	1,174.8	637.2	1,737.8	525.1	301.0	744.9	1,617.9	803.7	2,500.9
25–29	556.7	412.9	704.0	301.3	289.0	312.2	896.1	575.4	1,253.3
30–34	244.1	209.6	279.0	159.4	205.3	117.9	435.7	310.1	572.2
35–39	122.6	116.1	129.1	90.9	134.7	51.4	232.1	177.4	289.5
40–44	57.9	62.6	53.1	59.0	99.8	21.9	122.7	103.6	141.8
45–54	26.2	36.3	16.1	37.8	64.9	13.4	59.6	61.4	57.5
55–64	7.6	11.9	3.4	9.1	15.2	3.6	16.9	18.8	15.1
65+	1.2	2.1	0.5	2.5	4.9	0.6	3.1	4.1	2.3
Unknown Age									
TOTAL	**187.2**	**115.4**	**256.7**	**125.0**	**85.9**	**162.7**	**372.7**	**208.6**	**540.1**

* Includes 50 states reporting race/ethnicity data in the Office of Management and Budget compliant formats in 2015.
† Total includes cases reported with unknown sex.
NOTE: These tables should be used only for race/ethnicity comparisons. See Table 10 for age-specific cases and rates and Tables 3–5 for total and sex-specific cases and rates. Cases in the 0–4 age group may include cases due to perinatal transmission. No population data exist for unknown sex, unknown age, or unknown race; therefore rates are not calculated.

Table 12. Chlamydia Among Women Aged 15–24 Years — Reported Cases and Rates of Reported Cases by Age, United States, 2011–2015

	Age	Cases	Rate per 100,000 Population
2011	15	25,792	1,272.2
	16	48,942	2,368.5
	17	75,143	3,569.5
	18	104,501	4,902.9
	19	112,440	5,122.9
	20	107,958	4,804.7
	21	95,195	4,236.2
	22	77,799	3,605.2
	23	62,339	2,953.3
	24	50,243	2,417.5
2012	15	24,453	1,207.2
	16	45,041	2,212.8
	17	69,465	3,346.4
	18	99,459	4,699.5
	19	108,012	5,036.6
	20	104,425	4,727.7
	21	96,456	4,266.0
	22	81,292	3,593.9
	23	65,473	3,011.7
	24	52,983	2,489.8
2013	15	21,680	1,070.3
	16	40,528	1,994.3
	17	61,666	3,018.5
	18	90,330	4,332.6
	19	102,234	4,806.0
	20	99,556	4,617.4
	21	93,713	4,219.8
	22	81,884	3,600.6
	23	68,600	3,013.5
	24	55,792	2,548.7
2014	15	20,096	987.4
	16	38,507	1,891.0
	17	58,940	2,880.9
	18	87,040	4,224.2
	19	98,711	4,688.0
	20	98,480	4,581.9
	21	94,204	4,323.2
	22	82,581	3,679.3
	23	71,535	3,112.0
	24	59,076	2,567.1
2015	15	19,643	965.1
	16	37,786	1,855.6
	17	60,149	2,940.0
	18	89,481	4,342.6
	19	100,878	4,790.9
	20	99,861	4,646.2
	21	95,927	4,402.3
	22	84,740	3,775.5
	23	73,686	3,205.5
	24	62,558	2,718.5

NOTE: This table should be used only for age comparisons. Cases reported with unknown sex are not included in this table.

Table 13. Gonorrhea — Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States, 2015

Rank*	State	Cases	Rate per 100,000 Population
1	Louisiana	10,282	221.1
2	North Carolina	19,809	199.2
3	Mississippi	5,775	192.9
4	South Carolina	8,206	169.8
5	Oklahoma	6,542	168.7
6	Arkansas	4,780	161.1
7	Georgia	15,982	158.3
8	Alaska	1,113	151.1
9	Alabama	7,196	148.4
10	Missouri	8,942	147.5
11	Texas	39,717	147.3
12	Ohio	16,564	142.9
13	Delaware	1,310	140.0
14	California	54,135	139.5
15	Illinois	17,130	133.0
16	New York	25,561	129.4
17	Tennessee	8,386	128.0
18	Nevada	3,630	127.9
	U.S. TOTAL†	**395,216**	**123.9**
19	South Dakota	1,048	122.8
20	Arizona	8,245	122.5
21	Florida	24,125	121.3
22	New Mexico	2,489	119.3
23	Indiana	7,843	118.9
24	Maryland	6,858	114.8
25	Kentucky	4,678	106.0
26	Michigan	10,330	104.2
27	Washington	7,171	101.6
28	Pennsylvania	12,791	100.0
29	Virginia	8,099	97.3
30	North Dakota	684	92.5
31	Wisconsin	5,260	91.4
32	Nebraska	1,703	90.5
33	Kansas	2,536	87.3
34	Hawaii	1,239	87.3
35	Montana	844	82.5
36	Colorado	4,387	81.9
37	Oregon	3,232	81.4
38	New Jersey	7,228	80.9
39	Minnesota	4,097	75.1
40	Iowa	2,247	72.3
41	Connecticut	2,088	58.1
42	Massachusetts	3,817	56.6
43	Rhode Island	580	55.0
44	Utah	1,562	53.1
45	West Virginia	769	41.6
46	Maine	417	31.4
47	Wyoming	175	30.0
48	Idaho	472	28.9
49	Vermont	155	24.7
50	New Hampshire	245	18.5

* States were ranked by rate, then by case count, then in alphabetical order, with rates shown rounded to the nearest tenth.

† Total includes cases reported by the District of Columbia with 2,742 cases and a rate of 416.2, but excludes outlying areas (Guam with 147 cases and rate of 91.3, Puerto Rico with 620 cases and rate of 17.5, and Virgin Islands with 52 cases and rate of 49.9).

Table 14. Gonorrhea — Reported Cases and Rates of Reported Cases by State/Area and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	9,132	9,270	8,377	7,677	7,196	190.1	192.2	173.3	158.3	148.4
Alaska	984	726	1,128	1,341	1,113	136.2	99.3	153.4	182.0	151.1
Arizona	4,564	5,809	6,412	7,750	8,245	70.4	88.6	96.8	115.1	122.5
Arkansas	4,687	4,307	4,007	4,539	4,780	159.5	146.0	135.4	153.0	161.1
California	27,516	33,579	38,166	45,408	54,135	73.0	88.3	99.6	117.0	139.5
Colorado	2,363	2,822	2,820	3,170	4,387	46.2	54.4	53.5	59.2	81.9
Connecticut	2,449	2,133	2,860	2,333	2,088	68.4	59.4	79.5	64.9	58.1
Delaware	827	899	1,390	1,279	1,310	91.2	98.0	150.1	136.7	140.0
District of Columbia	2,569	2,402	2,478	1,883	2,742	415.7	379.9	383.3	285.8	416.2
Florida	19,689	19,462	20,818	20,944	24,125	103.3	100.7	106.5	105.3	121.3
Georgia	16,428	15,326	14,252	13,770	15,982	167.4	154.5	142.6	136.4	158.3
Hawaii	685	815	718	1,020	1,239	49.8	58.5	51.1	71.9	87.3
Idaho	162	167	211	443	472	10.2	10.5	13.1	27.1	28.9
Illinois	17,037	18,149	16,464	15,970	17,130	132.4	141.0	127.8	124.0	133.0
Indiana	6,569	7,338	7,144	7,289	7,843	100.8	112.2	108.7	110.5	118.9
Iowa	1,920	2,006	1,472	1,641	2,247	62.7	65.3	47.6	52.8	72.3
Kansas	2,209	2,228	2,161	2,568	2,536	76.9	77.2	74.7	88.4	87.3
Kentucky	4,521	4,283	4,315	4,353	4,678	103.5	97.8	98.2	98.6	106.0
Louisiana	9,169	8,873	8,669	9,002	10,282	200.4	192.8	187.4	193.6	221.1
Maine	272	456	245	237	417	20.5	34.3	18.4	17.8	31.4
Maryland	6,458	5,686	5,989	6,108	6,858	110.8	96.6	101.0	102.2	114.8
Massachusetts	2,353	2,628	3,106	3,817	3,817	35.7	39.5	46.4	56.6	56.6
Michigan	12,901	12,584	10,569	9,688	10,330	130.6	127.3	106.8	97.8	104.2
Minnesota	2,284	3,082	3,873	4,073	4,097	42.7	57.3	71.5	74.6	75.1
Mississippi	5,814	6,875	5,096	5,625	5,775	195.2	230.3	170.4	187.9	192.9
Missouri	7,802	7,889	7,546	7,387	8,942	129.8	131.0	124.8	121.8	147.5
Montana	85	108	224	434	844	8.5	10.7	22.1	42.4	82.5
Nebraska	1,352	1,429	1,385	1,459	1,703	73.4	77.0	74.1	77.5	90.5
Nevada	2,000	2,264	2,714	3,188	3,630	73.4	82.1	97.3	112.3	127.9
New Hampshire	130	147	121	226	245	9.9	11.1	9.1	17.0	18.5
New Jersey	7,348	7,486	7,014	6,636	7,228	83.3	84.4	78.8	74.2	80.9
New Mexico	1,839	1,883	1,918	2,246	2,489	88.3	90.3	92.0	107.7	119.3
New York	20,706	22,571	19,919	20,758	25,561	106.4	115.3	101.4	105.1	129.4
North Carolina	17,454	14,318	13,666	14,415	19,809	180.8	146.8	138.8	145.0	199.2
North Dakota	251	335	492	694	684	36.7	47.9	68.0	93.8	92.5
Ohio	16,726	16,493	16,619	16,237	16,564	144.9	142.9	143.6	140.0	142.9
Oklahoma	4,215	4,441	5,303	6,137	6,542	111.2	116.4	137.7	158.2	168.7
Oregon	1,489	1,464	1,729	2,320	3,232	38.5	37.5	44.0	58.4	81.4
Pennsylvania	13,770	15,390	13,874	12,710	12,791	108.1	120.6	108.6	99.4	100.0
Rhode Island	360	507	454	590	580	34.2	48.3	43.2	55.9	55.0
South Carolina	8,350	7,638	7,194	8,253	8,206	178.4	161.7	150.7	170.8	169.8
South Dakota	602	707	784	892	1,048	73.1	84.8	92.8	104.6	122.8
Tennessee	7,667	9,098	7,376	7,199	8,386	119.7	140.9	113.5	109.9	128.0
Texas	30,930	32,473	33,835	35,322	39,717	120.5	124.6	127.9	131.0	147.3
Utah	277	479	951	1,441	1,562	9.8	16.8	32.8	49.0	53.1
Vermont	48	99	97	84	155	7.7	15.8	15.5	13.4	24.7
Virginia	6,518	6,885	6,952	8,250	8,099	80.5	84.1	84.2	99.1	97.3
Washington	2,737	3,238	4,369	6,221	7,171	40.1	46.9	62.7	88.1	101.6
West Virginia	796	831	1,063	841	769	42.9	44.8	57.3	45.5	41.6
Wisconsin	4,789	4,704	4,599	4,078	5,260	83.8	82.1	80.1	70.8	91.4
Wyoming	46	44	66	116	175	8.1	7.6	11.3	19.9	30.0
U.S. TOTAL	**321,849**	**334,826**	**333,004**	**350,062**	**395,216**	**103.3**	**106.7**	**105.3**	**109.8**	**123.9**
Northeast	47,436	51,417	47,690	47,391	52,882	85.4	92.2	85.2	84.4	94.2
Midwest	74,442	76,944	73,108	71,976	78,384	110.8	114.3	108.2	106.2	115.7
South	155,224	153,067	150,780	155,597	175,256	133.8	130.5	127.4	129.9	146.3
West	44,747	53,398	61,426	75,098	88,694	61.4	72.6	82.7	99.9	118.0
Guam	96	92	92	99	147	60.2	57.5	57.4	61.5	91.3
Puerto Rico	341	345	356	454	620	9.2	9.4	9.8	12.8	17.5
Virgin Islands	139	136	58	84	52	131.4	129.2	55.4	80.6	49.9
OUTLYING AREAS	**576**	**573**	**506**	**637**	**819**	**14.5**	**14.6**	**13.0**	**16.7**	**21.5**
TOTAL	**322,425**	**335,399**	**333,510**	**350,699**	**396,035**	**102.2**	**105.5**	**104.2**	**108.7**	**122.7**

Table 15. Gonorrhea Among Women — Reported Cases and Rates of Reported Cases by State/Area and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	5,103	5,187	4,668	4,090	3,629	206.3	208.9	187.6	163.6	145.2
Alaska	515	385	589	665	567	148.2	109.9	168.5	190.3	162.3
Arizona	2,212	2,827	3,102	3,564	3,505	67.9	85.8	93.1	105.2	103.5
Arkansas	2,687	2,432	2,160	2,527	2,510	179.7	162.1	143.4	167.5	166.3
California	10,811	13,045	14,258	16,009	18,404	57.1	68.2	74.0	82.0	94.2
Colorado	1,285	1,362	1,243	1,318	1,832	50.4	52.7	47.4	49.5	68.8
Connecticut	1,378	1,153	1,419	1,108	851	75.1	62.6	77.0	60.1	46.2
Delaware	471	496	763	693	641	100.8	104.9	159.7	143.5	132.7
District of Columbia	1,209	1,006	953	858	874	371.1	301.8	280.1	247.8	252.4
Florida	9,999	9,570	9,718	9,228	10,078	102.7	97.0	97.3	90.7	99.1
Georgia	8,589	7,921	7,060	6,552	7,322	171.4	156.3	138.1	126.7	141.6
Hawaii	273	299	264	350	446	39.9	43.3	38.0	49.9	63.6
Idaho	79	63	87	196	197	10.0	7.9	10.8	24.0	24.1
Illinois	9,500	9,837	8,574	7,559	7,698	144.9	150.1	130.8	115.2	117.4
Indiana	3,690	4,139	3,796	3,819	3,984	111.5	124.7	113.8	114.1	119.0
Iowa	1,217	1,170	812	862	1,122	78.8	75.5	52.2	55.1	71.7
Kansas	1,360	1,339	1,222	1,464	1,262	94.1	92.3	84.2	100.5	86.6
Kentucky	2,596	2,328	2,331	2,270	2,242	117.0	104.7	104.4	101.3	100.1
Louisiana	5,263	5,080	4,927	5,049	5,535	225.3	216.2	208.6	212.5	233.0
Maine	122	240	119	98	143	18.0	35.4	17.5	14.4	21.1
Maryland	3,461	2,878	2,841	2,793	3,090	115.1	94.9	93.0	90.7	100.3
Massachusetts	1,083	1,076	1,168	1,215	1,027	31.9	31.4	33.9	35.0	29.6
Michigan	7,599	7,194	5,865	5,129	5,191	151.1	142.9	116.5	101.7	103.0
Minnesota	1,294	1,676	2,037	1,802	1,675	48.1	61.9	74.7	65.6	61.0
Mississippi	3,344	3,834	2,726	2,987	3,131	218.3	249.7	177.4	194.0	203.4
Missouri	4,195	4,209	3,944	3,620	4,187	136.8	137.1	128.0	117.2	135.5
Montana	51	58	127	221	462	10.3	11.6	25.1	43.4	90.7
Nebraska	823	784	694	770	870	88.7	84.0	73.9	81.5	92.1
Nevada	879	982	1,203	1,294	1,402	65.2	71.8	86.9	91.6	99.3
New Hampshire	59	61	52	91	65	8.8	9.1	7.8	13.6	9.7
New Jersey	3,916	3,798	3,484	3,082	3,110	86.6	83.6	76.5	67.3	68.0
New Mexico	925	857	823	961	1,087	87.9	81.4	78.3	91.3	103.3
New York	9,716	10,021	8,020	7,077	8,593	96.8	99.4	79.3	69.6	84.5
North Carolina	10,076	8,093	7,547	7,759	10,064	203.4	161.9	149.5	152.2	197.4
North Dakota	149	207	301	385	375	44.1	60.2	85.2	106.8	104.0
Ohio	10,009	9,706	9,176	8,735	8,466	169.5	164.5	155.2	147.6	143.0
Oklahoma	2,395	2,652	3,000	3,451	3,580	125.1	137.8	154.4	176.3	182.8
Oregon	602	528	566	786	1,158	30.8	26.8	28.5	39.2	57.7
Pennsylvania	7,687	8,360	7,206	6,164	5,889	117.7	128.0	110.3	94.3	90.1
Rhode Island	167	232	192	218	172	30.8	42.8	35.4	40.1	31.6
South Carolina	4,981	4,416	4,050	4,527	4,401	207.3	182.0	165.2	182.3	177.2
South Dakota	399	446	464	557	621	97.1	107.5	110.3	131.4	146.5
Tennessee	4,112	4,721	3,617	3,419	3,809	125.3	142.7	108.7	101.8	113.5
Texas	16,476	17,151	17,206	17,253	17,843	127.4	130.8	129.4	127.1	131.4
Utah	66	132	373	565	507	4.7	9.3	25.9	38.6	34.7
Vermont	24	54	46	35	85	7.6	17.0	14.5	11.0	26.8
Virginia	3,693	3,734	3,678	4,361	4,007	89.6	89.7	87.6	103.1	94.7
Washington	1,066	1,230	1,704	2,504	2,797	31.2	35.6	48.8	70.9	79.2
West Virginia	467	438	539	461	365	49.7	46.6	57.4	49.2	39.0
Wisconsin	2,907	2,640	2,455	2,046	2,557	101.1	91.6	84.9	70.6	88.2
Wyoming	25	19	39	61	86	9.0	6.7	13.7	21.3	30.1
U.S. TOTAL	**171,005**	**172,066**	**163,208**	**162,608**	**173,514**	**108.0**	**107.9**	**101.7**	**100.4**	**107.2**
Northeast	24,152	24,995	21,706	19,088	19,935	84.7	87.3	75.6	66.3	69.2
Midwest	43,142	43,347	39,340	36,748	38,008	126.5	126.9	114.8	107.0	110.6
South	84,922	81,937	77,784	78,278	83,121	143.6	137.1	129.0	128.2	136.1
West	18,789	21,787	24,378	28,494	32,450	51.4	59.1	65.5	75.6	86.0
Guam	44	46	43	47	67	56.0	58.4	54.4	59.2	84.4
Puerto Rico	140	157	120	161	259	7.2	8.2	6.4	8.7	14.0
Virgin Islands	94	92	41	54	28	167.3	164.2	73.4	97.1	50.3
OUTLYING AREAS	**278**	**295**	**204**	**262**	**354**	**13.4**	**14.4**	**10.1**	**13.2**	**17.9**
TOTAL	**171,283**	**172,361**	**163,412**	**162,870**	**173,868**	**106.8**	**106.7**	**100.6**	**99.4**	**106.1**

NOTE: Cases reported with unknown sex are not included in this table.

Table 16. Gonorrhea Among Men — Reported Cases and Rates of Reported Cases by State/Area and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	3,825	4,034	3,680	3,563	3,519	164.2	172.5	156.9	151.6	149.7
Alaska	469	341	539	676	546	125.0	89.4	139.8	174.5	141.0
Arizona	2,350	2,981	3,310	4,186	4,724	72.9	91.5	100.5	125.2	141.3
Arkansas	1,996	1,873	1,843	2,007	2,270	138.3	129.3	126.8	137.7	155.8
California	16,598	20,431	23,849	29,310	35,644	88.5	108.0	125.1	152.1	185.0
Colorado	1,078	1,460	1,577	1,852	2,555	42.0	56.1	59.6	68.8	94.9
Connecticut	1,071	978	1,440	1,219	1,237	61.4	55.9	82.1	69.5	70.5
Delaware	356	403	627	586	669	80.9	90.7	140.0	129.4	147.8
District of Columbia	1,360	1,386	1,519	1,011	1,817	465.4	463.5	496.0	323.4	581.3
Florida	9,675	9,892	11,049	11,686	14,039	103.8	104.7	115.5	120.2	144.4
Georgia	7,684	7,301	7,075	7,137	8,631	160.0	150.5	144.9	144.9	175.2
Hawaii	412	516	454	669	793	59.7	73.5	64.0	93.2	110.4
Idaho	83	104	124	247	275	10.5	13.0	15.4	30.2	33.6
Illinois	7,513	8,283	7,872	8,386	9,335	119.0	131.1	124.4	132.7	147.7
Indiana	2,867	3,188	3,347	3,465	3,854	89.4	99.1	103.4	106.6	118.6
Iowa	703	836	660	779	1,122	46.3	54.8	43.0	50.5	72.7
Kansas	849	889	939	1,104	1,274	59.5	61.9	65.1	76.3	88.0
Kentucky	1,913	1,948	1,966	2,068	2,430	89.0	90.3	90.9	95.2	111.8
Louisiana	3,739	3,793	3,742	3,953	4,747	167.0	168.4	165.3	173.8	208.8
Maine	150	216	126	137	274	23.1	33.2	19.4	21.0	42.1
Maryland	2,992	2,806	3,145	3,304	3,755	106.1	98.4	109.4	114.1	129.6
Massachusetts	1,269	1,551	1,932	2,590	2,768	39.8	48.2	59.5	79.2	84.6
Michigan	5,281	5,372	4,694	4,551	5,129	109.0	110.8	96.6	93.5	105.4
Minnesota	990	1,395	1,835	2,260	2,420	37.3	52.2	68.1	83.3	89.2
Mississippi	2,470	3,039	2,370	2,637	2,638	170.8	209.7	162.9	181.3	181.4
Missouri	3,607	3,680	3,602	3,767	4,755	122.5	124.7	121.5	126.7	159.9
Montana	34	50	97	213	381	6.8	9.9	19.0	41.4	74.1
Nebraska	528	641	674	686	833	57.7	69.5	72.5	73.2	88.9
Nevada	1,121	1,280	1,509	1,892	2,218	81.6	92.0	107.4	132.6	155.5
New Hampshire	71	86	69	135	180	10.9	13.2	10.6	20.6	27.5
New Jersey	3,400	3,673	3,514	3,544	4,108	79.1	85.0	80.9	81.2	94.2
New Mexico	914	1,025	1,095	1,284	1,401	88.7	99.3	105.9	124.3	135.6
New York	10,977	12,529	11,844	13,624	16,893	116.4	132.0	124.2	142.2	176.3
North Carolina	7,300	6,180	6,113	6,652	9,744	155.2	130.0	127.3	137.3	201.1
North Dakota	101	127	191	309	309	29.2	35.7	51.6	81.5	81.5
Ohio	6,717	6,787	7,443	7,502	8,098	119.1	120.3	131.5	132.2	142.7
Oklahoma	1,708	1,789	2,303	2,685	2,962	91.0	94.7	120.7	139.8	154.3
Oregon	887	936	1,163	1,532	2,073	46.3	48.5	59.8	78.0	105.5
Pennsylvania	6,078	7,025	6,659	6,543	6,892	97.8	112.8	106.7	104.6	110.2
Rhode Island	193	275	262	372	408	38.0	54.1	51.4	72.7	79.8
South Carolina	3,351	3,196	3,133	3,689	3,781	147.2	139.1	134.9	157.0	160.9
South Dakota	202	259	320	335	427	48.9	61.9	75.4	78.0	99.5
Tennessee	3,555	4,368	3,758	3,778	4,577	113.9	138.7	118.7	118.4	143.4
Texas	14,448	15,286	16,410	18,035	21,792	113.4	118.1	124.8	134.8	162.8
Utah	211	347	578	876	1,055	14.9	24.2	39.6	59.2	71.3
Vermont	24	45	51	49	70	7.8	14.6	16.5	15.9	22.7
Virginia	2,814	3,145	3,272	3,879	4,085	70.8	78.2	80.5	94.7	99.7
Washington	1,671	2,008	2,665	3,717	4,374	49.0	58.3	76.5	105.3	123.9
West Virginia	329	393	524	380	404	36.0	42.9	57.2	41.6	44.2
Wisconsin	1,880	2,064	2,140	2,027	2,697	66.3	72.6	75.0	70.9	94.3
Wyoming	21	25	27	55	88	7.2	8.5	9.1	18.5	29.5
U.S. TOTAL	**149,835**	**162,235**	**169,130**	**186,943**	**221,070**	**97.7**	**105.0**	**108.7**	**119.1**	**140.9**
Northeast	23,233	26,378	25,897	28,213	32,830	86.1	97.2	95.1	103.2	120.0
Midwest	31,238	33,521	33,717	35,171	40,253	94.5	101.1	101.3	105.3	120.5
South	69,515	70,832	72,529	77,050	91,860	122.2	123.2	124.9	131.2	156.4
West	25,849	31,504	36,987	46,509	56,127	71.1	85.9	99.9	124.1	149.8
Guam	52	46	49	52	80	64.2	56.7	60.2	63.7	98.0
Puerto Rico	201	188	236	293	359	11.3	10.7	13.6	17.2	21.1
Virgin Islands	45	44	17	30	24	90.7	89.3	34.8	61.8	49.4
OUTLYING AREAS	**298**	**278**	**302**	**375**	**463**	**15.6**	**14.7**	**16.2**	**20.4**	**25.2**
TOTAL	**150,133**	**162,513**	**169,432**	**187,318**	**221,533**	**96.7**	**103.9**	**107.6**	**118.0**	**139.5**

NOTE: Cases reported with unknown sex are not included in this table.

Table 17. Gonorrhea — Reported Cases and Rates of Reported Cases in Selected Metropolitan Statistical Areas (MSAs)* in Alphabetical Order, United States, 2011–2015

MSAs	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Atlanta-Sandy Springs-Roswell, GA	8,577	8,299	5,452	7,256	6,471	159.5	152.1	98.7	129.2	115.3
Austin-Round Rock, TX	2,009	2,204	2,570	2,860	3,199	112.6	120.2	136.5	147.2	164.6
Baltimore-Columbia-Towson, MD	3,634	2,974	3,233	3,459	4,179	133.2	108.0	116.7	124.2	150.0
Birmingham-Hoover, AL	2,550	2,340	2,130	1,957	2,088	225.2	205.9	186.8	171.1	182.6
Boston-Cambridge-Newton, MA-NH	1,671	1,995	2,372	2,716	2,487	36.4	43.0	50.6	57.4	52.6
Buffalo-Cheektowaga-Niagara Falls, NY	1,543	2,172	1,232	1,342	1,982	136.1	191.5	108.6	118.1	174.4
Charlotte-Concord-Gastonia, NC-SC	3,832	3,172	3,058	3,645	4,673	169.7	138.1	130.9	153.1	196.3
Chicago-Naperville-Elgin, IL-IN-WI	13,188	14,304	12,793	12,630	13,529	138.8	150.2	134.1	132.2	141.6
Cincinnati, OH-KY-IN	3,515	3,227	3,229	3,346	3,713	165.6	151.6	151.1	155.7	172.7
Cleveland-Elyria, OH	3,930	4,203	4,155	3,802	3,428	190.0	203.7	201.2	184.2	166.1
Columbus, OH	3,038	2,859	3,220	3,260	3,676	157.9	147.1	163.7	163.4	184.3
Dallas-Fort Worth-Arlington, TX	8,743	7,842	8,354	9,195	11,334	132.8	117.0	122.7	132.2	163.0
Denver-Aurora-Lakewood, CO	1,662	2,055	1,828	2,016	2,838	63.9	77.7	67.8	73.2	103.0
Detroit-Warren-Dearborn, MI	8,924	8,062	6,564	5,311	5,494	208.2	187.8	152.8	123.6	127.9
Hartford-West Hartford-East Hartford, CT	1,036	744	1,065	894	726	85.4	61.3	87.6	73.6	59.8
Houston-The Woodlands-Sugar Land, TX	6,861	7,582	7,783	8,299	9,290	113.2	122.7	123.3	127.9	143.1
Indianapolis-Carmel-Anderson, IN	3,128	3,738	3,616	3,759	3,716	163.8	193.8	185.1	190.7	188.5
Jacksonville, FL	2,040	1,948	2,321	2,608	2,740	150.0	141.4	166.4	183.8	193.1
Kansas City, MO-KS	2,913	2,919	2,696	2,642	2,943	143.7	143.2	131.2	127.6	142.1
Las Vegas-Henderson-Paradise, NV	1,740	1,968	2,256	2,653	2,975	88.3	98.4	111.2	128.2	143.7
Los Angeles-Long Beach-Anaheim, CA	11,105	13,102	14,449	17,130	19,867	85.8	100.4	110.0	129.2	149.8
Louisville-Jefferson County, KY-IN	2,400	2,040	2,063	1,962	2,187	192.7	163.0	163.4	154.5	172.2
Memphis, TN-MS-AR	3,852	4,498	3,086	2,625	3,143	288.7	335.2	230.0	195.4	234.0
Miami-Fort Lauderdale-West Palm Beach, FL	5,352	5,291	5,801	6,128	6,905	94.4	91.8	99.5	103.3	116.4
Milwaukee-Waukesha-West Allis, WI	3,349	3,277	3,179	2,584	3,719	214.4	209.1	202.5	164.4	236.5
Minneapolis-St. Paul-Bloomington, MN-WI	1,889	2,534	3,188	3,341	3,289	55.8	74.0	92.2	95.6	94.1
Nashville-Davidson-Murfreesboro-Franklin, TN	1,681	1,900	1,806	1,922	2,200	99.0	110.0	102.7	107.2	122.7
New Orleans-Metairie, LA	2,099	2,198	2,448	2,667	2,929	173.1	179.1	197.3	213.0	234.0
New York-Newark-Jersey City, NY-NJ-PA	21,153	21,310	19,319	20,054	23,721	107.4	107.5	96.8	99.8	118.1
Oklahoma City, OK	1,845	1,947	2,352	2,366	2,403	144.4	150.2	178.2	177.0	179.8
Orlando-Kissimmee-Sanford, FL	2,277	2,328	2,514	2,571	3,073	104.9	104.7	110.9	110.8	132.4
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	10,123	11,026	10,557	9,618	9,724	168.9	183.2	174.9	158.9	160.7
Phoenix-Mesa-Scottsdale, AZ	3,340	4,526	4,918	5,944	6,495	78.3	104.5	111.8	132.4	144.7
Pittsburgh, PA	2,473	3,048	2,827	2,602	2,422	104.8	129.1	119.7	110.4	102.8
Portland-Vancouver-Hillsboro, OR-WA	1,318	1,183	1,199	1,499	2,386	58.3	51.7	51.8	63.8	101.6
Providence-Warwick, RI-MA	475	643	593	913	834	29.7	40.2	37.0	56.7	51.8
Raleigh, NC	1,606	1,532	1,384	1,408	2,018	138.0	128.9	114.0	113.3	162.4
Richmond, VA	1,419	1,671	1,658	2,173	2,200	116.4	135.6	133.1	172.5	174.6
Riverside-San Bernardino-Ontario, CA	2,330	3,031	3,273	4,292	4,904	54.1	69.7	74.7	96.6	110.4
Sacramento-Roseville-Arden-Arcade, CA	1,913	2,324	2,597	2,616	3,317	87.9	105.8	117.2	116.6	147.8
Salt Lake City, UT	197	342	690	1,026	1,078	17.8	30.4	60.5	89.0	93.5
San Antonio-New Braunfels, TX	3,731	3,672	3,352	3,155	4,160	170.0	164.4	147.2	135.5	178.6
San Diego-Carlsbad, CA	2,173	2,620	2,825	3,420	3,691	69.2	82.5	88.0	104.8	113.1
San Francisco-Oakland-Hayward, CA	5,009	5,263	5,681	7,110	9,330	114.1	118.1	125.8	154.8	203.1
San Jose-Sunnyvale-Santa Clara, CA	680	1,020	1,145	1,552	1,857	36.5	53.8	59.6	79.5	95.1
Seattle-Tacoma-Bellevue, WA	1,971	2,323	2,990	3,931	4,766	56.3	65.4	82.8	107.1	129.8
St. Louis, MO-IL	5,014	4,810	4,492	4,346	5,257	179.6	172.0	160.4	154.9	187.3
Tampa-St. Petersburg-Clearwater, FL	3,655	3,422	3,660	3,455	3,916	129.4	120.4	127.5	118.5	134.3
Virginia Beach-Norfolk-Newport News, VA-NC	2,813	2,630	2,581	3,206	3,300	166.9	154.7	151.2	186.8	192.2
Washington-Arlington-Alexandria, DC-VA-MD-WV	5,503	5,369	5,616	2,974	3,008	95.6	91.6	94.4	49.3	49.9
SELECTED MSAs TOTAL	**197,279**	**205,487**	**202,170**	**212,240**	**239,580**	**116.4**	**120.0**	**117.0**	**121.4**	**137.0**

* MSAs were selected on the basis of the largest population in the 2010 U.S. Census.

Table 18. Gonorrhea Among Women — Reported Cases and Rates of Reported Cases in Selected Metropolitan Statistical Areas (MSAs)* in Alphabetical Order, United States, 2011–2015

MSAs	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Atlanta-Sandy Springs-Roswell, GA	4,141	3,907	2,458	3,030	2,578	150.2	139.4	86.5	104.7	89.1
Austin-Round Rock, TX	935	993	1,078	1,213	1,039	105.1	108.5	114.8	124.9	107.0
Baltimore-Columbia-Towson, MD	1,941	1,527	1,542	1,608	1,964	137.2	107.1	107.5	111.5	136.2
Birmingham-Hoover, AL	1,417	1,280	1,099	970	999	241.6	217.3	186.0	163.4	168.3
Boston-Cambridge-Newton, MA-NH	730	738	828	844	601	30.8	30.9	34.3	34.7	24.7
Buffalo-Cheektowaga-Niagara Falls, NY	828	1,173	594	664	959	141.3	200.4	101.6	113.4	163.8
Charlotte-Concord-Gastonia, NC-SC	2,117	1,778	1,700	1,962	2,419	182.6	150.7	141.7	160.2	197.6
Chicago-Naperville-Elgin, IL-IN-WI	7,015	7,464	6,374	5,662	5,696	144.4	153.4	130.9	115.9	116.6
Cincinnati, OH-KY-IN	2,264	2,051	1,932	1,913	2,020	208.8	188.7	177.1	174.3	184.1
Cleveland-Elyria, OH	2,371	2,426	2,328	2,021	1,745	220.9	226.7	217.6	189.2	163.3
Columbus, OH	1,561	1,514	1,500	1,473	1,638	159.5	153.2	150.0	145.3	161.6
Dallas-Fort Worth-Arlington, TX	4,653	4,157	3,921	4,153	4,963	139.6	122.5	113.6	117.5	140.4
Denver-Aurora-Lakewood, CO	885	965	724	780	1,096	67.8	72.7	53.5	56.4	79.3
Detroit-Warren-Dearborn, MI	5,114	4,406	3,614	2,698	2,592	231.6	199.3	163.5	122.0	117.2
Hartford-West Hartford-East Hartford, CT	596	422	543	425	310	95.8	67.7	87.2	68.3	49.8
Houston-The Woodlands-Sugar Land, TX	3,803	4,039	4,033	4,151	4,113	124.9	130.2	127.2	127.2	126.0
Indianapolis-Carmel-Anderson, IN	1,674	1,957	1,761	1,828	1,791	171.5	198.5	176.4	181.3	177.6
Jacksonville, FL	1,121	983	1,121	1,288	1,237	160.6	139.1	156.7	176.9	169.9
Kansas City, MO-KS	1,592	1,585	1,424	1,361	1,409	153.9	152.4	136.0	128.9	133.5
Las Vegas-Henderson-Paradise, NV	742	847	1,015	1,039	1,129	75.8	85.1	100.5	100.5	109.2
Los Angeles-Long Beach-Anaheim, CA	3,944	4,359	4,578	5,029	5,778	60.2	65.9	68.9	74.8	85.9
Louisville-Jefferson County, KY-IN	1,375	1,096	1,079	992	1,012	215.6	171.2	167.0	152.6	155.7
Memphis, TN-MS-AR	2,192	2,418	1,550	1,371	1,469	315.9	346.6	222.0	196.0	210.0
Miami-Fort Lauderdale-West Palm Beach, FL	2,361	2,198	2,225	2,123	2,252	80.9	74.1	74.2	69.5	73.8
Milwaukee-Waukesha-West Allis, WI	1,980	1,814	1,655	1,298	1,850	247.0	225.5	205.5	160.8	229.2
Minneapolis-St. Paul-Bloomington, MN-WI	1,035	1,322	1,641	1,388	1,229	60.4	76.4	93.8	78.6	69.6
Nashville-Davidson-Murfreesboro-Franklin, TN	776	858	838	790	888	89.3	97.1	93.1	86.0	96.7
New Orleans-Metairie, LA	1,131	1,186	1,317	1,339	1,423	181.6	187.9	206.1	207.2	220.2
New York-Newark-Jersey City, NY-NJ-PA	9,826	9,157	7,615	6,544	7,349	96.5	89.3	73.9	63.1	70.8
Oklahoma City, OK	1,034	1,081	1,305	1,310	1,267	159.7	164.6	195.1	193.2	186.9
Orlando-Kissimmee-Sanford, FL	1,090	1,087	1,114	1,109	1,254	98.4	95.8	96.3	93.4	105.7
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5,361	5,581	5,052	4,461	4,277	173.0	179.3	162.0	142.7	136.8
Phoenix-Mesa-Scottsdale, AZ	1,568	2,118	2,318	2,658	2,708	73.2	97.3	104.8	117.6	119.9
Pittsburgh, PA	1,501	1,857	1,715	1,415	1,239	123.2	152.6	141.1	116.8	102.2
Portland-Vancouver-Hillsboro, OR-WA	482	393	325	382	764	42.1	33.9	27.8	32.2	64.3
Providence-Warwick, RI-MA	232	294	261	325	260	28.1	35.6	31.6	39.2	31.3
Raleigh, NC	868	807	677	638	857	145.7	132.7	108.9	100.2	134.6
Richmond, VA	797	908	957	1,194	1,141	126.6	142.6	148.7	183.4	175.3
Riverside-San Bernardino-Ontario, CA	1,196	1,562	1,576	1,966	2,208	55.3	71.5	71.7	88.1	98.9
Sacramento-Roseville-Arden-Arcade, CA	990	1,212	1,323	1,246	1,538	89.3	108.2	117.0	108.8	134.2
Salt Lake City, UT	41	88	263	376	325	7.4	15.8	46.4	65.5	56.6
San Antonio-New Braunfels, TX	1,835	1,865	1,624	1,445	1,785	164.4	164.5	140.7	122.4	151.2
San Diego-Carlsbad, CA	609	847	827	1,038	1,018	39.0	53.6	51.8	63.9	62.7
San Francisco-Oakland-Hayward, CA	1,531	1,493	1,491	1,836	2,101	68.9	66.2	65.2	78.9	90.2
San Jose-Sunnyvale-Santa Clara, CA	243	372	446	557	642	26.2	39.5	46.7	57.4	66.1
Seattle-Tacoma-Bellevue, WA	649	732	988	1,412	1,662	37.0	41.1	54.7	76.9	90.5
St. Louis, MO-IL	2,699	2,467	2,313	2,087	2,436	187.4	171.1	160.2	144.3	168.4
Tampa-St. Petersburg-Clearwater, FL	1,887	1,701	1,774	1,619	1,676	129.7	116.1	119.8	107.6	111.4
Virginia Beach-Norfolk-Newport News, VA-NC	1,563	1,402	1,341	1,711	1,701	182.0	162.3	154.7	196.4	195.2
Washington-Arlington-Alexandria, DC-VA-MD-WV	2,709	2,355	2,278	1,163	1,064	91.8	78.4	74.8	37.7	34.5
SELECTED MSAs TOTAL	**99,005**	**98,842**	**92,055**	**89,905**	**95,471**	**114.5**	**113.1**	**104.4**	**100.7**	**107.0**

* MSAs were selected on the basis of the largest population in the 2010 U.S. Census.
NOTE: Cases reported with unknown sex are not included in this table.

Table 19. Gonorrhea Among Men — Reported Cases and Rates of Reported Cases in Selected Metropolitan Statistical Areas (MSAs)* in Alphabetical Order, United States, 2011–2015

MSAs	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Atlanta-Sandy Springs-Roswell, GA	4,343	4,329	2,952	4,177	3,885	165.7	163.1	110.1	153.5	142.7
Austin-Round Rock, TX	1,073	1,196	1,295	1,635	2,144	120.1	130.1	137.2	168.2	220.5
Baltimore-Columbia-Towson, MD	1,690	1,447	1,690	1,840	2,202	128.5	109.0	126.4	137.0	163.9
Birmingham-Hoover, AL	1,094	1,057	1,029	979	1,075	200.5	193.0	187.3	177.9	195.4
Boston-Cambridge-Newton, MA-NH	940	1,257	1,541	1,870	1,881	42.3	55.9	67.8	81.4	81.9
Buffalo-Cheektowaga-Niagara Falls, NY	715	999	638	678	1,023	130.5	182.1	116.2	123.1	185.7
Charlotte-Concord-Gastonia, NC-SC	1,704	1,384	1,356	1,683	2,251	155.1	123.9	119.4	145.6	194.7
Chicago-Naperville-Elgin, IL-IN-WI	6,150	6,819	6,407	6,947	7,780	132.3	146.4	137.3	148.7	166.6
Cincinnati, OH-KY-IN	1,250	1,176	1,297	1,431	1,693	120.4	112.9	123.9	136.0	160.9
Cleveland-Elyria, OH	1,559	1,777	1,827	1,781	1,683	156.7	178.9	183.6	178.9	169.1
Columbus, OH	1,477	1,345	1,720	1,787	2,038	156.2	140.8	177.9	182.2	207.8
Dallas-Fort Worth-Arlington, TX	4,089	3,682	4,426	5,033	6,357	125.9	111.4	131.8	147.1	185.9
Denver-Aurora-Lakewood, CO	777	1,090	1,104	1,236	1,742	60.0	82.8	82.1	90.1	126.9
Detroit-Warren-Dearborn, MI	3,794	3,642	2,942	2,606	2,894	182.6	175.0	141.2	125.0	138.8
Hartford-West Hartford-East Hartford, CT	440	322	522	466	416	74.5	54.5	88.1	78.7	70.3
Houston-The Woodlands-Sugar Land, TX	3,055	3,543	3,749	4,146	5,167	101.3	115.2	119.3	128.5	160.1
Indianapolis-Carmel-Anderson, IN	1,447	1,772	1,854	1,927	1,920	155.0	187.9	194.0	200.1	199.4
Jacksonville, FL	919	965	1,198	1,316	1,501	138.8	143.8	176.3	190.5	217.2
Kansas City, MO-KS	1,321	1,334	1,272	1,281	1,534	133.1	133.6	126.2	126.1	151.0
Las Vegas-Henderson-Paradise, NV	998	1,119	1,239	1,612	1,837	100.7	111.3	121.8	155.6	177.3
Los Angeles-Long Beach-Anaheim, CA	7,124	8,712	9,849	12,071	14,066	111.5	135.2	151.9	184.7	215.2
Louisville-Jefferson County, KY-IN	1,020	940	969	961	1,170	167.9	153.8	157.2	155.1	188.8
Memphis, TN-MS-AR	1,660	2,080	1,536	1,254	1,674	259.2	323.0	238.6	194.8	260.0
Miami-Fort Lauderdale-West Palm Beach, FL	2,987	3,093	3,564	3,999	4,651	108.5	110.6	125.9	139.0	161.7
Milwaukee-Waukesha-West Allis, WI	1,368	1,463	1,521	1,281	1,864	179.9	191.8	199.0	167.4	243.6
Minneapolis-St. Paul-Bloomington, MN-WI	854	1,209	1,546	1,942	2,058	51.0	71.5	90.4	112.4	119.1
Nashville-Davidson-Murfreesboro-Franklin, TN	905	1,034	968	1,130	1,312	109.1	122.6	112.8	129.3	150.1
New Orleans-Metairie, LA	962	1,012	1,131	1,328	1,506	163.0	169.8	187.9	219.2	248.6
New York-Newark-Jersey City, NY-NJ-PA	11,291	12,124	11,639	13,448	16,290	118.7	126.5	120.6	138.4	167.7
Oklahoma City, OK	775	866	1,047	1,056	1,136	122.9	135.3	160.8	160.3	172.4
Orlando-Kissimmee-Sanford, FL	1,186	1,241	1,399	1,461	1,818	111.5	114.0	126.0	128.8	160.2
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	4,756	5,439	5,501	5,152	5,439	164.4	187.1	188.7	176.2	186.0
Phoenix-Mesa-Scottsdale, AZ	1,770	2,407	2,600	3,286	3,780	83.4	111.8	118.9	147.4	169.5
Pittsburgh, PA	971	1,191	1,110	1,187	1,182	85.1	104.1	96.9	103.7	103.3
Portland-Vancouver-Hillsboro, OR-WA	836	790	874	1,116	1,621	74.8	69.8	76.4	96.2	139.7
Providence-Warwick, RI-MA	243	349	331	587	572	31.4	45.0	42.6	75.3	73.3
Raleigh, NC	735	724	707	770	1,161	129.4	124.8	119.2	127.0	191.5
Richmond, VA	617	761	701	978	1,058	104.7	127.8	116.4	160.6	173.7
Riverside-San Bernardino-Ontario, CA	1,126	1,467	1,695	2,321	2,692	52.5	67.7	77.7	105.0	121.8
Sacramento-Roseville-Arden-Arcade, CA	917	1,104	1,271	1,362	1,771	85.9	102.6	117.1	124.0	161.2
Salt Lake City, UT	156	254	427	650	753	28.0	44.9	74.5	112.3	130.0
San Antonio-New Braunfels, TX	1,896	1,807	1,728	1,710	2,375	175.8	164.3	153.9	149.0	206.9
San Diego-Carlsbad, CA	1,552	1,766	1,995	2,354	2,668	98.4	110.6	123.6	143.5	162.7
San Francisco-Oakland-Hayward, CA	3,454	3,746	4,167	5,261	7,201	159.4	170.4	186.9	232.2	317.8
San Jose-Sunnyvale-Santa Clara, CA	430	626	699	995	1,212	45.9	65.8	72.4	101.3	123.4
Seattle-Tacoma-Bellevue, WA	1,322	1,591	2,002	2,519	3,104	75.7	89.9	111.1	137.3	169.2
St. Louis, MO-IL	2,315	2,340	2,178	2,256	2,802	171.2	172.8	160.5	166.0	206.1
Tampa-St. Petersburg-Clearwater, FL	1,761	1,721	1,871	1,823	2,240	128.6	124.9	134.6	129.2	158.8
Virginia Beach-Norfolk-Newport News, VA-NC	1,248	1,226	1,239	1,489	1,595	151.0	146.7	147.5	176.2	188.7
Washington-Arlington-Alexandria, DC-VA-MD-WV	2,791	3,001	3,330	1,811	1,943	99.4	105.0	114.6	61.4	65.9
SELECTED MSAs TOTAL	**97,863**	**106,339**	**109,653**	**121,989**	**143,737**	**118.0**	**126.8**	**129.5**	**142.5**	**167.9**

* MSAs were selected on the basis of the largest population in the 2010 U.S. Census.

NOTE: Cases reported with unknown sex are not included in this table.

Table 20. Gonorrhea — Reported Cases and Rates of Reported Cases in Counties and Independent Cities* Ranked by Number of Reported Cases, United States, 2015

Rank*	County/Independent City	Cases	Rate per 100,000 Population	Cumulative Percentage
1	Los Angeles County, CA	17,563	173.6	4
2	Cook County, IL	11,082	211.2	7
3	Harris County, TX	7,707	173.5	9
4	Philadelphia County, PA	6,260	401.2	10
5	Maricopa County, AZ	6,192	151.5	12
6	New York County, NY	5,486	335.3	13
7	Dallas County, TX	5,410	214.8	15
8	Kings County, NY	4,972	189.6	16
9	San Francisco County, CA	4,470	524.4	17
10	Wayne County, MI	4,217	239.0	18
11	Bexar County, TX	3,933	211.9	19
12	San Diego County, CA	3,691	113.1	20
13	Milwaukee County, WI	3,602	376.6	21
14	Bronx County, NY	3,589	249.6	22
15	Franklin County, OH	3,217	261.2	23
16	Marion County, IN	3,215	344.1	23
17	Tarrant County, TX	3,092	158.9	24
18	Broward County, FL	3,036	162.4	25
19	Cuyahoga County, OH	3,028	240.4	26
20	Clark County, NV	2,975	143.7	27
21	Mecklenburg County, NC	2,950	291.3	27
22	King County, WA	2,915	140.1	28
23	Sacramento County, CA	2,869	193.6	29
24	Alameda County, CA	2,842	176.4	29
25	San Bernardino County, CA	2,743	129.8	30
26	Hamilton County, OH	2,712	336.2	31
27	Miami-Dade County, FL	2,593	97.4	31
28	Shelby County, TN	2,560	272.7	32
29	Baltimore (City), MD	2,503	401.9	33
30	Queens County, NY	2,487	107.1	33
31	Travis County, TX	2,459	213.6	34
32	Duval County, FL	2,326	259.1	35
33	Orange County, CA	2,304	73.2	35
34	Fulton County, GA	2,244	225.2	36
35	Orange County, FL	2,196	175.3	36
36	Riverside County, CA	2,161	92.8	37
37	Hillsborough County, FL	2,056	156.2	37
38	St. Louis County, MO	2,030	202.6	38
39	Hennepin County, MN	2,008	165.7	38
40	St. Louis (City), MO	1,964	618.7	39
41	Allegheny County, PA	1,946	158.1	39
42	Jefferson County, KY	1,886	248.1	40
43	Jackson County, MO	1,882	275.5	40
44	Oklahoma County, OK	1,846	240.9	41
45	Guilford County, NC	1,839	359.1	41
46	Essex County, NJ	1,820	228.7	42
47	Monroe County, NY	1,782	237.6	42
48	Santa Clara County, CA	1,781	94.0	43
49	Jefferson County, AL	1,767	267.4	43
50	Fresno County, CA	1,763	182.5	44
51	Erie County, NY	1,720	186.4	44
52	Wake County, NC	1,690	169.2	44
53	Orleans Parish, LA	1,668	434.0	45
54	Tulsa County, OK	1,595	253.3	45
55	Multnomah County, OR	1,557	200.5	46
56	Kern County, CA	1,548	177.0	46
57	Collin County, TX	1,548	174.9	46
58	Denver County, CO	1,526	229.9	47
59	Davidson County, TN	1,512	226.2	47
60	Pinellas County, FL	1,436	153.1	48
61	Pierce County, WA	1,354	162.8	48
62	Contra Costa County, CA	1,318	118.6	48
63	Prince George's County, MD	1,282	141.7	49
64	Palm Beach County, FL	1,276	91.3	49
65	East Baton Rouge Parish, LA	1,256	281.6	49
66	San Joaquin County, CA	1,245	174.0	49
67	Cumberland County, NC	1,242	380.6	50
68	Pulaski County, AR	1,234	314.2	50
69	Forsyth County, NC	1,215	332.6	50
70	DeKalb County, GA	1,210	167.6	51

* The top 70 counties and independent cities ranked in descending order by number of cases reported in 2015 then by rate are displayed.

Table 21. Gonorrhea — Reported Cases and Rates of Reported Cases by Age Group and Sex, United States, 2011–2015

Age Group	Cases				Rates per 100,000 Population*			
	Total	Male	Female	Unknown Sex	Total	Male	Female	
0–4	182	43	136	3	0.9	0.4	1.4	2011
5–9	82	15	66	1	0.4	0.1	0.7	
10–14	3,223	548	2,648	27	15.6	5.2	26.2	
15–19	88,139	28,102	59,747	290	407.2	252.7	567.7	
20–24	111,730	49,633	61,756	341	504.3	438.7	569.6	
25–29	53,245	28,288	24,821	136	250.2	262.9	236.0	
30–34	27,157	16,044	11,044	69	132.4	156.0	108.0	
35–39	14,109	8,972	5,096	41	72.0	91.9	51.8	
40–44	9,686	6,955	2,708	23	46.1	66.5	25.6	
45–54	10,473	8,222	2,222	29	23.4	37.3	9.8	
55–64	2,747	2,270	471	6	7.2	12.4	2.4	
65+	587	485	99	3	1.4	2.7	0.4	
Unknown Age	489	258	191	40				
TOTAL	**321,849**	**149,835**	**171,005**	**1,009**	**103.3**	**97.7**	**108.0**	
0–4	198	72	122	4	1.0	0.7	1.2	2012
5–9	68	16	52	0	0.3	0.2	0.5	
10–14	3,136	573	2,559	4	15.2	5.4	25.3	
15–19	81,548	26,578	54,852	118	381.8	242.4	527.5	
20–24	115,224	52,351	62,711	162	510.2	453.3	568.4	
25–29	58,441	31,631	26,722	88	273.1	291.7	253.2	
30–34	31,420	18,936	12,436	48	150.3	180.4	119.4	
35–39	16,193	10,493	5,670	30	83.1	108.0	58.0	
40–44	10,965	7,858	3,089	18	52.1	75.1	29.2	
45–54	12,383	9,773	2,594	16	28.0	44.8	11.5	
55–64	3,230	2,642	586	2	8.4	14.2	2.9	
65+	644	537	105	2	1.5	2.9	0.4	
Unknown Age	1,376	775	568	33				
TOTAL	**334,826**	**162,235**	**172,066**	**525**	**106.7**	**105.0**	**107.9**	
0–4	172	60	111	1	0.9	0.6	1.1	2013
5–9	75	11	64	0	0.4	0.1	0.6	
10–14	2,637	508	2,122	7	12.8	4.8	21.0	
15–19	72,092	24,212	47,749	131	340.7	223.2	463.0	
20–24	113,035	53,055	59,760	220	495.9	454.3	537.6	
25–29	62,102	34,718	27,266	118	287.8	316.8	256.7	
30–34	34,065	20,855	13,143	67	160.2	195.2	124.2	
35–39	18,034	11,850	6,145	39	92.0	121.1	62.6	
40–44	11,817	8,590	3,192	35	56.7	82.9	30.4	
45–54	13,823	11,087	2,714	22	31.6	51.4	12.2	
55–64	3,802	3,176	621	5	9.7	16.8	3.1	
65+	825	696	128	1	1.8	3.6	0.5	
Unknown Age	525	312	193	20				
TOTAL	**333,004**	**169,130**	**163,208**	**666**	**105.3**	**108.7**	**101.7**	
0–4	154	47	105	2	0.8	0.5	1.1	2014
5–9	53	7	46	0	0.3	0.1	0.5	
10–14	2,450	440	2,005	5	11.9	4.2	19.8	
15–19	68,468	23,981	44,399	88	325.0	222.4	431.7	
20–24	116,200	56,714	59,329	157	507.2	483.1	531.0	
25-29	69,587	40,602	28,899	86	316.5	363.8	266.9	
30–34	38,393	24,349	13,988	56	178.3	225.3	130.5	
35–39	20,803	14,129	6,654	20	104.4	142.1	66.7	
40–44	12,687	9,349	3,320	18	61.6	91.5	32.0	
45–54	15,322	12,388	2,917	17	35.3	57.8	13.2	
55–64	4,549	3,859	680	10	11.4	20.0	3.3	
65+	911	790	121	0	2.0	3.9	0.5	
Unknown Age	485	288	145	52				
TOTAL	**350,062**	**186,943**	**162,608**	**511**	**109.8**	**119.1**	**100.4**	
0–4	148	47	98	3	0.7	0.5	1.0	2015
5–9	78	11	66	1	0.4	0.1	0.7	
10–14	2,312	385	1,923	4	11.2	3.6	19.0	
15–19	72,001	26,401	45,477	123	341.8	244.8	442.2	
20–24	124,592	63,289	61,105	198	543.8	539.1	546.9	
25–29	82,867	50,089	32,662	116	376.9	448.8	301.7	
30–34	45,681	29,751	15,867	63	212.2	275.2	148.0	
35–39	26,137	18,198	7,897	42	131.2	183.1	79.1	
40–44	15,042	11,116	3,898	28	73.0	108.8	37.6	
45–54	18,779	15,379	3,375	25	43.2	71.8	15.3	
55–64	6,035	5,175	849	11	15.1	26.8	4.1	
65+	1,191	1,032	158	1	2.6	5.1	0.6	
Unknown Age	353	197	139	17				
TOTAL	**395,216**	**221,070**	**173,514**	**632**	**123.9**	**140.9**	**107.2**	

* No population data are available for unknown sex and age; therefore, rates are not calculated.

NOTE: This table should be used only for age comparisons. Cases in the 0–4 age group may include cases due to perinatal transmission.

Table 22A. Gonorrhea — Reported Cases by Race/Ethnicity, Age Group, and Sex, United States*, 2015

Age Group	American Indians/ Alaska Natives			Asians			Blacks			Native Hawaiians/ Other Pacific Islanders		
	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female
0–4	3	1	2	2	1	1	42	8	34	0	0	0
5–9	3	0	3	0	0	0	23	3	20	0	0	0
10–14	33	3	30	7	1	6	1,226	230	996	6	1	5
15–19	718	209	508	373	172	201	36,338	13,593	22,716	114	38	76
20–24	1,326	481	845	1,014	667	346	58,840	29,089	29,704	202	103	99
25–29	1,109	467	642	903	699	203	33,802	20,555	13,226	152	106	46
30–34	648	261	387	624	478	146	15,932	10,739	5,183	97	61	36
35–39	309	132	177	365	282	81	8,456	6,158	2,292	49	34	15
40–44	172	70	102	247	200	47	4,488	3,501	982	23	16	6
45–54	150	84	66	232	195	37	5,311	4,538	772	17	14	3
55–64	43	31	12	56	37	19	1,825	1,648	176	6	5	1
65+	12	10	2	17	14	3	278	256	22	3	2	1
Unknown Age	2	1	1	4	2	2	69	38	30	2	2	0
TOTAL	**4,528**	**1,750**	**2,777**	**3,844**	**2,748**	**1,092**	**166,630**	**90,356**	**76,153**	**671**	**382**	**288**

Age Group	Whites			Multirace			Hispanics			Other/ Unknown		
	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female
0–4	30	11	19	2	1	1	15	5	10	51	19	29
5–9	18	4	14	0	0	0	7	2	5	27	2	24
10–14	270	22	247	17	1	16	190	34	155	529	90	437
15–19	10,886	3,234	7,648	585	131	454	6,986	2,643	4,331	15,551	6,224	9,262
20–24	23,443	11,381	12,051	976	483	491	13,622	7,587	6,009	24,441	13,078	11,265
25–29	19,426	10,978	8,436	695	463	229	10,107	6,633	3,465	16,030	9,705	6,264
30–34	12,498	7,648	4,846	372	287	83	5,905	4,078	1,814	9,254	5,917	3,308
35–39	7,308	4,906	2,396	225	195	30	3,424	2,483	937	5,803	3,832	1,952
40–44	4,497	3,260	1,235	123	109	14	1,850	1,388	459	3,531	2,469	1,047
45–54	6,360	5,276	1,082	167	160	7	1,908	1,558	347	4,485	3,426	1,043
55–64	2,102	1,828	273	23	23	0	406	319	87	1,523	1,239	277
65+	445	390	55	5	5	0	52	38	14	370	308	61
Unknown Age	57	28	29	0	0	0	41	26	15	163	90	57
TOTAL	**87,340**	**48,966**	**38,331**	**3,190**	**1,858**	**1,325**	**44,513**	**26,794**	**17,648**	**81,758**	**46,399**	**35,026**

* Includes 50 states reporting race/ethnicity data in the Office of Management and Budget compliant formats in 2015.
† Total includes cases reported with unknown sex.
NOTE: These tables should be used only for race/ethnicity comparisons. See Table 21 for age-specific cases and rates and Tables 14–16 for total and sex-specific cases and rates. Cases in the 0–4 age group may include cases due to perinatal transmission.

Table 22B. Gonorrhea — Rates of Reported Cases per 100,000 Population by Race/Ethnicity, Age Group, and Sex, United States*, 2015

Age Group	American Indians/ Alaska Natives			Asians			Blacks			Native Hawaiians/ Other Pacific Islanders		
	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female
0–4	1.8	1.2	2.4	0.2	0.2	0.2	1.5	0.6	2.5	0.0	0.0	0.0
5–9	1.7	0.0	3.4	0.0	0.0	0.0	0.8	0.2	1.4	0.0	0.0	0.0
10–14	18.6	3.3	34.4	0.7	0.2	1.2	43.3	16.0	71.4	15.2	4.9	25.9
15–19	393.8	225.0	567.9	37.6	34.3	41.0	1,218.5	897.8	1,547.3	284.7	183.6	393.0
20–24	656.5	464.8	857.8	82.7	107.2	57.3	1,721.9	1,681.5	1,760.5	420.7	417.7	424.0
25–29	627.8	521.7	736.8	64.3	102.2	28.1	1,145.8	1,415.0	883.3	302.3	408.2	189.2
30–34	402.2	325.8	477.8	43.3	70.5	19.1	582.8	819.6	364.1	204.3	249.3	156.4
35–39	213.6	183.6	243.3	26.7	44.3	11.1	336.3	517.7	173.0	121.4	163.9	76.4
40–44	118.1	97.7	137.8	17.9	31.1	6.4	174.3	289.1	72.0	62.7	86.6	33.0
45–54	47.8	55.3	40.8	10.1	18.2	3.0	100.5	182.9	27.6	25.0	41.3	8.8
55–64	16.0	24.5	8.5	3.0	4.4	1.9	41.1	81.3	7.3	11.7	19.8	3.8
65+	5.2	9.6	1.6	0.9	1.7	0.3	7.0	16.1	0.9	7.1	10.1	4.4
Unknown Age												
TOTAL	**192.8**	**151.2**	**233.2**	**22.9**	**34.5**	**12.4**	**424.9**	**482.2**	**371.9**	**123.0**	**138.7**	**106.7**

Age Group	Whites			Multirace			Hispanics		
	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female
0–4	0.3	0.2	0.4	0.2	0.2	0.2	0.3	0.2	0.4
5–9	0.2	0.1	0.3	0.0	0.0	0.0	0.1	0.1	0.2
10–14	2.5	0.4	4.6	2.3	0.3	4.3	3.9	1.4	6.5
15–19	94.4	54.6	136.4	88.2	39.0	138.7	150.6	111.2	191.5
20–24	185.8	176.1	195.8	170.4	170.0	170.1	285.5	305.1	263.0
25–29	156.0	173.6	137.6	160.6	224.5	101.1	227.7	282.8	165.5
30–34	101.8	123.5	79.7	100.0	163.7	42.2	133.4	176.4	85.9
35–39	64.3	85.6	42.5	73.0	134.7	18.4	83.0	117.0	46.7
40–44	36.6	52.8	20.2	44.5	83.7	9.6	48.0	71.0	24.2
45–54	22.2	37.1	7.5	34.7	70.1	2.8	30.2	48.8	11.1
55–64	7.3	12.9	1.8	6.2	12.9	0.0	10.0	16.3	4.2
65+	1.2	2.4	0.3	1.5	3.5	0.0	1.5	2.5	0.7
Unknown Age									
TOTAL	**44.2**	**50.3**	**38.2**	**50.0**	**59.3**	**40.9**	**80.5**	**95.8**	**64.6**

* Includes 50 states reporting race/ethnicity data in the Office of Management and Budget compliant formats in 2015.
† Total includes cases reported with unknown sex.
NOTE: These tables should be used only for race/ethnicity comparisons. See Table 21 for age-specific cases and rates and Tables 14–16 for total and sex-specific cases and rates. Cases in the 0–4 age group may include cases due to perinatal transmission. No population data exist for unknown sex, unknown age, or unknown race; therefore rates are not calculated.

Table 23. Gonorrhea Among Women Aged 15–24 Years — Reported Cases and Rates of Reported Cases by Age, United States, 2011–2015

	Age	Cases	Rate per 100,000 Population
2011	15	4,466	220.3
	16	8,128	393.4
	17	12,308	584.7
	18	16,973	796.3
	19	17,872	814.3
	20	16,865	750.6
	21	14,559	647.9
	22	12,202	565.4
	23	9,861	467.2
	24	8,269	397.9
2012	15	4,241	209.4
	16	7,316	359.4
	17	11,006	530.2
	18	15,580	736.2
	19	16,709	779.1
	20	15,849	717.5
	21	15,029	664.7
	22	12,800	565.9
	23	10,449	480.6
	24	8,584	403.4
2013	15	3,776	186.4
	16	6,503	320.0
	17	9,374	458.8
	18	13,393	642.4
	19	14,703	691.2
	20	14,420	668.8
	21	13,394	603.1
	22	12,272	539.6
	23	10,819	475.3
	24	8,855	404.5
2014	15	3,487	171.3
	16	6,188	303.9
	17	8,830	431.6
	18	12,196	591.9
	19	13,698	650.5
	20	13,801	642.1
	21	13,324	611.5
	22	12,031	536.0
	23	10,746	467.5
	24	9,427	409.6
2015	15	3,477	170.8
	16	6,090	299.1
	17	9,117	445.6
	18	12,769	619.7
	19	14,024	666.0
	20	13,835	643.7
	21	13,331	611.8
	22	12,597	561.2
	23	11,271	490.3
	24	10,071	437.6

NOTE: This table should be used only for age comparisons. Cases reported with unknown sex are not included in this table.

Table 24. All Stages of Syphilis* — Reported Cases and Rates of Reported Cases by State/Area and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	758	705	679	475	657	15.8	14.6	14.0	9.8	13.5
Alaska	11	34	35	45	24	1.5	4.6	4.8	6.1	3.3
Arizona	907	787	962	1,459	1,496	14.0	12.0	14.5	21.7	22.2
Arkansas	464	468	527	390	500	15.8	15.9	17.8	13.1	16.9
California	6,782	8,016	9,973	11,443	14,450	18.0	21.1	26.0	29.5	37.2
Colorado	367	503	475	355	553	7.2	9.7	9.0	6.6	10.3
Connecticut	189	121	133	169	220	5.3	3.4	3.7	4.7	6.1
Delaware	124	106	146	110	110	13.7	11.6	15.8	11.8	11.8
District of Columbia	552	589	609	281	322	89.3	93.1	94.2	42.6	48.9
Florida	4,143	4,483	5,022	6,103	7,132	21.7	23.2	25.7	30.7	35.9
Georgia	1,895	2,434	2,990	3,384	4,156	19.3	24.5	29.9	33.5	41.2
Hawaii	32	43	87	106	163	2.3	3.1	6.2	7.5	11.5
Idaho	42	54	42	46	102	2.6	3.4	2.6	2.8	6.2
Illinois	2,426	2,424	2,661	2,796	3,289	18.9	18.8	20.7	21.7	25.5
Indiana	468	531	543	475	699	7.2	8.1	8.3	7.2	10.6
Iowa	70	143	226	239	232	2.3	4.7	7.3	7.7	7.5
Kansas	76	129	196	200	240	2.6	4.5	6.8	6.9	8.3
Kentucky	335	390	395	447	433	7.7	8.9	9.0	10.1	9.8
Louisiana	2,043	1,780	2,006	2,173	2,465	44.7	38.7	43.4	46.7	53.0
Maine	24	22	21	23	38	1.8	1.7	1.6	1.7	2.9
Maryland	1,278	1,243	1,361	1,475	1,870	21.9	21.1	23.0	24.7	31.3
Massachusetts	770	806	990	813	1,263	11.7	12.1	14.8	12.1	18.7
Michigan	764	786	1,068	1,095	1,089	7.7	8.0	10.8	11.0	11.0
Minnesota	367	335	541	631	653	6.9	6.2	10.0	11.6	12.0
Mississippi	748	456	293	642	760	25.1	15.3	9.8	21.4	25.4
Missouri	414	426	609	771	777	6.9	7.1	10.1	12.7	12.8
Montana	9	3	8	9	20	0.9	0.3	0.8	0.9	2.0
Nebraska	36	35	95	96	81	2.0	1.9	5.1	5.1	4.3
Nevada	430	445	523	893	915	15.8	16.1	18.7	31.5	32.2
New Hampshire	33	65	79	79	84	2.5	4.9	6.0	6.0	6.3
New Jersey	971	883	968	1,172	1,306	11.0	10.0	10.9	13.1	14.6
New Mexico	212	234	247	283	332	10.2	11.2	11.8	13.6	15.9
New York	4,786	5,312	6,173	7,129	7,795	24.6	27.1	31.4	36.1	39.5
North Carolina	1,255	1,037	1,153	1,998	2,741	13.0	10.6	11.7	20.1	27.6
North Dakota	5	14	25	51	42	0.7	2.0	3.5	6.9	5.7
Ohio	954	1,141	1,096	1,229	1,348	8.3	9.9	9.5	10.6	11.6
Oklahoma	270	256	383	414	521	7.1	6.7	9.9	10.7	13.4
Oregon	252	424	527	582	783	6.5	10.9	13.4	14.7	19.7
Pennsylvania	1,125	1,349	1,486	1,523	1,788	8.8	10.6	11.6	11.9	14.0
Rhode Island	84	93	94	160	163	8.0	8.9	8.9	15.2	15.4
South Carolina	639	624	753	750	834	13.7	13.2	15.8	15.5	17.3
South Dakota	14	29	61	95	71	1.7	3.5	7.2	11.1	8.3
Tennessee	1,025	1,068	980	977	1,241	16.0	16.5	15.1	14.9	18.9
Texas	6,161	7,057	7,044	7,804	8,247	24.0	27.1	26.6	28.9	30.6
Utah	64	101	172	149	169	2.3	3.5	5.9	5.1	5.7
Vermont	10	12	10	12	15	1.6	1.9	1.6	1.9	2.4
Virginia	726	906	1,001	702	1,023	9.0	11.1	12.1	8.4	12.3
Washington	712	709	711	854	1,109	10.4	10.3	10.2	12.1	15.7
West Virginia	9	24	39	55	109	0.5	1.3	2.1	3.0	5.9
Wisconsin	203	268	257	285	262	3.6	4.7	4.5	5.0	4.6
Wyoming	6	12	9	6	10	1.1	2.1	1.5	1.0	1.7
U.S. TOTAL	**46,040**	**49,915**	**56,484**	**63,453**	**74,702**	**14.8**	**15.9**	**17.9**	**19.9**	**23.4**
Northeast	7,992	8,663	9,954	11,080	12,672	14.4	15.5	17.8	19.7	22.6
Midwest	5,797	6,261	7,378	7,963	8,783	8.6	9.3	10.9	11.8	13.0
South	22,425	23,626	25,381	28,180	33,121	19.3	20.1	21.4	23.5	27.7
West	9,826	11,365	13,771	16,230	20,126	13.5	15.4	18.5	21.6	26.8
Guam	26	27	24	13	21	16.3	16.9	15.0	8.1	13.0
Puerto Rico	671	704	811	960	1,267	18.1	19.2	22.4	27.1	35.7
Virgin Islands	7	2	9	6	25	6.6	1.9	8.6	5.8	24.0
OUTLYING AREAS	**704**	**733**	**844**	**979**	**1,313**	**17.7**	**18.6**	**21.8**	**25.7**	**34.4**
TOTAL	**46,744**	**50,648**	**57,328**	**64,432**	**76,015**	**14.8**	**15.9**	**17.9**	**20.0**	**23.6**

* See Section A1.9 in the Appendix for definition.

Table 25. All Stages of Syphilis* — Reported Cases and Rates of Reported Cases in Selected Metropolitan Statistical Areas (MSAs)† in Alphabetical Order, United States, 2011–2015

MSAs	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Atlanta-Sandy Springs-Roswell, GA	1,549	1,822	2,257	2,669	3,105	28.8	33.4	40.9	47.5	55.3
Austin-Round Rock, TX	425	478	500	680	622	23.8	26.1	26.6	35.0	32.0
Baltimore-Columbia-Towson, MD	710	726	732	815	1,005	26.0	26.4	26.4	29.3	36.1
Birmingham-Hoover, AL	276	226	236	157	197	24.4	19.9	20.7	13.7	17.2
Boston-Cambridge-Newton, MA-NH	607	570	758	596	811	13.2	12.3	16.2	12.6	17.1
Buffalo-Cheektowaga-Niagara Falls, NY	48	70	115	130	180	4.2	6.2	10.1	11.4	15.8
Charlotte-Concord-Gastonia, NC-SC	372	310	360	530	731	16.5	13.5	15.4	22.3	30.7
Chicago-Naperville-Elgin, IL-IN-WI	2,266	2,269	2,499	2,559	3,059	23.8	23.8	26.2	26.8	32.0
Cincinnati, OH-KY-IN	436	529	437	381	319	20.5	24.9	20.4	17.7	14.8
Cleveland-Elyria, OH	151	140	111	199	229	7.3	6.8	5.4	9.6	11.1
Columbus, OH	237	316	342	441	517	12.3	16.3	17.4	22.1	25.9
Dallas-Fort Worth-Arlington, TX	1,816	2,141	2,093	2,231	2,260	27.6	32.0	30.7	32.1	32.5
Denver-Aurora-Lakewood, CO	319	434	382	298	426	12.3	16.4	14.2	10.8	15.5
Detroit-Warren-Dearborn, MI	522	607	830	791	773	12.2	14.1	19.3	18.4	18.0
Hartford-West Hartford-East Hartford, CT	55	21	43	52	84	4.5	1.7	3.5	4.3	6.9
Houston-The Woodlands-Sugar Land, TX	1,870	2,246	1,891	2,316	2,568	30.9	36.4	30.0	35.7	39.6
Indianapolis-Carmel-Anderson, IN	270	336	340	285	408	14.1	17.4	17.4	14.5	20.7
Jacksonville, FL	188	177	189	270	435	13.8	12.8	13.6	19.0	30.7
Kansas City, MO-KS	141	164	320	406	365	7.0	8.0	15.6	19.6	17.6
Las Vegas-Henderson-Paradise, NV	402	403	438	830	826	20.4	20.1	21.6	40.1	39.9
Los Angeles-Long Beach-Anaheim, CA	3,247	3,540	4,537	4,738	5,812	25.1	27.1	34.6	35.7	43.8
Louisville-Jefferson County, KY-IN	186	201	210	239	270	14.9	16.1	16.6	18.8	21.3
Memphis, TN-MS-AR	587	591	578	475	575	44.0	44.0	43.1	35.4	42.8
Miami-Fort Lauderdale-West Palm Beach, FL	2,315	2,591	2,740	3,313	3,635	40.8	45.0	47.0	55.9	61.3
Milwaukee-Waukesha-West Allis, WI	117	159	153	184	147	7.5	10.1	9.7	11.7	9.3
Minneapolis-St. Paul-Bloomington, MN-WI	326	313	487	585	592	9.6	9.1	14.1	16.7	16.9
Nashville-Davidson-Murfreesboro-Franklin, TN	229	271	239	305	359	13.5	15.7	13.6	17.0	20.0
New Orleans-Metairie, LA	668	547	634	723	757	55.1	44.6	51.1	57.8	60.5
New York-Newark-Jersey City, NY-NJ-PA	5,303	5,670	6,506	7,476	8,166	26.9	28.6	32.6	37.2	40.6
Oklahoma City, OK	114	148	213	231	264	8.9	11.4	16.1	17.3	19.7
Orlando-Kissimmee-Sanford, FL	485	499	631	782	915	22.3	22.4	27.8	33.7	39.4
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	1,029	1,119	1,333	1,273	1,393	17.2	18.6	22.1	21.0	23.0
Phoenix-Mesa-Scottsdale, AZ	676	624	713	1,065	1,125	15.9	14.4	16.2	23.7	25.1
Pittsburgh, PA	92	128	95	154	273	3.9	5.4	4.0	6.5	11.6
Portland-Vancouver-Hillsboro, OR-WA	220	410	475	470	587	9.7	17.9	20.5	20.0	25.0
Providence-Warwick, RI-MA	111	125	138	204	230	6.9	7.8	8.6	12.7	14.3
Raleigh, NC	151	150	179	315	409	13.0	12.6	14.7	25.3	32.9
Richmond, VA	154	194	204	145	207	12.6	15.7	16.4	11.5	16.4
Riverside-San Bernardino-Ontario, CA	527	775	803	950	1,165	12.2	17.8	18.3	21.4	26.2
Sacramento-Roseville-Arden-Arcade, CA	258	249	289	371	607	11.9	11.3	13.0	16.5	27.0
Salt Lake City, UT	48	74	136	109	122	4.3	6.6	11.9	9.5	10.6
San Antonio-New Braunfels, TX	736	983	1,167	1,017	988	33.5	44.0	51.2	43.7	42.4
San Diego-Carlsbad, CA	609	717	792	987	1,208	19.4	22.6	24.7	30.2	37.0
San Francisco-Oakland-Hayward, CA	1,271	1,595	1,892	2,106	2,352	28.9	35.8	41.9	45.8	51.2
San Jose-Sunnyvale-Santa Clara, CA	159	233	276	304	359	8.5	12.3	14.4	15.6	18.4
Seattle-Tacoma-Bellevue, WA	589	559	539	590	759	16.8	15.7	14.9	16.1	20.7
St. Louis, MO-IL	271	280	338	412	417	9.7	10.0	12.1	14.7	14.9
Tampa-St. Petersburg-Clearwater, FL	516	582	632	806	956	18.3	20.5	22.0	27.6	32.8
Virginia Beach-Norfolk-Newport News, VA-NC	212	296	302	220	375	12.6	17.4	17.7	12.8	21.8
Washington-Arlington-Alexandria, DC-VA-MD-WV	1,316	1,374	1,543	811	1,057	22.9	23.4	25.9	13.4	17.5
SELECTED MSAs TOTAL	**35,182**	**38,982**	**43,647**	**47,996**	**55,001**	**20.8**	**22.8**	**25.3**	**27.4**	**31.4**

* See Section A1.9 in the Appendix for definition.

† MSAs were selected on the basis of the largest population in the 2010 U.S. Census.

Table 26. Primary and Secondary Syphilis — Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States, 2015

Rank*	State	Cases	Rate per 100,000 Population
1	Louisiana	696	15.0
2	Georgia	1,413	14.0
3	California	4,908	12.6
4	North Carolina	1,196	12.0
5	Nevada	335	11.8
6	Florida	2,083	10.5
7	New York	2,006	10.2
8	Arizona	589	8.7
9	Oregon	345	8.7
10	Maryland	509	8.5
11	Illinois	1,085	8.4
	U.S. TOTAL†	**23,872**	**7.5**
12	Mississippi	219	7.3
13	Rhode Island	77	7.3
14	Hawaii	91	6.4
15	Washington	445	6.3
16	Texas	1,680	6.2
17	Massachusetts	418	6.2
18	South Carolina	294	6.1
19	Alabama	280	5.8
20	New Mexico	118	5.7
21	Oklahoma	209	5.4
22	Tennessee	349	5.3
23	Pennsylvania	655	5.1
24	Missouri	307	5.1
25	Ohio	560	4.8
26	Colorado	245	4.6
27	South Dakota	39	4.6
28	Arkansas	134	4.5
29	Minnesota	246	4.5
30	Delaware	41	4.4
31	Indiana	285	4.3
32	New Jersey	372	4.2
33	Michigan	403	4.1
34	Virginia	334	4.0
35	Idaho	57	3.5
36	Kentucky	145	3.3
37	New Hampshire	40	3.0
38	Kansas	87	3.0
39	West Virginia	52	2.8
40	Connecticut	92	2.6
41	Iowa	75	2.4
42	Nebraska	45	2.4
43	Utah	65	2.2
44	Maine	28	2.1
45	North Dakota	11	1.5
46	Vermont	9	1.4
47	Wisconsin	79	1.4
48	Montana	13	1.3
49	Alaska	8	1.1
50	Wyoming	5	0.9

* States were ranked by rate, then by case count, then in alphabetical order, with rates shown rounded to the nearest tenth.
† Total includes cases reported by the District of Columbia with 95 cases and a rate of 14.4, but excludes outlying areas (Guam with 2 cases and rate of 1.2, Puerto Rico with 531 cases and rate of 15.0, and Virgin Islands with 8 cases and rate of 7.7).

Table 27. Primary and Secondary Syphilis — Reported Cases and Rates of Reported Cases by State/Area and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	228	216	183	161	280	4.7	4.5	3.8	3.3	5.8
Alaska	5	11	23	15	8	0.7	1.5	3.1	2.0	1.1
Arizona	274	202	287	577	589	4.2	3.1	4.3	8.6	8.7
Arkansas	182	173	177	121	134	6.2	5.9	6.0	4.1	4.5
California	2,443	2,953	3,532	3,835	4,908	6.5	7.8	9.2	9.9	12.6
Colorado	133	208	163	186	245	2.6	4.0	3.1	3.5	4.6
Connecticut	65	55	56	86	92	1.8	1.5	1.6	2.4	2.6
Delaware	27	38	52	47	41	3.0	4.1	5.6	5.0	4.4
District of Columbia	165	165	168	116	95	26.7	26.1	26.0	17.6	14.4
Florida	1,257	1,369	1,513	1,740	2,083	6.6	7.1	7.7	8.7	10.5
Georgia	678	937	1,017	1,234	1,413	6.9	9.4	10.2	12.2	14.0
Hawaii	14	23	46	68	91	1.0	1.7	3.3	4.8	6.4
Idaho	13	26	15	12	57	0.8	1.6	0.9	0.7	3.5
Illinois	881	804	798	863	1,085	6.8	6.2	6.2	6.7	8.4
Indiana	173	224	215	168	285	2.7	3.4	3.3	2.5	4.3
Iowa	20	70	106	72	75	0.7	2.3	3.4	2.3	2.4
Kansas	24	24	51	60	87	0.8	0.8	1.8	2.1	3.0
Kentucky	129	150	122	158	145	3.0	3.4	2.8	3.6	3.3
Louisiana	447	339	423	575	696	9.8	7.4	9.1	12.4	15.0
Maine	12	17	10	16	28	0.9	1.3	0.8	1.2	2.1
Maryland	452	431	456	449	509	7.8	7.3	7.7	7.5	8.5
Massachusetts	266	316	360	301	418	4.0	4.8	5.4	4.5	6.2
Michigan	286	295	487	421	403	2.9	3.0	4.9	4.2	4.1
Minnesota	139	118	193	257	246	2.6	2.2	3.6	4.7	4.5
Mississippi	191	150	78	189	219	6.4	5.0	2.6	6.3	7.3
Missouri	136	157	251	352	307	2.3	2.6	4.2	5.8	5.1
Montana	7	2	5	8	13	0.7	0.2	0.5	0.8	1.3
Nebraska	10	8	41	50	45	0.5	0.4	2.2	2.7	2.4
Nevada	136	113	205	357	335	5.0	4.1	7.3	12.6	11.8
New Hampshire	18	36	28	36	40	1.4	2.7	2.1	2.7	3.0
New Jersey	232	229	233	297	372	2.6	2.6	2.6	3.3	4.2
New Mexico	71	101	78	126	118	3.4	4.8	3.7	6.0	5.7
New York	1,083	1,224	1,459	1,727	2,006	5.6	6.3	7.4	8.7	10.2
North Carolina	431	347	404	733	1,196	4.5	3.6	4.1	7.4	12.0
North Dakota	1	4	12	13	11	0.1	0.6	1.7	1.8	1.5
Ohio	440	425	436	568	560	3.8	3.7	3.8	4.9	4.8
Oklahoma	84	83	118	151	209	2.2	2.2	3.1	3.9	5.4
Oregon	97	212	267	272	345	2.5	5.4	6.8	6.9	8.7
Pennsylvania	373	494	471	532	655	2.9	3.9	3.7	4.2	5.1
Rhode Island	46	44	45	71	77	4.4	4.2	4.3	6.7	7.3
South Carolina	221	225	271	250	294	4.7	4.8	5.7	5.2	6.1
South Dakota	0	18	44	53	39	0.0	2.2	5.2	6.2	4.6
Tennessee	278	266	214	237	349	4.3	4.1	3.3	3.6	5.3
Texas	1,169	1,627	1,475	1,636	1,680	4.6	6.2	5.6	6.1	6.2
Utah	14	42	74	47	65	0.5	1.5	2.6	1.6	2.2
Vermont	9	6	3	5	9	1.4	1.0	0.5	0.8	1.4
Virginia	213	285	315	289	334	2.6	3.5	3.8	3.5	4.0
Washington	328	302	284	344	445	4.8	4.4	4.1	4.9	6.3
West Virginia	4	8	15	28	52	0.2	0.4	0.8	1.5	2.8
Wisconsin	65	91	95	86	79	1.1	1.6	1.7	1.5	1.4
Wyoming	0	4	1	4	5	0.0	0.7	0.2	0.7	0.9
U.S. TOTAL	**13,970**	**15,667**	**17,375**	**19,999**	**23,872**	**4.5**	**5.0**	**5.5**	**6.3**	**7.5**
Northeast	2,104	2,421	2,665	3,071	3,697	3.8	4.3	4.8	5.5	6.6
Midwest	2,175	2,238	2,729	2,963	3,222	3.2	3.3	4.0	4.4	4.8
South	6,156	6,809	7,001	8,114	9,729	5.3	5.8	5.9	6.8	8.1
West	3,535	4,199	4,980	5,851	7,224	4.9	5.7	6.7	7.8	9.6
Guam	5	6	6	7	2	3.1	3.8	3.7	4.3	1.2
Puerto Rico	254	306	385	484	531	6.9	8.3	10.6	13.6	15.0
Virgin Islands	0	0	2	2	8	0.0	0.0	1.9	1.9	7.7
OUTLYING AREAS	**259**	**312**	**393**	**493**	**541**	**6.5**	**7.9**	**10.1**	**12.9**	**14.2**
TOTAL	**14,229**	**15,979**	**17,768**	**20,492**	**24,413**	**4.5**	**5.0**	**5.6**	**6.4**	**7.6**

Table 28. Primary and Secondary Syphilis Among Women — Reported Cases and Rates of Reported Cases by State/Area and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	54	38	22	17	37	2.2	1.5	0.9	0.7	1.5
Alaska	1	1	2	1	1	0.3	0.3	0.6	0.3	0.3
Arizona	15	16	27	50	47	0.5	0.5	0.8	1.5	1.4
Arkansas	76	49	44	23	26	5.1	3.3	2.9	1.5	1.7
California	103	116	210	318	476	0.5	0.6	1.1	1.6	2.4
Colorado	4	3	4	6	6	0.2	0.1	0.2	0.2	0.2
Connecticut	5	9	8	7	15	0.3	0.5	0.4	0.4	0.8
Delaware	1	2	3	2	2	0.2	0.4	0.6	0.4	0.4
District of Columbia	7	6	19	5	6	2.1	1.8	5.6	1.4	1.7
Florida	134	134	137	137	210	1.4	1.4	1.4	1.3	2.1
Georgia	58	66	87	96	94	1.2	1.3	1.7	1.9	1.8
Hawaii	0	2	0	2	1	0.0	0.3	0.0	0.3	0.1
Idaho	1	2	0	0	9	0.1	0.3	0.0	0.0	1.1
Illinois	81	73	66	81	84	1.2	1.1	1.0	1.2	1.3
Indiana	13	22	18	11	28	0.4	0.7	0.5	0.3	0.8
Iowa	5	7	10	6	5	0.3	0.5	0.6	0.4	0.3
Kansas	0	2	4	14	17	0.0	0.1	0.3	1.0	1.2
Kentucky	19	13	17	22	23	0.9	0.6	0.8	1.0	1.0
Louisiana	179	127	115	132	189	7.7	5.4	4.9	5.6	8.0
Maine	0	2	1	3	6	0.0	0.3	0.1	0.4	0.9
Maryland	49	45	61	49	58	1.6	1.5	2.0	1.6	1.9
Massachusetts	23	15	17	23	25	0.7	0.4	0.5	0.7	0.7
Michigan	26	30	29	31	34	0.5	0.6	0.6	0.6	0.7
Minnesota	5	7	12	21	39	0.2	0.3	0.4	0.8	1.4
Mississippi	45	34	19	17	32	2.9	2.2	1.2	1.1	2.1
Missouri	6	12	19	34	54	0.2	0.4	0.6	1.1	1.7
Montana	1	0	1	2	1	0.2	0.0	0.2	0.4	0.2
Nebraska	1	1	4	4	3	0.1	0.1	0.4	0.4	0.3
Nevada	7	4	14	23	23	0.5	0.3	1.0	1.6	1.6
New Hampshire	1	0	1	4	3	0.1	0.0	0.1	0.6	0.4
New Jersey	13	19	13	16	26	0.3	0.4	0.3	0.3	0.6
New Mexico	2	9	20	14	11	0.2	0.9	1.9	1.3	1.0
New York	37	45	44	49	59	0.4	0.4	0.4	0.5	0.6
North Carolina	31	37	36	68	112	0.6	0.7	0.7	1.3	2.2
North Dakota	0	0	1	5	0	0.0	0.0	0.3	1.4	0.0
Ohio	107	85	63	76	68	1.8	1.4	1.1	1.3	1.1
Oklahoma	12	6	13	15	21	0.6	0.3	0.7	0.8	1.1
Oregon	0	6	12	22	35	0.0	0.3	0.6	1.1	1.7
Pennsylvania	34	34	26	47	52	0.5	0.5	0.4	0.7	0.8
Rhode Island	3	1	1	5	4	0.6	0.2	0.2	0.9	0.7
South Carolina	24	34	39	23	37	1.0	1.4	1.6	0.9	1.5
South Dakota	0	1	15	34	7	0.0	0.2	3.6	8.0	1.7
Tennessee	34	31	22	34	23	1.0	0.9	0.7	1.0	0.7
Texas	255	269	179	242	230	2.0	2.1	1.3	1.8	1.7
Utah	0	0	2	1	2	0.0	0.0	0.1	0.1	0.1
Vermont	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Virginia	18	21	17	17	17	0.4	0.5	0.4	0.4	0.4
Washington	6	9	13	18	30	0.2	0.3	0.4	0.5	0.8
West Virginia	0	2	4	6	9	0.0	0.2	0.4	0.6	1.0
Wisconsin	5	11	9	7	0	0.2	0.4	0.3	0.2	0.0
Wyoming	0	0	0	0	1	0.0	0.0	0.0	0.0	0.3
U.S. TOTAL	**1,501**	**1,458**	**1,500**	**1,840**	**2,298**	**0.9**	**0.9**	**0.9**	**1.1**	**1.4**
Northeast	116	125	111	154	190	0.4	0.4	0.4	0.5	0.7
Midwest	249	251	250	324	339	0.7	0.7	0.7	0.9	1.0
South	996	914	834	905	1,126	1.7	1.5	1.4	1.5	1.8
West	140	168	305	457	643	0.4	0.5	0.8	1.2	1.7
Guam	2	1	5	2	0	2.5	1.3	6.3	2.5	0.0
Puerto Rico	17	20	35	30	70	0.9	1.0	1.9	1.6	3.8
Virgin Islands	0	0	1	1	4	0.0	0.0	1.8	1.8	7.2
OUTLYING AREAS	**19**	**21**	**41**	**33**	**74**	**0.9**	**1.0**	**2.0**	**1.7**	**3.7**
TOTAL	**1,520**	**1,479**	**1,541**	**1,873**	**2,372**	**0.9**	**0.9**	**0.9**	**1.1**	**1.4**

NOTE: Cases reported with unknown sex are not included in this table.

Table 29. Primary and Secondary Syphilis Among Men — Reported Cases and Rates of Reported Cases by State/Area and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	174	178	161	144	243	7.5	7.6	6.9	6.1	10.3
Alaska	4	10	21	14	7	1.1	2.6	5.4	3.6	1.8
Arizona	257	186	260	527	542	8.0	5.7	7.9	15.8	16.2
Arkansas	106	124	133	98	108	7.3	8.6	9.1	6.7	7.4
California	2,327	2,823	3,319	3,515	4,430	12.4	14.9	17.4	18.2	23.0
Colorado	129	205	159	180	239	5.0	7.9	6.0	6.7	8.9
Connecticut	60	46	48	79	77	3.4	2.6	2.7	4.5	4.4
Delaware	26	36	49	45	39	5.9	8.1	10.9	9.9	8.6
District of Columbia	158	159	149	106	83	54.1	53.2	48.7	33.9	26.6
Florida	1,123	1,235	1,376	1,602	1,873	12.0	13.1	14.4	16.5	19.3
Georgia	620	870	930	1,138	1,319	12.9	17.9	19.1	23.1	26.8
Hawaii	14	21	46	66	90	2.0	3.0	6.5	9.2	12.5
Idaho	12	24	15	12	48	1.5	3.0	1.9	1.5	5.9
Illinois	800	731	731	782	1,001	12.7	11.6	11.6	12.4	15.8
Indiana	160	202	197	157	257	5.0	6.3	6.1	4.8	7.9
Iowa	15	63	96	66	70	1.0	4.1	6.3	4.3	4.5
Kansas	24	22	47	46	70	1.7	1.5	3.3	3.2	4.8
Kentucky	110	137	105	136	122	5.1	6.3	4.9	6.3	5.6
Louisiana	268	212	308	443	507	12.0	9.4	13.6	19.5	22.3
Maine	12	15	9	13	22	1.8	2.3	1.4	2.0	3.4
Maryland	403	386	395	400	451	14.3	13.5	13.7	13.8	15.6
Massachusetts	243	301	343	277	391	7.6	9.3	10.6	8.5	12.0
Michigan	260	265	458	390	369	5.4	5.5	9.4	8.0	7.6
Minnesota	134	111	178	235	207	5.0	4.2	6.6	8.7	7.6
Mississippi	146	116	59	172	187	10.1	8.0	4.1	11.8	12.9
Missouri	130	145	232	318	253	4.4	4.9	7.8	10.7	8.5
Montana	6	2	4	6	12	1.2	0.4	0.8	1.2	2.3
Nebraska	9	7	37	46	42	1.0	0.8	4.0	4.9	4.5
Nevada	129	109	191	334	312	9.4	7.8	13.6	23.4	21.9
New Hampshire	17	36	27	32	37	2.6	5.5	4.1	4.9	5.6
New Jersey	219	210	220	281	346	5.1	4.9	5.1	6.4	7.9
New Mexico	69	92	58	112	107	6.7	8.9	5.6	10.8	10.4
New York	1,045	1,175	1,408	1,675	1,933	11.1	12.4	14.8	17.5	20.2
North Carolina	400	310	368	665	1,084	8.5	6.5	7.7	13.7	22.4
North Dakota	1	4	11	8	11	0.3	1.1	3.0	2.1	2.9
Ohio	333	340	373	492	492	5.9	6.0	6.6	8.7	8.7
Oklahoma	72	77	105	136	188	3.8	4.1	5.5	7.1	9.8
Oregon	97	206	255	250	310	5.1	10.7	13.1	12.7	15.8
Pennsylvania	339	460	445	485	602	5.5	7.4	7.1	7.8	9.6
Rhode Island	43	43	44	66	73	8.5	8.5	8.6	12.9	14.3
South Carolina	197	191	232	227	257	8.7	8.3	10.0	9.7	10.9
South Dakota	0	17	29	19	32	0.0	4.1	6.8	4.4	7.5
Tennessee	244	235	192	203	326	7.8	7.5	6.1	6.4	10.2
Texas	914	1,358	1,296	1,394	1,450	7.2	10.5	9.9	10.4	10.8
Utah	14	42	72	46	63	1.0	2.9	4.9	3.1	4.3
Vermont	9	6	3	5	9	2.9	1.9	1.0	1.6	2.9
Virginia	195	264	298	272	316	4.9	6.6	7.3	6.6	7.7
Washington	322	293	271	326	414	9.4	8.5	7.8	9.2	11.7
West Virginia	4	6	11	22	43	0.4	0.7	1.2	2.4	4.7
Wisconsin	60	80	86	79	79	2.1	2.8	3.0	2.8	2.8
Wyoming	0	4	1	4	4	0.0	1.4	0.3	1.3	1.3
U.S. TOTAL	**12,453**	**14,190**	**15,861**	**18,146**	**21,547**	**8.1**	**9.2**	**10.2**	**11.6**	**13.7**
Northeast	1,987	2,292	2,547	2,913	3,490	7.4	8.4	9.3	10.7	12.8
Midwest	1,926	1,987	2,475	2,638	2,883	5.8	6.0	7.4	7.9	8.6
South	5,160	5,894	6,167	7,203	8,596	9.1	10.2	10.6	12.3	14.6
West	3,380	4,017	4,672	5,392	6,578	9.3	10.9	12.6	14.4	17.6
Guam	3	5	1	5	2	3.7	6.2	1.2	6.1	2.5
Puerto Rico	237	286	350	454	461	13.4	16.3	20.2	26.6	27.0
Virgin Islands	0	0	1	1	4	0.0	0.0	2.0	2.1	8.2
OUTLYING AREAS	**240**	**291**	**352**	**460**	**467**	**12.6**	**15.4**	**18.9**	**25.1**	**25.5**
TOTAL	**12,693**	**14,481**	**16,213**	**18,606**	**22,014**	**8.2**	**9.3**	**10.3**	**11.7**	**13.9**

NOTE: Cases reported with unknown sex are not included in this table.

Table 30. Primary and Secondary Syphilis — Reported Cases and Rates of Reported Cases in Selected Metropolitan Statistical Areas (MSAs)* in Alphabetical Order, United States, 2011–2015

MSAs	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Atlanta-Sandy Springs-Roswell, GA	581	745	789	996	1,097	10.8	13.7	14.3	17.7	19.5
Austin-Round Rock, TX	114	154	145	227	203	6.4	8.4	7.7	11.7	10.4
Baltimore-Columbia-Towson, MD	308	307	288	282	343	11.3	11.2	10.4	10.1	12.3
Birmingham-Hoover, AL	89	73	69	58	74	7.9	6.4	6.1	5.1	6.5
Boston-Cambridge-Newton, MA-NH	191	204	268	227	271	4.2	4.4	5.7	4.8	5.7
Buffalo-Cheektowaga-Niagara Falls, NY	14	27	38	49	92	1.2	2.4	3.4	4.3	8.1
Charlotte-Concord-Gastonia, NC-SC	152	116	134	220	333	6.7	5.1	5.7	9.2	14.0
Chicago-Naperville-Elgin, IL-IN-WI	853	759	763	811	1,047	9.0	8.0	8.0	8.5	11.0
Cincinnati, OH-KY-IN	228	166	166	153	93	10.7	7.8	7.8	7.1	4.3
Cleveland-Elyria, OH	55	44	32	80	72	2.7	2.1	1.5	3.9	3.5
Columbus, OH	122	159	167	250	274	6.3	8.2	8.5	12.5	13.7
Dallas-Fort Worth-Arlington, TX	317	391	445	508	476	4.8	5.8	6.5	7.3	6.8
Denver-Aurora-Lakewood, CO	116	183	135	153	192	4.5	6.9	5.0	5.6	7.0
Detroit-Warren-Dearborn, MI	203	235	394	317	284	4.7	5.5	9.2	7.4	6.6
Hartford-West Hartford-East Hartford, CT	15	9	14	26	44	1.2	0.7	1.2	2.1	3.6
Houston-The Woodlands-Sugar Land, TX	322	537	363	414	439	5.3	8.7	5.7	6.4	6.8
Indianapolis-Carmel-Anderson, IN	91	150	146	109	172	4.8	7.8	7.5	5.5	8.7
Jacksonville, FL	47	44	40	69	91	3.5	3.2	2.9	4.9	6.4
Kansas City, MO-KS	57	65	155	220	191	2.8	3.2	7.5	10.6	9.2
Las Vegas-Henderson-Paradise, NV	126	97	164	318	305	6.4	4.8	8.1	15.4	14.7
Los Angeles-Long Beach-Anaheim, CA	876	1,049	1,299	1,407	1,832	6.8	8.0	9.9	10.6	13.8
Louisville-Jefferson County, KY-IN	92	81	71	83	87	7.4	6.5	5.6	6.5	6.9
Memphis, TN-MS-AR	120	110	105	94	121	9.0	8.2	7.8	7.0	9.0
Miami-Fort Lauderdale-West Palm Beach, FL	630	705	762	821	884	11.1	12.2	13.1	13.8	14.9
Milwaukee-Waukesha-West Allis, WI	35	43	54	52	39	2.2	2.7	3.4	3.3	2.5
Minneapolis-St. Paul-Bloomington, MN-WI	127	116	181	243	228	3.7	3.4	5.2	7.0	6.5
Nashville-Davidson-Murfreesboro-Franklin, TN	85	88	57	74	116	5.0	5.1	3.2	4.1	6.5
New Orleans-Metairie, LA	101	66	103	221	218	8.3	5.4	8.3	17.7	17.4
New York-Newark-Jersey City, NY-NJ-PA	1,169	1,315	1,491	1,721	2,037	5.9	6.6	7.5	8.6	10.1
Oklahoma City, OK	39	54	78	91	113	3.1	4.2	5.9	6.8	8.5
Orlando-Kissimmee-Sanford, FL	174	168	201	239	299	8.0	7.6	8.9	10.3	12.9
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	302	369	396	446	458	5.0	6.1	6.6	7.4	7.6
Phoenix-Mesa-Scottsdale, AZ	213	162	219	416	452	5.0	3.7	5.0	9.3	10.1
Pittsburgh, PA	49	61	39	78	150	2.1	2.6	1.7	3.3	6.4
Portland-Vancouver-Hillsboro, OR-WA	90	209	240	206	261	4.0	9.1	10.4	8.8	11.1
Providence-Warwick, RI-MA	55	58	65	93	111	3.4	3.6	4.1	5.8	6.9
Raleigh, NC	47	56	70	129	168	4.0	4.7	5.8	10.4	13.5
Richmond, VA	50	64	70	68	73	4.1	5.2	5.6	5.4	5.8
Riverside-San Bernardino-Ontario, CA	182	166	203	288	341	4.2	3.8	4.6	6.5	7.7
Sacramento-Roseville-Arden-Arcade, CA	131	151	147	162	265	6.0	6.9	6.6	7.2	11.8
Salt Lake City, UT	9	34	65	39	49	0.8	3.0	5.7	3.4	4.2
San Antonio-New Braunfels, TX	188	329	310	247	237	8.6	14.7	13.6	10.6	10.2
San Diego-Carlsbad, CA	293	331	333	371	493	9.3	10.4	10.4	11.4	15.1
San Francisco-Oakland-Hayward, CA	626	744	814	767	830	14.3	16.7	18.0	16.7	18.1
San Jose-Sunnyvale-Santa Clara, CA	68	105	146	120	134	3.6	5.5	7.6	6.1	6.9
Seattle-Tacoma-Bellevue, WA	276	248	211	235	311	7.9	7.0	5.8	6.4	8.5
St. Louis, MO-IL	92	95	108	153	112	3.3	3.4	3.9	5.5	4.0
Tampa-St. Petersburg-Clearwater, FL	199	230	226	320	393	7.0	8.1	7.9	11.0	13.5
Virginia Beach-Norfolk-Newport News, VA-NC	64	106	102	85	117	3.8	6.2	6.0	5.0	6.8
Washington-Arlington-Alexandria, DC-VA-MD-WV	360	358	418	226	230	6.3	6.1	7.0	3.7	3.8
SELECTED MSAs TOTAL	**10,743**	**12,136**	**13,299**	**14,982**	**17,252**	**6.3**	**7.1**	**7.7**	**8.6**	**9.9**

* MSAs were selected on the basis of the largest population in the 2010 U.S. Census.

Table 31. Primary and Secondary Syphilis Among Women — Reported Cases and Rates of Reported Cases in Selected Metropolitan Statistical Areas (MSAs)* in Alphabetical Order, United States, 2011–2015

MSAs	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Atlanta-Sandy Springs-Roswell, GA	40	33	52	58	61	1.5	1.2	1.8	2.0	2.1
Austin-Round Rock, TX	12	8	6	14	16	1.3	0.9	0.6	1.4	1.6
Baltimore-Columbia-Towson, MD	39	39	46	42	49	2.8	2.7	3.2	2.9	3.4
Birmingham-Hoover, AL	10	7	5	5	8	1.7	1.2	0.8	0.8	1.3
Boston-Cambridge-Newton, MA-NH	14	5	10	14	13	0.6	0.2	0.4	0.6	0.5
Buffalo-Cheektowaga-Niagara Falls, NY	2	1	2	1	0	0.3	0.2	0.3	0.2	0.0
Charlotte-Concord-Gastonia, NC-SC	14	15	6	6	16	1.2	1.3	0.5	0.5	1.3
Chicago-Naperville-Elgin, IL-IN-WI	77	77	65	76	86	1.6	1.6	1.3	1.6	1.8
Cincinnati, OH-KY-IN	99	63	31	33	21	9.1	5.8	2.8	3.0	1.9
Cleveland-Elyria, OH	3	5	2	5	1	0.3	0.5	0.2	0.5	0.1
Columbus, OH	10	14	18	34	27	1.0	1.4	1.8	3.4	2.7
Dallas-Fort Worth-Arlington, TX	63	56	41	63	56	1.9	1.6	1.2	1.8	1.6
Denver-Aurora-Lakewood, CO	1	3	3	4	6	0.1	0.2	0.2	0.3	0.4
Detroit-Warren-Dearborn, MI	20	27	25	23	26	0.9	1.2	1.1	1.0	1.2
Hartford-West Hartford-East Hartford, CT	2	3	0	2	9	0.3	0.5	0.0	0.3	1.4
Houston-The Woodlands-Sugar Land, TX	69	97	59	64	58	2.3	3.1	1.9	2.0	1.8
Indianapolis-Carmel-Anderson, IN	5	10	9	5	12	0.5	1.0	0.9	0.5	1.2
Jacksonville, FL	11	4	5	9	8	1.6	0.6	0.7	1.2	1.1
Kansas City, MO-KS	4	1	9	23	41	0.4	0.1	0.9	2.2	3.9
Las Vegas-Henderson-Paradise, NV	4	2	6	17	17	0.4	0.2	0.6	1.6	1.6
Los Angeles-Long Beach-Anaheim, CA	16	26	50	67	108	0.2	0.4	0.8	1.0	1.6
Louisville-Jefferson County, KY-IN	7	9	11	14	10	1.1	1.4	1.7	2.2	1.5
Memphis, TN-MS-AR	22	22	17	22	13	3.2	3.2	2.4	3.1	1.9
Miami-Fort Lauderdale-West Palm Beach, FL	47	63	65	44	75	1.6	2.1	2.2	1.4	2.5
Milwaukee-Waukesha-West Allis, WI	5	5	5	6	0	0.6	0.6	0.6	0.7	0.0
Minneapolis-St. Paul-Bloomington, MN-WI	5	7	9	19	37	0.3	0.4	0.5	1.1	2.1
Nashville-Davidson-Murfreesboro-Franklin, TN	3	1	4	5	4	0.3	0.1	0.4	0.5	0.4
New Orleans-Metairie, LA	17	9	10	18	29	2.7	1.4	1.6	2.8	4.5
New York-Newark-Jersey City, NY-NJ-PA	39	57	46	52	69	0.4	0.6	0.4	0.5	0.7
Oklahoma City, OK	6	1	5	7	14	0.9	0.2	0.7	1.0	2.1
Orlando-Kissimmee-Sanford, FL	10	15	9	8	14	0.9	1.3	0.8	0.7	1.2
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	28	30	24	39	43	0.9	1.0	0.8	1.2	1.4
Phoenix-Mesa-Scottsdale, AZ	9	14	22	42	39	0.4	0.6	1.0	1.9	1.7
Pittsburgh, PA	4	5	2	6	11	0.3	0.4	0.2	0.5	0.9
Portland-Vancouver-Hillsboro, OR-WA	0	9	9	9	19	0.0	0.8	0.8	0.8	1.6
Providence-Warwick, RI-MA	3	1	3	8	8	0.4	0.1	0.4	1.0	1.0
Raleigh, NC	1	5	9	6	13	0.2	0.8	1.4	0.9	2.0
Richmond, VA	10	10	4	2	4	1.6	1.6	0.6	0.3	0.6
Riverside-San Bernardino-Ontario, CA	8	3	7	15	17	0.4	0.1	0.3	0.7	0.8
Sacramento-Roseville-Arden-Arcade, CA	7	5	10	11	26	0.6	0.4	0.9	1.0	2.3
Salt Lake City, UT	0	0	1	1	1	0.0	0.0	0.2	0.2	0.2
San Antonio-New Braunfels, TX	39	59	44	47	43	3.5	5.2	3.8	4.0	3.6
San Diego-Carlsbad, CA	13	12	10	20	17	0.8	0.8	0.6	1.2	1.0
San Francisco-Oakland-Hayward, CA	27	28	40	34	46	1.2	1.2	1.7	1.5	2.0
San Jose-Sunnyvale-Santa Clara, CA	4	3	9	12	10	0.4	0.3	0.9	1.2	1.0
Seattle-Tacoma-Bellevue, WA	3	6	10	10	6	0.2	0.3	0.6	0.5	0.3
St. Louis, MO-IL	3	9	6	17	14	0.2	0.6	0.4	1.2	1.0
Tampa-St. Petersburg-Clearwater, FL	26	29	31	41	44	1.8	2.0	2.1	2.7	2.9
Virginia Beach-Norfolk-Newport News, VA-NC	7	5	5	8	5	0.8	0.6	0.6	0.9	0.6
Washington-Arlington-Alexandria, DC-VA-MD-WV	16	15	35	7	10	0.5	0.5	1.2	0.2	0.3
SELECTED MSAs TOTAL	**884**	**933**	**912**	**1,095**	**1,280**	**1.0**	**1.1**	**1.0**	**1.2**	**1.4**

* MSAs were selected on the basis of the largest population in the 2010 U.S. Census.

NOTE: Cases reported with unknown sex are not included in this table.

Table 32. Primary and Secondary Syphilis Among Men — Reported Cases and Rates of Reported Cases in Selected Metropolitan Statistical Areas (MSAs)* in Alphabetical Order, United States, 2011–2015

MSAs	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Atlanta-Sandy Springs-Roswell, GA	541	712	737	938	1,036	20.6	26.8	27.5	34.5	38.1
Austin-Round Rock, TX	102	146	139	213	187	11.4	15.9	14.7	21.9	19.2
Baltimore-Columbia-Towson, MD	269	268	242	240	294	20.5	20.2	18.1	17.9	21.9
Birmingham-Hoover, AL	79	66	64	53	66	14.5	12.1	11.6	9.6	12.0
Boston-Cambridge-Newton, MA-NH	177	199	258	213	257	8.0	8.8	11.4	9.3	11.2
Buffalo-Cheektowaga-Niagara Falls, NY	12	26	36	48	92	2.2	4.7	6.6	8.7	16.7
Charlotte-Concord-Gastonia, NC-SC	138	101	128	214	317	12.6	9.0	11.3	18.5	27.4
Chicago-Naperville-Elgin, IL-IN-WI	776	682	697	735	961	16.7	14.6	14.9	15.7	20.6
Cincinnati, OH-KY-IN	129	103	135	120	72	12.4	9.9	12.9	11.4	6.8
Cleveland-Elyria, OH	52	39	30	75	71	5.2	3.9	3.0	7.5	7.1
Columbus, OH	112	145	149	216	247	11.8	15.2	15.4	22.0	25.2
Dallas-Fort Worth-Arlington, TX	254	335	404	445	420	7.8	10.1	12.0	13.0	12.3
Denver-Aurora-Lakewood, CO	115	180	132	149	186	8.9	13.7	9.8	10.9	13.6
Detroit-Warren-Dearborn, MI	183	208	369	294	258	8.8	10.0	17.7	14.1	12.4
Hartford-West Hartford-East Hartford, CT	13	6	14	24	35	2.2	1.0	2.4	4.1	5.9
Houston-The Woodlands-Sugar Land, TX	253	440	304	350	381	8.4	14.3	9.7	10.8	11.8
Indianapolis-Carmel-Anderson, IN	86	140	137	104	160	9.2	14.8	14.3	10.8	16.6
Jacksonville, FL	36	40	35	60	83	5.4	6.0	5.2	8.7	12.0
Kansas City, MO-KS	53	64	146	197	150	5.3	6.4	14.5	19.4	14.8
Las Vegas-Henderson-Paradise, NV	122	95	158	301	288	12.3	9.4	15.5	29.1	27.8
Los Angeles-Long Beach-Anaheim, CA	858	1,019	1,248	1,340	1,724	13.4	15.8	19.2	20.5	26.4
Louisville-Jefferson County, KY-IN	85	72	60	69	77	14.0	11.8	9.7	11.1	12.4
Memphis, TN-MS-AR	98	88	88	72	108	15.3	13.7	13.7	11.2	16.8
Miami-Fort Lauderdale-West Palm Beach, FL	583	642	697	777	809	21.2	23.0	24.6	27.0	28.1
Milwaukee-Waukesha-West Allis, WI	30	38	49	46	39	3.9	5.0	6.4	6.0	5.1
Minneapolis-St. Paul-Bloomington, MN-WI	122	109	169	223	191	7.3	6.4	9.9	12.9	11.1
Nashville-Davidson-Murfreesboro-Franklin, TN	82	87	53	69	112	9.9	10.3	6.2	7.9	12.8
New Orleans-Metairie, LA	84	57	93	203	189	14.2	9.6	15.4	33.5	31.2
New York-Newark-Jersey City, NY-NJ-PA	1,129	1,254	1,438	1,666	1,954	11.9	13.1	14.9	17.1	20.1
Oklahoma City, OK	33	53	73	84	99	5.2	8.3	11.2	12.8	15.0
Orlando-Kissimmee-Sanford, FL	164	153	192	231	285	15.4	14.1	17.3	20.4	25.1
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	274	339	372	407	415	9.5	11.7	12.8	13.9	14.2
Phoenix-Mesa-Scottsdale, AZ	202	148	197	374	413	9.5	6.9	9.0	16.8	18.5
Pittsburgh, PA	45	56	37	72	139	3.9	4.9	3.2	6.3	12.1
Portland-Vancouver-Hillsboro, OR-WA	90	200	231	197	242	8.0	17.7	20.2	17.0	20.9
Providence-Warwick, RI-MA	52	57	62	84	103	6.7	7.4	8.0	10.8	13.2
Raleigh, NC	46	51	61	123	155	8.1	8.8	10.3	20.3	25.6
Richmond, VA	40	54	66	66	69	6.8	9.1	11.0	10.8	11.3
Riverside-San Bernardino-Ontario, CA	171	163	196	273	324	8.0	7.5	9.0	12.4	14.7
Sacramento-Roseville-Arden-Arcade, CA	122	144	137	151	239	11.4	13.4	12.6	13.7	21.8
Salt Lake City, UT	9	34	64	38	48	1.6	6.0	11.2	6.6	8.3
San Antonio-New Braunfels, TX	149	270	266	200	194	13.8	24.5	23.7	17.4	16.9
San Diego-Carlsbad, CA	279	318	323	351	476	17.7	19.9	20.0	21.4	29.0
San Francisco-Oakland-Hayward, CA	596	713	773	731	783	27.5	32.4	34.7	32.3	34.6
San Jose-Sunnyvale-Santa Clara, CA	64	102	137	108	124	6.8	10.7	14.2	11.0	12.6
Seattle-Tacoma-Bellevue, WA	273	242	201	225	305	15.6	13.7	11.2	12.3	16.6
St. Louis, MO-IL	89	86	102	136	98	6.6	6.4	7.5	10.0	7.2
Tampa-St. Petersburg-Clearwater, FL	173	201	195	278	349	12.6	14.6	14.0	19.7	24.7
Virginia Beach-Norfolk-Newport News, VA-NC	57	101	97	77	112	6.9	12.1	11.5	9.1	13.2
Washington-Arlington-Alexandria, DC-VA-MD-WV	344	343	383	219	219	12.3	12.0	13.2	7.4	7.4
SELECTED MSAs TOTAL	**9,845**	**11,189**	**12,374**	**13,879**	**15,955**	**11.9**	**13.3**	**14.6**	**16.2**	**18.6**

* MSAs were selected on the basis of the largest population in the 2010 U.S. Census.

NOTE: Cases reported with unknown sex are not included in this table.

Table 33. Primary and Secondary Syphilis — Reported Cases and Rates of Reported Cases in Counties and Independent Cities* Ranked by Number of Reported Cases, United States, 2015

Rank*	County/Independent City	Cases	Rate per 100,000 Population	Cumulative Percentage
1	Los Angeles County, CA	1,577	15.6	6
2	Cook County, IL	915	17.4	10
3	New York County, NY	544	33.2	12
4	San Francisco County, CA	516	60.5	14
5	San Diego County, CA	493	15.1	16
6	Miami-Dade County, FL	492	18.5	19
7	Fulton County, GA	450	45.2	20
8	Maricopa County, AZ	445	10.9	22
9	Kings County, NY	389	14.8	24
10	Harris County, TX	377	8.5	25
11	Bronx County, NY	347	24.1	27
12	Philadelphia County, PA	314	20.1	28
13	DeKalb County, GA	309	42.8	30
14	Clark County, NV	305	14.7	31
15	Broward County, FL	291	15.6	32
16	Mecklenburg County, NC	266	26.3	33
17	Fresno County, CA	263	27.2	34
18	Dallas County, TX	258	10.2	35
19	Franklin County, OH	255	20.7	36
20	Orange County, CA	255	8.1	37
21	King County, WA	248	11.9	38
22	Orange County, FL	238	19.0	39
23	Sacramento County, CA	226	15.2	40
24	Bexar County, TX	223	12.0	41
25	Hillsborough County, FL	222	16.9	42
26	Baltimore (City), MD	212	34.0	43
27	Riverside County, CA	209	9.0	44
28	Queens County, NY	207	8.9	45
29	Travis County, TX	175	15.2	46
30	Wayne County, MI	170	9.6	46
31	Tarrant County, TX	165	8.5	47
32	Kern County, CA	161	18.4	48
33	Alameda County, CA	159	9.9	48
34	Hennepin County, MN	158	13.0	49
35	Multnomah County, OR	157	20.2	50
36	Jackson County, MO	154	22.5	50
37	Marion County, IN	153	16.4	51
38	Wake County, NC	153	15.3	52
39	Pinellas County, FL	150	16.0	52
40	Orleans Parish, LA	146	38.0	53
41	San Bernardino County, CA	132	6.2	53
42	Santa Clara County, CA	130	6.9	54
43	San Joaquin County, CA	129	18.0	55
44	Allegheny County, PA	129	10.5	55
45	Guilford County, NC	121	23.6	56
46	Denver County, CO	117	17.6	56
47	East Baton Rouge Parish, LA	111	24.9	57
48	Pima County, AZ	111	11.1	57
49	Shelby County, TN	102	10.9	57
50	Palm Beach County, FL	101	7.2	58
51	Gwinnett County, GA	98	11.2	58
52	Oklahoma County, OK	93	12.1	59
53	Durham County, NC	89	30.2	59
54	Davidson County, TN	89	13.3	59
55	Suffolk County, MA	88	11.5	60
56	Richland County, SC	87	21.7	60
57	Erie County, NY	86	9.3	60
58	Contra Costa County, CA	84	7.6	61
59	Caddo Parish, LA	82	32.5	61
60	Cobb County, GA	82	11.2	62
61	Duval County, FL	82	9.1	62
62	Honolulu County, HI	82	8.3	62
63	Prince George's County, MD	81	9.0	63
64	Cumberland County, NC	80	24.5	63
65	Jefferson County, KY	79	10.4	63
66	Hamilton County, OH	79	9.8	64
67	Baltimore County, MD	79	9.6	64
68	Suffolk County, NY	79	5.3	64
69	Hudson County, NJ	77	11.5	65
70	Nassau County, NY	72	5.3	65

* The top 70 counties and independent cities ranked in descending order by number of cases reported in 2015 then by rate are displayed.

Table 34. Primary and Secondary Syphilis — Reported Cases and Rates of Reported Cases by Age Group and Sex, United States, 2011–2015

Age Group	Cases				Rates per 100,000 Population*			
	Total	Male	Female	Unknown Sex	Total	Male	Female	
0–4	9	5	4	0	0.0	0.0	0.0	2011
5–9	1	1	0	0	0.0	0.0	0.0	
10–14	15	6	9	0	0.1	0.1	0.1	
15–19	864	606	258	0	4.0	5.5	2.5	
20–24	2,987	2,582	403	2	13.5	22.8	3.7	
25–29	2,546	2,277	268	1	12.0	21.2	2.5	
30–34	1,846	1,657	187	2	9.0	16.1	1.8	
35–39	1,382	1,265	115	2	7.1	13.0	1.2	
40–44	1,503	1,408	91	4	7.1	13.5	0.9	
45–54	2,123	1,999	120	4	4.7	9.1	0.5	
55–64	554	510	43	1	1.5	2.8	0.2	
65+	138	135	3	0	0.3	0.8	0.0	
Unknown Age	2	2	0	0				
TOTAL	**13,970**	**12,453**	**1,501**	**16**	**4.5**	**8.1**	**0.9**	
0–4	1	1	0	0	0.0	0.0	0.0	2012
5–9	0	0	0	0	0.0	0.0	0.0	
10–14	9	5	4	0	0.0	0.0	0.0	
15–19	880	640	238	2	4.1	5.8	2.3	
20–24	3,280	2,859	418	3	14.5	24.8	3.8	
25–29	2,911	2,641	266	4	13.6	24.4	2.5	
30–34	2,209	2,023	182	4	10.6	19.3	1.7	
35–39	1,563	1,443	120	0	8.0	14.9	1.2	
40–44	1,618	1,544	70	4	7.7	14.8	0.7	
45–54	2,439	2,310	128	1	5.5	10.6	0.6	
55–64	614	586	27	1	1.6	3.2	0.1	
65+	123	121	2	0	0.3	0.6	0.0	
Unknown Age	20	17	3	0				
TOTAL	**15,667**	**14,190**	**1,458**	**19**	**5.0**	**9.2**	**0.9**	
0–4	5	2	3	0	0.0	0.0	0.0	2013
5–9	0	0	0	0	0.0	0.0	0.0	
10–14	23	14	9	0	0.1	0.1	0.1	
15–19	900	700	200	0	4.3	6.5	1.9	
20–24	3,642	3,204	435	3	16.0	27.4	3.9	
25–29	3,329	3,037	286	6	15.4	27.7	2.7	
30–34	2,447	2,272	172	3	11.5	21.3	1.6	
35–39	1,800	1,674	125	1	9.2	17.1	1.3	
40–44	1,693	1,587	105	1	8.1	15.3	1.0	
45–54	2,614	2,495	119	0	6.0	11.6	0.5	
55–64	750	716	34	0	1.9	3.8	0.2	
65+	162	152	10	0	0.4	0.8	0.0	
Unknown Age	10	8	2	0				
TOTAL	**17,375**	**15,861**	**1,500**	**14**	**5.5**	**10.2**	**0.9**	
0–4	0	0	0	0	0.0	0.0	0.0	2014
5–9	0	0	0	0	0.0	0.0	0.0	
10–14	12	4	8	0	0.1	0.0	0.1	
15–19	1,023	761	262	0	4.9	7.1	2.5	
20–24	4,137	3,632	503	2	18.1	30.9	4.5	
25–29	4,092	3,727	361	4	18.6	33.4	3.3	
30–34	2,887	2,635	248	4	13.4	24.4	2.3	
35–39	2,045	1,868	177	0	10.3	18.8	1.8	
40–44	1,758	1,654	103	1	8.5	16.2	1.0	
45–54	2,966	2,830	135	1	6.8	13.2	0.6	
55–64	897	860	36	1	2.2	4.5	0.2	
65+	176	169	7	0	0.4	0.8	0.0	
Unknown Age	6	6	0	0				
TOTAL	**19,999**	**18,146**	**1,840**	**13**	**6.3**	**11.6**	**1.1**	
0–4	2	0	1	1	0.0	0.0	0.0	2015
5–9	1	0	1	0	0.0	0.0	0.0	
10–14	9	1	8	0	0.0	0.0	0.1	
15–19	1,148	865	283	0	5.4	8.0	2.8	
20–24	4,766	4,186	573	7	20.8	35.7	5.1	
25–29	5,168	4,671	491	6	23.5	41.8	4.5	
30–34	3,549	3,234	311	4	16.5	29.9	2.9	
35–39	2,482	2,249	229	4	12.5	22.6	2.3	
40–44	1,897	1,744	152	1	9.2	17.1	1.5	
45–54	3,488	3,294	190	4	8.0	15.4	0.9	
55–64	1,153	1,099	54	0	2.9	5.7	0.3	
65+	207	202	5	0	0.4	1.0	0.0	
Unknown Age	2	2	0	0				
TOTAL	**23,872**	**21,547**	**2,298**	**27**	**7.5**	**13.7**	**1.4**	

* No population data are available for unknown sex and age; therefore, rates are not calculated.
NOTE: This table should be used only for age comparisons.

Table 35A. Primary and Secondary Syphilis — Reported Cases by Race/Ethnicity, Age Group, and Sex, United States*, 2015

Age Group	American Indians/ Alaska Natives			Asians			Blacks			Native Hawaiians/ Other Pacific Islanders		
	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female
0–4	0	0	0	0	0	0	1	0	1	0	0	0
5–9	0	0	0	0	0	0	1	0	1	0	0	0
10–14	0	0	0	0	0	0	4	0	4	0	0	0
15–19	9	6	3	21	18	3	568	386	182	0	0	0
20–24	26	22	4	85	80	5	2,235	1,903	330	17	14	3
25–29	27	23	4	115	107	8	2,153	1,933	219	10	10	0
30–34	22	16	6	74	72	2	1,207	1,082	124	9	9	0
35–39	16	10	6	50	45	4	751	665	85	7	6	1
40–44	10	9	1	57	56	1	517	459	58	2	2	0
45–54	17	16	1	79	75	4	722	659	62	8	8	0
55–64	1	1	0	12	12	0	214	189	25	1	1	0
65+	1	1	0	1	1	0	28	25	3	0	0	0
Unknown Age	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**129**	**104**	**25**	**494**	**466**	**27**	**8,401**	**7,301**	**1,094**	**54**	**50**	**4**

Age Group	Whites			Multirace			Hispanics			Other/ Unknown		
	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female
0–4	0	0	0	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0	0	0	0
10–14	1	0	1	1	0	1	2	0	2	1	1	0
15–19	193	152	41	13	8	5	263	231	32	72	57	15
20–24	1,042	926	116	61	58	3	1,007	919	86	267	242	24
25–29	1,345	1,208	137	84	79	5	1,117	1,026	88	280	251	29
30–34	1,137	1,027	110	75	74	1	789	740	47	211	192	19
35–39	863	782	81	40	38	2	611	574	36	130	115	14
40–44	766	709	56	18	18	0	398	370	28	117	109	8
45–54	1,755	1,686	68	43	40	3	625	584	39	220	207	13
55–64	691	676	15	12	12	0	137	127	10	71	68	3
65+	125	125	0	1	1	0	33	31	2	15	15	0
Unknown Age	0	0	0	0	0	0	2	2	0	0	0	0
TOTAL	**7,918**	**7,291**	**625**	**348**	**328**	**20**	**4,984**	**4,604**	**370**	**1,384**	**1,257**	**125**

* Includes 49 states reporting race/ethnicity data in the Office of Management and Budget compliant formats in 2015.
† Total includes cases reported with unknown sex.
NOTE: These tables should be used only for race/ethnicity comparisons. See Table 34 for age-specific cases and rates and Tables 27–29 for total and sex-specific cases and rates.

Table 35B. Primary and Secondary Syphilis — Rates of Reported Cases per 100,000 Population by Race/Ethnicity, Age Group, and Sex, United States*, 2015

Age Group	American Indians/ Alaska Natives			Asians			Blacks			Native Hawaiians/ Other Pacific Islanders		
	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.0
15–19	5.0	6.6	3.4	2.1	3.6	0.6	19.1	25.5	12.4	0.0	0.0	0.0
20–24	13.1	21.6	4.1	7.0	12.9	0.8	65.5	110.1	19.6	37.6	60.3	13.6
25–29	15.5	26.1	4.7	8.2	15.7	1.1	73.1	133.2	14.6	20.9	40.5	0.0
30–34	13.9	20.3	7.5	5.2	10.7	0.3	44.2	82.7	8.7	20.0	38.9	0.0
35–39	11.2	14.1	8.4	3.7	7.1	0.6	29.9	56.0	6.4	18.2	30.4	5.3
40–44	6.9	12.7	1.4	4.2	8.7	0.1	20.1	37.9	4.3	5.7	11.3	0.0
45–54	5.5	10.7	0.6	3.4	7.0	0.3	13.7	26.6	2.2	12.2	24.5	0.0
55–64	0.4	0.8	0.0	0.6	1.4	0.0	4.8	9.3	1.0	2.0	4.1	0.0
65+	0.4	1.0	0.0	0.1	0.1	0.0	0.7	1.6	0.1	0.0	0.0	0.0
Unknown Age												
TOTAL	**5.6**	**9.1**	**2.1**	**3.0**	**5.9**	**0.3**	**21.4**	**39.0**	**5.3**	**10.4**	**19.1**	**1.6**

Age Group	Whites			Multirace			Hispanics		
	Total†	Male	Female	Total†	Male	Female	Total†	Male	Female
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.1
15–19	1.7	2.6	0.7	2.0	2.4	1.5	5.7	9.8	1.4
20–24	8.4	14.5	1.9	10.8	20.6	1.1	21.3	37.2	3.8
25–29	10.9	19.4	2.3	19.6	38.7	2.2	25.3	44.1	4.2
30–34	9.4	16.8	1.8	20.3	42.6	0.5	18.0	32.2	2.2
35–39	7.7	13.9	1.5	13.1	26.5	1.2	14.9	27.3	1.8
40–44	6.3	11.6	0.9	6.6	13.9	0.0	10.4	19.1	1.5
45–54	6.2	12.0	0.5	9.0	17.6	1.2	9.9	18.4	1.3
55–64	2.4	4.8	0.1	3.2	6.8	0.0	3.4	6.5	0.5
65+	0.3	0.8	0.0	0.3	0.7	0.0	0.9	2.0	0.1
Unknown Age									
TOTAL	**4.1**	**7.6**	**0.6**	**5.5**	**10.6**	**0.6**	**9.1**	**16.6**	**1.4**

* Includes 49 states reporting race/ethnicity data in the Office of Management and Budget compliant formats in 2015.
† Total includes cases reported with unknown sex.
NOTE: These tables should be used only for race/ethnicity comparisons. See Table 34 for age-specific cases and rates and Tables 27–29 for total and sex-specific cases and rates. No population data exist for unknown sex, unknown age, or unknown race; therefore rates are not calculated.

Table 36. Early Latent Syphilis — Reported Cases and Rates of Reported Cases by State/Area and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	268	237	202	144	177	5.6	4.9	4.2	3.0	3.6
Alaska	3	8	8	25	13	0.4	1.1	1.1	3.4	1.8
Arizona	187	147	207	311	361	2.9	2.2	3.1	4.6	5.4
Arkansas	167	152	163	152	216	5.7	5.2	5.5	5.1	7.3
California	2,030	2,519	2,844	3,396	4,435	5.4	6.6	7.4	8.8	11.4
Colorado	154	194	195	164	212	3.0	3.7	3.7	3.1	4.0
Connecticut	57	52	55	62	97	1.6	1.4	1.5	1.7	2.7
Delaware	49	38	30	33	47	5.4	4.1	3.2	3.5	5.0
District of Columbia	222	244	243	142	200	35.9	38.6	37.6	21.6	30.4
Florida	1,212	1,384	1,540	1,886	2,288	6.4	7.2	7.9	9.5	11.5
Georgia	436	639	863	1,078	1,477	4.4	6.4	8.6	10.7	14.6
Hawaii	5	9	22	25	56	0.4	0.6	1.6	1.8	3.9
Idaho	11	21	6	12	24	0.7	1.3	0.4	0.7	1.5
Illinois	581	690	809	819	889	4.5	5.4	6.3	6.4	6.9
Indiana	95	148	157	129	220	1.5	2.3	2.4	2.0	3.3
Iowa	11	15	63	82	69	0.4	0.5	2.0	2.6	2.2
Kansas	34	54	84	92	153	1.2	1.9	2.9	3.2	5.3
Kentucky	109	139	167	169	164	2.5	3.2	3.8	3.8	3.7
Louisiana	488	343	276	372	439	10.7	7.5	6.0	8.0	9.4
Maine	8	2	6	7	10	0.6	0.2	0.5	0.5	0.8
Maryland	332	361	387	529	594	5.7	6.1	6.5	8.9	9.9
Massachusetts	233	231	350	282	355	3.5	3.5	5.2	4.2	5.3
Michigan	132	150	204	243	282	1.3	1.5	2.1	2.5	2.8
Minnesota	121	96	139	159	185	2.3	1.8	2.6	2.9	3.4
Mississippi	313	253	184	336	405	10.5	8.5	6.2	11.2	13.5
Missouri	124	135	220	240	247	2.1	2.2	3.6	4.0	4.1
Montana	1	0	2	1	5	0.1	0.0	0.2	0.1	0.5
Nebraska	3	8	14	19	5	0.2	0.4	0.7	1.0	0.3
Nevada	166	214	232	389	439	6.1	7.8	8.3	13.7	15.5
New Hampshire	5	9	21	22	16	0.4	0.7	1.6	1.7	1.2
New Jersey	452	410	539	612	714	5.1	4.6	6.1	6.8	8.0
New Mexico	56	68	67	76	71	2.7	3.3	3.2	3.6	3.4
New York	1,254	1,413	1,945	2,307	2,802	6.4	7.2	9.9	11.7	14.2
North Carolina	333	244	236	468	753	3.4	2.5	2.4	4.7	7.6
North Dakota	1	0	2	22	17	0.1	0.0	0.3	3.0	2.3
Ohio	160	171	211	265	326	1.4	1.5	1.8	2.3	2.8
Oklahoma	145	146	237	198	222	3.8	3.8	6.2	5.1	5.7
Oregon	63	94	127	149	214	1.6	2.4	3.2	3.8	5.4
Pennsylvania	412	484	581	641	770	3.2	3.8	4.5	5.0	6.0
Rhode Island	20	24	22	49	38	1.9	2.3	2.1	4.6	3.6
South Carolina	345	336	415	467	496	7.4	7.1	8.7	9.7	10.3
South Dakota	0	3	5	23	11	0.0	0.4	0.6	2.7	1.3
Tennessee	256	255	267	236	312	4.0	3.9	4.1	3.6	4.8
Texas	1,581	1,767	1,902	1,984	2,471	6.2	6.8	7.2	7.4	9.2
Utah	8	8	47	41	31	0.3	0.3	1.6	1.4	1.1
Vermont	1	6	2	7	6	0.2	1.0	0.3	1.1	1.0
Virginia	289	303	354	274	410	3.6	3.7	4.3	3.3	4.9
Washington	146	181	204	198	293	2.1	2.6	2.9	2.8	4.1
West Virginia	0	10	10	23	40	0.0	0.5	0.5	1.2	2.2
Wisconsin	57	86	62	91	95	1.0	1.5	1.1	1.6	1.7
Wyoming	0	2	1	1	1	0.0	0.3	0.2	0.2	0.2
U.S. TOTAL	**13,136**	**14,503**	**16,929**	**19,452**	**24,173**	**4.2**	**4.6**	**5.4**	**6.1**	**7.6**
Northeast	2,442	2,631	3,521	3,989	4,808	4.4	4.7	6.3	7.1	8.6
Midwest	1,319	1,556	1,970	2,184	2,499	2.0	2.3	2.9	3.2	3.7
South	6,545	6,851	7,476	8,491	10,711	5.6	5.8	6.3	7.1	8.9
West	2,830	3,465	3,962	4,788	6,155	3.9	4.7	5.3	6.4	8.2
Guam	4	1	3	1	2	2.5	0.6	1.9	0.6	1.2
Puerto Rico	211	222	270	375	565	5.7	6.1	7.5	10.6	15.9
Virgin Islands	0	0	2	0	7	0.0	0.0	1.9	0.0	6.7
OUTLYING AREAS	**215**	**223**	**275**	**376**	**574**	**5.4**	**5.7**	**7.1**	**9.9**	**15.1**
TOTAL	**13,351**	**14,726**	**17,204**	**19,828**	**24,747**	**4.2**	**4.6**	**5.4**	**6.1**	**7.7**

Table 37. Early Latent Syphilis — Reported Cases and Rates of Reported Cases in Selected Metropolitan Statistical Areas (MSAs)* in Alphabetical Order, United States, 2011–2015

MSAs	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Atlanta-Sandy Springs-Roswell, GA	352	491	672	863	1,067	6.5	9.0	12.2	15.4	19.0
Austin-Round Rock, TX	137	170	220	207	242	7.7	9.3	11.7	10.7	12.5
Baltimore-Columbia-Towson, MD	198	206	216	296	344	7.3	7.5	7.8	10.6	12.3
Birmingham-Hoover, AL	90	74	71	46	60	7.9	6.5	6.2	4.0	5.2
Boston-Cambridge-Newton, MA-NH	176	158	278	208	235	3.8	3.4	5.9	4.4	5.0
Buffalo-Cheektowaga-Niagara Falls, NY	7	11	15	19	37	0.6	1.0	1.3	1.7	3.3
Charlotte-Concord-Gastonia, NC-SC	103	70	74	129	206	4.6	3.0	3.2	5.4	8.7
Chicago-Naperville-Elgin, IL-IN-WI	531	630	751	734	814	5.6	6.6	7.9	7.7	8.5
Cincinnati, OH-KY-IN	67	78	70	98	92	3.2	3.7	3.3	4.6	4.3
Cleveland-Elyria, OH	25	13	14	31	37	1.2	0.6	0.7	1.5	1.8
Columbus, OH	37	49	71	82	130	1.9	2.5	3.6	4.1	6.5
Dallas-Fort Worth-Arlington, TX	500	604	550	644	932	7.6	9.0	8.1	9.3	13.4
Denver-Aurora-Lakewood, CO	139	177	166	145	175	5.3	6.7	6.2	5.3	6.4
Detroit-Warren-Dearborn, MI	82	113	152	163	206	1.9	2.6	3.5	3.8	4.8
Hartford-West Hartford-East Hartford, CT	18	9	19	16	31	1.5	0.7	1.6	1.3	2.6
Houston-The Woodlands-Sugar Land, TX	351	419	348	444	522	5.8	6.8	5.5	6.8	8.0
Indianapolis-Carmel-Anderson, IN	66	102	104	91	143	3.5	5.3	5.3	4.6	7.3
Jacksonville, FL	50	57	73	69	162	3.7	4.1	5.2	4.9	11.4
Kansas City, MO-KS	40	61	111	132	133	2.0	3.0	5.4	6.4	6.4
Las Vegas-Henderson-Paradise, NV	162	207	218	375	413	8.2	10.3	10.8	18.1	20.0
Los Angeles-Long Beach-Anaheim, CA	1,132	1,393	1,520	1,619	2,052	8.7	10.7	11.6	12.2	15.5
Louisville-Jefferson County, KY-IN	41	72	85	82	90	3.3	5.8	6.7	6.5	7.1
Memphis, TN-MS-AR	180	188	188	143	195	13.5	14.0	14.0	10.6	14.5
Miami-Fort Lauderdale-West Palm Beach, FL	682	831	885	1,094	1,220	12.0	14.4	15.2	18.4	20.6
Milwaukee-Waukesha-West Allis, WI	33	57	43	69	66	2.1	3.6	2.7	4.4	4.2
Minneapolis-St. Paul-Bloomington, MN-WI	112	91	131	155	170	3.3	2.7	3.8	4.4	4.9
Nashville-Davidson-Murfreesboro-Franklin, TN	37	50	62	83	82	2.2	2.9	3.5	4.6	4.6
New Orleans-Metairie, LA	109	90	81	122	171	9.0	7.3	6.5	9.7	13.7
New York-Newark-Jersey City, NY-NJ-PA	1,569	1,668	2,299	2,681	3,210	8.0	8.4	11.5	13.3	16.0
Oklahoma City, OK	65	79	124	107	114	5.1	6.1	9.4	8.0	8.5
Orlando-Kissimmee-Sanford, FL	142	136	175	180	266	6.5	6.1	7.7	7.8	11.5
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	398	408	497	512	616	6.6	6.8	8.2	8.5	10.2
Phoenix-Mesa-Scottsdale, AZ	153	120	150	240	268	3.6	2.8	3.4	5.3	6.0
Pittsburgh, PA	30	46	45	63	111	1.3	1.9	1.9	2.7	4.7
Portland-Vancouver-Hillsboro, OR-WA	58	101	117	124	170	2.6	4.4	5.1	5.3	7.2
Providence-Warwick, RI-MA	26	35	28	64	48	1.6	2.2	1.7	4.0	3.0
Raleigh, NC	35	31	41	77	115	3.0	2.6	3.4	6.2	9.3
Richmond, VA	68	78	75	68	98	5.6	6.3	6.0	5.4	7.8
Riverside-San Bernardino-Ontario, CA	144	138	159	223	311	3.3	3.2	3.6	5.0	7.0
Sacramento-Roseville-Arden-Arcade, CA	51	38	33	74	137	2.3	1.7	1.5	3.3	6.1
Salt Lake City, UT	7	7	37	31	23	0.6	0.6	3.2	2.7	2.0
San Antonio-New Braunfels, TX	252	269	381	308	258	11.5	12.0	16.7	13.2	11.1
San Diego-Carlsbad, CA	162	236	211	299	343	5.2	7.4	6.6	9.2	10.5
San Francisco-Oakland-Hayward, CA	396	528	656	839	964	9.0	11.9	14.5	18.3	21.0
San Jose-Sunnyvale-Santa Clara, CA	35	44	60	58	96	1.9	2.3	3.1	3.0	4.9
Seattle-Tacoma-Bellevue, WA	134	142	167	143	221	3.8	4.0	4.6	3.9	6.0
St. Louis, MO-IL	84	89	125	139	138	3.0	3.2	4.5	5.0	4.9
Tampa-St. Petersburg-Clearwater, FL	139	176	176	227	258	4.9	6.2	6.1	7.8	8.8
Virginia Beach-Norfolk-Newport News, VA-NC	108	90	112	90	167	6.4	5.3	6.6	5.2	9.7
Washington-Arlington-Alexandria, DC-VA-MD-WV	403	497	520	286	320	7.0	8.5	8.7	4.7	5.3
SELECTED MSAs TOTAL	**9,916**	**11,427**	**13,376**	**14,992**	**18,279**	**5.9**	**6.7**	**7.7**	**8.6**	**10.5**

* MSAs were selected on the basis of the largest population in the 2010 U.S. Census.

Table 38. Late and Late Latent Syphilis* — Reported Cases and Rates of Reported Cases by State/Area and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	252	248	292	167	197	5.2	5.1	6.0	3.4	4.1
Alaska	3	14	3	5	3	0.4	1.9	0.4	0.7	0.4
Arizona	431	424	455	558	532	6.6	6.5	6.9	8.3	7.9
Arkansas	100	132	175	110	145	3.4	4.5	5.9	3.7	4.9
California	2,269	2,509	3,539	4,110	4,966	6.0	6.6	9.2	10.6	12.8
Colorado	80	101	117	5	96	1.6	1.9	2.2	0.1	1.8
Connecticut	67	14	22	21	30	1.9	0.4	0.6	0.6	0.8
Delaware	48	29	63	30	21	5.3	3.2	6.8	3.2	2.2
District of Columbia	164	180	196	23	26	26.5	28.5	30.3	3.5	3.9
Florida	1,641	1,693	1,934	2,429	2,723	8.6	8.8	9.9	12.2	13.7
Georgia	771	842	1,090	1,055	1,245	7.9	8.5	10.9	10.4	12.3
Hawaii	13	11	19	13	14	0.9	0.8	1.4	0.9	1.0
Idaho	18	6	21	22	21	1.1	0.4	1.3	1.3	1.3
Illinois	946	902	1,031	1,087	1,285	7.4	7.0	8.0	8.4	10.0
Indiana	200	159	171	170	189	3.1	2.4	2.6	2.6	2.9
Iowa	39	58	57	84	88	1.3	1.9	1.8	2.7	2.8
Kansas	18	51	61	48	0	0.6	1.8	2.1	1.7	0.0
Kentucky	95	99	102	117	123	2.2	2.3	2.3	2.7	2.8
Louisiana	1,090	1,065	1,267	1,180	1,277	23.8	23.1	27.4	25.4	27.5
Maine	4	3	5	0	0	0.3	0.2	0.4	0.0	0.0
Maryland	470	439	504	481	749	8.1	7.5	8.5	8.0	12.5
Massachusetts	271	258	276	227	486	4.1	3.9	4.1	3.4	7.2
Michigan	338	334	368	416	393	3.4	3.4	3.7	4.2	4.0
Minnesota	107	120	209	215	220	2.0	2.2	3.9	3.9	4.0
Mississippi	238	53	31	116	136	8.0	1.8	1.0	3.9	4.5
Missouri	153	133	135	178	220	2.5	2.2	2.2	2.9	3.6
Montana	1	1	1	0	2	0.1	0.1	0.1	0.0	0.2
Nebraska	23	18	40	26	31	1.2	1.0	2.1	1.4	1.6
Nevada	125	117	84	142	133	4.6	4.2	3.0	5.0	4.7
New Hampshire	10	19	30	21	28	0.8	1.4	2.3	1.6	2.1
New Jersey	282	243	196	263	220	3.2	2.7	2.2	2.9	2.5
New Mexico	85	64	100	80	141	4.1	3.1	4.8	3.8	6.8
New York	2,436	2,667	2,758	3,073	2,975	12.5	13.6	14.0	15.6	15.1
North Carolina	485	444	509	791	783	5.0	4.6	5.2	8.0	7.9
North Dakota	3	10	11	16	14	0.4	1.4	1.5	2.2	1.9
Ohio	341	526	431	381	445	3.0	4.6	3.7	3.3	3.8
Oklahoma	39	27	28	59	83	1.0	0.7	0.7	1.5	2.1
Oregon	92	117	133	159	218	2.4	3.0	3.4	4.0	5.5
Pennsylvania	335	365	431	346	356	2.6	2.9	3.4	2.7	2.8
Rhode Island	18	25	27	40	48	1.7	2.4	2.6	3.8	4.5
South Carolina	73	56	66	28	41	1.6	1.2	1.4	0.6	0.8
South Dakota	14	8	12	16	21	1.7	1.0	1.4	1.9	2.5
Tennessee	483	545	497	502	575	7.5	8.4	7.7	7.7	8.8
Texas	3,312	3,585	3,593	4,110	4,047	12.9	13.8	13.6	15.2	15.0
Utah	42	51	51	61	73	1.5	1.8	1.8	2.1	2.5
Vermont	0	0	5	0	0	0.0	0.0	0.8	0.0	0.0
Virginia	224	317	329	137	276	2.8	3.9	4.0	1.6	3.3
Washington	236	226	223	310	366	3.5	3.3	3.2	4.4	5.2
West Virginia	5	6	14	4	17	0.3	0.3	0.8	0.2	0.9
Wisconsin	80	91	100	108	88	1.4	1.6	1.7	1.9	1.5
Wyoming	6	6	7	1	4	1.1	1.0	1.2	0.2	0.7
U.S. TOTAL	**18,576**	**19,411**	**21,819**	**23,541**	**26,170**	**6.0**	**6.2**	**6.9**	**7.4**	**8.2**
Northeast	3,423	3,594	3,750	3,991	4,143	6.2	6.4	6.7	7.1	7.4
Midwest	2,262	2,410	2,626	2,745	2,994	3.4	3.6	3.9	4.1	4.4
South	9,490	9,760	10,690	11,339	12,464	8.2	8.3	9.0	9.5	10.4
West	3,401	3,647	4,753	5,466	6,569	4.7	5.0	6.4	7.3	8.7
Guam	17	20	14	5	16	10.7	12.5	8.7	3.1	9.9
Puerto Rico	204	175	154	101	166	5.5	4.8	4.3	2.8	4.7
Virgin Islands	7	2	5	4	10	6.6	1.9	4.8	3.8	9.6
OUTLYING AREAS	**228**	**197**	**173**	**110**	**192**	**5.7**	**5.0**	**4.5**	**2.9**	**5.0**
TOTAL	**18,804**	**19,608**	**21,992**	**23,651**	**26,362**	**6.0**	**6.2**	**6.9**	**7.3**	**8.2**

* Late and late latent syphilis includes late latent syphilis, latent syphilis of unknown duration, and late syphilis with clinical manifestations (including late benign syphilis and cardiovascular syphilis).

Table 39. Late and Late Latent Syphilis* — Reported Cases and Rates of Reported Cases in Selected Metropolitan Statistical Areas (MSAs)† in Alphabetical Order, United States, 2011–2015

MSAs	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Atlanta-Sandy Springs-Roswell, GA	611	573	782	804	926	11.4	10.5	14.2	14.3	16.5
Austin-Round Rock, TX	168	154	134	246	175	9.4	8.4	7.1	12.7	9.0
Baltimore-Columbia-Towson, MD	196	203	218	225	306	7.2	7.4	7.9	8.1	11.0
Birmingham-Hoover, AL	95	79	96	53	62	8.4	7.0	8.4	4.6	5.4
Boston-Cambridge-Newton, MA-NH	240	207	211	158	303	5.2	4.5	4.5	3.3	6.4
Buffalo-Cheektowaga-Niagara Falls, NY	27	32	62	62	51	2.4	2.8	5.5	5.5	4.5
Charlotte-Concord-Gastonia, NC-SC	116	122	151	180	190	5.1	5.3	6.5	7.6	8.0
Chicago-Naperville-Elgin, IL-IN-WI	866	853	963	988	1,169	9.1	9.0	10.1	10.3	12.2
Cincinnati, OH-KY-IN	131	275	191	124	129	6.2	12.9	8.9	5.8	6.0
Cleveland-Elyria, OH	70	82	64	88	120	3.4	4.0	3.1	4.3	5.8
Columbus, OH	76	101	98	101	105	3.9	5.2	5.0	5.1	5.3
Dallas-Fort Worth-Arlington, TX	982	1,132	1,081	1,065	837	14.9	16.9	15.9	15.3	12.0
Denver-Aurora-Lakewood, CO	64	74	81	0	59	2.5	2.8	3.0	0.0	2.1
Detroit-Warren-Dearborn, MI	229	252	277	299	274	5.3	5.9	6.4	7.0	6.4
Hartford-West Hartford-East Hartford, CT	22	3	10	10	8	1.8	0.2	0.8	0.8	0.7
Houston-The Woodlands-Sugar Land, TX	1,166	1,265	1,154	1,430	1,592	19.2	20.5	18.3	22.0	24.5
Indianapolis-Carmel-Anderson, IN	113	84	90	83	93	5.9	4.4	4.6	4.2	4.7
Jacksonville, FL	89	73	75	128	179	6.5	5.3	5.4	9.0	12.6
Kansas City, MO-KS	44	38	54	54	40	2.2	1.9	2.6	2.6	1.9
Las Vegas-Henderson-Paradise, NV	111	98	54	133	102	5.6	4.9	2.7	6.4	4.9
Los Angeles-Long Beach-Anaheim, CA	1,222	1,091	1,705	1,678	1,901	9.4	8.4	13.0	12.7	14.3
Louisville-Jefferson County, KY-IN	51	48	52	70	92	4.1	3.8	4.1	5.5	7.2
Memphis, TN-MS-AR	279	291	283	236	256	20.9	21.7	21.1	17.6	19.1
Miami-Fort Lauderdale-West Palm Beach, FL	984	1,032	1,075	1,370	1,519	17.4	17.9	18.4	23.1	25.6
Milwaukee-Waukesha-West Allis, WI	49	59	56	63	42	3.1	3.8	3.6	4.0	2.7
Minneapolis-St. Paul-Bloomington, MN-WI	87	105	175	187	192	2.6	3.1	5.1	5.4	5.5
Nashville-Davidson-Murfreesboro-Franklin, TN	107	133	120	148	161	6.3	7.7	6.8	8.3	9.0
New Orleans-Metairie, LA	457	386	442	370	362	37.7	31.5	35.6	29.6	28.9
New York-Newark-Jersey City, NY-NJ-PA	2,550	2,679	2,707	3,052	2,909	13.0	13.5	13.6	15.2	14.5
Oklahoma City, OK	10	15	11	31	32	0.8	1.2	0.8	2.3	2.4
Orlando-Kissimmee-Sanford, FL	166	192	250	362	343	7.6	8.6	11.0	15.6	14.8
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	325	338	439	311	314	5.4	5.6	7.3	5.1	5.2
Phoenix-Mesa-Scottsdale, AZ	299	332	335	397	393	7.0	7.7	7.6	8.8	8.8
Pittsburgh, PA	13	21	11	13	11	0.6	0.9	0.5	0.6	0.5
Portland-Vancouver-Hillsboro, OR-WA	72	99	118	140	154	3.2	4.3	5.1	6.0	6.6
Providence-Warwick, RI-MA	30	32	45	47	71	1.9	2.0	2.8	2.9	4.4
Raleigh, NC	68	63	68	109	124	5.8	5.3	5.6	8.8	10.0
Richmond, VA	36	51	58	9	36	3.0	4.1	4.7	0.7	2.9
Riverside-San Bernardino-Ontario, CA	201	465	433	432	508	4.7	10.7	9.9	9.7	11.4
Sacramento-Roseville-Arden-Arcade, CA	69	59	107	134	203	3.2	2.7	4.8	6.0	9.0
Salt Lake City, UT	32	33	34	39	50	2.9	2.9	3.0	3.4	4.3
San Antonio-New Braunfels, TX	286	366	457	448	483	13.0	16.4	20.1	19.2	20.7
San Diego-Carlsbad, CA	154	144	245	310	366	4.9	4.5	7.6	9.5	11.2
San Francisco-Oakland-Hayward, CA	244	321	421	497	550	5.6	7.2	9.3	10.8	12.0
San Jose-Sunnyvale-Santa Clara, CA	54	84	69	125	128	2.9	4.4	3.6	6.4	6.6
Seattle-Tacoma-Bellevue, WA	177	169	161	211	224	5.1	4.8	4.5	5.7	6.1
St. Louis, MO-IL	94	95	104	119	165	3.4	3.4	3.7	4.2	5.9
Tampa-St. Petersburg-Clearwater, FL	175	171	227	254	297	6.2	6.0	7.9	8.7	10.2
Virginia Beach-Norfolk-Newport News, VA-NC	40	100	86	45	90	2.4	5.9	5.0	2.6	5.2
Washington-Arlington-Alexandria, DC-VA-MD-WV	536	517	599	295	500	9.3	8.8	10.1	4.9	8.3
SELECTED MSAs TOTAL	**14,283**	**15,191**	**16,739**	**17,733**	**19,196**	**8.4**	**8.9**	**9.7**	**10.1**	**11.0**

* Late and late latent syphilis includes late latent syphilis, latent syphilis of unknown duration, and late syphilis with clinical manifestations (including late benign syphilis and cardiovascular syphilis).

† MSAs were selected on the basis of the largest population in the 2010 U.S. Census.

Table 40. Congenital Syphilis — Reported Cases and Rates of Reported Cases by State[†], Ranked by Rates, United States, 2015

Rank*	State[†]	Cases	Rate per 100,000 Live Births
1	Louisiana	53	83.9
2	California	141	28.5
3	Maryland	18	25.0
4	Nevada	8	22.8
5	Illinois	30	19.1
6	Florida	38	17.6
7	Arizona	14	16.4
8	Georgia	21	16.3
9	Oregon	6	13.3
10	Arkansas	5	13.2
11	Oklahoma	7	13.1
12	Texas	49	12.7
	U.S. TOTAL[‡]	**487**	**12.4**
13	Ohio	17	12.2
14	Hawaii	2	10.5
15	Michigan	11	9.7
16	Delaware	1	9.2
	HP 2020 TARGET		**9.1**
17	New Mexico	2	7.6
18	North Carolina	9	7.6
19	Tennessee	5	6.3
20	Indiana	5	6.0
21	Washington	5	5.8
22	Massachusetts	4	5.6
23	South Carolina	3	5.3
24	Alabama	3	5.2
25	New York	12	5.1
26	Pennsylvania	7	5.0
27	Missouri	3	4.0
28	Virginia	3	2.9
29	Minnesota	2	2.9
30	Connecticut	1	2.8
31	Kentucky	1	1.8
	Alaska	0	0.0
	Colorado	0	0.0
	Idaho	0	0.0
	Iowa	0	0.0
	Kansas	0	0.0
	Maine	0	0.0
	Mississippi	0	0.0
	Montana	0	0.0
	Nebraska	0	0.0
	New Hampshire	0	0.0
	New Jersey	0	0.0
	North Dakota	0	0.0
	Rhode Island	0	0.0
	South Dakota	0	0.0
	Utah	0	0.0
	Vermont	0	0.0
	West Virginia	0	0.0
	Wisconsin	0	0.0
	Wyoming	0	0.0

* States were ranked by rate, then by case count, then in alphabetical order, with rates shown rounded to the nearest tenth.

† Mother's state of residence was used to assign case.

‡ Total includes cases reported by the District of Columbia, with 1 case, but excludes outlying areas (Guam with 1 case, Puerto Rico with 5 cases, and Virgin Islands with 0 cases).

Table 41. Congenital Syphilis — Reported Cases and Rates of Reported Cases by Year of Birth, by State/Area* and Region in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area*	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	10	4	2	3	3	16.8	6.8	3.4	5.2	5.2
Alaska	0	1	1	0	0	0.0	8.9	8.7	0.0	0.0
Arizona	15	14	13	13	14	17.5	16.2	15.2	15.2	16.4
Arkansas	15	11	12	7	5	38.7	28.7	31.7	18.5	13.2
California	40	35	58	102	141	8.0	6.9	11.7	20.6	28.5
Colorado	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Connecticut	0	0	0	0	1	0.0	0.0	0.0	0.0	2.8
Delaware	0	1	1	0	1	0.0	9.1	9.2	0.0	9.2
District of Columbia	1	0	2	0	1	10.8	0.0	21.5	0.0	10.8
Florida	33	37	35	48	38	15.5	17.4	16.2	22.3	17.6
Georgia	10	16	20	17	21	7.6	12.3	15.5	13.2	16.3
Hawaii	0	0	0	0	2	0.0	0.0	0.0	0.0	10.5
Idaho	0	1	0	0	0	0.0	4.4	0.0	0.0	0.0
Illinois	18	28	23	27	30	11.2	17.6	14.7	17.2	19.1
Indiana	0	0	0	8	5	0.0	0.0	0.0	9.6	6.0
Iowa	0	0	0	1	0	0.0	0.0	0.0	2.6	0.0
Kansas	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Kentucky	2	2	4	3	1	3.6	3.6	7.2	5.4	1.8
Louisiana	18	33	40	46	53	29.1	52.7	63.3	72.8	83.9
Maine	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Maryland	24	12	14	16	18	32.8	16.5	19.5	22.2	25.0
Massachusetts	0	1	4	3	4	0.0	1.4	5.6	4.2	5.6
Michigan	8	7	9	15	11	7.0	6.2	7.9	13.2	9.7
Minnesota	0	1	0	0	2	0.0	1.5	0.0	0.0	2.9
Mississippi	6	0	0	1	0	15.1	0.0	0.0	2.6	0.0
Missouri	1	1	3	1	3	1.3	1.3	4.0	1.3	4.0
Montana	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Nebraska	0	1	0	1	0	0.0	3.9	0.0	3.8	0.0
Nevada	3	1	2	5	8	8.5	2.9	5.7	14.3	22.8
New Hampshire	0	1	0	0	0	0.0	8.1	0.0	0.0	0.0
New Jersey	5	1	0	0	0	4.7	1.0	0.0	0.0	0.0
New Mexico	0	1	2	1	2	0.0	3.7	7.6	3.8	7.6
New York	13	8	11	22	12	5.4	3.3	4.6	9.3	5.1
North Carolina	6	2	4	6	9	5.0	1.7	3.4	5.0	7.6
North Dakota	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Ohio	13	19	18	15	17	9.4	13.7	13.0	10.8	12.2
Oklahoma	2	0	0	6	7	3.8	0.0	0.0	11.2	13.1
Oregon	0	1	0	2	6	0.0	2.2	0.0	4.4	13.3
Pennsylvania	5	6	3	4	7	3.5	4.2	2.1	2.8	5.0
Rhode Island	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
South Carolina	0	7	1	5	3	0.0	12.2	1.8	8.8	5.3
South Dakota	0	0	0	3	0	0.0	0.0	0.0	24.5	0.0
Tennessee	8	2	2	2	5	10.1	2.5	2.5	2.5	6.3
Texas	99	78	74	74	49	26.2	20.4	19.1	19.1	12.7
Utah	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Vermont	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Virginia	0	1	3	2	3	0.0	1.0	2.9	2.0	2.9
Washington	2	0	0	2	5	2.3	0.0	0.0	2.3	5.8
West Virginia	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Wisconsin	1	0	0	0	0	1.5	0.0	0.0	0.0	0.0
Wyoming	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
U.S. TOTAL	**358**	**334**	**361**	**461**	**487**	**9.1**	**8.4**	**9.2**	**11.7**	**12.4**
Northeast	23	17	18	29	24	3.6	2.7	2.9	4.6	3.8
Midwest	41	57	53	71	68	4.9	6.8	6.4	8.5	8.2
South	234	206	214	236	217	15.5	13.7	14.2	15.6	14.4
West	60	54	76	125	178	6.2	5.5	7.9	13.0	18.5
Guam	0	0	1	0	1	0.0	0.0	30.4	0.0	30.4
Puerto Rico	2	1	2	0	5	4.9	2.6	5.5	0.0	13.7
Virgin Islands	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
OUTLYING AREAS	**2**	**1**	**3**	**0**	**6**	**4.4**	**2.3**	**7.3**	**0.0**	**14.6**
TOTAL	**360**	**335**	**364**	**461**	**493**	**9.0**	**8.4**	**9.2**	**11.6**	**12.4**

* Mother's state of residence was used to assign case.

Table 42. Congenital Syphilis — Reported Cases and Rates of Reported Cases per 100,000 Live Births by Year of Birth and Race/Ethnicity of Mother, United States, 2011–2015

Year of Birth	Whites		Blacks		Hispanics		Asians/ Pacific Islanders		American Indians/ Alaska Natives		Other		Unknown		Total	
	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
2011	50	2.3	211	35.9	73	8.0	14	5.7	2	5.0	3	NA	5	NA	358	9.1
2012	50	2.3	189	32.1	80	8.8	6	2.3	2	5.1	3	NA	4	NA	334	8.4
2013	62	2.9	185	31.4	93	10.3	9	3.5	5	12.8	3	NA	4	NA	361	9.2
2014	79	3.7	227	38.6	112	12.4	18	7.0	5	12.8	9	NA	11	NA	461	11.7
2015	95	4.4	207	35.2	140	15.5	15	5.9	4	10.3	7	NA	19	NA	487	12.4

NA = Not applicable.

Table 43. Chancroid — Reported Cases and Rates of Reported Cases by State/Area in Alphabetical Order, United States and Outlying Areas, 2011–2015

State/Area	Cases					Rates per 100,000 Population				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alabama	0	1	1	0	0	0.0	0.0	0.0	0.0	0.0
Alaska	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Arizona	1	0	0	0	1	0.0	0.0	0.0	0.0	0.0
Arkansas	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
California	1	7	6	4	2	0.0	0.0	0.0	0.0	0.0
Colorado	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Connecticut	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Delaware	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
District of Columbia	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Florida	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Georgia	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Hawaii	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Idaho	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Illinois	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Indiana	0	1	0	0	1	0.0	0.0	0.0	0.0	0.0
Iowa	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Kansas	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Kentucky	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Louisiana	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Maine	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Maryland	0	1	0	0	0	0.0	0.0	0.0	0.0	0.0
Massachusetts	2	1	2	1	3	0.0	0.0	0.0	0.0	0.0
Michigan	1	2	0	0	0	0.0	0.0	0.0	0.0	0.0
Minnesota	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Mississippi	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Missouri	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Montana	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Nebraska	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Nevada	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
New Hampshire	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
New Jersey	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
New Mexico	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
New York	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
North Carolina	0	1	0	0	0	0.0	0.0	0.0	0.0	0.0
North Dakota	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Ohio	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Oklahoma	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Oregon	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Pennsylvania	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Rhode Island	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
South Carolina	2	0	0	0	0	0.0	0.0	0.0	0.0	0.0
South Dakota	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Tennessee	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Texas	1	0	1	1	2	0.0	0.0	0.0	0.0	0.0
Utah	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Vermont	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Virginia	0	1	0	0	0	0.0	0.0	0.0	0.0	0.0
Washington	0	0	0	0	1	0.0	0.0	0.0	0.0	0.0
West Virginia	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Wisconsin	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Wyoming	0	0	0	0	1	0.0	0.0	0.0	0.0	0.2
U.S. TOTAL	**8**	**15**	**10**	**6**	**11**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Guam	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Puerto Rico	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Virgin Islands	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
OUTLYING AREAS	**0**	**0**	**0**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
TOTAL	**8**	**15**	**10**	**6**	**11**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Table 44. Selected STDs and Complications — Initial Visits to Physicians' Offices, National Disease and Therapeutic Index, United States, 1966–2014

Year	Genital Herpes Simplex Virus Infections	Genital Warts	*Trichomonas vaginalis* Infections*	Other Vaginal Infections*	Pelvic Inflammatory Disease†
1966	19,000	56,000	579,000	1,155,000	NA
1967	15,000	72,000	515,000	1,277,000	NA
1968	16,000	87,000	463,000	1,460,000	NA
1969	15,000	61,000	421,000	1,390,000	NA
1970	17,000	119,000	529,000	1,500,000	NA
1971	49,000	128,000	484,000	1,281,000	NA
1972	26,000	165,000	574,000	1,810,000	NA
1973	51,000	198,000	466,000	1,858,000	NA
1974	75,000	202,000	427,000	1,907,000	NA
1975	36,000	181,000	500,000	1,919,000	NA
1976	57,000	217,000	473,000	1,690,000	NA
1977	116,000	221,000	324,000	1,713,000	NA
1978	76,000	269,000	329,000	2,149,000	NA
1979	83,000	200,000	363,000	1,662,000	NA
1980	57,000	218,000	358,000	1,670,000	423,000
1981	133,000	191,000	369,000	1,742,000	283,000
1982	134,000	256,000	268,000	1,859,000	374,000
1983	106,000	203,000	424,000	1,932,000	424,000
1984	157,000	224,000	381,000	2,450,000	381,000
1985	124,000	263,000	291,000	2,728,000	425,000
1986	136,000	275,000	338,000	3,118,000	457,000
1987	102,000	351,000	293,000	3,087,000	403,000
1988	163,000	290,000	191,000	3,583,000	431,000
1989	148,000	220,000	165,000	3,374,000	413,000
1990	172,000	275,000	213,000	4,474,000	358,000
1991	235,000	282,000	198,000	3,822,000	377,000
1992	139,000	218,000	182,000	3,428,000	335,000
1993	172,000	167,000	207,000	3,755,000	407,000
1994	142,000	239,000	199,000	4,123,000	332,000
1995	160,000	253,000	141,000	3,927,000	262,000
1996	208,000	191,000	245,000	3,472,000	286,000
1997	176,000	145,000	176,000	3,100,000	260,000
1998	188,000	211,000	164,000	3,200,000	233,000
1999	224,000	240,000	171,000	3,077,000	250,000
2000	179,000	220,000	222,000	3,470,000	254,000
2001	157,000	233,000	210,000	3,365,000	244,000
2002	216,000	266,000	150,000	3,315,000	197,000
2003	203,000	264,000	179,000	3,516,000	123,000
2004	269,000	316,000	221,000	3,602,000	132,000
2005	266,000	357,000	165,000	4,071,000	176,000
2006	371,000	422,000	200,000	3,891,000	106,000
2007	317,000	312,000	205,000	3,723,000	146,000
2008	292,000	385,000	204,000	3,571,000	104,000
2009	306,000	357,000	216,000	3,063,000	100,000
2010	232,000	376,000	149,000	3,192,000	113,000
2011	227,000	453,000	168,000	3,102,000	90,000
2012	228,000	353,000	219,000	3,452,000	106,000
2013	306,000	404,000	225,000	3,278,000	88,000
2014	299,000	465,000	155,000	3,419,000	51,000

* Women only.
† Women aged 15–44 years only.
NA = Not available.
NOTE: Standard errors for estimates under 100,000 are not available. The relative standard errors for estimates 100,000–299,999 are from 19% to 23%; 300,000–599,999 are from 16% to 19%; 600,000–999,999 are from 13% to 16%; and 1,000,000–5,000,000 are from 7% to 13%.
SOURCE: National Disease and Therapeutic Index, IMS Health, Integrated Promotional Services. IMS Health report, 1966–2014. The 2015 data were not obtained in time to include them in this report. See Section A2.5 in the Appendix for more information.

APPENDIX

APPENDIX

A. Interpreting STD Surveillance Data

Sexually Transmitted Disease Surveillance 2015 presents surveillance information derived from the official statistics for the reported occurrence of nationally notifiable sexually transmitted diseases (STDs) in the United States, test positivity and prevalence data from numerous prevalence monitoring initiatives, sentinel surveillance, and national health care services surveys.

A1. Nationally Notifiable STD Surveillance

Nationally notifiable STD surveillance data are collected and compiled from reports sent by the STD control programs and health departments in all 50 states, the District of Columbia, selected cities, U.S. dependencies and possessions, and independent nations in free association with the United States to the Division of STD Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention (CDC). Included among the dependencies, possessions, and independent nations are Guam, Puerto Rico, and the Virgin Islands. These entities are identified as "outlying areas" of the United States in selected figures and tables.

A1.1 Reporting Formats

STD morbidity data presented in this report are compiled from a combination of data reported on standardized hard copy reporting forms and electronic data received through the National Electronic Telecommunications System for Surveillance (NETSS).

Summary Report Forms

The following hard copy forms were used to report national STD morbidity data:

1. FORM CDC 73.998: *Monthly Surveillance Report of Early Syphilis*. This monthly hard copy reporting form was used during 1984–2002 to report summary data for primary and secondary syphilis and early latent syphilis by county and state.

2. FORM CDC 73.688: *Sexually Transmitted Disease Morbidity Report*. This quarterly hard copy reporting form was used during 1963–2002 to report summary data for all stages of syphilis, congenital syphilis, gonorrhea, chancroid, chlamydia, and other STDs by sex and source of report (private versus public) for all 50 states, the District of Columbia, 64 selected cities (including San Juan, Puerto Rico), and outlying areas of the United States.

   Note: Chlamydial infection became a nationally notifiable condition in 1996, and the form was modified to support reporting of chlamydia that year. Congenital syphilis was dropped from this aggregate form in 1995 and replaced by the case-specific CDC 73.126 form described later in this section.

3. FORM CDC 73.2638: *Report of Civilian Cases of Primary & Secondary Syphilis, Gonorrhea, and Chlamydia by Reporting Source, Sex, Race/Ethnicity, and Age Group*. This annual hard copy form was used during 1981–2002 to report summary data for P&S syphilis, gonorrhea, and chlamydia by age, race, sex, and source (public versus private) for all 50 states, seven large cities (Baltimore, Chicago, New York City, Los Angeles, Philadelphia, San Francisco, and the District of Columbia), and outlying areas of the United States.

   Note: Chlamydial infection became a nationally notifiable condition in 1995, and the form was modified to support reporting of chlamydia that year.

4. FORM CDC 73.126: *Congenital Syphilis (CS) Case Investigation and Reporting*. This case-specific hard copy form was first used in 1983 and continues to be used to report detailed case-specific data for congenital syphilis in some areas.

National Electronic Telecommunications System for Surveillance

Notifiable STD data reported electronically through the National Electronic Telecommunications System for Surveillance (NETSS) make up the nationally notifiable disease information published in CDC's *Morbidity and Mortality Weekly Report*.

As of December 31, 2003, all 50 states and the District of Columbia had converted from summary hard copy reporting to electronic submission of line-listed (i.e., case-specific) STD data through NETSS (41 reporting areas submitted congenital syphilis surveillance data through NETSS in 2015). Puerto Rico converted to electronic reporting in 2006 for all STDs excluding congenital syphilis. Guam and the Virgin Islands continue to report STD data through summary hard copy forms. Surveillance data and updates sent to CDC through NETSS and on hard copy forms through June 8, 2016, are included in this report. The data presented in the figures and tables in this report supersede those in all earlier publications.

A1.2 Population Denominators and Rate Calculations

2000–2015 Rates and Population

For those figures and tables presenting race using the 1997 OMB race standards, non-bridged-race data provided directly by the U.S. Census Bureau were used to calculate race. The latest available year for population estimates at the time this report was written was 2014. Thus, 2014 population estimates were used to calculate 2015 rates. Once published, the 2015 population estimates will be used to calculate rates in the upcoming 2016 STD Surveillance Report.

Population estimates for Puerto Rico were obtained from the U.S. Census Bureau Web site at: https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml.

Population estimates for Guam and the Virgin Islands were obtained from the U.S. Census Bureau International Programs Web site at: https://www.census.gov/population/international/data/idb/informationGateway.php.

The 2015 rates by age and sex for Guam and the Virgin Islands were calculated using 2010 population estimates available at: https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml.

Because of the use of the updated population data, rates for 2000–2014 may be different from those presented in previous STD surveillance reports.

Several figures throughout this report depict state- or county-specific rates of reported cases of STDs. Rates were grouped and displayed by quartiles in Figures 3, 4, 15, 16, 34, B, C, D, H, I, J, K, L, M, N, and O. Rates were grouped and displayed in 4 categories – zero cases and tertiles – in Figure 35 and Figure D.

1990–1999 Rates and Population

The population counts for 1990 through 1999 incorporated the bridged single-race estimates of the April 1, 2000, U.S. resident population. These files were prepared by the U.S. Census Bureau with support from the National Cancer Institute.

1981–1989 Rates and Population

Rates were calculated by using U.S. Census Bureau population estimates for 1981 through 1989.[1,2]

1941–1980 Rates and Population

Rates for 1941 through 1980 were based on population estimates from the U.S. Census Bureau and are currently maintained by CDC's Division of STD Prevention.

1941–2015 Congenital Syphilis Rates and Live Births

The congenital syphilis data in Table 1 of this report represent the number of congenital syphilis cases per 100,000 live births for all years during 1941–2015. Previous publications presented congenital syphilis rates per 100,000 population during 1941–1994 and rates for cases diagnosed at younger than 1 year of age per 100,000 live births during 1995–2005. To allow for trends in congenital syphilis rates to be compared for the period 1941 through 2015, live births now are used as the denominator for congenital syphilis, and case counts are no longer limited to those diagnosed within the first year of life. Congenital syphilis morbidity is assigned by year of birth. Rates of congenital syphilis for 1963 through 1988 were calculated by using published live birth data.[3] Congenital syphilis rates for 1989 through 2013 were calculated by using live birth data based on information coded by the states and provided to the NCHS through the Vital Statistics Cooperative Program. Rates for 2014 and 2015 were calculated by using live birth data for 2013.

A1.3 Reporting Practices

Although most state and local STD programs generally adhere to the national notifiable STD case definitions collaboratively developed by the Council of State and Territorial Epidemiologists and CDC, differences in policies and systems for collecting surveillance data may exist. Thus, comparisons of case numbers and rates between jurisdictions should be interpreted with caution. However, because case definitions and surveillance activities within a given area remain relatively stable over time, trends should be minimally affected by these differences.

A1.4 Reporting of Surveillance Data by Metropolitan Statistical Area

Sexually Transmitted Disease Surveillance 2015 continues the presentation of STD incidence data and rates for the 50 metropolitan statistical areas (MSAs) with the largest populations according to 2010 census data. STD surveillance reports published before 2005 presented data by selected cities; these data were derived from county data, which were used to estimate city-specific disease rates. Because county data were used to estimate city-specific morbidity and because current STD project areas' reporting practices do not support direct identification of city-specific morbidity reports, MSAs were chosen as a geographic unit smaller than a state or territory for presentation of STD morbidity data.

MSAs are defined by the OMB to provide nationally consistent definitions for collecting, tabulating, and

publishing federal statistics for a set of geographic areas.[4] An MSA is associated with at least one urbanized area that has a population of at least 50,000. The MSA comprises the central county or counties containing the central county, plus adjacent, outlying counties that have a high degree of social and economic integration with the central county as measured through commuting. The title of an MSA includes the name of the principal city with the largest 2010 census population. If there are multiple principal cities, the names of the second largest and third largest principal cities appear in the title in order of descending population size.

The MSA concept has been used as a statistical representation of the social and economic links between urban cores and outlying, integrated areas. However, MSAs do not equate to an urban-rural classification; all counties included in MSAs and many other counties contain both urban and rural territory and populations. STD programs that treat all parts of an MSA as if they were as urban as the densely settled core ignore the rural conditions that may exist in some parts of the area. In short, MSAs are not intended to be a general purpose geographic framework for nonstatistical activities or for use in program funding formulas.

For more information on the MSA definitions used in this report, go to: https://www.census.gov/population/metro/data/metrodef.html.

A1.5 Reporting of Data for Race/Ethnicity

In April 2008, the NETSS record layout was updated to conform to the OMB's current government-wide standard for race/ethnicity data. The OMB standards were first issued in 1997.[5] Beginning with the publication of *Sexually Transmitted Disease Surveillance 2012*, the race/ethnicity data are presented according to the current standard categories: American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian/Other Pacific Islander, White and Multirace. For this report, jurisdictions are considered to be OMB compliant for a condition if ≥97% of cases for that condition are reported using current OMB standards. As of reporting year 2015, 1 jurisdiction (the District of Columbia) was not compliant with the current OMB race/ethnicity standards when reporting chlamydia and gonorrhea. Only two jurisdictions (Utah and the District of Columbia) were not compliant with the current OMB race/ethnicity standards when reporting primary and secondary syphilis.

For chlamydia and gonorrhea figures showing trends for 2011–2015, data are included for all jurisdictions except six not consistently reporting race/ethnicity data according to the current standard categories for the five consecutive years (Alaska, Maryland, Michigan, New York, North Carolina and the District of Columbia). For primary and secondary syphilis figures showing trends for 2011–2015, data are included for all jurisdictions except six not consistently reporting race/ethnicity data according to the current standard categories for the five consecutive years (Alaska, Maryland, New York, North Carolina, Utah, and the District of Columbia).

A1.6 Management of Unknown, Missing, or Invalid Data for Age Group, Race/Ethnicity, and Sex

The percentage of unknown, missing, or invalid data for age group, race/ethnicity, and sex varies from year to year, state to state, and by disease for reported STDs (Table A1).

Prior to the publication of *Sexually Transmitted Disease Surveillance 2010*, when the percentage of unknown, missing, or invalid values for age group, race/ethnicity, and sex exceeded 50% for any state, the state's incidence and population data were excluded from the tables that presented data stratified by one or more of these variables. For the states for which 50% or more of their data were valid for age group, race/ethnicity, and sex, the values for unknown, missing, or invalid data were redistributed on the basis of the state's distribution of known age group, race/ethnicity, and sex data. Beginning with the publication of *Sexually Transmitted Disease Surveillance 2010*, redistribution methodology is not applied to any of the data. The counts presented in this report are summations of all valid data reported in reporting year 2015.

As a result, rate data that are stratified by one or more of these variables reflect rates based on reported data only.

A1.7 Classification of STD Morbidity Reporting Sources

Before 1996, states classified the source of case reports as either private source (including private physicians, hospitals, and institutions) or public source (primarily STD clinics). As states began reporting morbidity data electronically in 1996, the classification categories for source of case reports expanded to include the following data sources: STD clinics, HIV counseling and testing sites, drug treatment clinics, family planning clinics, prenatal/obstetrics clinics, tuberculosis clinics, private physicians/health maintenance organizations (HMOs), hospitals (inpatient), emergency rooms, correctional facilities, laboratories, blood banks, the National Job Training Program (NJTP), school-based clinics, mental health providers, the military, the Indian Health Service, and other unspecified sources. Figures 7, 8, 21, and 22 display trends in the proportion of cases reported in 2015 categorized by reporting source. Categories displayed vary

across these figures and include the five most commonly reported sources for the population included in the figure, along with trends for all other reporting sources combined into the "All Other" category, and trends in the proportion of cases with unknown reporting source.

A1.8 Interpreting Chlamydia Case Reporting

Trends in rates of reported cases of chlamydia are influenced by changes in incidence of infection, as well as changes in diagnostic, screening, and reporting practices. As chlamydial infections are usually asymptomatic, the number of infections identified and reported can increase as more people are screened even when incidence is flat or decreasing. Expanded use of more sensitive diagnostic tests (e.g., nucleic acid amplification tests, [NAATs]) can also increase the number of infections identified and reported independent of increases in incidence. Although chlamydia has been a nationally notifiable condition since 1994, it was not until 2000 that all 50 states and the District of Columbia required reporting of chlamydia cases. National case rates prior to 2000 reflect incomplete reporting. Additionally, increasing use of electronic laboratory reporting has likely increased the proportion of diagnosed cases that are reported. Consequently, an increasing chlamydia case rate may reflect increases in incidence of infection, screening coverage, and use of more sensitive tests, as well as more complete reporting. Likewise, decreases in chlamydia case rates may suggest decreases in incidence of infection or screening coverage.

A1.9 Syphilis Morbidity Reporting

The category of "total syphilis" or "all stages of syphilis" includes primary syphilis, secondary syphilis, early latent syphilis, late latent syphilis, and late syphilis with clinical manifestations (including late benign syphilis and cardiovascular syphilis), and congenital syphilis.

Although neurosyphilis can occur at almost any stage of syphilis, during 1996–2005 it was classified and reported as one of several mutually exclusive stages of syphilis. Beginning in 2005, neurosyphilis was no longer classified or reported as a distinct stage of syphilis.

A1.10 Congenital Syphilis Morbidity Reporting

In 1988, the surveillance case definition for congenital syphilis was changed. This case definition has greater sensitivity than the former definition.[6] In addition, many state and local STD programs have greatly enhanced active case finding for congenital syphilis since 1988. For these reasons, as well as because of increasing morbidity, the number of reported cases increased dramatically during 1989–1991. All reporting areas had implemented the new case definition for reporting congenital syphilis by January 1, 1992. In addition to changing the case definition for congenital syphilis, CDC introduced a new data collection form (CDC 73.126) in 1990 (revised February 2013). Since 1995, the data collected on this form have been used for reporting congenital syphilis cases and associated rates. This form is used to collect individual case information, which allows more thorough analysis of case characteristics. For the purpose of analyzing race/ethnicity, cases are classified by the race/ethnicity of the mother. Similarly, since 1995, congenital syphilis cases are reported by state and city of residence of the mother.

Congenital syphilis reporting may be delayed as a result of case investigation and validation. Cases for previous years are added to CDC's surveillance databases throughout the year. Congenital syphilis data reported after publication of the current annual STD surveillance report will appear in subsequent reports and are assigned by the case patient's year of birth.

A2. Other Sources of Surveillance Data

A2.1 National Job Training Program

Chlamydia and gonorrhea prevalence was calculated for men and women entering the National Job Training Program (NJTP). To increase the stability of the estimates, chlamydia or gonorrhea prevalence data are presented when valid test results for 100 or more students per year are available for the population subgroup and state. The majority of NJTP's chlamydia screening tests are conducted by a single national contract laboratory, which provides these data to CDC. Gonorrhea screening tests for male and female students in many training centers are conducted by local laboratories; these data are not available to CDC. Test results for students at centers that submit specimens to the national contract laboratory are included only if the number of gonorrhea tests submitted is greater than 90% of the number of chlamydia tests submitted from the same center for the same period. Prevalence data for state-specific figures were published with permission from the Department of Labor. Prevalence data are presented in figures L, M, N, and O.

A2.2 STD Surveillance Network

In 2005, CDC established the STD Surveillance Network (SSuN) as a collaborative network of state, county and/or city health departments following protocols to conduct sentinel and enhanced STD surveillance activities. The purpose of SSuN is to improve the capacity of national, state and local STD programs to detect, monitor, and respond to trends in STDs through enhanced collection, reporting, analysis, visualization, and interpretation of disease information.

Cycle 3 (2013–2018) of SSuN provides funding to 10 jurisdictions to conduct two core STD surveillance activities including; (1) sentinel facility component providing clinical and demographic information on a full census of patients attending categorical STD clinics and women aged 15–44 years presenting for care in reproductive health settings, and, (2) population component conducting enhanced health department look-back, provider and patient investigations on a probability sample of all persons diagnosed and reported with gonorrhea. Funded areas for both core activities in SSuN Cycle 3 include Baltimore City [Maryland], California, Florida, Massachusetts, Minnesota, Multnomah County [Oregon], Philadelphia City [Pennsylvania], New York City [New York], San Francisco County [California] and Washington State.

In both the facility and population components of SSuN Cycle 3, unique patients can be anonymously identified using non-identifying IDs to provide longitudinal information. In the facility component, the primary unit of analysis is the patient visit, which is merged with multiple laboratory, diagnostic and treatment observations. In the population component, the primary unit analysis is a reported episode of gonorrhea for a unique person merged with multiple laboratory observations, health department disease registry history, provider-based clinical information and patient demographic and behavioral interview data. For analysis in the population component, cases in the probability sample are weighted to reflect study design and to adjust for non-response by demographic category of the patient. Weighted analyses provides estimates of case and person characteristics representative of all reported cases in the collaborating jurisdictions.

Gay, bisexual, and other men who have sex with men (collectively referred to as MSM) are defined in all SSuN data collection activities as men who either reported having sex with another man in the preceding 2–3 months, report current history of male sex partners, and/or those who reported that they considered themselves gay/homosexual or bisexual. Men who have sex with women (MSW) are defined as men who reported having sex with women only, or who did not report the sex of their sex partners but reported that they considered themselves to be straight/heterosexual.

Data points presented in this report for 2015 from the facility component SSuN (Figures 9, 24, 49, W, X, and Y) are based on STD clinic data from 9 SSuN jurisdictions (Baltimore City [Maryland], California, Florida, Massachusetts, Multnomah County [Oregon], New York City [New York], Philadelphia City [Pennsylvania], San Francisco County [California] and Washington State). Data presented in the report from the population component of SSuN include Figure 23, which presents data collected June through December 2015 showing the proportion of cases attributable to MSM, MSW, and women for 7 jurisdictions (Baltimore City [Maryland], California, Florida, New York City [New York], Philadelphia City [Pennsylvania], San Francisco County [California] and Washington State).

A2.3 Gonococcal Isolate Surveillance Project

Data on antimicrobial susceptibility in Neisseria gonorrhoeae were collected through the Gonococcal Isolate Surveillance Project (GISP), a sentinel system of selected STD clinics located at 25–30 GISP sentinel sites and 4–5 regional laboratories in the United States. For more details on findings from GISP, go to: https://www.cdc.gov/std/GISP.

For 2015, the antimicrobial agents tested by GISP were ceftriaxone, cefixime, azithromycin, ciprofloxacin, penicillin, tetracycline, and gentamicin.

The antimicrobial susceptibility criteria used in GISP for 2015 are as follows:

- Ceftriaxone, minimum inhibitory concentration (MIC) ≥0.5 µg/ml (decreased susceptibility)*
- Ceftriaxone, MIC ≥0.125 µg/ml (elevated MICs)*
- Cefixime, MIC ≥0.5 µg/ml (decreased susceptibility)*
- Cefixime, MIC ≥0.25 µg/ml (elevated MICs)*
- Azithromycin, MIC ≥2.0 µg/ml (decreased susceptibility)*
- Ciprofloxacin, MIC ≥1.0 µg/ml (resistance)
- Ciprofloxacin, MIC 0.125–0.5 µg/ml (intermediate resistance)
- Penicillin, MIC ≥2.0 µg/ml (resistance)
- Tetracycline, MIC ≥2.0 µg/ml (resistance)
- Gentamicin (MIC values correlated with susceptibility and resistance have not been established).

The majority of these criteria are also recommended by the Clinical and Laboratory Standards Institute (CLSI).[7]

* The CLSI criteria for decreased susceptibility and resistance to ceftriaxone, cefixime, gentamicin, and azithromycin and for susceptibility to azithromycin have not been established for *N. gonorrhoeae*.

A2.4 National Health and Nutrition Examination Survey

The National Health and Nutrition Examination Survey (NHANES) is a series of cross-sectional surveys designed to provide national statistics on the health and nutritional status of the general household population in the United States. Data are collected through household interviews,

standardized physical examinations, and the collection of biological samples in special mobile examination centers. In 1999, NHANES became a continuous survey with data released every 2 years. The sampling plan of the survey is a stratified, multistage, probability cluster design that selects a sample representative of the U.S. civilian, non-institutionalized population. For more information, see: https://www.cdc.gov/nchs/nhanes.htm.

A2.5 National Disease and Therapeutic Index

The information on the number of initial visits to private physicians' offices for STDs was based on analysis of data from the National Disease and Therapeutic Index (NDTI) (machine-readable files or summary statistics for 1966 through 2014; the 2015 NDTI data were not obtained in time to include them in this report). NDTI is a probability sample survey of private physicians' clinical management practices. For more information on this database, contact IMS Health, e-mail: ServiceCenter@us.imshealth.com; Telephone: (800) 523-5334.

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[2] U.S. Census Bureau. United States population estimates by age, sex and race: 1989. In: Current population reports [Series P-25, No. 1057]. Washington, DC: U.S. Government Printing Office; 1990.

[3] Centers for Disease Control and Prevention. Vital statistics of the United States 1988. vol.1 - natality. Hyattsville (MD): U.S. Department of Health and Human Services; 1990.

[4] Office of Management and Budget. Standards for defining metropolitan and micropolitan statistical areas. Federal Register. 2000;65(249):82228-38.

[5] Office of Management and Budget. Revisions to the Standards for Classification of Federal Data on Race and Ethnicity. Federal Register Notice. October 30, 1997.

[6] Kaufman RE, Jones OG, Blount JH, et al. Questionnaire survey of reported early congenital syphilis: problems in diagnosis, prevention, and treatment. Sex Transm Dis. 1977;4:135-9.

[7] Clinical and Laboratory Standards Institute. Performance standards for antimicrobial susceptibility testing; twenty-fifth informational supplement. M100-S25, 35(3). Wayne (PA): Clinical and Laboratory Standards Institute; 2015.

Table A1. Selected STDs — Percentage of Unknown, Missing, or Invalid Values for Selected Variables by State and by Nationally Notifiable STD, 2015

State	Primary and Secondary Syphilis				Gonorrhea			Chlamydia		
	Percentage Unknown Race/ Ethnicity	Percentage Unknown Age	Percentage Unknown Sex	Percentage Unknown Sex Partner	Percentage Unknown Race/ Ethnicity	Percentage Unknown Age	Percentage Unknown Sex	Percentage Unknown Race/ Ethnicity	Percentage Unknown Age	Percentage Unknown Sex
Alabama	0.4	0.0	0.0	26.1	23.0	0.0	0.7	29.5	0.0	0.5
Alaska*	0.0	0.0	0.0	12.5	0.1	0.0	0.0	9.4	0.1	0.1
Arizona	1.0	0.0	0.0	4.1	18.2	0.0	0.2	29.2	0.0	0.2
Arkansas	1.5	0.0	0.0	8.2	0.8	0.0	0.0	0.9	0.0	0.0
California	6.6	0.0	0.0	17.9	23.5	0.3	0.2	39.4	0.3	0.2
Colorado	2.9	0.0	0.0	7.8	23.9	0.0	0.0	39.9	0.0	0.0
Connecticut	0.0	0.0	0.0	23.9	34.9	0.1	0.0	64.2	0.1	0.8
Delaware	7.3	0.0	0.0	95.1	3.4	0.0	0.0	5.8	0.0	0.0
District of Columbia	100.0	0.0	6.3	100.0	100.0	0.5	1.9	100.0	0.6	2.0
Florida	3.9	0.0	0.0	10.0	7.9	0.0	0.0	16.2	0.0	0.1
Georgia	2.3	0.0	0.0	29.7	25.9	0.1	0.2	38.8	0.1	0.2
Hawaii	8.8	0.0	0.0	24.2	40.7	0.6	0.0	48.5	0.1	0.0
Idaho	3.5	0.0	0.0	3.5	27.1	0.0	0.0	36.0	0.0	0.1
Illinois	1.0	0.0	0.0	25.0	14.9	0.0	0.6	19.4	0.0	0.5
Indiana	0.7	0.0	0.0	2.5	5.1	0.0	0.1	9.2	0.0	0.0
Iowa	2.7	0.0	0.0	10.7	5.1	0.0	0.1	5.6	0.0	0.0
Kansas	0.0	0.0	0.0	5.7	22.2	0.0	0.0	42.0	0.0	0.0
Kentucky	0.0	0.0	0.0	12.4	22.9	0.0	0.1	30.6	0.1	0.2
Louisiana	2.2	0.0	0.0	14.2	9.0	0.0	0.0	9.3	0.0	0.0
Maine	17.9	0.0	0.0	21.4	21.8	0.2	0.0	42.1	0.2	0.0
Maryland	7.1	0.0	0.0	15.7	24.4	0.0	0.2	40.9	0.0	0.2
Massachusetts	10.8	0.0	0.5	12.0	33.3	0.3	0.6	57.6	0.1	0.4
Michigan	0.0	0.0	0.0	8.4	27.8	0.1	0.1	33.7	0.1	0.1
Minnesota	2.8	0.0	0.0	4.5	18.1	0.0	0.0	26.5	0.0	0.0
Mississippi	4.1	0.0	0.0	2.7	16.6	0.1	0.1	22.1	0.1	0.1
Missouri	0.3	0.0	0.0	6.5	8.7	0.0	0.0	14.4	0.0	0.0
Montana	0.0	0.0	0.0	7.7	3.3	0.2	0.1	3.2	0.2	0.0
Nebraska	4.4	0.0	0.0	33.3	14.1	0.1	0.0	28.9	0.0	0.2
Nevada	1.8	0.0	0.0	16.4	36.7	0.0	0.3	40.8	0.0	0.2
New Hampshire	2.5	0.0	0.0	12.5	14.7	0.0	0.0	26.5	0.0	0.0
New Jersey	2.4	0.0	0.0	26.9	34.2	0.6	0.1	48.7	0.4	0.1
New Mexico	21.2	0.0	0.0	6.8	19.4	0.0	0.0	25.7	0.0	0.0
New York	5.4	0.0	0.7	29.1	24.6	0.1	0.3	38.2	0.1	0.1
North Carolina	0.1	0.0	0.0	8.9	13.6	0.0	0.0	18.5	0.0	0.0
North Dakota	0.0	0.0	0.0	0.0	7.9	0.0	0.0	12.4	0.0	0.0
Ohio	0.0	0.0	0.0	8.2	22.0	0.1	0.0	28.2	0.1	0.0
Oklahoma	0.0	0.0	0.0	1.0	9.8	0.0	0.0	13.6	0.0	0.0
Oregon	7.8	0.0	0.0	24.9	12.2	0.0	0.0	28.1	0.0	0.0
Pennsylvania	6.1	0.0	0.2	9.9	22.7	0.0	0.1	32.8	0.0	0.1
Rhode Island	10.4	0.0	0.0	7.8	9.7	0.0	0.0	19.8	0.0	0.0
South Carolina	4.4	0.0	0.0	5.1	25.7	0.1	0.3	33.0	0.1	0.3
South Dakota	0.0	0.0	0.0	15.4	2.0	0.0	0.0	11.6	0.0	0.0
Tennessee	0.3	0.0	0.0	4.6	1.0	0.0	0.0	1.7	0.0	0.0
Texas	1.1	0.0	0.0	3.4	15.6	0.0	0.2	20.8	0.1	0.3
Utah	6.2	0.0	0.0	20.0	8.7	0.1	0.0	8.9	0.0	0.0
Vermont*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0
Virginia	2.4	0.0	0.3	6.3	17.7	0.1	0.1	27.7	0.1	0.1
Washington	2.5	0.0	0.2	3.8	11.8	0.0	0.0	20.2	0.1	0.0
West Virginia	0.0	0.0	0.0	1.9	12.4	0.0	0.0	22.3	0.0	0.0
Wisconsin	81.0	0.0	0.0	65.8	92.5	0.0	0.1	88.6	0.0	0.1
Wyoming*	0.0	0.0	0.0	100.0	23.4	0.0	0.6	30.4	0.0	0.3
U.S. TOTAL	**4.4**	**0.0**	**0.1**	**15.5**	**19.8**	**0.1**	**0.2**	**29.3**	**0.1**	**0.2**

* Percentages for primary and secondary syphilis are based on less than 10 cases.

NOTE: Unknown includes cases reported with unknown, missing, or invalid data values, and for race/ethnicity includes cases reported in non-OMB compliant categories.

Table A2. Reported Cases of STDs by Reporting Source and Sex, United States, 2015

Disease	Non-STD Clinic			STD Clinic			Total		
	Male	Female	Total*	Male	Female	Total*	Male†	Female†	Total‡
Chlamydia	345,634	849,592	1,196,977	61,882	47,336	109,423	478,981	1,045,143	1,526,658
Gonorrhea	155,997	136,982	293,392	33,390	13,518	46,947	221,070	173,514	395,216
Primary Syphilis	4,953	427	5,384	1,639	87	1,726	7,134	560	7,700
Secondary Syphilis	10,559	1,356	11,926	2,794	270	3,067	14,413	1,738	16,172
Early Latent Syphilis	15,539	2,511	18,082	3,486	471	3,959	20,901	3,233	24,173
Late and Late Latent Syphilis§	13,220	5,219	18,464	2,159	631	2,790	19,048	7,092	26,170
Chancroid	4	3	7	1	0	1	6	5	11

* Total includes cases reported with unknown sex.
† Total includes cases reported with unknown reporting source.
‡ Total includes cases reported with unknown sex and reporting source.
§ Late and late latent syphilis includes late latent syphilis and late syphilis with clinical manifestations (including late benign syphilis and cardiovascular syphilis).

B. National Objectives and Goals

B1. Healthy People 2020 Objectives

For three decades, Healthy People has provided a comprehensive set of national 10-year health promotion and disease prevention objectives aimed at improving the health of all Americans.[1] It is grounded in the principle that establishing objectives and providing benchmarks to track and monitor progress over time can motivate, guide, and focus action.

Healthy People 2020 (HP2020) continues in the tradition of its ambitious, yet achievable, 10-year agenda for improving the Nation's health. HP2020 is the result of a multiyear process that reflects input from a diverse group of individuals and organizations. HP2020 is organized into 42 topic areas, with more than 1,200 measures designed to drive action that will support its four overarching goals:

- Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death.
- Achieve health equity, eliminate disparities, and improve the health of all groups.
- Create social and physical environments that promote good health for all.
- Promote quality of life, healthy development, and healthy behaviors across all life stages.

The topic area, Sexually Transmitted Diseases, contains objectives and measures related to STDs. Baselines, HP2020 targets, and annual progress toward the targets are reported in Table B1. The year 2020 targets for the diseases addressed in this report are as follows: primary and secondary (P&S) syphilis (males), 6.8 cases per 100,000 males; P&S syphilis (females), 1.4 cases per 100,000 females; congenital syphilis, 9.1 cases per 100,000 live births; gonorrhea (females aged 15–44 years), 257.0 cases per 100,000 females and gonorrhea (males aged 15–44 years), 198.0 cases per 100,000 males. The majority of the STD-related HP2020 targets were set using a standard percentage improvement with a standard default of a "10 percent improvement over the baseline."

B2. Government Performance and Results Act of 1993

The Government Performance and Results Act (GPRA) of 1993 was enacted by Congress to increase confidence in the capability of the federal government to increase the effectiveness and accountability of federal programs, to improve service delivery, to provide federal agencies a uniform tool for internal management, and to help Congress make decisions.

GPRA requires each agency to have a performance plan with long-term outcomes and annual, measurable performance goals and to report on these plans annually, comparing results with annual goals. There are two GPRA goals for STD: reducing pelvic inflammatory disease (PID) and eliminating congenital syphilis. Each of these goals has specific measures of progress, which are outlined in Table B2.

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[1] U.S. Department of Health and Human Services. Healthy People 2020 Web site. [Accessed on 8/12/2016] https://www.healthypeople.gov/2020/default.

Table B1. *Healthy People 2020* (HP 2020) Sexually Transmitted Diseases Objectives

	HP2020 Objectives	Baseline Year	Baseline	2013	2014	2015	2020 Target
1	**Reduce the proportion of adolescents and young adults with *Chlamydia trachomatis* infections**						
	a. Among females aged 15 to 24 years attending family planning clinics	2008	7.4%	N/A	N/A	8.6%	6.7%
	b. Among females aged 24 years and under enrolled in a National Job Training Program	2008	12.8%	11.7%	12.8%	12.7%	11.5%
	c. Among males aged 24 years and under enrolled in a National Job Training Program	2008	7.0%	7.4%	7.0%	7.5%	6.3%
2	**Increase the proportion of sexually active females aged 24 years and under enrolled in Medicaid plans who are screened for genital Chlamydia infections during the measurement year**						
	a. Females aged 16 to 20 years	2008	52.7%	53.1%	52.3%	N/A	70.9%
	b. Females aged 21 to 24 years	2008	59.4%	64.1%	62.0%	N/A	80.0%
3	**Increase the proportion of sexually active females aged 24 years and under enrolled in commercial health insurance plans who are screened for genital Chlamydia infections during the measurement year**						
	a. Females aged 16 to 20 years	2008	40.1%	42.4%	42.7%	N/A	61.3%
	b. Females aged 21 to 24 years	2008	43.5%	51.2%	52.1%	N/A	74.6%
4	**Reduce the proportion of females aged 15 to 44 years who have ever required treatment for pelvic inflammatory disease (PID)**	2006–2010	4.2%	3.6%*	N/A	N/A	3.8%
5	**Reduce gonorrhea rates**						
	a. Females aged 15 to 44 years	2008	279.9	250.6	248.1	263.4	251.9
	b. Males aged 15 to 44 years	2008	216.5	239.4	262.8	307.6	194.8
6	**Reduce sustained domestic transmission of primary and secondary syphilis**						
	a. Among females	2008	1.4	0.9	1.1	1.4	1.3
	b. Among males	2008	7.4	10.3	11.6	13.7	6.7
7	**Reduce congenital syphilis**	2008	10.7	8.7	11.6	12.4	9.6
8	**Reduce the proportion of young adults with genital herpes infection due to herpes simplex type 2**	2005–2008	10.5%	8.5%†	8.3%‡	N/A	9.5%

HP2020 Objective	Data Source
1a	STD Surveillance Network (SSuN), CDC
1b, 1c	National Job Training Program (NJTP)
2a, 2b	Healthcare Effectiveness Data and Information Set (HEDIS), National Committee for Quality Assurance (NCQA)
3a, 3b	Healthcare Effectiveness Data and Information Set (HEDIS), National Committee for Quality Assurance (NCQA)
4	National Survey of Family Growth (NSFG), CDC
5a, 5b	National Notifiable Disease Surveillance System (NNDSS), CDC
6a, 6b	National Notifiable Disease Surveillance System (NNDSS), CDC
7	National Notifiable Disease Surveillance System (NNDSS), CDC
8	National Health and Nutrition Examination Survey (NHANES), CDC

NOTE: Data presented in this table reflect data reported to HP2020 in current and prior years. Data for years prior to 2015 may not match estimates presented in other sections of this report. More information about HP2020 is available at: https://www.healthypeople.gov/

*2011–2013

†2009–2012

‡2011–2012

Table B2. Government Performance and Results Act (GPRA) Sexually Transmitted Diseases Goals, Measures, and Target

GPRA Goals	Actual			Target
	2013	2014	2015	2016
Goal 1: Reduction in PID (as measured by initial visits to physicians in women 15–44 years of age)	88,000	98,800	N/A	97,066
a. Proportion of high-risk women aged 16-20 infected with chlamydia*	13.3%	13.9%	13.4%	11.7%
b. Proportion of high-risk women aged 21-24 infected with chlamydia*	9.4%†	7.3%	8.5%	8.3%
c. Rate of gonorrhea/100,000 population in women aged 16-20	551.9	523.9	537.0	558.6
d. Rate of gonorrhea/100,000 population in women aged 21-24	513.8	508.1	523.9	511.8
e. Black: white ratio of gonorrhea in women aged 16-24	11:1	10:3	9:5	10:1
f. Proportion of sexually active females aged 16-20 years enrolled in Medicaid who are screened for chlamydia infections	53.0%	52.3%	N/A	62.5%
g. Proportion of sexually active females aged 21-24 years enrolled in Medicaid who are screened for chlamydia infections	64.1%	62.0%	N/A	66.0%
h. Proportion of sexually active females aged 16-20 years enrolled in commercial health insurance plans who are screened for chlamydia infections	42.3%	42.7%	N/A	43.5%
i. Proportion of sexually active females aged 21-24 years enrolled in commercial health insurance plans who are screened for chlamydia infections	51.2%	52.1%	N/A	52.7%
Goal 2: Elimination of Congenital Syphilis				
a. Incidence of P&S syphilis/100,000 population in women aged 15–44	2.1	2.6	3.2	0.8
b. Incidence of congenital syphilis/100,000 live births	8.7	11.5	12.4	6.2
c. Proportion of pregnant women that are screened for syphilis at least one month before delivery	85.1%	N/A	84.0%	85.1%

GPRA Goals	Data Source
1	National Disease and Therapeutic Index (IMS Health)
1a, 1b	National Job Training Program (NJTP)
1c, 1d, 1e	National Notifiable Disease Surveillance System (NNDSS), CDC
1f, 1g, 1h, 1i	Healthcare Effectiveness Data and Information Set (HEDIS), National Committee for Quality Assurance (NCQA)
2a, 2b	National Notifiable Disease Surveillance System (NNDSS),CDC
2c	MarketScan Commercial Claims and Encounters Database, Truven Health Analytics

NOTE: Data presented in this table reflect data reported to GPRA in current and prior years. Data for years prior to 2015 may not match estimates presented in other sections of this report.

* Median state-specific chlamydia prevalence/positivity among states with >100 females in this age group entering the National Job Training Program.

† In FY 2013 CDC improved the calculation of these data to increase the stability of estimate over time. Data for 2010 and later years reflect this improved calculation method.

GPRA = Government Performance and Results Act; PID = pelvic inflammatory disease; P&S = primary and secondary.

C. STD Surveillance Case Definitions

C1. CASE DEFINITIONS FOR NATIONALLY NOTIFIABLE INFECTIOUS DISEASES

The Council of State and Territorial Epidemiologists (CSTE) recommends that state health departments report cases of selected diseases to CDC's National Notifiable Diseases Surveillance System (NNDSS). Case definitions are periodically revised using CSTE's Position Statements and provide uniform criteria of nationally notifiable conditions for reporting purposes. The most current surveillance case definitions for nationally notifiable STDs are listed below. Please see the NNDSS website (https://wwwn.cdc.gov/nndss/case-definitions.html) for historical case definitions.

C1.1 Chancroid (Revised 9/96)

Clinical description

A sexually transmitted disease characterized by painful genital ulceration and inflammatory inguinal adenopathy. The disease is caused by infection with *Haemophilus ducreyi*.

Laboratory criteria for diagnosis

- Isolation of *H. ducreyi* from a clinical specimen

Case classification

Probable: a clinically compatible case with both a) no evidence of *Treponema pallidum* infection by darkfield microscopic examination of ulcer exudate or by a serologic test for syphilis performed ≥7 days after onset of ulcers and b) either a clinical presentation of the ulcer(s) not typical of disease caused by herpes simplex virus (HSV) or a culture negative for HSV.

Confirmed: a clinically compatible case that is laboratory confirmed.

C1.2 *Chlamydia trachomatis* Infection (Revised 6/09)

Clinical description

Infection with *Chlamydia trachomatis* may result in urethritis, epididymitis, cervicitis, acute salpingitis, or other syndromes when sexually transmitted; however, the infection is often asymptomatic in women. Perinatal infections may result in inclusion conjunctivitis and pneumonia in newborns. Other syndromes caused by *C. trachomatis* include lymphogranuloma venereum (see Lymphogranuloma Venereum) and trachoma.

Laboratory criteria for diagnosis

- Isolation of *C. trachomatis* by culture or
- Demonstration of *C. trachomatis* in a clinical specimen by detection of antigen or nucleic acid

Case classification

Confirmed: a case that is laboratory confirmed.

C1.3 Gonorrhea (Effective 1/14)

Clinical description

A sexually transmitted infection commonly manifested by urethritis, cervicitis, proctitis, salpingitis, or pharyngitis. Infection may be asymptomatic.

Laboratory criteria for diagnosis

- Observation of gram-negative intracellular diplococci in a urethral smear obtained from a male or an endocervical smear obtained from a female, or
- Isolation of typical gram-negative, oxidase-positive diplococci by culture (presumptive *Neisseria gonorrhoeae*) from a clinical specimen, or
- Demonstration of *N. gonorrhoeae* in a clinical specimen by detection of antigen or nucleic acid

Case classification

Probable: demonstration of gram-negative intracellular diplococci in a urethral smear obtained from a male or an endocervical smear obtained from a female.

Confirmed: a person with laboratory isolation of typical gram-negative, oxidase-positive diplococci by culture (presumptive *Neisseria gonorrhoeae*) from a clinical specimen, or demonstration of *N. gonorrhoeae* in a clinical specimen by detection of antigen or detection of nucleic acid via nucleic acid amplification (e.g., PCR) or hybridization with a nucleic acid probe.

C1.4 Syphilis (Effective 1/14)

Syphilis is a complex sexually transmitted disease that has a highly variable clinical course. Adherence to the following surveillance case definitions will facilitate understanding the epidemiology of this disease across the U.S.

Syphilis, primary (Effective 1/14)

Clinical description

A stage of infection with *Treponema pallidum* characterized by one or more ulcerative lesions (e.g. chancre), which might differ considerably in clinical appearance.

Laboratory criteria for diagnosis

Demonstration of *T. pallidum* in clinical specimens by darkfield microscopy, or by polymerase chain reaction (PCR) or equivalent direct molecular methods.

Case classification

Probable: a case that meets the clinical description of primary syphilis with a reactive serologic test (nontreponemal: Venereal Disease Research Laboratory [VDRL], rapid plasma reagin [RPR], or equivalent serologic methods; treponemal: fluorescent treponemal antibody absorbed [FTA-ABS], *T. pallidum* particle agglutination [TP-PA], enzyme immunoassay [EIA], chemiluminescence immunoassay [CIA], or equivalent serologic methods). These treponemal tests supersede older testing technologies, including microhemagglutination assay for antibody to *T. pallidum* [MHA-TP].

Confirmed: a case that meets the clinical description of primary syphilis that is laboratory confirmed.

Syphilis, secondary (Effective 1/14)

Clinical description

A stage of infection caused by *T. pallidum* characterized by localized or diffuse mucocutaneous lesions (e.g., rash – such as non-pruritic macular, maculopapular, popular, or pustular lesions), often with generalized lymphadenopathy. Other symptoms can include mucous patches, condyloma lata, and alopecia. The primary ulcerative lesion may still be present. Because of the wide array of symptoms possibly indicating secondary syphilis, serologic tests for syphilis and a thorough sexual history and physical examination are crucial to determining if a case should be classified as secondary syphilis.

Laboratory criteria for diagnosis

Demonstration of *T. pallidum* in clinical specimens by darkfield microscopy, or by polymerase chain reaction (PCR) or equivalent direct molecular methods.

Case classification

Probable: a case that meets the clinical description of secondary syphilis with a nontreponemal (VDRL, RPR, or equivalent serologic methods) titer ≥4 and a reactive treponemal test (FTA-ABS, TP-PA, EIA, CIA, or equivalent serologic methods).

Confirmed: a case that meets the clinical description of secondary syphilis (with at least one sign or symptom) that is laboratory confirmed.

Syphilis, early latent (Effective 1/14)

Clinical description

A subcategory of latent syphilis (a stage of infection caused by *T. pallidum* in which organisms persist in the body of the infected person without causing symptoms or signs) when initial infection has occurred within the previous 12 months.

Case classification

Probable: A person with no clinical signs or symptoms of syphilis who has one of the following:

- No past diagnosis of syphilis, and a reactive nontreponemal test (e.g., VDRL, RPR, or equivalent serologic methods), and a reactive treponemal test (e.g., FTA-ABS, TP-PA, EIA, CIA, or equivalent serologic methods), or
- A current nontreponemal test titer demonstrating fourfold or greater increase from the last nontreponemal test titer

AND evidence of having acquired the infection within the previous 12 months based on one or more of the following criteria:

- Documented seroconversion or fourfold or greater increase in titer of a nontreponemal test during the previous 12 months
- Documented seroconversion of a treponemal test during the previous 12 months
- A history of symptoms consistent with primary or secondary syphilis during the previous 12 months
- A history of sexual exposure to a partner within the previous 12 months who had primary, secondary, or early latent syphilis (documented independently as duration <12 months)
- Only sexual contact was within the last 12 months (sexual debut).

There is no confirmed case classification for early latent syphilis.

Syphilis, late latent (Effective 1/14)

Clinical description

A subcategory of latent syphilis (a stage of infection caused by *T. pallidum* in which organisms persist in the body of the infected person without causing symptoms or signs) when initial infection has occurred >12 months previously.

Case classification

Probable: a person with no clinical signs or symptoms of syphilis who has one of the following:

- No past diagnosis of syphilis, and a reactive nontreponemal test (e.g., VDRL, RPR, or equivalent serologic methods), and a reactive treponemal test (e.g., FTA-ABS, TP-PA, EIA, CIA, or equivalent serologic methods), or
- A past history of syphilis therapy and a current nontreponemal test titer demonstrating fourfold or greater increase from the last nontreponemal test titer.

AND who has no evidence of having acquired the disease within the preceding 12 months (see Syphilis, early latent).

There is no confirmed case classification for late latent syphilis.

Neurosyphilis (Effective 1/14)

Neurosyphilis can occur at any stage of syphilis. If the patient has neurologic manifestations of syphilis, the case should be reported with the appropriate stage of infection (as if neurologic manifestations were not present) and neurologic manifestations should be noted in the case report data. If no other stage is appropriate, the case should be staged as "late, with clinical manifestations".

Neurosyphilis can apply to all stages of infection of syphilis listed, including: primary syphilis, secondary syphilis, early latent syphilis, late latent syphilis, and late syphilis with clinical manifestations.

Clinical description

Infection of the central nervous system with *T. pallidum*, as evidenced by manifestations including syphilitic meningitis, meningovascular syphilis, optical involvement including interstitial keratitis and uveitis, general paresis, including dementia, and tabes dorsalis.

Laboratory criteria for diagnosis

- A reactive VDRL in cerebrospinal fluid (CSF) and either (1) a reactive treponemal serologic test for syphilis (e.g., FTA- ABS, TP-PA, EIA, CIA, or equivalent serologic methods) or (2) a reactive nontreponemal serologic test for syphilis (VDRL, RPR, or equivalent serologic method).

Case classification

Probable: syphilis of any stage with a negative VDRL test in CSF specimen and either (1) a reactive treponemal serologic test for syphilis (e.g., FTA-ABS, TP-PA, EIA, CIA, or equivalent serologic methods) or (2) a reactive non-treponemal serologic test for syphilis (VDRL, RPR, or equivalent serologic method), and both of the following:

- Elevated CSF protein (>50 mg/dL2) or leukocyte count (>5 white blood cells/cubic millimeter CSF) in the absence of other known causes of these abnormalities, and
- Clinical symptoms or signs consistent with neurosyphilis without other known causes for these clinical abnormalities.

Confirmed: syphilis of any stage that meets the laboratory criteria for neurosyphilis.

Syphilis, late with clinical manifestations (including late benign syphilis and cardiovascular syphilis) (Effective 1/14)

Clinical description

Clinical manifestations of late syphilis may include inflammatory lesions of the cardiovascular system (e.g., aortitis, coronary vessel disease), skin (e.g., gummatous lesions) bone (e.g., osteitis) or other tissue. Rarely, other structures (e.g., the upper and lower respiratory tracts, mouth, eye, abdominal organs, reproductive organs, lymph nodes, and skeletal muscle) may be involved. Late syphilis usually becomes clinically manifest only after a period of 15–30 years of untreated infection. If only neurologic manifestations of syphilis (e.g., tabes dorsalis, dementia) are present and infection occurred more than 12 months ago, the case should be reported as "late syphilis".

Laboratory criteria for diagnosis

Demonstration of *T. pallidum* in late lesions by special stains (although organisms are rarely visualized in late lesions), or equivalent methods, or by polymerase chain reaction (PCR) or equivalent direct molecular methods.

Case classification

Probable: characteristic abnormalities or lesions of the cardiovascular system (e.g., aortitis, coronary vessel disease), skin (e.g., gummatous lesions), bone (e.g., osteitis), or other tissue and a reactive treponemal test (e.g., FTA-ABS, TP-PA, EIA, CIA, or equivalent serologic methods), in the absence of other known causes of these abnormalities. CSF abnormalities and clinical symptoms or signs consistent with neurologic manifestations of syphilis might be present.

Confirmed: a case that meets the clinical description of late syphilis that is laboratory confirmed.

Syphilis, Congenital (Revised 1/15)

Clinical description

A condition caused by infection in utero with *Treponema pallidum*. A wide spectrum of severity exists, from inapparent infection to severe cases that are clinically apparent at birth. An infant or child (aged less than 2 years) may have signs such as hepatosplenomegaly, rash, condyloma lata, snuffles, jaundice (nonviral hepatitis), pseudoparalysis, anemia, or edema (nephrotic syndrome and/or malnutrition). An older child may have stigmata (e.g., interstitial keratitis, nerve deafness, anterior bowing of shins, frontal bossing, mulberry molars, Hutchinson teeth, saddle nose, rhagades, or Clutton joints).

Laboratory criteria for diagnosis

- Demonstration of *T. pallidum* by darkfield microscopy of lesions, body fluids, or neonatal nasal discharge, or
- Polymerase chain reaction (PCR) or other equivalent direct molecular methods of lesions, placenta, umbilical cord, or autopsy material, or
- Immunohistochemistry (IHC), or special stains (e.g., silver staining) of specimens from lesions, neonatal nasal discharge, placenta, umbilical cord, or autopsy material.

Case classification

Probable: a condition affecting an infant whose mother had untreated or inadequately treated* syphilis at delivery, regardless of signs in the infant, or an infant or child who has a reactive non-treponemal test for syphilis (Venereal Disease Research Laboratory [VDRL], rapid plasma reagin [RPR], or equivalent serologic methods) AND any one of the following:

- Any evidence of congenital syphilis on physical examination (see Clinical description)
- Any evidence of congenital syphilis on radiographs of long bones
- A reactive cerebrospinal fluid (CSF) venereal disease research laboratory (VDRL) test
- In a nontraumatic lumbar puncture, an elevated CSF leukocyte (white blood cell, WBC) count or protein (without other cause):

  Suggested parameters for abnormal CSF WBC and protein values:

  - During the first 30 days of life, a CSF WBC count of >15 WBC/mm3 or a CSF protein >120 mg/dL.
  - After the first 30 days of life, a CSF WBC count of >5 WBC mm3 or a CSF protein >40 mg/dL, regardless of CSF serology.
  - The treating clinician should be consulted to interpret the CSF values for the specific patient.

Confirmed: a case that is laboratory confirmed.

* Adequate treatment is defined as completion of a penicillin-based regimen, in accordance with CDC treatment guidelines, appropriate for stage of infection, initiated 30 or more days before delivery.

Syphilitic Stillbirth

Clinical case definition

A fetal death that occurs after a 20-week gestation or in which the fetus weighs greater than 500 g and the mother had untreated or inadequately treated* syphilis at delivery.

Comment

Congenital and acquired syphilis may be difficult to distinguish when a child is seropositive after infancy. Signs of congenital syphilis may not be obvious, and stigmata may not yet have developed. Abnormal values for CSF VDRL, WBC cell count, and protein may be found in either congenital or acquired syphilis. Findings on radiographs of long bones may help because radiographic changes in the metaphysis and epiphysis are considered classic signs of congenitally acquired syphilis. While maternal antibodies can complicate interpretation of serologic tests in an infant, reactive tests past 18 months of age are considered to reflect the status of the child. The decision may ultimately be based on maternal history and clinical judgment. In a young child, the possibility of sexual abuse should be considered as a cause of acquired rather than congenital syphilis, depending on the clinical picture. For reporting purposes, congenital syphilis includes cases of congenitally acquired syphilis among infants and children as well as syphilitic stillbirths.

* Adequate treatment is defined as completion of a penicillin-based regimen, in accordance with CDC treatment guidelines, appropriate for stage of infection, initiated 30 or more days before delivery.

C2. CASE DEFINITIONS FOR NON-NOTIFIABLE INFECTIOUS DISEASES

Although the conditions below are not currently nationally notifiable, they may be reportable in some jurisdictions. To provide uniform criteria for those jurisdictions, case definitions are provided by CSTE. Case definitions are periodically revised. The most current surveillance case definitions for non-notifiable STDs are listed below. Please see the NNDSS website (https://wwwn.cdc.gov/nndss/case-definitions.html) for historical case definitions.

C2.1 Genital Herpes (Herpes Simplex Virus) (Revised 9/96)

Clinical description

A condition characterized by visible, painful genital or anal lesions.

Laboratory criteria for diagnosis

- Isolation of herpes simplex virus from cervix, urethra, or anogenital lesion, or
- Demonstration of virus by antigen detection technique in clinical specimens from cervix, urethra, or anogenital lesion, or
- Demonstration of multinucleated giant cells on a Tzanck smear of scrapings from an anogenital lesion.

Case classification

Probable: a clinically compatible case (in which primary and secondary syphilis have been excluded by appropriate serologic tests and darkfield microscopy, when available) with either a diagnosis of genital herpes based on clinical presentation (without laboratory confirmation) or a history of one or more previous episodes of similar genital lesions.

Confirmed: a clinically compatible case that is laboratory confirmed.

Comment

Genital herpes should be reported only once per patient. The first diagnosis for a patient with no previous diagnosis should be reported.

C2.2 Genital Warts (Revised 9/96)

Clinical description

An infection characterized by the presence of visible, exophytic (raised) growths on the internal or external genitalia, perineum, or perianal region.

Laboratory criteria for diagnosis

- Histopathologic changes characteristic of human papillomavirus infection in specimens obtained by biopsy or exfoliative cytology or
- Demonstration of virus by antigen or nucleic acid detection in a lesion biopsy.

Case classification

Probable: a clinically compatible case without histopathologic diagnosis and without microscopic or serologic evidence that the growth is the result of secondary syphilis.

Confirmed: a clinically compatible case that is laboratory confirmed.

Comment

Genital warts should be reported only once per patient. The first diagnosis for a patient with no previous diagnosis should be reported.

C2.3 Granuloma Inguinale

Clinical description

A slowly progressive ulcerative disease of the skin and lymphatics of the genital and perianal area caused by infection with *Calymmatobacterium granulomatis*. A clinically compatible case would have one or more painless or minimally painful granulomatous lesions in the anogenital area.

Laboratory criteria for diagnosis

Demonstration of intracytoplasmic Donovan bodies in Wright or Giemsa-stained smears or biopsies of granulation tissue.

Case classification

Confirmed: a clinically compatible case that is laboratory confirmed.

C2.4 Lymphogranuloma Venereum

Clinical description

Infection with L1, L2, or, L3 serovars of *Chlamydia trachomatis* may result in a disease characterized by genital lesions, suppurative regional lymphadenopathy, or hemorrhagic proctitis. The infection is usually sexually transmitted.

Laboratory criteria for diagnosis

Isolation of *C. trachomatis*, serotype L1, L2, or L3 from clinical specimen, or

- Demonstration by immunofluorescence of inclusion bodies in leukocytes of an inguinal lymph node (bubo) aspirate, or
- Positive microimmunofluorescent serologic test for a lymphogranuloma venereum strain of C. trachomatis.

Case classification

Probable: a clinically compatible case with one or more tender fluctuant inguinal lymph nodes or characteristic proctogenital lesions with supportive laboratory findings of a single *C. trachomatis* complement fixation titer of >64.

Confirmed: a clinically compatible case that is laboratory confirmed.

C2.5 Mucopurulent Cervicitis (Revised 9/96)

Clinical description

Cervical inflammation that is not the result of infection with *Neisseria gonorrhoeae* or *Trichomonas vaginalis*. Cervical inflammation is defined by the presence of one of the following criteria:

- Mucopurulent secretion (from the endocervix) that is yellow or green when viewed on a white, cotton-tipped swab (positive swab test)
- Induced endocervical bleeding (bleeding when the first swab is placed in the endocervix).

Laboratory criteria for diagnosis

No evidence of *N. gonorrhoeae* by culture, Gram stain, or antigen or nucleic acid detection, and no evidence of *T. vaginalis* on wet mount.

Case classification

Confirmed: a clinically compatible case in a female who does not have either gonorrhea or trichomoniasis.

Comment

Mucopurulent cervicitis (MPC) is a clinical diagnosis of exclusion. The syndrome may result from infection with any of several agents (see *Chlamydia trachomatis*). If gonorrhea, trichomoniasis, and chlamydia are excluded, a clinically compatible illness should be classified as MPC. An illness in a female that meets the case definition of MPC and *C. trachomatis* infection should be classified as chlamydia.

C2.6 Nongonococcal Urethritis (Revised 9/96)

Clinical description

Urethral inflammation that is not the result of infection with *Neisseria gonorrhoeae*. Urethral inflammation may be diagnosed by the presence of one of the following criteria:

- A visible abnormal urethral discharge, or
- A positive leukocyte esterase test from a male aged <60 years who does not have a history of kidney disease or bladder infection, prostate enlargement, urogenital anatomic anomaly, or recent urinary tract instrumentation, or
- Microscopic evidence of urethritis (≥5 white blood cells per high-power field) on a Gram stain of a urethral smear.

Laboratory criteria for diagnosis

No evidence of *N. gonorrhoeae* infection by culture, Gram stain, or antigen or nucleic acid detection.

Case classification

Confirmed: a clinically compatible case in a male in whom gonorrhea is not found, either by culture, Gram stain, or antigen or nucleic acid detection.

Comment

Nongonococcal urethritis (NGU) is a clinical diagnosis of exclusion. The syndrome may result from infection with any of several agents (see *Chlamydia trachomatis*). If gonorrhea and chlamydia are excluded, a clinically compatible illness should be classified as NGU. An illness in a male that meets the case definition of NGU and *C. trachomatis* infection should be classified as chlamydia.

C2.7 Pelvic Inflammatory Disease (Revised 9/96)

Clinical case definition

A clinical syndrome resulting from the ascending spread of microorganisms from the vagina and endocervix to the endometrium, fallopian tubes, and/or contiguous structures. In a female who has lower abdominal pain and who has not been diagnosed as having an established cause other than pelvic inflammatory disease (PID) (e.g., ectopic pregnancy, acute appendicitis, and functional pain), all the following clinical criteria must be present:

- Lower abdominal tenderness, and
- Tenderness with motion of the cervix, and
- Adnexal tenderness.

In addition to the preceding criteria, at least one of the following findings must also be present:

- Meets the surveillance case definition of *C. trachomatis* infection or gonorrhea
- Temperature >100.4 F (>38.0 C)
- Leukocytosis >10,000 white blood cells/mm^3
- Purulent material in the peritoneal cavity obtained by culdocentesis or laparoscopy
- Pelvic abscess or inflammatory complex detected by bimanual examination or by sonography
- Patient is a sexual contact of a person known to have gonorrhea, chlamydia, or nongonococcal urethritis.

Case classification

Confirmed: a case that meets the clinical case definition.

Comment

For reporting purposes, a clinician's report of PID should be counted as a case.

Contributors

We gratefully acknowledge the contributions of state STD project directors, STD program managers, state and territorial epidemiologists, and laboratory directors. The persons listed were in the positions shown as of August 24, 2016.

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