

CHLAMYDIA IN NEVADA, 2003-2012

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Edition 1.0

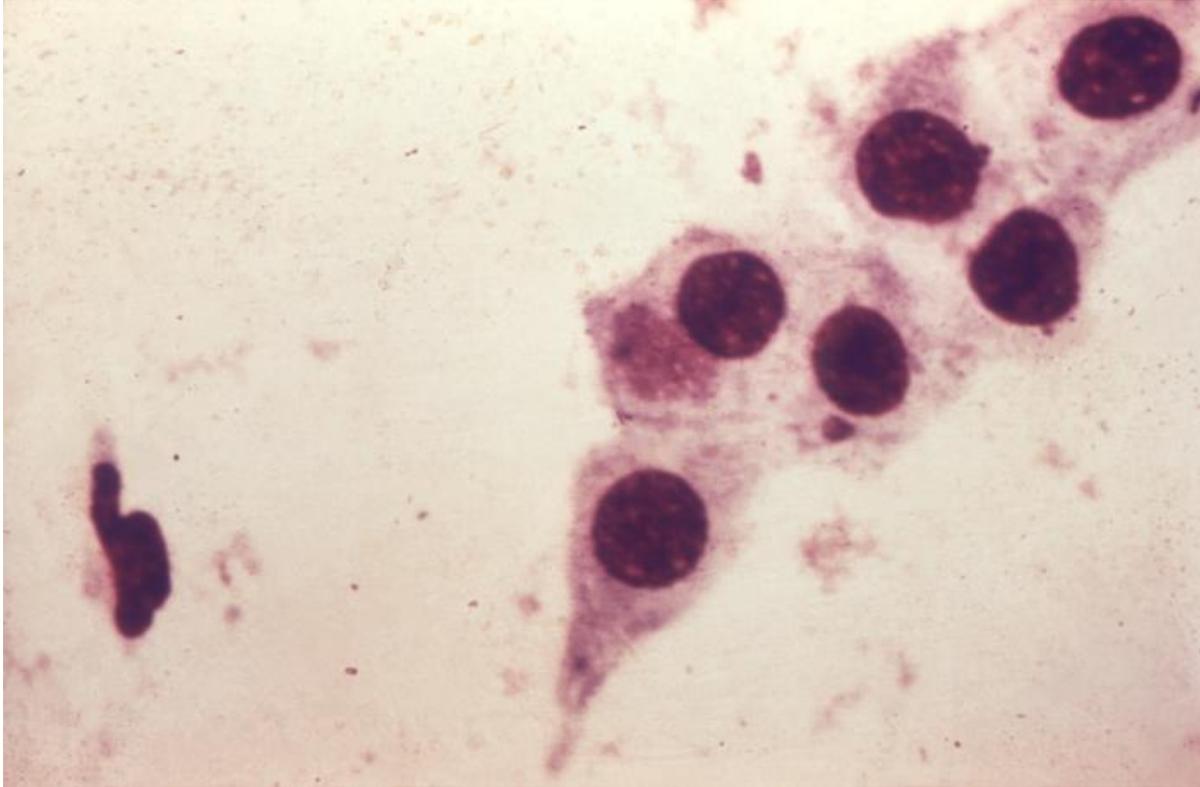


Photo: Centers for Disease Control and Prevention/ Dr. Wiesner, Dr. Kaufman



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Purpose

The purpose of this report is to provide a general overview of the incidence and recent trends of *Chlamydia trachomatis* infection among Nevada residents. The report also includes Nevada data collected from cases of *Chlamydia trachomatis* from 2003 to 2012. *Chlamydia trachomatis* infection is listed as one of Nevada's reportable diseases pursuant to [NRS 441A](#) (1). Genital *Chlamydia trachomatis* reporting is further regulated by [NAC 441A.490](#) (2).

Chlamydia

Chlamydia is a sexually transmitted infection (STI) caused by the bacteria *Chlamydia trachomatis*. Chlamydia is transmitted through anal, vaginal, and oral sex and can be transmitted even if a man does not ejaculate. It can also be transmitted from mother to child during delivery and cause an eye infection or pneumonia in the newborn or increase the likelihood of pre-term delivery. Chlamydia is the most commonly reported sexually transmitted disease (STD) in the United States; in 2012, nearly 1.5 million cases of chlamydia were reported nationally. However, since many infected persons are asymptomatic and do not seek testing, it is estimated 2.86 million infections occur annually. Chlamydia is most common among young people; it is estimated 1 in 15 sexually active females aged 14-19 has chlamydia (3).

Most people infected with chlamydia have no symptoms. If symptoms occur, they may not appear until several weeks after infection. Symptomatic men may exhibit discharge from the penis, have a burning sensation when urinating, or experience pain or swelling in one or both testicles. Symptomatic women may exhibit abnormal vaginal discharge or have a burning sensation when urinating. If untreated, infection in women can move from the cervix to the uterus and fallopian tubes, causing pelvic inflammatory disease (PID). PID may not cause symptoms but can lead to long-term pelvic pain, infertility, and potentially fatal ectopic pregnancy (pregnancy that occurs outside the womb), despite an asymptomatic presentation. Rectal chlamydia infections often present no symptoms, but when present, patients may exhibit rectal pain, discharge, or bleeding (3).

Chlamydia is typically diagnosed by collecting vaginal swabs or urine samples from the patient for laboratory testing. If diagnosed, chlamydia is easily cured with antibiotics. Persons infected with chlamydia should abstain from sex for 7 days after administration of antibiotics. Repeat infection with chlamydia is common, so re-testing 3 months after treatment is recommended (3).

The risk of transmitting chlamydia can be reduced through the use of latex male condoms. However, the best way to prevent chlamydia is to abstain from sex or be in a long-term, mutually monogamous relationship with a partner who has been tested and is known to be uninfected. Although anyone who has sex is at risk of chlamydia infection, sexually young people are at higher risk due to behavioral, biological, and cultural factors; therefore, the Centers for Disease Control and Prevention (CDC) recommends annual chlamydia screening of sexually active females aged 25 years and younger. According to CDC, the following groups are at higher risk for chlamydial infection: older women who have a new or multiple sexual partners, non-Hispanic Blacks, and men who have sex with men. CDC recommends that all pregnant women be screened for chlamydia during their initial prenatal care visit and pregnant women at higher risk be screened again during their third trimester (3).

Summary

From 2003-2012, there has been a steady increase in the number of reported cases and the crude incidence rate of chlamydia infections in Nevada. In 2003, there were 5,846 reported cases and an annual crude incidence rate of 260.6 cases per 100,000 population. By 2012, there were 11,147 reported cases and a crude incidence rate of 405.3 cases per 100,000 population. Over the ten years, a total of 89,294 cases were reported. A statistically significant increase from the year prior was seen in 2004, 2006, 2007, and 2011. The crude incidence rate from 2003 to 2012 was 349.0 cases per 100,000 population.

The Healthy People 2020 objective for chlamydia is to reduce chlamydia infections to 6.7% of females aged 15-24 years attending family planning clinics (2010 objective: 3.0%). There are also Healthy People 2020 objectives to reduce chlamydia infections to 11.5% (2010 objective: 6.8%) of females aged 24 years and younger and 6.3% of males (no 2010 objective) aged 24 years and younger enrolled in a national job training program. There are additional objectives to increase the proportion of people who are screened for chlamydia. The data used for this report does not specify participation in family planning clinics or national job training programs nor does it cover screening rates to compare Nevada's progress against the national targets (4, 5).

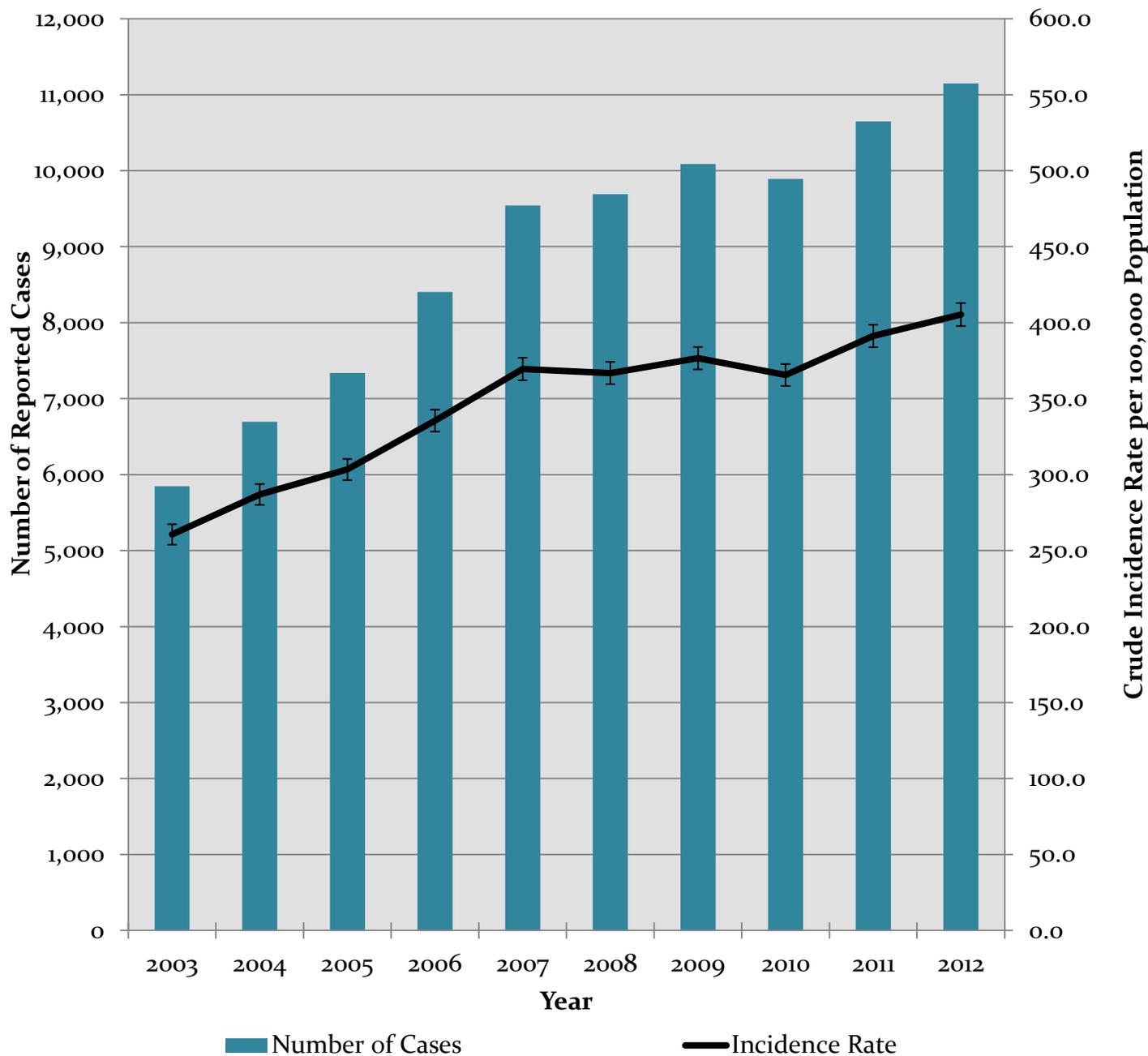
From 2003 to 2012, Southern Nevada Health District had significantly higher annual age-adjusted incidence rates compared to the overall annual age-adjusted incidence rates for the entire state, and Southern Nevada Health District's rate over the ten years (374.0 cases per 100,000 population) was significantly higher than the overall age-adjusted incidence rate for the state (343.7 cases per 100,000 population). Carson City Health and Human Services, Washoe County Health District, and the rural/frontier counties had significantly lower age-adjusted incidence rates (213.4, 315.2, and 176.4 cases per 100,000 population, respectively) than Southern Nevada Health District and the overall age-adjusted incidence rate for the state.

Between 2008 and 2012 (years where monthly data is available), there was no discernable monthly or seasonal trend for reported chlamydia infections. The number of reported cases ranged between 596 and 1,115 cases per month, depending on the year.

According to CDC, non-Hispanic Blacks are at higher risk for chlamydial infection (3). From 2003 to 2012, non-Hispanic Blacks in Nevada had a significantly higher overall age-adjusted incidence rate (893.1 cases per 100,000 population) compared to all other racial/ethnic groups, and the annual age-adjusted incidence rate steadily increased from 605.6 cases per 100,000 population in 2003 to 1,030.8 cases per 100,000 population in 2012; however, 31,293 cases (35% of the total cases reported) were of unknown race/ethnicity, which suggests that race- and ethnicity-specific incidence rates may not be reliable due to incomplete data. Therefore, this statement should be considered with caution until the data for future years is sufficient to support statistically sound conclusions without the potential of bias.

According to CDC, chlamydia is most common among sexually active young people (3); the highest number of reported cases and incidence rates in Nevada were in the 15-24 year old age group. The overall incidence rate from 2003 to 2012 for the 15-24 age group (1,609.2 cases per 100,000 population) was over three times higher than the next older age group, 25-39 years old (198.9 per 100,000 population), and the difference was statistically significant. The age-specific incidence rate for the 15-24 age group has steadily increased from 1,258.06 cases per 100,000 population in 2003 to 1,860.6 cases per 100,000 population in 2012. Incidence rates for infants and children less than 5 years of age were generally not calculated due to low case counts.

Figure 1. Number of Reported Cases and Crude Incidence Rates of Chlamydia in Nevada: 2003-2012



The crude incidence rate in Nevada from 2003 to 2012 was 349.0 cases per 100,000 population.

Figure 2. Age-Adjusted Incidence Rates of Chlamydia in Nevada and Nevada Health Districts: 2003-2012

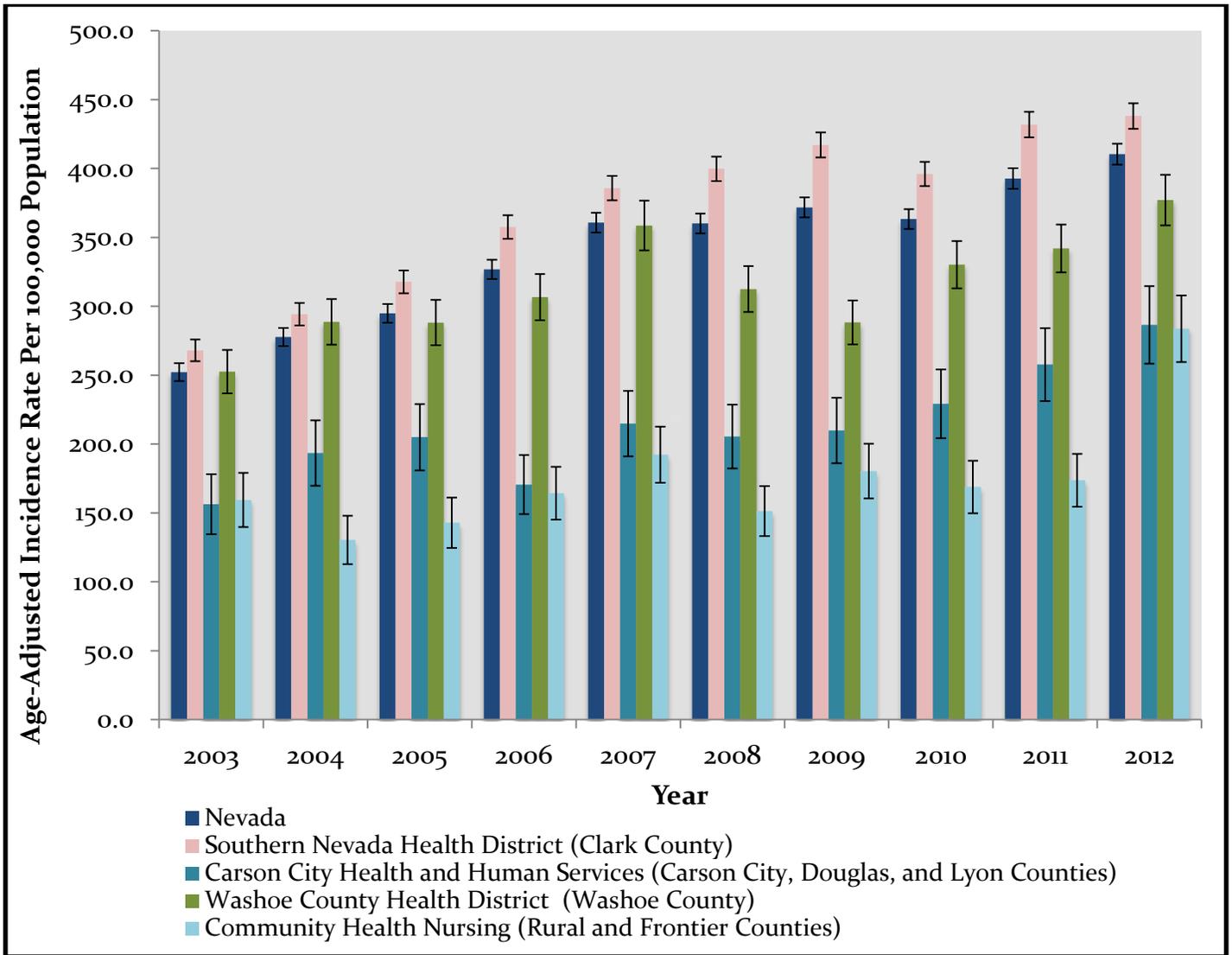
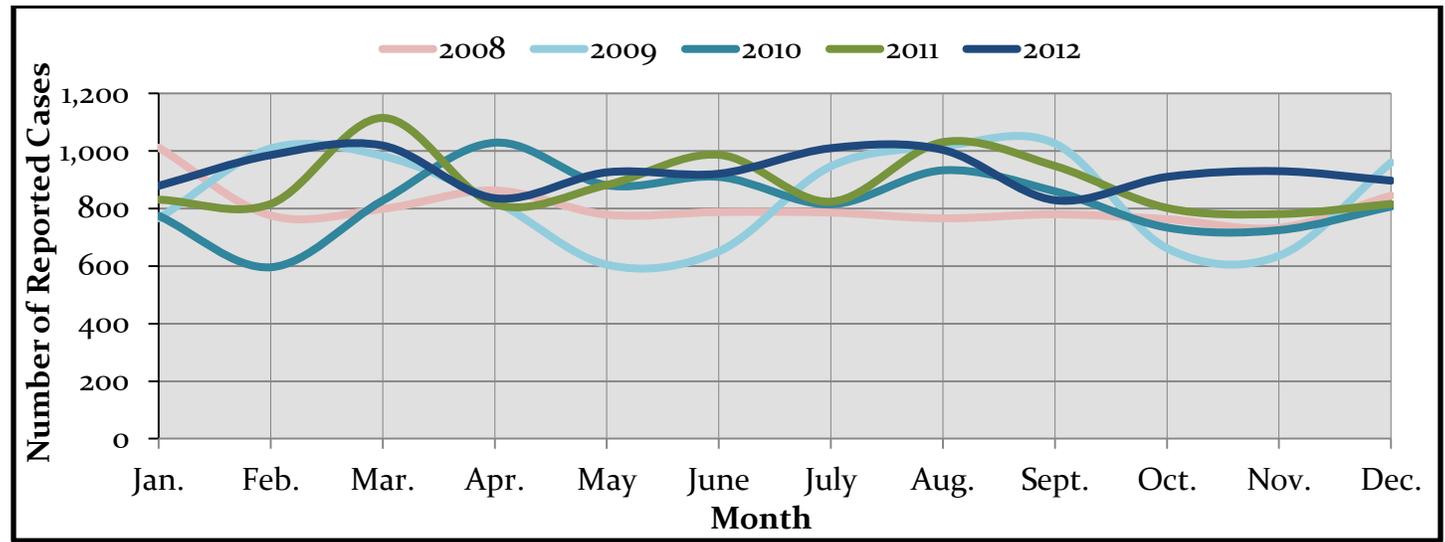
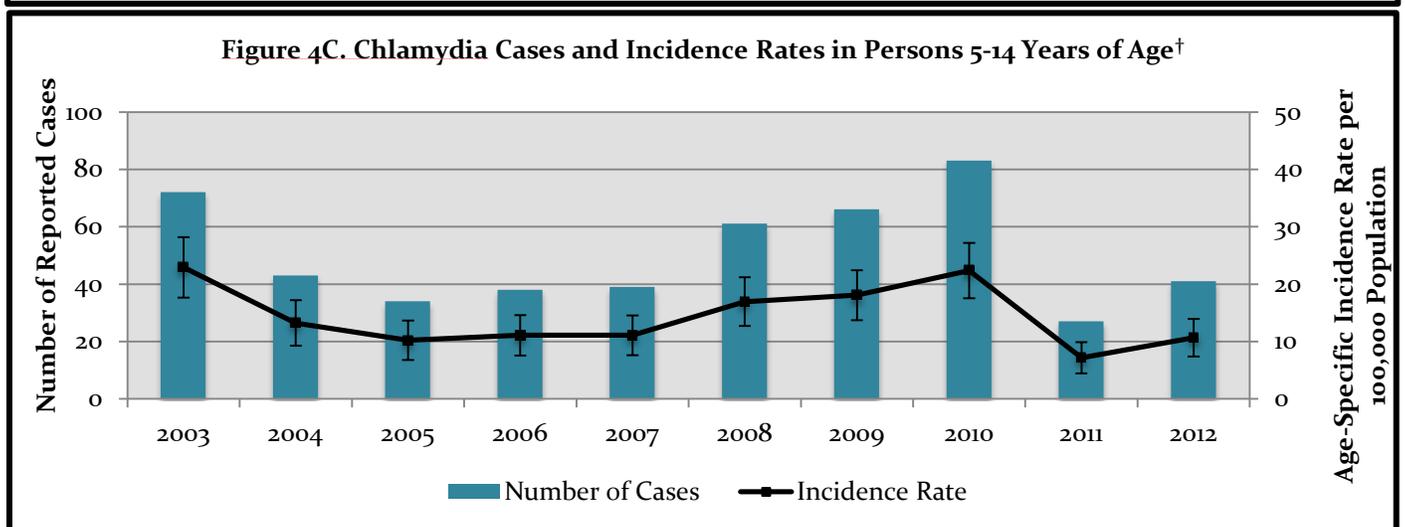
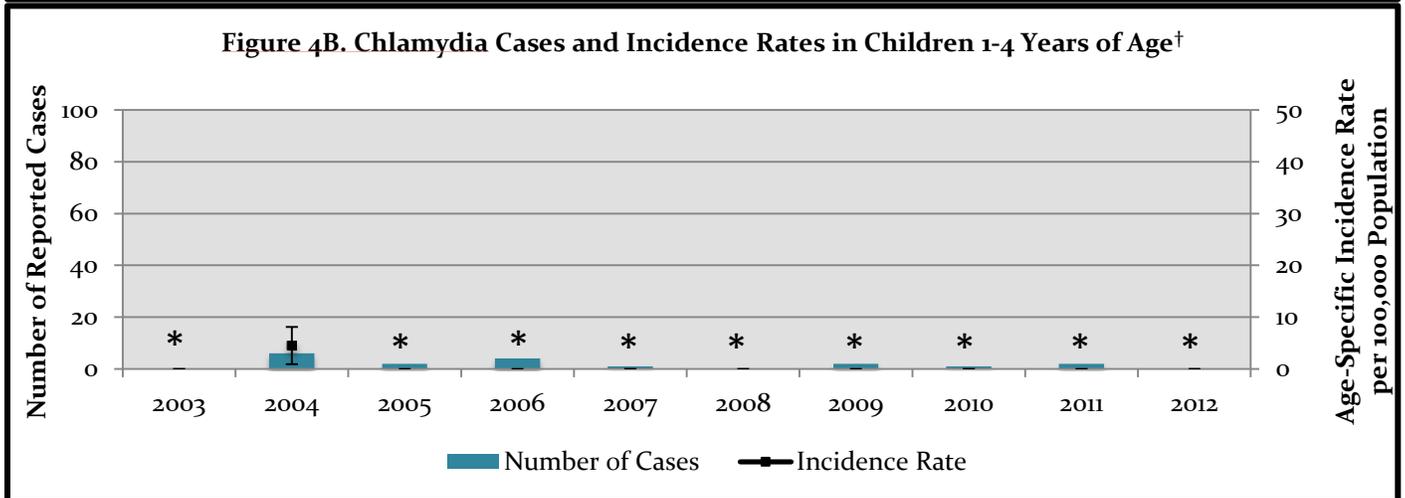
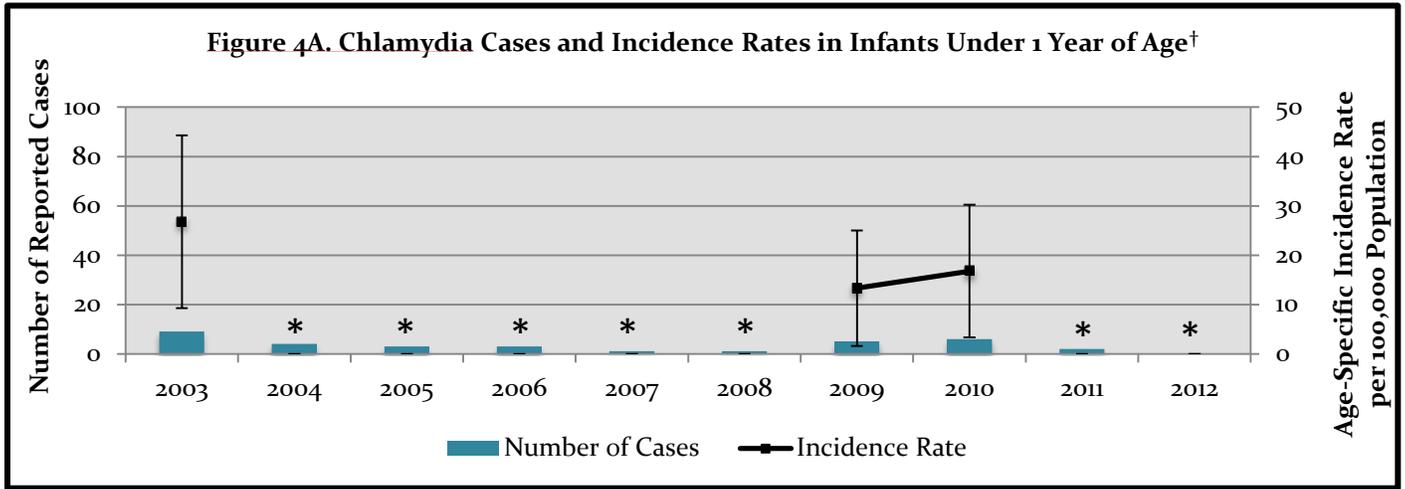


Figure 3. Number of Chlamydia Cases Reported in Nevada by Month: 2008-2012



Figures 4A-G. Number of Reported Cases and Crude Incidence Rates of Chlamydia in Nevada by Age Group: 2003-2012[†]



[†] Scale of figures 4A-4C and 4G differ from the scale of figures 4D-4F.

* Data not presented due to low case counts.

Figure 4D. Chlamydia Cases and Incidence Rates in Persons 15-24 Years of Age[†]

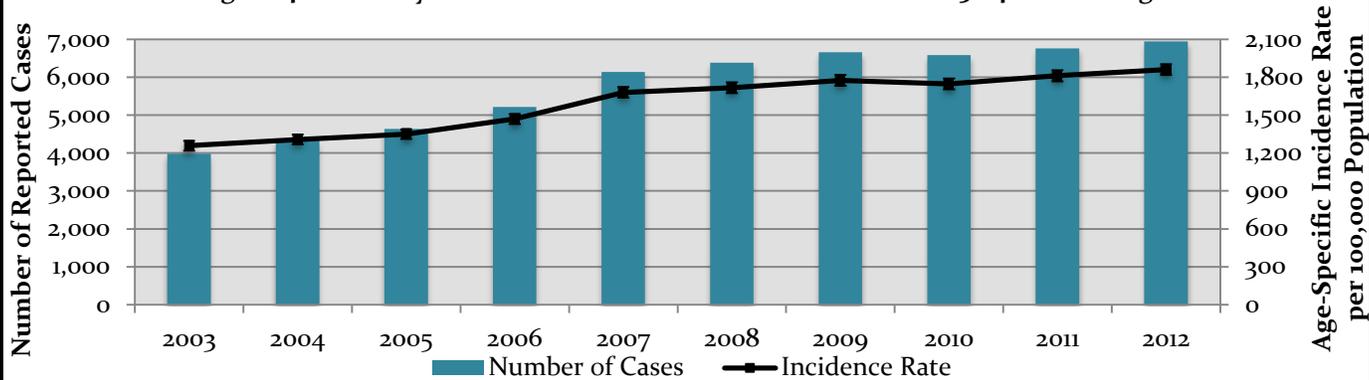


Figure 4E. Chlamydia Cases and Incidence Rates in Persons 25-39 Years of Age[†]

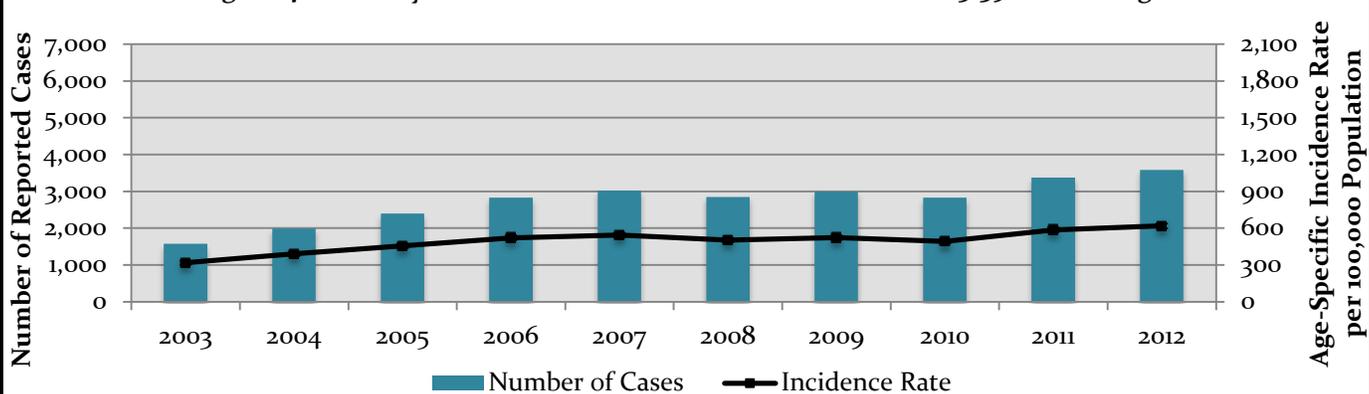


Figure 4F. Chlamydia Cases and Incidence Rates in Persons 40-64 Years of Age[†]

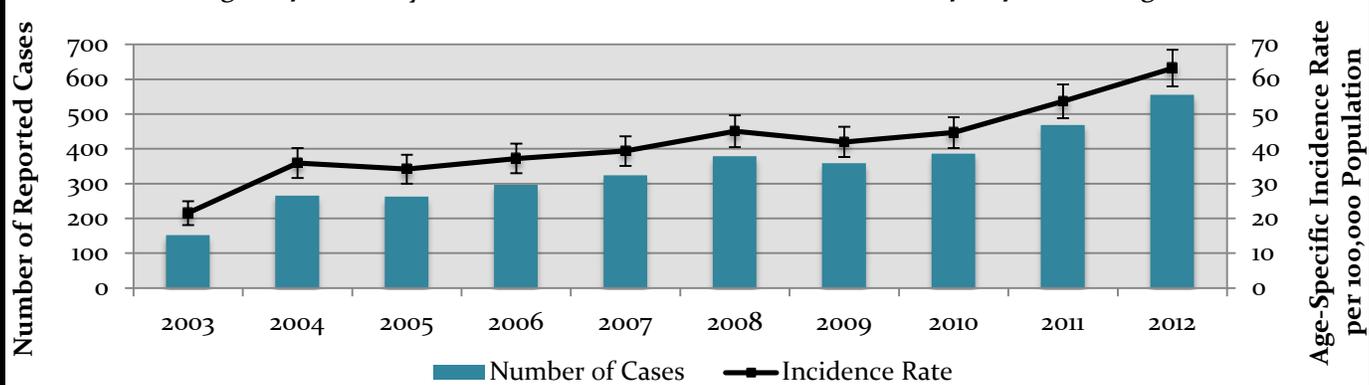
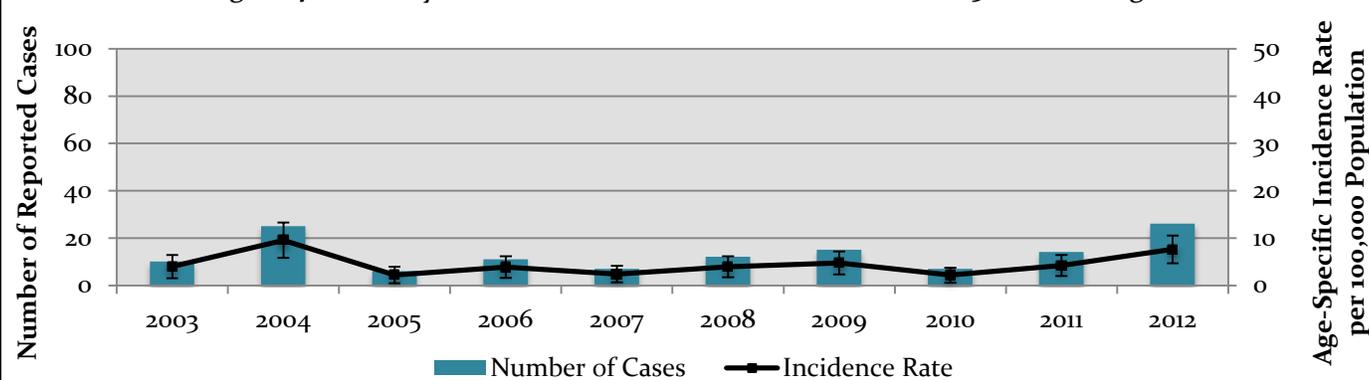


Figure 4G. Chlamydia Cases and Incidence Rates in Persons 65+ Years of Age[†]



[†] Scale of figures 4A-4C and 4G differ from the scale of figures 4D-4F.

Technical Notes

All Nevada data from 2003 to 2012 came from reported *Chlamydia trachomatis* infections among Nevada residents (6, 7). The CDC and Council of State and Territorial Epidemiologists case definition of *Chlamydia trachomatis* encompasses all cases classified as confirmed; all cases of *Chlamydia trachomatis* used for this report follow this definition (8). Population estimates were obtained from Nevada State Demographer's Office (9). Age-adjusted rates per 100,000 population were calculated using the 2000 U.S. standard population. Cases with unknown ages were excluded from the age-adjusted rate calculations; 192 such cases had to be excluded. Due to the high number of cases of unknown race/ethnicity (31,293 cases), imputing the unknown cases to produce race/ethnicity-specific incidence rates would risk allowing potential selection bias to distort the measures, resulting in unreliable conclusions; therefore, racial/ethnic break-outs are not presented in this report. When used for rates, error bars represent 95% confidence intervals. The Keyfitz method was used to calculate confidence intervals of age-adjusted rates (10). Due to their inherent unreliability, rates were not calculated for case counts lower than five.

Sources

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