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Sexually Transmitted Diseases in Napa County 2011-2013

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Public Health
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Executive Summary

The Napa County Health and Human Services Agency Public Health Division is dedicated to working with healthcare providers throughout Napa County to help control and prevent the spread of communicable diseases, including Sexually Transmitted Diseases (STDs). All cases of chlamydia, gonorrhea and syphilis are reportable to local public health departments in California by the diagnosing healthcare provider.

In addition to monitoring reports on all notifiable diseases, the Napa County Public Health Division conducts follow-up on many cases to help ensure appropriate treatment is received by all those affected and to prevent further spread of infection. In Napa County, Communicable Disease Investigators interview all gonorrhea and syphilis cases to ensure they are receiving appropriate treatment, to document exposures and risk factors, and to encourage partner notification and testing. Due to the high volume of cases reported, cases of chlamydia are only interviewed for additional information and education if pregnant, under age 18, and/or there is a history of previous sexually transmitted disease.

This report encompasses STDs reported to Napa County Public Health between 2011 and 2013. Of note during this time period:

- Chlamydia continued to be the most frequently reported communicable disease in Napa County, with 298 cases reported in 2013.
- Hispanic and African American residents of the County were disproportionately affected by chlamydia.
- Women 15-24 years of age had the highest rates of chlamydia and gonorrhea.
- The highest rates of chlamydia were observed in five Census tracts within the City of Napa, which had rates between 329 and 467 cases per 100,000.
- Rates of both gonorrhea and syphilis reached a 15 year high in 2013.
- In 2013, the rate of gonorrhea was 27.6 cases per 100,000 persons; a 32% increase over the 2012 rate of 20.9 cases per 100,000.
- The highest rates of gonorrhea were observed in three Census tracts within the City of Napa and one Census tract in American Canyon.
- There were six cases of primary and secondary (P&S) syphilis and three cases of early latent syphilis reported in 2013; all but one of these cases occurred in men who have sex with men (MSM).
- The case rate for P&S syphilis in 2013 was 4.3 cases per 100,000, which is nearly double the 2010 rate of 2.2 cases per 100,000 persons.

Introduction

In the United States there are an estimated 20 million new cases of sexually transmitted diseases (STDs) each year. These new infections result in $16 billion in medical costs nationwide.[1] In California, chlamydia and gonorrhea are the leading causes of preventable infertility and have the largest impact on women who are just entering their reproductive years.[2] Women who do become pregnant while infected with chlamydia or gonorrhea risk significant and sometimes permanent damage to their unborn baby if the infection is not treated. Rates of both chlamydia and gonorrhea have been increasing both nationally and statewide.

Primary and secondary syphilis infections have also increased in California in recent years, with most cases occurring in men who have sex with men (MSM). This is of particular concern due to the high percentage of HIV co-infection among primary and secondary syphilis cases. This report focuses on primary, secondary and early latent syphilis infections in Napa County since these syphilis stages are considered to be infectious and to represent recently acquired infection. [2]

Data Sources

Case-based surveillance is conducted for chlamydia, gonorrhea, and syphilis. Case reports submitted by health care providers and laboratories to local public health are entered in the California Reportable Disease Information Exchange (CalREDIE). STDs and other notifiable conditions among Napa County residents (regardless of the county where diagnosis occurred) are tracked by Napa County Public Health and reported to the California Department of Public Health (CDPH) through the CalREDIE system.

Rates presented in this report were calculated with the use of State of California, Department of Finance, California County Population Estimates and Components of Change by Year, July 1, 2010-2013, Sacramento, California, December 2013. Rates by age, race/ethnicity, and gender were calculated with the use of State of California, Department of Finance, Report P-3: State and County Population Projections by Race/Ethnicity, Detailed Age, and Gender, 2010-2060, Sacramento, California, January 2013. GIS maps were drawn using ArcGIS 10.2. Census tract population counts used in the rate calculations for GIS maps were taken from the 2010 Census.

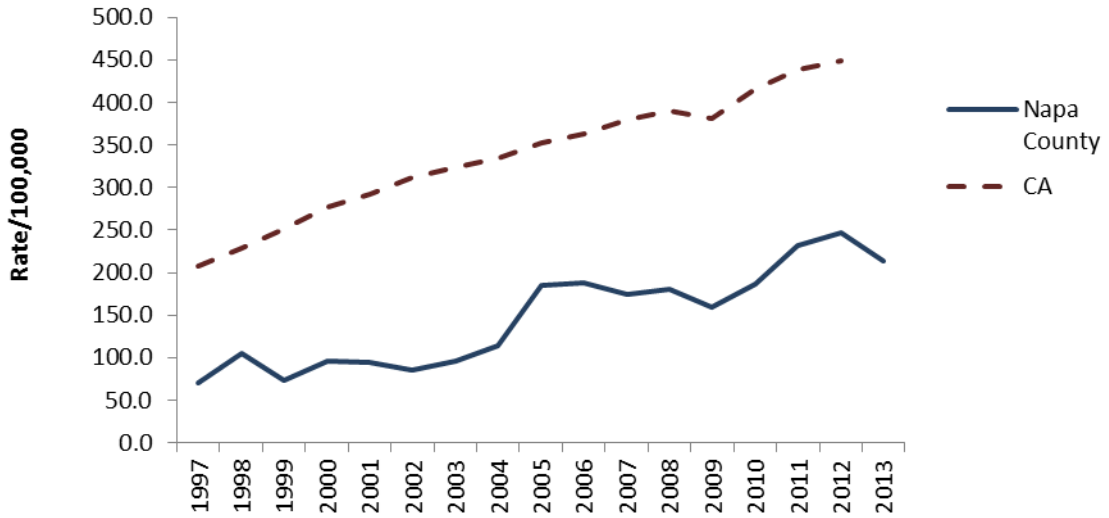
Readers should observe caution when interpreting rates based on few events. Rates based on fewer than 10 cases are noted by an asterisk when presented. Because small numbers may present confidentiality concerns when presented along with demographic information, some case data and rates have been suppressed; this is noted in the text and figures.

Chlamydia

Chlamydia trachomatis is the most commonly reported infectious disease in the United States. Since most infections do not cause symptoms, the infection is substantially under diagnosed and under reported. Young women are the group most affected by chlamydia. Because infection is usually asymptomatic in males, chlamydia is more commonly reported in females. Long term consequences of untreated infection in women can include Pelvic Inflammatory Disease (PID), ectopic pregnancy and infertility.[1]

Chlamydia cases in Napa County reached a 15 year high in 2012, when 341 new infections were reported; a rate of 246 cases for every 100,000 persons in the County. In 2013, the number of reported cases declined to 298 (214 per 100,000). Although reported chlamydia cases have increased overall since 1997, when the rate was 70 cases per 100,000 persons, the Napa County rate has remained considerably lower than the statewide rate throughout this time period (figure 1). The observed increase in the rate of chlamydia probably reflects both a real increase in infections and also improvements in reporting, increased screening, and the use of more sensitive diagnostic tests.

Figure 1. Chlamydia case rates per 100,000 persons, Napa County and California, 1997-2013.

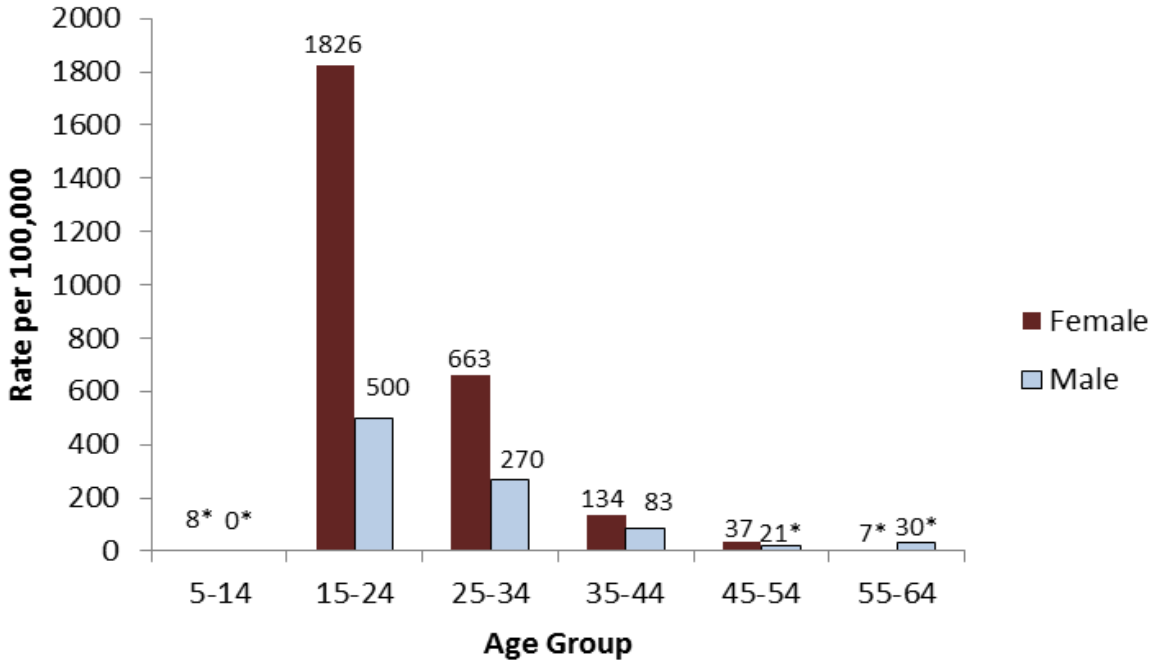


Sources: California Department of Public Health, STD Control Branch; California Reportable Disease Information Exchange (CalREDIE), Napa County; and California Department of Finance.

From 2011-2013, females age 15 to 24 had the highest rate of diagnosed chlamydia infection (1,826 cases per 100,000). In males age 15 to 24, the rate was 500 cases per 100,000 (figure 2). The higher rate of chlamydia among women likely reflects screening efforts directed at women less than 26 years of age. It also suggests that many of the male sex partners of women with chlamydia are not diagnosed or reported.

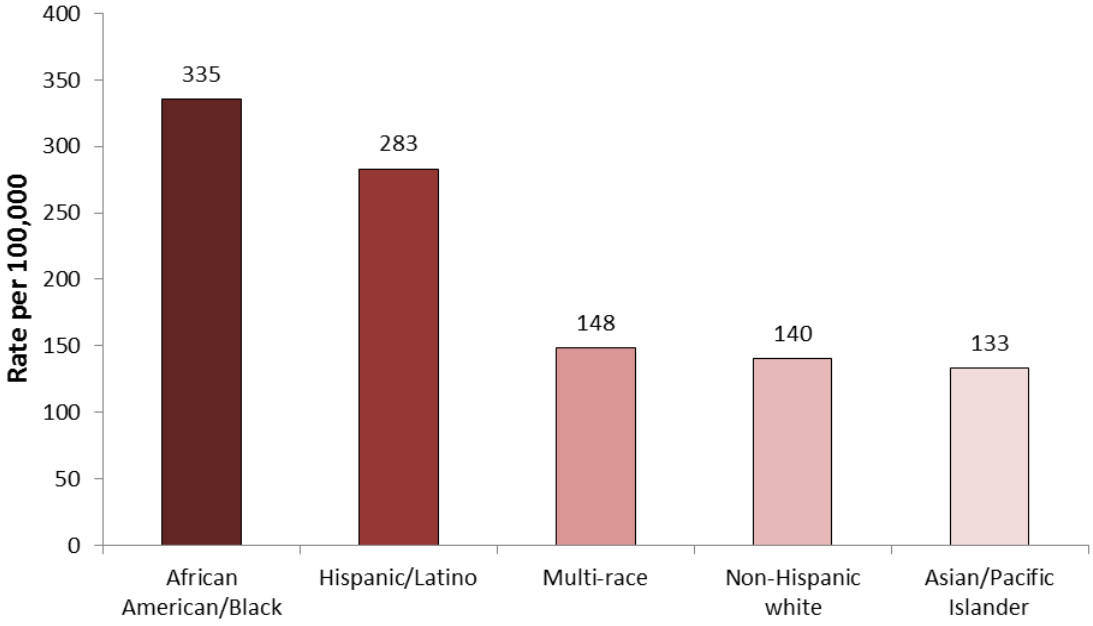
Hispanic/Latino and African American/Black residents of Napa County had rates of chlamydia infection 2 to 3 times higher, respectively, than rates observed for non-Hispanic white and Asian/Pacific Islander residents (figure 3). Racial and ethnic disparities in sexually transmitted infections have been previously noted in Napa County[3] and in both statewide and national STD surveillance reports.[1,2] The reason for these rate differences is believed to be highly complex and likely includes social factors, economic factors and patterns related to sexual networks.

Figure 2. Chlamydia age and gender specific rates per 100,000 persons, Napa County, 2011-2013.



*Caution: rate is based on <10 cases

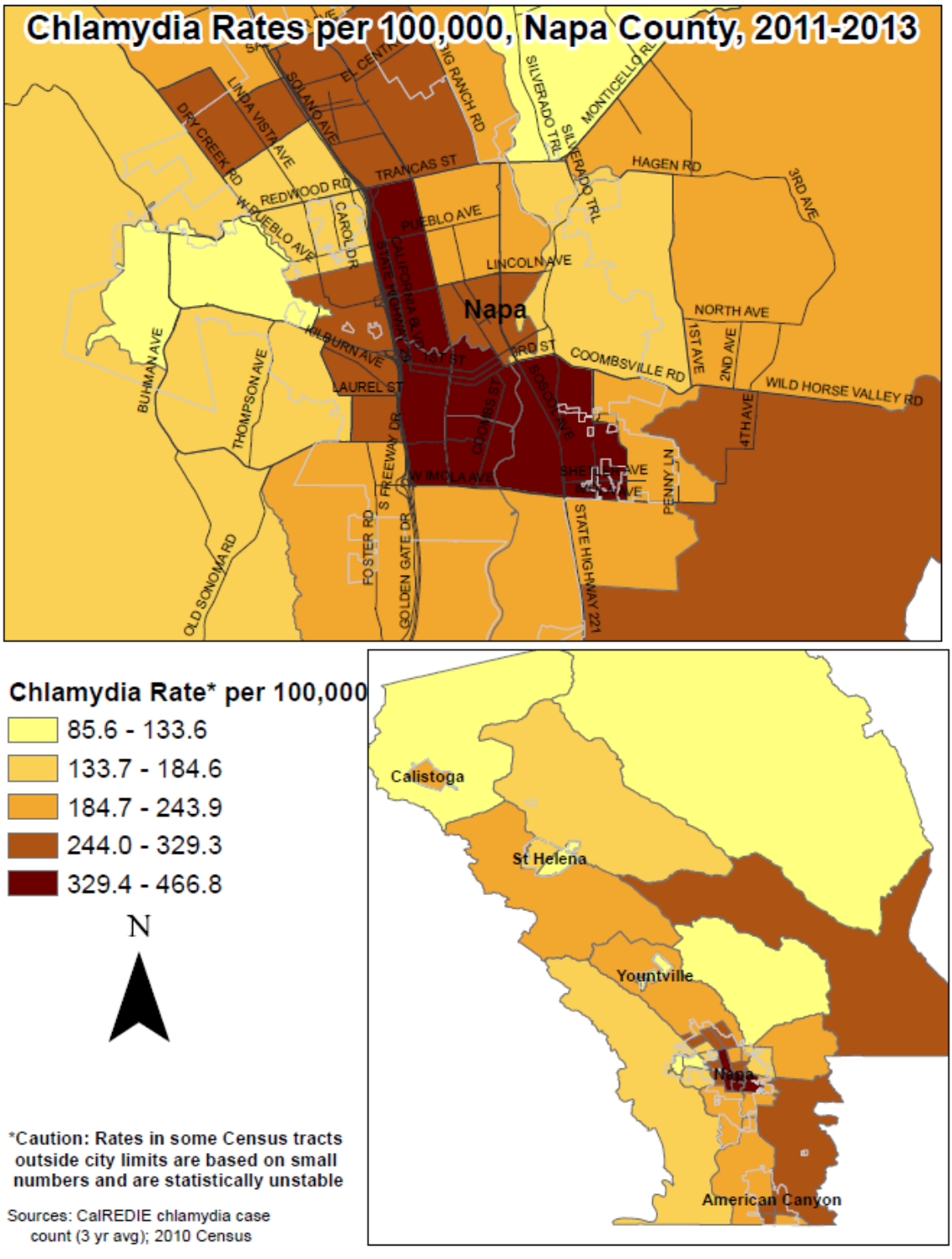
Figure 3. Chlamydia rates per 100,000 persons by race and ethnicity, Napa County, 2011-2013.



When rates of chlamydia infection for 2011-2013 are mapped by Census tract (figure 4), the highest rates of infection are observed within Napa city limits. Some Census tracts within the City of Napa (between Imola Ave and Trancas St) had rates of chlamydia between 329 and 467 cases per 100,000; by comparison, the county-wide rate during this time period was 230 cases per 100,000. Caution should be used when interpreting rates

outside the city limits of Calistoga, St. Helena, City of Napa and American Canyon; rates in some Census tracts in the more rural areas of the county are based on small numbers of cases.

Figure 4. Chlamydia Case Rates by Census Tract

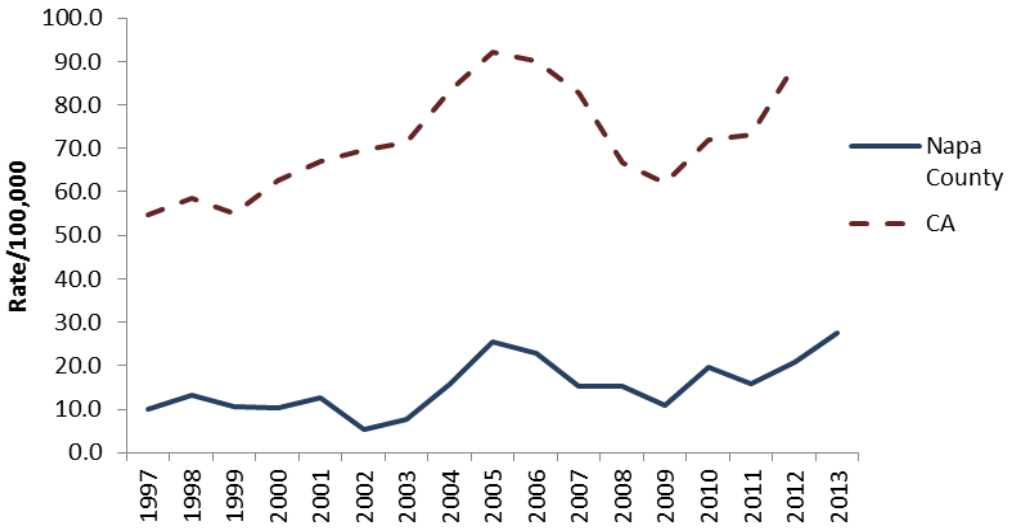


Gonorrhea

Neisseria gonorrhoeae is the agent of gonorrhea, the second most commonly reported notifiable disease in the United States. Like chlamydia, gonorrhea can lead to PID and infertility in women. In addition, infection with gonorrhea has been shown to facilitate the transmission of HIV infection.[4]

In Napa County there were 38 cases (27.6 cases per 100,000 persons) of gonorrhea reported in 2013; the highest rate reported in the 15 year time period shown in figure 5. The rate of new gonorrhea infections reported in Napa County continues to be lower than the statewide rate (89.3 per 100,000), which has also been increasing.

Figure 5. Gonorrhea case rates per 100,000 persons, Napa County and California, 1997-2013.

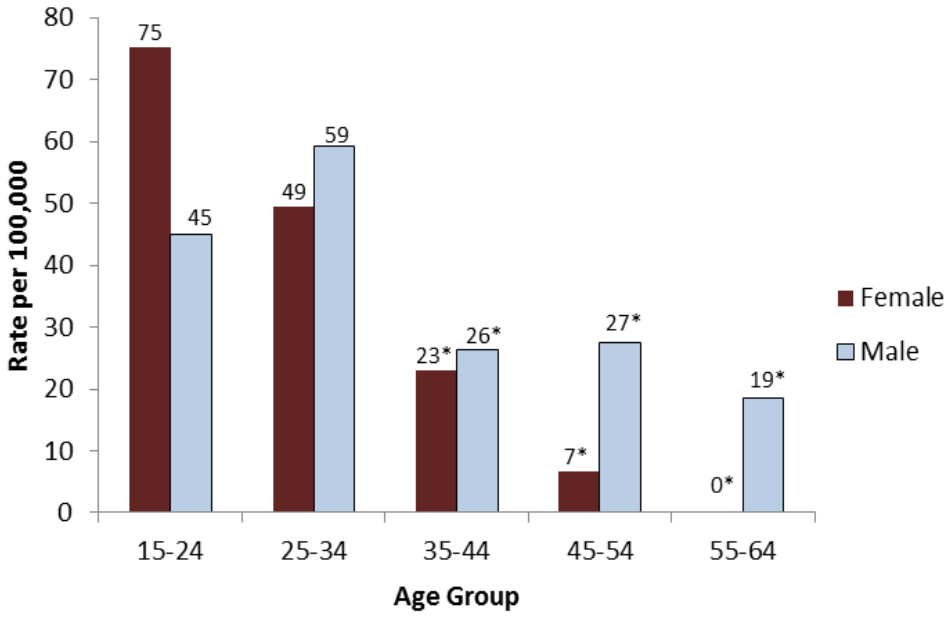


Sources: California Department of Public Health, STD Control Branch; California Reportable Disease Information Exchange (CalREDIE), Napa County; and California Department of Finance.

From 2011-2013, gonorrhea was most frequently reported in females age 15-24 years (75 cases per 100,000). After age 24, reported gonorrhea rates are higher in males than in females (figure 6), although rates are unstable for age categories 35 and above due to the small number of total cases in these older age groups. Of the 89 cases reported from 2011-2013, 48 (53.9%) were male. Of these 48 men, 20 (41.7%) indicated that their sexual partner(s) was male and were therefore classified as MSM. Among female gonorrhea cases, 34 of 41 (82.9%) indicated that their sexual partner(s) was male.

Rates of gonorrhea were similar in Hispanic/Latino and non-Hispanic white residents of Napa County (21.7/100,000 and 19.6/100,000, respectively). Rates were not calculated for other race groups in the county due to the small number of cases (less than five cases in numerator).

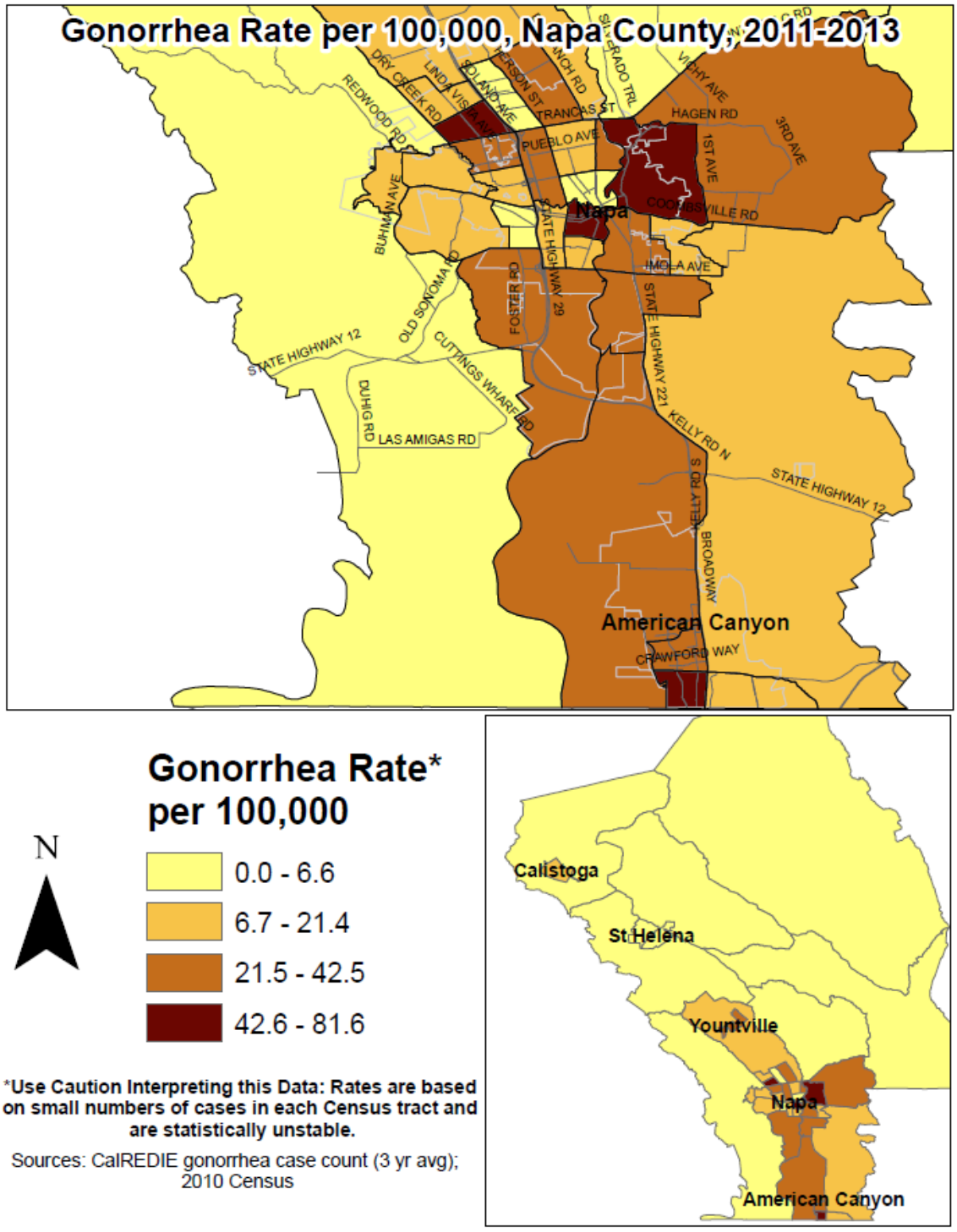
Figure 6. Gonorrhea age and gender specific rates per 100,000 persons, Napa County, 2011-2013.



*Caution: rate is based on <10 cases

From 2011-2013, the county-wide rate of gonorrhea was 21.4 cases per 100,000 persons. When case rates are mapped by Census tract (figure 7), there are 14 tracts within the cities of Napa and American Canyon that have rates above the county-wide average. It is important to note, however, that rates for all Census tracts in the county are based on small numbers of cases and this data should be interpreted with caution and viewed as likely to change depending on the time period analyzed.

Figure 7. Gonorrhea Case Rates by Census Tract



Syphilis

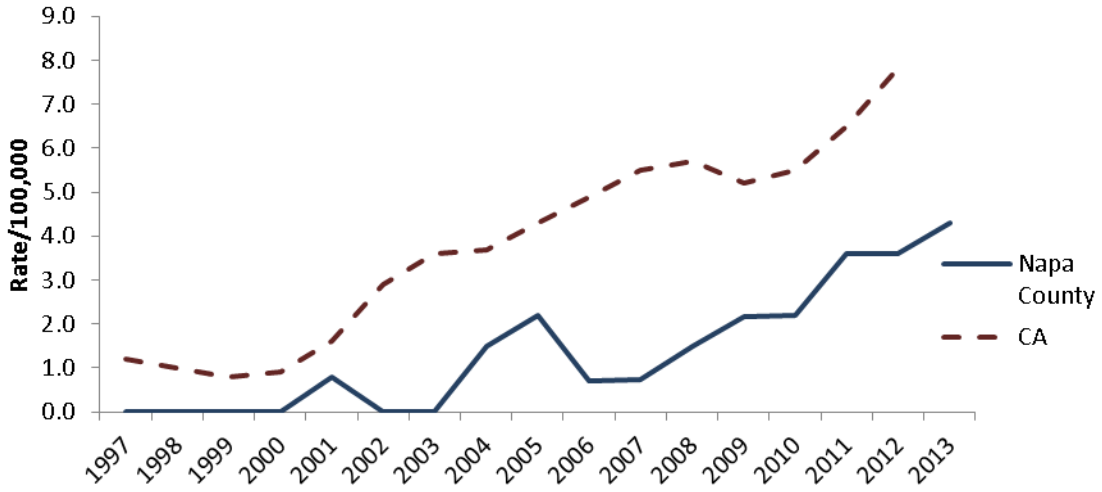
Syphilis is a genital ulcerative disease that can lead to significant complications if untreated and is known to facilitate the transmission of HIV. An increase in the incidence of syphilis in MSM has been noted in recent years; in 2012, 75% of reported P&S cases nationwide were among MSM. This is concerning because in some outbreaks of syphilis among MSM populations, the rate of HIV co-infection has been as high as 70%.[5]

Primary and secondary (P&S) and early latent stages of syphilis are considered infectious, with primary and, to a lesser degree, secondary infections having the highest likelihood of transmission. Because P&S syphilis cases are the most transmissible and the most epidemiologically relevant cases, surveillance efforts tend to focus on these stages. However, cases of congenital, latent, and late stages of syphilis are also monitored.

In Napa County, rates of P&S syphilis have increased over the last five years, mirroring the trend in increasing rates statewide (figure 8). In 2013, there were six cases (4.3 cases per 100,000) of P&S syphilis reported in Napa County. This is up from 3.6 cases per 100,000 in both 2011 and 2012. The rate in California in 2012, the most recent year available, was 7.8 cases per 100,000.

In 2013, there were a total of nine cases (6.5 per 100,000) of early syphilis infection (six P&S and three early latent cases). All nine cases were in males and all but one case were MSM. Cases had an age range of 20 to 70 years, with a median age of 31 years.

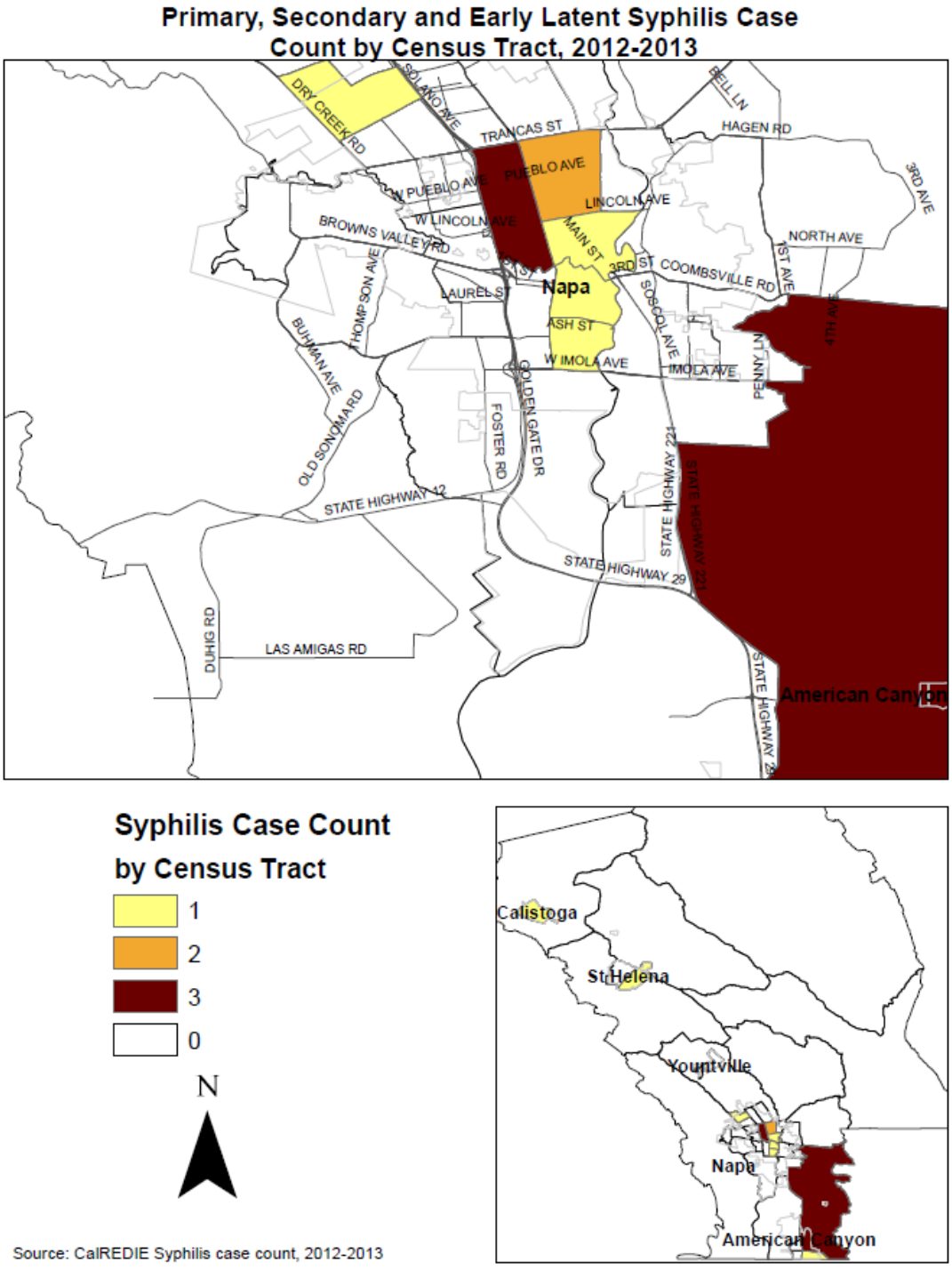
Figure 8. Primary and secondary syphilis case rates per 100,000 persons, Napa County and California, 1997-2013



Sources: California Department of Public Health, STD Control Branch; California Reportable Disease Information Exchange (CalREDIE), Napa County; and California Department of Finance.

Case counts for P&S and early latent syphilis by Census tract are available for 2012 and 2013 (figure 9). Although the total number of cases over this time period was small (14), the syphilis case count by Census tract shows some similarities to chlamydia rates by Census tract (figure 4), with a higher number of cases observed between First St. and Trancas St. in the City of Napa and in the Census tract directly east of American Canyon city limits.

Figure 9. Syphilis case counts by Census tract.



Source: CalREDIE Syphilis case count, 2012-2013

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3. Communicable Disease 2010 Annual Report. Napa County Health and Human Services Agency, Public Health Division, 2011.
4. 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: 3-17.
5. Syphilis & MSM (Men Who Have Sex With Men) – CDC Fact Sheet. Accessed June 30, 2014: http://www.cdc.gov/std/syphilis/STDFact-MSM-Syphilis.htm