

Geographic Differences in Chlamydia and Gonorrhea Rates: Community Risk Factors

Sonoma County Department of Health Services

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Overview

- Project Objectives
- About Sonoma County
- Epidemiology of: **Chlamydia (CT), Gonorrhea (GC)**
- Results
- Next Steps



Objectives

- Look at the geographic distribution of CT and GC cases
 - Slightly different epidemiology
 - Test our assumptions
- Identify areas with the highest risks
 - Unable to investigate all cases
 - Prioritize chlamydia cases based on location?



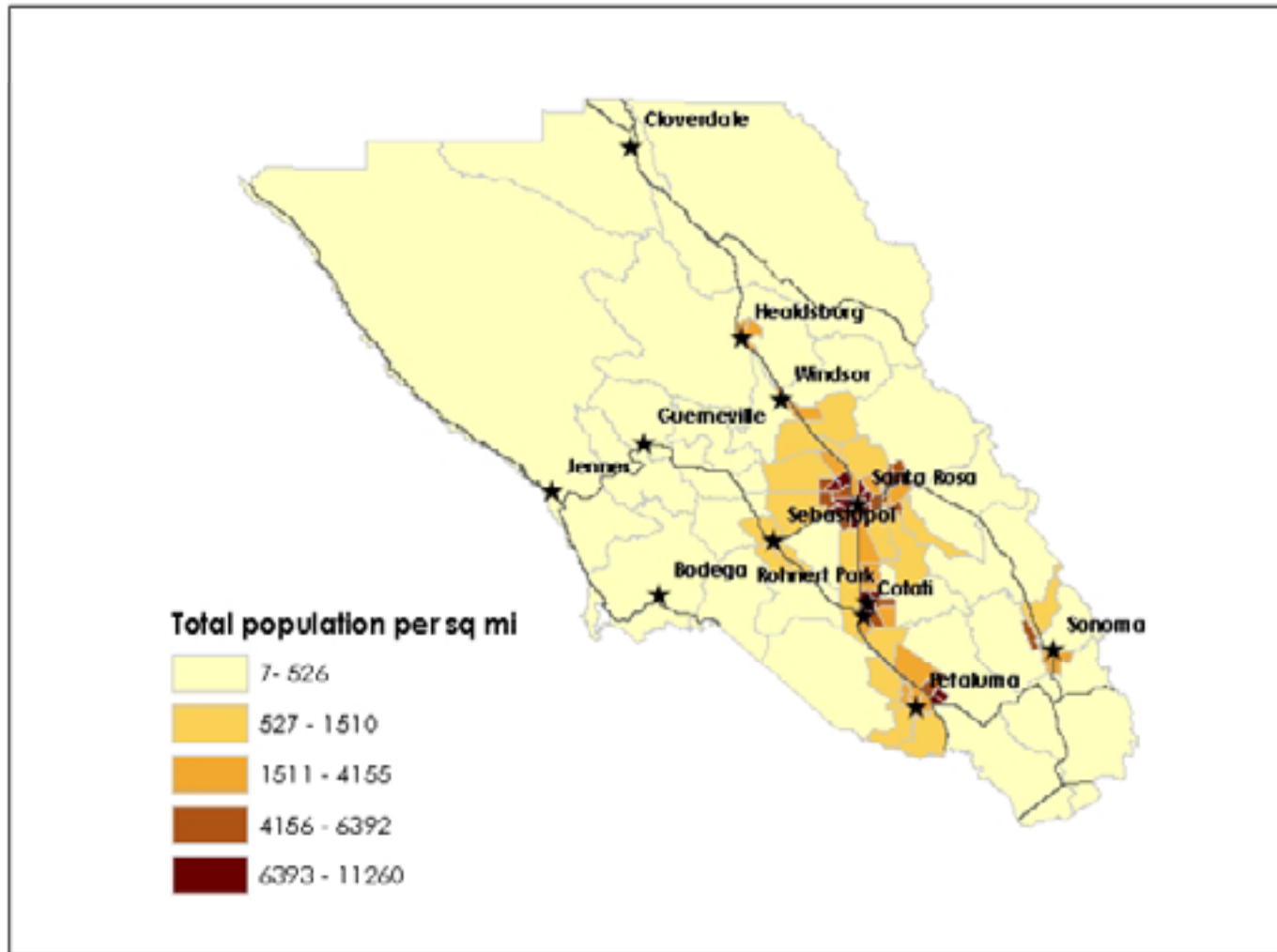
About Sonoma County

- 50 miles north of SF
- Over 1 million acres of land and water
- 9 incorporated cities
- 65% of acreage set aside for agriculture or open space





Population Distribution





Sonoma County Demographics

- 2007 Population:
483,897
 - 67% White
 - 22% Hispanic
- 2007 Median Home Price: \$510,000
- Residents are older compared to California



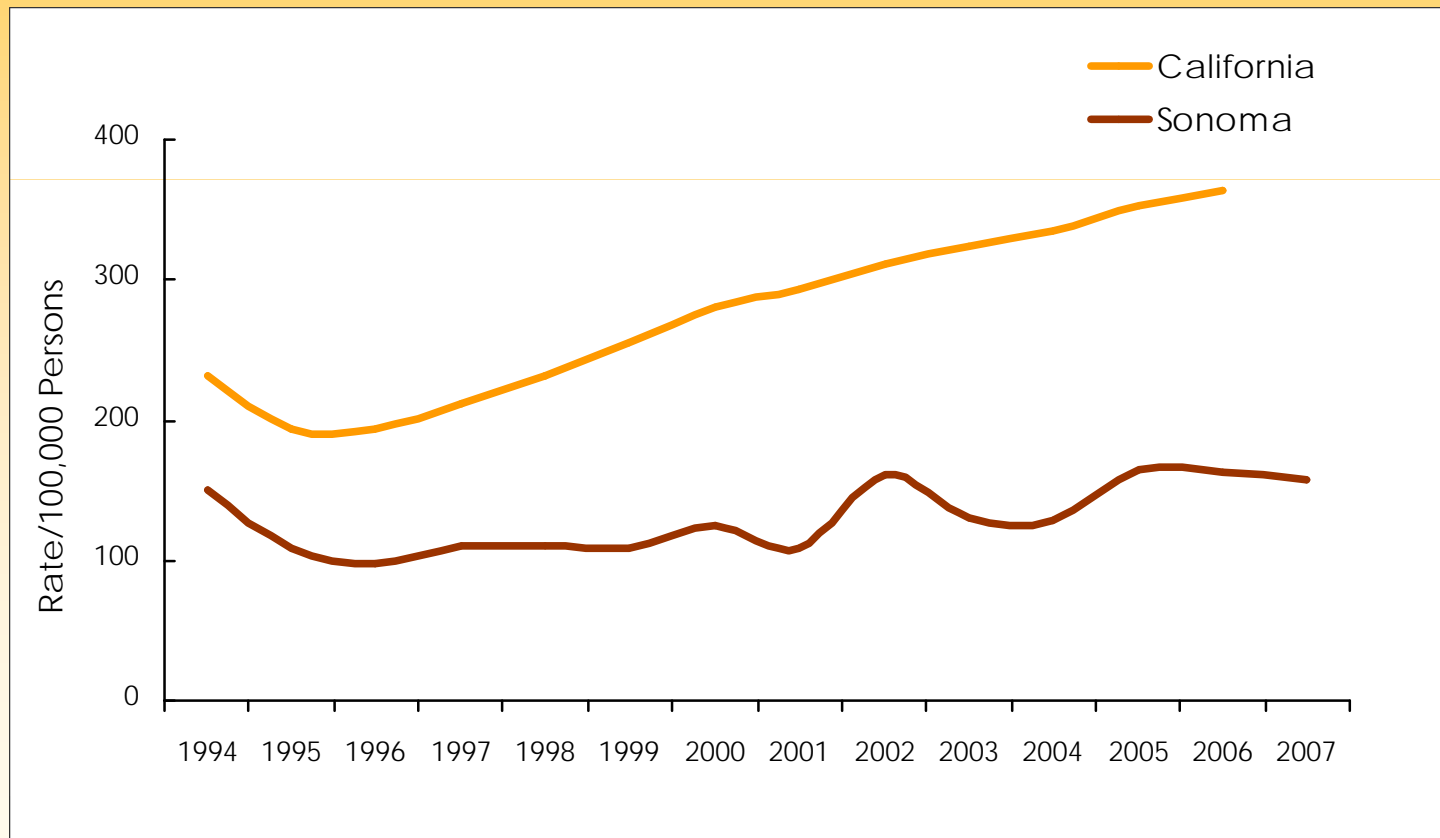


Epidemiology of CT and GC

- STD rates remain high, particular problem for young people
- Rates of both CT and GC were increasing but have leveled off between 2005-07



State and Local Rates of Chlamydia



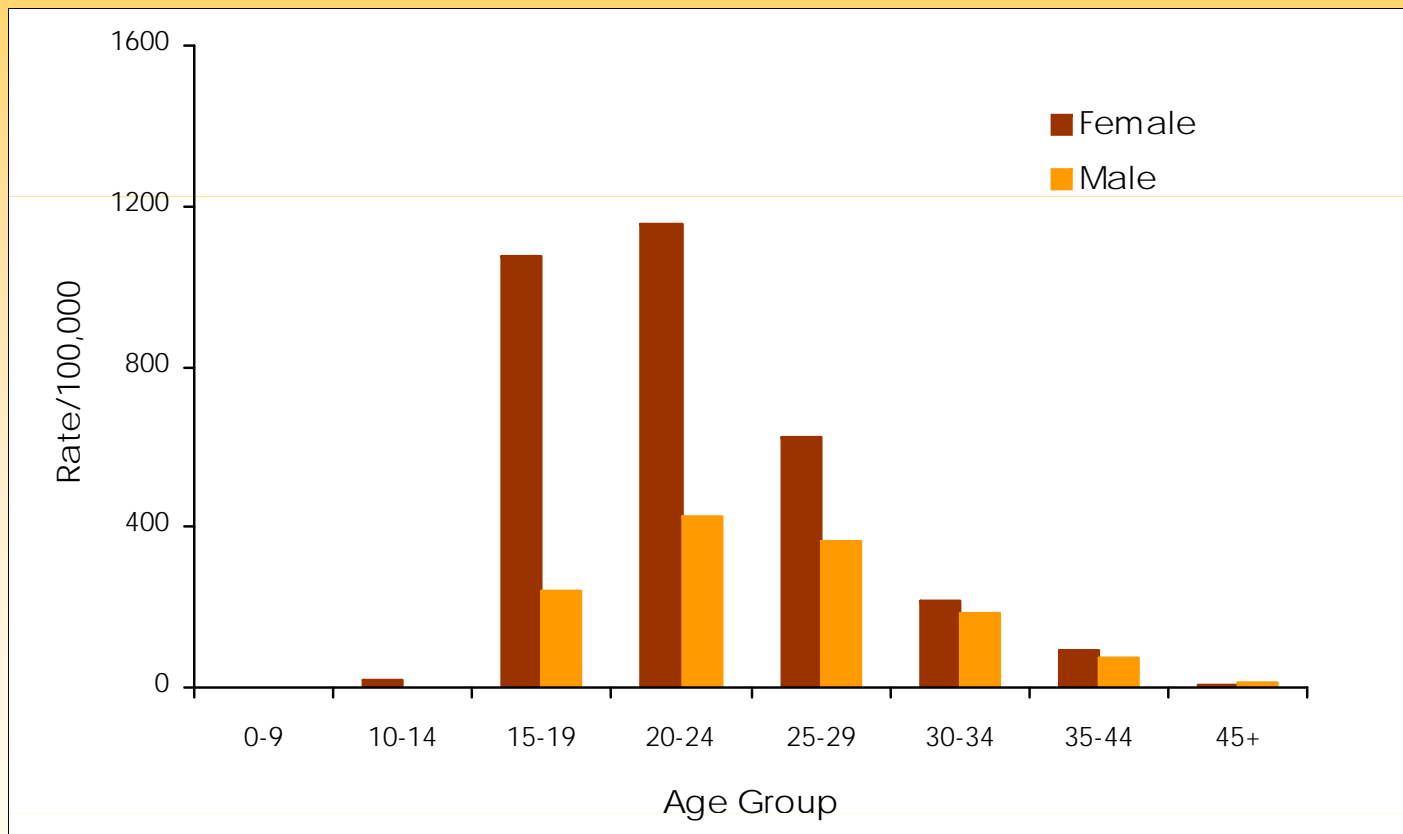


Chlamydia Quick Facts

- 50% of cases reported in women 15-24 years old
- Compared to the rate of CT in White, non-Hispanics:
 - Rate in African Americans is **>300% higher**
 - Rate in Hispanics is **60% higher**

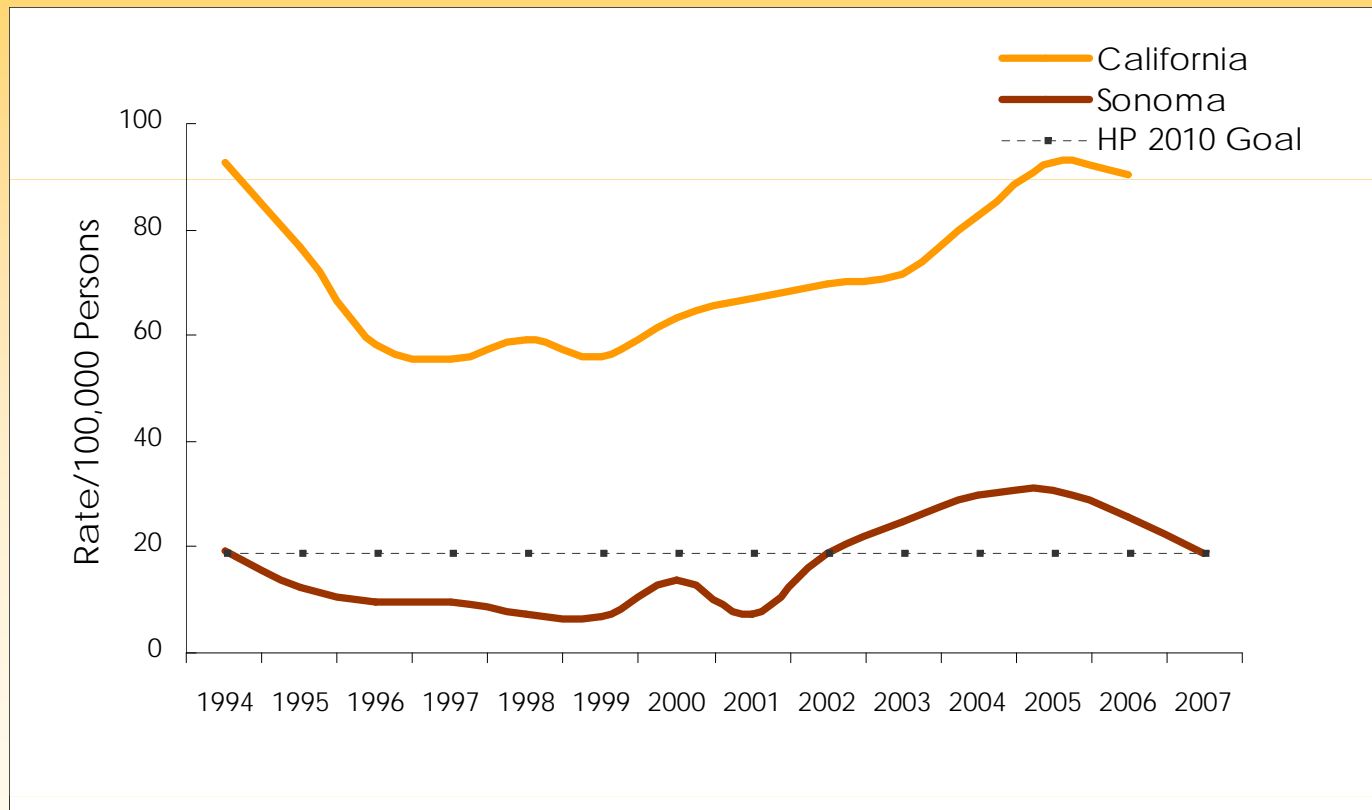


Local Rates of Chlamydia by Gender and Age Group





State and Local Rates of Gonorrhea



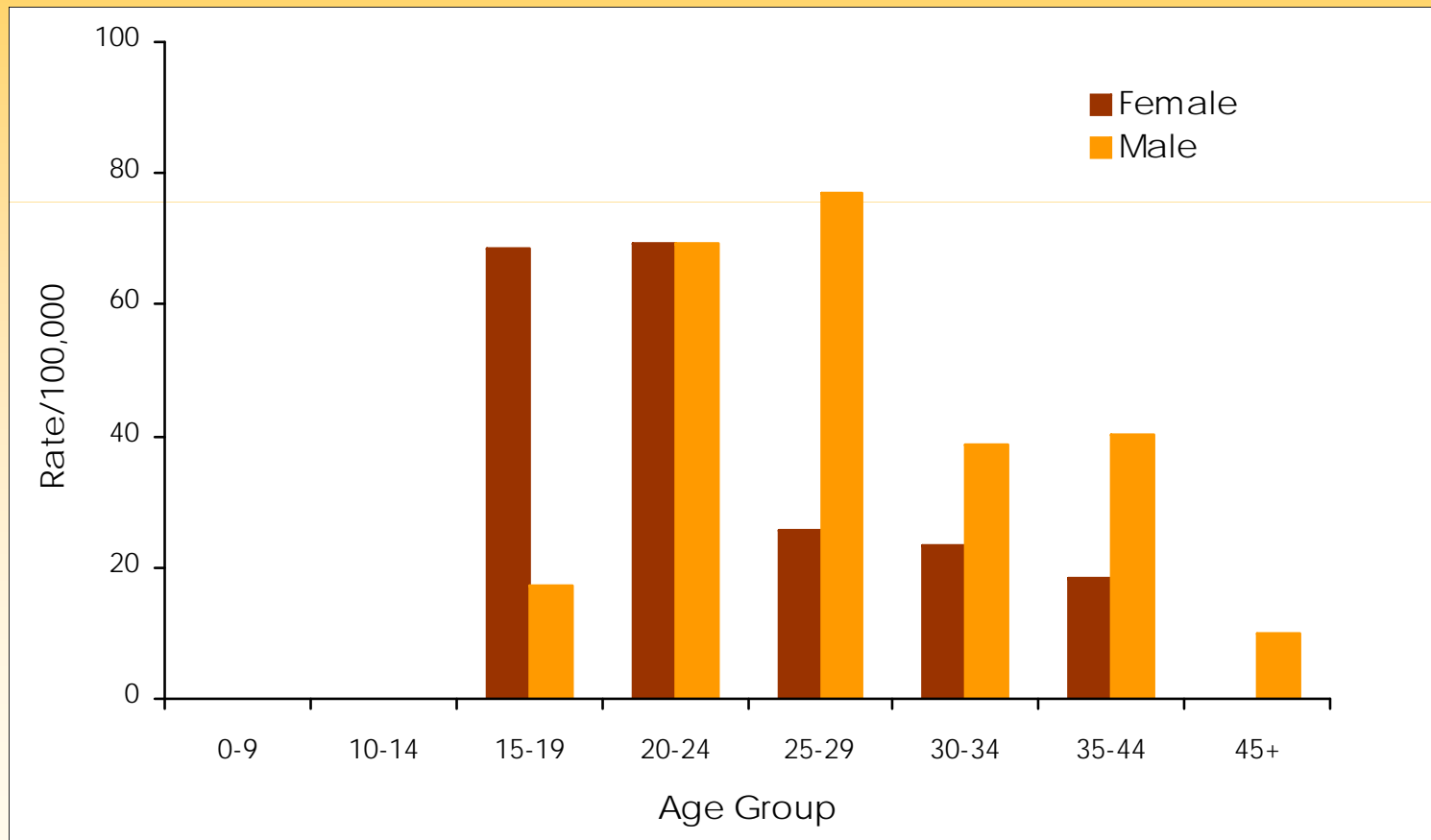


Gonorrhea Quick Facts

- Rates are highest in women 20-24 and men 25-29 years old
- Compared to the rate of GC in White, non-Hispanic females:
 - Rate in Hispanic females is **2 times** higher



Local Rates of Gonorrhea by Gender and Age Group





Using GIS to better understand our data . . .

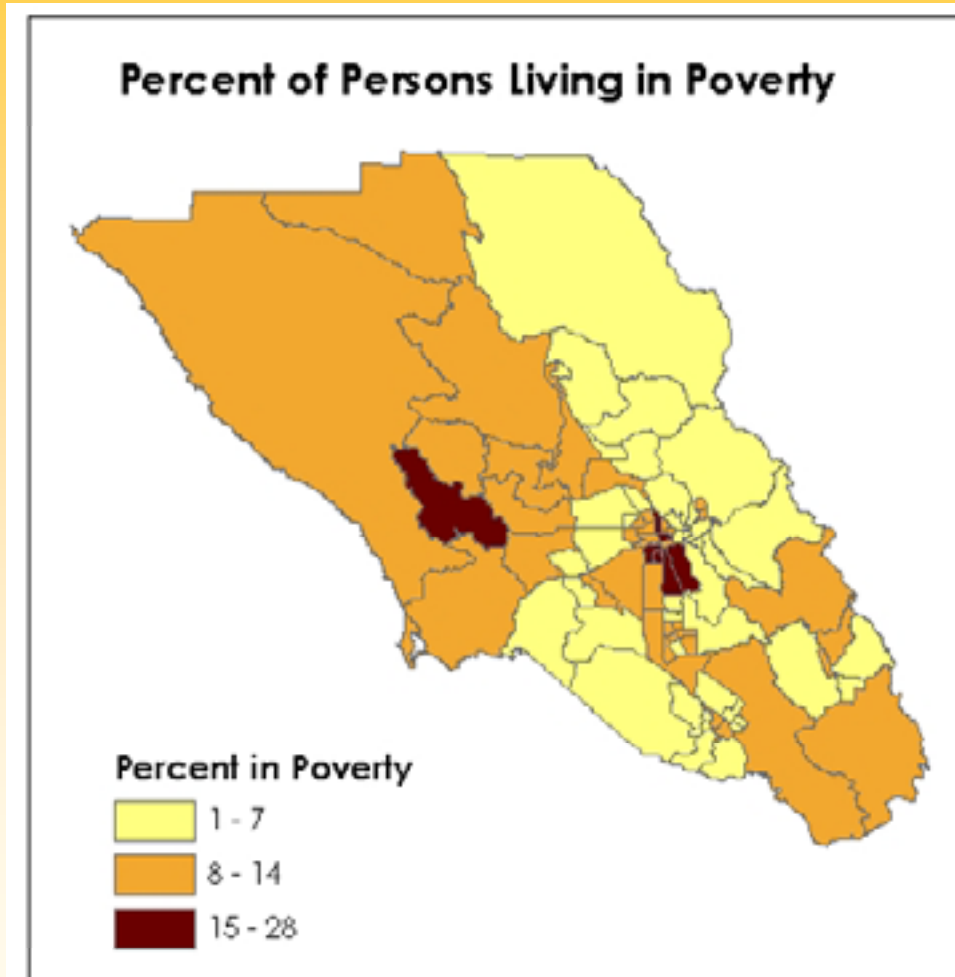


Community Risk Factors

- STD Reports
 - Race/ethnicity
 - Gender
- Census Data
 - Income/poverty
 - Educational level
 - Unemployment
- Other
 - Local knowledge of the community

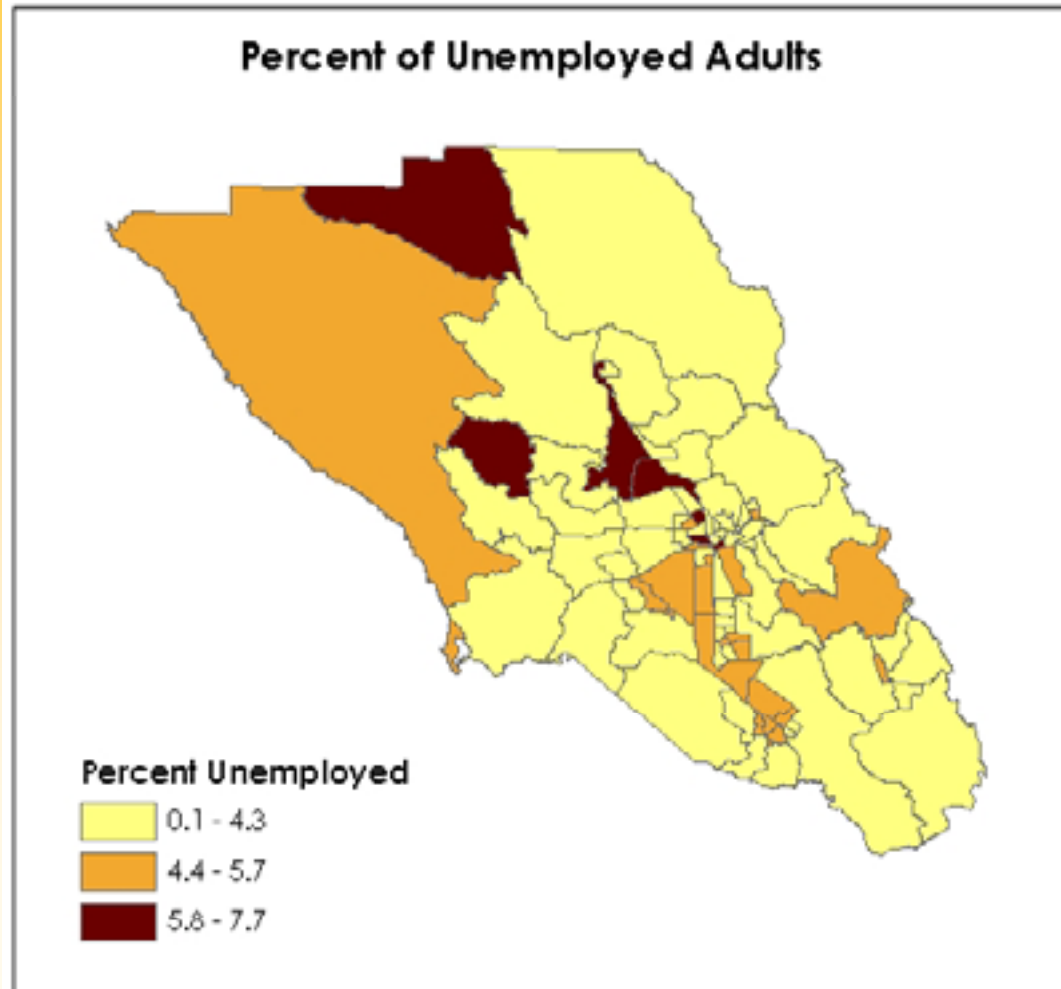


Community Risk Factors



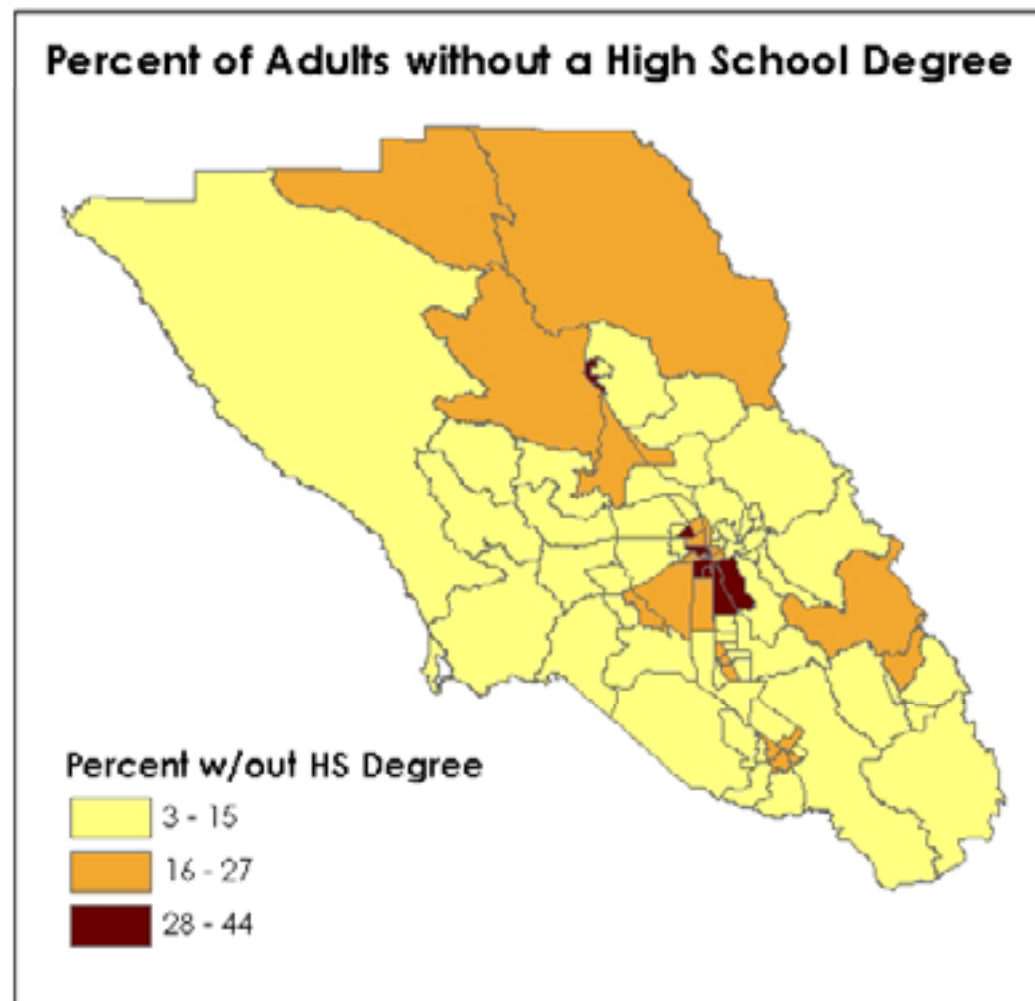


Community Risk Factors





Community Risk Factors



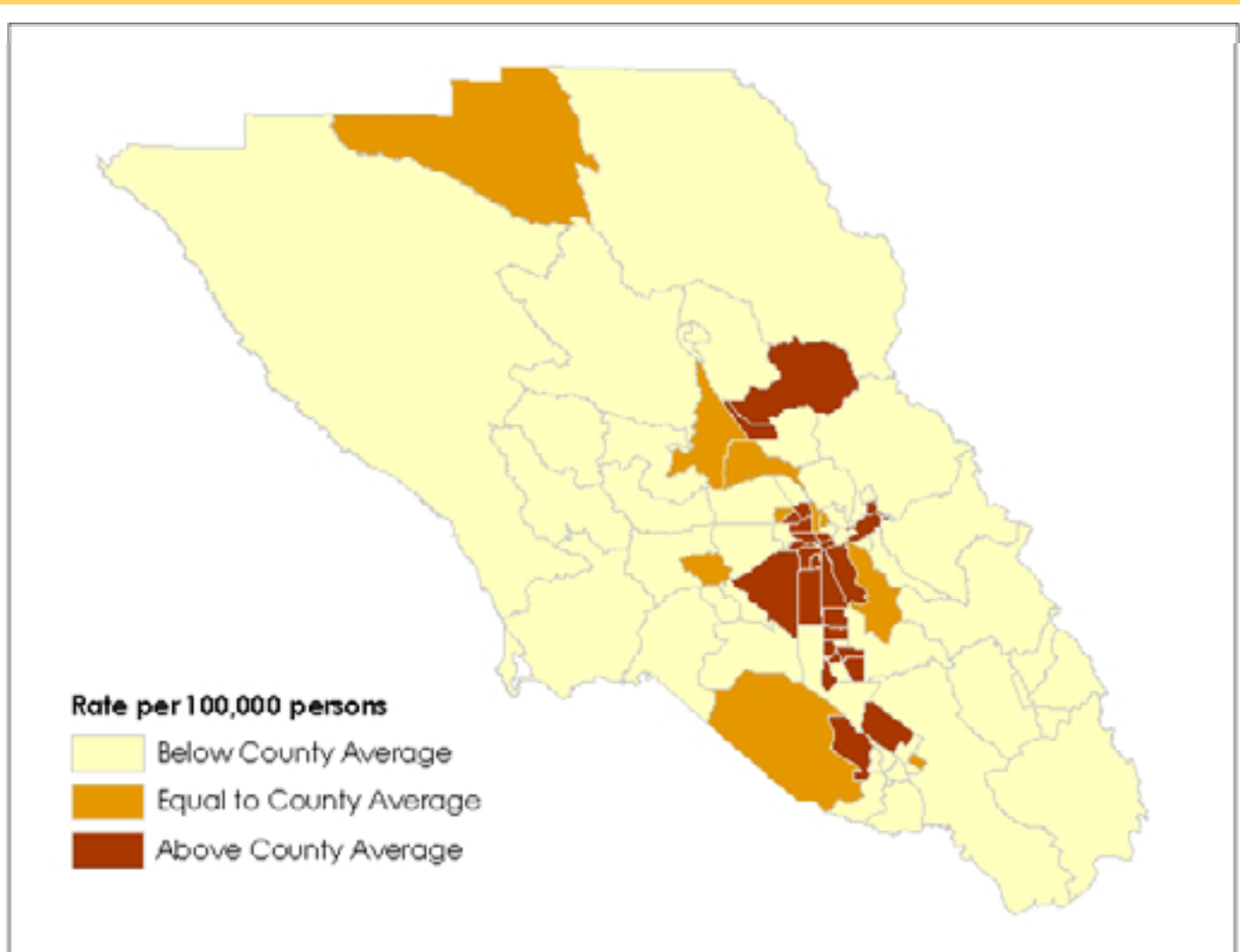


Problems with missing data . . .

- Address
 - 23% of CT and 31% of GC addresses were either missing, PO Boxes, or unable to geocode
 - Missing cases were evenly distributed
 - PO Boxes more likely to be in rural areas
- Race/Ethnicity
 - 13% of mapped CT and 8% of mapped GC were missing race/ethnicity

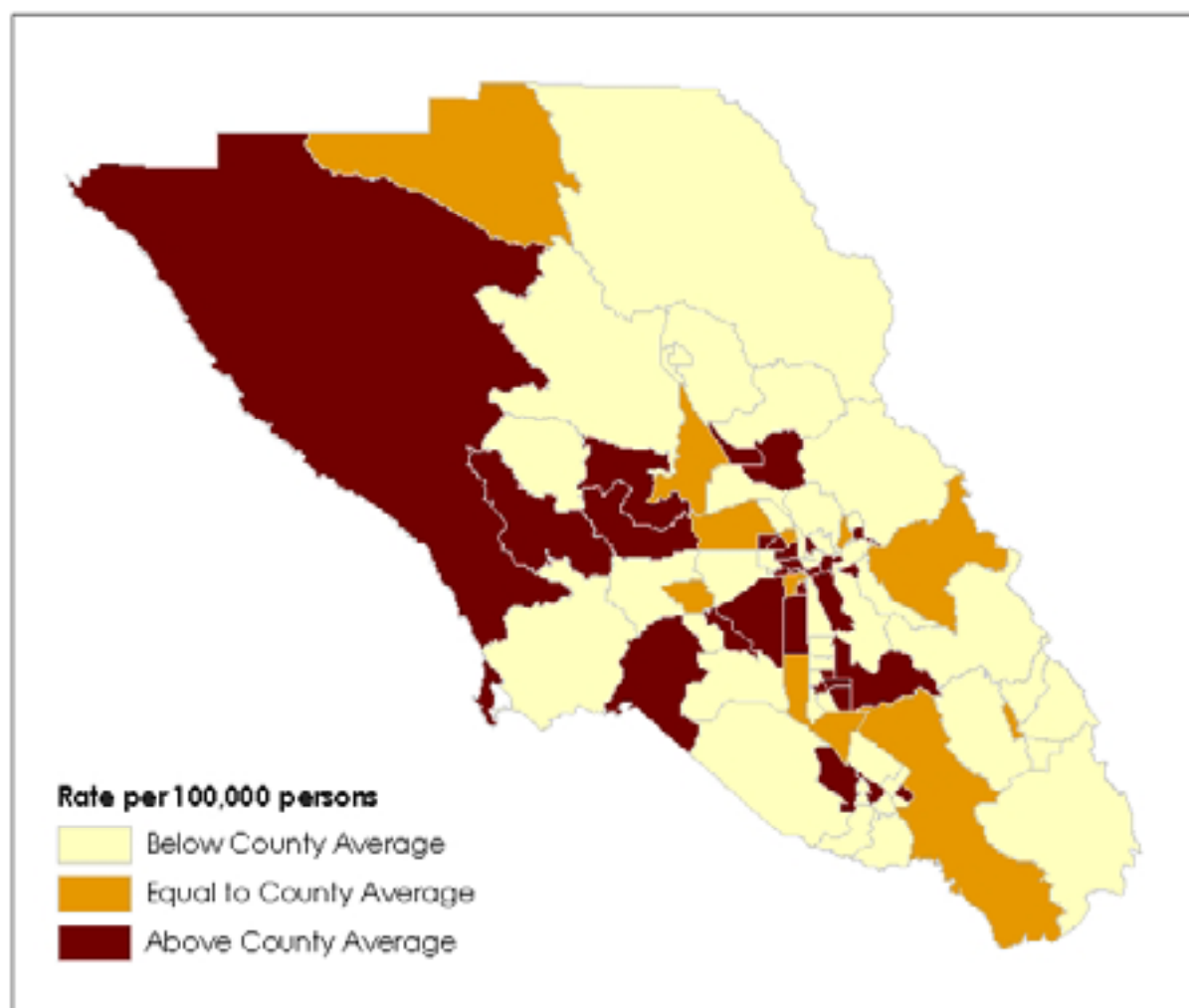


Rate of Chlamydia by Census Tract Sonoma County 2007



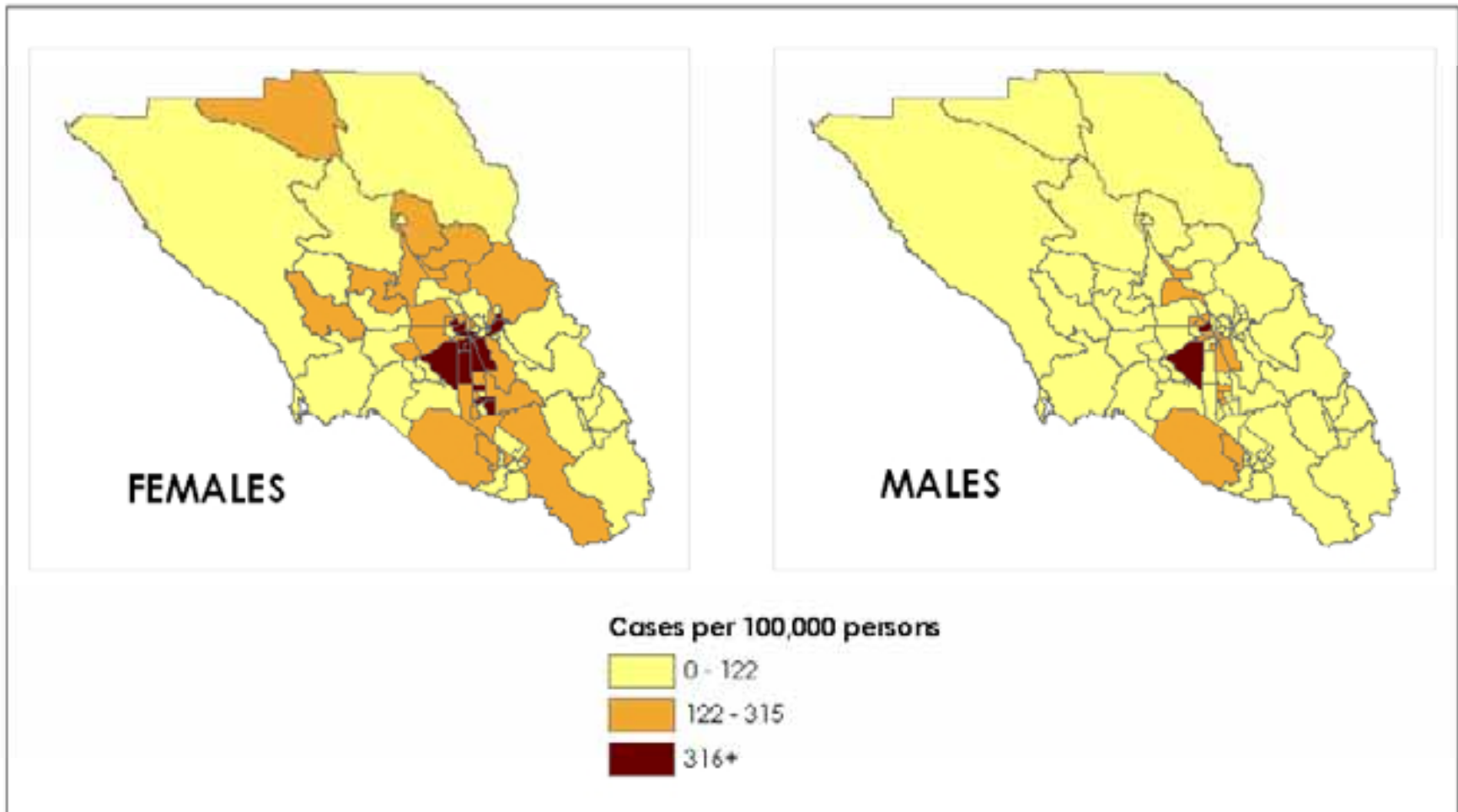


Rate of Gonorrhea by Census Tract Sonoma County 2007



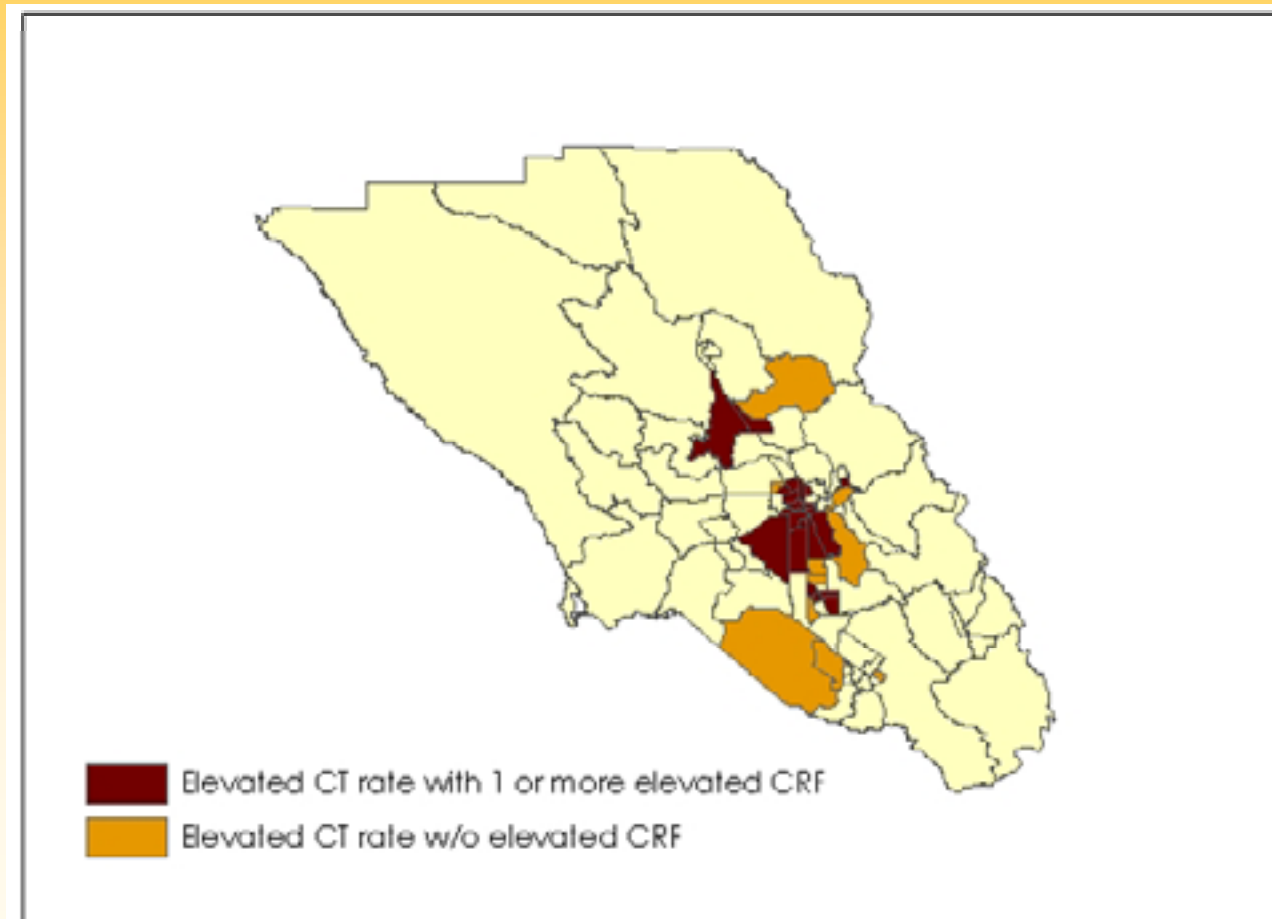


Chlamydia by Gender



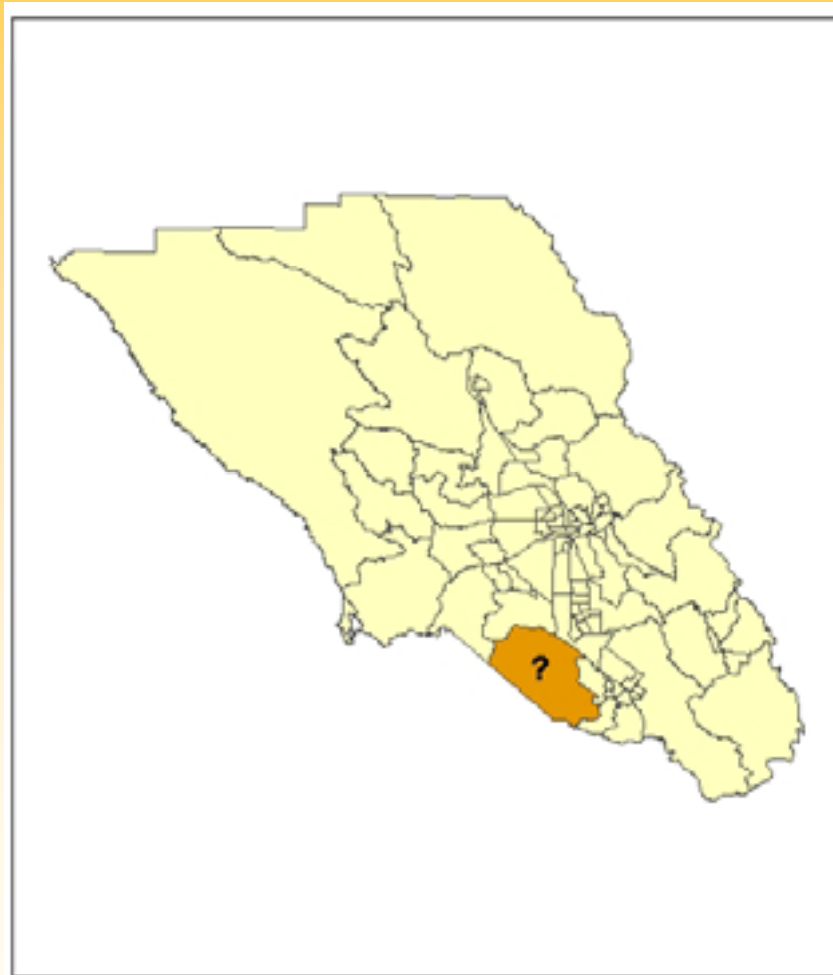


Correlation – CT rate and CRF





Notable Census Tracts



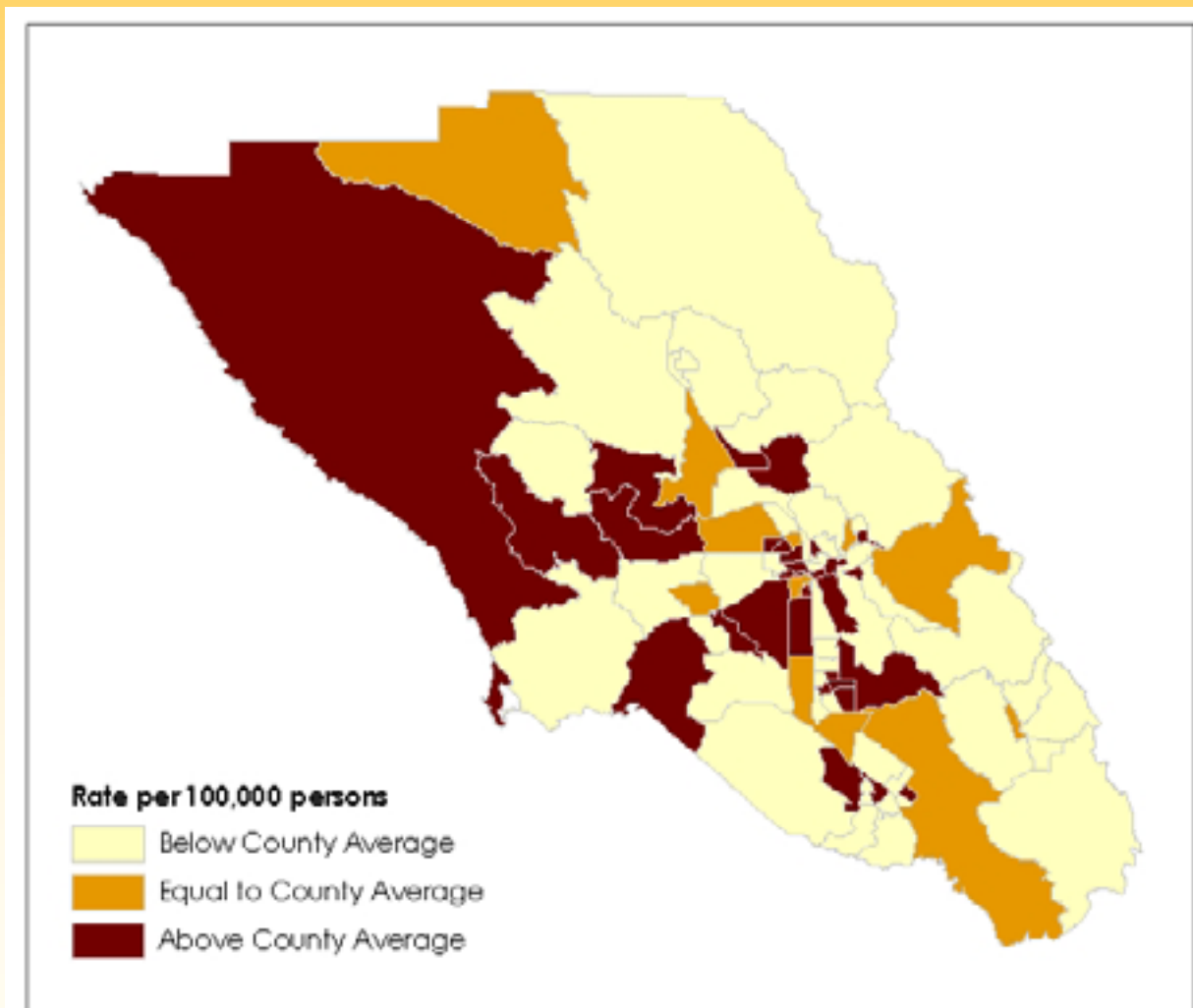


Notable Census Tracts



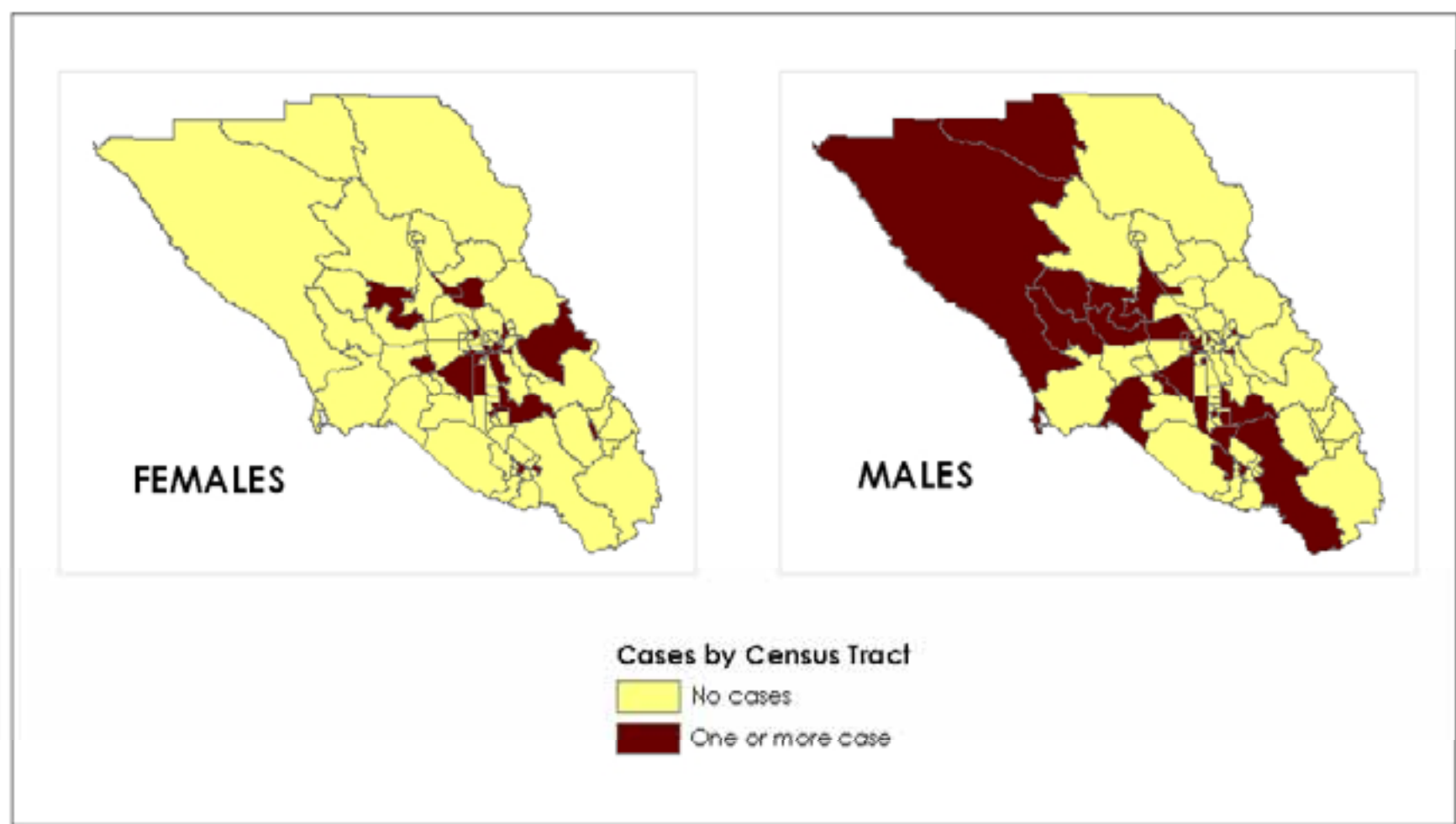


Rate of Gonorrhea by Census Tract Sonoma County 2007





Gonorrhea by Gender



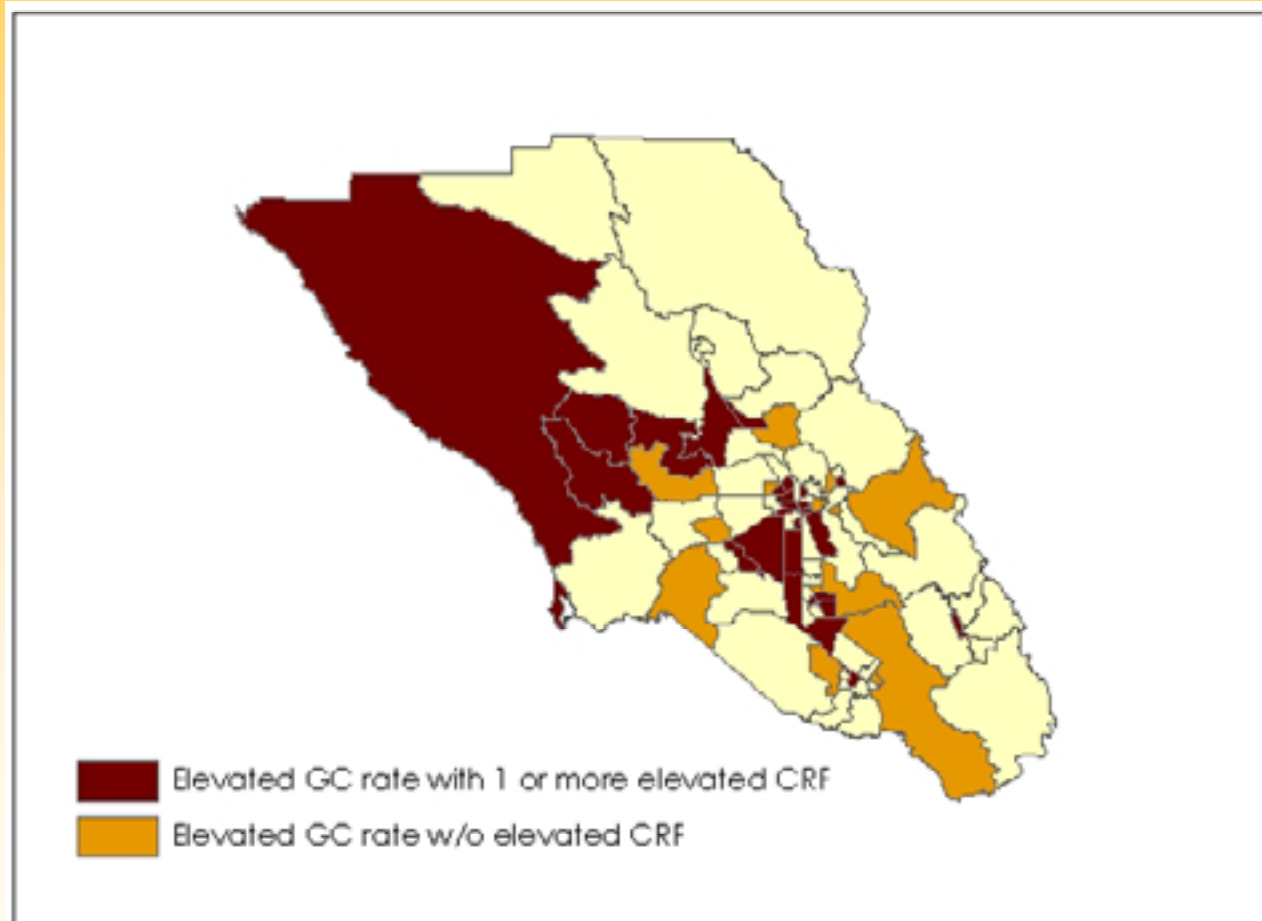


About the Russian River Area

- Popular vacation spot, also a notable gay resort area
- Guerneville has the third largest concentration of same-sex couples among all US zip codes
- Supports the hypothesis that MSM are largely affected by GC



Correlation – GC rate and CRF



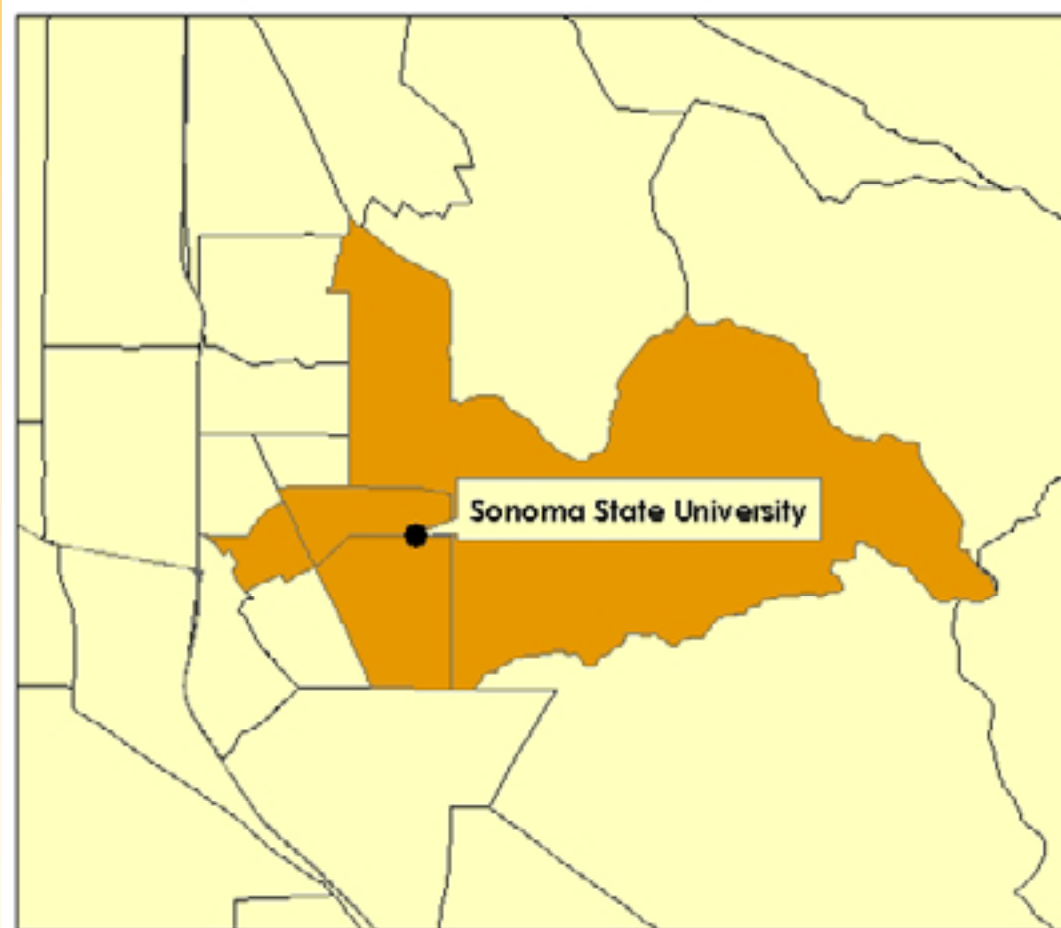


Other Notable Census Tracts





High Rates of GC and CT





Summary

- Moderate correlation between community risk factors and elevated CT and GC rates
- Some areas without correlation may be explained by other community factors
 - Elevated CT rate around a military training facility
 - Elevated GC rate in West County males, centered on Guerneville area
 - Elevated rates of GC and CT in SSU area



Next Steps

- Evaluate GC testing, treatment and outreach in West County
 - Targeted messages to MSM
 - Expand investigation to look for social networks
- Modify CT investigation priority to include persons from extremely high risk areas
 - Census tracts identified with significant community risk factors for CT
- Move to real-time mapping
 - Develop mobile response to geographical clusters?
 - Dynamic implementation of priority investigation



Acknowledgements

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