

# Prevalence of *Chlamydia trachomatis* —United States, 2007-2012

Elizabeth Torrone, MSPH, PhD and Hillard Weinstock, MD, MPH

Surveillance and Data Management Branch, Division of STD Prevention, Centers for Disease Control and Prevention

## Background

- Chlamydia is the most commonly reported infection in the United States with over 1.4 million cases reported in 2012.<sup>1</sup>
- Chlamydia is usually asymptomatic and many infections are not identified, consequently case reports underestimate true morbidity.
- Currently, annual chlamydia screening is recommended for all sexually-active females aged <25 years.<sup>2</sup>

## Objective

To estimate prevalence of chlamydial infection in a nationally representative sample persons aged 14-39 years by sex, age, race, and self-reported sexual activity.

## Methods

- The National Health and Nutrition Examination Survey (NHANES) is a household survey of a nationally representative sample of the non-institutionalized, civilian population of the United States.
- Participants in the 2007-2012 NHANES aged 14-39 years were tested for *C. trachomatis* using the GenProbe Aptima test.
- We estimated prevalence of chlamydial infection by demographics and self-reported sexual activity (measured through audio computer-assisted self-interview)
  - Estimates were weighted to be nationally representative and to account for oversampling and nonresponse.
- We estimated the number of infections in the population by multiplying census estimates by weighted prevalence.

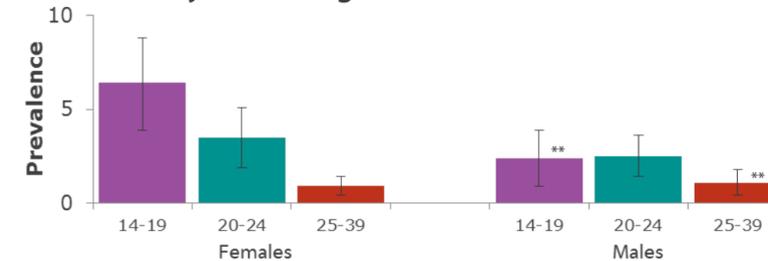
## Results

Prevalence of *C. trachomatis* Among Persons aged 14-39 years, by Selected Characteristics — NHANES, 2007 – 2012

Characteristic	Sample size	Prevalence (95% CI)	Prevalence ratio (95% CI)
TOTAL	8,330	1.7 (1.4, 2.0)	
Gender			
Male	4,181	1.4 (1.1, 1.8)	0.7 (0.5, 1.1)
Female	4,149	2.0 (1.5, 2.5)	ref
Age group (years)			
14-19	2,724	2.4 (1.7, 3.1)	ref
20-24	1,456	2.9 (2.1, 3.6)	1.2 (0.8, 1.7)
25-39	4,150	1.1 (0.7, 1.4)	0.4 (0.3, 0.8)
Race/Ethnicity			
Mexican American	1,640	2.3 (1.4, 3.1)	2.9 (1.7, 5.1)
Black, NH	1,887	5.2 (4.0, 6.4)	6.7 (4.3, 10.6)
White, NH	3,019	0.8 (0.5, 1.1)	ref
# of sex partners in last year*			
≥2	1,686	3.2 (2.2, 4.2)	2.2 (1.5, 3.3)
0-1	4,129	1.4 (1.1, 1.8)	ref

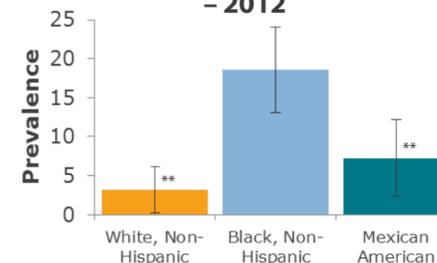
\*Among sexually-active participants  
NH: Non-Hispanic; CI: Confidence Interval

Prevalence of *C. trachomatis* Among Sexually-Active Persons\* by Sex and Age — NHANES, 2007 – 2012



\* Persons who said yes to the question "Have you ever had vaginal, anal, or oral sex?"  
\*\* Relative standard error (RSE) >30%, but <40%

Prevalence of *C. trachomatis* Among Sexually-Active Females\* aged 14-19 years by Race/Ethnicity — NHANES, 2007 – 2012



\* Females who said yes to the question "Have you ever had vaginal, anal, or oral sex?"  
\*\* Relative standard error (RSE) >30%, but <40%

## Key Findings

- Based on an overall prevalence of 1.7%, there are an estimated 1.8 million prevalent infections in the United States (range: 1.4 – 2.1 million).
- Prevalence among sexually-active females aged 14-19 years is 6.4%, suggesting that 1 in 15 sexually-active adolescent females has a prevalent chlamydial infection.

## Limitations

- Underestimates true burden of disease as estimates do not account for non-genital infections and infections in populations not sampled (e.g., incarcerated persons) where prevalence may be higher.
- Small sample size limited ability to stratify by multiple characteristics except among populations with high prevalence.
- Some participants may have been falsely classified as not being sexually active due to reporting bias.

## Conclusions

- Chlamydia is common among young females in the United States, particularly among young, sexually-active non-Hispanic black females.
- Healthcare providers should screen all sexually-active young females annually and ensure that all sex partners of patients diagnosed with chlamydia are treated appropriately.

## References

- CDC, STD Surveillance 2012.
- USPSTF, 2007.

ETorrone@cdc.gov

