

Epidemiology Update

Sexually Transmitted Diseases (Part I): Chlamydia

Hennepin County Key Findings

- ◆ Chlamydia is the most frequently reported infectious disease in Hennepin County and nationwide.
- ◆ Thirty five percent (35%) of chlamydia cases reported in Minnesota in 2007 were among Hennepin County residents.
- ◆ The majority of chlamydia cases was found in the adolescent (ages 15-19 years) and young adult (ages 20-24 years) populations.
- ◆ Chlamydial infections were found disproportionately in minority populations, especially the Black population.
- ◆ The incidence of chlamydial infection increased in 2007 compared to 2006, from 408 cases to 417 cases per 100,000 population.

Introduction

This *Epidemiology Update* is the first of two reports focused on sexually transmitted diseases (STDs) in Hennepin County and focuses on chlamydia, one of the three treatable STDs that are reportable to the Minnesota Department of Health (MDH). A future issue of *Epidemiology Update* will address gonorrhea and syphilis.

This issue of *Epidemiology Update* is one in a series of reports available from Hennepin County Human Services and Public Health Department—Epidemiology.

<http://www.hennepin.us/EpiUpdates>

Background

Chlamydia continues to be the most frequently reported infectious disease both locally and nationwide. In 2007, there were 4,738 reported cases of chlamydia in Hennepin County. These cases made up 35% of the total number of cases reported in Minnesota that year. In the United States, 1,030,911 cases of chlamydia were reported in 2006.¹ However, under-reporting of cases is substantial because many people infected with chlamydia are asymptomatic and do not seek testing.

Reports and rates of chlamydia in Hennepin County have been increasing over the years. This trend likely reflects an increase in screening efforts and the use of a more sensitive diagnostic test; however, the continued increase also reflects an actual increase in infections.

Although treatable, chlamydia continues to persist in the population due to its stealthy nature. Chlamydia is commonly asymptomatic in both males and females, allowing it to remain undetected until serious complications develop.²

Complications of chlamydial infection most severely affect women. Of women with untreated chlamydia, as many as 40% will develop pelvic inflammatory disease (PID), which can cause infertility, chronic pelvic pain, and even fatal tubal pregnancy.³ Men who are left untreated typically develop urethral infection, and in very rare cases, sterility.

Characteristics of Chlamydial Infections in Hennepin County

Chlamydia Trends

Figure 1 shows the trend in the overall rates of chlamydial infection in Hennepin County from 2000 to 2007. The rates for gonorrhea and syphilis are also shown for comparison. The incidence of chlamydia increased in 2007 over 2006, to 417 cases from 408 cases per 100,000 population.

Chlamydia Occurrence in Special Populations

Adolescents and Young Adults

Sexually active adolescents (ages 15-19 years) and young adults (ages 20-24 years) comprise the age groups with the highest risk for chlamydial infection. Not only are these ages when individuals are likely to have a greater number of sexual partners, but female adolescents may actually be more biologically susceptible to infection because of cervical changes during puberty.³

Adolescents and young adults together make up about 13% of the County's population, according to 2007 Summary Bridged Population Estimate data. But as **Figure 2** shows, together these two age groups account for the majority (66%) of the County's chlamydia cases.

Women

Women in all age groups have a higher rate of chlamydial infection compared to men. The chlamydia case rate for females in 2007 was two times higher than for males (573 vs. 259 per 100,000 population).

Figure 1. Chlamydia, Gonorrhea & Syphilis Rates, Hennepin County, 2000-2007

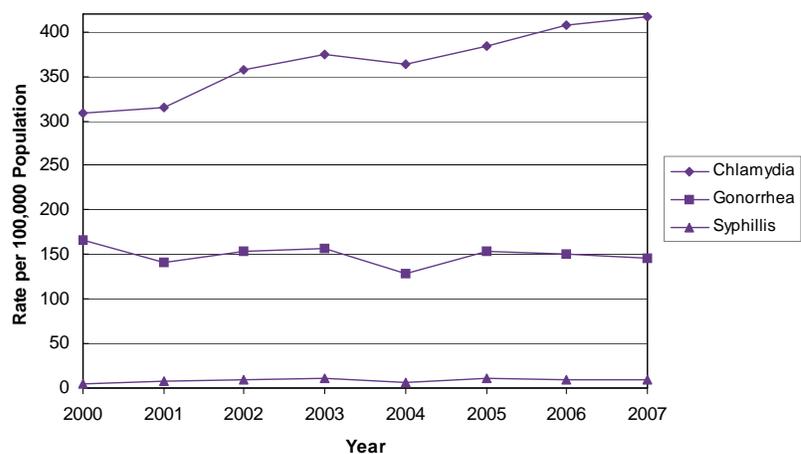
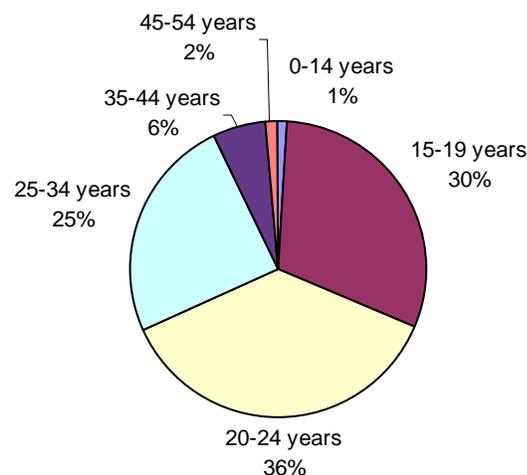


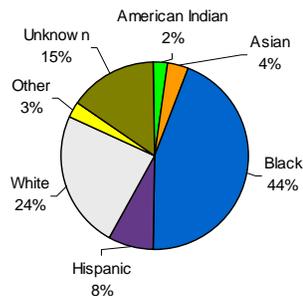
Figure 2. Chlamydial Infections by Age (in years), Hennepin County, 2000-2007



Much of this difference reflects the fact that females are far more likely to be screened than males. Also, 17% of chlamydia cases diagnosed in 2007 were pregnant at the time of diagnosis.

Nationally, chlamydial infections and other STDs are a growing problem for young women. Recent Centers for Disease Control and Prevention (CDC) study data released in 2007 estimates that one in four young women (ages 14-19 years) in the United States are infected with at least one of the most common sexually transmitted diseases – human papillomavirus, chlamydia, herpes simplex virus, and trichomoniasis.⁴ Also, nearly half of the Black women in the study (48%) were infected with an STD, compared to 20% of the White women.

Figure 3. Chlamydial Infections by Race, Hennepin County, 2007



Minority Populations

As **Figure 3** shows, chlamydial infections are found disproportionately in minority populations. This phenomenon is striking in the Black population. While Blacks make up approximately 11% of the Hennepin County population, according to 2007 population data, they comprised 44% of all chlamydia cases reported in the County in 2007. Whites, on the other hand, who account for just over 76% of the population, make up 24% of the cases.

American Indians, Asians, and persons of Hispanic ethnicity also all had higher chlamydial infection rates compared to Whites (989, 258, and 519 cases per 100,000 population, respectively, compared to 132 cases per 100,000 population for Whites).

Treatment of Chlamydia

Treatment of infected patients not only prevents severe complications, but also prevents transmission of the disease to sex partners. Effective treatment requires simultaneous treatment of both the index patient and his or her sex partners. This helps to prevent reinfection of the patient as well as transmission to other partners.

Table 1 shows treatment regimens recommended by the CDC for adults and adolescents with uncomplicated infections. In clinical trials, both azithromycin and doxycycline were shown to be equally efficacious.⁵ However, azithromycin may be indicated when patient compliance is in question, as the single dose may be dispensed in the clinic allowing for directly observed therapy. To minimize transmission, persons treated for chlamydia should be instructed to abstain from sexual intercourse for seven days after single-dose therapy or until completion of a seven day regimen. To minimize the risk for reinfection, patients also should be instructed to abstain from sexual intercourse until all of their sex partners are treated.

Patients do not need to be retested for chlamydia post-treatment, unless symptoms persist, there is suspicion of reinfection, or the patient is pregnant.⁶

Table 1. CDC Recommended Treatment for Uncomplicated Genital Chlamydia Infections in Adolescents and Adults

Patient Population	Recommended Treatment Regimens ⁴
<ul style="list-style-type: none"> Adolescents and adults, w/o special considerations HIV-infected persons 	<p>Azithromycin 1 g orally in a single dose —OR— Doxycycline 100 mg orally twice a day for 7 days</p>
<ul style="list-style-type: none"> Pregnant women 	<p>Azithromycin 1 g orally in a single dose —OR— Amoxicillin 500 mg orally three times daily for 7 days</p>

Note: Please consult the reference source (<http://www.cdc.gov/STD/treatment>) for treatment of infants and children. Postnatal infection in children may have implications for sexual abuse. Also see reference for alternative regimens for patients with drug allergies or intolerance.

Points to Remember

- Chlamydia is often “silent” before leading to complications. Appropriate screening for sexually active females and males is critical for curbing its spread.
- Sexually active adolescents and young adults are at high risk for chlamydia and should be screened for sexual risk behavior at any clinic visit.
- Treating the sex partners of patients infected with chlamydia is a key step to preventing reinfection of the index patient and infection of other partners.
- A special emphasis should be placed on screening Black patients for chlamydia, as this STD is found disproportionately in the Black population.

References:

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6. CDC. *Sexually Transmitted Diseases Treatment Guidelines 2006*. Accessed on March 18, 2008 at: <http://www.cdc.gov/STD/treatment>