

Gonorrhea

What is it?

Infection with the bacterium *Neisseria gonorrhoeae* (GC) causes gonorrheal infections, the second most commonly reported communicable disease in both Cook County Department of Public Health's (CCDPH's) jurisdiction, Illinois and in the United States.ⁱ Gonorrheal infections are easily treated with appropriate antibiotics, but drug-resistant strains are on the rise.ⁱ

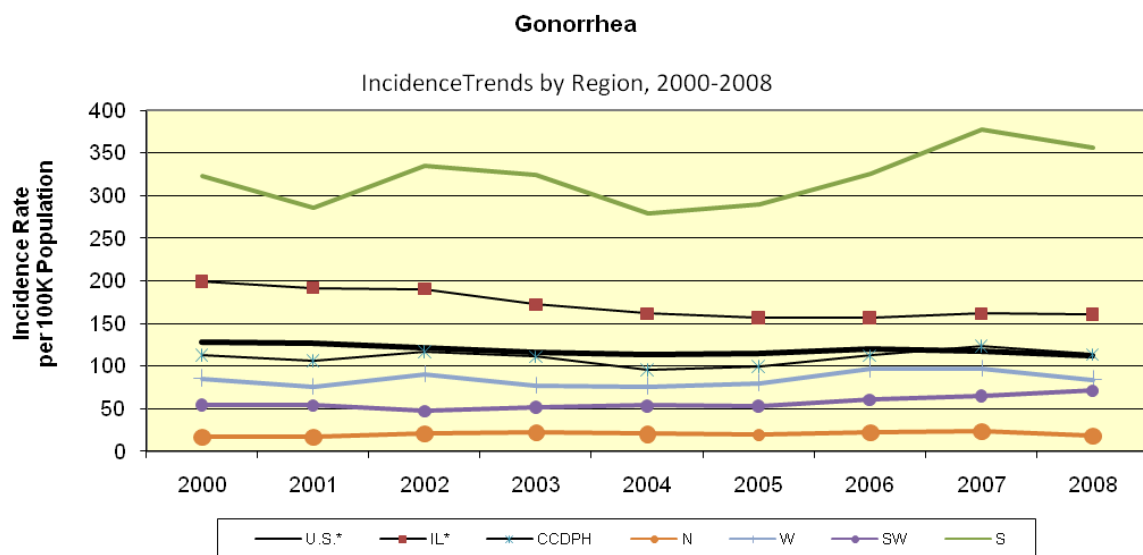
Why is it important:

Gonorrheal infections can facilitate transmission and acquisition of HIV when present in a sexual partner. HIV targets white blood cells, which the body uses to fight infections like gonorrhea. For example, among HIV-infected males, gonococcal urethritis increased HIV concentration in semen 5- to 8-fold compared with HIV-infected men without urethritis.^{ii,iii}

2000-2008

Gonorrhea (GC) rates were relatively stable between 2000 – 2008. In 2008, although the GC rate (113.6 per 100,000 population) in CCDPH's jurisdiction was slightly below the U.S. rate, the CCDPH GC rate was 6 times higher than the Healthy People (HP) 2010 goal of 19.0 per 100,000 population. The 2008 gonorrhea rate in the South district was notably higher than the rates in the other districts in CCDPH's jurisdiction. These rates reflect the disparity in gonorrhea rates in African Americans compared with other race/ethnicity groups (see Figure 2).

Figure 1



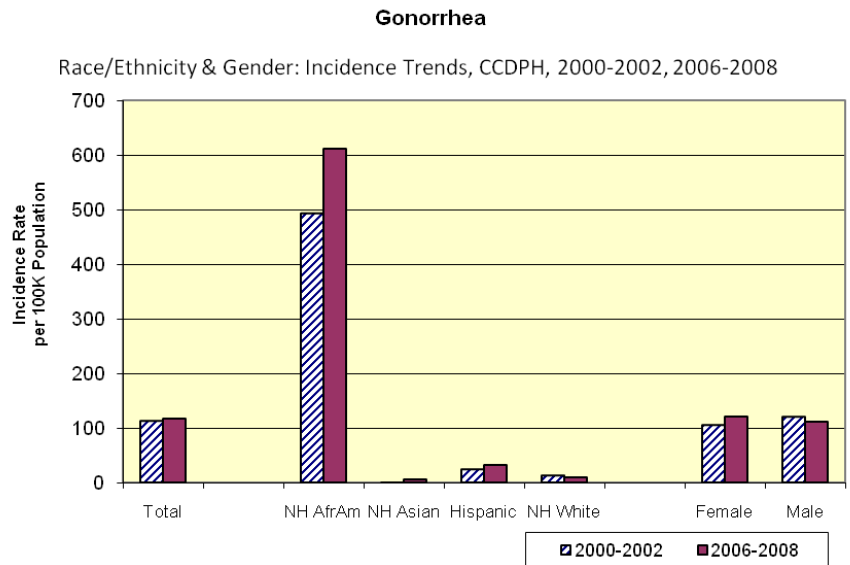
2000-2002 vs. 2006-2008

By Race and Gender

For CCDPH, gonorrhea rates changed very little from 2000-2002 (111.8/100,000) to 2006-2008 (116.5 per 100,000).

In CCDPH's jurisdiction, the gonorrhea rate in African Americans (2006-2008) was 612.2 per 100,000 population, 19 times higher than the rate in Hispanics (32.3 per 100,000 population), and 64 times higher than the rate in non-Hispanic Whites (9.5 per 100,000 population).

Figure 2



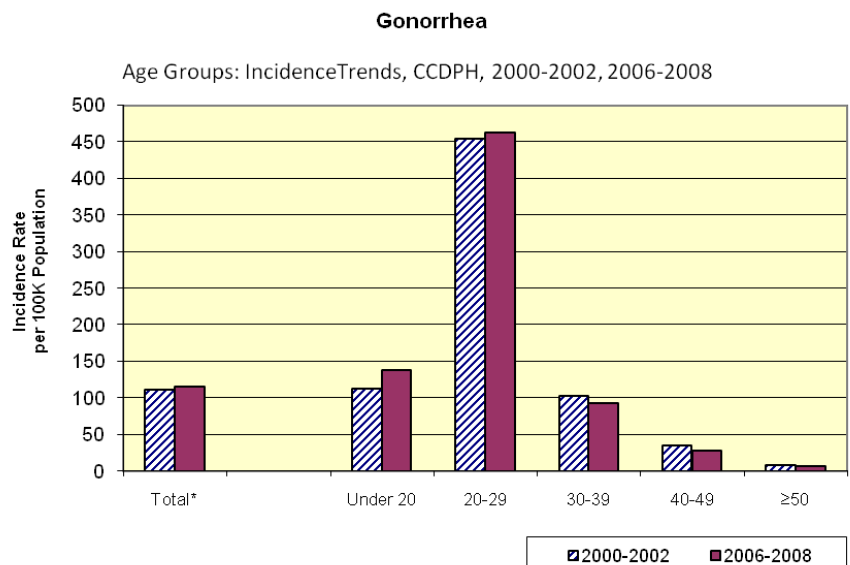
2000-2002 vs. 2006-2008

By Age Groups

Gonorrhea rates in CCDPH were highest in persons under 30 years of age, a trend that was consistent comparing 2000-2002 with 2006-2008. Persons aged 20-24 years of age had the highest rates of gonorrhea (638.8 per 100,000 population for years 2006-2008). This rate is 34 times higher than the HP 2010 goal (19.0 per 100,000 population).

In persons under 15-19 years of age, gonorrhea rates increased 26%, rising from 457.9 per 100,000 between 2000-2002 to 575.4 per 100,000 between 2006-2008.

Figure 3



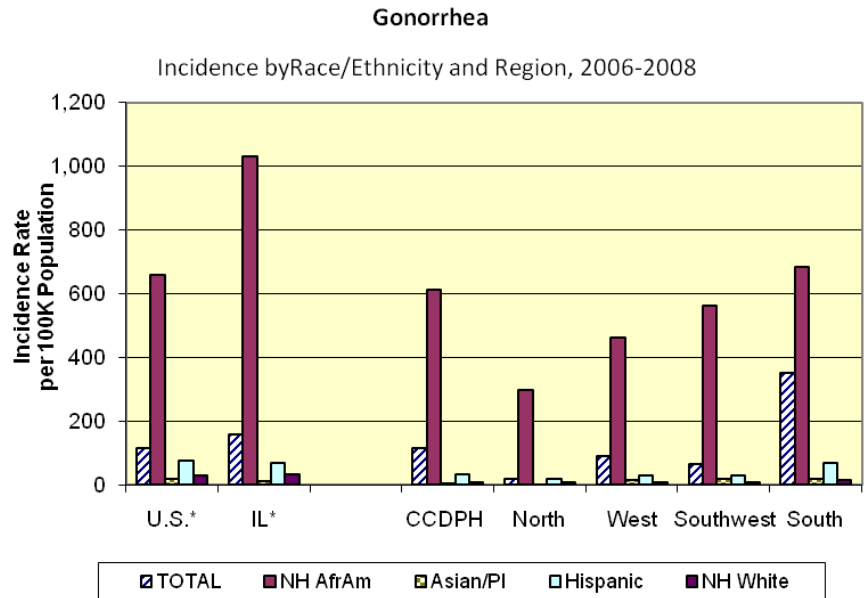
2006-2008

By Race/Ethnicity and Region

In CCDPH's jurisdiction, African Americans represent less than 20% of the total population yet 72% of all gonorrhea cases diagnosed between 2006-2008 were African Americans.

Across all districts in CCDPH, gonorrhea rates were highest in African Americans, ranging from a low of 297.6 per 100,000 population in the North District to a high of 683.4 per 100,000 population in the South district.

Figure 4



*Excludes persons <15 years of age for US and IL rates

By Gender and Region

Gonorrhea rates were similar in males and females across all regions: in CCDPH's districts, in Illinois, and in the U.S. overall. The gonorrhea rate among females in the South district (2006-2008) was 360.2 per 100,000; in South district males, the rate was 345.1 per 100,000 population. These South district rates are more than three times higher than the average CCDPH rate of gonorrhea.

Figure 5

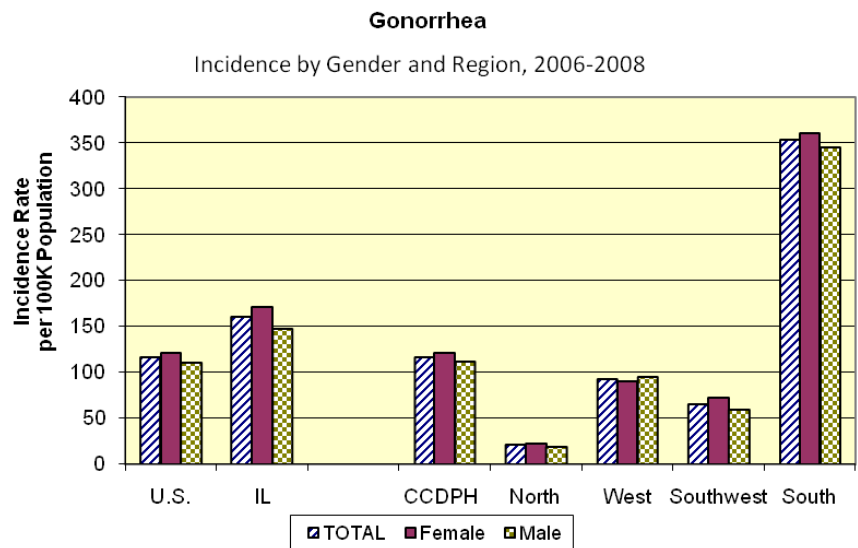


Table 1

**Gonorrhea
Incidence by Region
2000-2008**

	2000		2001		2002		2003		2004		2005		2006		2007		2008	
	n	rate*	n	rate*	n	rate*	n	rate*	n	rate*	n	rate*	n	rate*	n	rate*	n	rate*
U.S.	363,136	128.7	361,705	126.8	351,852	122.0	335,104	115.2	330,132	112.4	339,593	114.6	358,366	119.7	355,991	118.0	336,742	111.6
IL	24,812	199.4	24,025	191.9	24,026	190.7	21,817	172.4	20,597	162.0	20,019	156.9	20,186	157.3	20,813	161.9	20,674	160.9
CCDPH	2,545	113.0	2,389	106.0	2,626	116.5	2,500	111.0	2,158	95.8	2,257	100.2	2,530	112.3	2,782	123.5	2,560	113.6
North	155	17.0	152	16.6	187	20.5	199	21.8	163	20.0	178	19.5	205	22.4	214	23.4	161	17.6
West	436	85.8	387	76.1	463	91.1	392	77.1	388	76.3	409	80.5	492	96.8	494	97.2	429	84.4
South	194	55.0	193	54.7	169	47.9	184	52.1	190	53.8	189	53.6	214	60.6	231	65.5	252	71.4
	1,543	323.1	1,363	285.4	1,596	334.2	1,548	324.1	1,333	279.1	1,381	289.2	1,557	326.0	1,800	376.9	1,701	356.2

* Rates based on 2000 Census population for CCDPH; for U.S. and Illinois, rates based on CDC Wonder online database.

Table 2

GonorrheaIncidence Trends, CCDPH By Race/Ethnicity, Gender, & Age Groups
2000-2002, 2006-2008

CCDPH				
	2000-2002		2006-2008	
Total	7,560	111.8	7,872	116.5
Race				
<i>NH AfrAm</i>	4,554	492.1	5,665	612.2
<i>NH Asian</i>	10	2.9	19	5.5
<i>Hispanic</i>	213	23.5	293	32.3
<i>NH White</i>	555	12.1	436	9.5
Gender				
<i>Female</i>	3,663	105.1	4,215	120.9
<i>Male</i>	3,896	119.0	3,657	111.7
Age Groups				
<i>Under 20</i>	2,172	113.3	2,657	138.6
<i>20-29</i>	3,785	455.5	3,845	462.7
<i>30-39</i>	1,047	103.6	939	92.9
<i>40-49</i>	380	36.1	300	28.5
<i>≥50</i>	176	9.0	131	6.7

*Unspecified estimate (N<5)

~Rate not calculated(N<5)

Rates based on 2000 Census Population for SCC

Table 3

**Gonorrhea
Incidence by Race/Ethnicity&Gender by Region
2006-2008**

	U.S.		IL		CCDPH		North		West		Southwest		South	
	n	rate*	n	rate*	n	rate*	n	rate*	n	rate*	n	rate*	n	rate*
TOTAL	1,051,099	116.5	61,673	160.0	7,872	116.5	580	21.1	1,415	92.8	697	65.8	5,058	353.0
Race/Ethnicity†														
<i>NI/Am</i>	567,074	659.5	44,496	1,029.9	5,665	612.2	164	297.6	858	462.9	409	561.7	4,183	683.4
<i>NI/Asian</i>	6,438	18.8	153	11.3	19	5.5	6	2.2	6	17.6	4	20.1	3	18.7
<i>Hispanic</i>	72,638	75.4	2,789	69.5	293	32.3	56	20.1	133	30.8	29	31.6	72	69.5
<i>NI/White</i>	157,926	31.7	7,128	34.2	436	9.5	167	7.8	69	7.9	87	10.0	113	16.2
Gender														
<i>Female</i>	557,204	121.7	33,580	171.7	4,215	120.9	325	23.2	709	90.7	397	72.2	2,712	360.2
<i>Male</i>	491,296	110.5	28,092	148.0	3,657	111.7	255	19.0	706	94.9	300	59.0	2,346	345.1

Note: NI = non-Hispanic; PI = Pacific Islander.

* Rates based on 2000 census population for all regions except U.S.; U.S. rates from CDC Wonder online database.

† Excludes persons <15 years of age for US and IL totals and rates.

ⁱ CDC. STD Surveillance, 2009 – Gonorrhea. Available at: <http://www.cdc.gov/std/stats09/gonorrhea.htm> (last accessed, 3/30/2011).

ⁱⁱ Sadiq ST, Taylor S, Copas AJ, et al. The effects of urethritis on seminal plasma HIV-1 RNA loads in homosexual men not receiving antiretroviral therapy. *Sex Transm Infect* 2005; 81:120-123.

ⁱⁱⁱ Cohen MS, Hoffman IF, Royce RA, et al. Reduction of concentration of HIV-1 in semen after treatment of urethritis: Implications for prevention of sexual transmission of HIV-1. *Lancet* 1997; 349:1868-1873.