

Chlamydia, Gonorrhea and Syphilis incidence for Cuyahoga County, 2007

This report summarizes STD surveillance trends for reported cases among Cuyahoga County residents diagnosed in 2007 in data obtained from the STD Surveillance Program of the Ohio Department of Health (ODH). Analysis is provided by the City of Cleveland Department of Public Health in cooperation with the Cuyahoga County Board of Health. Results may differ from those reported by ODH^{1,2} as some records were corrected due to conflicts in address provided in surveillance reports^{3,4}.

Summary: Incidence rates for **Chlamydia** reached an eight-year high for Cuyahoga County to 602 cases per 100,000, up 12.8% from 2006 rates. This was due in part to a 13.6% rate increase across non-Cleveland municipalities. Incidence rates for Cleveland increased 9.6% but did not exceed the peak in rates reported for 2003. Black/African American youth age 15 to 24 years continues to have the highest reported Chlamydia rates, where rates for those age 15 to 19 years increased 21.5%. Black teen females had the highest rates, where, on average, over 1 in 9 were infected. Rates increased 9.6% in Cleveland and 13.6% totaled for all other municipalities. **Gonorrhea** incidence rates for Cuyahoga County decreased 21.6% to 274 cases per 100,000, the lowest level in the decade. Rate decreases were seen among most age/race/ethnic groups and in most zip codes and municipalities. **Syphilis** rates more than doubled in 2007, up 126.7% from 2006 levels. Sixty-six county residents were diagnosed with syphilis (at any stage), of which 26 (39%) persons were diagnosed with active (primary or secondary) infectious syphilis when reported. Forty-seven (71%) of all cases were Cleveland residents. More than one-third of infective (active and early latent syphilis) cases were youth age 15 to 24 years.

2007 Chlamydia Surveillance for Cuyahoga County and Cleveland

Chlamydia incidence rate increased 12.8% over 2006 rates, driven by an increase in case counts from municipalities other than Cleveland. 7,805 persons were reported as infected with Chlamydia, a rate of 602.3 persons per 100,000. Incidence rates increased by only 9.6% in Cleveland (1,150.6 per 100,000, or 5,040 persons) and 13.6% outside of Cleveland (322.3 per 100,000, or 2,765 persons) over 2006 rates. See Tables 1 and 2 for rates and cases. 71% of all cases were Cleveland residents. Figure 1 shows that the 7,805 cases of Chlamydia for 2007 in Cuyahoga County is the highest level reached this decade.

Rate increases were also reported for Ohio (9.7%), Columbus (18%), Toledo (14%) and Akron (80%)¹.

For Cuyahoga County,

- 74% of cases (n=5,778) were among females. The largest rate increases were among non-Cleveland females (White, Black/African Americans, and Hispanic females).
- 26% of cases (n=1,986) were males. Rates increased only 6.1% in Cuyahoga County but increased 11.7% among males in Cleveland with rate increases across all race/ethnic groups.
- 63% of cases (n=4,930) were Black/African American, 9.4% White (n=735), and 2.4% Hispanic (n=188).
- 73.5% of Chlamydia infections were among youth age 15 to 24 and 40.9% were among teens age 15 to 19, relatively unchanged from 2006.
 - Highest rates were among females age 15 to 24 and African American adults age 20-29
 - See Table 1 for rates and percent rate changes. Table 2 contains case counts.
- Co-infection: 14.0% and 15.6% of all persons diagnosed with Chlamydia in Cuyahoga County and Cleveland, respectively, also had gonorrhea.

2007 Gonorrhea Surveillance for Cuyahoga County and Cleveland

Gonorrhea incidence rate decreased 21.6% over 2006 rates, driven in part by a 25.2% decrease in rates for Cleveland. 3,555 persons were reported as infected with gonorrhea, a rate of 274.3 persons per 100,000 (Figure 2). Rates decreased by 25.2% in Cleveland (586.2 per 100,000, or 2,568 persons) and 15.9% outside of Cleveland (115.0 per 100,000, or 2,765 persons) over 2006 rates. See Tables 1 and 2 for rates and cases.

Figure 2 shows that the 3,555 cases of gonorrhea for 2007 in Cuyahoga County is the lowest level reached this decade.

Rates were unchanged in Ohio and increased in Columbus (18%), Toledo (45%) and Akron (59%)².

For Cuyahoga County:

- 50% cases were among females.
- Rates decreased 21.5% for females and 26.2% for males with decreasing rates for Black/African American, White, and Hispanic residents in Cleveland and surrounding municipalities in aggregate
- 72% of cases (n=2,545) were Black/African American, 5.1% White (n=181), and 2.0% Hispanic (n=70)
 - 60.4% of Gonorrhea infections were among youth age 15 to 24; 28.8% were among teens age 15 to 19, relatively unchanged from 2006 percentages.
 - Highest rates were among African Americans age 15 to 29.
 - See Table 1 for rates and percent rate changes. Table 2 contains case counts.
- Co-infection: 30% of persons in Cuyahoga County and Cleveland diagnosed with gonorrhea were co-infected with Chlamydia.

2007 Syphilis Surveillance for Cuyahoga County

Syphilis incidence rate increased 126.7% over 2006 rates. Sixty-six persons were reported as infected with syphilis compared to 30 persons in 2006. Twenty-six (39%) of the 2007 cases were active syphilis (primary or secondary). On average, only two persons per month are reported with active (primary, secondary) or early latent syphilis. From July to December 2007, nearly five persons per month were reported. About two-thirds of all cases lived in Cleveland.

Two populations were identified: 1) 62.5% (n=30) were men who have sex with men (MSM) and bisexual males, with 53% Black/African American, 47% White/Caucasian; 2) 37.5% (n=18) were heterosexual males and females of which 94% were Black/African American. The remaining eighteen cases did not report risk behavior. 37% and 21% of active and early latent cases were youth (15 to 24 years) or young adults (25 to 34 years). Cases report rare or intermittent condom use. Many of the cases reported anonymous partners. Contact tracing and notification was increased in June 2008 to respond to the increase in cases⁵. Outbreak surveillance is ongoing as an active collaboration of the Ohio Department of Health, Cuyahoga County Board of Health and the Cleveland Department of Public Health.

Geographic areas of concern

- Chlamydia and gonorrhea
 - The highest Chlamydia and gonorrhea incidence rates were in a contiguous area from Downtown Cleveland to the Forest Hills neighborhood, into East Cleveland and eastern Euclid. Highest rates extend from Central neighborhood southeast to Warrensville Heights/North Randall/Orange/Bedford (zip code 44128).
 - Many of these zip codes are the same where greater syphilis incidence occurred for 2007. More details for syphilis are listed below in the subsection on Syphilis.
 - See Maps 1 through 4 and the Appendix for case counts, rates and percent changes in rates for zip codes throughout Cuyahoga County. In particular, Chlamydia rates increased at least 50% from 2006 to 2007, in zip codes with at least 25 cases, were:
 - 44124 (Pepper Pike, Mayfield Heights, Lyndhurst)
 - 111.3% rate increase to 48 cases
 - 44127 (Euclid)
 - 53.4% rate increase, to 147 cases
 - 44070 (North Olmsted)
 - 54.5 rate increase to 29 cases
 - Gonorrhea rates decreased in nearly every zip code in the county. See Appendix for data reported by zip code.

- Syphilis: Zip code areas with the highest incidence were in three areas, reported by zip codes.
 - 44107 and 44102 (Lakewood through the Edgewater, Cudell, and Detroit-Shoreway neighborhoods.)
 - 44108, 44112 and 44106 (from Glenville, Forest Hills, University and Hough neighborhoods to parts of East Cleveland and Cleveland Heights.)
 - 44128 (from Lee-Miles neighborhood through Warrensville Heights, North Randall to Orange and Bedford.)

Discussion

Anyone who is sexually active can be included in a high risk group. STDs do not discriminate. The risk of infection is higher among groups with greater prevalence: youth and young adults, older persons and heterosexual persons reentering the dating pool and engaging in sex with anonymous contacts, men who have sex with men and bisexual men, anyone using injected drugs and sharing “works”.

Co-infection and re-infection are common, and these cycles must be broken.

Residents screened and treated for STDs need to take personal responsibility, to inform their partners and to encourage them to seek screening and treatment. Re-infection with Syphilis, Chlamydia, and gonorrhea is very possible if the newly treated individuals’ partners are not also treated. It is especially important to stress personal responsibility to residents diagnosed with any STD and to encourage them to notify and refer their partners to comprehensive STD screening.

Public health officials need additional resources to actively assist these residents with partner notification and referral services and to conduct more comprehensive primary prevention activities.

Parents also need to take greater responsibility to youth in providing appropriate messages, advice and referral for additional counseling. While many school systems have limited health education programs, public health officials, family planning agencies, faith-based and other socially active groups have materials that encourage responsible personal health.

Public health officials provide inexpensive screening and treatment for Chlamydia, gonorrhea and syphilis at the J. Glen Smith Health Clinic (11100 St. Clair Avenue near Glenville High School), and Thomas McCafferty Health Clinics (4745 Lorain Rd, Cleveland). Expanded hours for STD screening include counseling and screening for HIV. County health officials provide outreach and education through comprehensive age-appropriate sex education programs.

The risk of preventable morbidity or mortality due to congenital syphilis is too great to be ignored. Infants exposed to syphilis from untreated mothers may face seizures, neurological deficits, blindness, even death⁶. Physicians have a crucial role in screening and educating at-risk patients. Since patients often do not recognize symptoms of Chlamydia, gonorrhea, and syphilis, clinicians miss the opportunity to screen and prevent morbidity. Syphilis is known as “the great mimicker” in that its early symptoms (an itchless rash on the palms or soles, painless sores) may be misdiagnosed. The medical community must develop a higher index of suspicion to screen any sexually active patient for STDs, HIV, and hepatitis. Greater awareness of the signs and symptoms in the absence of judgment and prejudice towards patient presentation will lead to earlier treatment and reduced morbidity and potential mortality.

For more information

This report and other reports on HIV/AIDS, STDs and other communicable diseases can be found at :
Cleveland Health Information website: www.clevelandhealth.info

Other useful sites are:

Cleveland Department of Public Health: www.clevelandhealth.org

Cuyahoga County Board of Health: www.ccbh.net

Ohio Department of Health: www.ohio.odh.gov

Centers for Disease Control and Prevention: www.cdc.gov

References:

- 1) Ohio Department of Health, STD Surveillance, HIV/STD Prevention Program. "2003 to 2007 Ohio Chlamydia Cases and Rates". Data reported through 03/26/08. Last accessed July 2, 2008. Data reported through 03/26/08. Last available at <http://www.odh.ohio.gov/ASSETS/D30310248BD8448EA7766A57C6EE2B15/CT0307.pdf> or at <http://www.odh.ohio.gov/healthStats/disease/std/std1.aspx>
- 2) Ohio Department of Health, STD Surveillance, HIV/STD Prevention Program. "2003 to 2007 Ohio Gonorrhea Cases and Rates". Data reported through 03/26/08. Last accessed July 2, 2008. Data reported through 03/26/08. Last available at <http://www.odh.ohio.gov/ASSETS/DE2193BAC9AA488F8801020646150EFA/GC0307.pdf> or at <http://www.odh.ohio.gov/healthStats/disease/std/std1.aspx>
- 3) Addresses and zip codes reported to ODH were used to determine municipality. Corrections were made using U.S. Census Bureau resources, TIGR files, and ArcGIS 9 (ESRI, Inc.) software.
- 4) Population denominators for zip codes were proportionately adjusted for annual changes in county or city population. Adjustments were made proportional to the 2000 to 2007 mid-year population estimates for Cuyahoga County, US Census Bureau, Population Estimates Program, last accessed July 24, 2008. Available at Population Finder of the <http://factfinder.census.gov>
- 5) Cleveland Department of Public Health. "Syphilis Outbreak Summary V1.5". Last accessed July 7, 2008 and available at <http://www.clevelandhealth.info/Members/db/news/syphoutbreak>
- 6) Centers for Disease Control and Prevention. "Syphilis – CDC Fact Sheet". Last accessed September 4, 2008 and available at <http://www.cdc.gov/std/syphilis/STDFact-Syphilis.htm>

Appendix:

- Figure 1. Chlamydia incidence rates and cases reported in 2007 for Cuyahoga County (left), Cleveland (right) and Ohio residents (both).
- Figure 2. Gonorrhea incidence rates and cases reported in 2007 for Cuyahoga County (left), Cleveland (right) and Ohio residents (both).
- Figure 3. Highest Chlamydia (left) and gonorrhea (right) incidence rates reported in 2007 for Cuyahoga County residents. Rates reported as cases per 100,000 population group.
- Table 1 Chlamydia and gonorrhea incidence rates and percent changes
- Table 2 Chlamydia and gonorrhea case counts and percent changes
- Table 3 Chlamydia infections reported for Cuyahoga County Zip Codes, 2004-2007 (sorted by decreasing incidence rates for 2007)
- Table 4 Gonorrhea infections reported for Cuyahoga County Zip Codes, 2004-2007 (sorted by decreasing incidence rates for 2007)
- Map 1 Chlamydia infection incidence rate per 100,000 reported for 2007 by zip codes for Cuyahoga County
- Map 2 Chlamydia infection incidence rate per 100,000 reported for 2007 by zip codes for Cuyahoga County, labeled by municipality
- Map 3 Gonorrhea infection incidence rate per 100,000 reported for 2007 by zip codes for Cuyahoga County
- Map 4 Gonorrhea infection incidence rate per 100,000 reported for 2007 by zip codes for Cuyahoga County, labeled by municipality

Figure 1. Chlamydia incidence rates and cases reported in 2007 for Cuyahoga County (left), Cleveland (right) and Ohio residents (both). Rates are shown in bars and are reported as cases per 100,000 population group. Cases are reported on the line.

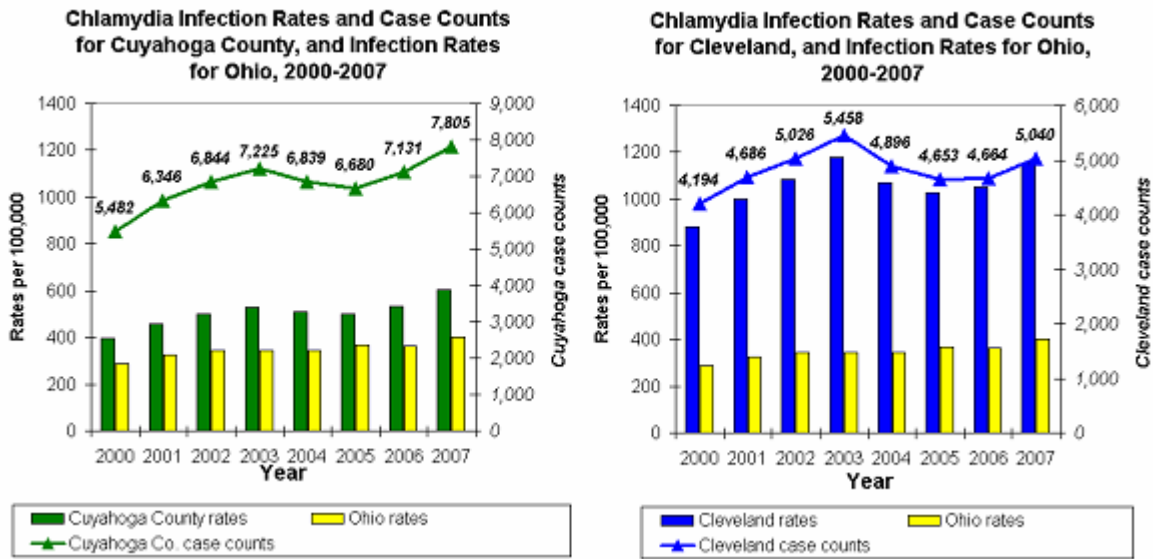


Figure 2. Gonorrhea incidence rates and cases reported in 2007 for Cuyahoga County (left), Cleveland (right) and Ohio residents (both). Rates are shown in bars and are reported as cases per 100,000 population group. Cases are reported on the line.

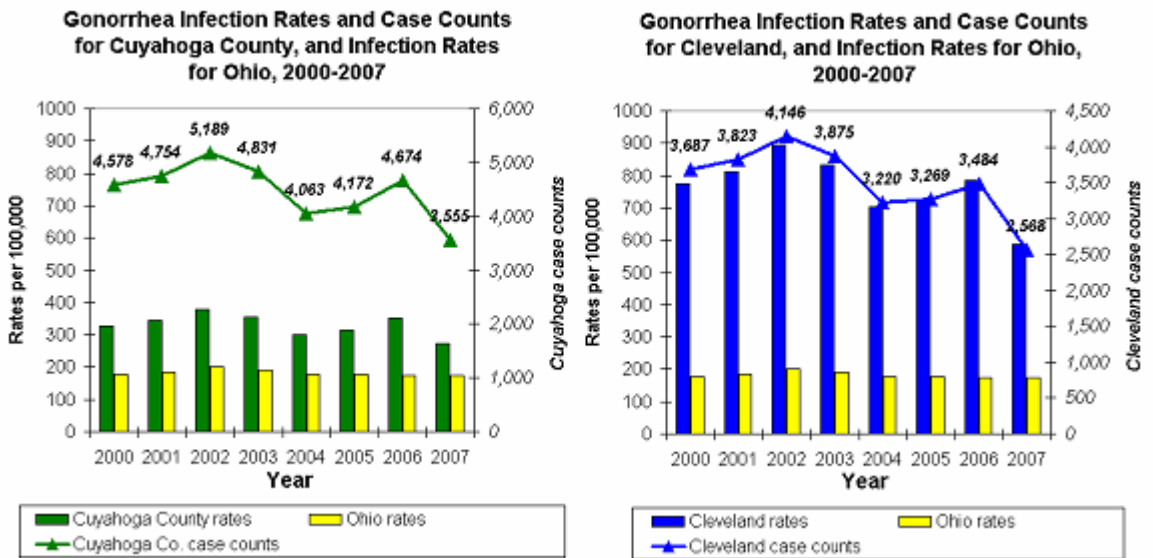


Figure 3. Highest Chlamydia (left) and gonorrhea (right) incidence rates reported in 2007 for Cuyahoga County residents. Rates reported as cases per 100,000 population group.

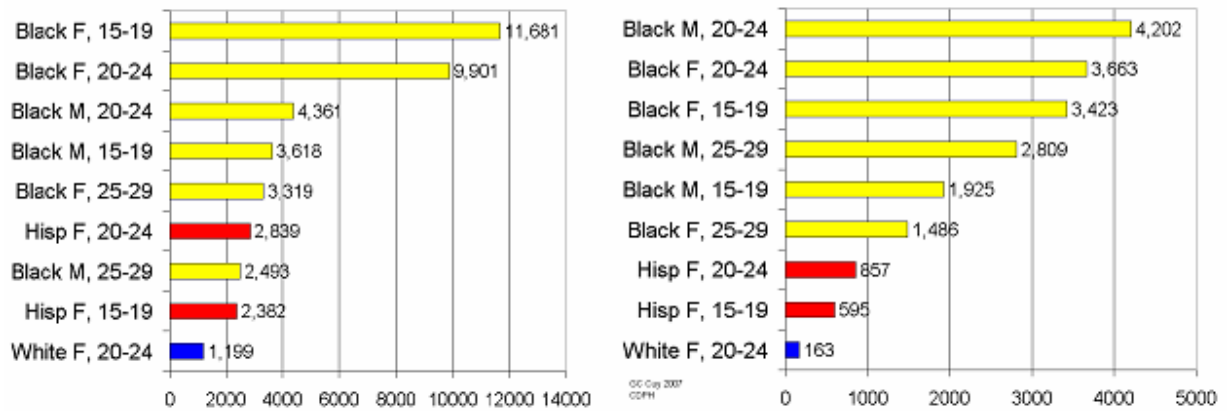


Table 1 - 2007

**Sexually transmitted disease data for 2007
New diagnoses reported to Ohio Department of Health (ODH)**

Data obtained from ODH was reviewed by CDPH. Data were amended to reflect the correct city based on address and/or zipcode, when reported. Because of these improvements in the data, the case counts and rates may differ slightly to those reported by ODH.

TABLE 1. CHLAMYDIA AND GONORRHEA INCIDENCE RATES AND PERCENT CHANGES													
Incidence Rates per 100,000 population group													
CHLAMYDIA	Overall	Male	Female	White non- Black non-			White	Black (NH)	Hispanic	White	Black (NH)	Hispanic	
				Hisp	Hisp	Hispanic	(NH) Males	Males	Males	(NH) Females	Females	Females	
CUYAHOGA	602.3	324.4	845.0	86.1	1,397.7	429.5	31.1	889.8	261.2	136.4	1,815.3	592.5	
CUY EXCLD CLEVE	322.3	154.9	468.2	57.4	1,154.8	362.9	22.1	647.7	174.4	89.3	1,568.6	548.0	
CLEVELAND	1,150.6	655.1	1,585.4	200.6	1,554.7	459.1	65.8	1,039.3	295.7	331.0	1,980.3	616.2	
EAST CLEVELAND	1,289.6	834.0	1,683.8	250.1	1,121.3	982.1	423.5	721.1	2,336.6	137.5	1,443.2	0.0	
LAKWOOD	300.1	208.3	514.0	99.9	3,653.3	522.0	53.4	2,755.7	355.0	142.5	4,761.0	682.6	
SHAKER HEIGHTS	353.7	73.8	651.4	31.5	725.9	323.9	13.3	181.4	0.0	47.7	1,127.4	574.9	

Incidence Rates per 100,000 population group													
GONORRHEA	Overall	Male	Female	White non- Black non-			White	Black (NH)	Hispanic	White	Black (NH)	Hispanic	
				Hisp	Hisp	Hispanic	(NH) Males	Males	Males	(NH) Females	Females	Females	
CUYAHOGA	274.3	287.8	260.6	21.2	721.5	159.9	15.4	815.2	146.6	26.3	642.0	173.2	
CUY EXCLD CLEVE	115.0	118.6	111.7	7.9	526.3	86.4	7.4	571.9	69.8	8.3	348.6	102.7	
CLEVELAND	586.2	618.0	553.3	74.7	843.4	188.7	46.7	964.7	176.2	100.7	739.1	201.2	
EAST CLEVELAND	694.4	808.8	623.9	83.4	639.0	491.0	0.0	676.1	1,168.3	137.5	609.2	0.0	
LAKWOOD	93.6	137.3	99.5	19.1	2,131.1	87.0	22.3	2,388.2	0.0	16.3	1,813.7	170.6	
SHAKER HEIGHTS	190.4	205.0	212.6	25.2	461.9	0.0	13.3	492.3	0.0	35.8	439.5	0.0	

MINIMUM DENOMINATOR = 86 (East Cleve Hisp Male)

Chlamydia incidence increased 12.8% in 2007 for Cuyahoga County from 2006 rates. Chlamydia rate increase was higher among municipalities outside of Cleveland in aggregate (13.6%) than for Cleveland (9.6%).

Percent Change in Rates from 2006 Rates													
CHLAMYDIA	Overall	Male	Female	White non- Black non-			White	Black (NH)	Hispanic	White	Black (NH)	Hispanic	
				Hisp	Hisp	Hispanic	(NH) Males	Males	Males	(NH) Females	Females	Females	
CUYAHOGA	12.8%	6.1%	13.0%	6.9%	14.3%	4.8%	3.9%	6.2%	52.1%	7.6%	17.8%	-6.5%	
CUY EXCLD CLEVE	13.6%	-4.3%	20.4%	14.1%	16.2%	21.7%	-2.7%	-7.5%	26.8%	18.7%	27.1%	24.8%	
CLEVELAND	9.6%	11.7%	9.2%	-0.3%	13.5%	0.7%	13.9%	12.2%	58.9%	-2.7%	14.0%	-13.6%	
EAST CLEVELAND	7.0%	8.4%	-1.5%	41.2%	0.7%	88.3%	n/a	-3.4%	n/a	-52.9%	2.4%	-100.0%	
LAKWOOD	11.1%	21.0%	11.6%	36.6%	18.1%	-23.7%	22.1%	38.7%	1.7%	42.4%	6.8%	-32.2%	
SHAKER HEIGHTS	18.2%	-59.6%	33.5%	-5.8%	-1.4%	-5.8%	-52.9%	-49.3%	n/a	25.5%	11.1%	-5.8%	

Gonorrhea incidence decreased 21.6% in 2007 from a year ago. The decrease in incidence rates occurred for most municipalities and for most race/ethnicity and sex population groups.

Percent Change in Rates from 2006 Rates													
GONORRHEA	Overall	Male	Female	White non- Black non-			White	Black (NH)	Hispanic	White	Black (NH)	Hispanic	
				Hisp	Hisp	Hispanic	(NH) Males	Males	Males	(NH) Females	Females	Females	
CUYAHOGA	-21.6%	-25.2%	-20.4%	-33.5%	-20.3%	-20.2%	-32.0%	-23.9%	-14.6%	-34.4%	-16.4%	-24.4%	
CUY EXCLD CLEVE	-15.9%	-17.5%	-13.6%	-35.6%	-10.3%	-22.0%	-28.4%	-13.2%	-18.9%	-39.2%	-33.8%	-23.9%	
CLEVELAND	-25.2%	-27.7%	-22.7%	-32.6%	-23.4%	-19.9%	-34.1%	-26.9%	-13.9%	-32.6%	-19.5%	-24.5%	
EAST CLEVELAND	-1.0%	-5.8%	-7.8%	n/a	-7.0%	-5.8%	n/a	-9.5%	-5.8%	n/a	-4.7%	n/a	
LAKWOOD	-25.4%	-28.0%	-15.8%	-34.6%	1.7%	n/a	-43.5%	10.2%	n/a	-18.6%	-9.6%	n/a	
SHAKER HEIGHTS	21.7%	2.3%	26.9%	n/a	13.0%	n/a	n/a	-5.8%	n/a	n/a	35.4%	n/a	

Table 2 - 2007

**Sexually transmitted disease data for 2007
New diagnoses reported to Ohio Department of Health (ODH)**

Data obtained from ODH was reviewed by CDPH. Data were amended to reflect the correct city based on address and/or zipcode, when reported. Because of these improvements in the data, the case counts and rates may differ slightly to those reported by ODH.

TABLE 2. CHLAMYDIA AND GONORRHEA CASE COUNTS AND PERCENT CHANGES													
Case Counts Reported, 2007													
CHLAMYDIA	Overall	Male	Female	White non- Black non-			White	Black (NH)	Hispanic	White	Black (NH)	Hispanic	
				Hisp	Hisp	Hispanic	(NH) Males	Males	Males	(NH) Females	Females	Females	
CUYAHOGA	7,805	1,986	5,778	735	4,930	188	127	1,420	57	608	3,506	130	
CUY EXCLD CLEVE	2,765	627	2,122	394	1,492	42	72	376	10	322	1,116	32	
CLEVELAND	5,040	1,359	3,656	341	3,438	146	55	1,044	47	286	2,390	98	
EAST CLEVELAND	351	99	251	3	279	2	2	80	2	1	199	0	
LAKWOOD	170	44	124	47	36	6	12	15	2	35	21	4	
SHAKER HEIGHTS	104	9	95	5	66	1	1	7	0	4	59	1	

Case Counts Reported, 2007													
GONORRHEA	Overall	Male	Female	White non- Black non-			White	Black (NH)	Hispanic	White	Black (NH)	Hispanic	
				Hisp	Hisp	Hispanic	(NH) Males	Males	Males	(NH) Females	Females	Females	
CUYAHOGA	3,555	1,762	1,782	181	2,545	70	63	1,301	32	117	1,240	38	
CUY EXCLD CLEVE	987	480	506	54	680	10	24	332	4	30	248	6	
CLEVELAND	2,568	1,282	1,276	127	1,865	60	39	969	28	87	892	32	
EAST CLEVELAND	189	96	93	1	159	1	0	75	1	1	84	0	
LAKWOOD	53	29	24	9	21	1	5	13	0	4	8	1	
SHAKER HEIGHTS	56	25	31	4	42	0	1	19	0	3	23	0	

Percent Change in Case Counts from 2006													
CHLAMYDIA	Overall	Male	Female	White non- Black non-			White	Black (NH)	Hispanic	White	Black (NH)	Hispanic	
				Hisp	Hisp	Hispanic	(NH) Males	Males	Males	(NH) Females	Females	Females	
CUYAHOGA	9.5%	4.6%	11.5%	5.5%	12.7%	3.3%	2.4%	4.7%	50.0%	6.1%	16.2%	-7.8%	
CUY EXCLD CLEVE	12.1%	-5.6%	18.7%	12.6%	14.6%	20.0%	-4.0%	-8.7%	25.0%	17.1%	25.4%	23.1%	
CLEVELAND	8.1%	10.1%	7.6%	-1.7%	11.9%	-0.7%	12.2%	10.6%	56.7%	-4.0%	12.4%	-14.8%	
EAST CLEVELAND	7.0%	15.1%	4.6%	50.0%	6.9%	100.0%	n/a	2.6%	n/a	-50.0%	8.7%	-100.0%	
LAKWOOD	11.1%	18.9%	9.7%	34.3%	16.1%	-25.0%	20.0%	36.4%	0.0%	40.0%	5.0%	-33.3%	
SHAKER HEIGHTS	18.2%	-57.1%	41.8%	0.0%	4.8%	0.0%	-50.0%	-46.2%	n/a	33.3%	18.0%	0.0%	

Percent Change in Case Counts from 2006													
GONORRHEA	Overall	Male	Female	White non- Black non-			White	Black (NH)	Hispanic	White	Black (NH)	Hispanic	
				Hisp	Hisp	Hispanic	(NH) Males	Males	Males	(NH) Females	Females	Females	
CUYAHOGA	-23.9%	-26.2%	-21.5%	-34.4%	-21.4%	-21.3%	-33.0%	-24.9%	-15.8%	-35.4%	-17.6%	-25.5%	
CUY EXCLD CLEVE	-17.1%	-18.6%	-14.8%	-36.5%	-11.6%	-23.1%	-29.4%	-14.4%	-20.0%	-40.0%	-34.7%	-25.0%	
CLEVELAND	-25.2%	-28.7%	-23.8%	-33.5%	-24.5%	-21.1%	-35.0%	-28.0%	-15.2%	-33.6%	-20.6%	-25.6%	
EAST CLEVELAND	-1.0%	0.0%	-2.1%	n/a	-1.2%	0.0%	n/a	-3.8%	0.0%	n/a	1.2%	n/a	
LAKWOOD	-25.4%	-29.3%	-17.2%	-35.7%	0.0%	n/a	-44.4%	8.3%	n/a	-20.0%	-11.1%	n/a	
SHAKER HEIGHTS	21.7%	8.7%	34.8%	n/a	20.0%	n/a	n/a	0.0%	n/a	n/a	43.8%	n/a	

Table 4. Gonorrhea infections reported in Cuyahoga County Zip Codes, 2004-2007

Source: Cleveland Department of Public Health, in cooperation with Cuyahoga County Board of Health and the Ohio Department of Health STD Surveillance Program.

ZIP	Cases				Rates per 100,000				Percent change in rates		
	2004	2005	2006	2007	2004	2005	2006	2007	From 04-05	From 05-06	From 06-07
44115	92	85	99	91	1,161.7	1,082.1	1,278.6	1,189.8	-6.9	18.2	-6.9
44108	399	428	415	354	1,131.4	1,223.4	1,203.5	1,039.3	8.1	-1.6	-13.6
44104	283	317	314	250	1,012.1	1,142.9	1,148.5	925.8	12.9	0.5	-19.4
44110	252	236	235	205	981.7	926.8	936.2	826.9	-5.6	1.0	-11.7
44103	253	255	258	182	1,031.7	1,048.3	1,076.1	768.5	1.6	2.6	-28.6
44114	18	21	36	26	478.2	562.4	978.1	715.2	17.6	73.9	-26.9
44112	309	289	292	217	961.5	906.5	929.2	699.1	-5.7	2.5	-24.8
44105	359	401	426	301	676.8	762.1	821.3	587.5	12.6	7.8	-28.5
44128	154	164	192	166	473.6	508.5	603.9	528.6	7.4	18.8	-12.5
44106	166	186	209	157	529.3	597.9	681.6	518.4	13.0	14.0	-23.9
44102	328	228	334	216	650.7	456.0	677.6	443.7	-29.9	48.6	-34.5
44117	42	50	67	49	359.5	431.4	586.5	434.2	20.0	35.9	-26.0
44120	251	257	299	182	548.0	565.6	667.6	411.4	3.2	18.0	-38.4
44127	39	72	53	32	479.8	892.9	666.8	407.6	86.1	-25.3	-38.9
44113	111	70	98	66	589.4	374.7	532.2	362.9	-36.4	42.0	-31.8
44137	76	80	83	82	300.9	319.3	336.1	336.2	6.1	5.3	0.0
44132	48	46	56	45	323.8	312.9	386.4	314.3	-3.4	23.5	-18.6
44123	45	48	47	53	253.3	272.4	270.6	308.9	7.5	-0.7	14.2
44109	144	136	154	122	325.1	309.6	355.6	285.2	-4.8	14.9	-19.8
44118	85	106	143	106	194.1	244.0	333.9	250.6	25.7	36.9	-25.0
44146	43	46	72	71	140.4	151.5	240.5	240.1	7.8	58.8	-0.2
44122	34	29	67	76	100.8	86.6	203.1	233.2	-14.0	134.4	14.8
44119	28	30	20	26	214.5	231.7	156.7	206.2	8.0	-32.4	31.6
44135	66	51	104	43	238.9	186.1	385.0	161.1	-22.1	106.9	-58.1
44111	89	72	104	57	214.1	174.6	255.9	142.0	-18.4	46.5	-44.5
44121	62	59	76	40	182.1	174.7	228.4	121.7	-4.1	30.7	-46.7
44125	41	44	58	28	141.9	153.5	205.2	100.3	8.2	33.7	-51.1
44107	28	56	71	53	51.0	102.9	132.4	100.0	101.6	28.6	-24.4
44143	17	18	18	16	74.1	79.0	80.2	72.2	6.7	1.4	-10.0
44017	9	1	13	8	49.0	suppressed	72.3	45.1			-37.7
44126	7	3	15	6	42.1	suppressed	92.2	37.3			-59.5
44138	0	3	4	5	0.0	suppressed	suppressed	29.7			
44070	4	12	3	9	-1.0	36.7	suppressed	28.3			
44134	16	15	27	10	40.9	38.7	70.7	26.5	-5.5	82.6	-62.5
44144	17	15	22	5	80.6	71.7	106.7	24.5	-11.0	48.8	-77.0
44124	7	1	11	7	17.9	suppressed	28.8	18.6			-35.6
44140	3	2	3	0	suppressed	suppressed	suppressed	0.0			
44100	39	68	23	15	suppressed	suppressed	suppressed	suppressed			
44101	4	27	6	5	suppressed	suppressed	suppressed	suppressed			
44116	5	5	2	2	24.5	24.7	suppressed	suppressed	0.8		
44129	6	3	7	2	20.9	-1.0	25.0	suppressed			
44130	4	9	11	2	suppressed	17.5	21.7	suppressed		24.0	
44131	0	1	2	2	0.0	suppressed	suppressed	suppressed			
44133	1	2	6	3	suppressed	suppressed	22.1	suppressed			
44136	5	3	11	3	11.8	suppressed	26.5	suppressed			
44139	5	6	6	2	23.2	28.1	28.5	suppressed	21.0	1.4	
44141	1	2	1	1	suppressed	suppressed	suppressed	suppressed			
44142	5	7	8	2	24.5	34.5	40.0	suppressed	41.1	15.9	
44145	5	7	2	2	16.2	22.8	suppressed	suppressed	41.1		

Results are not shown for cases reporting residence in zip codes 44100, 44101, 44022, 44023, 44040, 44147, 44185, 44194, 44199 due to few cases or unavailable rate (population) denominators.

Rates are suppressed when case counts are under 5 per zip code. Blank cells reflect unavailable comparisons.

Table 4. Gonorrhea infections reported in Cuyahoga County Zip Codes, 2004-2007

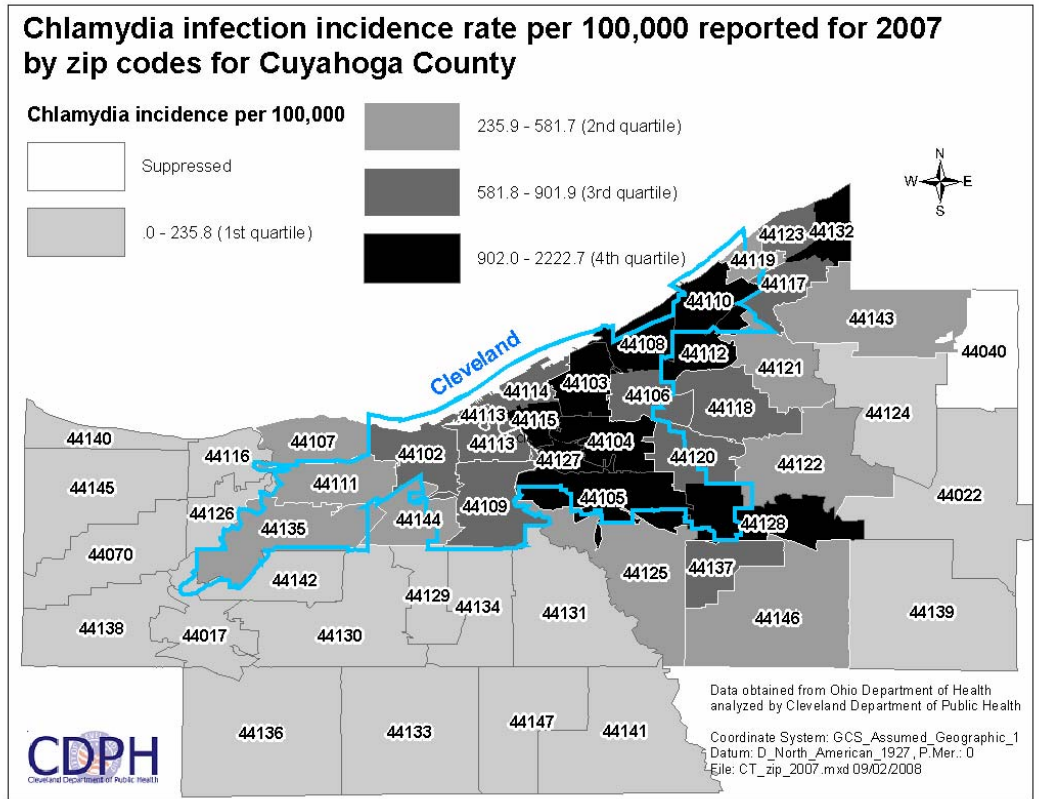
Source: Cleveland Department of Public Health, in cooperation with Cuyahoga County Board of Health and the Ohio Department of Health STD Surveillance Program.

ZIP	Cases				Rates per 100,000				Percent change in rates		
	2004	2005	2006	2007	2004	2005	2006	2007	From 04-05	From 05-06	From 06-07
44115	92	85	99	91	1,161.7	1,082.1	1,278.6	1,189.8	-6.9	18.2	-6.9
44108	399	428	415	354	1,131.4	1,223.4	1,203.5	1,039.3	8.1	-1.6	-13.6
44104	283	317	314	250	1,012.1	1,142.9	1,148.5	925.8	12.9	0.5	-19.4
44110	252	236	235	205	981.7	926.8	936.2	826.9	-5.6	1.0	-11.7
44103	253	255	258	182	1,031.7	1,048.3	1,076.1	768.5	1.6	2.6	-28.6
44114	18	21	36	26	478.2	562.4	978.1	715.2	17.6	73.9	-26.9
44112	309	289	292	217	961.5	906.5	929.2	699.1	-5.7	2.5	-24.8
44105	359	401	426	301	676.8	762.1	821.3	587.5	12.6	7.8	-28.5
44128	154	164	192	166	473.6	508.5	603.9	528.6	7.4	18.8	-12.5
44106	166	186	209	157	529.3	597.9	681.6	518.4	13.0	14.0	-23.9
44102	328	228	334	216	650.7	456.0	677.6	443.7	-29.9	48.6	-34.5
44117	42	50	67	49	359.5	431.4	586.5	434.2	20.0	35.9	-26.0
44120	251	257	299	182	548.0	565.6	667.6	411.4	3.2	18.0	-38.4
44127	39	72	53	32	479.8	892.9	666.8	407.6	86.1	-25.3	-38.9
44113	111	70	98	66	589.4	374.7	532.2	362.9	-36.4	42.0	-31.8
44137	76	80	83	82	300.9	319.3	336.1	336.2	6.1	5.3	0.0
44132	48	46	56	45	323.8	312.9	386.4	314.3	-3.4	23.5	-18.6
44123	45	48	47	53	253.3	272.4	270.6	308.9	7.5	-0.7	14.2
44109	144	136	154	122	325.1	309.6	355.6	285.2	-4.8	14.9	-19.8
44118	85	106	143	106	194.1	244.0	333.9	250.6	25.7	36.9	-25.0
44146	43	46	72	71	140.4	151.5	240.5	240.1	7.8	58.8	-0.2
44122	34	29	67	76	100.8	86.6	203.1	233.2	-14.0	134.4	14.8
44119	28	30	20	26	214.5	231.7	156.7	206.2	8.0	-32.4	31.6
44135	66	51	104	43	238.9	186.1	385.0	161.1	-22.1	106.9	-58.1
44111	89	72	104	57	214.1	174.6	255.9	142.0	-18.4	46.5	-44.5
44121	62	59	76	40	182.1	174.7	228.4	121.7	-4.1	30.7	-46.7
44125	41	44	58	28	141.9	153.5	205.2	100.3	8.2	33.7	-51.1
44107	28	56	71	53	51.0	102.9	132.4	100.0	101.6	28.6	-24.4
44143	17	18	18	16	74.1	79.0	80.2	72.2	6.7	1.4	-10.0
44017	9	1	13	8	49.0	suppressed	72.3	45.1			-37.7
44126	7	3	15	6	42.1	suppressed	92.2	37.3			-59.5
44138	0	3	4	5	0.0	suppressed	suppressed	29.7			
44070	4	12	3	9	-1.0	36.7	suppressed	28.3			
44134	16	15	27	10	40.9	38.7	70.7	26.5	-5.5	82.6	-62.5
44144	17	15	22	5	80.6	71.7	106.7	24.5	-11.0	48.8	-77.0
44124	7	1	11	7	17.9	suppressed	28.8	18.6			-35.6
44140	3	2	3	0	suppressed	suppressed	suppressed	0.0			
44100	39	68	23	15	suppressed	suppressed	suppressed	suppressed			
44101	4	27	6	5	suppressed	suppressed	suppressed	suppressed			
44116	5	5	2	2	24.5	24.7	suppressed	suppressed	0.8		
44129	6	3	7	2	20.9	-1.0	25.0	suppressed			
44130	4	9	11	2	suppressed	17.5	21.7	suppressed		24.0	
44131	0	1	2	2	0.0	suppressed	suppressed	suppressed			
44133	1	2	6	3	suppressed	suppressed	22.1	suppressed			
44136	5	3	11	3	11.8	suppressed	26.5	suppressed			
44139	5	6	6	2	23.2	28.1	28.5	suppressed	21.0	1.4	
44141	1	2	1	1	suppressed	suppressed	suppressed	suppressed			
44142	5	7	8	2	24.5	34.5	40.0	suppressed	41.1	15.9	
44145	5	7	2	2	16.2	22.8	suppressed	suppressed	41.1		

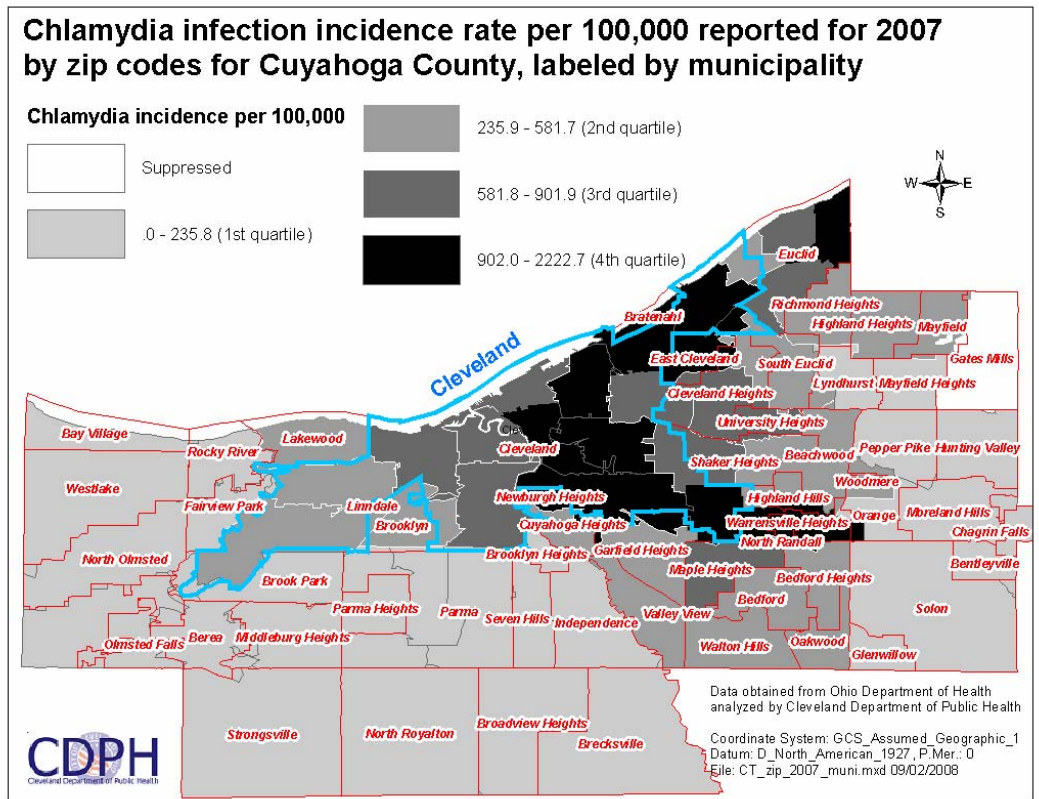
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Rates are suppressed when case counts are under 5 per zip code. Blank cells reflect unavailable comparisons.

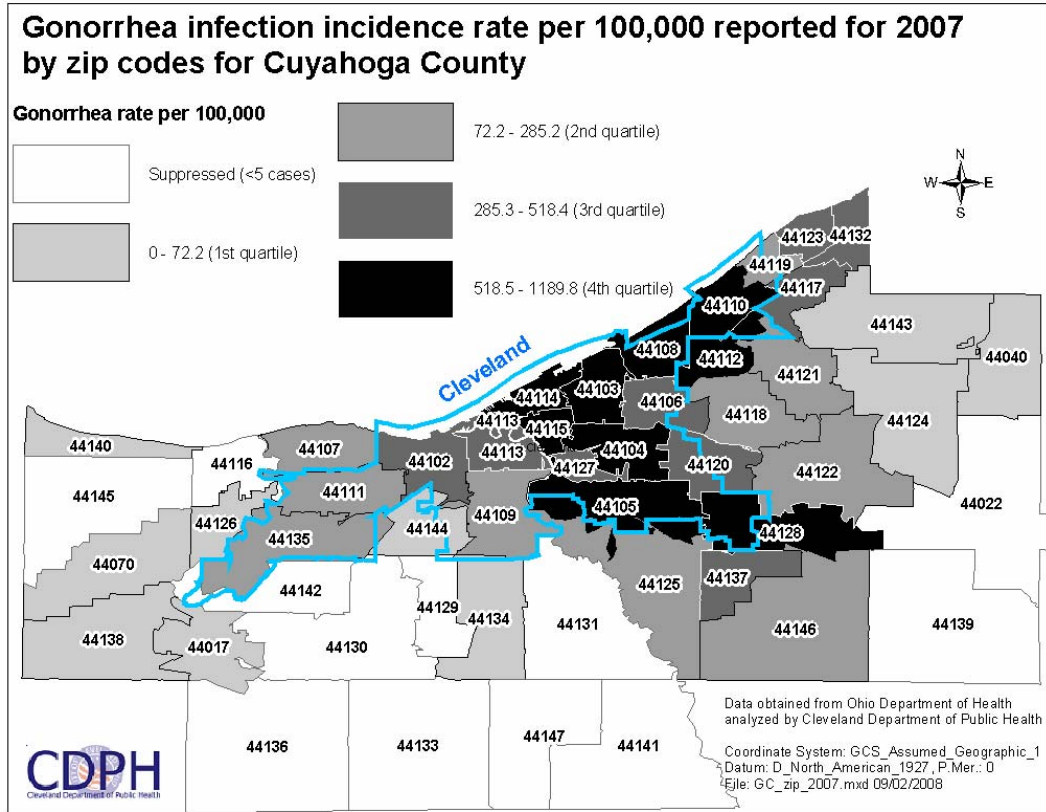
Map 1



Map 2



Map 3



Map 4

