

Dual syphilis outbreaks among MSM/Bisexual males and African American heterosexuals in Cleveland, Cuyahoga County, Ohio

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ABSTRACT

We report simultaneous outbreaks of early syphilis (i.e. primary, secondary, early latent) in Cuyahoga County among both heterosexual males and females (90% Black/African American) and the MSM/bisexual (MSM/BI) male community of all races and ethnicities. Case counts are nearly equal between these groups.

Since the outbreak began in July 2007, 123 cases were reported up to November 2008. 94 cases were reported in 2008, a 135% increase from Jan-Nov 2007. Annualized rates in past eight months are 4.5 times greater (71 cases, 8.2 cases per 100,000) than baseline. Two-thirds of cases were Cleveland residents. Diagnoses: 10% primary, 50% secondary, 40% early latent.

Fourteen cases were youth age 14 to 19, up 250% since last year. Because Chlamydia is endemic among Black/African American female teens age 15 to 19, (10% incidence by population in 2007), direct interventions to youth are being planned.

Condom use was higher among Black/African American MSM/BI males compared to heterosexuals. However only 15% of MSM/BI males reported always using condoms. Interviews by Disease Intervention Specialists (DIS) provided evidence of intimate-to-female transmission and 'down low' males, Black/African American and Latino, who self-report as heterosexual but reported sex with other men likely leading to infection.

City, county and state officials developed a joint Action Plan in July 2008, later expanded in January 2009. Actions include temporarily prioritizing DIS to syphilis cases over for partner notification, suggesting care providers to screen all sexually active patients, notifying media sources, LGBT (lesbian, gay, bisexual, transsexual) community and agencies funded for HIV/STI prevention.

BACKGROUND

This report describes an outbreak of syphilis infections that began in summer 2007 in Cuyahoga County. The outbreak continues to expand to two populations, 1) heterosexual males and females (mostly Black/African American), and 2) men who have sex with men (MSM) and bisexual males (White, Black and Hispanic).

An outbreak of syphilis during 1992-1995 peaked in 1993 when more than 1,500 persons in Cleveland were diagnosed. Given this history, public health officials were sensitive to any increase in cases.

OUTBREAK RECOGNITION AND RESPONSE

From 2002-2006, an average of two to three cases per month of early syphilis (primary, secondary and early latent) were diagnosed in Cuyahoga County. (Figure 1) In late 2007, disease intervention specialists (DIS) working in two Cleveland Department of Public Health (CDPH) clinics investigated an average of about six cases per month. DIS agents are routinely responsible for patient and partner notification and referral to services. DIS agents are credited for notifying supervisory staff at CDPH about the increase in cases.

In May 2008, surveillance data were obtained from the STD Surveillance Program of the Ohio Department of Health for analysis by CDPH. Data included risk behavior information elicited from DIS interviews with cases and contacts. Public health officials from Cleveland, Cuyahoga County and the State of Ohio met in June and July 2008 to develop action plans and release findings¹. The Action Group included members of the three local public health agencies, the Ohio Department of Health, and representatives from county child and maternal health agencies, the county funded hospital (MetroHealth Medical Center), local school systems, the Regional AIDS Group and other non-profit stakeholders.

Media outlets were invited as partners to disseminate findings and notify the public and medical communities. Release of findings from the Action Group were picked up by newspaper, television, radio, and internet news outlets including the AP (Associated Press, Inc.)

Additional data were obtained in November 2008. The Action Group met again in January 2009 to review findings. On March 4, 2009, medical directors of the three public health departments drafted a **Public Health Alert letter**² (Figure 3) This was distributed to hospitals, medical clinics and subspecialty representatives. Regional media partners were again utilized to disseminate prevention messages.

To date, the rate of diagnoses has leveled from **8.10 per 100,000** in 2008 to **9.35 per 100,000** among investigations closed by August 1, 2009 (Figure 2). Media saturation, clinical education, and aggressive DIS investigation are credited for this moderation.

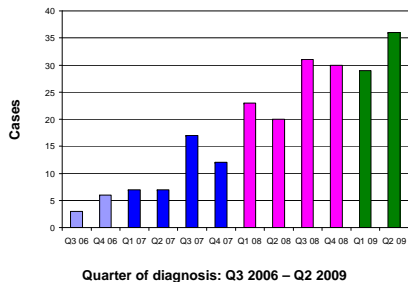


Figure 1: Early Syphilis cases from July 2006 through June 2009 for Cuyahoga County, by month of diagnosis^{3,5}

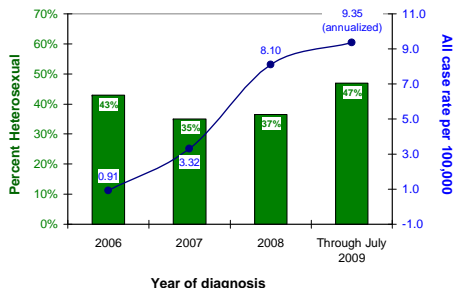


Figure 2: Rate of Early Syphilis (per 100,000 population) for all cases, and the proportion of diagnoses that were to heterosexual males and females for Cuyahoga County, by year of diagnosis³.

DEMOGRAPHICS

For Cuyahoga County, there were 47, 104 and 70 cases of early syphilis diagnosed in 2007, 2008, and in the first seven months of 2009. Over 2008-07/2009, 10% were primary, 42% secondary and 48% early latent syphilis. Three-fourths of all cases were Cleveland residents, the largest city in the county, which is 52% African American, 40% white and 2% Asian.

Sex: Eighty percent were male, varying little across years.

Race/ethnicity: 69% are African American, 27% white, 2% Asian/other and 2% unknown. Across all races, 4% are Hispanic.

Age: 35% were age 14-24 years, 30% age 25-34, 21% age 35-44, 11% age 45-54, and 3% over age 55.



Figure 3: Public Health Alert letter provided to health care providers throughout Cuyahoga County².

INTERVIEW FINDINGS: 2008- July 2009 cases

Nearly two-thirds of cases diagnosed from 2008-07/2009 were interviewed at least once by DIS agents.

At-risk groups were identified by risk behavior, not self-reported orientation. 42% (n=73) were MSM males, 6% (11) bisexual males, 22% (39) heterosexual males, 20% (34) heterosexual females, 10% (17) males of unknown behavior. Almost half of 2009 cases are heterosexual (Figure 2). Repeated interviews with two self-identified lesbian females elicited sex with males as likely transmission source; these cases were categorized as heterosexual females, correcting initial findings reported in the abstract.

HIV prevalence: One-third (n=47) of all cases in 2008-2009 were HIV-positive: 91% MSM/BI males, 7% heterosexual males and females and 2% males of unknown behavior.

POPULATIONS AT HIGHEST RISK

1) Heterosexual males and females (41% of cases)

- Over 90% were African American, 53% were age 14 -24 years.
- Condom use: 86% sometimes or never used condoms for vaginal intercourse.
- 36% and 59% of females and males, respectively, had multiple sex partners in the 12 months prior to diagnosis. Marijuana use was reported by over 40%.
- Six females were pregnant when diagnosed and treated. No congenital cases have occurred in the county during the outbreak.

2) MSM and bisexual men (MSM/BI) regardless of race/ethnicity (48% of cases)

- Condom use: 75% sometimes or never used condoms for anal intercourse.
- Almost 70% had multiple sex partners in the 12 months prior to diagnosis. Only 4% were serotyping (i.e. having sex with known HIV+ males). No cases reported methamphetamine, poppers, ED drugs, IDU or sex for drugs or cash.
- Over half (51%) of MSM/BI males were HIV positive. One-third met their contact through the internet; 45% have history of other STIs.

3) In addition, youth and young adults were at risk.

- In 2008-2009 cases, 35% (n=61) of all cases were 14 to 24 years of age, 93% of which were African American. Risk groups: 34% heterosexual females, 30% heterosexual males, 3% MSM, 5% bisexual males, 8% males of unknown risk.
- Bisexuality associated with transmission:** Syphilis infections of two African American females ages 16 & 17 were linked to risky (unprotected) sexual behavior with known MSM males.

CONCLUSIONS / ONGOING PREVENTION EFFORTS

Each group at risk represents unique challenges in risk reduction, outreach, and dissemination of prevention messages. Ongoing prevention efforts are focused on:

- Integrating STD and HIV prevention messages.
- Providing outreach to youth using the CDPH HealthMobile (mobile education/testing unit) and providing age-specific data and prevention education to Cleveland Municipal schools and suburban school systems.
- Engaging MSM/bisexual male population at clubs, bathhouses, and HIV/AIDS service agencies; disseminating prevention messages and encouraging testing through a CDPH presence at MSM/BI oriented internet sites (e.g. Manhunt.com, Adam2Adam.com)
- Creating new partnerships with faith-based groups.
- Continuing surveillance and publicly publishing all reports on a local health education and reporting website, <http://www.ClevelandHealth.info>^{1,2,3}.

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