NEW MEXICO
DEPARTMENT OF
HEALTH

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HIV/AIDS and Syphilis Co-Infection in New Mexico

A number of studies have shown that syphilis facilitates the transmission of HIV for both biologic and epidemiologic reasons. One of the primary clinical aspects of syphilis is the occurrence of a sore or chancre at the site of infection. Such sores disrupt barriers that provide protection against infections. In an HIV-infected person, white blood cells that carry viral particles to a sore can be transmitted to a sexual partner. Epidemiological studies have also found that sexual contact with a partner with a sexually transmitted disease (STD), such as syphilis, puts a person at increased risk for HIV transmission. There is an estimated 2 to 5 fold increased risk for acquiring HIV when syphilis is present.

Syphilis and HIV both disproportionately affect sub-populations nationwide and in New Mexico. Recent outbreaks of syphilis have involved isolated groups who engage in high-risk activities such as illicit drug use, unprotected sexual intercourse, and having multiple sex partners. More specifically, there have been recent outbreaks among men who have sex with men (MSM), which have been characterized by high rates of HIV co-infection and high-risk sexual behaviors.

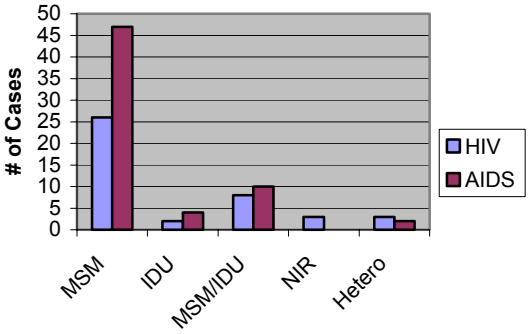
In the past few years, New Mexico has been experiencing increasing numbers of syphilis cases throughout the state. In 2003, New Mexico ranked 7th nationally with a rate of 3.8 cases per 100,000 population (77 total cases), or 1.5 times the U.S. rate of 2.5 cases per 100,000.

In September 2005, the HIV/AIDS Epidemiology program performed a match with the Sexually Transmitted Disease Management Information System (STD*MIS) to examine co-infection with HIV and syphilis. The results for 1986-2004 are described in this report.

Distribution of co-infection

Between 1986 and present, a total of 105 persons were identified as having been infected with both HIV and syphilis during their lifetime. Of these co-infected persons, 93% (98) were men. The most frequently identified exposure risk was MSM (70%). When persons who identified as being both MSM and injection drug users (IDU) are included (MSM/IDU), MSM represent 87% of all co-infections. This is comparable to the 70% of persons identified with HIV in New Mexico who have also stated MSM as an exposure risk. The complete distribution exposure risk is shown in Figure 1.

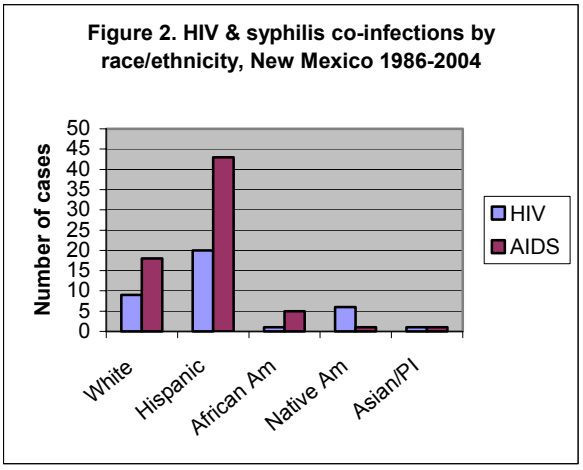
Figure 1. HIV & syphilis co-infections by exposure risk, New Mexico 1986-2004



Source: HIV/AIDS Reporting System (HARS)

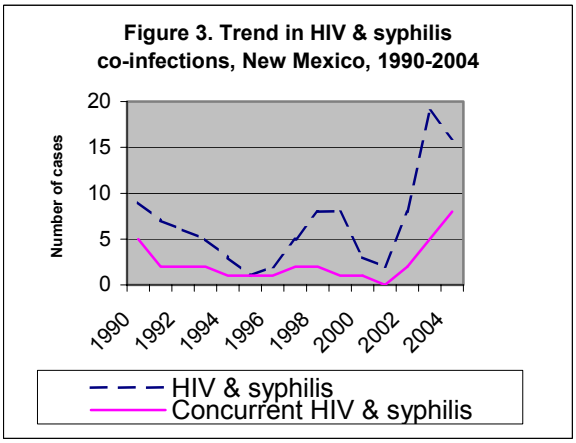
The racial/ethnic distribution of persons identified with HIV and syphilis co-infection is shown in Figure 2. Sixty percent of these persons (with both HIV and/or AIDS) are of Hispanic origin. The next most affected group is White non-Hispanics (26%). Being of Hispanic origin was significantly associated with being at a higher risk for co-infection when compared to White non-Hispanics and other races (Chi-square test, $P \leq 0.05$). Unlike the majority of co-infected persons, Native Americans co-infected

with syphilis were more often diagnosed with HIV rather than AIDS.



Recent trends

2003 marked the beginning of an upward trend in new cases of syphilis in New Mexico. This mirrors a rising trend in new HIV/AIDS diagnoses and HIV and syphilis co-infection. From 2003-2004, 35 cases of syphilis were found in HIV-infected persons, exactly one third of the total number of cases of co-infections found between 1986 and 2004. Though syphilis infections may be declining in HIV+ persons, concurrent co-infections continue to increase.



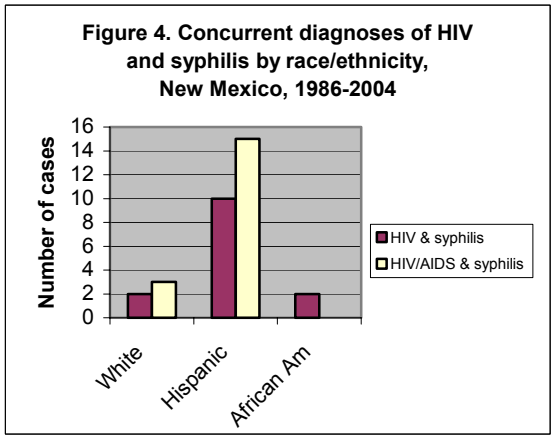
Timing of infection

The relative timing of the diagnosis of HIV and syphilis among those with co-infection may be indicative of risk behaviors. Of the 35 cases from 2003-2004, 13 (37%) were diagnosed with both HIV and syphilis in the same year (Figure 3). Due to the current limitations of HIV testing, it is not possible to determine when a person was infected with HIV. However, syphilis can be diagnosed at progressive stages of disease by clinical exam and laboratory testing, which provides an estimate for time of infection. These include primary (infection occurring $\leq$ 3 months ago), secondary (infection occurring $\leq$ 6 months ago), early latent (infection occurring < 1 year ago), and latent or unknown duration (no evidence of disease). Though neurosyphilis occurs during late syphilis, it can occur at any time in HIV infected persons. Seventeen (16%) of all co-infected persons were diagnosed with neurosyphilis; the majority were in AIDS cases.

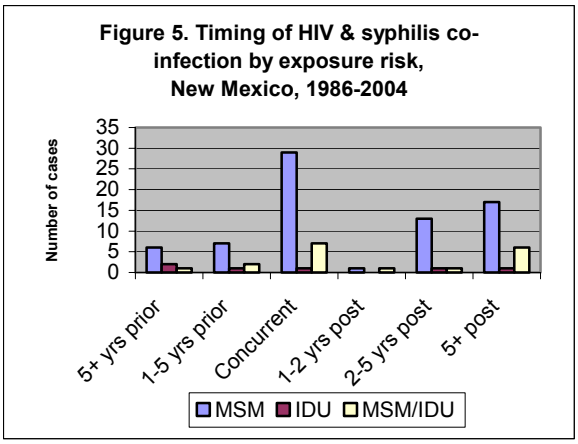
Of all the HIV and syphilis co-infections determined between 1986 and 2004, 35 cases had concurrent diagnoses of HIV and syphilis, defined as identification of each disease within a 12-month time span. The distribution of these concurrent diagnoses is relatively even across stages of syphilis disease (Table 1). Figure 4 provides a graphical distribution of concurrent diagnoses by the relevant racial/ethnic groups. Note that 'HIV and syphilis' indicates concurrent diagnosis of HIV and syphilis; 'HIV/AIDS and syphilis' indicates concurrent diagnosis of AIDS and syphilis.

Table 1. Concurrent diagnoses of HIV/AIDS and stages of syphilis disease, New Mexico, 1986-2004.

	HIV	AIDS
Primary syphilis	2	2
Secondary syphilis	5	2
Early latent syphilis	3	4
Totals	10	8



The remaining 70 HIV and syphilis co-infected persons had a syphilis diagnosis prior to or after their initial HIV diagnosis. The relative timing of these non-concurrent infections by major risk groups is shown in Figure 5. MSM had the largest number of concurrent diagnoses of HIV/AIDS and syphilis. This group also experienced greater numbers of syphilis infections subsequent to an HIV/AIDS diagnosis.



What does this mean?

Syphilis outbreaks continue to occur across New Mexico. These outbreaks may be a harbinger of new rounds of HIV infection. It is also clear that HIV and syphilis co-infections in New Mexico are on the rise and may not have peaked.

STDs are an important predictor of HIV infection because STDs are a marker for behaviors associated with HIV transmission. In all, these data suggest the continued practice of unsafe sexual behavior despite a diagnosis of an STD or HIV. Many STD's can have long term and/or permanent detrimental health effects if not diagnosed and treated properly, especially among immuno-compromised persons. This underscores the need for continued integration of STD and HIV prevention and education efforts.

For more information regarding STDs, contact the STD Program at (505) 476-1778 or visit: http://www.health.state.nm.us/std.html.

Table 2. Summary of HIV/AIDS and syphilis co-infections, New Mexico, 1986-2004.

	N	%	Rate*
Type of Case			
HIV	39	37%	2.1
AIDS	66	63%	3.5
Gender			
Male	98	93%	10.5
Female	7	7%	0.7
Race/Ethnicity			
Hispanic	63	60%	7.6
White	27	26%	3.3
Native American	7	7%	3.8
African American	6	6%	17.1
Asian/Pacific Islander	2	2%	7.2
Stage of Syphilis			
Primary (<3 mo.)	7	7%	0.4
Secondary (<6 mo.)	17	16%	0.9
Early Latent (<1 year)	26	25%	1.4
Unknown Duration	42	40%	2.2
Neurosyphilis **	16	15%	0.8
Exposure Risk			
MSM	73	70%	-
IDU	6	6%	-
MSM/IDU	18	17%	-
Hetero	3	3%	-
Other	0	0%	-
NIR	5	5%	-
Pediatric	0	0%	-
TOTAL	105	100%	5.5

*Rate per 100,000 persons based on census estimates for July 2003.

**Includes 2 cases diagnosed with primary and neurosyphilis.

For the most current HIV/AIDS surveillance data, visit: http://www.health.state.nm.us/hiv-aids.html. The New Mexico HIV/AIDS Annual Surveillance Report for 2004 is coming soon; please contact us if you wish to receive a copy.

All HIV or AIDS cases diagnosed or treated in New Mexico must be reported to the HIV/AIDS Epidemiology Program. To report a case, or to inquire about HIV/AIDS reporting and surveillance, please call (505) 476-3515.

HIV/AIDS IN NEW MEXICO FACT SHEET
Cases reported through September 30, 2005

In previous reports, the HIV/AIDS Epidemiology Program summarized only cases diagnosed in New Mexico. Living cases diagnosed in New Mexico are used by the U.S. Centers for Disease Control (CDC) to represent prevalent cases. However, data that include out-of-state diagnoses provide a better reflection of local prevalence patterns and are now also provided in the summary.

	Cases diagnosed in New Mexico					**All cases in New Mexico**				
	Living			**Cumulative**		**Living**			**Cumulative**	
	N	%	Rate	N	%	N	%	Rate	N	%
Type of case										
HIV	835	41%	44.0	888	26%	1147	38%	60.4	1234	26%
AIDS	1198	59%	63.1	2465	74%	1836	62%	96.6	3558	74%
Gender										
Male	1768	87%	189.4	3000	89%	2608	87%	279.3	4298	90%
Female	265	13%	27.4	353	11%	375	13%	38.8	494	10%
Race/Ethnicity										
White	923	45%	110.8	1665	50%	1496	50%	179.6	2565	54%
Hispanic	863	42%	105.2	1312	39%	1085	36%	132.3	1640	34%
Native American	135	7%	73.5	194	6%	215	7%	117.0	305	6%
African American	103	5%	293.2	167	5%	173	6%	492.4	262	5%
Asian/Pacific Islander	9	0%	32.4	14	0%	13	0%	46.8	19	0%
Region										
Region 1 (Northwest)	249	12%	63.2	378	11%	300	10%	76.2	448	9%
Region 2 (Northeast)	429	21%	148.7	726	22%	527	18%	182.6	885	18%
Region 3 (Bernalillo Co.)	902	44%	152.8	1593	48%	1069	36%	181.1	1872	39%
Region 4 (Southeast)	122	6%	49.6	203	6%	156	5%	63.4	256	5%
Region 5 (Southwest)	331	16%	86.8	452	13%	381	13%	99.9	538	11%
Age at First HIV+ Test										
< 13	7	0%	2.0	11	0%	12	0%	3.3	19	0%
13-19	45	2%	21.3	48	1%	55	2%	26.0	59	1%
20-29	479	24%	188.1	690	21%	715	24%	280.8	1021	21%
30-39	844	42%	340.2	1422	42%	1252	42%	504.6	2070	43%
40-49	497	24%	173.3	854	25%	700	23%	244.0	1166	24%
50+	161	8%	29.8	328	10%	219	7%	40.6	413	9%
Exposure Risk										
MSM	1191	59%	-	2044	61%	1765	59%	-	2943	61%
IDU	213	10%	-	344	10%	323	11%	-	494	10%
MSM/IDU	198	10%	-	339	10%	322	11%	-	536	11%
Hetero	196	10%	-	251	7%	255	9%	-	327	7%
Other	23	1%	-	61	2%	32	1%	-	75	2%
NIR	199	10%	-	296	9%	238	8%	-	361	8%
Pediatric	13	1%	-	18	1%	48	2%	-	56	1%
TOTALS	**2033**	**100%**	**107.0**	**3353**	**100%**	**2983**	**100%**	**157.0**	**4792**	**100%**

*Rates per 100,000 based on U.S. Census Bureau data for 2003; **Residence at time of HIV or AIDS diagnosis.

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