NEW MEXICO
DEPARTMENT OF
HEALTH

HIV/AIDS Epidemiology Program

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HIV/AIDS Mortality in New Mexico

The clearest demonstration of success in the fight against HIVAIDS has been the reduction of mortality since 1996, when highly active antiretroviral therapy (HAART) was introduced. HAART has increased the time of progression to AIDS, decreased AIDS-related deaths, and improved survival among persons with AIDS throughout the U.S. and in other parts of the world where it is available. Unfortunately, a large portion of HIV infected individuals worldwide currently resides in countries where access to HAART therapy is still limited to 1 in 10 persons in need.

The latest report produced by the Centers for Disease Control and Prevention (CDC) indicates that while diagnoses of AIDS have risen since 2001, deaths among persons with AIDS continue to gradually decline (CDC, HIV/AIDS Surveillance Report, Vol. 16). These trends are evident in New Mexico as well. Since 1981, there have been a total of 4,842 (3,601 AIDS, 1,241 HIV) cases of HIV/AIDS reported to the New Mexico Department of Health's HIV/AIDS Epidemiology Program. A total of 1,824 (1,735 AIDS, 89 HIV) deaths have been documented. The number of AIDS-related deaths overall have remained relatively stable since the introduction of HAART. Figure 1 illustrates the incidence of new cases and deaths among persons with HIV/AIDS in New Mexico since 1990. In general, deaths among persons with HIV/AIDS have remained steady around 50+ cases per year.

The HIV/AIDS Epidemiology Program in New Mexico conducts regular record matches with the Bureau of Vital Records and Health Statistics to obtain cause of death information from death certificates. In this report, data on cause of death was examined to determine mortality patterns associated with HIV/AIDS in New Mexico. Not all death certificates are readily available, particularly for persons who have died out of state; this report addresses 744 (41%) of the total deaths documented.

Figure 1. Deaths among persons with HIV/AIDS, New Mexico, 1990-2005*
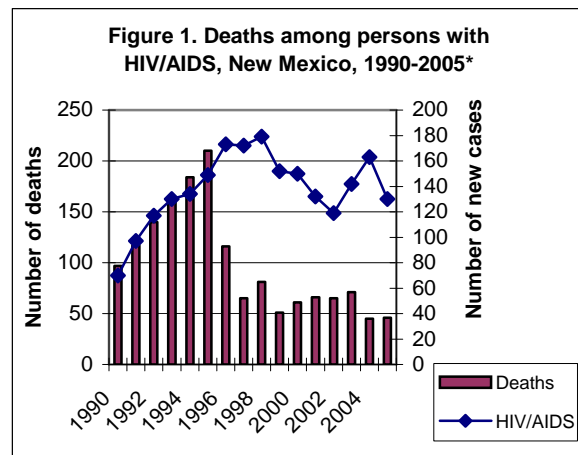
*Data from 2005 are preliminary and subject to reporting delays.

In examining trends in mortality associated with HIV/AIDS, it is essential to consider how opportunistic infections (OI's) continue to affect persons with the disease. Infection with HIV weakens the immune system, allowing OI's to develop and cause health problems, including death. OI's are caused by many types of pathogens, including protozoa, bacteria, fungi, and viruses.

Table 1. AIDS-related causes of death, New Mexico, 1981-2005*

ICD-9 category	n	%
AIDS	473	87%
Kaposi's sarcoma	5	1%
Tuberculosis	5	1%
Cytomegalovirus	6	1%
Lymphoma	15	3%
Pneumocystosis	15	3%
Pneumonia	17	3%
Wasting syndrome	5	1%
	541	100%

Table 1 lists the frequency of the most common OI's observed as a cause of death. This does not take into account the number of persons who experienced these infections and survived, which are far larger in number. In most cases, OI's are reported as the cause of death among persons with HIV/AIDS. However, some facilities simply list AIDS as the primary cause of death, rather then the infection or condition that resulted subsequent to AIDS.

Though OI's and AIDS are often listed as the cause of death, persons with HIV/AIDS are also subject to other non-infectious causes (Table 2). Approximately one-third of persons with HIV/AIDS have been victim to non-infectious conditions or trauma that resulted in death.

Table 2. Causes of death among persons with HIV/AIDS, New Mexico, 1981-2005*

ICD-9 category	n	%
Infectious disease	528	71%
Neoplasms (cancer)	38	5%
Endocrine, nutritional, metabolic, immunity	13	2%
Blood & blood forming organs	3	0%
Mental disorders	6	1%
Nervous system	8	1%
Circulatory system	26	3%
Respiratory system	27	4%
Digestive system	20	3%
Genitourinary system	1	0%
Complications of pregnancy	1	0%
Musculoskeletal system & connective tissue	1	0%
Symptoms, signs, & ill-defined conditions	27	4%
Injury & poisoning	27	4%
Accidents, suicide, homicide	18	2%
	744	100%

An important component of mortality analysis is burden of death among different racial/ethnic groups. By examining deaths in each group before and after the introduction of HAART, we may gain some insight on access to care and services for HIV/AIDS (Figure 2). There has been a noticeable decline in deaths among Whites since the introduction of HAART, but this is countered by increased deaths among minorities. During the examined time periods, the proportion of deaths among Hispanics increased from 28% to 35% (Table 3). The proportion of deaths among Native Americans and African Americans with HIV/AIDS also doubled to 7% each. These data suggest the need for targeted prevention and testing for minorities who are at risk for HIV infection.

Figure 2. Deaths among persons with HIV/AIDS by race/ethnicity, New Mexico, 1981-2005*
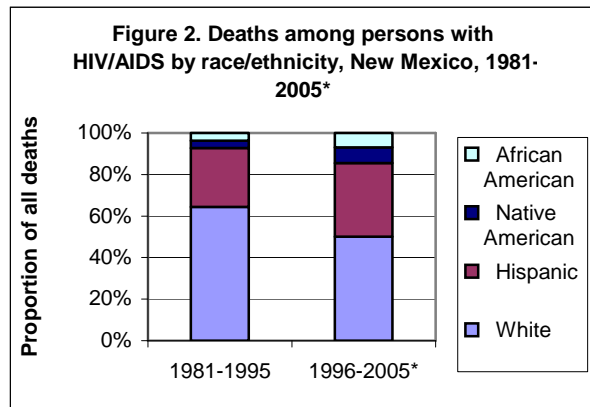
Deaths among persons with HIV/AIDS also changed over time by reported mode of exposure. As described in Table 3, deaths in men who have sex with men (MSM) decreased significantly, while those among injection drug users (IDU) increased.

Table 3. Deaths among persons with HIV/AIDS by select demographics, New Mexico, 1981-2005*

	1981-1995		1996-2005	
	n	%	n	%
Race/ethnicity				
White	736	64%	333	50%
Hispanic	325	28%	235	35%
Native Am	39	3%	50	7%
African Am	43	4%	46	7%
Asian/PI	3	0%	3	0%
Mode of exposure				
MSM	824	72%	357	54%
IDU	78	7%	96	14%
MSM/IDU	122	11%	93	14%
Hetero	32	3%	38	6%
Other	25	2%	18	3%
NIR	62	5%	61	9%
Pediatric	3	0%	4	1%
	1146	100%	667	100%

Survival analysis can also be used to examine mortality data. This method of analysis determines the probability of survival at several increments in time, such as time from diagnosis of a given disease to death. In the case of HIV/AIDS, persons who are diagnosed later during the course of the disease are expected to have poorer outcomes, including death.

For this report, a crude analysis was used to examine time from HIV or AIDS diagnosis to death. Relationships between age at diagnosis and age at death were examined for each racial/ethnic group. Across all minorities, the majority of persons diagnosed between the ages of 30 and 39 years died during the same decade as their diagnosis of disease. According to CDC, survival generally decreases as age at diagnosis increases among persons aged at least 35 years.

In contrast, the outlook on persons diagnosed earlier in their disease differed by racial/ethnic group. The proportion of minorities that were diagnosed between the ages of 20 and 29 years and subsequently died during the same decade was higher than that for Whites (18%). Twenty-six percent of Hispanics and Native Americans diagnosed in this age group, and 22% of African Americans, died in their 20's after diagnosis of either HIV or AIDS. These data show that minorities continue to be disproportionately affected by the disease. Current trends also show that more Hispanic and Native American youth are being diagnosed with HIV/AIDS in New Mexico than previously.

These disparities in mortality can be explained by the high rates of concurrent diagnosis of HIV and AIDS seen in New Mexico. Individuals that are concurrently diagnosed usually present to medical providers with more advanced clinical needs. They are also more likely to have unknowingly transmitted HIV to others over a period of many years. The HIV/AIDS Epidemiology Program defines concurrent diagnosis to include cases in which documentation of AIDS has followed diagnosis of HIV infection by less than one year (Summer Quarterly Report, July 2004).

About half of all AIDS diagnoses are concurrent diagnoses among New Mexicans; this is much higher than U.S. data reported by CDC at 39%. In New Mexico, Hispanics continue to be the largest population that tests positive for HIV late in their disease. By considering both mortality and concurrent diagnosis data, programs can gain further insight into testing behaviors and access to services among specific populations in order to better serve these populations.

Despite observed differences in mortality trends across sub-populations, the overall number of deaths among persons infected with HIV/AIDS in New Mexico continues to decline. The introduction of HAART in 1996 significantly reduced progression to AIDS and AIDS-related mortality across the U.S. However, experts agree that the next step beyond HAART is past due. Better medication formulations, vaccine work, increased awareness and prevention efforts will mark future progress in lowering the morbidity and mortality associated with HIV.

Welcome!

The HIV/AIDS Epidemiology Program is happy to announce that Monica Olkowski has recently joined us as an epidemiologist. Monica arrives with a Master in Science degree from Colorado State University. Not only does she have experience in infectious disease research and surveillance, but also a history of outreach work in HIV/AIDS. We look forward to her insight and contribution as the Program continues its efforts in integrating HIV/AIDS epidemiology with prevention and services in New Mexico.

HIV/AIDS IN NEW MEXICO FACT SHEET
Cases reported through December 31, 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	826	41%	44.0	881	26%	1149	38%	60.4	1238	26%
AIDS	1205	59%	63.1	2482	74%	1868	62%	96.6	3603	74%
Gender										
Male	1767	87%	189.4	3011	89%	2639	87%	279.3	4342	90%
Female	263	13%	27.4	352	11%	378	13%	38.8	499	10%
Race/Ethnicity										
White	926	45%	110.8	1673	50%	1522	50%	179.6	2597	54%
Hispanic	858	42%	105.2	1314	39%	1085	36%	132.3	1648	34%
Native American	137	7%	73.5	196	6%	220	7%	117.0	310	6%
African American	101	5%	293.2	165	5%	176	6%	492.4	266	5%
Asian/Pacific Islander	8	0%	32.4	14	0%	13	0%	46.8	19	0%
Region										
Region 1 (Northwest)	251	12%	63.2	382	11%	300	10%	76.2	451	9%
Region 2 (Northeast)	432	21%	148.7	729	22%	524	18%	182.6	882	18%
Region 3 (Bernalillo Co.)	908	44%	152.8	1604	48%	1070	36%	181.1	1880	39%
Region 4 (Southeast)	118	6%	49.6	202	6%	153	5%	63.4	258	5%
Region 5 (Southwest)	333	16%	86.8	456	13%	384	13%	99.9	543	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	472	24%	188.1	686	21%	715	24%	280.8	1024	21%
30-39	844	42%	340.2	1428	42%	1266	42%	504.6	2092	43%
40-49	503	24%	173.3	861	25%	720	23%	244.0	1187	24%
50+	160	8%	29.8	329	10%	217	7%	40.6	414	9%
Exposure Risk										
MSM	1203	59%	-	2064	61%	1799	59%	-	2986	61%
IDU	215	10%	-	348	10%	331	11%	-	505	10%
MSM/IDU	197	10%	-	340	10%	322	11%	-	539	11%
Hetero	200	10%	-	255	7%	264	9%	-	336	7%
Other	23	1%	-	61	2%	32	1%	-	75	2%
NIR	180	10%	-	277	9%	219	8%	-	342	8%
Pediatric	13	1%	-	18	1%	50	2%	-	58	1%
TOTALS	**2031**	**100%**	**107.0**	**3363**	**100%**	**3017**	**100%**	**157.0**	**4841**	**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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http://www.health.state.nm.us/hiv-aids.html