

**Oklahoma Statewide Epidemiologic Profile
for HIV Prevention Community Planning****Executive Summary**

Oklahoma's statewide epidemiologic profile describes populations affected by HIV and trends in HIV transmission patterns among persons who are already infected. It is likely that HIV transmission will continue to occur among persons with similar characteristics who practice the same risk behaviors in the same communities where other persons are already infected.

The majority of HIV and AIDS cases have been reported as living within the urban areas of Oklahoma at their time of initially testing positive for HIV and being diagnosed with AIDS. Every region of the state has had cases of HIV and AIDS, therefore everywhere has felt some impact. Although many more whites have been reported than any other racial/ethnic group, blacks have experienced the greatest impact, with 3 ¼ to 8 times the rate per 100,000 population.

Death rates have decreased in HIV infected individuals, from 1994 to 2000 and it is expected that deaths will fall in 2001 as well, however the number of deaths for CY 2001 has yet to be determined. Through December 2001, 4,693 persons known to be HIV infected are currently living in Oklahoma, this calculates to a prevalence rate of 136.0 per 100,000 population statewide; this includes individuals diagnosed somewhere other than Oklahoma who now live in Oklahoma. Since 1981, a total of 6,417 (combined HIV and AIDS) have been reported as residing in Oklahoma at their time of diagnosis.

From 1999 through 2001 the predominant mode of HIV exposure in Oklahoma has been male-to-male sexual contact. In 2001 MSMs accounted for 47% of all AIDS cases. A substantial proportion of cases were attributed to heterosexual contact (13.4%), heterosexual injection drug use (12.4%) and injection drug use in males who have sex with males (25.3%). Most cases among men initially reported without risks are eventually reclassified to the male-to-male sexual contact or the injection drug use exposure categories. Among women, most cases initially reported without risk are eventually reclassified to the heterosexual and injection drug use exposure categories.

In Oklahoma, blacks have been disproportionately affected by HIV/AIDS and the data (AIDS, HIV and STD surveillance) suggest that they are probably still at high risk for HIV exposure. Analysis of sexually transmitted disease case reports (early syphilis, gonorrhea and chlamydia) all demonstrate blacks to have the highest reported rates of infection for 1999 through 2001. Blacks age 15-24, in particular, have the most disproportional rates, from 6 to 80 times greater than reported in whites.

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Oklahoma Statewide Epidemiologic Profile for HIV Prevention Community Planning

Introduction

General Comments

This epidemiologic profile should thoroughly characterize the HIV epidemic among the various populations in Oklahoma and should identify characteristics of both HIV infected persons and HIV negative persons at high-risk and in need of prevention services. While the information provided by the epidemiologic profile is a starting point for the needs assessment step of community planning, it also must be considered when setting priorities. Importantly, community planning group members should understand the meaning, strengths, and limitations of the data.

The epidemiologic profile should address four key questions:

- 1) What are the sociodemographic characteristics of the population?**
- 2) What is the impact of HIV/AIDS on the population?**
- 3) Who is at risk for becoming infected with HIV?**
- 4) What is the geographic distribution of HIV infection?**

Question 1 seeks information on important characteristics of the population of the planning region and provides the background for understanding the dynamics of the HIV epidemic. Question 2 asks for information about the magnitude and impact of the HIV epidemic in the planning region. Question 3 asks for the most crucial information for understanding, which population groups are at high risk for becoming infected with HIV. Most of the data that are widely available to answer Question 3 describe those currently infected with HIV, with the assumption that those who have become infected, particularly persons most recently infected, are characteristic of those in the community most likely to become infected in the near future. Question 4 seeks information to describe the geographic distribution of HIV infected persons in the planning region.

In many regions, data from certain analyses cannot be presented because of small numbers of HIV infections or AIDS cases. Reporting small numbers of cases may lead to a breach of confidentiality and to the inadvertent disclosure of a person's identity. Showing data with small numbers may be acceptable only if there is no risk of such inadvertent disclosure.

New segments in this edition of the profile include: Female AIDS cases by region of the state, HIV Prevalence by Area Code (used in Ryan White Care Act planning), and Persons seeking HIV testing at state-sponsored Counseling and Testing Sites by region of state.

Question 1. What are the sociodemographic characteristics of the population?**Prevention planning value:**

Provides background on diversity of population and context for assessing potential HIV impact relative to other regions.

Key components:

- Total population size
- Proportion of the area's total population represented by region
- Race/ethnicity
- Socioeconomic characteristics

Key issues:

- Socioeconomic measures may help identify groups at high risk
- Census data are the principal source of population information

1.1 What are the sociodemographic characteristics of the population?

The HIV epidemic in the United States is a composite of multiple, unevenly distributed epidemics in different regions and among different population groups. These population groups may comprise persons who practice similar high-risk behavior, such as injecting drugs or having unprotected sex with an infected partner. **Although race and ethnicity are not risk factors for HIV transmission, they are markers for complex underlying social, economic, and cultural factors that affect personal behavior and health.**¹ Low socioeconomic status in particular is associated with morbidity and premature mortality;² unemployment and poverty are correlated with decreased access to health education, preventive services, and medical care, resulting in an increased risk for disease.¹ Although the racial/ethnic composition of Oklahoma's population is relatively homogeneous, the social, economic, and cultural context of HIV infection must be considered when designing and implementing prevention programs for diverse populations.

The U.S. Department of Commerce distributes published and unpublished data for large areas such as census regions, states, metropolitan areas, counties, cities, and for small areas down to the size of a city block.³ In addition to providing a regional snapshot of the entire population, census data are the principal source of denominator data for calculating AIDS incidence rates (the number of cases per 100,000 population). Census data also may be useful for the HIV prevention needs assessment.

■ Size and distribution of the population

Oklahoma ranks 18th in area among the 50 states and covers approximately 70,000 square miles located in the geographic center of the United States. The state is divided into 77 counties, with the 2000 census reflecting a population of 3,450,654 (9.7% increase) compared to the population of 3,145,585 determined by the 1990 census. A population density of 49.3 persons per square mile reflects Oklahoma's rural character. Twelve of Oklahoma's counties are totally rural,

having no community with a population as large as 2,500. Approximately sixty percent (60.8%) of the state's residents reside in five metropolitan statistical areas (MSA): Oklahoma City (N=1,083,346), Tulsa (N=803,235), Lawton (N=114,996), and Enid (N=57,813). Additionally Sequoyah County (N=38,972) residents are included in the Ft. Smith, Arkansas MSA.

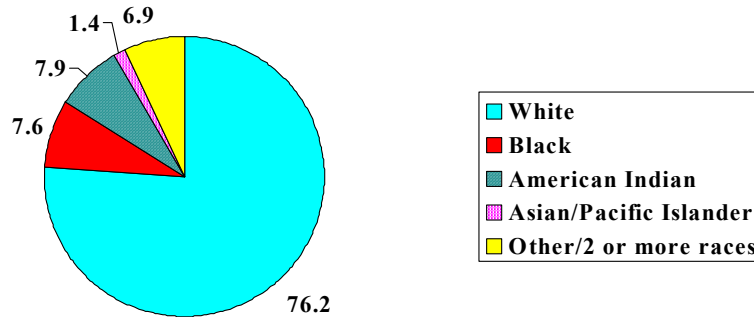
Local health units comprise the service delivery network of the public health system in Oklahoma. Sixty-nine counties of the state's 77 are served by county health departments. In the other eight counties, certain minimal services are provided by either OSDH or nearby county health departments. These local health units provide services for all citizens, although the economically disadvantaged may find them crucial. Programs provided by the health departments are at low or no cost. For those where a cost is assessed, a graduated fee scale is used based on the individual's ability to pay.

Each of the county health departments has a basic staff consisting of a medical director, administrative director, nurses, sanitarians and child guidance personnel, as well as administrative and clerical staff. Most can offer specialized services through nutritionists, social workers, nurse practitioners and others who are assigned on a regional basis to one or more county health departments. The actual delivery of most of the agencies' environmental services is accomplished through county health department sanitarians. At the Oklahoma State Department of Health (OSDH), Community Health Services provide direction and support services and is responsible for supervision of all personnel and programs at the county level. The Oklahoma State Board of Health administratively establishes two of Oklahoma counties, Oklahoma and Tulsa.

■ **Racial/ethnic composition of the population**

Of the state's total population, 49.8% are female and 50.2% are male. The 2000 US Census handled racial information differently than in the past. Individuals were able to report themselves as one racial category or more than one racial category they were also asked if they were of Hispanic origin. The 2000 Census estimated Oklahomans as White (76.2%), American Indian (7.9%), Black (7.6%), Asian/ Pacific Islander (1.4%) and 2 or more races / other (6.9%). The number of persons of Hispanic or Latino Origin more than doubled from 86,160 in 1990 to 179,304 in 2000. Oklahomans with Hispanics/Latino origin represents 5.2% of the 2000 population.

Oklahoma's Population by Race Determined by the 2000 US Census



■ Measures of social and economic status

The per capita income in Oklahoma is \$23,517 with a median household income of \$30,002. Approximately 16% of Oklahoma households are below poverty level; this compares to 13.8% nationally are below the poverty level, although in some counties this includes more than 30% of households.

1.2 Summary

In Oklahoma, the majority of the population:

- ◆ Live in metropolitan regions
- ◆ Are white
- ◆ Live above the poverty level.

Question 2. What is the impact of HIV/AIDS on the population?**Prevention planning value:**

Documents the extent of existing HIV infection in broad population groups within the region. Provides a basis for comparison with national data and a framework for closer examination of impact among specific population groups.

Key components:

AIDS cases

- Number of AIDS cases
- Proportion of total AIDS cases in the project area
- Number of AIDS cases diagnosed each year (epidemic curve)
- Annual rate of reported AIDS cases per 100,000 population

HIV-related deaths

- Number of deaths occurring in the HIV infected, these may or may not be HIV-related deaths

HIV (not AIDS) cases

HIV infection

- Estimate of number of HIV-infected persons

Key issues:

- Trends in reported AIDS cases are difficult to interpret because of the 1993 expansion of the case definition.
- Trends in proportion of AIDS cases attributed to different modes of HIV transmission may identify emerging patterns of transmission.
- Although the median time from HIV infection to AIDS is approximately 10 years (that is, 50% of persons develop an AIDS-defining opportunistic infection within 10 years of HIV infection), AIDS develops much earlier in some persons; thus, emerging patterns will be seen earlier than the commonly cited "10-year" lag. Although HIV-reporting data (cases among persons reported with HIV infection without AIDS) are commonly thought to be "more recent," they are not representative of all infected people, and studies indicate that a majority of persons are tested for HIV infection only one year before they develop an AIDS-defining opportunistic infection.

Question 2. What is the impact of HIV/AIDS on the population?**2.1 What is the impact of AIDS on the population?**

The following data are based on AIDS Surveillance data unless otherwise stated.

- Proportion (percentage) of Oklahoma’s population for region compared with proportion (percentage) of each region’s total AIDS cases.

Percentage of Oklahoma’s Population for Region Compared with Percentage of each Region’s Total AIDS Cases			
Region	% Population	% of AIDS Cases	Compared to Expected
Northeast	16.3 %	7.9%	↓ 8.4 %
Northwest (including Enid MSA)	5.8%	2.5%	↓ 3.3 %
Southeast (including Sequoyah County - Ft Smith MSA)	11.9 %	5.5%	↓ 6.4 %
Southwest (including Lawton MSA)	11.3%	6.8%	↓ 4.5 %
Oklahoma City MSA	31.4%	46.9%	↑ 15.5 %
Tulsa MSA	23.3%	30.4%	↑ 7.1 %

If all things are equal, the percentage of expected AIDS cases in each region of the state should be equal to the percentage of people living in that region of the state. For example, since 31.4% of the population lives in the Oklahoma City MSA, it is *expected* that approximately 30% of the cases of AIDS in Oklahoma will reside in the Oklahoma City MSA. If using the proportion (here represented as a percentage) of the population living within any region to predict the proportion (impact) of AIDS cases in their community, only Oklahoma City and Tulsa MSAs have a larger than expected percentage diagnosed in their area. This relates to a larger impact on these metropolitan communities than expected. The remaining regions have a smaller than expected percentage diagnosed in their area hence a smaller than expected impact if all behaviors, risks and prevalence of the disease are equals.

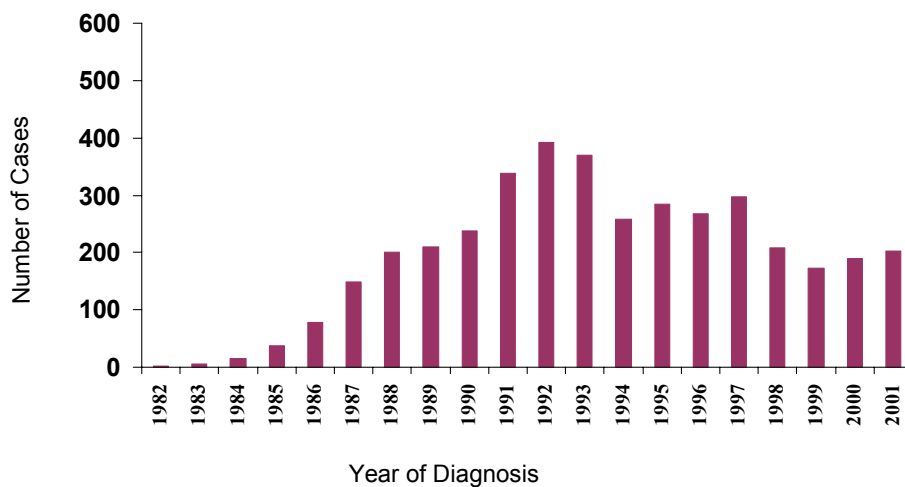
It is imperative to remember surveillance data represents the cases of a disease, which we know about. It in no way tells us the true number of individuals who are actually infected with a disease. Another important item to understand or question is “*How is surveillance for a specific disease performed in my state?*”. The answer to this question greatly effects how much value must be placed on these numbers when assessing their impact. If the surveillance system is reliant on only passive reports, less significance (*not* in the statistical sense) can be given to these data, since they probably do not include all cases. *Oklahoma’s surveillance system is built around an active surveillance model.* This means in addition to receiving passive reports, surveillance epidemiologists look for cases from a variety of providers and provider types. Laboratories, private physicians, inpatient hospitalizations, outpatient care, death registries and HIV Counseling and Testing sites, etc. are some of the types of providers which are contacted regularly to ensure new cases are reported and/or updates to cases are received. In unpublished studies done by the HIV/STD Service, only 45-65% of HIV and AIDS cases are received passively. Therefore if we as a program relied only on passive reporting, 45-55% of cases would not be reported.

■ **Epidemic curve of total AIDS cases by year of diagnosis**

After the AIDS surveillance case definition for adults and adolescents was expanded on January 1, 1993, the number of cases reported substantially increased. The increase predominantly reflected the reporting of persons with HIV-related conditions diagnosed before that date that were not eligible for reporting until their conditions were added to the AIDS surveillance case definition. For the reason of changes in case definition and others, which affect reporting of cases, such as changes in staffing patterns, analysis of AIDS cases should be done on date of diagnosis, not date of report, when possible. However, date of diagnosis data for very recent years is incomplete; data through 1999 should be considered complete.

A graph, an epidemiologic curve, demonstrates a gradual increase in number of AIDS cases diagnosed by year until 1991, when a large increase is reflected, almost 100 cases more than diagnosed the prior year. It is important to note that Oklahoma began collecting CD4+ lymphocyte data on a special study basis in 1991. The State Board of Health made CD4+ values of less than 500µl reportable. The peak year of AIDS cases diagnosed is 1992 with 1993 closely behind. After 1993 the number of AIDS cases diagnosed is back to slightly greater level as observed prior to the initiation of CD4+ reporting. Most likely the number of cases diagnosed in 2000 and 2001 will increase as auditing of medical records and other epidemiologic follow-up for these years is completed. However, since we have now entered the era of HAART (Highly Active Anti-Retroviral Treatment) we can expect with individuals entering into care early and receiving highly effective therapies, numbers of AIDS cases diagnosed each year will continue to decrease.

AIDS Cases in Oklahoma by Year of Diagnosis



■ AIDS cases and annual rates per 100,000 population, for most recent years of report

AIDS Cases by Year of Report						
Region of State	Number of AIDS Cases Reported			Annual Rate per 100,000		
	1999	2000	2001	1999	2000	2001
State of Oklahoma	135	323	228	3.9	9.4	6.6
Oklahoma City MSA	37	188	112	3.4	17.4	10.3
Tulsa MSA	67	64	68	8.3	8.0	8.5
Northeast	13	22	25	2.3	3.9	4.4
Northwest	2	8	3	1.0	4.0	1.5
Southeast	5	20	12	1.2	4.9	2.9
Southwest	11	21	7	2.8	5.4	1.8

For the State of Oklahoma, almost 100 fewer AIDS cases were reported in 2001 than in 2000, whereas, 2000 had ~2 ½ times as many cases reported than 1999. Two very different factors likely influence this phenomenon. Firstly, with the availability of HAART (highly active anti-retroviral therapy), we expect to observe few individuals progressing on to an AIDS diagnosis. However, the field epidemiologist based in Oklahoma City became and remained vacant for a significant portion of 1999. Again note these data represent date of report, which is influenced by a variety of issues that have no relation to trends in the disease. It is possible that we as field epidemiologists have “trained” providers to respond and report infections and cases when contacted, instead of encouraging the provider to report when they first encounter a new positive or case in their practice. This may represent the Pavlov’s Dog principle in action. However, it is important to point out that once a field epidemiologist covering the central portion of the state (including the Oklahoma City metropolitan area) was hired and trained, the number of AIDS cases reported during 2000 increased dramatically from the prior years. Compare this striking increase in the OKC MSA to the steady number reported out of the Tulsa metro area: the Tulsa area has had the same individual working as a field epidemiologist in that area for more than a decade. The major point being that high employee turnover in a position can and does greatly affect the program’s ability to continue routine (active) surveillance for a condition which surveillance is difficult under ideal situations. By report year 2001, the reporting level appears to have ‘normalized’ in that the backlog of unreported cases had been taken care of and the numbers again returned to an expected level.

■ **AIDS cases and annual rates per 100,000 population, for most recent years of diagnosis**

AIDS Cases by Year of Diagnosis						
Region of State	Number of AIDS Cases Diagnosed			Annual Rate per 100,000		
	1999	2000	2001	1999	2000	2001
State of Oklahoma	172	189	202	5.0	5.5	5.9
Oklahoma City MSA	78	80	103	7.2	7.4	9.5
Tulsa MSA	49	63	54	6.1	7.8	6.7
Northeast	18	16	21	3.2	2.8	3.7
Northwest	4	5	3	2.0	2.5	1.5
Southeast	12	9	13	2.9	2.2	3.2
Southwest	11	16	7	2.8	4.1	1.8

The stability of both AIDS case numbers and rates over the few years have returned when analyzed by date of diagnosis instead of date of report. This can partially be explained by the fact that all major hospitals have completed their audits of discharge summary data requested by our Service and the Epidemiologist position based in Oklahoma City is filled and training is complete. However, HAART (highly active anti-retroviral therapy) must be considered the major contributing factor.

■ **AIDS cases and annual rates per 100,000 population by race/ethnicity and sex, for most recent years of diagnosis**

AIDS Cases by Year of Diagnosis								
Race / Ethnicity	Males				Females			
	2000		2001		2000		2001	
	#	Rate	#	Rate	#	Rate	#	Rate
White	103	7.6	108	7.9	17	1.2	13	0.9
Black	33	25.9	38	29.8	13	9.7	7	5.2
Hispanic	3	N/A*	15	N/A*	1	N/A*	3	N/A*
American Indian	14	11.0	15	11.8	5	3.7	2	1.5
Asian/ Pacific Islander	0	-	1	4.6	0	-	0	-
Total	153	9.3	177	10.8	36	2.1	25	1.5

N/A* Cannot calculate with 2000 Census numbers. HIV data collected with Hispanic as Race, Census data collected with Hispanic as Ethnicity.

Most sections of the 2000 U.S. Census data are now published and available, therefore no sections necessitate utilization of 1990 Census data for rate calculations. Race by gender and race by age data calculations are now made with the 2000 populations; since the overall population of Oklahoma has increased slightly, these rates will “look” slightly lower than if the 1990 Census was used. The AIDS Case rate per 100,000 for blacks is 3 ½ to 8 times greater than any other race/ethnicity (black males 3 ½ to 4 and black females 5 ¾ to 8 times); the other rates are not significantly different from one another when the issue of small numbers is taken into consideration. The rate by year of diagnosis for blacks has continued to be much higher than rates observed in other racial/ethnic groups, the magnitude may be smaller than in the past (rate diagnosed in blacks ~5 times greater than observed in whites in 1992-4) keeping in mind that 2001 diagnosis date is definitely incomplete and 2000 data is considered mostly complete. Both the case rate (impact of the HIV epidemic) and the number of cases (magnitude of the HIV epidemic) should be considered when setting priorities for prevention activities. However, conclusions must be drawn cautiously when rates are based on very small numbers. In areas with a small population, very few cases may yield very high rates. The Centers for Disease Control and Prevention AIDS Surveillance Branch Office of Statistics and Data Management recommends that rates based on a numerator less than 50 and a denominator less than 100,000 should be interpreted with caution.

■ **Number of AIDS cases and percent of total, by exposure category and sex for most recent years of diagnosis**

AIDS Cases by Year of Diagnosis by Gender by Exposure Behavior								
Exposure Behavior	Males				Females			
	2000		2001		2000		2001	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	91	59	95	54	N/A	N/A	N/A	N/A
Injection Drug Use (IDU)	22	14	19	10	13	36	6	24
MSM & IDU	15	10	24	14	N/A	N/A	N/A	N/A
Hemophilia / Coagulation Disorder	0	0	1	1	15	42	17	68
Heterosexual Contact	7	5	10	6	15	42	17	68
Sex with IDU	3	3	3	3	7	8	8	8
Sex with MSM	3	3	3	3	3	3	3	3
Sex with Hemophiliac	3	3	3	3	3	3	3	3
Sex with Transfusion Recipient	3	3	1	1	3	3	3	3
Sex with HIV+ Risk Not Identified	4	4	6	6	5	6	6	6
Received Transfusion or Tissue	1	1	2	1	1	3	2	8
Other / Risk not Reported or Identified	17	11	26	15	7	19	2	8
Total	153	100	177	100	36	100	25	100

There is an increase in diagnosed cases in males (16%), however cases in females demonstrate a large decrease (31%) although one must not forget that with as very small numbers in females, a small increase in absolute number can result in what appears to be a large percentage. And we can expect more cases to be submitted with a diagnose year of 2001. Remember 2001 diagnosis year data is not yet complete and 2000 may not be totally complete; however, 1999 should be considered complete. According to unpublished local studies, 50% of AIDS cases are reported within the first month of diagnosis, 86% of cases are reported within 12 months of diagnosis and 95% within 2 years (1990 through 2000 data). Examination of the proportionate distribution of cases among population groups shows that the majority of cases in both years were among males, and that most cases among men were attributed to male-to-male sexual contact; this is similar to what has occurred in prior years. Of the small number of females diagnosed with AIDS during 2000 and 2001 the largest portion of cases were infected through sex with an infected partner or injection drug use of those for which we know their exposure behavior; this is similar to what has occurred in prior years.

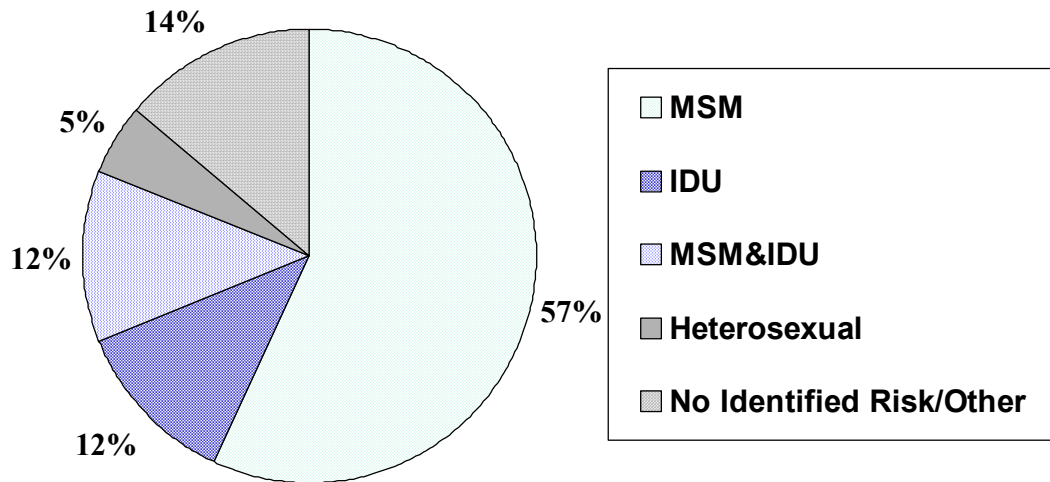
■ Male AIDS cases by exposure category and race/ethnicity, for most recent years of diagnosis

AIDS Cases for Year of Diagnosis 2000 and 2001 combined for Adult/Adolescent Males by Race and Exposure Behavior								
Exposure Behavior	Race /Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	129	61	38	54	9	31	10	53
Injection Drug Use (IDU)	27	13	6	8	7	24	1	5
MSM & IDU	22	10	8	11	9	31		
Hemophilia / Coagulation Disorder	1	0						
Heterosexual Contact	10	5	4	6			3	16
Sex with IDU	6							
Sex with MSM								
Sex with Hemophiliac								
Sex with Transfusion Recipient	1							
Sex with HIV+ Risk Not Identified	3		4				3	
Received Transfusion or Tissue	2	1	1	1				
Other / Risk not Reported or Identified	20	10	14	20	4	14	5	26
Total	211	100	71	100	29	100	19	100

* Other refers to Hispanic, Asian/ Pacific Islanders, Persons of Mixed Race, and Unknown.

Although concerns about small cell sizes require grouping racial/ethnic categories and 2 years of data, the above table still provides valuable information about the AIDS epidemic among Oklahoma males. From 2000 through 2001, 64% of cases reported were among white males; this is similar to what has occurred in prior years. For all categories of race/ethnicity the highest proportion of cases were attributed to male-to-male sexual contact; this is similar to what has occurred in prior years.

Oklahoma AIDS Cases in Males Diagnosed in 2000 and 2001 by Exposure Behavior



During diagnosis years 2000 and 2001, the majority (57%) of AIDS cases in males can be attributed to male-to-male sexual contact; this percentage may increase over time since a large percentage (13%) have no risk reported (NIR). History has demonstrated the NIR category will decrease to around 5% by the time these individuals have been diagnosed for several years and their exposure has been adequately assessed.

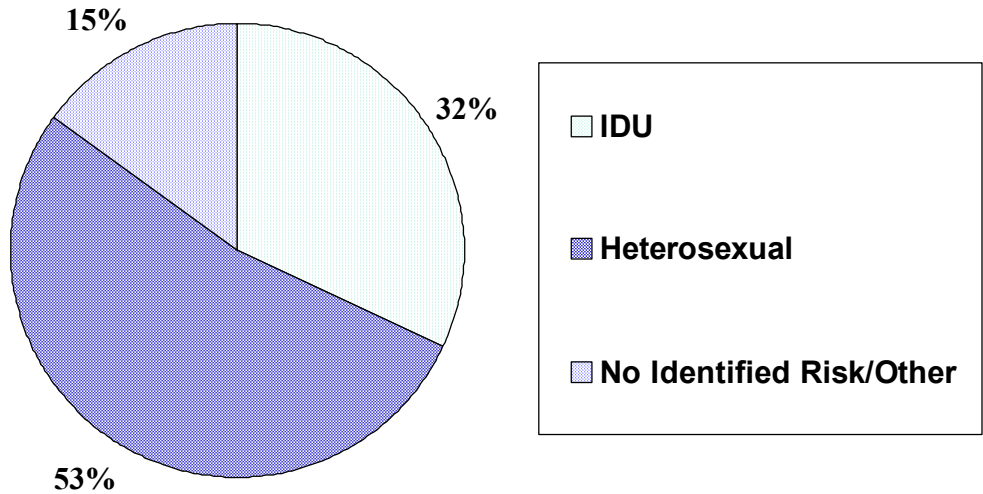
■ Female AIDS cases by exposure category and race/ethnicity, for most recent years of diagnosis

AIDS Cases for Year of Diagnosis 2000 and 2001 combined for Adult/Adolescent Females by Race and Exposure Behavior								
Exposure Behavior	Race /Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)								
Injection Drug Use (IDU)	10	33	5	25	4	57		
MSM & IDU								
Hemophilia / Coagulation Disorder								
Heterosexual Contact	16	53	10	50	3	43	3	75
Sex with IDU	8		5		1		1	
Sex with MSM	4		2					
Sex with Hemophiliac								
Sex with Transfusion Recipient								
Sex with HIV+ Risk Not Identified	4		3		2		2	
Received Transfusion or Tissue			1	5				
Other / Risk not Reported or Identified	4	14	4	20			1	25
Total	30	100	20	100	7	100	4	100

* Other refers to Hispanic, Asian/ Pacific Islanders, Persons of Mixed Race, and Unknown.

Although concerns about small cell sizes require grouping racial/ethnic categories and 2 years of data, the above table still provides valuable information about the AIDS epidemic among Oklahoma females. From 2000 through 2001, 49% of cases reported were among white females; this is somewhat lower; the norm has been between 60-70% in prior years. For all categories of race/ethnicity the highest proportion of cases were attributed to heterosexual contact (53%) with injection drug use (32%) closely behind; this is similar to what has occurred in prior years. From the heterosexually acquired cases, a large portion of women (25%) had sex with an IDU closely followed by those who did not know how their sex partner became infected or were willing to share this information with her health care provider (18%).

Oklahoma AIDS Cases in Females Diagnosed in 2000 and 2001 by Exposure Behavior



During diagnosis years 2000 and 2001, the majority (53%) of AIDS cases in females can be attributed to heterosexual contact; this percentage may increase over time since a large percentage (13%) have no risk reported (NIR). History has demonstrated the NIR category will decrease to around 5% by the time these individuals have been diagnosed for several years and their exposure has been adequately assessed.

2.2 What is the impact of HIV-related deaths?

How many HIV-related deaths occurred in the most recent years? Characterizing HIV-related mortality is an additional measure of the impact of HIV on the state.

■ **HIV-related deaths by sex and race/ethnicity for most recent year(s) of report**

Deaths for each calendar year were obtained from the Vital Records Division of the Oklahoma State Department of Health. Name and Date of Birth were utilized to electronically match these records with the HIV/AIDS database by surveillance staff. All records, which appeared to be potential matches, were verified to ensure they were the correct patients. Numbers reflect all persons who died in Oklahoma who were reported as having HIV/AIDS, although not all of their deaths were due to being infected with HIV.

Oklahoma Deaths from HIV/AIDS by Year of Death Crude Death Rates			
Year	Number of Resident Deaths in Oklahoma	Number of Deaths in HIV Infected	Rate per 1,000 Deaths
1994	32,082	314	9.8
1995	32,431	280	8.6
1996	32,872	185	5.6
1997	33,780	118	3.5
1998	33,803	99	2.9
1999	33,933	100	2.9
2000	34,707	80	2.3
2001	Not yet available	46	N/A

2.3 What is the impact of HIV on the region?

Impact can be determined in a several ways. Either how many compared to the expected number or how many persons in the region are *currently* living and infected with HIV, i.e. what is the prevalence of HIV infection?

- **Proportion (percentage) of Oklahoma's population for region compared with proportion (percentage) of each region's total HIV infection (non AIDS) cases.**

Percentage of Oklahoma's Population for Region Compared with Percentage of each Region's Total HIV (not AIDS) Cases			
Region	% Population	% of HIV Cases	Compared to Expected
Northeast	16.3	5.8	↓ 10.5 %
Northwest (including Enid MSA)	5.8	2.5	↓ 3.3 %
Southeast (including Sequoyah County - Ft Smith MSA)	4.9	4.5	↓ 0.4 %
Southwest (including Lawton MSA)	11.3	9.6	↓ 1.7 %
Oklahoma City MSA	31.4	46.5	↑ 15.1 %
Tulsa MSA	23.3	31.1	↑ 7.8 %

If all things are equal, the percentage of expected HIV (not AIDS) cases in each region of the state should be equal to the percentage of people living in that region of the state. For example, since 31.4% of the population lives in the Oklahoma City MSA, it is *expected* that approximately 30% of the cases of HIV infection (not AIDS) in Oklahoma will reside in the Oklahoma City MSA. If using the proportion (here represented as a percentage) of the population living within any region to predict the proportion (impact) of AIDS cases in their community, only Oklahoma City and Tulsa MSAs have a larger than expected percentage diagnosed in their area. This relates to a larger impact on these metropolitan communities than expected. The remaining regions have a smaller than expected percentage diagnosed in their area hence a smaller than expected impact if all behaviors, risks and prevalence of the disease are equals.

- **HIV (not AIDS) cases and annual rates per 100,000 population by race/ethnicity and sex, for most recent years of diagnosis**

HIV (not AIDS) Cases by Year of Diagnosis								
Race / Ethnicity	Males				Females			
	2000		2001		2000		2001	
	#	Rate	#	Rate	#	Rate	#	Rate
White	85	6.2	61	4.5	23	1.6	21	1.5
Black	26	20.4	28	22.0	8	5.9	9	6.7
Hispanic	5	N/A*	8	N/A*	3	N/A*	5	N/A*
American Indian	11	8.1	11	8.6	4	3.0	3	2.2
Asian/ Pacific Islander	2	6.1	1	4.6	1	4.2	0	-
Total	129	7.9	109	6.6	39	2.3	39	2.3

N/A* Cannot calculate with 2000 Census numbers. HIV data collected with Hispanic as Race, Census data collected with Hispanic as Ethnicity.

Most sections of the 2000 U.S. Census data are now published and available, therefore no sections necessitate utilization of 1990 Census data for rate calculations. Race by gender and race by age data calculations are now made with the 2000 populations; since the overall population of Oklahoma has increased slightly, these rates will “look” slightly lower than if the 1990 Census was used. The HIV (not AIDS) Case rate per 100,000 for blacks is 3 ¼ to 4 ¾ times greater than any other race/ethnicity (black males 3.2 to 4.8 and black females 3.7 to 4.5 times); the other rates are not significantly different from one another when the issue of small numbers is taken into consideration. The rate by year of diagnosis for blacks has continued to be much higher than rates observed in other racial/ethnic groups, the magnitude may be smaller than in the past (rate diagnosed in blacks ~5 times greater than observed in whites in 1992-4) keeping in mind that 2001 diagnosis date is definitely incomplete and 2000 data is considered mostly complete. Both the case rate (impact of the HIV epidemic) and the number of cases (magnitude of the HIV epidemic) should be considered when setting priorities for prevention activities. However, conclusions must be drawn cautiously when rates are based on very small numbers. In areas with a small population, very few cases may yield very high rates. The Centers for Disease Control and Prevention AIDS Surveillance Branch Office of Statistics and Data Management recommends that rates based on a numerator less than 50 and a denominator less than 100,000 should be interpreted with caution.

■ **Number of HIV (not AIDS) cases and percent of total, by exposure category and sex for most recent years of diagnosis**

HIV (not AIDS) Cases by Year of Diagnosis by Gender by Exposure Behavior								
Exposure Behavior	Males				Females			
	2000		2001		2000		2001	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	79	61.2%	60	55.0%	N/A	N/A	N/A	N/A
Injection Drug Use (IDU)	16	12.4%	14	12.8%	12	31.6%	10	25.6%
MSM & IDU	10	7.8%	13	11.9%	N/A	N/A	N/A	N/A
Hemophilia / Coagulation Disorder			1	1.0%				
Heterosexual Contact	6	4.7%	2	1.8%	13	34.2%	15	38.5%
Sex with IDU	4		1		5		6	
Sex with MSM					1		3	
Sex with Hemophiliac								
Sex with Transfusion Recipient								
Sex with HIV+ Risk Not Identified	2		1		7		6	
Received Transfusion or Tissue	2	1.5%					1	2.6%
Other / Risk not Reported or Identified	16	12.4%	19	17.5%	14	34.2%	13	33.3%
Total	129	100.0%	109	100.0%	39	100.0%	39	100.0%

Although there were a slightly larger number of cases reported among males comparing 2000 to 2001 this should not be interpreted as a change of the incidence or prevalence of infection. Remember 2001 diagnosis year data is not yet complete and 2000 may not be totally complete; however, 1999 should be considered complete. According to unpublished local studies, 55% of HIV cases are reported within the first month of diagnosis, 86% of cases are reported within 12 months of diagnosis and 92% within 2 years (1990 through 2000 data). The number of females reported has remained fairly stable for the last several years with the exception of 1999 with only 23 females being reported.

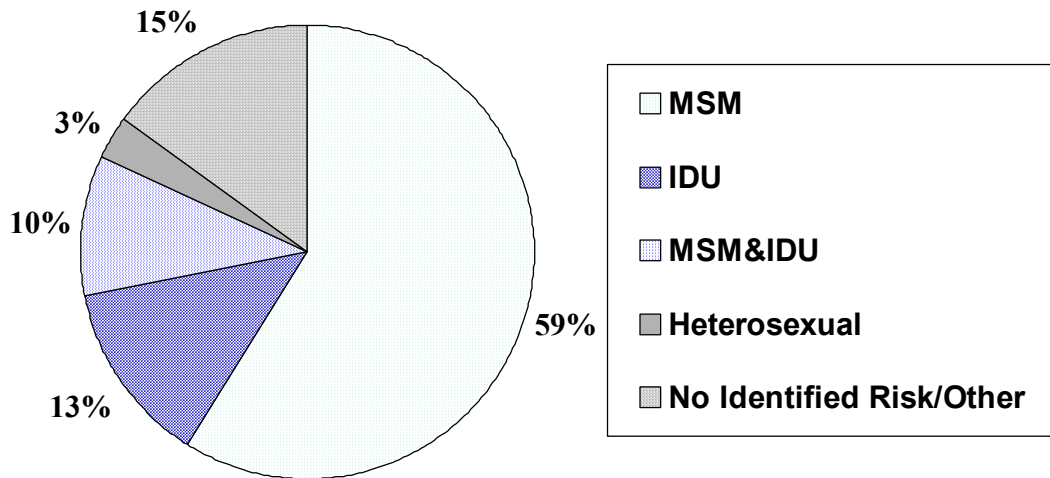
Examination of the proportionate distribution of cases among population groups shows that the majority of cases in both years were among males, and that most cases among males were attributed to male-to-male sexual contact; this is similar to what has occurred in prior years. Of the few females diagnosed with HIV infection during 2000 and 2001, the largest portion of cases were infected through sex with an infected partner or injection drug use of those for which we know their exposure behavior; this is similar to what has occurred in prior years.

■ **Male HIV (not AIDS) cases by exposure category and race/ethnicity, for most recent years of diagnosis**

HIV (not AIDS) Cases for Year of Diagnosis 2000 and 2001 combined for Adult/Adolescent Males by Race and Exposure Behavior								
Exposure Behavior	Race /Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	91	62.3%	26	48.2%	14	63.6%	8	50.0%
Injection Drug Use (IDU)	23	15.7%	3	5.6%	3	13.6%	1	6.3%
MSM & IDU	14	9.7%	4	7.4%	3	13.6%	2	12.5%
Hemophilia / Coagulation Disorder			1	1.8%				
Heterosexual Contact	2	1.4%	5	9.3%	1	4.6%		
Sex with IDU	1		4					
Sex with MSM								
Sex with Hemophiliac								
Sex with Transfusion Recipient								
Sex with HIV+ Risk Not Identified	1		1		1			
Received Transfusion or Tissue			2	3.6%				
Other / Risk not Reported or Identified	16	10.9%	13	24.1%	1	4.6%	5	31.2%
Total	146	100.0%	54	100.0%	22	100.0%	16	100.0%

Although concerns about small cell sizes require grouping racial/ethnic categories and 2 years of data, the above table still provides valuable information about the HIV epidemic among Oklahoma males. From 2000 through 2001, 61% of cases reported were among white males; this is similar to what has occurred in prior years. For all categories of race/ethnicity the highest proportion of cases were attributed to male-to-male sexual contact; this is similar to what has occurred in prior years.

Oklahoma HIV Cases in Males Diagnosed in 2000 and 2001 by Exposure Behavior



During diagnosis years 2000 and 2001, the majority (59%) of HIV cases in males can be attributed to male-to-male sexual contact; this percentage may increase over time since a large percentage (14%) have no risk reported (NIR). History has demonstrated the NIR category will decrease to around 5% by the time these individuals have been diagnosed for several years and their exposure has been adequately assessed.

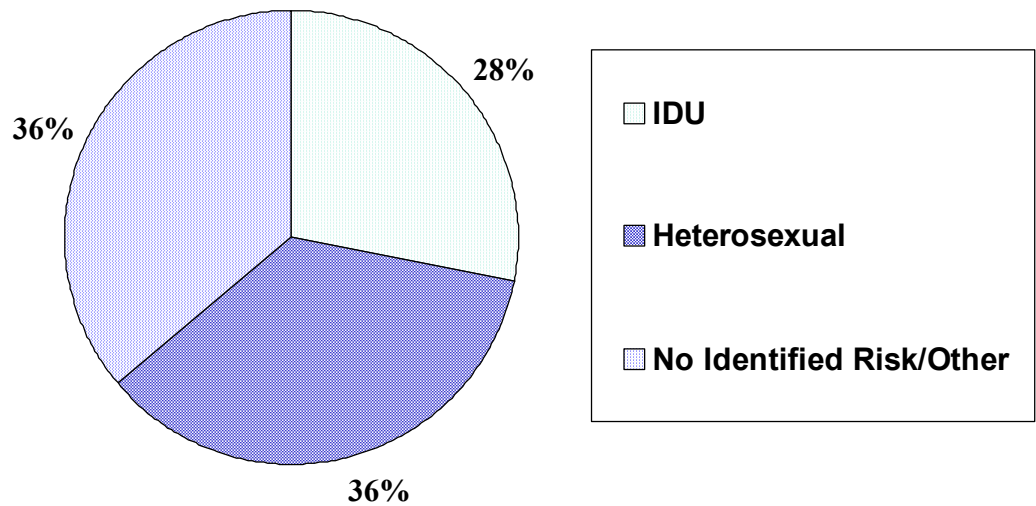
■ Female HIV (not AIDS) cases by exposure category and race/ethnicity, for most recent years of diagnosis

HIV (not AIDS) Cases for Year of Diagnosis 2000 and 2001 combined for Adult/Adolescent Females by Race and Exposure Behavior								
Exposure Behavior	Race /Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM) Injection Drug Use (IDU) MSM & IDU Hemophilia / Coagulation Disorder Heterosexual Contact	16	36.4%	2	11.8%	4	57.1%		
Sex with IDU	9		1		1			
Sex with MSM	2		1				1	
Sex with Hemophiliac								
Sex with Transfusion Recipient								
Sex with HIV+ Risk Not Identified	6		3				4	
Received Transfusion or Tissue			1	5.9%				
Other / Risk not Reported or Identified	11	25.0%	9	52.9%	2	28.6%	5	50.0%
Total	44	100.0%	17	100.0%	7	100.0%	10	100.0%

* Other refers to Hispanic, Asian/ Pacific Islanders, Persons of Mixed Race, and Unknown.

Although concerns about small cell sizes require grouping racial/ethnic categories and 2 years of data, the above table still provides valuable information about the HIV epidemic among Oklahoma females. From 2000 through 2001, 56% of cases reported were among white females; this is similar to what has occurred in prior years, the norm has been between 60-70% in prior years. For all categories of race/ethnicity the highest proportion of cases were attributed to heterosexual contact (37%) with injection drug use (29%) closely behind; this is similar to what has occurred in prior years. Of the heterosexual cases a large portion of women (46%) had sex with an infected partner but did not know how their sex partner became infected or were willing to share this information with her health care provider closely followed by those who had sex with an IDU (39%).

Oklahoma HIV Cases in Females Diagnosed in 2000 and 2001 by Exposure Behavior



During diagnosis years 2000 and 2001, the majority (36%) of HIV cases in females can be attributed to heterosexual contact; this percentage may increase over time since a large percentage (36%) have no risk reported (NIR). History has demonstrated the NIR category will decrease to around 5% by the time these individuals have been diagnosed for several years and their exposure has been adequately assessed.

■ **Estimate the number of HIV infected persons in the state**

While the death data from section 2.2 may be used to describe the overall impact of HIV in terms of AIDS cases and deaths, they do not characterize the HIV epidemic in terms of the number of persons currently living and infected with HIV. A simple method that may be used to estimate HIV prevalence, based on estimated AIDS Opportunistic Infections (OIs) among adults and adolescents, is to extrapolate from national estimates. Dr. John Karon, a statistician with CDC developed this simple method. The estimated prevalence (persons living with HIV infection) in Oklahoma of AIDS OIs as of 12/31/95, adjusting for reporting delays:

Estimated Prevalence of HIV based on AIDS OIs in Oklahoma by Gender as of 12/31/95	
Males	3,080 - 3,920
Females	360 - 480

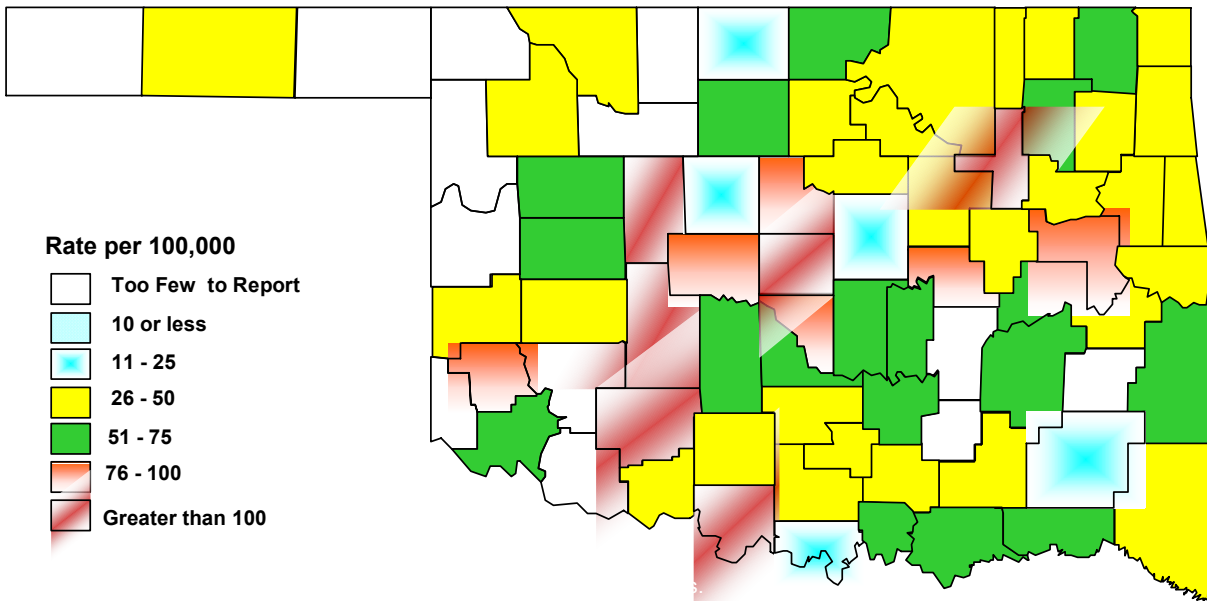
The estimate of HIV prevalence represents HIV infections among all adults and adolescents living with HIV infection, including those diagnosed with AIDS. Because prevalence refers to persons **currently** infected, infections among persons who have died are not included in the estimates.

Limitation: Prevalence estimation methods allow a gross estimate of the number of infected persons. The smaller the number of AIDS cases used in the calculations, the less reliable the estimates. Estimates are rounded off; estimates cannot be made to the nearest person and should be presented as a plausible range. Estimates of the number of HIV infected persons by 1) age group, 2) race/ethnicity, 3) mode of exposure to HIV, and 4) geographic areas with moderate or low incidence of AIDS are very imprecise and, in general, should not be attempted. Oklahoma is a state with a moderate to low incidence of HIV.

Although estimation of HIV prevalence in Oklahoma yields an imprecise estimate, it is done to emphasize that the number of persons currently infected is much larger than the number of persons reported with HIV or AIDS, because not all persons currently infected with HIV have been tested. Studies have estimated that a large proportion of HIV infected persons seek testing only when they are known to be exposed or have become sick.⁴ HIV reporting data provide only a minimum estimate of the number of persons known to be infected, that is, the number of persons who have sought testing, have tested positive and have been reported.

■ Known Prevalence of HIV infected persons in the state

HIV Prevalence* by County December 2001



Oklahoma HIV Infection Prevalence by Residence at Diagnosis through December 31, 2001.

County	Living HIV + AIDS Cases	Prevalence Rate per 100,000	County	Living HIV + AIDS Cases	Prevalence Rate per 100,000
Adair	10	47.5	Lincoln	8	24.9
Alfalfa	*	*	Logan	30	88.4
Atoka	6	43.2	Love	2	22.6
Beaver	*	*	Major	*	*
Beckham	7	35.4	Marshall	7	53.1
Blaine	14	116.9	Mayes	13	33.9
Bryan	19	52.0	McClain	16	57.7
Caddo	33	109.5	McCurtain	14	40.7
Canadian	76	86.7	McIntosh	11	56.5
Carter	18	39.5	Murray	4	31.7
Cherokee	13	30.6	Muskogee	59	85.0
Choctaw	10	65.2	Noble	3	26.3
Cimarron	*	*	Nowata	4	37.8
Cleveland	180	86.5	Okfuskee	10	84.6
Coal	*	*	Oklahoma	1493	226.1
Comanche	187	162.6	Okmulgee	19	47.9
Cotton	3	45.4	Osage	17	38.3
Craig	11	73.6	Ottawa	12	36.2
Creek	32	47.5	Pawnee	7	42.1
Custer	16	61.2	Payne	32	46.9
Delaware	10	27.0	Pittsburg	30	68.3
Dewey	3	63.3	Pontotoc	19	54.1
Ellis	*	*	Pottawatomie	37	56.5
Garfield	40	69.2	Pushmataha	3	25.7
Garvin	8	29.4	Roger Mills	*	*
Grady	26	57.1	Rogers	41	58.0
Grant	1	19.4	Seminole	15	60.3
Greer	6	99.0	Sequoyah	13	33.4
Harmon	*	*	Stephens	18	41.7
Harper	*	*	Texas	6	29.8
Haskell	5	42.4	Tillman	*	*
Hughes	*	*	Tulsa	1138	202.0
Jackson	17	59.8	Wagoner	19	33.0
Jefferson	8	117.3	Washington	22	44.9
Johnston	3	28.5	Washita	3	26.1
Kay	26	54.1	Woods	3	33.0
Kingfisher	3	21.5	Woodward	8	43.3
Kiowa	*	*	Unk/Other Counties	24	N/A
Latimer	*	*	Out Of State	715	N/A
LeFlore	27	56.1	Total**	4,693	136.0

2.4 Summary

- ◆ Every region of the state has had reported HIV/AIDS cases, both urban and rural, therefore every region has been impacted to some extent.
- ◆ The number of whites reported is much greater than any other racial/ethnic group, although when using rate per 100,000 diagnosed in 2000 and 2001 to make the impact comparable, blacks have 3 to ~5 times the impact. Most males are infected through male-to-male sexual contact. Most females are infected through heterosexual contact, with injection drug use closely following.
- ◆ Death rates for HIV infected individuals have declined from 1994 to 2001
- ◆ Statewide the known prevalence of HIV infection (persons living with HIV and AIDS) is 136.0 per 100,000 population; this includes individuals diagnosed somewhere other than Oklahoma who now live in Oklahoma.

Question 3: Who is at risk of becoming infected with HIV?

Note: Risk is determined by the frequency of high-risk behavior combined with the prevalence of HIV infection in the community.

Describes HIV/AIDS in population groups including:

- 1) Men who have sex with men
- 2) Injecting drug users
- 3) Persons exposed to HIV through heterosexual contact
- 4) Women
- 5) Children
- 6) Adolescents and young adults
- 7) Racial/ethnic minority groups
- 8) Other groups important to the community

Prevention planning value:

Provides regional information on HIV infection among population groups at high risk for HIV infection. Helps planning groups identify groups most affected in their own regions. Directly supports setting priorities for prevention needs among specific target populations.

Key components:

AIDS cases:

- Number of cases reported each year in each population group

HIV infection:

- Number of reported HIV infections in each population group for each year

STD cases:

- Number of syphilis cases

Behavioral data:

- Local/regional studies of behavior and behavioral determinants
- Youth Risk Behavior Survey (YRBS) data

Key issues:

- Risk is highest among those who engage in high-risk behavior in communities with a high prevalence of HIV infection.
- Identified groups are neither mutually exclusive nor exhaustive.
- Results based on small numbers of persons must be interpreted cautiously.
- Behavioral information largely depends on available local studies.
- Data on specific groups will likely be subsets of larger analysis.
- Confidentiality may prohibit cross-tabulations involving small numbers in specific sub-populations. Aggregation (grouping) of data may be necessary.

Question 3. Who is at risk for becoming infected with HIV?

The persons most likely to become infected with HIV are those who engage in high-risk behavior with persons in communities with a high prevalence of HIV infection. The frequency of high-risk behavior combined with the HIV prevalence in sexual or drug-using networks determines a person's risk for becoming infected. The answers to Question 3 will help community planning group members understand the varying risks for HIV infection among different population groups.

Those at highest risk for HIV infection are likely to be persons who practice the same risk behavior in the same communities as persons who are already infected. Thus, analyzing the characteristics of persons recently infected should help identify those groups of persons at highest risk for becoming infected. However, since there are very few data on incident HIV infections (new infections), one must use data on those currently known to be infected. To answer Question 3, the most recent data available should be used. For example, use AIDS cases diagnosed in 2000 and 2001 rather than cumulative totals from 1981. Data from early in the epidemic may not represent emerging HIV transmission patterns. Although the average period from HIV infection to AIDS (according to the 1987 case definition) is approximately 10 years,⁵ a proportion of persons will develop AIDS within 3 to 5 years of infection; thus analysis of trends in proportions of AIDS cases may reveal emerging patterns in HIV transmission that are more recent than the frequently cited "10 years." Perhaps more importantly, emerging patterns may be identified through trend analysis of HIV prevalence in the absence of HIV incidence data.

HIV infection in the United States disproportionately affects certain groups in the population, particularly men who have sex with men and racial and ethnic minority communities. Epidemiologic profiles must clearly describe the distribution of HIV, the populations at highest risk for HIV infection, and the current and potential impact of HIV among them. Although there are many ways to examine the population, at least seven (excluding a category for "other" groups unique or important to certain regions) should be characterized:

- 1) Men who have sex with men (MSM)
- 2) Injection drug users (IDU), Heterosexual and MSMs
- 3) Persons exposed to HIV through heterosexual contact
- 4) Women
- 5) Children
- 6) Adolescents and young adults
- 7) Racial/ethnic minorities
- 8) Other groups which are unique and/or important to the community. These may be groups that are at particularly high risk or particularly vulnerable to HIV, e.g., prisoners, commercial sex workers, migrant workers, etc.

These groups are neither mutually exclusive nor exhaustive. Groups 1-3 comprise persons who share behaviors that put them at high risk for HIV infection. Groups 4-8 represent additional groups of importance for prevention programs, many of which are included in groups 1-3.

3.1 Men who have sex with men (MSM)

Assessment of the current situation--what are the characteristics of those who are infected?

Several sources of data are available to assist in describing the level of HIV infection among different groups of men who have sex with men.

■ AIDS surveillance data

These data provide information on AIDS cases and characteristics of persons being diagnosed with severe HIV disease.

- **AIDS cases among men who have sex with men, by race/ethnicity for each year of diagnosis**

In Oklahoma, AIDS cases among men who have sex with men have been increasing steadily since the beginning of the epidemic, with the highest number of cases among white men, this is not to say the proportion of cases attributed to this behavior has continued to increase.

AIDS Cases in Men who have Sex with Men by Year of Diagnosis and Race/ Ethnicity					
Year of Diagnosis	Race / Ethnicity				
	White	Black	Am. Indian	Other*	Total
1982		1			1
1983	5				5
1984	8	1			9
1985	23	4	1		28
1986	41	3	1	2	47
1987	90	6	2		98
1988	104	20	5	4	133
1989	114	16	7	4	141
1990	125	22	6	3	156
1991	173	20	21	7	221
1992	189	38	22	12	261
1993	190	25	16	7	238
1994	106	23	9	3	141
1995	115	19	9	8	151
1996	110	26	8	3	147
1997	112	27	15	5	159
1998	71	22	3	6	102
1999	57	17	6	5	85
2000	64	17	8	2	91
2001	65	21	1	8	95
Total	1762	328	140	79	2309

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the 2,309 males reported as AIDS cases attributed to male-to-male sexual contact:

- ➔ 76.3% are white
- ➔ 23.7% are men of color
 - 14.2% are black
 - 6.1% are American Indian

■ **HIV Counseling and Testing (C&T) program data**

These data provide information on HIV tests performed in predominantly publicly funded C&T sites. Data are on tests performed rather than on individuals tested and thus may include multiple results from persons (both HIV positive and negative) who seek repeat testing. Duplicates are excluded from analysis in Oklahoma’s data set for those individuals testing positive.

These data may be more useful for evaluating services in the needs assessment than for targeting specific groups at high risk.

HIV Counseling and Testing data for Men who have Sex with Men by Year of Test and Race/ Ethnicity										
Year of Test	Race / Ethnicity									
	White		Black		Am. Indian		Other*		Total	
	tested	positive	tested	positive	tested	positive	tested	positive	tested	positive
1990	1,180	151	92	23	22	2	30	0	1,324	176
1991	1,875	268	133	32	57	9	43	8	2,108	317
1992	2,175	204	183	39	108	11	77	6	2,543	260
1993	1,859	149	155	27	73	8	93	12	2,180	196
1994	1,848	134	157	8	107	9	111	10	2,223	181
1995	899	64	136	13	63	6	48	2	1,146	85
1996	800	42	113	15	71	4	44	1	1,028	62
1997	870	67	99	14	80	8	50	4	1,099	93
1998	907	31	117	18	58	2	65	2	1,147	53
1999	1,281	80	98	13	75	4	102	4	1,556	101
2000	1,028	39	80	9	69	7	76	5	1,253	60
2001	963	69	73	14	71	6	84	11	1,191	100
Total	15,685	1298	1436	225	854	76	823	65	18,798	1684

Other includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.*

The peak year of testing for MSMs through OSDH sponsored C&T sites across all racial/ethnic populations was in 1992, the calendar year following Ervin “Magic” Johnson announcement of his HIV positive status. In 1991, the percent positivity (# of positives divided by tests performed times 100) was the highest for all racial categories (average positivity 15%) except for blacks. For blacks, 1990’s testing results had higher positivity than 1991 (25% compared to 24%). For all groups percent positivity in individuals who self identify as MSMs has steadily decreased to a 3 ½ - 8.0% with the exception of blacks which averages almost 16%.

■ **HIV-infection surveillance data**

These data provide information on persons in earlier stages of HIV infection than those reported through AIDS surveillance; however, HIV infection reporting data are more dependent upon patterns of HIV testing than are AIDS surveillance data. These data represent only persons with diagnosed and reported HIV infection who have not progressed on to an AIDS diagnosis.

Because these numbers will be substantially lower than other estimates of HIV prevalence; HIV infection reporting data should not be used to estimate HIV incidence.

- **HIV cases among men who have sex with men, by race/ethnicity for each year of diagnosis**

HIV Infections (not AIDS) in Men who have Sex with Men by Year of 1st Seropositive Test and Race/ Ethnicity					
Year of 1st Test	Race / Ethnicity				Total
	White	Black	Am. Indian	Other*	
1984	1				1
1985	20	4	3		27
1986	28	1	2	1	32
1987	44	1	2	2	49
1988	58	8	5	1	72
1989	50	14	3	3	70
1990	74	16	6	3	99
1991	50	13	4		67
1992	58	12	1	2	73
1993	50	17	2	9	78
1994	46	12	2	1	61
1995	55	18	1	1	75
1996	60	9	8		77
1997	78	14	5	6	103
1998	59	25	5	2	91
1999	63	11	4	6	84
2000	53	13	8	5	79
2001	38	13	6	3	60
Total	885**	201	67	45**	1198**

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

***Total includes one white male and one other whose date of test is unknown.*

When reviewing absolute numbers, white MSMs have by far the greatest number of HIV infections reported, 885 (73.8%) individuals compared to the next largest racial group, black, having reported 201 (16.7%) individuals. Important things to remember are these are individuals who have not progressed on to an AIDS diagnosis and who have either sought testing to determine their HIV status or due to signs and symptoms were tested. These reported cases cannot determine HIV incidence, only new HIV infections regardless if they have been tested or not determines HIV incidence.

When comparing new reports of HIV infection (above table) to positive tests from C&T sites (previous table), until 1996 more individuals tested positive at C&T test sites each year than new HIV infections were reported. One item, which can be gathered from this information, is that individuals are “confirming” they have received *their* correct result, that is to say, no laboratory errors or mislabeling of name or Soundex.

■ Surveillance of bacterial sexually transmitted diseases

Persons recently infected with bacterial sexually transmitted diseases (STDs) represent a group of sexually active people who recently had unprotected intercourse with persons infected with bacterial STDs who may also be infected with HIV. The extent to which STD rates correlate with HIV risk will depend on the prevalence of HIV infection within the sexual network of persons practicing unsafe sex and on the local dynamics of STD transmission. While STD rates may be an imperfect surrogate marker for risk of HIV infection, these rates are a reliable indicator of high-risk behavior (i.e., unprotected sexual intercourse). Groups with high rates of STDs are potentially at increased risk for the introduction and spread of HIV infection.

While STD surveillance data include little or no data on behavior risk, the majority of women who present with STDs are infected heterosexually. STDs in men, however, may be a marker of high-risk sexual activity with either men or women.

In many areas, reporting from institutions supported by public funds (e.g., STD clinics) is more complete than from other sources (e.g., private practitioners). Thus, STD trends may not be representative of all segments of the population.⁶ However, in Oklahoma, major emphasis is placed on obtaining data from all types of sources through active surveillance.

- **Total Early Syphilis:**

In Oklahoma, when analyzing syphilis we include Early Latent (EL) Syphilis with Primary and Secondary Syphilis (P&S), this is termed Early Syphilis. Early Syphilis is an infection with the bacterium *Treponema pallidum*, a spirochete, for not more than one (1) year. Syphilis passes through several stages of infection. A lesion or chancre at the site of inoculation characterizes the Primary stage. Often this chancre is not noticeable and appears to heal without treatment. The Secondary stage classically has a rash on the palms of the

hands and the soles of the feet. This rash also appears to heal without treatment. Early Latent Syphilis is a stage without signs or symptoms, which can appear between Primary and Secondary or between episodes of Secondary. P&S syphilis are reported to and by the Centers for Disease Control and Prevention (CDC), however EL is not routinely reported unless the state participates in electronic line item reporting through the National Electronic Transmission Surveillance System (NETSS).

Early Syphilis in Men who have Sex with Men by Year of Diagnosis Compared to All Cases of Early Syphilis		
Year of Diagnosis	MSM	Total Early Syphilis
1992	12	706
1993	22	636
1994	14	397
1995	16	482
1996	15	405
1997	13	282
1998	6	259
1999	3	344
2000	4	245
2001	5	183
Total	110	3,939

Transmission of Early Syphilis attributed to MSMs constitutes a very small portion of all Early Syphilis, less than 3%.

Summarize data on men who have sex with men used to answer Question 3.1.

- ◆ The majority of reported cases of HIV and AIDS in MSM are white.
- ◆ Male-to-male sexual contact has contributed to very few cases of early syphilis.
- ◆ In the last ten (10) years almost 19,000 MSMs have sought HIV testing at public C&T sites.

3.2 Injection drug use

■ AIDS surveillance

AIDS Cases in Injection Drug Users by Year of Diagnosis and Race/Ethnicity and Gender										
Year of Diagnosis	Race/Ethnicity									
	White		Black		Am. Indian		Other*		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1982										
1983										
1984	1								1	
1985	1		1						2	
1986			1	1					1	1
1987	5	2	2	2					7	4
1988	7	3	2	1	2		1		12	4
1989	9	2	6		1		3	1	19	3
1990	13	5	2	2			1		16	7
1991	9	7	6	2	1	1	4		20	10
1992	18	4	5	2	4		3	3	30	9
1993	14	9	5	5	5		3		27	14
1994	16	7	4	1	3	1	2	2	25	11
1995	19	1	7	1	3		2		31	2
1996	14	14	9	2	2	1		1	25	18
1997	22	5	5	3	3	1	1	1	31	10
1998	15	4	4		3		1		23	4
1999	9	2	2	1	4	1	1		16	4
2000	14	7	3	3	5	3			22	13
2001	13	3	3	2	2	1	1		19	6
Total	199	75	67	28	38	9	23	8	327	120

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the 447 persons with AIDS attributed to injection drug use, 73.2% were male, 61.3% were white.

AIDS Cases in MSM&IDUs by Year of Diagnosis and Race/Ethnicity					
Year of Diagnosis	Race/Ethnicity				Total
	White	Black	Am. Indian	Other*	
1982					
1983	1				1
1984	2	1			3
1985	6				6
1986	19			1	20
1987	16	3	1		20
1988	23	6	2		31
1989	26	3			29
1990	23	3	8		34
1991	36	5	4		45
1992	29	9	7		45
1993	32	9	3	3	47
1994	20	7			27
1995	24	11	4	2	41
1996	17	4	3	2	26
1997	27	3	1	1	32
1998	17	3	3		23
1999	13	1	1		15
2000	12	3			15
2001	10	5	9		24
Total	353	76	46	9	484

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the 484 persons with AIDS attributed to MSM&IDU, 72.9% were white, 15.7% black and 9.5% American Indian.

■ HIV Counseling and Testing

HIV Counseling and Testing data for Heterosexual Injection Drug Users Males by Year of Test and Race/Ethnicity										
Year of Test	Race/Ethnicity									
	White		Black		Am. Indian		Other*		Total	
	tested	positive	tested	positive	tested	positive	tested	positive	tested	positive
1990	469	9	34	2	17	1	12	1	532	13
1991	563	16	71	7	32	2	27	3	693	28
1992	777	25	83	3	60	4	30	1	950	33
1993	802	13	65	3	76	0	29	2	972	18
1994	626	8	69	5	53	1	28	2	776	16
1995	585	5	62	0	48	0	17	0	712	5
1996	629	4	38	1	76	0	29	0	772	5
1997	626	7	62	2	52	1	28	0	768	10
1998	590	3	30	1	56	0	15	0	691	4
1999	544	10	19	0	53	1	24	0	640	11
2000	405	6	17	1	50	3	25	2	497	12
2001	398	5	20	0	50	0	13	0	481	5
Total	7014	111	570	25	623	13	277	11	8484	160

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the 8,484 males who were IDUs testing during the period of 1990-2001, 82.7% were white. Of the 160 positives, 69.4% were white.

Positivity Rates (number testing positive divided by total tested in a category times 100) observe the following ranges by group:

White	0 – 4 %
Black	0 – 10%
American Indian	0 – 7 %
Total tested	1 – 4 % positivity

HIV Counseling and Testing data for Heterosexual Injection Drug Users Females by Year of Test and Race/Ethnicity										
Year of Test	Race/Ethnicity									
	White		Black		Am. Indian		Other*		Total	
	Tested	positive	tested	positive	tested	positive	tested	positive	tested	positive
1990	419	6	34	2	29	1	6	0	488	9
1991	469	3	44	4	43	0	10	1	566	8
1992	710	9	71	2	88	2	22	3	891	16
1993	647	13	57	1	78	0	18	0	800	14
1994	624	3	63	0	59	0	17	0	763	3
1995	621	5	46	0	55	0	20	0	742	5
1996	712	4	49	0	72	0	12	0	845	4
1997	741	6	48	1	77	1	28	1	894	9
1998	663	2	31	2	81	0	33	0	808	4
1999	581	4	33	0	56	0	28	0	698	4
2000	505	4	21	0	65	0	17	0	608	4
2001	404	3	9	0	63	1	9	1	485	5
Total	7096	62	506	12	766	5	220	6	8588	85

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the 8,588 females who were IDUs testing during the period of 1990-2001, 82.6% were white. Of the 80 positives, 72.9% were white.

Positivity Rates (number testing positive divided by total tested in a category times 100) observe the following ranges by group:

White	0 – 2 %
Black	0 – 9 %
American Indian	0 – 3 %
Total tested	1 – 2 % positivity

HIV Counseling and Testing data for MSM&IDUs by Year of Test and Race/Ethnicity										
Year of Test	Race/Ethnicity									
	White		Black		Am. Indian		Other*		Total	
	Tested	positive	tested	positive	tested	positive	tested	positive	tested	positive
1990	107	24	10	1	4	1	4	0	125	26
1991	137	15	12	3	4	4	4	1	157	23
1992	218	35	11	5	15	0	4	0	248	40
1993	197	39	10	5	18	4	6	0	231	48
1994	209	30	6	0	13	3	8	1	236	34
1995	103	7	8	2	11	1	6	1	128	11
1996	143	8	13	1	13	4	8	1	177	14
1997	147	13	12	2	15	5	9	1	183	21
1998	186	15	8	2	22	0	11	1	227	18
1999	205	11	9	2	22	0	10	1	246	14
2000	137	9	5	0	23	1	8	2	173	12
2001	129	13	5	0	20	0	9	0	163	13
Total	1918	219	109	23	180	23	87	9	2294	274

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the 2,294 MSM&IDUs testing during the period of 1990-2001, 83.6% were white. Of the 274 positives, 79.9% were white.

Positivity Rates (number testing positive divided by total tested in a category times 100) observe the following ranges by group:

White 5 – 22%

Black 0 - 50%

American Indian 0 – 100%

Total tested 6 – 21% positivity

■ HIV infection surveillance

HIV Cases (not AIDS) in Injection Drug Users by Year of Diagnosis and Race/Ethnicity and Gender										
Year of Diagnosis	Race/Ethnicity									
	White		Black		Am. Indian		Other*		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1983			1						1	
1984										
1985	1	1							1	1
1986	2	1	1						3	1
1987	4	1	1		1				6	1
1988	11	2	6	1	1			1	18	4
1989	6	6	5	3	1	1	3		15	10
1990	12	6	4	1				1	16	8
1991	2	1	3						5	1
1992	8	5	7	2		1		1	15	9
1993	9	3	4	2	1	2	1		15	7
1994	12	1	3	1	2		3		20	2
1995	10	4	3	1	1	2	3		17	7
1996	5	7	1				1		7	7
1997	15	8	2	3	1		1		19	11
1998	11	7	3		1	1			15	8
1999	9	4	4			3	1	1	14	8
2000	13	9	2	1	1	2			16	12
2001	10	7	1	1	2	2	1		14	10
Total	140	73	51	16	12	14	14	4	217	107

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the 324 persons with HIV infection (which has not progressed to an AIDS diagnosis) attributed to injection drug use, 67.0% were male, 65.7% were white.

HIV Cases in MSM&IDUs by Year of Diagnosis and Race/Ethnicity					
Year of Diagnosis	Race/Ethnicity				
	White	Black	Am. Indian	Other*	Total
1984	1				1
1985	7				7
1986	5				5
1987	8	1			9
1988	9	4	2		15
1989	14	5	3		22
1990	16	2	1		19
1991	14	4	1	3	22
1992	13	1			14
1993	15	3			18
1994	8	2	1		11
1995	7	1	1	1	10
1996	10	2	2	1	15
1997	14	4	1	1	20
1998	15	1	1		17
1999	12	1			13
2000	6	2	1	1	10
2001	8	2	2	1	13
Total	182	35	16	8	241

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the 241 persons with HIV attributed to MSM&IDU, 75.5% are white, 14.5% are black and 6.6% are American Indian.

■ **Early Syphilis**

Early Syphilis in Injection Drug Users by Year of Diagnosis Compared to All Cases of Early Syphilis		
Year of Diagnosis	IDU	Total Early Syphilis
1992	5	706
1993	13	636
1994	6	397
1995	11	482
1996	5	405
1997	10	282
1998	7	259
1999	9	344
2000	15	245
2001	7	183
Total	88	3,939

Transmission of Early Syphilis attributed unsafe sexual practices of IDUs constitutes a very small portion of all Early Syphilis, less than 2% from 1992 – 1996, but starting in 1997 – 1999 the percentage was between 3 to 3 ½. By 2000 the percentage of IDUs rose up to 6% with an additional 15 persons risk behavior being the sex partner of an IDU. By 2001 the percentage of IDUs was back to the 1997-99 rate with 3.8%, with an additional 3 persons risk behavior being the sex partner of an IDU.

Summarize data on injecting drug users used to answer Question 3.2.

- ◆ The majority of IDUs reported as HIV or AIDS are white and male.
- ◆ The majority of IDUs testing at public C&T sites were white.
- ◆ Injection Drug Use is not a significant behavioral component to the transmission of Early Syphilis, however it has increased slightly over the past 3 - 5 years.

3.3 Persons at high risk for HIV infection through heterosexual contact

Heterosexual contact is considered the HIV exposure mode for persons whose only reported risk is heterosexual contact with a partner who is either HIV infected or known to be at high risk for HIV infection. In addition, persons who report heterosexual contact with a high-risk partner and who received a transfusion before March 1985 are categorized in the heterosexual HIV exposure mode group. Persons considered to be high-risk partners are bisexual men, injection drug users, and recipients of clotting-factor concentrates or HIV infected blood transfusions.

■ AIDS surveillance

While heterosexually acquired AIDS is increasing rapidly, the data will vary widely by region of the country and state-to-state. In areas with low HIV seroprevalence among injection drug users, the proportion of cases attributed to heterosexual contact will likely be low.

AIDS Cases in Heterosexual Acquired by Year of Diagnosis and Race/Ethnicity and Gender										
Year of Diagnosis	Race/Ethnicity									
	White		Black		Am. Indian		Other*		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1984		1								1
1985										
1986		1				1				2
1987		3								3
1988			1	1				1	1	2
1989	3	2		1		1			3	4
1990	1	9	2	1					3	10
1991		7	1	4	1	1	1	1	3	13
1992	3	12	5	3		2	3		11	17
1993		9	4	8		1	1	2	5	20
1994	5	5		4		3			5	12
1995	5	12	5	5		4			10	21
1996	6	14	2	2		1			8	17
1997	7	11	2	1		2			9	14
1998	6	6	6	2		1	1		13	9
1999	4	9	2	1		3			6	13
2000	5	8	1	5		2	1		7	15
2001	5	8	3	5		1	2	3	10	17
Total	50	117	34	43	1	23	9	7	94	190

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the 284 persons with AIDS attributed to heterosexual acquisition, 66.9% are female and 58.8% are white. In reviewing these individuals' sex partners, the risks can be summarized as follows:

- ➔ 43% of the males with AIDS infected through heterosexual relations had sex with an IDU
- ➔ Of the females with AIDS infected through heterosexual relations
 - 44% had sex with an IDU
 - 25% had sex with an MSM

■ **Surveillance of bacterial sexually transmitted diseases**

Persons recently infected with bacterial sexually transmitted diseases (STDs) represent a group of sexually active people who recently had unprotected intercourse with persons infected with bacterial STDs who may also be infected with HIV. The extent to which STD rates correlate with HIV risk will depend on the prevalence of HIV infection within the sexual network of persons practicing unsafe sex and on the local dynamics of STD transmission. While STD rates may be an imperfect surrogate marker for risk of HIV infection, these rates are a reliable indicator of high-risk behavior (i.e., unprotected sexual intercourse). Groups with high rates of STDs are potentially at increased risk for the introduction and spread of HIV infection.

While STD surveillance data include little or no data on behavior risk, the majority of women who present with STDs are infected heterosexually. STDs in men, however, may be a marker of high-risk sexual activity with either men or women.

In many areas, reporting from institutions supported by public funds (e.g., STD clinics) is more complete than from other sources (e.g., private practitioners). Thus, STD trends may not be representative of all segments of the population.⁷ However, in Oklahoma, major emphasis is placed on obtaining data from all types of sources through active surveillance.

• **Total Early Syphilis:**

While the presence of syphilis indicates high-risk behavior, the absence of syphilis does not indicate absence of risk, rather it may be a marker of effective syphilis control (e.g., men who have sex with men in a sexual network with low prevalence of syphilis). Inferences about areas with low syphilis rates should be made with caution. Areas with high syphilis rates should be considered for targeting, prevention efforts.

Total Early Syphilis by Year of Diagnosis and Race/Ethnicity and Gender										
Year of Diagnosis	Race/Ethnicity									
	White		Black		American Indian		Other*		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1992	49	60	264	285	7	19	15	7	335	371
1993	59	76	225	234	4	15	13	10	301	335
1994	44	45	129	111	10	24	21	13	204	193
1995	42	60	169	153	7	17	21	13	239	243
1996	38	54	151	128	5	11	13	5	207	198
1997	24	35	107	68	12	14	7	5	150	122
1998	33	35	79	61	9	19	8	14	129	129
1999	52	55	92	55	12	32	34	11	190	153
2000	52	67	37	34	7	9	15	11	111	121
2001	43	28	34	25	9	10	19	15	105	78
Median	44	49	107	68	7	15	15	11	190	153

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

In 2001, 38.8% of early syphilis cases occurred in whites and 32.2% among blacks. During 2001, 5.5% of cases were in individuals' age 15-19, 17.5% were in 20-24 year olds, and 14.2% were in 25-29 year olds. However, the largest portion (50.3%) of early syphilis cases occurred among individuals age 30 to 49 years with a male to female ratio of 1 ½ : 1.

In 2000, 51.3% of early syphilis cases occurred in whites and 30.6% among blacks. During 2000, 7.8% of cases were in individuals' age 15-19, 15.1% were in 20-24 year olds, and 14.2% were in 25-29 year olds. However, the largest portion (52.6%) of early syphilis cases occurred among individuals age 30 to 49 years with similar numbers of cases among men and women.

In 1999, 42.9% of early syphilis cases occurred among blacks. During 1999, 7.3% of cases were in individuals' age 15-19, 11.7% were in 20-24 year olds, and 17.5% were in 25-29 year olds. However, the largest portion (55.9%) of early syphilis cases occurred among individuals age 30 to 49 years. Cases in females outnumbered those in males by 11%.

In 1998, 54.3% of early syphilis cases occurred among blacks. The largest portion (53.9%) of these cases occurred among individuals age 30 to 49 years with exactly the same numbers in males as females.

When reviewing early syphilis over the past ten (10) years, the majority of cases reported occurred among blacks (median 60.5% with a range of 30.6-77.8). Overall, the number of cases among men was almost equal to women with 50% respectively (median of 49% range of 42.6-52.7). During this nine- year period, the majority of the reported cases (46%) occurred among individuals age 30 to 49 years. When calculating an annual rate per 100,000 populations by race/ethnicity for Early Syphilis these rates range from:

26.7 – 232.1 per 100,000 for black males
18.6 – 237.4 per 100,000 for black females
1.9 – 4.7 per 100,000 for white males
2.0 – 5.7 per 100,000 white females

Populations can artificially be made the same size (using a rate per 100,000) so “apples can be compared to apples, not oranges to apples”. For every 1 white male being reported as having a diagnosis of Early Syphilis in 2001, over 8 black males are being reported. For every 1 white female being reported as having a diagnosis of Early Syphilis, over 9 black females are being reported.

If these data serve as a marker for risk for HIV infection, black men and women ages 30 to 49 may be at high risk for HIV infection.

In the United States, reported rates of primary and secondary syphilis (annual cases per 100,000 population) declined by nearly half in all racial and ethnic groups from 1990 through 1993. Reported syphilis rates were highest among blacks and lowest among whites and Asian/Pacific Islanders. Although numbers continue to decline through 2000, reported rates in blacks are still the highest and whites and Asian/Pacific Islanders are the lowest.

- **Gonorrhea cases**

The same can be said for the presence of gonorrhea as was stated for the presence of syphilis, this indicates high-risk behavior; however, the absence of gonorrhea does not indicate absence of risk, rather it may be a marker of effective gonorrhea control (e.g., individuals in a sexual network have a low prevalence of gonorrhea). Inferences about areas with low gonorrhea rates should be made with caution. Many issues can affect these rates such as: 1) if screening a program is in place, 2) criteria used for screening, 3) technology used for testing (culture vs. DNA), 4) surveillance methods and emphasis. Areas with high gonorrhea rates should be considered for targeting prevention efforts.

Gonorrhea has been reported in Oklahoma since the 1940s, therefore its' reportability is well established and ingrained in health care providers. The rare instances when reporting of cases "falls through the cracks" can be attributed to the belief by the provider that the case has already been reported by someone else; for example, the doctor in the emergency room believes the charge nurse has already reported the case.

Gonorrhea by Year of Diagnosis and Race/Ethnicity and Gender										
Year of Diagnosis	Race/Ethnicity									
	White		Black		Am. Indian		Other*		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1992	404	826	2,692	1,639	70	188	161	150	3,327	2,803
1993	323	687	1,922	1,443	46	179	132	126	2,423	2,435
1994	304	866	2,170	1,727	51	202	159	202	2,684	2,997
1995	266	812	1,855	1,528	37	170	94	114	2,252	2,624
1996	321	815	1,882	1,327	42	217	96	113	2,341	2,472
1997	272	706	1,738	1,401	63	180	81	89	2,154	2,376
1998	320	787	1,648	1,444	40	247	84	117	2,092	2,595
1999	307	657	1,460	1,360	43	214	92	118	1,902	2,349
2000	269	725	1,412	1,397	48	206	94	110	1,823	2,438
2001	352	788	1,572	1,407	59	241	98	140	2,081	2,576
Median	307	787	1,738	1,407	46	202	94	117	2,154	2,472

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the 4,626 cases of gonorrhea diagnosed in 2001, 64.4% are reported in blacks. This relates (using a rate per 100,000 population) to 1,232.6 in black males compared to 25.8 in white males and 1,045.3 in black females compared to 55.3 in white females.

Of the 4,657 cases of gonorrhea diagnosed in 2000, 60.3% are reported in blacks. This relates (using a rate per 100,000 population) to 1,107.1 in black males compared to 19.7 in white males and 1,037.9 in black females compared to 50.9 in white females.

Of the 4,261 cases of gonorrhea diagnosed in 1999, 66.2% are reported in blacks. This relates (using a rate per 100,000 population) to 1,144.8 in black males compared to 22.5 in white males and 1,010.4 in black females compared to 46.8 in white females.

Of the 4,687 cases of gonorrhea diagnosed in 1998, 66% are reported in blacks. This relates (using a rate per 100,000 population) to 1,448.9 in black males compared to 25.5 in white males and 1,202.7 in black females compared to 59.2 in white females.

- **Chlamydia cases**

The same can be said for the presence of chlamydia as was stated for the presence of gonorrhea and syphilis, this indicates high-risk behavior; however the absence of chlamydia does not indicate absence of risk, rather it may be a marker of effective chlamydia control (e.g., individuals in a sexual network have a low prevalence of chlamydia). Inferences about areas with low chlamydia rates should be made with caution. Many issues can affect these rates such as: 1) if screening programs are in place, 2) criteria used for screening, 3) technology used for testing (culture vs. DNA), 4) surveillance methods and emphasis. Areas with high chlamydia rates should be considered for targeting prevention efforts.

Chlamydia is the newest (most recent) of the traditional sexually transmitted diseases to be made reportable, in 1988. However knowledge of chlamydia's reportability was not well known by providers prior to 1995-96. Through thorough auditing projects, the Surveillance and Analysis Program has been able to increase reporting of chlamydia and the accuracy of the reporting by a minimum of 50%. Prior to report year 1995 approximately 2 of all cases reported were missing age, race or gender of the patient. Screening began in 1994 but by late 1996 many more screening sites had been added to the Chlamydia Screening Project funded by Region VI Infertility Prevention Grants. Since January 1998 all County Health Department's STD, Family Planning (FP) and Maternity (OB) clinics have had screening available for clients who fall into the screening criteria. The chlamydia screening criteria are as follows:

1. less than 25 years old, or
2. signs or symptoms of chlamydia, or
3. sex partner of someone infected with chlamydia, or
4. 1st exam in clinic in 12 months, or
5. placement of an IUD

Chlamydia										
by Year of Diagnosis and Race/Ethnicity and Gender										
Year of Diagnosis	Race/Ethnicity									
	White		Black		Am. Indian		Other*		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1992	172	1,669	334	1,316	39	679	100	794	645	4,458
1993	139	1,505	176	1,270	37	724	117	919	469	4,418
1994	137	1,563	218	1,387	40	639	160	1,049	555	4,638
1995	272	2,458	317	1,707	50	696	53	311	692	5,172
1996	350	2,669	593	1,831	61	718	102	354	1,106	5,572
1997	364	2,688	578	2,051	62	864	124	443	1,128	6,046
1998	495	3,212	831	2,307	82	877	164	556	1,572	6,952
1999	517	3,262	808	2,448	87	973	159	687	1,561	7,370
2000	571	3,570	823	2,501	92	933	177	781	1,663	7,785
2001	645	3,902	940	2,623	88	1,129	197	770	1,870	8,424
Median	350	2,669	578	1,831	61	724	124	687	1,106	5,572

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the 10,294 cases of chlamydia diagnosed in 2001, 44.2% are reported in whites, 34.6% are reported in blacks and 81.8% are reported in females. This relates to a rate per 100,000 population of 737.0 in black males compared to 47.3 in white males, and 1,948.7 in black females compared to 273.8 in white females.

Of the 9,448 cases of chlamydia diagnosed in 2000, 43.8% are reported in whites, 35.2% are reported in blacks and 82.4% are reported in females. This relates to a rate per 100,000 population of 645.3 in black males compared to 41.9 in white males, and 1,858.1 in black females compared to 250.5 in white females.

Of the 8,931 cases of chlamydia diagnosed in 1999, 42.3% are reported in whites, 36.5% are reported in blacks and 82.5% are reported in females. This relates to a rate per 100,000 population of 633.5 in black males compared to 37.9 in white males, and 1,818.7 in black females compared to 228.9 in white females.

Of the 8,524 cases of chlamydia diagnosed in 1998, 43.5% are reported in whites, 36.8% are reported in blacks and 81.6% are reported in females. This relates to a rate per 100,000

population of 730.6 in black males compared to 39.5 in white males, and 1,921.6 in black females compared to 241.7 in white females.

■ HIV infection surveillance

HIV reporting data on exposure mode for persons who report only heterosexual contact must be interpreted with caution; these data are not consistently collected in all areas. In Oklahoma before an individual can be documented as having acquired infection through heterosexual relations, we must have verification from the person's provider that the sex partner is infected. However, in many cases, the partner is not yet willing to share what their risk is with the provider and their sex partner. Often for a period of time the risk is attributed to "heterosexual with someone HIV infected" instead of the specific risk, such as "heterosexual with a bisexual male".

HIV Cases (not AIDS) in Heterosexual Acquired Cases by Year of Diagnosis and Race/Ethnicity and Gender										
Year of Diagnosis	Race/Ethnicity									
	White		Black		Am. Indian		Other*		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1987	1	3							1	3
1988	1	2						1	1	3
1989	2	5	4	2				1	6	8
1990		5	1	4					1	9
1991	5	6	3	4		1			8	11
1992	1	3	4	8		3			5	14
1993	2	9	2	3			2	1	6	13
1994	1	6		7	1			1	2	14
1995	3	7	1	3		3			4	13
1996	3	8	3	2			1		7	10
1997	1	14	3	6				1	4	21
1998	2	16	1	7					3	23
1999	6	4	3	2	1		1		11	6
2000	2	10	3	2	1	1			6	13
2001		7	2	3				5	2	15
Total	30	105	30	53	3	8	4	10	67	176

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

** One (1) white female tested positive, however the year of first test is unknown.

Of the 243 persons with HIV attributed to heterosexual acquisition, 72.4% are female and 55.6% are white. In reviewing these individuals' sex partners, the risks can be summarized as follows:

- ➔ 55% of the males with HIV infected through heterosexual relations had sex with an IDU

- ➔ Of the females with HIV infected through heterosexual relations
 - 40% had sex with an IDU
 - 18% had sex with an MSM
 - 40% don't know their partners' risk

■ **Behavioral Risk Factor Surveillance System (BRFSS):**

Data are available from state and local BRFSS coordinators. The BRFSS is a population-based telephone survey (active in all states) that includes core questions on knowledge and attitudes on a variety of health issues including HIV/AIDS. This is a general population survey of adults aged 18 years and older, residing in households with telephones. In some states, additional HIV behavior questions are being evaluated; Oklahoma is not one of these states. BRFSS was begun in Oklahoma in 1982. A booklet with data is available through the Health Education and Information Service (HEIS) of the state health department. This booklet summarizes results for the major risk factors as follows:

- Alcohol - prevalence of chronic drinking
- Alcohol - binge drinking
- Alcohol - drinking and driving
- Diabetes
- Fruit and vegetable consumption
- Health care insurance and access
- Mammography and clinical breast examination
- Pap smear test
- Obesity
- Seat belt use
- Sedentary life style
- Smoking

Although questions related to AIDS (perception of AIDS, attitude to HIV positive persons, and testing for AIDS) are included annually in the survey, these are not summarized in the book but are available by special request. Below are summaries of the preliminary 2001 survey's HIV questions in Oklahoma:

- ➔ A pregnant woman with HIV can get treatment to help reduce the chances that she will pass the virus on to her baby. *True or False?*

True	69%
False	31%

➔ *There are medical treatments available that are intended to help a person who is infected with HIV to live longer. True or False?*

True	96%
False	4%

➔ *How effective do you think these treatments are in helping persons with HIV to live longer?*

Very effective	23%
Somewhat effective	74%
Not at all effective	3%

➔ *How important do you think it is for people to know their HIV status by getting tested?*

Very important	94%
Somewhat important	5%
Not at all important	1%

➔ *Not including blood donations, in what month and year was your last HIV test?*

Very important	94%
Somewhat important	5%
Not at all important	1%

➔ *Not including blood donations, in what month and year was your last HIV test?*

Before 1997	29%
1997	7%
1998	9%
1999	15%
2000	24%
2001	16%

➔ *What was the main reason you had your test for HIV?*

Hospitalization	6%
Apply for health insurance	2%
Apply for life insurance	4%
Employment	5%
Apply for marriage license	6%
Military induction or military service	8%
Immigration	1%
Just to find out if infected	18%
Referral by doctor	1%

Pregnancy	15%
Referred by sex partner	1%
Routine check-up	19%
Occupational exposure	3%
Illness	3%
I am at risk	1%
Other	7%

- ➔ In the past 12 months has a doctor, nurse or other health professional talked to you about preventing sexually transmitted diseases through condom use?
- | | |
|-----|-----|
| Yes | 69% |
| No | 31% |

No addition, locally generated questions about HIV risk behaviors have been included on Oklahoma’s BRFSS; these are the only analyses of BRFSS data recommended for the epidemiologic profile. Because conclusions about risk cannot be drawn from these data, information about knowledge and attitudes may be more useful in planning community-wide education programs than for targeting specific high-risk groups.

Summarize data on persons at risk for becoming infected with HIV through heterosexual contact used to answer Question 3.3.

- ◆ The majority of heterosexual AIDS cases are in white females. Of these females almost half had sex with an IDU and about ¼ had sex with a bisexual male.
- ◆ Of the males with AIDS who acquired their infection through heterosexual contact, half had sex with an IDU. Over half of the males who heterosexually acquired HIV had sex with an IDU.
- ◆ Three quarters of early syphilis cases had been reported in blacks until 1999 then the proportion began to fall (42.9%) and by 2001, the majority of cases were observed in whites, 38.8% compared to blacks at 32.2%. The infection is usually diagnosed in individuals between the ages of 30 - 49.
- ◆ The majority of gonorrhea cases are reported in blacks, particularly in males.
- ◆ The majority of chlamydia cases are reported in white females.
- ◆ The majority of HIV cases are in heterosexual white females, who had sex with an IDU or a bisexual male.

3.4 Women

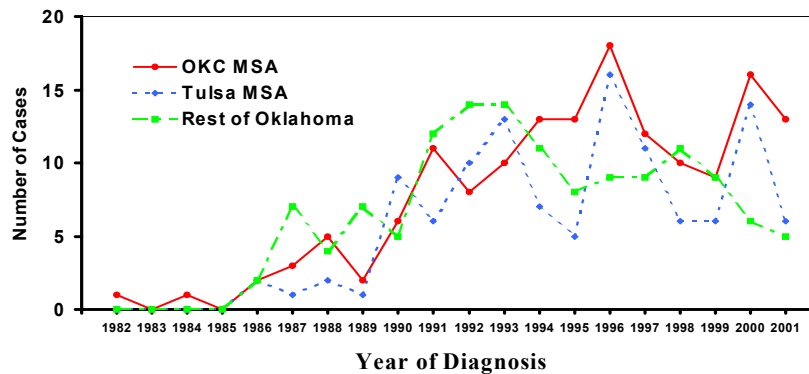
Most women are infected through injection drug use or through heterosexual contact with an injection drug user or a bisexual male. Data on women should be presented because:

- 1) Specific prevention programs can be targeted to women;
- 2) Women can be reached in different locations from men (e.g., reproductive and prenatal health clinics);
- 3) The proportion of AIDS cases and HIV infections among women has been increasing; and
- 4) Pediatric HIV infection is nearly entirely caused by transmission from infected mothers nationwide.

■ AIDS Cases in Females by Region of Oklahoma

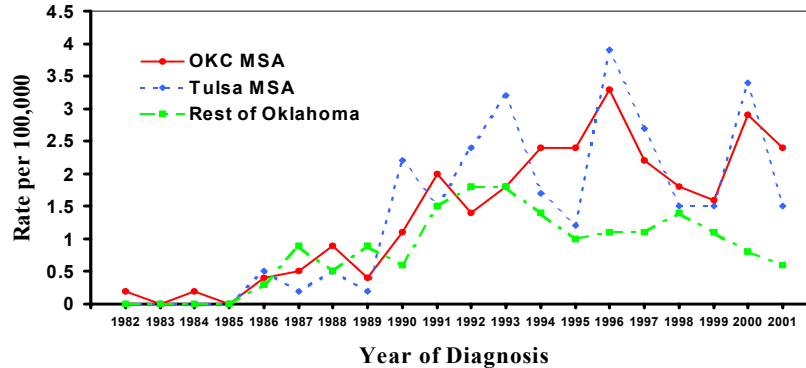
The HIV epidemic is composed of multiple separate epidemics in states, health districts, counties, and even by gender. To demonstrate the impact of HIV disease in females across the state, two graphs are presented to below. The first graph shows number of AIDS cases diagnosed by year in the different regions of the state. However, better understand how these areas are impacted, the second graph shows AIDS cases in females by the rate per 100,000 population.

Oklahoma AIDS Cases in Females by Region



When reviewing this graph it demonstrates that Oklahoma City MSA has the most AIDS cases diagnosed in females since the beginning of the epidemic in the early 1980's.

Oklahoma AIDS Cases in Females By Region by Rate per 100,000



Above is the graph demonstrating female AIDS cases by rate per 100,000. When reviewing this graph the “picture” has changed; clearly the Tulsa MSA has borne a similar if not greater impact when specifically looking at AIDS cases diagnosed in females.

■ HIV screening of civilian applicants for military service

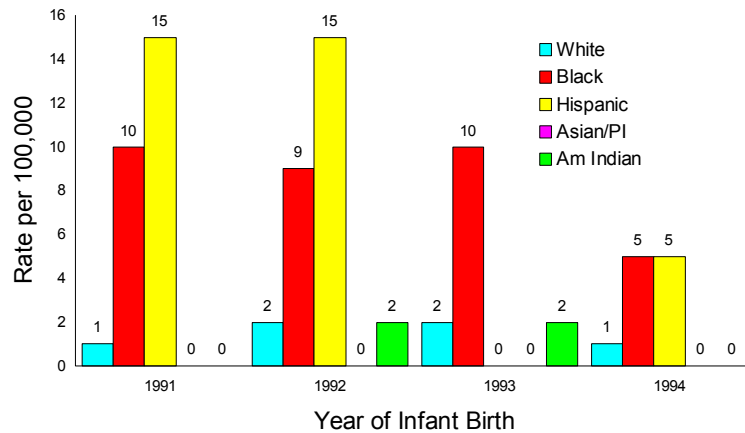
The civilian applicant for military service (CAMS) survey provides information on a large proportion of young Americans. Specifically, Oklahoma applicants for military service have shown that 52% are less than 20 years of age. In the United States, 6,510,836 Americans have been screened for HIV infection when applying for military service. A total of 5,065 HIV infections have been diagnosed. The rate has declined since testing was initiated, this can be attributable to a greater understanding among potential applicants that they will be screened and excluded from service if identified as HIV positive. The military began screening applicants in October 1985; through December 2000, 112,270 Oklahomans have been screened. Over this entire time only 47 individuals have tested positive for HIV; 46 of are males (94,153 tested) and 1 is female (18,117 tested).

■ Survey of Childbearing Women

Women bearing children are inherently at increased risk for acquiring STDs, including HIV. A number of childbearing women receive little or no prenatal care; consequently, they may not be aware of having an STD or HIV infection. Pregnant women may also be unaware of the impact infection can have on their health or that of their unborn children.

In an attempt to target those pregnant women, who may be at increased risk for HIV, we can utilize data provided by the Survey of Childbearing Women. This blinded, unlinked survey, which is Oklahoma-specific, was part of a CDC-supported study performed in most states. The survey used blood spot specimens submitted for mandated metabolic screening on all newborn infants. Once personal identifiers were removed, the specimens were tested for the presence of HIV antibodies. Newborns carry maternal antibodies; therefore, data derived from these screenings provided a view of the HIV seroprevalence rate in Oklahoma childbearing women (by race, age groups and geography). This data can be used to estimate the seroprevalence rate among all women, thus providing direction for targeted intervention and prevention efforts.

**Oklahoma Survey of Childbearing Women
HIV Seropositive Rate per 100,000 by Race/Ethnicity
by Year of Infant Birth**



■ Behavioral Studies

Women who engage in sex with women may be at high risk for HIV infection through sexual contact with men, or through injection drug use. Although routinely published AIDS surveillance summaries do not include female-to-female sex as an HIV exposure category, data on women who report sex with women are collected as a part of AIDS case surveillance and can be analyzed and presented. The following is from a report on female-to-female sexual contact and HIV transmission.⁸ Of 1,122 women reported with HIV/AIDS between January 1990 and September 1993 and interviewed as part of Supplemental HIV/AIDS Surveillance Project (SHAS) of CDC, 65 (5.8%) reported sexual contact with another woman in the past five years. Of these women, most (63/65) had HIV risk factors related to sex with men or drug use, and one had received a blood transfusion prior to March 1985. One woman may have been infected from female-to-female sexual contact as suggested by the risk behavior and clinical status of some of her female partners. Although female-to-female transmission of HIV is apparently rare, female sexual contact should be considered a possible means of HIV transmission among women who have sex with women. Importantly, sexual identity (lesbian, bisexual, and heterosexual) does not necessarily predict sexual practices, and inaccurate assumptions based on reported sexual orientation could result in a failure to address risk behaviors.

A recent analysis of data on women attending public STD clinics in Los Angeles showed that bisexual women were much more likely than heterosexual women to engage in behavior that increase their risk for HIV infection. For example, bisexual women were more likely than heterosexual women to report injection drug use (24% vs. 4%), cocaine use in the past six months (39% vs. 13%), sex with a bisexual man (36% vs. 4%), sex with a man who injects drugs (37% vs. 10%), anal intercourse (42% vs. 15%), and trading sex for money or drugs (43% vs. 11%). (Source: Los Angeles County Health Department)

3.5 Children

HIV, an important cause of childhood morbidity and mortality, is now the seventh leading cause of death among children 1 to 4 years of age in the United States.⁹ Among these children, perinatal transmission accounts for most HIV infection. In the United States, approximately 7000 infants, of whom 1,400 to 2,100 are HIV infected, are born to HIV infected women each year.⁸

The results of the National Institutes of Health study (ACTG 076) indicate that HIV infected pregnant women could reduce HIV transmission to their infants by as much as β by taking zidovudine (AZT or ZDV) during pregnancy and delivery.¹⁰ To identify those women who could benefit from ZDV therapy, routine HIV counseling and voluntary testing is recommended for all pregnant women.¹² AIDS cases diagnosed in children less than 13 years of age are termed Pediatric cases.

■ AIDS surveillance

Pediatric AIDS Cases by Year of Diagnosis and Race/Ethnicity					
Year of Diagnosis	Race/Ethnicity				Total
	White	Black	Am. Indian	Other*	
1986	1				1
1987	4			1	5
1988	3				3
1989					
1990	3	1			4
1991	2			1	3
1992					
1993	1				1
1994	1				1
1995	1				1
1996	1	1	1		3
1997		1			1
1998					
1999					
2000	1				1
2001	1				1
Total	19	3	1	2	25

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

The majority (17 of 25, or 68%) of pediatric AIDS cases in Oklahoma were acquired perinatally; 6 (24%) were acquired from clotting factor or transfusion. Over 75% of pediatric AIDS cases were reported among white children. These data suggest that pregnant white women in Oklahoma should have ready access to HIV counseling and testing and ZDV therapy early in their pregnancy to reduce the probability of transmitting HIV to their infants.

■ HIV surveillance

Pediatric HIV (non AIDS) Cases by Year of Diagnosis and Race/Ethnicity					
Year of Diagnosis	Race/Ethnicity				Total
	White	Black	Am. Indian	Other*	
1985	1				1
1986	2				2
1987					
1988			1		1
1989				1	1
1990					
1991					
1992					
1993			1		1
1994			1		1
1995	3	1			4
1996	3				3
1997	1				1
1998					
1999	3	1			4
2000				1	1
2001	2	1		1	4
Total	15	3	3	3	24

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

The majority (18 of 24, or 75%) of pediatric AIDS cases in Oklahoma were acquired perinatally; 4 (17%) were acquired from clotting factor. Over 63% of pediatric AIDS cases were reported among white children.

3.6 Adolescents and Young Adults

Adolescents and young adults at highest risk for infection are young men who have sex with men. In addition, young women exposed through heterosexual contact are at risk for infection. Injection drug use is not a frequently reported mode of HIV exposure in this age group.

Adolescents are an important group to consider for targeted prevention activities for several reasons:

- ➔ an estimated 16% of all adult/adolescents with AIDS reported through March 1992 were infected as adolescents
- ➔ 31% of those exposed through heterosexual contact were infected as teenagers¹¹
- ➔ many adolescents practice high-risk sexual behavior
- ➔ adolescents may be less likely than older persons to use methods to protect themselves from infection.

■ AIDS surveillance

Adolescent/Young Adult AIDS Cases by Year of Diagnosis and Age at Diagnosis			
Year of Diagnosis	Age at Diagnosis		
	13 - 19	20 - 24	Total
1983		3	3
1984		2	2
1985		5	5
1986		9	9
1987	1	7	8
1988	2	8	10
1989	2	10	12
1990	4	13	17
1991	1	12	13
1992		16	16
1993	4	11	15
1994	1	10	11
1995	1	8	9
1996	1	6	7
1997		7	7
1998	1	10	11
1999	1	6	7
2000	1	8	9
2001		5	5
Total	20	156	176

Of the 176 adolescents/young adults reported as being diagnosed with AIDS, 88.6% were between the ages of 20 and 24. These young adults were probably infected with HIV while still in their teens.

Adolescent/Young Adult AIDS Cases by Race, Mode of Exposure and Age at Diagnosis									
Mode of Exposure	Age at Diagnosis								
	13 - 19				20 - 24				Total
Race/Ethnicity					Race/Ethnicity				
	White	Black	Am Ind	Other*	White	Black	Am Ind	Other*	
MSM	2		1		62	15	4	5	89
IDU					12	3	3	2	20
MSM&IDU			1		19	3	1		24
Hemophilia	13				3				16
Heterosexual	1	1			8	5	1		16
Transfusion					1				1
Risk Not Specified		1			2	5	1	1	10
Total	16	2	2		107	31	10	8	176

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the 176 adolescent/young adults reported as being diagnosed with AIDS:

- ➔ 51% are males who have sex with males
- ➔ 25% inject drugs (includes MSM&IDU)
- ➔ 69.9% are white.

■ Surveillance of bacterial sexually transmitted diseases

• Early Syphilis cases

Early Syphilis Cases in Adolescents/Young Adults by Year of Diagnosis and Race/ Ethnicity and Gender Incidence Rate per 100,000 Population										
Year of Diagnosis Age	Race/Ethnicity									
	White		Black		Am. Indian		Other*		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1999(all ages)	4.1	4.1	80.9	45.8	9.8	24.8	N/A	N/A	12.4	9.5
15-19	5.4	6.9	25.9	47.3		42.4	N/A	N/A	7.5	14.2
20-24	4.5	6.9	91.8	100.6	21.3	21.7	N/A	N/A	15.8	18.6
2000(all ages)	4.1	5.0	32.5	28.3	5.7	7.0	N/A	N/A	7.3	7.5
15-19	1.1	5.7	8.6	28.4		25.4	N/A	N/A	2.5	13.3
20-24	7.9	10.4	18.4	60.4	10.6	32.6	N/A	N/A	12.5	17.7
2001(all ages)	3.2	2.0	26.7	18.6	7.1	7.4	N/A	N/A	6.4	4.5
15-19	1.1	3.4		9.5		8.5	N/A	N/A	2.5	6.2
20-24	5.7	4.6	36.7	80.5	10.6	21.7	N/A	N/A	11.7	15.9

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Syphilis has traditionally been a disease of adults, not young adults and children; most syphilis cases are diagnosed in individuals over the age of 30. Since 1996 Oklahoma experienced a declining number of Early Syphilis cases in adolescent/young adults. However, in 1999 more cases were diagnosed than in 1998. This apparent reversal of trend was righted when in 2000 the declining trend was continued. Early syphilis in adolescents/young adults diagnosed in 2001 can be summarized as follows: Of the 42 cases reported in individuals ages 15-24

- ➔ 59.5% are female
- ➔ 30.9% are white
- ➔ 30.9% are black
- ➔ 19.0% are Asian/Pacific Islander

- Gonorrhea cases

Gonorrhea Cases in Adolescents/Young Adults by Year of Diagnosis and Race/ Ethnicity and Gender											
Year of Diagnosis Age	Race/Ethnicity										
	White		Black		American Indian		Other*		Total		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total
1999 (all ages)	307	657	1,460	1,360	43	214	92	118	1,902	2,349	4,259
15-19	54	291	318	545	9	87	19	47	400	970	1,370
20-24	89	196	527	478	12	69	31	37	659	780	1,439
<i>Total Adolescents/ Young Adults</i>	143	487	845	1023	21	156	50	84	1059	1750	2,809
2000 (all ages)	269	725	1,412	1,397	48	206	94	110	1,823	2,438	4,261
15-19	50	313	305	532	8	93	23	49	386	987	1,373
20-24	83	243	492	549	20	59	31	37	626	888	1,514
<i>Total Adolescents/ Young Adults</i>	133	556	797	1081	28	152	54	86	1012	1875	2,887
2001 (all ages)	352	788	1,572	1,407	59	241	98	140	2,081	2,576	4,657
15-19	58	325	339	525	15	100	18	58	430	1008	1,438
20-24	95	248	534	517	21	80	129	297	686	897	1,583
<i>Total Adolescents/ Young Adults</i>	153	573	873	1042	36	180	147	355	1116	1905	3,021

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the cases of gonorrhea diagnosed in 2001:

➔ 65% are reported in individuals between the ages of 15 and 24

➔ 41% are in black adolescent/young adults

Incidence rate per 100,000 in blacks 15-19 years old is 8649.9 compared to 404.9 in whites.

Of the cases of gonorrhea diagnosed in 2000:

- ➔ 68% are reported in individuals between the ages of 15 and 24
- ➔ 44% are in black adolescent/young adults
- ➔ Incidence rate per 100,000 in blacks 15-19 years old is 8482.8 compared to 384.3 in whites.

Of the cases of gonorrhea diagnosed in 1999:

- ➔ 66% are reported in individuals between the ages of 15 and 24
- ➔ 44% are in black adolescent/young adults
- ➔ Incidence rate per 100,000 in blacks 15-19 years old is 8,437.6 compared to 351.4 in whites.

- Chlamydia cases

Chlamydia Cases in Adolescents/Young Adults by Year of Diagnosis and Race/Ethnicity and Gender											
Year of Diagnosis Age	Race/Ethnicity										
	White		Black		Am. Indian		Other*		Total		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total
1999 (all ages)	517	3,262	808	2,448	87	973	159	687	1,561	7,370	8,931
15-19	129	1,609	261	1,096	41	460	32	272	463	3,437	3,900
20-24	214	1,119	292	892	27	301	69	277	602	2,589	3,191
<i>Total Adolescents/ Young Adults</i>	343	2728	553	1988	68	761	101	549	1065	6026	7,091
2000 (all ages)	571	3,570	823	2,501	92	933	177	781	1,663	7,785	9,448
15-19	157	1,678	217	1,112	25	433	36	291	435	3,514	3,949
20-24	259	1,337	336	950	38	336	80	316	713	2,939	3,652
<i>Total Adolescents/ Young Adults</i>	416	3015	553	2062	63	769	116	607	1148	6453	7,601
2001 (all ages)	645	3,902	940	2,623	88	1,129	197	770	1,870	8,424	10,294
15-19	174	1,741	250	1,124	27	489	41	292	492	3,646	4,138
20-24	295	1,534	371	1,050	37	418	89	286	792	3,288	4,080
<i>Total Adolescents/ Young Adults</i>	469	3275	621	2174	64	907	130	578	1284	6934	8,218

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the cases of chlamydia diagnosed in 2001:

- ➔ 80% are reported in individuals between the ages of 15 and 24
- ➔ 36% are in white adolescent/young adults
- ➔ Incidence rate per 100,000 in blacks 15-19 years old is 12,624.8 compared to 2088.1 in whites.

Of the cases of chlamydia diagnosed in 2000:

- ➔ 80% are reported in individuals between the ages of 15 and 24
- ➔ 36% are in white adolescent/young adults
- ➔ Incidence rate per 100,000 in blacks 15-19 years old is 11,811.7 compared to 1913.5 in whites.

Of the cases of chlamydia diagnosed in 1999:

- ➔ 79% are reported in individuals between the ages of 15 and 24
- ➔ 34% are in white adolescent/young adults
- ➔ Incidence rate per 100,000 in blacks 15-19 years old is 11,477.5 compared to 1712.8 in whites.

■ HIV Counseling and Testing

HIV Counseling and Testing in Adolescents and Young Adults by Year of Test and Race/ Ethnicity and Gender											
Year of Diagnosis Age	Race/Ethnicity										
	White		Black		Am. Indian		Other*		Total		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total
1999											
15-19	562	1,004	107	210	49	81	66	85	784	2,822	3,606
20-24	849	1,037	113	226	62	72	112	107	1,136	1,442	2,578
<i>Total Adolescents/ Young Adults</i>	1,411	2,041	220	436	111	153	178	192	1,920	4,264	6,184
2000											
15-19	418	619	81	142	30	65	38	65	567	891	2,916
20-24	610	722	94	245	55	59	95	92	854	1,118	3,944
<i>Total Adolescents/ Young Adults</i>	1028	1,341	175	387	85	124	133	157	1421	2,009	6,860
2001											
15-19	321	371	88	81	42	41	58	39	509	532	1,041
20-24	306	274	42	92	38	20	67	53	453	439	892
<i>Total Adolescents/ Young Adults</i>	627	645	130	173	80	61	125	92	962	971	1,933

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

Of the Adolescents/Young Adults tested for HIV in 2001:

- ➔ 50.2% are female
- ➔ 65.8% are in white
- ➔ Represent 28% of total tests (n=6,884) performed at HIV C&T sites in 2001.
 - ◆ 15% of tests performed are 15-19 year olds
 - ◆ 13% of tests performed are 20-24 year olds

Of the Adolescents/Young Adults tested for HIV in 2000:

- 59% are female
- 69% are in white
- Represent 41% of total tests performed at HIV C&T sites in 2000.
 - ◆ 18% of tests performed are 15-19 year olds
 - ◆ 23% of tests performed are 20-24 year olds

Of the Adolescents/Young Adults tested for HIV in 1999:

- 69% are female
- 56% are in white
- Represent 54% of total tests performed at HIV C&T sites in 1999.
 - ◆ 32% of tests performed are 15-19 year olds
 - ◆ 23% of tests performed are 20-24 year olds

■ HIV surveillance

Adolescents/Young Adult HIV (not AIDS) Cases by Year of Diagnosis and Age at 1st Positive Test			
Year of Diagnosis	Age at Diagnosis		
	13 - 19	20 – 24	Total
1983		1	1
1984			
1985	3	12	15
1986	3	12	15
1987	1	12	13
1988	3	23	26
1989	7	28	35
1990	6	32	38
1991	4	27	31
1992	10	22	32
1993	7	26	33
1994	4	21	25
1995	3	20	23
1996	3	33	36
1997	4	37	41
1998	7	21	28
1999	7	19	26
2000	10	27	37
2001	7	20	27
Total	89	393	482

Of the 482 adolescents and young adults reported as being diagnosed with HIV infection, 82% were between the ages of 20 and 24. Since the late 1980s the number of new HIV infections reported in adolescents and young adults have remained fairly stable with an average of 30-35 cases annually.

Adolescents/Young Adult HIV Cases (not AIDS) by Race, Mode of Exposure and Age at 1 st Positive Test									
Mode of Exposure	Age at Diagnosis								Total
	13 - 19				20 - 24				
	Race/Ethnicity				Race/Ethnicity				
	White	Black	Am Ind	Other*	White	Black	Am Ind	Other*	
MSM	15	9		2	135	38	18	8	225
IDU	8	1	1		18	10	4	1	43
MSM&IDU	5	2			39	5	2	1	54
Hemophilia	3				2				5
Heterosexual	9	8			16	17	2	3	55
Transfusion	1	1			1	2		1	6
Risk Not Specified	9	10	2	3	25	40	2	3	94
Total	50	31	3	5	236	112	28	117	582

*Other** includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.

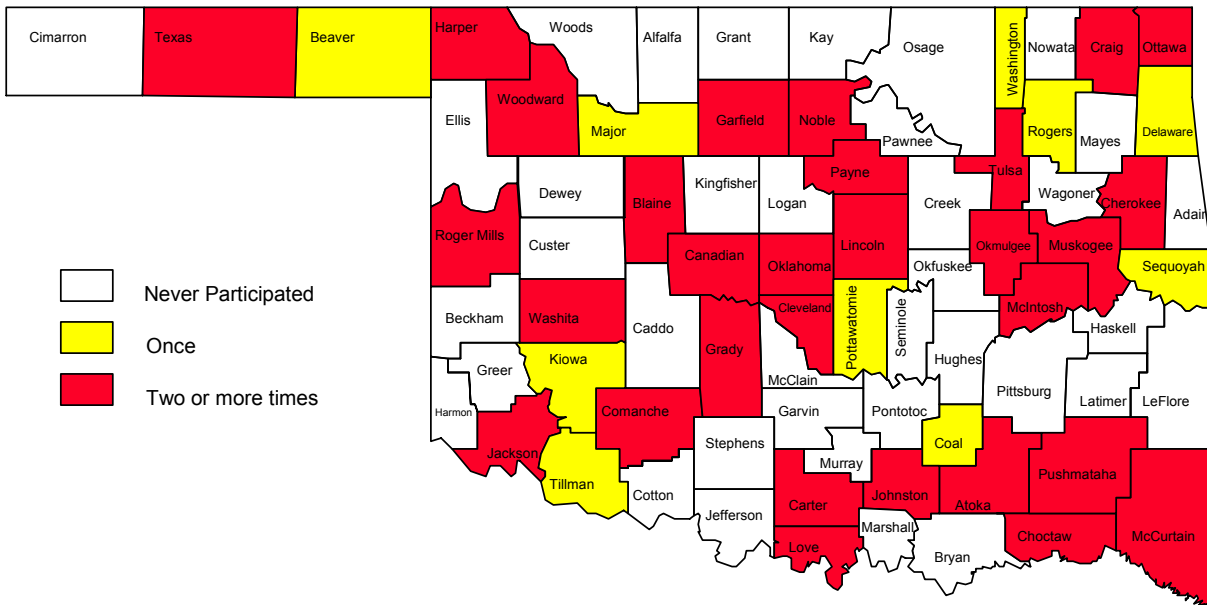
The 582 adolescents and young adults reported as being diagnosed with HIV infection can be summarized as follows:

- ➔ 38.7% are males who have sex with males
- ➔ 16.7% inject drugs (includes MSM&IDU)
- ➔ 9.5% acquired HIV heterosexually
- ➔ 49% are white
- ➔ 24.6% are black.

■ Youth Risk Behavior Survey (YRBS)

These data primarily provide information on youth in school, although out-of-school youth may have higher levels of HIV risk behavior. In Oklahoma, YRBS began in limited distribution in December 1996. To take part in YRBS, the individual school district has to request to be included. Maternal and Child Health (MCH) Service of the state health department manages this survey, providing presentations to school boards and meetings all over the state. From December 1996 through May 2002, 101 schools within the state have participated, providing surveys from approximately 44,035 students. Thirty-nine counties in Oklahoma have had schools participate in the survey; many have been in rural areas. The 2001-02 school year marks the 1st time the Middle School YRBS was performed. A total of twenty-six schools participated yielding 4,830 students surveyed.

Oklahoma Counties Participating in Youth Risk Behavior Survey 1996-2002



- Percent of high school students who have ever had sexual intercourse.**
 During school year 2000-01, almost half (46.0%) of respondents reported having had sexual intercourse at least once. The lowest proportion (34.2%) of students reporting intercourse was among 9th graders while the highest proportion (59.6%) was among 12th graders. These data show that most adolescents have engaged in sexual intercourse before finishing high school.
- Percent of high school students who have had four or more sexual partners during their lifetime.**
 During school year 2000-01, one third (33.0%) of respondents reported having had four or more partners. Increasing proportions reported multiple partners across grades 9 through 12 (29.0%, 31.9%, 31.5% and 38.3% respectively). These data show that many adolescents report having had multiple sexual partners, a risk for HIV infection.

- **Percent of sexually active (had sexual intercourse during the past 3 months) high school students who used a condom during last sexual intercourse.**
Data through 2001 report 48% of students had used a condom during their most recent sexual intercourse. Of those students using a method for birth control other than condoms, 10% withdrew and 17% used birth control pills.
- **Percent of high school students who have ever experimented with drugs.**
The survey has questions related to lifetime marijuana use, lifetime cocaine (any form) use, inhalant use and use of other illegal drugs (LSD, PCP, ecstasy, mushrooms, speed, ice or heroin). Over all the categories of drug use and all grade levels, at least a small proportion have tried each. During school year 2000-01, the fewest have tried heroin (4.5% of 9th graders to 4.6% of 12th graders) and the most have tried marijuana (29.1% of 9th graders to 49.7% of 12th graders).
- **Percent of high school students who have ever injected drugs.**
Data through 1999 report, of the 4500 students surveyed 134 (3%) have injected a drug at least once (*data from last year, current data not yet available*).

Summarize data on adolescents used to answer Question 3.6.

- ◆ The majority of the adolescents and young adults reported as HIV and AIDS are male and white; most of these are MSM but almost ¼ injected drugs.
- ◆ Since few teens seek HIV testing, either due to access, fear or lack of risk belief, STDs are the best surrogate to demonstrate potential risks (unprotected sexual intercourse).
- ◆ High numbers and rates of gonorrhea and chlamydia are observed in Oklahomans age 15-24. Higher rates per 100,000 population in blacks are reported for early syphilis, gonorrhea and chlamydia.

3.7 Racial/ethnic Minorities

Although transmission of HIV results from certain high-risk behaviors and is not the consequence of one's racial or ethnic group, racial and ethnic minorities have been disproportionately affected by the HIV epidemic. For example, HIV seroprevalence among men who have sex with men, injection drug users, and high-risk heterosexuals is now higher among blacks than among other racial/ethnic groups. Thus, tabulations by race/ethnicity should be highlighted in the epidemiologic profile.

Every reportable STD including HIV and AIDS has disproportionately affected black communities across the state. HIV and AIDS rates per 100,000 population are 3 ¼ to 8 times greater in blacks compared to whites. STD rates are 6 (chlamydia) to 80 (early syphilis) times greater in black adolescents/young adults compared to white adolescents/young adults.

3.8 Other Populations

■ Correctional Facilities

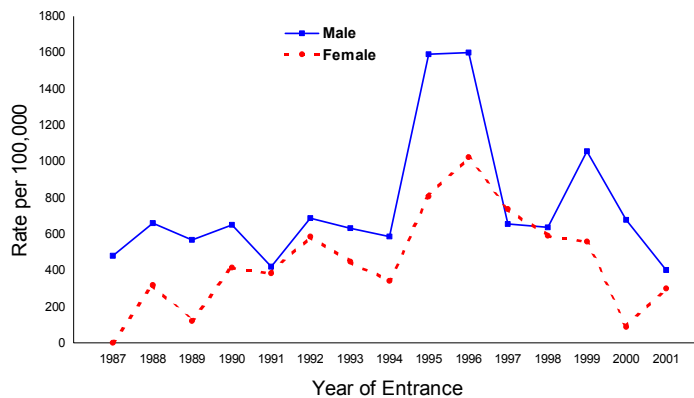
The Lexington Assessment and Reception Center (LARC) serves as the assessment site for all male and female prisoners entering the Oklahoma Department of Corrections (DOC) system. During the assessment, each inmate is given a thorough psychological and physical examination, which includes serologic testing for the presence of antibodies to HIV and syphilis.

Several important issues must be taken into account when interpreting CFS results. First the numbers represent tests results for each entry into the system and are not adjusted for duplicate entries. If an infected person enters DOC more than once between 1987 and the present, he/she is counted more than once.

Second, inmates are not routinely screened during incarceration or when they leave DOC's custody. This testing protocol in the DOC prevents the identification of prisoners: (1) in DOC's custody pre-1987, (2) persons in the window period, or (3) those persons infected after entry into the penal system. Therefore, this screening does not encompass all HIV infections within the inmate population and cannot be used exclusively to describe the HIV seroprevalence of Oklahoma inmates.

The data for this section was collected from DOC. Information for HIV seropositivity rate per 100,000 population, based on prisoners entering the DOC, appears in a graph and table below. These information displays HIV infected persons (both HIV and AIDS cases) who have gone through LARC, according to gender and year of assessment.

**Oklahoma Entrants into Department of Corrections
Lexington Assessment and Reception Center
HIV Seroprevalence Rate per 100,000**



Lexington Assessment and Reception Center (LARC) Seroprevalence Summary Results						
Year	Males			Females		
	# Tested	# HIV	Rate per 100,000	# Tested	# HIV	Rate per 100,000
1987	3324	16	481	327	0	0
1988	5443	36	661	625	2	320
1989	6012	34	566	832	1	120
1990	5667	37	653	723	3	415
1991	5464	23	421	783	3	383
1992	6834	47	688	850	5	588
1993	6008	38	632	897	4	446
1994	5794	20	588	883	3	339
1995	6222	99	1591	991	8	807
1996	6117	98	1602	975	10	1025
1997	6399	42	656	1086	8	737
1998	6267	40	638	1182	7	592
1999	6527	49	1057	1254	7	558
2000	6486	44	678	1123	1	89
2001	6963	28	402	1154	3	300

Five (5) to ten (10) times more males than females enter the prison system each year. Although for many years few females tested positive when screened, in most recent years the numbers have increased and continue to remain fairly stable. In 1997 the HIV rate per 100,000 in females surpassed the rate observed in males, however, by 1998 and again through 2000 the higher trend observed in males was reaffirmed. The HIV rate per 100,000 for both males and females entering the prison system is several hundred times greater than the rate by gender in the general population of Oklahoma.

■ Oklahoma Plasma Donors

In an effort to identify persons perceived to be at increased risk for HIV infection, the OSDH yearly collects testing data from all plasma donor centers across the state; this activity began in 1994. Patrons of the centers reflect a broad spectrum of Oklahoma's population. Many donate to feed themselves or their families, earn extra money to accommodate their lifestyle, or simply pay bills. There are also donors at increased risk for HIV infection who need money to support drug and alcohol use, or to buy food and pay bills because they have used that money to support a substance habit. This survey will be ongoing and should provide information that can be used to target effective prevention and intervention strategies.

Blood plasma collection centers pay individuals \$15.00 to \$25.00 per donation which can result in a monthly income of \$100.00 to \$200.00. Each donor is screened before their first donation and must meet age, weight, and general health requirements. Donors must also pass an interview, physical exam and, in most centers, have a social security number and photo identification with a permanent address.

After the donation, each unit is screened for: HIV using an EIA and Western blot, Hepatitis B with testing for HBsAg, Hepatitis C using an anti-HCV, and Syphilis with an RPR and FTA-ABS. A unit is destroyed if a test is positive or if the donor was in poor health or indicated signs of drug use or self-disclosed high-risk activities. A list of deferred donors is kept to prevent further donations.

There are nine major plasma collection centers in Oklahoma. The sites are located in major population centers with three (3) in Oklahoma City, two (2) in Tulsa, and one (1) each in Lawton, Stillwater, Norman, and Muskogee. The Norman and Stillwater centers are located near Oklahoma University and Oklahoma State University and draw clients from the school and town populations.

Oklahoma Plasma Donation Centers										
Plasma Ctr Site	Donation Time Frame	Total Donations	Test Type							
			Western Blot for HIV		HBsAg		anti-HCV		RPR for Syphilis	
			#	Rate*	#	Rate*	#	Rate*	#	Rate*
1	1/1/96-12/31/96	135,040	1	1	13	10	78	58	13	10
	1/1/97-12/31/97	89,278	2	2.2	11	12.3	39	43.6	7	7.8
	1/1/98-12/31/98	75,504	0	-	9	11.9	61	80.7	7	9.3
	1/1/99-12/31/99	79,059	0	-	8	10.1	53	67.0	5	6.3
	1/1/00-12/31/00	74,438	2	2.7	11	14.8	59	79.3	5	6.7
	1/1/01-12/31/01	79,674	1	1.3	4	5.0	61	76.6	2	2.5
2	1/1/96-12/31/96	164,584	10	6	22	13	270	164	31	19
	1/1/97-12/31/97	123,417	8	6.4	20	16.2	123	99.6	18	14.5
	1/1/98-12/31/98	124,496	6	4.8	10	8.0	140	112.5	22	17.7
	1/1/99-12/31/99	112,569	7	6.2	15	13.3	101	89.7	11	9.8
	1/1/00-12/31/00	106,491	5	4.7	10	9.4	70	65.7	12	11.3
	1/1/01-12/31/01	106,751	4	3.7	8	7.5	91	85.2	4	3.7
3	1/1/96-12/31/96	13,005	1	8	7	54	55	423	2	15
	1/1/97-12/31/97	11,616	0	-	1	8.6	30	258.2	0	-
	1/1/98-12/31/98	11,851	0	-	2	16.9	20	168.8	1	8.4
	1/1/99-12/31/99	13,641	0	-	2	14.7	25	183.3	1	7.3
	1/1/00-12/31/00	14,363	0	-	2	13.9	22	153.2	1	7.0
	1/1/01-12/31/01	16,010	1	6.2	4	24.9	28	174.9	1	6.2
4	1/1/96-12/31/96	33,416	3	9	1	3	59	176	2	6
	1/1/97-12/31/97	27,474	0	-	1	3.6	29	105.5	2	7.2
	1/1/98-12/31/98	14,885	2	13.4	0	-	20	134.4	2	13.4
	1/1/99-12/31/99	23,395	4	17.1	2	8.5	18	76.9	1	4.3
	1/1/00-12/31/00	23,990	4	16.7	3	12.5	20	83.4	7	29.2
	1/1/01-12/31/01	21,209	2	9.4	2	9.4	26	122.6	6	28.3
5	1/1/96-12/31/96	27,121	0	-	1	4	36	133	1	4
	1/1/97-12/31/97	26,098	0	-	4	15.3	27	103.4	7	26.8
	1/1/98-12/31/98	24,805	7	28.2	3	12.1	14	56.4	2	8.1
	1/1/99-12/31/99	20,549	3	14.6	1	4.9	15	73.0	4	19.5
	1/1/00-12/31/00	24,877	0	-	0	-	8	32.2	1	4.0
	1/1/01-12/31/01	22,323	0	-	1	4.5	10	44.8	0	-
6	1/1/96-12/31/96	58,263	4	7	13	22	106	182	68	117
	1/1/97-12/31/97	59,685	10	16.7	22	36.8	178	298.2	35	58.6
	1/1/98-12/31/98	50,689	7	13.8	3	5.9	115	226.8	18	35.5
	1/1/99-12/31/99	37,938	0	-	4	10.5	3	7.9	11	29.0
	1/1/00-12/31/00	46,896	2	4.3	4	8.5	54	115.1	12	25.6
	1/1/01-12/31/01	44,352	2	4.5	3	6.8	62	139.8	18	40.6

7	1/1/96-12/31/96	31,994	0	0	9	28	95	297	8	2
	1/1/97-12/31/97	32,696	6	18.3	8	24.4	68	207.9	7	21.4
	1/1/98-12/31/98	32,330	18	55.7	11	34.0	102	315.5	4	12.4
	1/1/99-12/31/99	32,034	6	18.7	8	25.0	43	134.2	2	6.2
	1/1/00-12/31/00	30,833	3	9.7	2	6.5	52	168.7	10	32.4
	1/1/01-12/31/01	24,410	3	12.3	5	20.5	29	118.9	17	69.6
8	1/1/96-12/31/96	40,942	0	0	9	22	163	398	3	7
	1/1/97-12/31/97	49,221	15	30.4	13	26.4	46	94.3	5	10.1
	1/1/98-12/31/98	43,331	7	15.2	15	34.6	42	96.9	5	11.5
	1/1/99-12/31/99	35,478	3	8.4	1	2.8	26	73.3	4	11.3
	1/1/00-12/31/00	36,989	0	-	2	5.4	30	81.1	3	8.1
	1/1/01-12/31/01	33,357	5	14.9	5	14.9	33	98.9	0	-
9	1/1/96-12/31/96	44,028	3	7	13	30	117	266	14	32
	1/1/97-12/31/97	41,199	10	24.2	15	36.4	71	1723	9	21.8
	1/1/98-12/31/98	31,233	4	12.8	7	22.4	39	124.9	4	12.8
	1/1/99-12/31/99	27,641	9	32.6	4	14.5	30	108.5	4	14.5
	1/1/00-12/31/00	24,771	2	8.1	4	16.2	21	85.0	3	12.1
	1/1/01-12/31/01	23,937	6	25.1	5	20.9	33	137.9	10	41.8

Rate calculated per 100,000 Donations/Specimens for time period.

Of greatest note from the plasma donor data: over a quarter-million plasma donations are collected and tested for a variety of sexually transmitted diseases and/or bloodborne pathogens each year in our state. Not only is there great variability of positives from each disease and each site, but also the numbers and rates do not have much stability from year to year within site.

■ Oklahoma Job Corps

Job Corps is the nation’s largest residential employment and educational training program for economically challenged youth, ages 16 to 24. The U.S. Department of Labor funds Job Corps. Job Corps’ mission is to teach young adults the skills they need to become employable and independent, and place them in meaningful jobs or to further their education.

Job Corps is a self-paced, voluntary program. Because Job Corps is a self-paced program, lengths of stay vary. Students may remain enrolled for up to two years, but the average length of stay is approximately seven months. Applicants must agree to abide by Job Corps’ rules and regulations, including a zero tolerance policy for drugs and violence.

Job Corps has a proven curriculum of academic, vocational, and life skills training as well as opportunities to earn a GED or high school diploma. Job Corps offers vocational training in more than 100 occupations in industries including health care, automotive, information technology, hospitality, and construction.

There are four Job Corps locations in the state of Oklahoma. The sites are located in Tahlequah, Indianahoma, Guthrie and Tulsa. Upon arrival at the each site, the students are given a physical exam. The students at Oklahoma Job Corps centers can be residents of Oklahoma, Texas, New Mexico, Arkansas or Louisiana.

Oklahoma Job Corps										
Site	Donation Time Frame	Total Donations	Test Type							
			Western Blot for HIV		RPR and FTA for Syphilis		Gonorrhea		Chlamydia	
			# Positive	Rate*	# Positive	Rate*	# Positive	Rate*	# Positive	Rate*
1	1/1/99-12/31/99	245	0	-	0	-	1	408.1	18	7,346.9
	1/1/00-12/31/00	578	0	-	0	-	2	346.0	8	1,384.1
	1/1/01-12/31/01	491	0	-	0	-	1	203.7	12	2,444.0
2	1/1/99-12/31/99	466	0	-	0	-	6	1,287.6	11	2,360.5
	1/1/00-12/31/00	470	0	-	2	425.5	4	851.1	11	2,340.4
	1/1/01-12/31/01	294	0	-	2	680.3	3	1,020.4	16	5,442.2
3	1/1/99-12/31/99	900	1	111.1	14	1,555.5	18	2,000.0	44	4,888.9
	1/1/00-12/31/00	1,178	1	84.9	2	169.8	25	2,122.2	40	3,395.6
	1/1/01-12/31/01	1,102	1	90.7	1	90.7	50	4,537.2	50	4,537.2
4	1/1/99-12/31/99	301	0	-	0	-	14	4,651.2	22	7,309.0
	1/1/00-12/31/00	497	0	-	4	804.8	15	3,018.1	21	4,225.4
	1/1/01-12/31/01	412	0	-	0	-	23	5,582.5	42	10,194.2

*Rate calculated per 100,000 Donations for time period.

Of greatest note from the Job Corps data: over two thousand students enter training centers and

are tested for a variety of sexually transmitted diseases and/or bloodborne pathogens each year in our state. There is great variability in the number and rate of positives from each disease and each site.

Question 4. What is the geographic distribution of HIV infection?

Prevention planning value:

Provides planning groups with information about possible locations for prevention activities which may offer access to individuals at high risk for HIV. In many areas, HIV is geographically concentrated in areas where groups at high risk live.

Directly supports decisions about priorities among HIV prevention needs and possible interventions.

Key components:

AIDS Cases

- AIDS cases by residence at diagnosis (recent years)

STD Surveillance Data

- STD rates by county

Key issues:

- HIV infection and risk behaviors are unevenly distributed within the region
- Identifying geographic concentrations can point to locations where prevention programs may be needed.
- Use of data at the zip code or census tract level must protect individual identities
- Data maps are excellent for presentations; tables and graphs may also be useful.

Question 4: What is the geographic distribution of HIV infection?

The HIV epidemic is composed of multiple separate epidemics in states, health districts, counties, and even municipalities. Because of the uneven distribution of HIV and risk behavior for HIV both geographically and within populations, it is important for planning groups to understand where HIV is concentrated and where persons at highest risk for HIV infection may be reached for prevention activities.

Geographic areas can be described at several levels within the state, including geographic regions, health districts, counties, city, urban/rural/frontier, zip code, and census tracts. Data

maps are excellent for describing the geographic distribution of HIV/AIDS and surrogate data, such as STD incidence, and should be used whenever possible.

HIV reporting and AIDS case data may also be useful in conjunction with the needs assessment. Health-care facilities are sites where persons at highest risk for HIV acquisition or transmission may be reached for primary and secondary prevention activities. In addition, many of these sites collect relevant HIV or STD data. Populations at high-risk for HIV acquisition or transmission may be reached for targeted interventions in a variety of settings, e.g., sexually transmitted disease clinics, drug treatment centers, tuberculosis clinics, and clinics for homeless and runaway youth.

To accurately portray the HIV epidemic and other STDs, reported cases have been grouped into regions of Oklahoma. Oklahoma is divided into five (5) Metropolitan Statistical Areas (MSAs) and four (4) regional quadrants. For our purposes here three (3) of the MSAs are grouped with the quadrant of the state in which they are located: Enid MSA is combined with the Northwest quadrant, Lawton MSA is combined with the Southwest quadrant and Sequoyah County (Ft. Smith, AR MSA) is combined with the Southeast quadrant.

Metropolitan Statistical Areas (MSAs) Defined by County					
MSA	Enid	Lawton	Oklahoma City	Fort Smith, AR	Tulsa
Population					
1990 Census	56,735	111,486	958,839	33,828	708,954
2000 Census	57,813	114,996	1,083,346	38,972	803,235
Counties	Garfield	Comanche	Oklahoma Canadian Cleveland McClain Logan Pottawatomie	Sequoyah	Tulsa Creek Rogers Osage Wagoner

Quadrants of Oklahoma Defined by County				
Quadrant	Northeast	Southeast	Southwest	Northwest
Population				
1990 Census	514,926	347,565	269,433	143,819
2000 Census	563,493	370,122	275,336	143,341
Counties	Adair Cherokee Craig Delaware Kay Lincoln Mayes McIntosh Muskogee Noble Nowata Okfuskee Okmulgee Ottawa Pawnee Payne Washington	Atoka Bryan Choctaw Coal Garvin Haskell Hughes Johnston Latimer LeFlore Marshall McCurtain Murray Pittsburg Pontotoc Pushmataha Seminole	Beckham Caddo Carter Cotton Grady Greer Harmon Jackson Jefferson Kiowa Love Stephens Tillman Washita	Alfalfa Beaver Blaine Cimarron Custer Dewey Ellis Grant Harper Kingfisher Major Roger Mills Texas Woods Woodward

4.2 What data can be used to describe the geographic distribution of HIV infection?

■ AIDS surveillance

• AIDS cases by residence at diagnosis for most recent year.

In 2001, 80% of newly diagnosed AIDS cases in Oklahoma resided in the metropolitan areas, particularly Oklahoma and Tulsa counties (66%). Over the past five years 7 counties have had an average of approximately 3 or more new AIDS cases diagnosed annually. These counties include:

Canadian	4.0	Oklahoma	83.8
Cleveland	6.8	Payne	3.6
Comanche	5.4	Tulsa	58.0
Muskogee	3.8	Statewide average	2.8 cases diagnosed per year

- **AIDS cases by residence at diagnosis and race/ethnicity for most recent years of diagnosis.**

AIDS Cases Diagnosed in 1999, 2000 and 2001 by Region of Residence and Race/Ethnicity												
Region	White			Black			American Indian			Other*		
	1999	2000	2001	1999	2000	2001	1999	2000	2001	1999	2000	2001
Northeast	9	9	11	3	3	5	6	4	3			2
Northwest (including Enid MSA)	1	5	3	1						2		
Southeast (including Ft Smith MSA)	9	5	8	1	3	2	1		2	1	1	1
Southwest (including Lawton MSA)	3	10	4	5	3	2	1	3		2		1
Oklahoma City MSA	52	53	65	18	17	23	6	8	8	2	2	7
Tulsa MSA	29	38	30	15	20	12	2	4	4	3	1	8

Other includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.*

Of the 201 AIDS Cases diagnosed in 2001:

- ➔ 78% lived in the Tulsa or Oklahoma City area
- ➔ 0% of the NW quadrant’s AIDS cases are persons of color
- ➔ 38% of the SE quadrant’s AIDS cases are persons of color
- ➔ 37% of Oklahoma City MSAs AIDS cases are persons of color
- ➔ 44% of Tulsa MSAs AIDS cases are persons of color
- ➔ 43% of the SW quadrant’s AIDS cases are persons of color
- ➔ 48% of the NE quadrant’s AIDS cases are persons of color

Of the 189 AIDS Cases diagnosed in 2000:

- ➔ 76% lived in the Tulsa or Oklahoma City area
- ➔ 0% of the NW quadrant’s AIDS cases are persons of color
- ➔ 44% of the SE quadrant’s AIDS cases are persons of color
- ➔ 34% of Oklahoma City MSAs AIDS cases are persons of color
- ➔ 40% of Tulsa MSAs AIDS cases are persons of color
- ➔ 38% of the SW quadrant’s AIDS cases are persons of color
- ➔ 44% of the NE quadrant’s AIDS cases are persons of color

Of the 172 AIDS Cases diagnosed in 1999:

- ➔ 74% lived in the Tulsa or Oklahoma City area
- ➔ 75% of the NW quadrant’s AIDS cases are persons of color
- ➔ 25% of the SE quadrant’s AIDS cases are persons of color
- ➔ 33% of Oklahoma City MSAs AIDS cases are persons of color
- ➔ 41% of Tulsa MSAs AIDS cases are persons of color

- 73% of the SW quadrant's AIDS cases are persons of color
- 50% of the NE quadrant's AIDS cases are persons of color

Of the 206 AIDS Cases diagnosed in 1998:

- 73% lived in the Tulsa or Oklahoma City area
- 40% of the NW quadrant's AIDS cases are persons of color
- 20% of the SE quadrant's AIDS cases are persons of color
- 35% of Oklahoma City MSAs AIDS cases are persons of color
- 39% of Tulsa MSAs AIDS cases are persons of color
- 27% of the SW quadrant's AIDS cases are persons of color
- 29% of the NE quadrant's AIDS cases are persons of color

Of the 281 AIDS Cases diagnosed in 1997:

- 77% lived in the Tulsa or Oklahoma City area
- 33% of the NW quadrant's AIDS cases are persons of color
- 27% of the SE quadrant's AIDS cases are persons of color
- 33% of Oklahoma City MSAs AIDS cases are persons of color
- 28% of Tulsa MSAs AIDS cases are persons of color
- 21% of the SW quadrant's AIDS cases are persons of color
- 20% of the NE quadrant's AIDS cases are persons of color

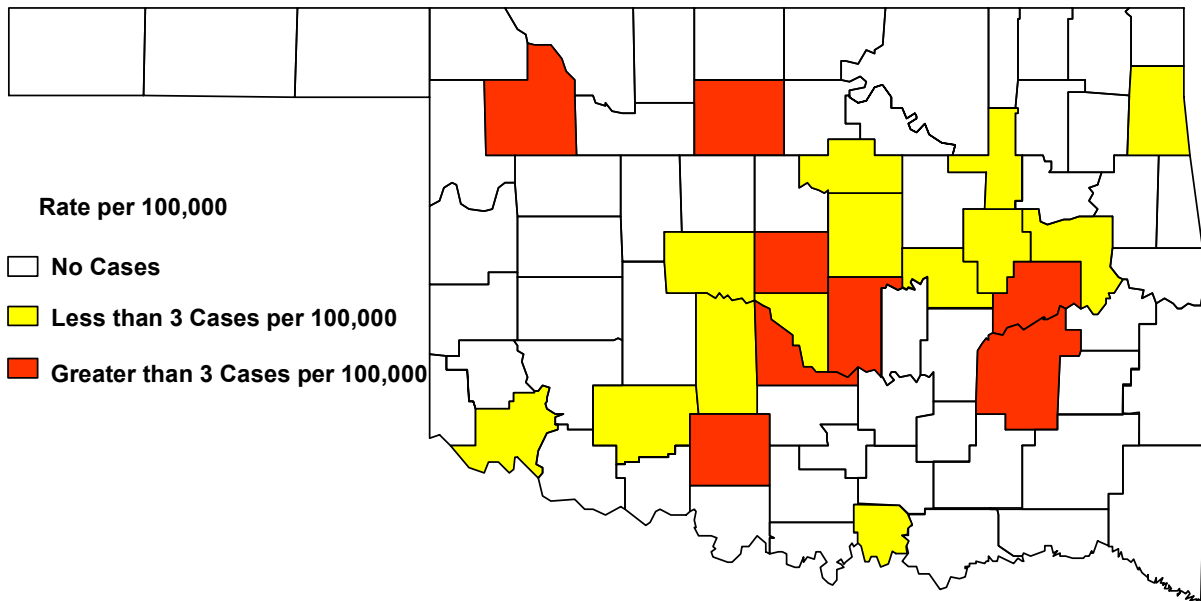
■ **Surveillance of bacterial sexually transmitted diseases:**

While the presence of syphilis indicates high-risk behavior, the absence of syphilis does not indicate absence of risk; rather it may be a marker of effective syphilis control (e.g., men who have sex with men in a sexual network with low prevalence of syphilis). Inferences about areas with low syphilis rates should be made with caution. Areas with high syphilis rates should be considered for targeting prevention efforts. Clinics diagnosing and treating persons with syphilis are also places where persons at high risk may be reached.

● **Early Syphilis cases and rates by residence at diagnosis for most recent year of report**

In 2001, the largest numbers of early syphilis cases were reported residing in Oklahoma County (123), Tulsa County had the next largest (15) followed closely by Garfield County with (11). Of Oklahoma's 77 counties, 21 had an early syphilis case reported, however thirteen (13) of the counties, Canadian, Delaware, Jackson, Lincoln, Marshall, McClain, Muskogee, Okfuskee, Okmulgee, Payne, Pittsburg, Stephens, and Woodward had only 1 or 2 cases. Eight (8) counties had high syphilis rates (> 3 per 100,000).

Early Syphilis in 2001 Counties with Cases



■ HIV Surveillance

● HIV cases by residence at diagnosis for most recent year.

In 2001, 90% of newly diagnosed HIV infections in Oklahoma resided in the metropolitan areas, particularly Oklahoma and Tulsa counties (74%). Over the past five years 7 counties have had an average of 2 or more new HIV infections diagnosed annually. These counties include:

Canadian	32.8	Oklahoma	78.4
Cleveland	6.2	Rogers	2.2
Comanche	8.6	Tulsa	48.0
Muskogee	2.4	Statewide average	2.4 infections diagnosed per year

HIV Infections Diagnosed in 1999, 2000 and 2001 by Region of Residence and Race/Ethnicity												
Region	White			Black			American Indian			Other*		
	1999	2000	2001	1999	2000	2001	1999	2000	2001	1999	2000	2001
Northeast	7	8	4	1	1	1	4	3	2			
Northwest (including Enid MSA)	5	3	1		2			1				
Southeast (including Ft Smith MSA)	10	9	3	2	1	1	1	3	2	1		
Southwest (including Lawton MSA)	12	7	3	3	4	4				1		1
Oklahoma City MSA	54	40	32	24	19	18	4	6	6	6	6	10
Tulsa MSA	32	42	36	6	7	13	2	2	4	5	5	4

Other includes Hispanic, Asian/Pacific Islander and Unknown; these racial/ethnic categories have been combined to insure confidentiality since the Hispanic and Asian/PI communities in Oklahoma are relatively small.*

Of the 145 HIV infections diagnosed in 2001:

- ➔ 85% lived in the Tulsa or Oklahoma City area
- ➔ 50% of the SE quadrant’s HIV cases are persons of color
- ➔ 52% of Oklahoma City MSAs HIV cases are persons of color
- ➔ 43% of the NE quadrant’s HIV cases are persons of color
- ➔ 37% of Tulsa MSAs HIV cases are persons of color
- ➔ 63% of the SW quadrant’s HIV cases are persons of color
- ➔ 0% of the NW quadrant’s HIV cases are persons of color

Of the 169 HIV infections diagnosed in 2000:

- ➔ 75% lived in the Tulsa or Oklahoma City area
- ➔ 31% of the SE quadrant’s HIV cases are persons of color
- ➔ 44% of Oklahoma City MSAs HIV cases are persons of color
- ➔ 33% of the NE quadrant’s HIV cases are persons of color
- ➔ 25% of Tulsa MSAs HIV cases are persons of color

- ➔ 36% of the SW quadrant's HIV cases are persons of color
- ➔ 50% of the NW quadrant's HIV cases are persons of color

Of the 180 HIV infections diagnosed in 1999:

- ➔ 74% lived in the Tulsa or Oklahoma City area
- ➔ 29% of the SE quadrant's HIV cases are persons of color
- ➔ 39% of Oklahoma City MSAs HIV cases are persons of color
- ➔ 42% of the NE quadrant's HIV cases are persons of color
- ➔ 29% of Tulsa MSAs HIV cases are persons of color
- ➔ 25% of the SW quadrant's HIV cases are persons of color
- ➔ 0% of the NW quadrant's HIV cases are persons of color

Of the 203 HIV infections diagnosed in 1998:

- ➔ 74% lived in the Tulsa or Oklahoma City area
- ➔ 44% of the SE quadrant's HIV cases are persons of color
- ➔ 41% of Oklahoma City MSAs HIV cases are persons of color
- ➔ 38% of the NE quadrant's HIV cases are persons of color
- ➔ 39% of Tulsa MSAs HIV cases are persons of color
- ➔ 47% of the SW quadrant's HIV cases are persons of color
- ➔ 33% of the NW quadrant's HIV cases are persons of color

Of the 221 HIV infections diagnosed in 1997:

- ➔ 81% lived in the Tulsa or Oklahoma City area
- ➔ 38% of the SE quadrant's HIV cases are persons of color
- ➔ 35% of Oklahoma City MSAs HIV cases are persons of color
- ➔ 20% of the NE quadrant's HIV cases are persons of color
- ➔ 28% of Tulsa MSAs HIV cases are persons of color
- ➔ 29% of the SW quadrant's HIV cases are persons of color

Of the 188 HIV infections diagnosed in 1996:

- ➔ 78% lived in Tulsa or Oklahoma City area
- ➔ 69% of the SW quadrant's HIV cases are persons of color
- ➔ 50% of the NE quadrant's HIV cases are persons of color
- ➔ 28% of Oklahoma City MSAs HIV cases are persons of color
- ➔ 29% of Tulsa MSAs HIV cases are persons of color
- ➔ 25% of the SE quadrant's HIV cases are persons of color

■ HIV prevalence

Prevalence estimates by regions of the state are useful to observe how known HIV infection is distributed differently in different areas of the state. Remember HIV prevalence is all known living persons diagnosed with HIV infection (HIV plus AIDS cases who are living) at a given point in time (May 2002).

<p style="text-align: center;">HIV Prevalence by Race by Exposure Behavior State of Oklahoma Includes Cases Originally Diagnosed and/or Tested Out-of-State May 2002</p>								
Exposure Behavior	Race /Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	1,730	55.2%	384	38.4%	139	48.6%	97	35.9%
Injection Drug Use (IDU)	386	12.3%	128	12.8%	54	18.9%	45	16.7%
MSM & IDU	365	11.6%	81	8.1%	40	14.0%	19	7.0%
Hemophilia/Coagulation Disorder	28	0.9%	3	0.3%			2	0.7%
Heterosexual Contact	262	8.4%	137	13.7%	24	8.4%	36	13.3%
Sex with IDU	113		58		9		16	
Sex with MSM	30		12		6			
Sex with Hemophiliac	2						1	
Sex with Transfusion Recipient	1		3					
Sex with HIV+ Risk Not Identified	116		64		9		19	
Received Transfusion or Tissue	22	0.7%	15	1.5%	1	0.3%	6	2.2%
Other/Risk not Reported or Identified	342	10.9%	251	25.1%	28	9.8%	65	24.1%
Total	3,135	100.0%	999	100.0%	286	100.0%	270	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 4,690 prevalent HIV infections in Oklahoma as of May 2002, 67% are white, 21% are black and 6% are American Indian. Within all racial/ethnic categories, MSM is the most common exposure method ranging from ~35% for other to 55% for white.

HIV Prevalence by Race by Exposure Behavior Residing in the 405 and 580 Area Codes May 2002								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	836	52.7%	221	38.6%	60	49.6%	55	37.2%
Injection Drug Use (IDU)	207	13.0%	76	13.3%	28	23.1%	29	19.6%
MSM & IDU	182	11.5%	46	8.0%	11	9.1%	8	5.4%
Hemophilia/Coagulation Disorder	17	1.1%	1	0.2%			1	0.7%
Heterosexual Contact	144	9.1%	69	12.1%	11	9.1%	11	7.4%
Sex with IDU	64		29		4		5	
Sex with MSM	20		10		2			
Sex with Hemophiliac	2							
Sex with Transfusion Recipient	1		1					
Sex with HIV+ Risk Not Identified	57		29		5		6	
Received Transfusion or Tissue	10	0.6%	8	1.4%			4	2.7%
Other/Risk not Reported or Identified	191	12.0%	151	26.4%	11	9.1%	40	27.0%
Total	1,587	100%	572	100.0%	121	100.0%	148	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 2,428 prevalent HIV infections in 405/580 Area Codes as of May 2002, 65% are white, 24% are black and 5% are American Indian. Within every racial/ethnic category, MSM is the most common exposure method ranging from ~40% for black to ~53% for white.

HIV Prevalence by Race by Exposure Behavior Residing in the 918 Area Code May 2002								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	751	64.4%	115	41.8%	64	46.7%	25	37.9%
Injection Drug Use (IDU)	111	9.5%	27	9.8%	23	16.8%	8	12.1%
MSM & IDU	111	9.5%	18	6.5%	24	17.5%	5	7.6%
Hemophilia/Coagulation Disorder	9	0.8%	1	0.4%			1	1.5%
Heterosexual Contact	81	6.9%	50	18.2%	13	9.5%	11	16.7%
Sex with IDU	33		23		5		4	
Sex with MSM	8		2		4		1	
Sex with Hemophiliac								
Sex with Transfusion Recipient			2					
Sex with HIV+ Risk Not Identified	40		23		4		6	
Received Transfusion or Tissue	6	0.5%	6	2.2%			1	1.5%
Other/Risk not Reported or Identified	98	8.4%	58	21.1%	13	9.5%	15	22.7%
Total	1,167	100.0%	275	100.0%	137	100.0%	66	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 1,645 prevalent HIV infections in 918 Area Code as of May 2002, 71% are white, 17% are black and 8% are American Indian. Within every racial/ethnic category, MSM is the most common exposure method ranging from ~42% for black to ~64% for white.

HIV Prevalence by Race by Exposure Behavior Oklahoma City MSA May 2002								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	830	63.4%	175	42.2%	39	50.0%	45	45.0%
Injection Drug Use (IDU)	139	10.6%	62	14.9%	19	24.4%	19	19.0%
MSM & IDU	140	10.7%	37	8.9%	9	11.5%	7	7.0%
Hemophilia/Coagulation Disorder	8	0.6%	1	0.2%			1	1.0%
Heterosexual Contact	52	4.0%	30	7.2%	5	6.4%	4	4.0%
Sex with IDU	38		21		3		4	
Sex with MSM	12		8		2			
Sex with Hemophiliac	1							
Sex with Transfusion Recipient	1		1					
Sex with HIV+ Risk Not Identified	30		18		2		4	
Received Transfusion or Tissue	8	0.6%	7	1.7%			1	1.0%
Other/Risk not Reported or Identified	132	10.1%	103	24.8%	6	7.7%	23	23.0%
Total	1,309	100.0%	415	100.0%	78	100.0%	100	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 1,902 prevalent HIV infections in Oklahoma City MSA as of May 2002, 69% are white, 22% are black and 4% are American Indian. Within every racial/ethnic category, MSM is the most common exposure method ranging from ~40% for black to ~60% for white.

HIV Prevalence by Race by Exposure Behavior Tulsa MSA May 2002								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	532	62.3%	105	42.9%	45	51.7%	22	37.9%
Injection Drug Use (IDU)	86	10.1%	21	8.6%	11	12.6%	8	13.8%
MSM & IDU	90	10.5%	16	6.5%	18	20.7%	5	8.6%
Hemophilia/Coagulation Disorder	4	0.5%	1	0.4%			1	1.7%
Heterosexual Contact	63	7.4%	44	18.0%	6	6.9%	9	15.5%
Sex with IDU	25		21		2		3	
Sex with MSM	6		2		1			
Sex with Hemophiliac								
Sex with Transfusion Recipient			2					
Sex with HIV+ Risk Not Identified	32		19		3		6	
Received Transfusion or Tissue	3	0.4%	5	2.0%				
Other/Risk not Reported or Identified	76	8.9%	53	21.6%	7	8.0%	13	22.4%
Total	854	100.0%	245	100.0%	87	100.0%	58	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 1,244 prevalent HIV infections in Tulsa MSA as of May 2002, 69% are white, 20% are black and 7% are American Indian. Within every racial/ethnic category, MSM is the most common exposure method ranging from ~43% for black to ~63% for white.

HIV Prevalence by Race by Exposure Behavior Northeast Quadrant May 2002								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	95	52.2%	11	35.5%	21	42.9%	2	33.3%
Injection Drug Use (IDU)	26	14.3%	5	16.1%	8	16.3%	1	16.7%
MSM & IDU	17	9.3%	2	6.5%	6	12.2%		
Hemophilia/Coagulation Disorder	3	1.6%						
Heterosexual Contact	17	9.3%	4	12.9%	7	14.3%	1	16.7%
Sex with IDU	7		3		2			
Sex with MSM	3				3		1	
Sex with Hemophiliac								
Sex with Transfusion Recipient								
Sex with HIV+ Risk Not Identified	7		1		2			
Received Transfusion or Tissue	3	1.6%	1	3.2%			1	16.7%
Other/Risk not Reported or Identified	21	11.5%	8	25.8%	7	14.3%	1	16.7%
Total	182	100.0%	31	100.0%	49	100.0%	6	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 268 prevalent HIV infections in the Northeast Quadrant as of May 2002, 68% are white, 12% are black and 18% are American Indian. Within every racial/ethnic category, MSM is the most common exposure method ranging from ~35% for black to ~53% for white.

HIV Prevalence by Race by Exposure Behavior Northwest Quadrant (including Enid MSA) May 2002								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	22	28.6%	3	33.3%			3	42.9%
Injection Drug Use (IDU)	17	22.1%			2	66.7%	3	42.9%
MSM & IDU	14	18.2%	1	11.1%				
Hemophilia/Coagulation Disorder	1	1.3%						
Heterosexual Contact	11	14.3%	3	33.3%				
Sex with IDU	5		1					
Sex with MSM	1							
Sex with Hemophiliac								
Sex with Transfusion Recipient								
Sex with HIV+ Risk Not Identified	5		2					
Received Transfusion or Tissue								
Other/Risk not Reported or Identified	12	15.6%	2	22.2%	1	33.3%	1	14.3%
Total	77	100.0%	9	100.0%	3	100.0%	7	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 96 prevalent HIV infections in the Northwest Quadrant as of May 2002, 80% are white, 9% are black and 3% are American Indian. Within three of the four racial/ethnic category, MSM is the most common exposure method ranging from ~30% for white to 33% for black. Only in the American Indian was Injection Drug Use the most common exposure behavior.

HIV Prevalence by Race by Exposure Behavior Southeast Quadrant (including Sequoyah County, FT Smith MSA) May 2002								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	58	41.4%	6	30.0%	10	43.5%	2	28.6%
Injection Drug Use (IDU)	18	12.9%	3	15.0%	9	39.1%	1	14.3%
MSM & IDU	17	12.1%	3	15.0%	2	8.7%		
Hemophilia/Coagulation Disorder	6	4.3%						
Heterosexual Contact	23	16.4%	5	25.0%	1	4.3%	1	14.3%
Sex with IDU	10		1		1		1	
Sex with MSM	5		1					
Sex with Hemophiliac	1							
Sex with Transfusion Recipient								
Sex with HIV+ Risk Not Identified	7		3					
Received Transfusion or Tissue	1	0.7%						
Other/Risk not Reported or Identified	17	12.1%	3	15.0%	1	4.3%	3	42.9%
Total	140	100.0%	20	100.0%	23	100.0%	7	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 190 prevalent HIV infections in the Southeast Quadrant in May 2002, 74% are white, 11% are black and 12% are American Indian. Within every racial/ethnic category, MSM is the most common exposure method ranging from 33% for black to ~45% for American Indian.

HIV Prevalence by Race by Exposure Behavior Southwest Quadrant (including Lawton MSA) May 2002								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	63	37.1%	35	33.0%	9	56.3%	6	19.4%
Injection Drug Use (IDU)	31	18.2%	10	9.4%	2	12.5%	5	16.1%
MSM & IDU	15	8.8%	5	4.7%			1	3.2%
Hemophilia/Coagulation Disorder	3	1.8%						
Heterosexual Contact	28	16.5%	15	14.2%	3	18.8%	3	9.7%
Sex with IDU	11		5		1		1	
Sex with MSM	1		1					
Sex with Hemophiliac								
Sex with Transfusion Recipient								
Sex with HIV+ Risk Not Identified	16		9		2		2	
Received Transfusion or Tissue	1	0.6%	1	0.9%			3	9.7%
Other/Risk not Reported or Identified	29	17.1%	40	37.7%	2	12.5%	13	41.9%
Total	170	100.0%	106	100.0%	16	100.0%	31	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 372 prevalent HIV infections in the Southwest Quadrant as of May 2002, 46% are white, 29% are black and 4% are American Indian. Within all racial/ethnic category, MSM is the most common exposure method ranging from ~30% for black to ~56% for American Indian. When the exposure behavior has been adequately assessed, the large percentage attributed to Other/Risk not Reported or Identified should level out at a more representative number.

■ Recent HIV Testing Data

Looking at where people live who have sought and received HIV testing during the past five years gives us our best look at recent exposure behaviors. It is important to remember that this doesn't represent everyone who is at risk or infected in Oklahoma, but only those who have been tested. A myriad of reasons can contribute to why someone does or does not seek testing, including:

- ➔ Level of understanding about risk behaviors
- ➔ Cultural/gender sensitivity of prevention messages
- ➔ Availability of testing sites
- ➔ Fear of test results
- ➔ Confidentiality concerns
- ➔ Socioeconomic factors that may contribute to accessing health care in general
- ➔ Lack of family or peer support.

Below you will find data on persons seeking HIV testing at state-sponsored Counseling and Testing (C&T) sites. These data represent all persons seeking testing and **do not** reflect only positive results. Include are combined data from both confidential and anonymous sites. You will notice that the exposure behaviors listed from C&T data are slightly different and expanded from the data collected from HIV/AIDS case reports.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior State of Oklahoma Tested in 1997 through 2001								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	5,049	13.7%	471	6.5%	352	11.0%	376	11.5%
Injection Drug Use (IDU)	5,444	14.7%	288	4.0%	601	18.8%	215	6.6%
MSM & IDU	807	2.2%	39	0.5%	102	3.2%	47	1.4%
Sex Partner at Risk	8,168	22.1%	1,341	18.6%	730	22.8%	551	16.9%
STD Diagnosis	1,973	5.3%	1,286	17.8%	211	6.6%	259	7.9%
Sex for Drugs or Money	187	0.5%	187	2.6%	14	0.4%	26	0.8%
Sex While Using Non-Injection Drug	4,406	11.9%	763	10.6%	510	15.9%	392	12.0%
Hemophilia or Blood Recipient	271	0.7%	49	0.7%	26	0.8%	17	0.5%
Victim of Sexual Assault	479	1.3%	82	1.1%	40	1.2%	30	0.9%
Health Care Exposure	578	1.6%	80	1.1%	32	1.0%	48	1.5%
Other/Risk not Reported or Identified	9,590	26.0%	2,637	36.5%	585	18.3%	1,303	39.9%
Total	36,952	100.0%	7,223	100.0%	3,203	100.0%	3,264	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 50,661 HIV tests from state sponsored C&T sites, performed from 1997 through 2001 in the State of Oklahoma, 73% are white, 14% are black, 6% are other and 6% are American Indian. Within every racial/ ethnic category, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~17% for other to ~23% for American Indian. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior State of Oklahoma Tested in 1997 through 2001 Males								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	5,049	28.8%	471	14.7%	352	23.2%	376	22.1%
Injection Drug Use (IDU)	2,555	14.6%	149	4.7%	259	17.1%	100	5.9%
MSM & IDU	807	4.6%	39	1.2%	102	6.7%	47	2.8%
Sex Partner at Risk	2,203	12.6%	515	16.1%	212	14.0%	203	11.9%
STD Diagnosis	562	3.2%	505	15.8%	52	3.4%	91	5.3%
Sex for Drugs or Money	92	0.5%	84	2.6%	6	0.4%	18	1.1%
Sex While Using Non-Injection Drug	2,073	11.8%	380	11.9%	270	17.8%	224	13.1%
Hemophilia or Blood Recipient	83	0.5%	10	0.3%	11	0.7%	4	0.2%
Victim of Sexual Assault	27	0.2%	3	0.1%	2	0.1%	2	0.1%
Health Care Exposure	175	1.0%	14	0.4%	10	0.7%	10	0.6%
Other/Risk not Reported or Identified	3,910	22.3%	1,026	32.1%	243	16.0%	630	37.0%
Total	17,536	100.0%	3,196	100.0%	1,519	100.0%	1,705	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 23,956 HIV tests in males from state sponsored C&T sites, performed from 1997 through 2001 in the State of Oklahoma, 73% are white, 13% are black, 7% are other and 6% are American Indian. Within every racial/ ethnic category except black, MSM is the most common exposure method, for those reporting any risk, ranging from ~22% for other to ~29% for white. The most common exposure method in blacks tested at C&T sites was Sex Partner at Risk. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior State of Oklahoma Tested in 1997 through 2001 Females								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Injection Drug Use (IDU)	2,887	14.9%	139	3.5%	342	20.3%	114	7.3%
Sex Partner at Risk	5,963	30.7%	824	20.5%	518	30.8%	344	21.9%
STD Diagnosis	1,411	7.3%	780	19.4%	159	9.4%	168	10.7%
Sex for Drugs or Money	95	0.5%	103	2.6%	8	0.5%	8	0.5%
Sex While Using Non-Injection Drug	2,333	12.0%	383	9.5%	240	14.3%	167	10.6%
Hemophilia or Blood Recipient	188	1.0%	39	1.0%	15	0.9%	13	0.8%
Victim of Sexual Assault	452	2.3%	79	2.0%	38	2.3%	28	1.8%
Health Care Exposure	403	2.1%	66	1.6%	22	1.3%	38	2.4%
Other/Risk not Reported or Identified	5,678	29.3%	1,610	40.0%	342	20.3%	690	43.9%
Total	19,410	100.0%	4,023	100.0%	1,684	100.0%	1,570	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 26,687 HIV tests in females from state sponsored C&T sites, performed from 1997 through 2001 in the State of Oklahoma, 73% are white, 15% are black, 6% are other and 6% are American Indian. Within every racial/ ethnic category, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~21% for black and other to ~31% for American Indian and white. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Oklahoma City MSA Tested in 1997 through 2001								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	2,365	20.8%	225	7.6%	118	16.1%	208	15.5%
Injection Drug Use (IDU)	1,223	10.8%	93	3.1%	82	11.2%	55	4.1%
MSM & IDU	315	2.8%	17	0.6%	44	6.0%	21	1.6%
Sex Partner at Risk	1,398	12.3%	411	13.8%	97	13.3%	148	11.0%
STD Diagnosis	381	3.4%	330	11.1%	20	2.7%	59	4.4%
Sex for Drugs or Money	84	0.7%	128	4.3%	8	1.1%	9	0.7%
Sex While Using Non-Injection Drug	1,049	9.2%	356	12.0%	100	13.7%	126	9.4%
Hemophilia or Blood Recipient	40	0.4%	7	0.2%	1	0.1%	4	0.3%
Victim of Sexual Assault	107	0.9%	20	0.7%	7	1.0%	7	0.5%
Health Care Exposure	136	1.2%	9	0.3%	3	0.4%	17	1.3%
Other/Risk not Reported or Identified	4,253	37.5%	1,380	46.4%	251	34.3%	689	51.3%
Total	11,351	100.0%	2,976	100.0%	731	100.0%	1,343	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 16,401 HIV tests from state sponsored C&T sites, performed from 1997 through 2001 in the Oklahoma City MSA, 69% are white, 18% are black, 8% are other and 4% are American Indian. Within every racial/ ethnic category except black, MSM is the most common exposure method, for those reporting any risk, ranging from ~16% for American Indian and other to ~21% for white. The most common exposure behavior for blacks is Sex Partner at Risk. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Oklahoma City MSA Tested in 1997 through 2001 Males								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	2,365	36.6%	225	14.4%	118	28.2%	208	13.5%
Injection Drug Use (IDU)	629	9.7%	53	3.4%	41	9.8%	25	1.6%
MSM & IDU	315	4.9%	17	1.1%	44	10.5%	21	1.4%
Sex Partner at Risk	459	7.1%	232	14.8%	41	9.8%	71	52.1%
STD Diagnosis	125	1.9%	160	10.2%	3	0.7%	32	2.1%
Sex for Drugs or Money	35	0.5%	59	3.8%	3	0.7%	5	0.3%
Sex While Using Non-Injection Drug	508	7.9%	186	11.9%	49	11.7%	80	5.2%
Hemophilia or Blood Recipient	13	0.2%	2	0.1%	0	0.0%	0	0.0%
Victim of Sexual Assault	8	0.1%	0	0.0%	0	0.0%	2	0.1%
Health Care Exposure	36	0.6%	1	0.1%	1	0.2%	3	0.2%
Other/Risk not Reported or Identified	1,960	30.4%	631	40.3%	118	28.2%	361	23.4%
Total	6,453	100.0%	1,566	100.0%	418	100.0%	808	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 9,245 HIV tests in males from state sponsored C&T sites, performed from 1997 through 2001 in the Oklahoma City MSA, 70% are white, 17% are black, 9% are other and 5% are American Indian. Within American Indian and white, MSM is the most common exposure method, for those reporting any risk, ranging from ~28% for other to ~37% respectively. Within black and other, Sex Partner at Risk was the most common behavior with ~15% and ~52% respectively. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Oklahoma City MSA Tested in 1997 through 2001 Females								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Injection Drug Use (IDU)	594	12.1%	40	2.8%	41	13.1%	29	5.4%
Sex Partner at Risk	938	19.2%	179	12.7%	56	17.9%	76	14.3%
STD Diagnosis	256	5.2%	170	12.1%	17	5.4%	27	5.1%
Sex for Drugs or Money	49	1.0%	69	4.9%	5	1.6%	4	0.8%
Sex While Using Non-Injection Drug	541	11.0%	170	12.1%	51	16.3%	46	8.6%
Hemophilia or Blood Recipient	27	0.6%	5	0.4%	1	0.3%	4	0.8%
Victim of Sexual Assault	99	2.0%	20	1.4%	7	2.2%	5	0.9%
Health Care Exposure	100	2.0%	8	0.6%	2	0.6%	14	2.6%
Other/Risk not Reported or Identified	2,293	46.8%	749	53.1%	133	42.5%	328	61.5%
Total	4,897	100.0%	1,410	100.0%	313	100.0%	533	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 7,153 HIV tests in females from state sponsored C&T sites, performed from 1997 through 2001 in the Oklahoma City MSA, 68% are white, 20% are black, 7% are other and 4% are American Indian. Within every racial/ ethnic category, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~13% for black to ~19% for white. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Tulsa MSA Tested in 1997 through 2001								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	1,898	16.5%	170	6.7%	145	11.7%	122	12.8%
Injection Drug Use (IDU)	1,806	15.7%	117	4.6%	295	23.8%	81	8.5%
MSM & IDU	303	2.6%	19	0.8%	41	3.3%	21	2.2%
Sex Partner at Risk	2,233	19.4%	430	17.1%	276	22.2%	153	16.1%
STD Diagnosis	868	7.5%	598	23.7%	120	9.7%	86	9.0%
Sex for Drugs or Money	66	0.6%	39	1.5%	3	0.2%	11	1.2%
Sex While Using Non-Injection Drug	1,948	16.9%	273	10.8%	181	14.6%	142	14.9%
Hemophilia or Blood Recipient	94	0.8%	33	1.3%	10	0.8%	5	0.5%
Victim of Sexual Assault	153	1.3%	46	1.8%	18	1.4%	13	1.4%
Health Care Exposure	175	1.5%	51	2.0%	14	1.1%	17	1.8%
Other/Risk not Reported or Identified	1,969	17.1%	745	29.6%	139	11.2%	300	31.5%
Total	11,513	100.0%	2,521	100.0%	1,242	100.0%	951	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 16,227 HIV tests from state sponsored C&T sites, performed from 1997 through 2001 in the Tulsa MSA, 71% are white, 16% are black, 8% are American Indian and 6% are other. Within every racial/ ethnic category but black, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~12% for American Indian and other to ~17% for white. In blacks seeking testing, an STD diagnosis is the most common exposure behavior. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Tulsa MSA Tested in 1997 through 2001 Males								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	1,898	35.0%	170	19.0%	145	26.7%	122	26.9%
Injection Drug Use (IDU)	829	15.3%	59	6.6%	119	21.9%	37	8.1%
MSM & IDU	303	5.6%	19	2.1%	41	7.6%	21	4.6%
Sex Partner at Risk	514	9.5%	103	11.5%	64	11.8%	35	7.7%
STD Diagnosis	246	4.5%	192	21.4%	29	5.3%	21	4.6%
Sex for Drugs or Money	39	0.7%	16	1.8%	1	0.2%	10	2.2%
Sex While Using Non-Injection Drug	870	16.0%	130	14.5%	86	15.8%	77	17.0%
Hemophilia or Blood Recipient	27	0.5%	6	0.7%	3	0.6%	0	0.0%
Victim of Sexual Assault	5	0.1%	3	0.3%	1	0.2%	0	0.0%
Health Care Exposure	60	1.1%	7	0.8%	7	1.3%	4	0.9%
Other/Risk not Reported or Identified	631	11.6%	191	21.3%	47	8.7%	127	28.0%
Total	5,422	100.0%	896	100.0%	543	100.0%	454	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 7,315 HIV tests in males from state sponsored C&T sites, performed from 1997 through 2001 in the Tulsa MSA, 74% are white, 12% are black, 6% are other and 7% are American Indian. Within every racial/ ethnic category except black, MSM is the most common exposure method, for those reporting any risk, ranging from ~27% for other and American Indian to 35% for white. In blacks tested, STD diagnosis is the most common exposure behavior at ~21%. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Tulsa MSA Tested in 1997 through 2001 Females								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Injection Drug Use (IDU)	976	16.0%	58	3.6%	176	25.2%	44	8.9%
Sex Partner at Risk	1,719	28.2%	325	20.0%	212	30.3%	118	23.8%
STD Diagnosis	622	10.2%	406	25.0%	91	13.0%	65	13.1%
Sex for Drugs or Money	27	0.4%	23	1.4%	2	0.3%	1	0.2%
Sex While Using Non-Injection Drug	1,078	17.7%	143	8.8%	95	13.6%	65	13.1%
Hemophilia or Blood Recipient	67	1.1%	27	1.7%	7	1.0%	5	1.0%
Victim of Sexual Assault	148	2.4%	43	2.6%	17	2.4%	13	2.6%
Health Care Exposure	115	1.9%	44	2.7%	7	1.0%	13	2.6%
Other/Risk not Reported or Identified	1,337	22.0%	554	34.1%	92	13.2%	171	34.5%
Total	6,089	100.0%	1,623	100.0%	699	100.0%	495	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 8,906 HIV tests in females from state sponsored C&T sites, performed from 1997 through 2001 in the Tulsa MSA, 68% are white, 18% are black, 6% are other and 8% are American Indian. Within every racial/ ethnic category except black, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~24% for other to 30% for American Indian. In blacks tested, STD diagnosis is the most common exposure behavior at ~25%. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Northeast Quadrant Tested in 1997 through 2001								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	95	5.3%	6	5.5%	1	1.2%	5	3.8%
Injection Drug Use (IDU)	303	16.9%	5	4.5%	13	15.5%	9	6.8%
MSM & IDU	26	1.4%	1	0.9%	4	4.8%	3	2.3%
Sex Partner at Risk	397	22.1%	36	32.7%	16	19.0%	45	34.1%
STD Diagnosis	92	5.1%	22	20.0%	3	3.6%	12	9.1%
Sex for Drugs or Money	5	0.3%	1	0.9%	1	1.2%	1	0.8%
Sex While Using Non-Injection Drug	119	6.6%	6	5.5%	20	23.8%	7	5.3%
Hemophilia or Blood Recipient	34	1.9%	1	0.9%	2	2.4%	2	1.5%
Victim of Sexual Assault	48	2.7%	1	0.9%	0	0.0%	1	0.8%
Health Care Exposure	29	1.6%	2	1.8%	1	1.2%	2	1.5%
Other/Risk not Reported or Identified	648	36.1%	29	26.4%	23	27.4%	45	34.1%
Total	1,796	100.0%	110	100.0%	84	100.0%	132	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 2,122 HIV tests from state sponsored C&T sites, performed from 1997 through 2001 in the Northeast Quadrant of Oklahoma, 85% are white, 5% are black, 6% are other and 4% are American Indian. Within every racial/ ethnic category except American Indian, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~21% for white to ~34% for other. Only in American Indians tested was Sex while using non-injection drug the most common exposure behavior at ~24%. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Northeast Quadrant Tested in 1997 through 2001 Males								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	95	13.2%	6	11.5%	1	2.5%	5	8.3%
Injection Drug Use (IDU)	144	20.0%	3	5.8%	4	10.0%	3	5.0%
MSM & IDU	26	3.6%	1	1.9%	4	10.0%	3	5.0%
Sex Partner at Risk	102	14.1%	11	21.2%	6	15.0%	17	28.3%
STD Diagnosis	22	3.1%	14	26.9%	0	0.0%	2	3.3%
Sex for Drugs or Money	1	0.1%	0	0.0%	0	0.0%	1	1.7%
Sex While Using Non-Injection Drug	56	7.8%	3	5.8%	12	30.0%	6	10.0%
Hemophilia or Blood Recipient	12	1.7%	0	0.0%	1	2.5%	2	3.3%
Victim of Sexual Assault	2	0.3%	0	0.0%	0	0.0%	0	0.0%
Health Care Exposure	9	1.2%	0	0.0%	0	0.0%	0	0.0%
Other/Risk not Reported or Identified	252	35.0%	14	26.9%	12	30.0%	21	35.0%
Total	721	100.0%	52	100.0%	40	100.0%	60	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 873 HIV tests in males from state sponsored C&T sites, performed from 1997 through 2001 in the Northeast Quadrant of Oklahoma, 83% are white, 6% are black, 7% are other and 5% are American Indian. No every racial/ ethnic category has the same exposure behavior in common: IDU is the most common behavior in whites tested (20%), STD diagnosis is the most common behavior in blacks tested (~27%), Sex while using non-injection drugs is the most common behavior in American Indians tested (30%), and Sex partner at risk is the most common behavior in others tested (~28%). Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Northeast Quadrant Tested in 1997 through 2001 Females								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Injection Drug Use (IDU)	159	14.8%	2	3.4%	9	20.5%	6	8.3%
Sex Partner at Risk	295	27.4%	25	43.1%	10	22.7%	28	38.9%
STD Diagnosis	70	6.5%	8	13.8%	3	6.8%	10	13.9%
Sex for Drugs or Money	4	0.4%	1	1.7%	1	2.3%	0	0.0%
Sex While Using Non-Injection Drug	63	5.9%	3	5.2%	8	18.2%	1	1.4%
Hemophilia or Blood Recipient	22	2.0%	1	1.7%	1	2.3%	0	0.0%
Victim of Sexual Assault	46	4.3%	1	1.7%	0	0.0%	1	1.4%
Health Care Exposure	20	1.9%	2	3.4%	1	2.3%	2	2.8%
Other/Risk not Reported or Identified	396	36.8%	15	25.9%	11	25.0%	24	33.3%
Total	1,075	100.0%	58	100.0%	44	100.0%	72	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 1,249 HIV tests in females from state sponsored C&T sites, performed from 1997 through 2001 in the Northeast Quadrant of Oklahoma, 86% are white, 5% are black, 6% are other and 4% are American Indian. Within every racial/ ethnic category, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~23% for American Indians to ~43% for blacks. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Northwest Quadrant (including Enid MSA) Tested in 1997 through 2001								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	92	5.2%	6	5.6%	1	1.2%	4	3.1%
Injection Drug Use (IDU)	294	16.6%	5	4.6%	12	14.8%	9	7.0%
MSM & IDU	26	1.5%	1	0.9%	4	4.9%	3	2.3%
Sex Partner at Risk	393	22.2%	36	33.3%	15	18.5%	44	34.4%
STD Diagnosis	91	5.1%	21	19.4%	3	3.7%	12	9.4%
Sex for Drugs or Money	5	0.3%	1	0.9%	1	1.2%	1	0.8%
Sex While Using Non-Injection Drug	118	6.7%	5	4.6%	20	24.7%	7	5.5%
Hemophilia or Blood Recipient	34	1.9%	1	0.9%	1	1.2%	2	1.6%
Victim of Sexual Assault	48	2.7%	1	0.9%	0	0.0%	1	0.8%
Health Care Exposure	29	1.6%	2	1.9%	1	1.2%	2	1.6%
Other/Risk not Reported or Identified	641	36.2%	29	26.9%	23	28.4%	43	33.6%
Total	1,771	100.0%	108	100.0%	81	100.0%	128	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 2,088 HIV tests in from state sponsored C&T sites, performed from 1997 through 2001 in the Northwest Quadrant (including Enid MSA) of Oklahoma, 85% are white, 5% are black, 6% are other and 4% are American Indian. Within every racial/ ethnic category except American Indian, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~22% for whites to ~34% for others. In the American Indians tested, the most common exposure behavior was Sex while using non-injection drugs. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Northwest Quadrant (including Enid MSA) Tested in 1997 through 2001 Males								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	92	13.0%	6	12.0%	1	2.6%	4	7.0%
Injection Drug Use (IDU)	139	19.7%	3	6.0%	3	7.7%	3	5.3%
MSM & IDU	26	3.7%	1	2.0%	4	10.3%	3	5.3%
Sex Partner at Risk	101	14.3%	11	22.0%	6	15.4%	16	28.1%
STD Diagnosis	21	3.0%	13	26.0%	0	0.0%	2	3.5%
Sex for Drugs or Money	1	0.1%	0	0.0%	0	0.0%	1	1.8%
Sex While Using Non-Injection Drug	56	7.9%	2	4.0%	12	30.8%	6	10.5%
Hemophilia or Blood Recipient	12	1.7%	0	0.0%	1	2.6%	2	3.5%
Victim of Sexual Assault	2	0.3%	0	0.0%	0	0.0%	0	0.0%
Health Care Exposure	9	1.3%	0	0.0%	0	0.0%	0	0.0%
Other/Risk not Reported or Identified	248	13.0%	14	12.0%	12	30.8%	20	35.1%
Total	707	100.0%	50	100.0%	39	100.0%	57	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 853 HIV tests in males from state sponsored C&T sites, performed from 1997 through 2001 in the Northwest Quadrant (including Enid MSA) of Oklahoma, 83% are white, 6% are black, 7% are other and 5% are American Indian. No every racial/ ethnic category has the same exposure behavior in common: IDU is the most common behavior in whites tested (~20%), STD diagnosis is the most common behavior in blacks tested (~26%), Sex while using non-injection drugs is the most common behavior in American Indians tested (~31%), and Sex partner at risk is the most common behavior in others tested (~28%). Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Northwest Quadrant (including Enid MSA) Tested in 1997 through 2001 Females								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Injection Drug Use (IDU)	155	14.6%	2	3.4%	9	21.4%	6	8.5%
Sex Partner at Risk	292	27.4%	25	43.1%	9	21.4%	28	39.4%
STD Diagnosis	70	6.6%	8	13.8%	3	7.1%	10	14.1%
Sex for Drugs or Money	4	0.4%	1	1.7%	1	2.4%	0	0.0%
Sex While Using Non-Injection Drug	62	5.8%	3	5.2%	8	19.0%	1	1.4%
Hemophilia or Blood Recipient	22	2.1%	1	1.7%	0	0.0%	0	0.0%
Victim of Sexual Assault	46	4.3%	1	1.7%	0	0.0%	1	1.4%
Health Care Exposure	20	1.9%	2	3.4%	1	2.4%	2	2.8%
Other/Risk not Reported or Identified	393	36.9%	15	25.9%	11	26.2%	23	32.4%
Total	1,064	100.0%	58	100.0%	42	100.0%	71	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 1,235 HIV tests in females from state sponsored C&T sites, performed from 1997 through 2001 in the Northwest Quadrant (including Enid MSA) of Oklahoma, 86% are white, 5% are black, 6% are other and 3% are American Indian. Within every racial/ ethnic category, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~21% for American Indians to ~43% for blacks. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Southeast Quadrant (including Sequoyah County, Ft. Smith, AR MSA) Tested in 1997 through 2001								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	161	4.3%	14	5.7%	15	5.5%	4	3.1%
Injection Drug Use (IDU)	757	20.1%	11	4.5%	62	22.7%	12	9.3%
MSM & IDU	57	1.5%	0	0.0%	4	1.5%	0	0.0%
Sex Partner at Risk	1,489	39.6%	110	44.9%	98	35.9%	44	34.1%
STD Diagnosis	147	3.9%	41	16.7%	8	2.9%	3	2.3%
Sex for Drugs or Money	6	0.2%	3	1.2%	1	0.4%	0	0.0%
Sex While Using Non-Injection Drug	274	7.3%	21	8.6%	33	12.1%	11	8.5%
Hemophilia or Blood Recipient	45	1.2%	3	1.2%	3	1.1%	3	2.3%
Victim of Sexual Assault	54	1.4%	2	0.8%	1	0.4%	0	0.0%
Health Care Exposure	96	2.6%	0	0.0%	4	1.5%	6	4.7%
Other/Risk not Reported or Identified	673	17.9%	40	16.3%	44	16.1%	46	35.7%
Total	3,759	100.0%	245	100.0%	273	100.0%	129	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 4,406 HIV tests from state sponsored C&T sites, performed from 1997 through 2001 in the Southeast Quadrant (including Sequoyah County, Ft. Smith, AR MSA) of Oklahoma, 85% are white, 6% are black, 3% are other and 6% are American Indian. Within every racial/ ethnic category, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~34% for other to ~45% for black. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Southeast Quadrant (including Sequoyah County, Ft. Smith, AR MSA) Tested in 1997 through 2001 Males								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	161	11.3%	14	13.1%	15	12.2%	4	7.0%
Injection Drug Use (IDU)	313	22.0%	5	4.7%	29	23.6%	5	8.8%
MSM & IDU	57	4.0%	0	0.0%	4	3.3%	0	0.0%
Sex Partner at Risk	402	28.3%	42	39.3%	28	22.8%	16	28.1%
STD Diagnosis	41	2.9%	16	15.0%	3	2.4%	2	3.5%
Sex for Drugs or Money	4	0.3%	0	0.0%	1	0.8%	0	0.0%
Sex While Using Non-Injection Drug	143	10.1%	11	10.3%	20	16.3%	8	14.0%
Hemophilia or Blood Recipient	10	0.7%	1	0.9%	2	1.6%	1	1.8%
Victim of Sexual Assault	4	0.3%	0	0.0%	0	0.0%	0	0.0%
Health Care Exposure	34	2.4%	0	0.0%	1	0.8%	0	0.0%
Other/Risk not Reported or Identified	253	17.8%	18	16.8%	20	16.3%	21	36.8%
Total	1,422	100.0%	107	100.0%	123	100.0%	57	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 1,709 HIV tests in males from state sponsored C&T sites, performed from 1997 through 2001 in the Southeast Quadrant (including Sequoyah County, Ft. Smith, AR MSA) of Oklahoma, 83% are white, 6% are black, 3% are other and 7% are American Indian. Within every racial/ethnic category except American Indian, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~28% for white and other to ~39% for black. In the American Indians tested, IDU was the most common exposure behavior at ~24%. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Southeast Quadrant (including Sequoyah County, Ft. Smith, AR MSA) Tested in 1997 through 2001 Females								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Injection Drug Use (IDU)	444	19.0%	6	4.3%	33	22.0%	7	9.7%
Sex Partner at Risk	1,087	46.6%	68	49.3%	70	46.7%	28	38.9%
STD Diagnosis	106	4.5%	25	18.1%	5	3.3%	1	1.4%
Sex for Drugs or Money	2	0.1%	3	2.2%	0	0.0%	0	0.0%
Sex While Using Non-Injection Drug	131	5.6%	10	7.2%	13	8.7%	3	4.2%
Hemophilia or Blood Recipient	35	1.5%	2	1.4%	1	0.7%	2	2.8%
Victim of Sexual Assault	50	2.1%	2	1.4%	1	0.7%	0	0.0%
Health Care Exposure	62	2.7%	0	0.0%	3	2.0%	6	8.3%
Other/Risk not Reported or Identified	417	17.9%	22	15.9%	24	16.0%	25	34.7%
Total	2,337	100.0%	138	100.0%	150	100.0%	72	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 2,697 HIV tests in females from state sponsored C&T sites, performed from 1997 through 2001 in the Southeast Quadrant (including Sequoyah County, Ft. Smith, AR MSA) of Oklahoma, 87% are white, 5% are black, 3% are other and 6% are American Indian. Within every racial/ethnic category, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~39% for other to ~50% for black. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Southwest Quadrant (including Lawton MSA) Tested in 1997 through 2001								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	162	4.5%	27	3.0%	16	7.7%	13	2.6%
Injection Drug Use (IDU)	694	19.1%	35	3.9%	37	17.8%	38	7.6%
MSM & IDU	48	1.3%	2	0.2%	1	0.5%	0	0.0%
Sex Partner at Risk	1,096	30.2%	189	21.2%	39	18.8%	111	22.3%
STD Diagnosis	278	7.7%	235	26.3%	24	11.5%	88	17.7%
Sex for Drugs or Money	12	0.3%	11	1.2%	0	0.0%	3	0.6%
Sex While Using Non-Injection Drug	423	11.6%	61	6.8%	52	25.0%	76	15.3%
Hemophilia or Blood Recipient	32	0.9%	3	0.3%	1	0.5%	1	0.2%
Victim of Sexual Assault	48	1.3%	6	0.7%	5	2.4%	5	1.0%
Health Care Exposure	53	1.5%	11	1.2%	1	0.5%	2	0.4%
Other/Risk not Reported or Identified	785	21.6%	312	35.0%	32	15.4%	161	32.3%
Total	3,631	100.0%	892	100.0%	208	100.0%	498	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 5,229 HIV tests from state sponsored C&T sites, performed from 1997 through 2001 in the Southwestern Quadrant (including Lawton MSA) of Oklahoma, 69% are white, 17% are black, 10% are other and 4% are American Indian. Within the white and other racial/ ethnic category, Sex Partner at Risk is the most common exposure method, for those reporting any risk, with ~30% and ~22% respectively. For blacks tested, an STD diagnosis (~26%) was the most common exposure behavior, while American Indians were more likely to have had Sex while using non-injection drugs (~25%). Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Southwest Quadrant (including Lawton MSA) Tested in 1997 through 2001 Males								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Men who have sex with Men (MSM)	162	10.8%	27	7.0%	16	14.3%	13	6.0%
Injection Drug Use (IDU)	360	24.0%	13	3.4%	24	21.4%	21	9.7%
MSM & IDU	48	3.2%	2	0.5%	1	0.9%	0	0.0%
Sex Partner at Risk	294	19.6%	73	18.9%	13	11.6%	49	22.6%
STD Diagnosis	84	5.6%	98	25.3%	8	7.1%	29	13.4%
Sex for Drugs or Money	5	0.3%	9	2.3%	0	0.0%	1	0.5%
Sex While Using Non-Injection Drug	206	13.8%	36	9.3%	34	30.4%	41	18.9%
Hemophilia or Blood Recipient	10	0.7%	1	0.3%	0	0.0%	0	0.0%
Victim of Sexual Assault	6	0.4%	0	0.0%	0	0.0%	0	0.0%
Health Care Exposure	11	0.7%	3	0.8%	0	0.0%	0	0.0%
Other/Risk not Reported or Identified	312	20.8%	125	32.3%	16	14.3%	63	29.0%
Total	1,498	100.0%	387	100.0%	112	100.0%	217	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 2,214 HIV tests in males from state sponsored C&T sites, performed from 1997 through 2001 in the Southwestern Quadrant (including Lawton MSA) of Oklahoma, 68% are white, 17% are black, 10% are other and 5% are American Indian. No every racial/ ethnic category has the same exposure behavior in common: IDU is the most common behavior in whites tested (24%), STD diagnosis is the most common behavior in blacks tested (~25%), Sex while using non-injection drugs is the most common behavior in American Indians tested (~30%), and Sex partner at risk is the most common behavior in others tested (~23%). Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Persons Seeking HIV Counseling and Testing by Race by Exposure Behavior Southwest Quadrant (including Lawton MSA) Tested in 1997 through 2001 Females								
Exposure Behavior	Race/Ethnicity							
	White		Black		Am. Indian		Other*	
	#	%	#	%	#	%	#	%
Injection Drug Use (IDU)	334	15.7%	22	4.4%	13	13.5%	17	6.1%
Sex Partner at Risk	802	37.6%	116	23.0%	26	27.1%	60	21.5%
STD Diagnosis	194	9.1%	136	27.0%	16	16.7%	59	21.1%
Sex for Drugs or Money	7	0.3%	2	0.4%	0	0.0%	2	0.7%
Sex While Using Non-Injection Drug	217	10.2%	25	5.0%	18	18.8%	35	12.5%
Hemophilia or Blood Recipient	22	1.0%	2	0.4%	1	1.0%	1	0.4%
Victim of Sexual Assault	42	2.0%	6	1.2%	5	5.2%	5	1.8%
Health Care Exposure	42	2.0%	8	1.6%	1	1.0%	2	0.7%
Other/Risk not Reported or Identified	473	22.2%	187	37.1%	16	16.7%	98	35.1%
Total	2,133	100.0%	504	100.0%	96	100.0%	279	100.0%

* Other refers to Hispanic, Asian/Pacific Islanders, and Persons of Mixed Race and Unknown.

Of the 3,012 HIV tests in females from state sponsored C&T sites, performed from 1997 through 2001 in the Southwestern Quadrant (including Lawton MSA) of Oklahoma, 71% are white, 17% are black, 9% are other and 3% are American Indian. Within every racial/ ethnic category except one, Sex Partner at Risk is the most common exposure method, for those reporting any risk, ranging from ~22% for other to ~38% for white. In blacks tested the most common exposure behavior was an STD diagnosis at 27%. Once adequate risk assessment has been performed for those persons infected with HIV, risk is typically reclassified into one of the traditional risk behaviors.

Summarize key findings from Question 4.3

- ◆ The majority of HIV cases reported lived in the Oklahoma City and Tulsa areas.
- ◆ The proportion of persons of color reported each year by region of the state was neither stable nor predictable.
- ◆ The most frequent exposure behavior in those testing positive for HIV for all racial/ethnic categories is MSM.
- ◆ However when reviewing the persons seeking testing at C&T sites, the most common exposure behavior varied greatly by race/ethnicity and by region of the state.

Conclusions

HIV and AIDS have impacted every region of the state. The urban areas have had the largest number of cases and the largest proportion of cases, by both percentage and rate per 100,000 population. Although more whites have been diagnosed and reported with HIV/AIDS, blacks have experienced rates of HIV and AIDS are 3 ¼ to 8 times greater than rates observed in whites, hence the impact has been more substantial within in their communities.

With the sheer number and rate per 100,000 of sexually transmitted diseases diagnosed each year in Oklahomans age 15-24, these individuals, of all racial/ethnic groups and gender, are placing themselves at risk of becoming HIV infected through unprotected sexual contact. Although these ages have not been the bulk of cases reported with either HIV or AIDS, if an individual or individuals in their sexual networks ever become infected with HIV, Oklahoma could encounter a large increase. Somehow more of these teens and young adults have to understand that by having unprotected sex, they are placing themselves at risk of not only HIV but also other STDs and unplanned pregnancies.

Adjustment A summarizing procedure for a statistical measure in which the effects of differences in composition of the populations being compared have been minimized by statistical methods. Examples are adjustment by regression analysis and by standardization. Adjustment often is performed on rates or relative risks, commonly because of differing age distributions in populations that are being compared. The mathematical procedure commonly used to adjust rates for age difference is direct or indirect standardization (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Audit An examination or review that establishes the extent to which a condition, process, or performance conforms to predetermined standards or criteria (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Behavioral Risk Factor A characteristic or behavior that is associated with increased probability of a specific outcome; the term does not imply a causal relationship (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Blinded study A study in which the observer(s) and/or the subjects are kept ignorant of the group to which the subjects are assigned, as in an experiment, or of the population from which the subjects come, as in a non-experimental study. When both observer and subjects are kept ignorant, we refer to a double-blinded study. If the statistical analysis is also done in ignorance of the group to which the subjects belong, the study is described as triple-blind. The intent of keeping subjects and/or investigators blinded, i.e., unaware of knowledge that might introduce a bias, is to eliminate the effects of such biases. To avoid confusion about the meaning of the word “blind” some authors prefer to describe such studies as “masked” (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Census An enumeration of a population, originally intended for purposes of taxation and military service. Census enumeration of a population usually records identities of all persons in every place of residence, with age, or birth date, sex, occupation, national origin, language, marital status, income, and relationship to head of household, in addition to information on the dwelling place (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Census Tract An area for which details of population structure are separately tabulated at a periodic census; normally it is the smallest unit of analysis of (published) census tabulations. Census tracts are chosen because they have well-defined boundaries, sometimes the same as local political jurisdictions, sometimes defined by conspicuous geographical features such as main roads, rivers. In urban areas census tracts may be further subdivided, e.g. into city blocks, but published tables do not contain details to this level (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Chart The medical dossier of a patient (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Clustering A closely grouped series of events or cases of a disease, or other health-related phenomena with well-defined distribution patterns, in relation to time or place or both. The term is normally used to describe aggregation of relatively uncommon events or diseases, e.g., leukemia, multiple sclerosis (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Community A group of individuals organized into a unit, or manifesting some unifying trait or common interest; loosely, the locality or catchment area population for which a service is provided, or more broadly, the state, nation or body politic (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Criterion A principle or standard by which something is judged (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Death Rate An estimate of the proportion of a population that dies during a specified period. The numerator is the number of persons dying during the period; the denominator is the size of the population, usually estimated as the mid-year population. This rate is an estimate of the person-time death rate, i.e., the death rate per 10ⁿ person-years. If the rate is low, it is also a good estimate of the cumulative death rate. This rate is also called the crude death rate (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Denominator The lower portion of a fraction used to calculate a rate or ratio (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Diagnosis the process of determining health status and factors responsible for producing it; may be applied to an individual, family, group or community. The term is applied both to the process of determination and to its findings (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Distribution The complete summary of the frequencies of the values or categories of a measurement made on a group of persons. The distribution tells either how many or what proportion of the group was found to have each value (or each range of values) out of all the possible values that the quantitative measure can have (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Effectiveness The extent to which a specific intervention, procedure, regimen, or service when deployed in the field, does what is intended to do for a defined population (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Endemic Disease The constant presence of a disease or infectious agent within a given geographic area or population group; may also refer to the usual prevalence of a given disease within such area or group (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Epidemic [from the Greek *epi* (upon), *demos* (people)] The occurrence in a community or region of cases of an illness, specific health-related behavior or other health-related event clearly

in excess of normal expectancy. The community or region, and the period in which the cases occur, are specified precisely (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Epidemic Curve A graphic plotting of the distribution of cases by time of onset (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Epidemiology the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to control health problems (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Estimate A measure or a statement about the value of some quantity is said to be an estimate if it is known, believed, or suspected to incorporate some degree of error (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Ethnic group A social group characterized by a distinctive social and cultural tradition, maintained within the group from generation to generation, a common history and origin, and a sense of identification with the group. Members of the group have distinctive features in their life, shared experiences, and often a common genetic heritage. These features may be reflected in their health and disease experience (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Evaluation A process that attempts to determine as systematically and objectively as possible the relevance, effectiveness, and impact of activities in the light of their objectives. Several varieties of evaluations can be distinguished, e.g., evaluation of structure, process and outcome (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Follow-up Observation over a period of time of an individual, group, or initially defined population whose appropriate characteristics have been assessed in order to observe changes in health status or health-related variables (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

“Gold Standard” A jargon term, used to describe a method, procedure, or measurement that is widely accepted as being the best available. Often used to compare with new methods (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

HAART An acronym for Highly Active Anti-Retroviral Therapy. Also termed combination therapy or the HIV cocktail. Includes nucleoside and non-nucleoside antilogs and protease inhibitors or any combination of these drugs.

ICD International Classification of Disease. The classification of specific conditions and groups of conditions determined by a internationally representative group of experts who advise the World Health Organization (WHO), which publishes the complete list in a periodically revised book. Every disease entity is assigned a number. AIDS and HIV are classified from 042.0-042.9 (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Incidence The number of instances of illness commencing, or of persons falling ill, during a given period in a specific population. More generally, the number of new events, e.g., new cases of a disease in a defined population, within a specified period of time. The term incidence is sometimes used to denote incidence rate (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Incidence Rate The rate at which new events occur in a population. The numerator is the number of new events that occur in defined period; the denominator is the population at risk of experiencing the event during this period, sometimes expressed as person-time (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Informed Consent Voluntary consent given by a subject or by a person responsible for a subject (e.g., a parent or guardian) for participation in an investigation, immunization program, treatment regimen, etc., after being informed of the purpose, methods, procedures, benefits and risks. Awareness of risk is necessary for any subject to make an informed choice. The term also refers to consent for medical care (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Life Events Changes or disruptions in the pattern of living that may be associated with or produce changes in health. The relationship of “life stress” and “emotional stress” to onset of several kinds of serious chronic disease such as coronary heart disease and hypertension has been the subject of epidemiologic studies (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Life Style The set of habits and customs that is influenced, modified, encouraged or constrained by the lifelong process of socialization. These habits and customs include use of substances such as alcohol, tobacco, tea, coffee; dietary habits, exercise, etc., which have important implications for health and are often the subject of epidemiologic investigations (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Measurement of Association A quantity that expresses the strength of association between variables. Commonly used measures of association are differences between means, proportions or rates, the rate ratio, the odds ratio, and correlation and regression coefficients (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Misclassification The erroneous classification of an individual, a value, or an attribute into a category other than that to which it should be assigned. The probability of misclassification may be the same in all study groups (non-differential) or may vary between groups (differential) (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Morbidity Any departure, subjective or objective, from the physiological or psychological well-being. In this sense, sickness, illness and morbid condition are similarly defined and synonymous (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Natural History of Disease The course of a disease from onset (inception) to resolution. Many diseases have certain well-defined stages that, taken all together, are referred to the natural history in question. These stages are as follows: 1) stage of pathological onset, 2) pre-symptomatic stage, 3) clinically manifest disease. Detection and intervention can alter the natural history of a disease. The term has also been used to mean “descriptive epidemiology of disease” (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Numerator The upper portion of a fraction used to calculate a rate or a ratio (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Opportunistic Infection Infection with organism(s) that are normally innocuous, e.g., commensals in the human, but become pathogenic when the body’s immunologic defenses are compromised (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Pandemic An epidemic occurring over a very wide area and usually affecting a large proportion of the population (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Peer Review Process of review of research proposals, manuscripts submitted of publication, abstracts submitted for presentation at scientific meetings, whereby these are judged for scientific and technical merit by other scientists in the same field. Also refers to review of clinical performance, when it is a form of medical audit (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Percentile The set of divisions that produce exactly 100 equal parts in a series of continuous values, such as children’s heights or weights (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Prevalence The number of instances of a given disease or other condition in a given population at a designated time; sometimes used to mean prevalence rate (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Proportion A type of ratio in which the numerator is included in the denominator (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Qualitative Data Observations or information characterized by measurement on a categorical scale, i.e., a dichotomous or nominal scale, or if the categories are ordered, an ordinal scale. Examples are gender, hair color, death or survival, and nationality (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Quantitative Data Data in numerical quantities such as continuous measurements or counts (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Race Persons who are relatively homogeneous with respect to biological inheritance (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Range of Distribution The difference between the largest and smallest values in a distribution (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Ranking Scale (Ordinal Scale) A scale that arrays the members of a group from high to low according to the magnitude of the observations, assigns numbers to the ranks, and neglects distances between members of the array (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Rate A rate is a measure of the frequency of a phenomenon. In epidemiology, demography, and vital statistics, a rate is an expression of the frequency with which an event occurs in a defined population; the use of rates rather than raw numbers is essential for comparison of experience between populations at different times, different places, or among different classes of persons (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Ratio The value obtained by dividing one quantity by another; a general term of which rate, proportion, Percentage, etc., are subsets. The important difference between a proportion and a ratio is that the numerator of a proportion is included in the population defined by the denominator, whereas this is not necessarily so for a ratio. A ratio is an expression of the relationship between a numerator and a denominator where the two usually are separate and distinct quantities, neither being included in the other (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Screening Screening was defined in 1951 by the US Commission on Chronic Illness as, “The presumptive identification of unrecognized disease or defect by the application of tests, examinations or other procedures which can be applied rapidly. A screening test is not meant to be diagnostic ” (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Soundex code A sequence of letters used for recording names phonetically, especially in record linkage (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Spectrum of Disease The full range of manifestations of a disease; a vague term, that can mean everything from mild or sub-clinical or precursor states to fulminating, florid disease, or alternatively the natural history of a disease from onset to resolution (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Standard Something that serves as a basis for comparison; a technical specification or written report drawn up by experts based on the consolidated results of scientific study, technology, and experience, aimed at optimum benefits and approved by a recognized and representative body (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Standardization A set of techniques used to remove as far as possible the effects of differences in age or other confounding variables, when comparing two or more populations (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

Statistical Significance Statistical methods allow an estimate to be made of the probability of the observed or greater degree of association between independent and dependent variables under the null hypothesis. From this estimate, in a sample of given size, the statistical “significance” of a result can be stated. Usually the level of statistical significance is stated by the P Value (John M. Last, *A Dictionary of Epidemiology*, 2nd Edition, 1988).

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