Epidemiologic Profile of HIV/AIDS in Delaware: 2001-2002

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For more information, please contact the Delaware Division of Public Health, HIV/AIDS Epidemiology office at (302) 744-4542. Our web site contains monthly statistical updates and provides links to local and national organizations. Visit www.delaware-epi.org/aids1.htm

EXECUTIVE SUMMARY

AIDS continues to impact the residents of Delaware. Over 2,800 cases of AIDS have been reported in Delaware since reporting began in 1981. Ongoing advances in medical treatment and combination therapies have individuals living longer with the disease. At the end of 2001, the number of people living with AIDS in the First State exceeds 1,350.

In calendar year 2001, an average of 5 new Delaware AIDS cases were reported every week. The increase in the numbers of new AIDS cases in 2001 is attributed to the finding of unreported AIDS cases upon implementation of HIV reporting in July of 2001. Historically, the average number of cases reported per week peaked at 7.4 in 1993, when the AIDS case definition was expanded. A gradual decline in the number of new AIDS cases reported on a weekly basis continued until 2001.

Over three quarters (76%) of Delaware AIDS cases are male. The distribution by transmission mode in men is now 41% in men who have sex with men and 40% are injecting drug users.

About 24% of the AIDS cases are in women. More than half (51%) of the female cases are women who were exposed through intravenous drug use. Forty-three percent (n=288) of the women were infected heterosexually, with 167 (58%) infected through sex with an IDU. Thirty-eight percent (n=109) were identified as sex with a person with HIV/AIDS.

A continued rise in the number of cases infected through heterosexual contact, defines the need to continue to provide AIDS education to all Delaware residents. A general alarm needs to be sounded that AIDS has not gone away and the treatments available are not yet a cure. Education regarding the spread of the virus to others and resistant strains of HIV is needed for individuals infected with HIV/AIDS.

Delaware's AIDS cases are racially disproportionate with the population. African American AIDS cases comprise about 66% of the cases, whereas 19% of the Delaware population is African American.

Multiple outbreaks of sexually transmitted disease cases in 2001 points to continued engagement in risky behaviors among the population. Individuals can not be infected with HIV unless they are engaging in activity with an already infected partner. These individuals are engaging in high-risk behavior (sexual or drug use), which puts them at that much higher risk for HIV infection.

Delaware implemented name-to-code based HIV reporting in July 2001. HIV case reports will be collected for one year before analysis is conducted. A report on the HIV data will be released in the fall of 2002.

BACKGROUND AND INTRODUCTION

Since 1984, Delaware has tracked AIDS cases by compiling information from health care professionals, laboratories and physicians. The early years of the epidemic indicated White men who had sex with men were the predominant population at risk and reported with AIDS. Examining recent data shows the trend is shifting to African Americans, heterosexual exposure, and female cases.

Data presented here are current through December 31, 2001. Community prevention planning groups, health educators, and health planners may use the data to help guide risk reduction and public health interventions aimed at reducing the numbers of HIV-infected individuals in Delaware.

Regulations for the Control of Communicable and Other Disease Conditions were revised in July 2001. The revision includes the reporting of HIV cases, through a name to code system, to the HIV/AIDS Epidemiology office. An ample amount of HIV data will need to be collected before it is analyzed and disseminated. Therefore, HIV data is not included in this report.

METHODS

The purposes of the epidemiologic profile are multi-focal. First, to describe the distributions, trends, and impact of acquired immunodeficiency syndrome (AIDS) in Delaware. Second, to provide information for planning, prevention and education programs centered on the human immunodeficiency virus (HIV). The last focus is to deliver an assessment of needs for those living with HIV/AIDS in Delaware. Because data are continually collected, updates are provided annually and on request.

The five main questions used to outline data in this profile are:

1. What are the socio-demographic 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. Who is infected and who is in care?
5. What is the geographic distribution of AIDS?

Data from a variety of sources are combined, analyzed and presented in response to each of the main questions. Additional subtopics related to specific Delaware populations are addressed. Sources for data presented include: AIDS surveillance activities, CDC national statistics on HIV/AIDS, HIV counseling and testing data, BRFSS, STD data, and the vital statistics annual report. For analytic and publication purposes, Delaware data presented in this profile are current through *December 31, 2001*. If the reader has specific questions, the surveillance office can provide assistance locating appropriate data sources.

Data quality varies among the sources. Table 1 presents an overview of the strengths and limitations of each data source. AIDS surveillance includes case reports of all AIDS-defined cases in Delaware. Inferences for trends in the HIV epidemic must continue to be made until substantial information is collected to assess the true HIV epidemic in our State. The data provided on the HIV/AIDS case reports are only as good as the information provided by the reporting source.

TABLE 1. STRENGTHS AND LIMITATIONS OF DATA SOURCES

Data	Source of Data	Strengths	Limitations
AIDS surveillance [HIV/AIDS Reporting System, HARS]	Case reports completed by health care providers and public health surveillance personnel.	• Data set is very complete • Provides a historical perspective on trends	• Relies on providers for accurate and timely data • Inadequate amount of data on HIV infection to be included in this report.
Vital Statistics	Death certificate completed for each person that dies in state.	• Complete data set	• Accuracy is unknown • Behavior risk data is unavailable
Counseling and Testing (CTS)	Pre-test and post-test counseling data form completed at public and private clinics.	• Standardized data collection	• Only represents patients who seek counseling and testing (self-selection) • May include persons who tested multiple times
Study of child-bearing women (SCBW)	Blinded study of all women who give birth in Delaware. Positive test results reflect HIV infection in mothers.	• Blinded, confidential data collected	• Measures seroprevalence, not incidence • Data is only on women who deliver babies
Supplement to HIV/AIDS Surveillance (SHAS)	Interview with AIDS-defined patients. Data collected on socio-demographic; medical, sexual, and drug history; social services; prevention therapy.	• Self-reported information, complete, confidential data set	• Not all patients participate • Data may be skewed toward those healthy enough to participate • Information is subjective
Behavioral Risk Factor Surveillance System (BRFSS)	Telephone interviewer collects behavioral data through standard interview.	• State-to-State comparisons are possible • Standardized questionnaire	• Not representative of entire population • Not targeted at high-risk groups
STD Surveillance	Case reports completed by health care provider.	• Patients at high risk for STDs are at high risk for HIV	• Data may include duplicate cases • Private providers may under-report
Other data sources • YRBS • Adolescent Health	Surveys of teen population	• Risk assessment ongoing with emphasis on abstinence and prevention	• Information limited to those enrolled in the program

DATA SOURCES

Case report forms are submitted by medical professionals throughout the state and vary in completeness and timeliness. The software used nation-wide for storing of HIV/AIDS data is HARS (HIV/AIDS Reporting System)[1]. AIDS data are the only consistently reported data across the nation, resulting in population-wide statistics in all states. AIDS data may not represent all AIDS-defined individuals due to delays in reporting and noncompliance with reporting policies.

The Supplement to HIV/AIDS Surveillance (SHAS)[2] project is a federally funded grant initiative through which adult AIDS patients are interviewed for additional information. Interviews address a multitude of topics including: socio-demographic factors, sexual and medical history, drug and alcohol use, access to medical and social services, gynecological and reproductive histories (females), and preventive therapy. Due to the sensitivity of questions, criteria for inclusion in the study and lengthy interview session, a limited number of interviews have been completed since the study's inception in 1991. Questions regarding behavior and treatments allow investigators more detail on these topics than from other sources. Since the project involves interviewing patients, data are subjective and from the patient's perspective. Therefore, respondent bias is inherent in this data set. All data from SHAS interviews are confidential and linked to surveillance data through patient numbers and not identifying information. The SHAS survey instrument was revised in 2000 and the data in the 2002 profile reflects on information collected in the new Version 6.

Sero-surveys in drug treatment centers, women's clinics, and hospitals are not currently funded. Data collection was completed in 1996 and is not presented in this profile. Through state funding, the study of childbearing women (SCBW)[3] was re-started in 1999. Heel stick specimens are collected on all infants born in Delaware. The data are blinded and unbiased. Yet, it only represents women delivering live-born infants and provides no risk information.

HIV counseling and testing data is collected on a standardized data collection form. Repeat tests can not be distinguished in this data set. Detailed information on risk behavior among test seekers is available and is published in the HIV Counseling and Testing Annual Report.[4]

The HIV/AIDS Surveillance Report through 2000, published by the Centers for Disease Control and Prevention, [5] is used frequently in the profile for national data. The report for the period ending 2001 will not be available until approximately June 2002. The report is the compilation of HIV/AIDS surveillance information made available to the public via the Internet. The website: http://www.cdc.gov/hiv/dhap.htm can provide the reader with a wealth of information and slide presentations.

Epidemiology

When investigating an epidemic, questions relating to person, place and time are important to sort out pertinent information.

- Person: Mode of exposure is used to classify patients. A patient is characterized by the main mode of transmission of HIV infection. From personal interviews, case report forms, and medical record reviews, surveillance staff can help characterize the mode of exposure so a patient is categorized correctly.
- Place: In this epidemiologic profile, place refers to zip code of residence at time of diagnosis. There is always potential for a person to move either north or south in the state – but all information is based on reported zip code. Additionally, surveillance extends to other states. If a case resides elsewhere or was diagnosed elsewhere, staff will contact the other state for confidential data- sharing purposes.
- Time: Throughout the statistical presentation, date of report and date of diagnosis are used to define time periods. There can be a lag between date of diagnosis of an AIDS-defined person and the date the individual was reported to the Division of Public Health (DPH). **Therefore, date of diagnosis is used, unless otherwise stated.**
- Risk: Individuals are identified by behaviors that put them at risk of HIV infection. CDC established a hierarchy to classify a person's most likely route of exposure, or HIV risk. Data collected allows a person to be classified by the risk that most likely exposed the individual.[5]

In 1993, the Centers for Disease Control and Prevention (CDC) revised the AIDS case definition. The United States saw an increase in cases around 1993-1994 due to the expanded definition. The new definition included persons previously unreported until several AIDS indicators were added to the case definition. These indicators include: severe immune-compromised individuals with CD_4 counts <200 µ/L or <14%; invasive cervical cancer; recurrent pneumonia; and pulmonary mycobacterium tuberculosis.

All AIDS patient data is strictly confidential and is collected for epidemiologic purposes. Confidentiality of HIV/AIDS case reports is important to maintain an effective HIV/AIDS surveillance system. The Delaware Division of Public Health's HIV/AIDS Epidemiology office has confidentiality and security protocols outlining physical, operational, and personnel security standards. These standards must be maintained to receive federal funding**. Data-release policies guide the presentation of data to ensure AIDS data do not allow for individual identification. Tables must not present data in a manner that would allow for individual identification. Reporting small numbers, in a table, may inadvertently cause an individual to be identified. In these cases data in small cells may be combined but are generally identified in the footnote.**

DEFINITION OF TERMS

Adult/Adolescent case:	Patient is 13 years of age or greater at the time of diagnosis.
Epidemiology:	Study of factors (age, race, and gender) that affect disease distribution in the human population.
Heterosexual:	Persons with a history of sexual contact with a person of the opposite sex, and may include heterosexual relations with: injecting drug user; bisexual male; person who had a transplant or transfusion; or person with AIDS or undocumented HIV infection.
Incidence:	Number of new cases divided by the population at that specific time.
NIR case:	No identified risk – risk was unable to be ascertained through investigation to date. NIR cases are reclassified as information is obtained through a complete epidemiologic investigation.
Pediatric case:	Patient is less than 13 years of age at diagnosis.
Prevalence:	Number of existing cases per standard population.
Rate:	Number of cases divided by specific population of a given group. Rates allow for the direct comparison of different groups by taking into account the varying population size.
Transfusion case:	Person who acquired the virus as a result of receiving blood or blood products.
Year of diagnosis:	Measure when disease event occurred.
Year of report:	Measure of when the HIV/AIDS surveillance office received case report.

ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
A/PI	Asian/Pacific Islander
BRFSS	Behavioral Risk Factor Surveillance Survey
C/T	Counseling and Testing Services
DPH	Division of Public Health
HARS	HIV/AIDS Reporting System (software)
HIV	Human Immunodeficiency Virus
IDU	Injecting Drug Users
MSM	Men who have Sex with Men
MSM/IDU	Men who have Sex with Men and Inject Drugs
NA/AN	Native American/Alaskan Native
NIR	No Identified Risk
PLWA	People living with AIDS
SCBW	Study of Childbearing Women
SHAS	Supplement to HIV/AIDS Surveillance
STD	Sexually Transmitted Disease

CAUTIONS IN USING DATA

Readers should use caution when reviewing data. Listed below are "hints" to help you understand the report. If you have further questions, please contact the epidemiology office.

Case rate: A rate is a measure of the frequency of an event (disease) compared to the number of persons in the group in which it occurs. An example: if there are 700 White AIDS cases in Delaware and the White Delaware population was 700,000; the case rate would be 100 per 100,000. That means for every 100,000 people, there would be 100 AIDS cases.

Dates: Be careful interpreting trends over time. Though it may be enticing to jump to conclusions about changes over time – look carefully at the data. Are the changes over an extended period? Is it a small percentage change in one year?

Graphs and tables: Examine the title. Does it indicate a time period? Does the graph represent all cases or just one group (men, women, IDU or MSM)? Are data represented as the number of cases, a percentage of cases or as a case rate?

Data limitations: Does the author provide information on each data source? What type of data collection method was used? Does the data include repeat patients?

QUESTION 1: WHAT ARE THE SOCIO-DEMOGRAPHIC CHARACTERISTICS OF DELAWARE?

Delaware, the First State, ranks 49th in the nation for total area with 1,954 total square miles. Delaware's population was estimated to be 783,600 in the 2000 Census. The population density is 401 persons per square mile. The US Census Bureau [6] provides current county estimates for 2000.

TABLE 2A.
U.S. CENSUS BUREAU[6]
ESTIMATES
FOR THE POPULATION OF DELAWARE
THROUGH THE YEAR 2000

	2000	
County	#	%
New Castle	500,265	64%
Sussex	156,638	20%
Kent	126,697	16%
Total	783,600	100%

Delaware's population is 73% urban and 27% rural. The Census Bureau indicates the population of Delaware increased for 2000 by greater than 30,000 residents. More than half of the population growth was in "rural" Sussex County. As demonstrated in Table 2A, the majority of Delawareans live in New Castle County (64%). Dover, the state capitol, is in Kent County where approximately 16% of the population resides.

Females comprise 51% of the population. Nineteen percent of Delawareans are Black. Kent County has the highest percentage of Black residents among the three counties. According to Delaware Health Statistics Center [7], there were 11,046 births in Delaware in 2001. Of these births, 7,889 were to White women, 2,634 were to Black women and 1,023 were to women of Hispanic ethnicity. Table 2B illustrates the race/ethnic population in each county.

TABLE 2B.
U.S. CENSUS BUREAU[6]
ESTIMATES
FOR THE POPULATION OF DELAWARE BY RACE
THROUGH THE YEAR 2000

	White		African American		Hispanic or Latino		Other	
County	#	%	#	%	#	%	#	%
New Castle	365,193	73%	100,053	20%	25,013	5%	10,006	2%
Sussex	125,310	80%	23,495	15%	6,265	4%	1,566	1%
Kent	93,755	74%	26,606	21%	3,800	3%	2,536	2%
Total	584,259	75%	150,155	19%	35,078	4%	14,108	2%

Delaware's unemployment rate remains at or below national rates. In 2000, Delaware's unemployment rate was 4%. In 2001, the unemployment rate in Delaware[8] was 3.5%, while nationally the unemployment rate was 5.8%.

According to the Delaware Department of Correction[9], Correctional facilities in Delaware house approximately 6,350 inmates through the end of 2001.

About 42% of Delaware citizens, over the age of 25, have a high school degree (or equivalent). Among the citizens over age 25, seventeen percent have some college and 12% are college graduates.

Agriculture, fishing, mining, and the manufacturing industry support Delaware's economy. Among the items produced in Delaware are chemicals, food products, paper products, rubber and plastic products, and primary metals. The banking industry is the biggest private employer in the state. Delaware's largest private employer is MBNA America followed by Du Pont. The State of Delaware is the largest public employer.

The Bureau of Economic Analysis, Department of Commerce[10] reports, Delaware's per capita personal income was $31,074 in 2000. In the second quarter of 2000, Delaware was one of the six states with the fastest growth in personal income (up 2.4%). Approximately 10% of Delawareans live below the poverty level.

QUESTION 2: WHAT IS THE IMPACT OF HIV/AIDS ON THE POPULATION?

As defined on page 10, the time a disease event occurs is the year of diagnosis. At times, there may be a significant delay between when the diagnosis is made and when the information is reported and received by surveillance. Table 3 illustrates the difference in the number of cases diagnosed and reported each year. Additional cases diagnosed in 2000 – 2001 may well be received. As the cumulative columns in Table 3 demonstrate, by 1990 more cases had been diagnosed than were reported to surveillance. These cases may have been reported at a later time. This trend continues through 2000, as a cumulative total of 2646 cases were diagnosed, yet only
2560 were reported.

Table 3.
Comparison of Delaware AIDS Cases
by Year of Diagnosis to Year of Report
1990-2001

	Year Diagnosed		Year Reported	
Year	# of Cases	Cumulative	# of Cases	Cumulative
1990	109	368	83	314
1991	126	494	90	404
1992	261	755	182	586
1993	266	1021	383	969
1994	294	1315	282	1251
1995	278	1593	299	1550
1996	269	1862	299	1849
1997	221	2083	170	2019
1998	183	2266	142	2161
1999	168	2434	177	2338
2000	212	2646	222	2560
2001	174	2820	260	2820

In Delaware, 2,820 persons have been diagnosed with AIDS. Approximately 1,462 persons have died, representing 52% of the cases. There is a racial disparity between the cases reported, as will be described later in the profile.

The number of cases diagnosed each year appears to be decreasing since a high of 290 diagnosed cases in 1994. The large number diagnosed in 1993-94, and subsequently reported, may be due to an artificial increase as a result of the 1993 AIDS definition change. In 2000, however, 212 cases were diagnosed and 222 were reported. In 2001, 174 cases were diagnosed and 260 cases reported. This is the second year of an increase in cases. It may be due to the implementation of HIV reporting in July 2001, enhanced surveillance activities, or to the true picture of Delaware's epidemic taking shape.

National surveillance efforts have reported 322,865 persons living with AIDS and 127,058 persons living with HIV through December 2000. The national annual case rate per 100,000 population was 14.3 for January 2000 – December 2000. Delaware's rate per 100,000 population for the same time period was 28.0. Delaware continues to rank among the top ten states for case rates per 100,000 population. Delaware's population is small compared to other states. Therefore, an increase of 10 cases will affect our case rate more than it would affect the case rate of more populous states.

Figure 1 depicts the number of AIDS cases by year of diagnosis and case fatality rate. This rate represents the number of deaths among cases diagnosed each year. With advances in medical treatment, patients diagnosed recently are recipients of care potentially extending their lives. About 18% of cases reported in 1997-2000 have died, compared to about 91% of cases reported in 1988-1990. Because information is constantly updated, the case-fatality rate is subject to slight variation.

Figure 1.
Comparison of Delaware AIDS Cases
by Year of Diagnosis to Case Fatality Rate
1990-2001

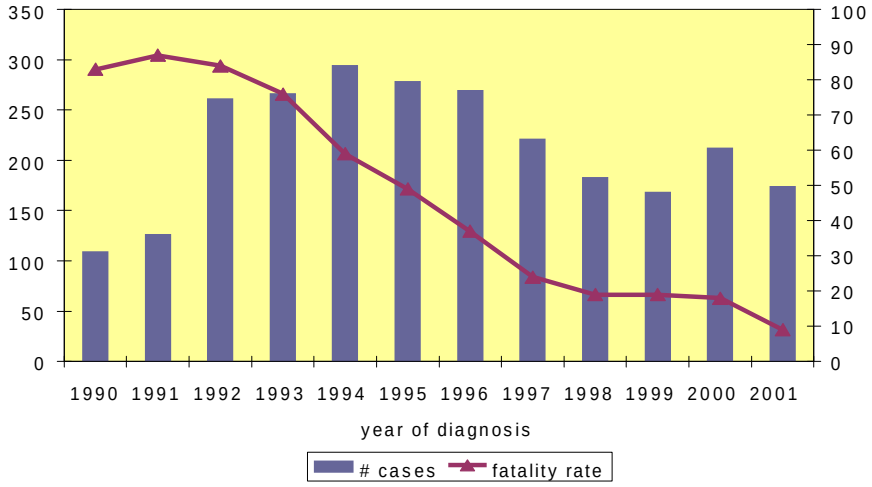
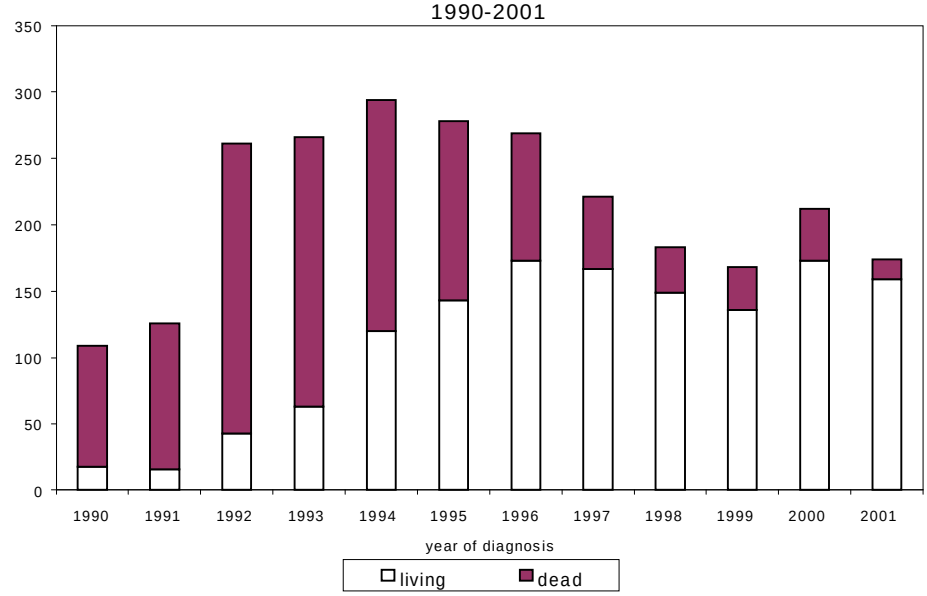


Figure 2 illustrates the increase in cases diagnosed in 2000, along with an increase in the number of patients living with AIDS. Consequently, there is an increased need for treatment services for Delawareans.

Figure 2.
Delaware AIDS Cases
by Year of Diagnosis and Mortality Status
1990-2001



Data from the Delaware Health Statistics Center[7] indicates a decline in deaths due to HIV/AIDS. In 1996, 132 deaths were due to HIV/AIDS, while in 1999 there were 65 deaths due to HIV/AIDS.

Living cases are increasing across all demographic groups. In 2000, the prevalence rate (living cases in Delaware) was 156 per 100,000 population. There was a 10% increase in the prevalence rate in 2001, with a rate of 173 per 100,000 population.

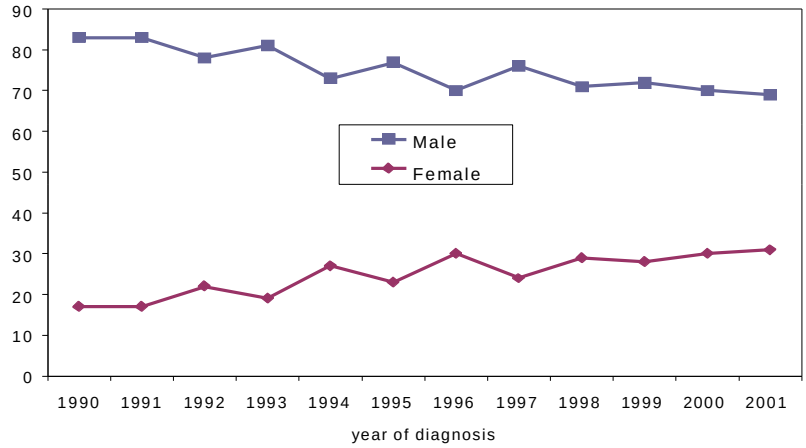
Overall, for all 2,820 reported cases, CD_4 immune deficiency was reported in 79% of cases, PCP in 31%, wasting syndrome in 21%, esophageal candidiasis in 12%, and mycobacterium avium in 10% of cases. Patients may have more than one opportunistic infection, so the percentages will add to more than 100%.

GENDER

Male AIDS cases continue to dominate case reports. Males represent 49% of Delaware's population, yet 76% of the AIDS cases. Females represent 51% of Delaware's population, and 24% of the AIDS cases. Since 1985, when the first AIDS case was diagnosed in a Delaware female, AIDS cases have increased in the female population.

Figure 3 illustrates the slow decrease of male cases from 100% to approximately 70% of cases. The prevalence rate for female cases in 2000 was 86 per 100,000 population (331 living cases). In males, the 2000 prevalence rate was 228 per 100,000 (848 living cases).

Figure 3.
Comparison of Delaware AIDS Cases in Percentages by Year of Diagnosis and Gender 1990-2001



RACE

Delaware's AIDS epidemic continues to disproportionately affect the African-American population. African-Americans comprise less than 20% of the state population, while two-thirds of our AIDS cases are African-American. Eighty percent of the female cases and 61% of the male cases are African-American. Table 4 provides an overview of the racial distribution of Delaware AIDS cases. The "other" category in the table includes Asian/Pacific Islanders and Native American/Alaskan Natives. This category is compressed to prevent individual identification of cases.

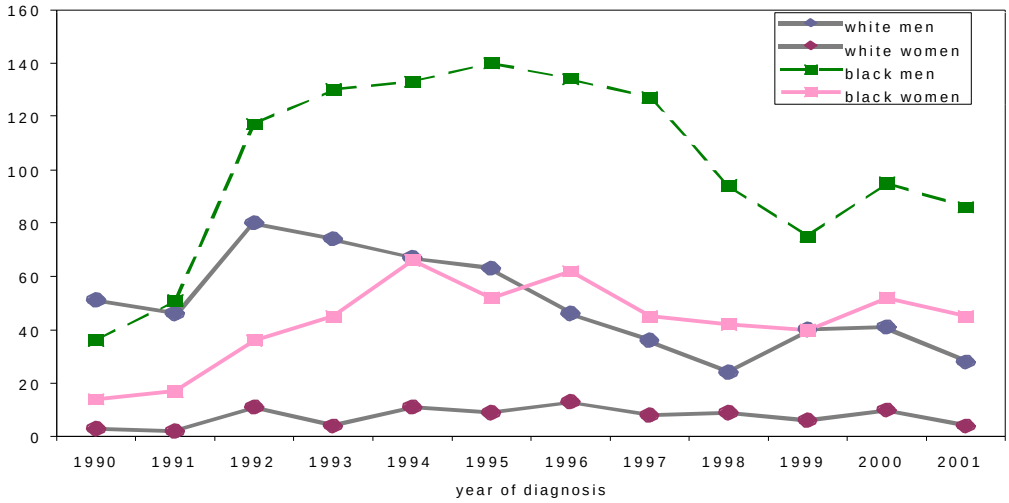
TABLE 4.
DISTRIBUTION OF DELAWARE AIDS CASES BY RACE/ETHNICITY AND GENDER THROUGH 2001

	Male (n=2143)		Female (n=677)		Total (n=2820)	
Race	#	%	#	%	#	%
White	712	33%	101	15%	813	29%
Black	1311	61%	539	80%	1850	66%
Hispanic	112	5%	35	5%	147	5%
Other	8	<1%	2	<1%	10	<1%

Nationally, 43% of all cases reported through December 2000 were White, 38% were Black and 18% were Hispanic. However, when the national numbers are viewed by gender, the proportion of cases by race/ethnicity depicts a growing epidemic in Black women nationally. Through the end of 2000, female AIDS cases reported nation-wide were 58% Black, 21% White, and 20% Hispanic. The male AIDS cases, reported to CDC through December 2000, were 47% White, 34% Black and 18% Hispanic.

Figure 4 provides a graphical depiction of the racial trends in Delaware. In 1990, the majority of the cases were diagnosed among White men. Through 2001, the majority of cases were diagnosed among Black men, followed by Black women.

Figure 4.
Comparison of Delaware AIDS Cases
by Race and Gender
Diagnosed 1990-2001



This data correlates with national data provided by CDC. In absolute numbers, Blacks have outnumbered Whites in new AIDS diagnoses and deaths since 1996 and in the number of people living with AIDS since 1998.

AGE

The majority of Delaware's cases were diagnosed between ages 30-39 (47%). The age distribution of AIDS cases in Delaware is similar to the national distribution. Delaware AIDS cases are getting diagnosed at older ages. This may be due to increasing effectiveness of medications prolonging the period between HIV infection and AIDS diagnosis. Table 5 compares cases reported through December 1991 with all cases reported through December 2001. As demonstrated, an increasing number of cases are diagnosed in age group 40-49 years.

TABLE 5.
COMPARISON OF THE AGE DISTRIBUTION
IN DELAWARE AIDS CASES REPORTED CUMULATIVELY
THROUGH 1991 AND THEN THROUGH 2001

Age at diagnosis	Cumulative Cases end of 1991	Cumulative Cases end of 2001
0-19*	5 (1%)	32 (1%)
20-29	92 (23%)	372 (13%)
30-39	174 (43%)	1292 (46%)
40-49	78 (19%)	829 (29%)
50-59	38 (9%)	215 (8%)
60-69	12 (3%)	67 (2%)
70+	5 (1%)	13 (1%)

*Age groups 0-9 and 10-19 are compressed to protect the anonymity of individuals in small cells.

MODE OF EXPOSURE

For surveillance purposes, AIDS cases are counted only once in a hierarchy of exposure categories. Persons with more than one reported mode of exposure to HIV are classified in the category listed first in the hierarchy, except for men with both a history of sexual contact with other men and injecting drug use. They comprise a separate exposure category. This hierarchy of exposure categories in adult/adolescent cases is as follows:

1. Men who have sex with men
2. Injecting drug user
3. Men who have sex with men and inject drugs
4. Heterosexual contact
   a. sex with an injecting drug user
   b. sex with a bisexual male
   c. sex with a person with hemophilia
   d. sex with a transfusion recipient with HIV
   e. sex with a transplant recipient with HIV
   f. sex with a person with AIDS/HIV; with a risk unspecified
5. Transfusion of blood/blood components
6. Transplant of tissue/organs or artificial insemination
7. Worked in a health care or laboratory setting

If a patient admits to certain sexual or drug use behaviors, the patient is ranked along this continuum of possible exposures to HIV. Nationally, 9% of the cases reported through December 2000 were without risk identified. Surveillance personnel place high priority on determining risk for these patients and 2% of Delaware's cases at the end of 2001 are currently classified as "no identified risks" (NIR).

Table 6 demonstrates the mode of exposure for all Delaware AIDS cases. Injecting drug use (IDU) remains the most frequently reported mode of transmission. Men who have sex with men is second in this list. Other modes of exposure (*) in Table 6 include perinatal pediatric cases, transfusion recipients, and additional transmission modes that resulted in less than 3% of Delaware's AIDS cases.

TABLE 6.
DELAWARE AIDS CASES BY MODE OF EXPOSURE
DIAGNOSED THROUGH DECEMBER 31, 2001

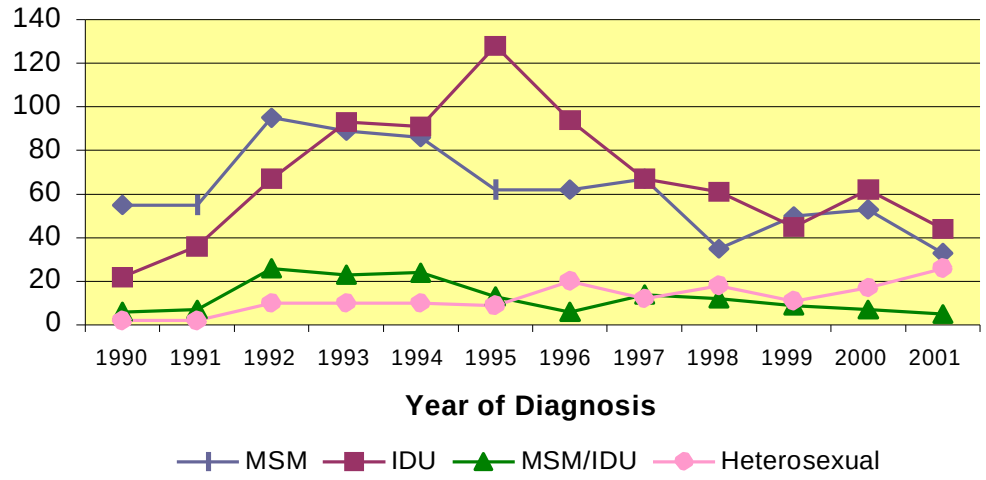
Mode of exposure	Number of cases	Percent of cases
Injection drug use (IDU)	1204	43%
Men who have sex with men (MSM)	884	31%
Heterosexual contact with an IDU	251	9%
Man who injects drugs and has sex with men	169	6%
No identified risk	67	2%
Heterosexual contact with PWA	174	6%
Other modes *	71	3%
Total cases	2820	10%

Male cases

Men who have sex with men (MSM) remain the most affected group among men in Delaware. Forty-one percent of male cases acquired HIV through having sex with other men. Injecting drug use (IDU) account for 40% of Delaware's male AIDS cases. A third group combines men who have sex with men and inject drugs (MSM/IDU). This group accounts for 8% of Delaware's male cases and is often treated separately. Nationally, 56% of male cases are MSM, 22% IDU and 8% MSM/IDU. Heterosexual cases and other modes comprise 8% of male cases in Delaware and 15% nationally.

With the 1993 definition change, the main mode of transmission went from MSM to IDU in Delaware. Figure 5 illustrates the increase among male IDU cases. However, tentative data from 1999 - 2000 indicate a slight increase in the MSM cases, in addition to a decrease in IDU cases. Because 2001 data are not complete, this is provisional.

Figure 5.
Comparison of Delaware AIDS Cases
Among Adult/Adolescent Men
by Mode of Transmission and Year of Diagnosis
1990-2001

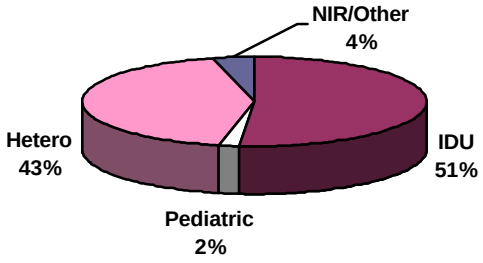


Female cases

Female cases in Delaware are primarily infected through injecting drug use (51%). Heterosexual contact is noted as the mode of exposure for 43% of the female cases. Nationally, 40% of the female cases are heterosexual contact and 41% are injecting drug use.

Slightly more than half (58%) of the women exposed to HIV through heterosexual contact indicated heterosexual contact with an injecting drug user. Other modes of transmission in this sub-population were heterosexual contact with a bisexual male (4%) and heterosexual contact with a person with HIV/AIDS (38%). Figure 6 describes the distribution of all female AIDS cases in Delaware.

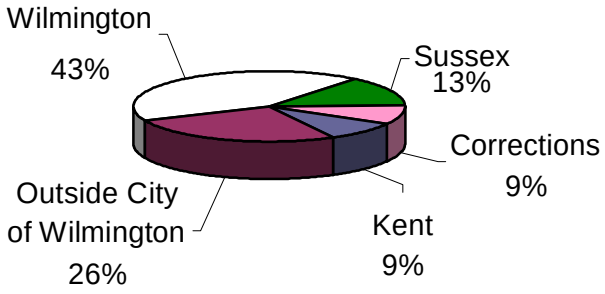
Figure 6.
Distribution of Delaware Female AIDS Cases
by Mode of Exposure
through 2001
n=677



Geography

The majority of Delaware's AIDS cases were reported from New Castle County (67%). New Castle County has reported 1936 out of the total 2820 cases reported through December 2001. An additional 221 cases (9%) are inmates in New Castle County correctional facilities and will be addressed later. Kent County has the smallest number of AIDS cases and therefore the smallest percentage (9%). Figure 7 describes the geographic distribution of all cases in the state.

Figure 7.
Distribution of Delaware AIDS Cases
by County of Residence at Diagnosis
through 2001



New Castle County cases are mostly Black (70%) and male (75%). Injecting drug use accounts for 56% of the female New Castle County cases and 46% of the male New Castle County cases.

Kent County has 253 AIDS cases, 56% of which are Black. Female Kent County cases are largely infected through heterosexual contact (57%). Male Kent County cases are mostly men who have sex with men (43%).

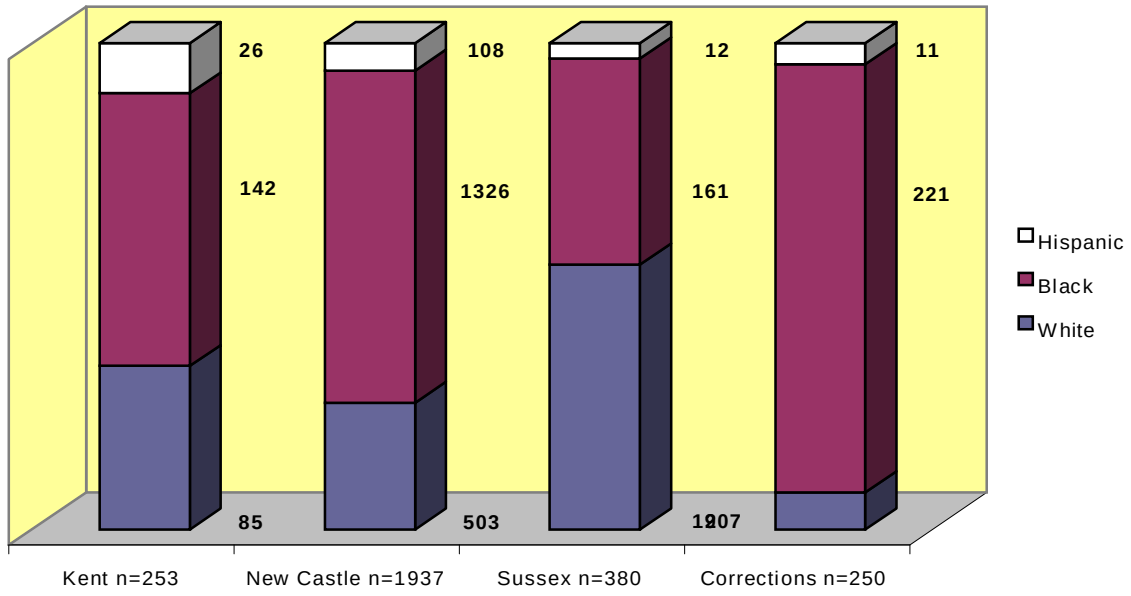
Sussex County has reported 380 AIDS cases. These cases are almost evenly divided among two racial groups (46% Black and 51% White). Men who have sex with men account for 64% of the male Sussex AIDS cases. Injecting drug use accounts for 18%

of the Sussex male cases and 32% of the Sussex female cases. More than half of the female AIDS cases in Sussex were infected through heterosexual contact (59%).

Of the 250 cases reported from corrections, 88% are in New Castle County facilities and 11% in Sussex facilities. Eighty-eight percent of the inmates are Black and injecting drug use is the primary mode of transmission (70%)

Figure 8 illustrates the racial distribution of Delaware AIDS cases by residence at diagnosis. The figure also depicts the cases diagnosed while in correctional facilities apart from the county where they are geographically located.

Figure 8.
Distribution of Delaware AIDS Cases
by Race/Ethnicity and Residence at Diagnosis
through 2001



Additional information on the geographic distribution of AIDS cases in Delaware can be found under Question 4.

QUESTION 3: WHO IS AT RISK FOR BECOMING INFECTED WITH HIV?

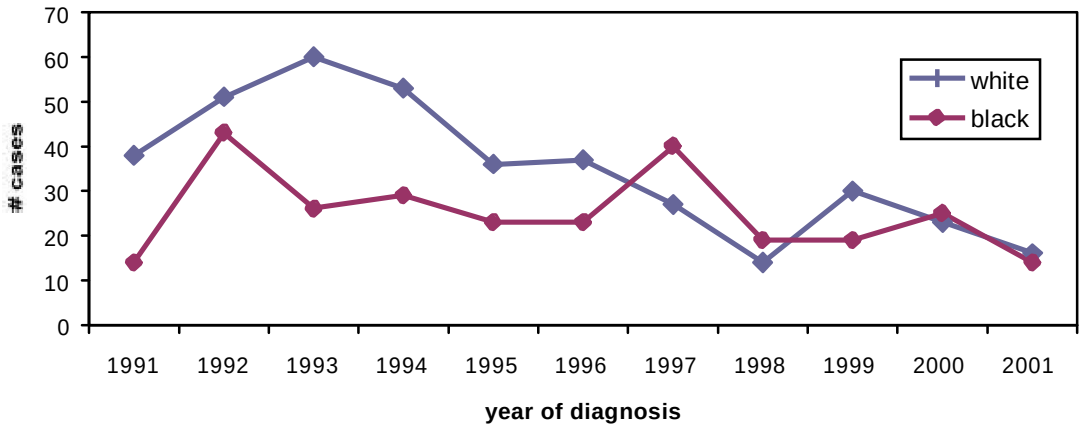
Community planning groups rely on data describing modes of transmission to help prioritize populations and identify groups affected in the region. Information on mode of transmission (also called mode of exposure) provides insight into groups that may be at increased risk in the future. As mentioned previously, individuals are identified by behaviors that put them at risk of HIV infection.

MEN WHO HAVE SEX WITH MEN (MSM)

Through December 2001, eight hundred eighty four MSM cases have been reported in Delaware. MSM cases comprise 40% of Delaware's male cases. From a national perspective, 355,409 MSM cases reported through December 31, 2000, representing 56% of the male AIDS cases nationally.

In the “early” years of the epidemic (1981-1990), the majority of MSM cases were White (72%). In more recent years (1991-2001), the MSM epidemic is distributed among White males (59%) and Black males (37%). Figure 9 demonstrates the general decrease in White MSM AIDS cases. Data from 2001 can not be considered as complete as additional cases are sure to be reported. Therefore, any trends that may appear to be descending may not reveal the true picture in this population.

Figure 9.
Comparison of Delaware MSM AIDS Cases
by Race and Year of Diagnosis
1991-2001



Forty-seven percent of the Delaware MSM cases were diagnosed between ages 30 and 39. Another 210 were diagnosed between 40-49 years and 18% diagnosed between 20-29 years. The age range for MSM cases is 19-78 years at diagnosis. Table 7 distributes MSM cases through December 31, 2001 for all of Delaware with demographics.

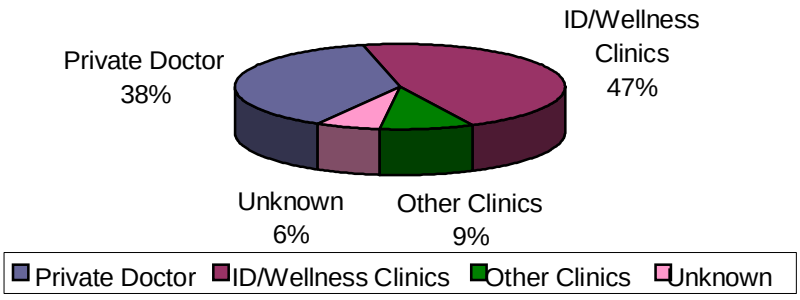
Table 7.
Distribution of Delaware MSM AIDS Cases
by Age at Diagnosis, Race and by County

County of Residence	Kent		New Castle		Sussex		Total	
	n=81		n=583		n=220		n=884	
Age at diagnosis	#	%	#	%	#	%	#	%
10- 29*	15	18%	110	19%	34	15%	159	18%
30- 39	37	46%	278	48%	104	47%	419	47%
40- 49	20	25%	135	23%	56	26%	210	24%
50+	9	11%	61	10%	26	12%	96	11%
Race	#	%	#	%	#	%	#	%
White	42	52%	322	55%	159	72%	524	59%
Black	36	44%	236	40%	56	26%	328	37%
Other	3	4%	25	5%	5	2%	33	4%

In Delaware, geographical differences are evident in the MSM population. Sussex County has reported 220 MSM cases. Seventy-two percent of the Sussex MSM cases are White. Compared to New Castle County, Sussex has a more defined epidemic among White MSM. New Castle County has reported 583 MSM cases, with 55% among Whites and 40% among Blacks. Kent County has the smallest number of MSM cases (n=81). Just over half of Kent County MSM cases are White and 44% are Black.

Through the end of December 2001, forty-one percent (n=362) of the MSM diagnosed while residents of Delaware, were known to be alive. The treatment location field of the HIV/AIDS Reporting System (HARS) shows 94% of the living AIDS-defined MSM are in treatment and accessing care as depicted in Figure 10. Data shows 168 clients attend an ID or Wellness clinic, and 138 are seeking their care through private physicians. Other clinics include HIV specialty clinics in Maryland, Pennsylvania, Veteran's Hospitals and prison infirmaries and are attended by approximately 30 cases. There is no information provided or known on the treatment location for 23 (6%) of the cases.

Figure 10.
Treatment Locations for the Living Delaware MSM AIDS Population Reported through 2001
n=362



BISEXUAL (SEX WITH A PERSON OF THE SAME SEX AND OPPOSITE SEX)

As mentioned on page 14, the mode of transmission or exposure, is used to classify patients along a risk hierarchy. If a patient admits to certain sexual or drug use behaviors, the patient is ranked along a continuum of possible exposures to HIV.

Though bisexuality is not an assigned risk in the HARS database, the capability exists for the bisexual population to be identified and analyzed. Bisexuals are identified by extracting the number of cases who are reported to have had sex with someone of the opposite sex as well as with a person of the same sex. Of the adult/adolescent cases reported through the end of the 2001, thirty nine women were reported as having sex with both a male and female. The number of men reported as having sex with a woman in addition to sex with another man totaled 385.

The majority of the bisexual women, 82% (n=32), are African American with 10% White and 8% Hispanic. Setting aside their sex with women, 85% (n=33) of the 39 women are classified as IDU. Thirteen percent (n=5) had sex with a man with HIV/AIDS. The remaining 2% are other risks not identified due to small cell sizes.

Of the 385 men who had sex with other men and with women, 227 (59%) are African American. Thirty seven percent (n=142) are White. Hispanic men account for 16 (4%) of the cases. Prior to identifying the men as having had sex with women as well, they are reported as 76% (n=292) MSM and 24% (n=93) as IDU.

The information provided on bisexual activities, in the adult/adolescent Delaware AIDS population, is anecdotal. The information serves to identify co-contributors to the spread of HIV to the CPG.

INJECTING DRUG USE (IDU)

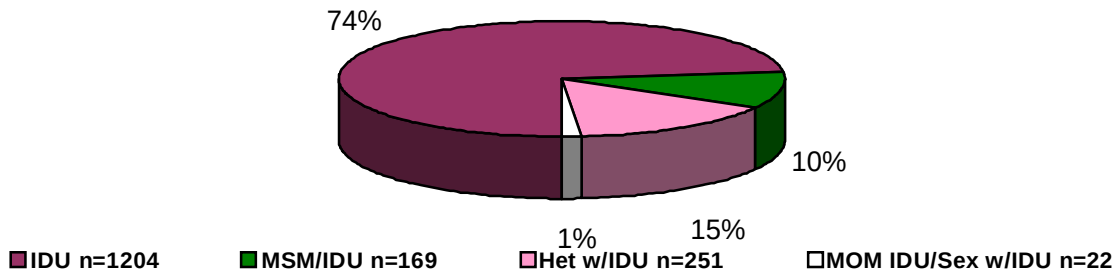
Delaware has reported 1,204 AIDS cases contracted through injecting drug use, 857 male and 347 female. IDU cases represent 40% of total male cases and 51% of total female cases.

The majority of IDU cases are Black (82%). The IDU AIDS epidemic affects a wide range of ages, with the largest group being diagnosed between 30-39 (47%). The age range for age at diagnosis of IDU cases is 19 to 80 years. Eighty-six percent of the IDU cases are located in New Castle County.

Figure 11 shows that injecting drug use as a mode of transmission affects more individuals than just the injecting drug user. Also affected by this mode are:

- those who have heterosexual contact with an IDU (Het w/IDU)
- children born to an IDU Mom (Mom IDU)
- children born to a Mom who had sex with an IDU(Sex w/IDU) and
- men who have sex with men and inject drugs (MSM/IDU).

Figure 11.
Distribution of Delaware AIDS Cases with an IDU or IDU-Associated Source of Transmission through 2001
n=1,646



Supplement to HIV/AIDS Surveillance (SHAS) interview data about persons who inject drugs and use non-injection drugs allows prevention planning groups additional insight into the community. One hundred twenty SHAS interviews were conducted in 2000-2001. Of those interviewed 48% (n=57) stated they had at sometime in their lifetime injected drugs. The IDUs were 74% male (n=42) and 26% female (n=15). The age the SHAS participant first injected drugs range from 15-44 in men and 13-40 in women interviewed. Fifty-two (91%) denied injecting drugs in the past year (12 months). Detailed demographics on the IDU population interviewed in 2000 and 2001 are illustrated by gender in Tables 8a and 8b.

Table 8a.
Needle Sharing Behaviors and Access to Drug Treatment Responses of 42 Male SHAS Participants Who Used Needles to Inject a Drug

1st drug of choice when injecting	# who shared needles and who they shared with	# with history of drug treatment	
		In Lifetime	In Past Year
26 % chose heroin	28 with friends	35 Yes	8 Yes
62 % chose cocaine	3 with partners	7 No	27 No
12 % chose heroin/cocaine	3 with family		
	8 denied sharing needles		

*** Reasons for not getting treatment were waiting list and admission criteria.**

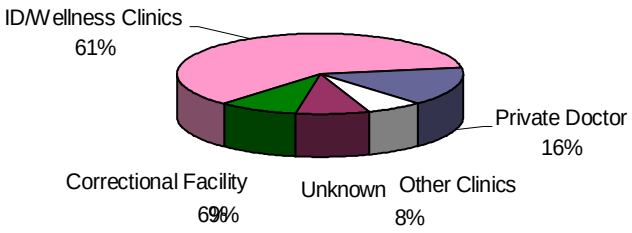
Table 8b.
Needle Sharing Behaviors and Access to Drug Treatment Responses of 15 Female SHAS Participants Who Used Needles to Inject a Drug

1st drug of choice when injecting	# who shared needles and who they shared with	# with history of drug treatment	
		In Lifetime	In Past Year
	5 with friends		
33 % chose heroin	3 with partners	6 Yes	3 Yes
40 % chose cocaine	5 with family	9 No	3 No
13 % chose stimulants	1 with a PWA		
	1 denied sharing needles		

*** Reason for not getting into treatment program was waiting list.**

Of the 1,204 persons reported with AIDS due to injecting drug use, 579 are living and receiving medical care at locations illustrated in Figure 12.

Figure 12.
Treatment Locations for Living Delaware IDU AIDS Cases Reported through 2001
n=579



Of the 57 IDU SHAS participants, 41 (72%) professed to having been enrolled in a drug or alcohol treatment program at some time in their lifetime. Eleven (27%) of the 41 had been enrolled in a drug or alcohol treatment program in the last 12 months. Problems keeping clients from enrolling in a program included long waiting list (n=5) and not meeting the admission criteria (n=1).

Non-injection drug use continues to be high among SHAS participants. Marijuana is the most commonly used non-injection drug, followed closely by cocaine. More than half,
55% (n=66), of the 2000-2001 SHAS participants have used crack. Sixty-one percent (n=40) of the crack users acknowledged that they had used crack in a crack house and 33% (n=13) stated they had sex in a crack house. The distribution of those having sex in a crack house by gender is 69% (n=9) male and 31% (n=4) female.

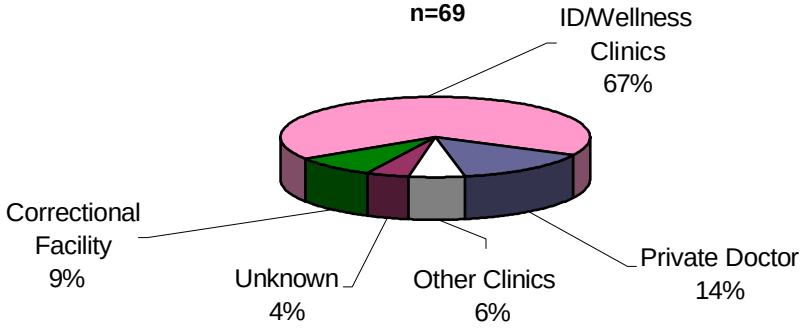
MEN WHO HAVE SEX WITH MEN AND INJECT DRUGS (MSM/IDU)

As previously noted, men having sex with men who also inject drugs (MSM/IDU), presents a unique opportunity for prevention outreach work. There have been 169 AIDS case reports submitted with the risk identified as MSM/IDU. African-Americans represent 67% (n=114) of the MSM/IDU cases. The age range at diagnosis is 24 to 69 years, though 57% (n=97) were diagnosed between 30-39 years of age. Seventy-nine percent of the MSM/IDU cases were diagnosed in New Castle County.

Of the living MSM/IDU cases, 81% (n=56) are currently residing in New Castle County. Thirty-eight (68%) of the 56 cases in New Castle County, were also reported as having had sex with a female (bisexual). Twenty-eight (74%) of the bisexual/IDU cases are African-American. Five MSM/IDU cases were reported as not having had sex with a female and whether the man had sex with a woman was documented as unknown in 13 cases.

Figure 13 illustrates 67% (n=46) of the living MSM/IDU cases are receiving their medical care through an ID or Wellness Clinic. Private doctors are the source of medical care for 14% (n=10), correctional facilities for 9% (n=6), and the remaining 10% are receiving their care from another clinic or the source of their medical care is unknown.

Figure 13.
Treatment Locations for Living Delaware MSM/IDU AIDS Cases Reported through 2001
n=69

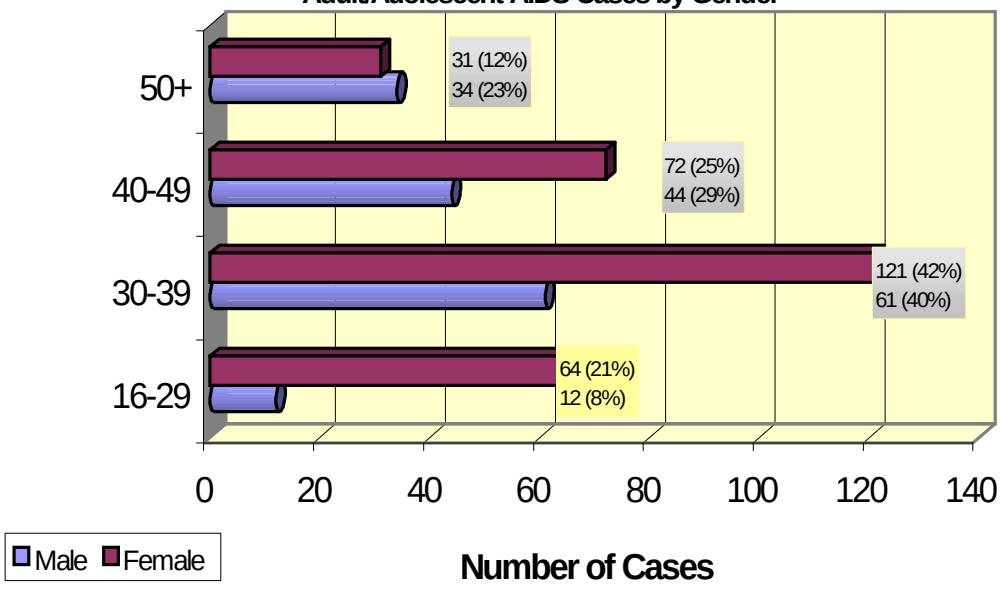


HETEROSEXUAL

The heterosexual AIDS epidemic affects more women than men in Delaware. There are 439 heterosexual cases in Delaware, of which almost 67% are female. Seventy-eight percent of those infected through heterosexual contact are Black. Seventy-two percent of the heterosexual cases were diagnosed in New Castle County.

The age distribution of heterosexual cases is widely dispersed. The range in age at diagnosis is 16-74 years for heterosexual cases. Forty-one percent of the cases were diagnosed between ages 30 and 39. Figure 14 shows age distribution by gender.

Figure 14.
Age Ranges at Diagnosis of AIDS in Heterosexual Adult/Adolescent AIDS Cases by Gender



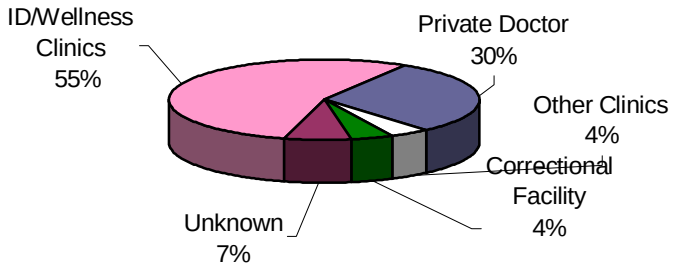
Heterosexual contact cases include individuals who had heterosexual relations with injecting drug users, bisexual males, hemophiliacs, transfusion recipients, and/or persons infected with HIV/AIDS. In Delaware, 57% of the heterosexual cases indicated heterosexual contact with an IDU. Forty percent indicated heterosexual contact with a person living with HIV/AIDS. Similar proportions hold across both genders as indicated in Figure 15.

Figure 15.
Comparison of Delaware Heterosexual AIDS Cases
by Gender and Diagnosis
through 2001

Nationally, 10% of all AIDS cases are reported as heterosexual contact. Fifty-seven percent noted sex with an HIV-infected person and 37% indicated sex with an injecting drug user.

Treatment locations for the living heterosexual AIDS cases diagnosed through 2001 are illustrated in Figure 16.

Figure 16.
Treatment Locations for Living Delaware
Heterosexual AIDS Cases
Reported through 2001
n=275



Participants in the revised SHAS project who had sex with a person of the opposite sex in the "past 12 months" numbered 65 (54%%) in 2000 and 2001. The revision to the questionnaire expanded the information available on condom use. It is now possible to compare the use of condoms as a barrier to transmission and protection from re-infection. Participants were asked:

1. "Have you had sex with a man (or woman respectively) in the past 12 months? " *Those who responded yes were additionally asked*:
2. "Have you been in a steady relationship with a man (or woman respectively) in the past 12 months? By steady relationship I mean a relationship with a man (or woman respectively) where you feel committed to him above anyone else AND where you have sex together. *Those who responded yes were additionally asked*
3. "The last time you had sex with your steady partner, did you have vaginal sex?*" Those who responded yes were asked:*
4. "Was a condom used?*"*

The participants were then asked questions 3 and 4 in regards to sex with "a man (or woman respectively) **other than your steady sex partner**?"
Figure 17 compares the use of condoms with a steady partner to use with "other" partner(s) in men. Participants with steady partners are not excluded from having "other" partners.

Figure 17.
Condom Use During Vaginal Sex
in the Last 12 Months with Steady and Other Partner(s)
in Male Heterosexual SHAS Participants
Interviewed 2000-2001
n=47

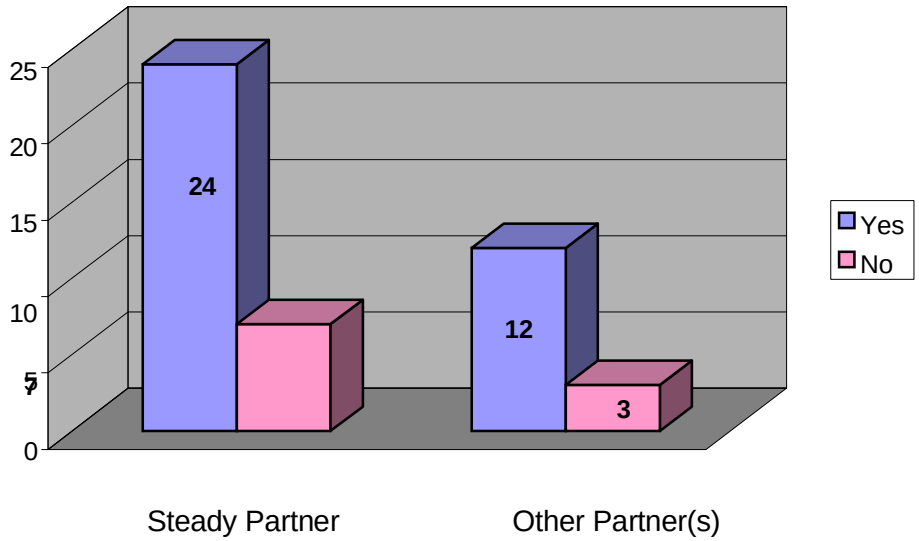
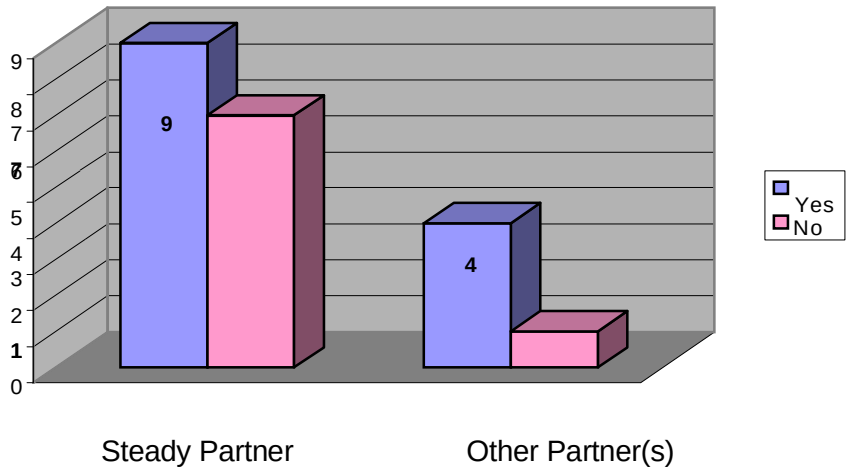


Figure 18 compares the use of condoms with a steady partner to use with "other" partner(s) in women. Participants with steady partners are not excluded from having "other" partners.

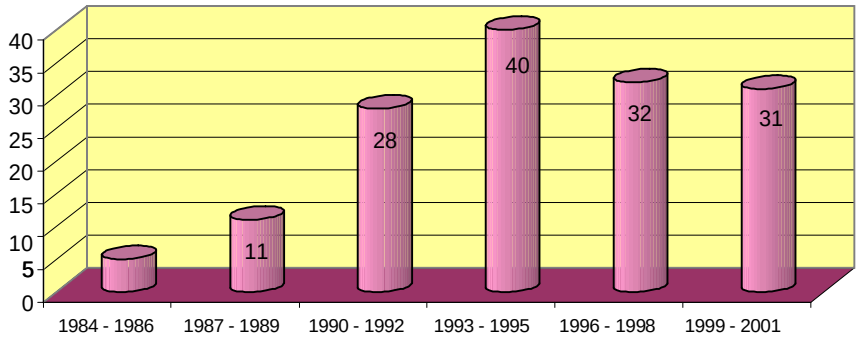
Figure 18.
Condom Use During Vaginal Sex
in the Last 12 Months with Steady and Other Partner(s)
in Female Heterosexual SHAS Participants
Interviewed 2000-2001
n=18



HISPANIC

Delaware's Hispanic population is hard to quantify. Through December 2001, 147 AIDS cases have been reported among Hispanics. This represents just 5% of the total AIDS cases reported in Delaware. This may be an under-reported number as providers may

Figure 19.
Delaware Hispanic AIDS Cases
by Year of Diagnosis in Three Year Intervals
through 2001
n=147



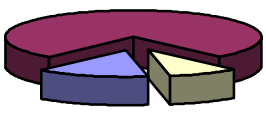
Year Diagnosed in Three Year Intervals

select race based on their assumption of the patient, rather than inquiring about patients' origin. Nationally, Hispanics comprise 18% of AIDS cases. Figure 19 reflects the number of cases diagnosed, in the Hispanic population, since 1984 in three year intervals. The rise and peak in years 1990 through 1995 is attributed to the expanded AIDS case definition in 1993 and delay between diagnosis and reporting of case information.

The majority of Hispanic Delaware cases (77%) are among males. New Castle County has 76% of the Hispanic cases. Just over half the cases were among injecting drug users. See gender distribution by county in Figures 20 and 21. Kent and Sussex Females are merged due to small cell size.

Figure 20.
Distribution of Hispanic Male AIDS Cases
by County through 2001
n=112

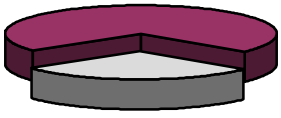
New Castle 77% n=86



Kent 14% n=16 **Sussex 9% n=10**

Figure 21.
Distribution of Hispanic Female AIDS Cases
Cases by County through 2001
n=35

New Castle 71% n=25



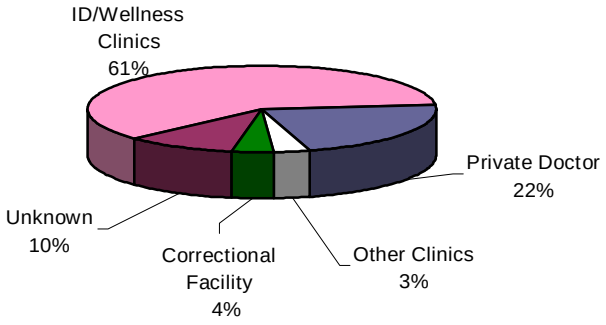
Kent/Sussex 29% n=10

WOMEN

Delaware has received 677 AIDS case reports for women. The majority are Black (80%). The female epidemic in Delaware appears centered in New Castle County (81%). The age range for female cases is 0-76 years; average age at diagnosis was 36 years. Just under half (48%) of all female cases were diagnosed between ages 30-39. Injecting drug use accounts for 347 female AIDS cases (51%). Heterosexual contact with an injecting drug user adds 166 female AIDS cases (25%). Thirteen female pediatric cases were exposed to HIV/AIDS through their mother being an IDU or having sex with an IDU. Therefore, drug use is associated with over three-quarters of the female cases.

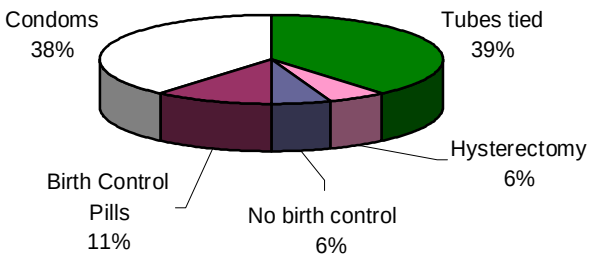
Of the 677 female cases diagnosed fifty-eight percent (n=392) are living. Figure 22 illustrates the HIV treatment locations documented through the end of 2001.

Figure 22.
Treatment Locations for Living Delaware Female AIDS Cases Reporte through 2001
n=392



Reproductive history data from SHAS indicate that of the 31 women interviewed in 2000 – 2001, thirteen (42%) had abstained from sexual intercourse in the past 12 months. Eighteen (58%) stated they had sexual intercourse in the past 12 months. The methods of birth control used by the 18 women who are sexually active are illustrated in Figure
23.

Figure 23.
Delaware Female SHAS Participants Who were Sexually Active in the Past Twelve Months and Method of Birth Control Used Interviewed 2000-2001



COMMERCIALIZED SEX

Questions in Version 6 of the Supplement to HIV/AIDS Surveillance (SHAS) booklet regarding the commercializing of sex are:

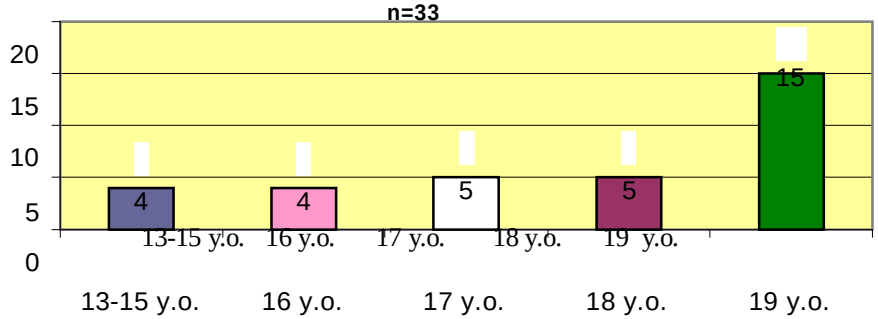
1. Has anyone ever given you money or drugs to have sex with them?
2. In the past 12 months, has anyone given you money or drugs to have sex with them?
3. Have you ever paid money or given drugs to have sex with you?
4. In the past 12 months, have you paid or given drugs to anyone to have sex with you?

Of the 120 SHAS participants interviewed in 2000-2001, thirty-one (26%) related having received money or drugs from a person for sex. Less than 3% of the 31 had accepted drugs or money for sex in the past 12 months. Of the same 120 participants, 40 (33%) related having paid someone drugs or money to have sex with them. Four percent of the 40 paid drugs or money for sex in the past 12 months. More than 80% of the participants who exchanged drugs or money for sex are male. African-Americans accounted for 82% of the participants who exchanged money or drugs for sex.

YOUTH

The first enzyme immunoassay (EIA) for the detection of HIV-1 antibody was available in the U.S. in 1985. Even so, HARS allows for the analysis of adolescent cases where an age at first positive HIV test is known. The data in Figure 24 are retrospective, as it was not available until an AIDS diagnosis was determined. The 33 cases represented are those where it was documented the patient tested positive for HIV when they were greater than 12 years of age and less than 20 years of age

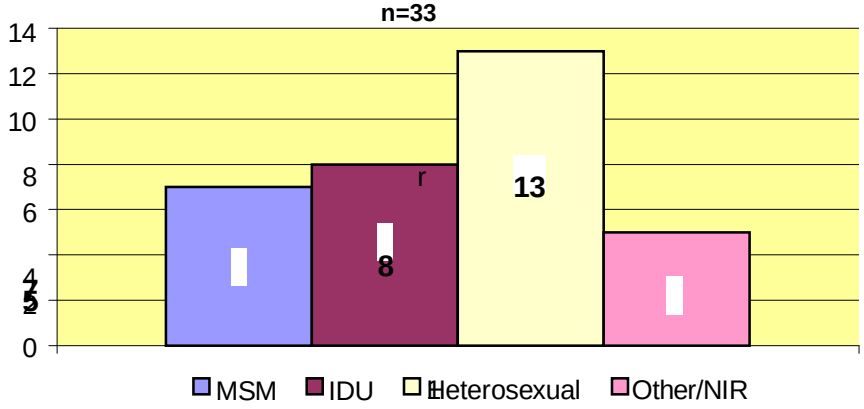
Figure 24.
Age at First Positive HIV Test
for Adult/Adolescent AIDS Cases
Reported in Delaware through 2001
n=33



y.o. = Years Old

The modes of transmission for the cases represented in Figure 24, are as illustrated in Figure 25.

Figure 25.
Delaware Adult/Adolescent AIDS Cases
First HIV Positive Between 13-19 Years of Age
by Mode of Transmission
Reported through 2001
n=33



Youth behaviors and prevention programming are addressed extensively on pages 36-39.

QUESTION 4: WHAT IS THE GEOGRAPHIC DISTRIBUTION OF AIDS?

As previously stated the majority of AIDS cases in Delaware are diagnosed in New Castle County. New Castle County has reported 2157 out of the total 2820 cases reported through December 31, 2001. The City of Wilmington (defined as zip codes 19801, 19802, 19805, and 19806) has reported 1,297 cases. Table 9 shows the 'top five' zip codes for New Castle County where the epidemic has hit.

TABLE 9.
NEW CASTLE COUNTY AIDS CASES BY ZIP CODE OF RESIDENCE AT DIAGNOSIS THROUGH 2001

Zip code (area)	Number of cases reported	Percent of New Castle County cases reported from this zip code
19802 (Wilmington)	550	26%
19801 (Wilmington)	396	19 %
19805 (Wilmington)	302	14%
19720 (New Castle)	217	10%
19977 (Smyrna**)	104	5%

**The town of Smyrna, Delaware geographically extends over two counties where Duck Creek is the county line separating Kent county from New Castle county. The town of Smyrna proper is located south of Duck Creek and shares its zip code with the Delaware Correctional Center (DCC). DCC is north of the dividing creek and located in New Castle County. The cases (n=104) depicted as 19977 in New Castle County table above are inmates diagnosed with AIDS while incarcerated at DCC. The residence at time of diagnosis is used in all case reporting and not the inmate's home address.

WILMINGTON

The Centers for Disease Control and Prevention (CDC) calculates the AIDS case rate for metropolitan areas with populations greater than 500,000. CDC calculated the case rate for Wilmington, January 2001 – December 2001, as 33.6 per 100,000 population. [4]

The majority the 1206 Wilmington AIDS cases are male 71% (n=851). More than half (51%) of the men are IDU. MSM account for 31% of the male cases. Of the 851 men, 662 (78%) are Black. Among the 355 female cases reported from Wilmington, 89% (n=317) are Black. The most frequent mode of transmission among women is IDU with 217 (61%) and 35% were exposed through heterosexual contact.

Seventeen pediatric cases have been reported from Wilmington. Ten of the thirteen were Black, and the remaining were Hispanic.

KENT COUNTY has reported 255 AIDS cases. Sixty-one percent of these cases were reported with Dover zip codes. The remaining cases were reported from across the county, with few zip codes reporting more than 10 cases.

DOVER

Through December 2001, Dover had reported 155 AIDS cases. The majority (66%) are Black. Approximately 42% of the male cases are MSM, and 30% are IDU. Heterosexual contact was the mode of exposure for 64% of the female cases, and IDU accounted for approximately 32% of the female cases.

SUSSEX COUNTY reported 408 AIDS cases. The majority were reported from zip code 19971 (Rehoboth/ Dewey Beach). Table 10 lists the 'top five' zip codes in Sussex County.

TABLE 10.
SUSSEX COUNTY AIDS CASES
BY ZIP CODE OF RESIDENCE AT DIAGNOSIS
THROUGH 2001

Zip code (area)	Number of cases reported	Percent of Sussex County cases reported from this zip code
19971 (Rehoboth/ Dewey)	90	22%
19947 (Georgetown)	57	14%
19973 (Seaford)	50	12%
19966 (Millsboro)	37	9%
19958 (Lewes)	30	
19956 (Laurel)	30	

Sussex County has an AIDS epicenter in the beach area. The HIV/AIDS Epidemiology office defines the beach as zip codes 19930 (Bethany), 19971 (Dewey, Rehoboth), 19944 (Fenwick), 19968 (Milton), 19969 (Nassau), and 19958 (Lewes). One hundred forty-two cases have been reported from the beach. The majority of these cases are White (82%) and male (96%). Table 11 presents a comparison of the beach area to the western part of Sussex County (remaining zip codes in Sussex).

TABLE 11.
DEMOGRAPHIC COMPARISON OF SUSSEX COUNTY AIDS CASES FROM THE BEACH AND NON-BEACH AREAS REPORTED THROUGH DECEMBER 2001

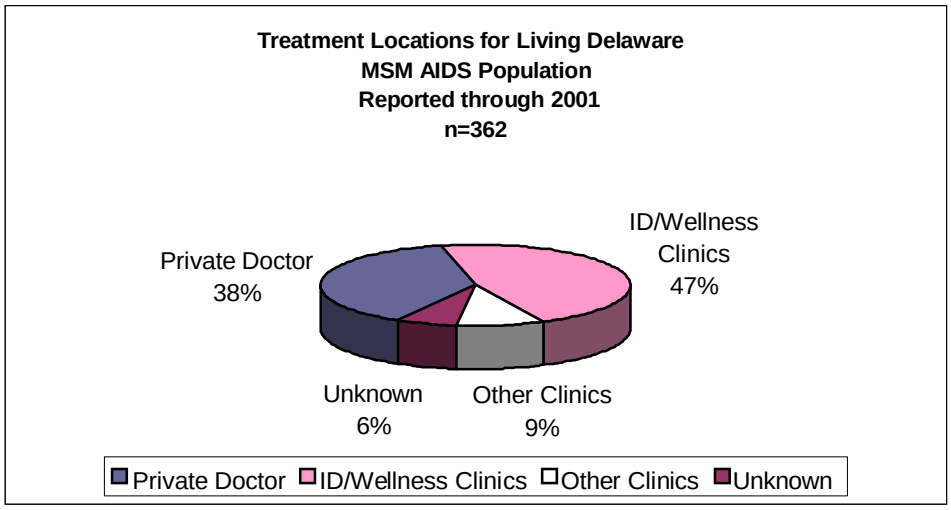
Characteristic	Beach cases (n=142) #	(%)	Non-Beach cases (n= 238) #	(%)
Race				
White	117	82%	90	38%
Black	21	15%	140	59%
Hispanic/Other	4	4%	8	3%
Gender				
Male	137	96%	182	76%
Female	5	4%	56	24%
Mode of exposure				
MSM	118	83%	99	42%
IDU	9	6%	60	25%
MSM/IDU	9	6%	7	3%
Heterosexual	3	2%	60	25%
Risk not identified/Other	3	2%	12	3%

QUESTION 5. WHO IS INFECTED AND WHO IS IN CARE?

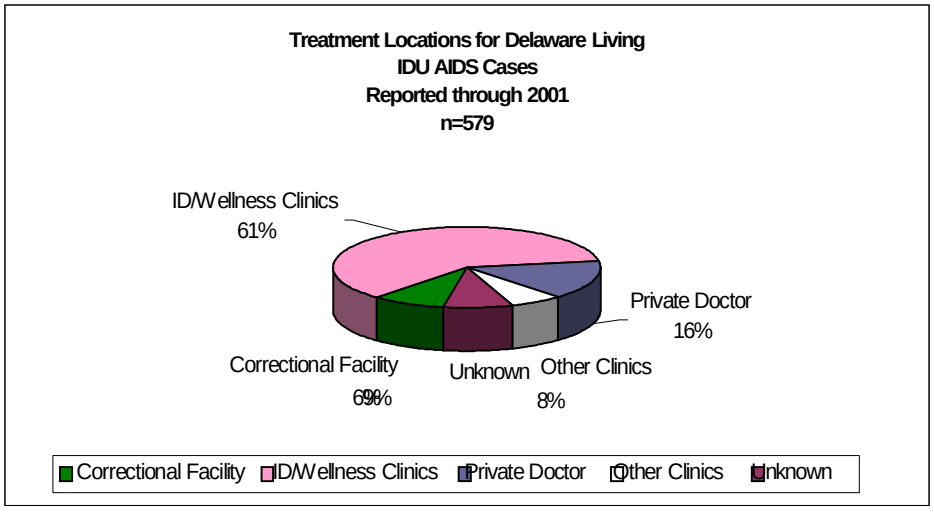
Who is infected and who is in care is addressed in the mode of transmission section, though interspersed throughout the profile. The treatment locations for living Delawareans, in the four major modes of transmission and the female population, are reintroduced here for ease of review.

In the interest of resource planning and allocation of funding, it is of definite interest to note where vulnerable populations choose to receive their care. In the case of patients who are IDU or MSM/IDU, a full 20% more attend an HIV Community Program Clinic, also called ID/Wellness Clinics, for their care. Proximity to the populations served and the general need to access affordable and cutting edge care are attributed to their choices.

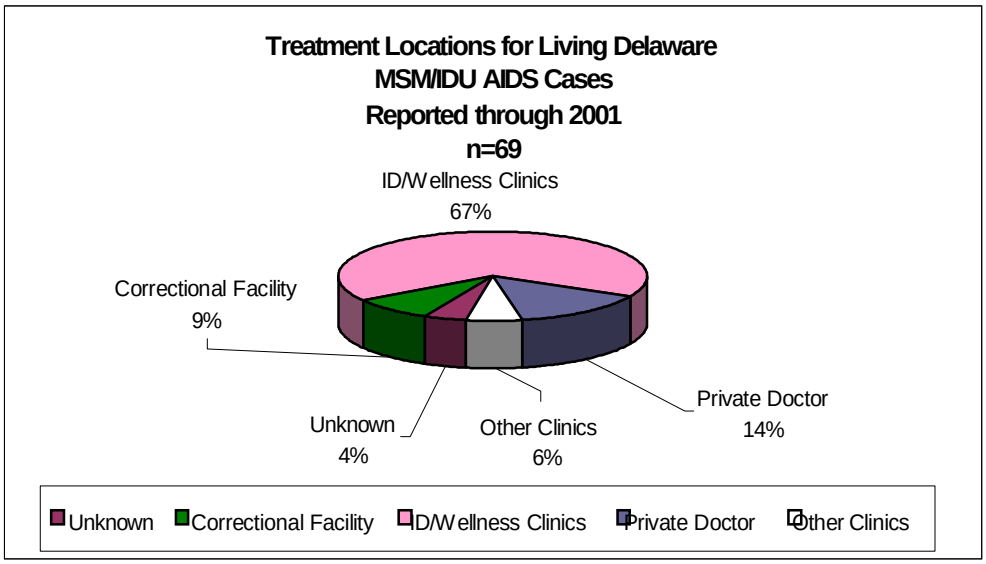
Living MSM Treatment Locations



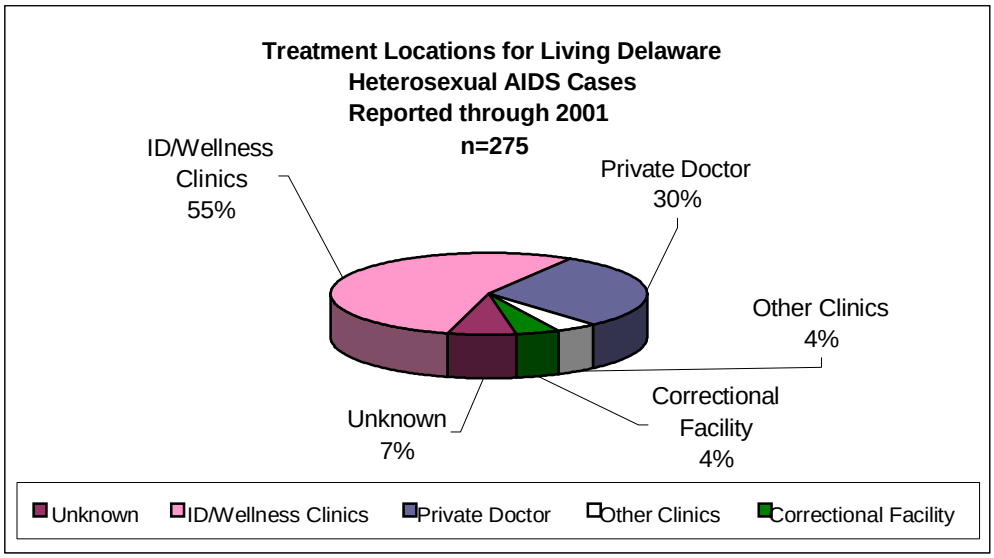
Living IDU Treatment Locations



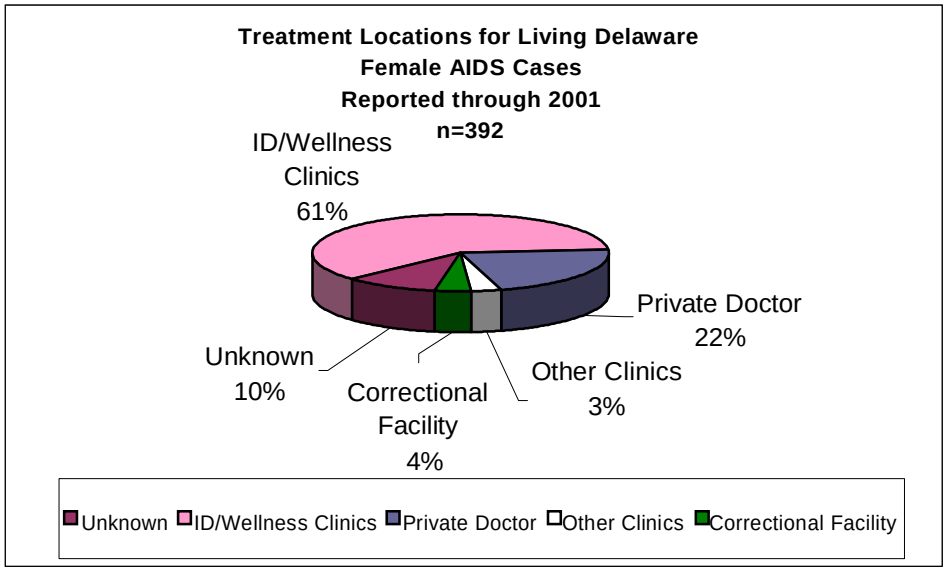
Living MSM/IDU Treatment Locations



Living Heterosexual Treatment Locations



Living Female Treatment Locations



ADDITIONAL DATA SOURCES

COUNSELING AND TESTING (C/T) DATA

Counseling and testing data from the Annual HIV Counseling and Testing Report[4] released March 2002 indicates over 13,500 tests were conducted in 2001. The following tables and graphs were compiled from data extracted from the CTS database for the time frame January 1, 1995 to December 31, 2001. The data utilized is the Counseling and Testing database compiled by the State of Delaware Division of Public Health and courtesy of Disease Prevention and Control Statistician, Carylon S. Comegys.

Table 12.
Number of Clients
Counseled, Tested and Testing Positive
for HIV Antibodies
in Delaware Counseling and Testing Sites
1995-2001

	1995	1996	1997	1998	1999	2000	2001
Total Pretest Counseled	12055	11989	11111	11705	10009	11643	16514
Total Tests Performed	10148	10206	9783	10420	8930	10114	13526
Positive Tests	145	127	130	108	86	116	149

Figures 26 and 27 below illustrate the breakdown of testing and percent positive by race for the year 2001**.**

Figure 26.
Distribution of All Delaware HIV Tests Conducted in 2001 by Race

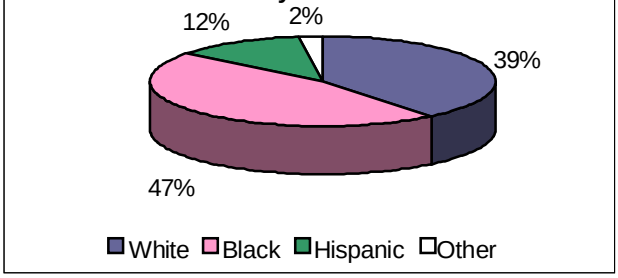
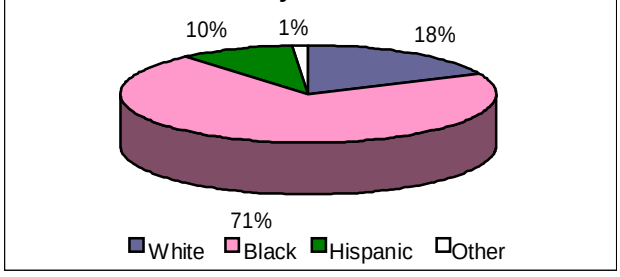


Figure 27.
Distribution of Delaware Positive HIV Tests Conducted in 2001 by Race



Note: “Other”, in figures 26 and 27, includes Asian/Pacific Islanders, American Indian /Alaskan Native, Other, Undetermined and Not Specified. As these groups have such as small representation in the database they have been grouped together for clarity in these graphs.

The Supplemental HIV/AIDS Surveillance (SHAS) provides insight into the participants ways and means of testing and finding out about their HIV antibody status. In response to the following questions it is found:

1. Where were you tested when you had your **first** positive HIV test?
   a. 35 (29%) were in a hospital,
   b. 17 (14%) were in a private physician's office,
   c. 13 (11%) were in a STD clinic,
   d. 12 (10%) in a correctional facility,
   e. 11 (9%) at a HIV C/T site
   f. and the remaining 19 (16%) were in a wide variety of other clinics.

2. When you **first** tested positive for HIV, did someone else recommend you get tested, did you decide to get tested yourself, or was the test required?
   a. 71 (62%) had the test recommended
   b. 43 (36%) decided on their own
   c. 3 (2%) said the test was required

3. When you first tested positive for HIV, what was the **main reason** you were tested?
   a. 69 (58%) said it was due to illness,
   b. 18 (15%) said because they were an MSM or IDU
   c. 9 (8%) said it was because they had sex with someone with HIV
   d. the remaining 24 (19%) had various reasons from "just curious" to "new relationship" to "don't know".

4. When you **first** tested positive for HIV, what type of test did you have?
   a. 83 (69%) indicated confidential
   b. 14 (15%) indicated anonymous
   c. 23 (19%) indicated they didn't know what type of test was done

BRFSS

Behavioral Risk Factor Surveillance Survey[11] for 2000, indicates 17% of the adult Delaware population, age 18-24 believed that their chances of chances of HIV infection were "medium to high". In the age range 25-34, 5.7% of the adults believed their chances of HIV infection were "medium to high". In 2000, a question was added to the survey regarding reason for HIV testing. Responses to the question are as follows:

23.7% - "to see if infected"
19% - "routine physical exam"
13.6% - "pregnancy test"
7.6% - "employment"
6.5% - "hospitalization"
6.5% - "military induction/service

YRBS

Data on the sexual behaviors in Delaware teens are assessed through the Youth Risk Behavior Survey[12,13]. The survey is conducted every two years in high schools around the state and measures six behavioral categories through 87 questions. A summary of information from 1999 and 2001 shows some notable changes in the sexual behavior of youth.

- ü Responses showed positive trends toward decreased levels of sexual activity and improved use of contraception.
- ü The percentage of students who had ever had intercourse decreased by 1.9% from 54.6% to 52.7% (males by 2.1% to 56.1% and females by 1.3% to 49.4%).
- ü Students reporting intercourse with four or more people decreased significantly by 3.6% from 20.3% to 16.7%.
- ü 39.2% of students reporting sexual intercourse with one or more people during the past three months, slightly down from 1999.
- ü 20% of students indicated using birth control pills at the last intercourse (up by 3.3% from 1999).
- ü Condom use remained the same with 62% of students indicating the use of condoms at last intercourse.
- ü Students who had been pregnant or gotten someone pregnant one or more times decreased by 1.6%, a decrease attributed to a decreased percentage of females reporting getting pregnant.

TEEN HOPE

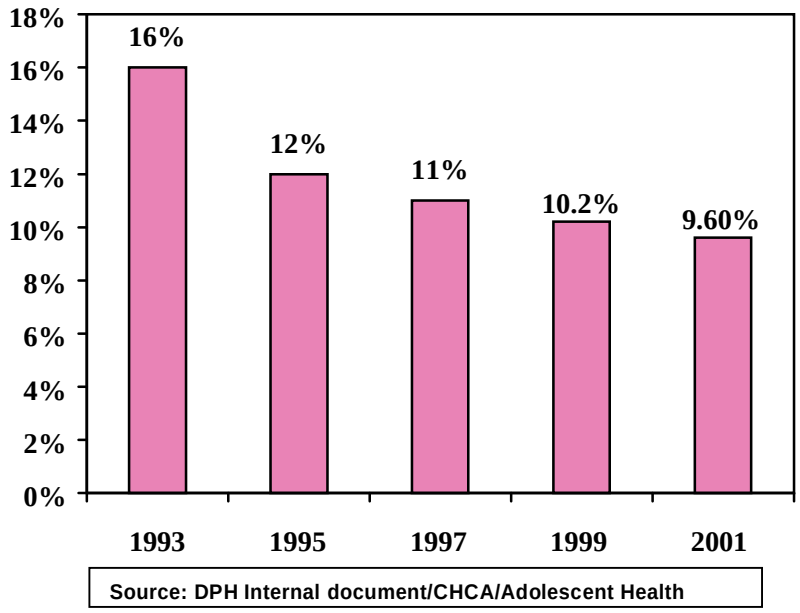
Teen Hope programs are conducted through several School Based Health Centers and gather data around sexual behavior of participants. The survey completed on the student's initial visit to the program is denoted by "1st update". Once the student has participated in the program long enough to have completed 3 additional surveys, the responses to the last survey are compared to the first denoted as "4th update". Table 13 illustrates the comparison of data gathered 1999-2001 for questions specific to abstinence and condom use[13].

Table 13.
Comparison of Survey Responses in Students Participating in Teen Hope Programs in School Based Health Centers for Fiscal Years 1999-2001

Percentage of students who:		FY99	FY00	FY01
a. did not have intercourse in the last month.	1st update	44%	62.3%	69.8%
	4th update	54%	56.1%	62.8%
b. who used a condom every time they had sex in the last month.	1st update	36%	34.4%	48.3%
	4th update	57%	35.7%	55.2%
c. indicated being abstinent	"remained"	25%	41%	50%
	"became"	15%	9%	5%

Source: DPH Internal document/CHCA/Adolescent Health

Figure 28.
Percentage of Delaware Public High School Students Who Had First Sexual Intercourse Prior to Age 13 through 2001 by Year of Survey



TEEN PREGNANCY

Teenage pregnancy rates can provide a glimpse into adolescent sexual activity. The United States spends at least $7 billion annually on costs associated with teenage pregnancy. In 1999, there were 2,157 teenage pregnancies in Delaware among 15-19 year-olds. Table 14 illustrates the gradual but consistent decline in teenage live birth rates in Delaware (highlighted). Teenage live birth rates represent the number of live births in a specific age group (e.g., 15-19) per 1,000 women in that age group[13].

Table 14.
Five-Year Average Teenage Live Birth Rates
US and Delaware through 2000 [7]

Age/Area	90-'94	91-'95	92-'96	93-'97	94-'98	95-'99	96-'00	Change from '99
Teens 15-19								
US	60.1	59.3	57.7	56.0	54.6	52.6	N/A	
Delaware	57.7	58.3	57.9	57.6	57.1	56.3	55.0	↓ 1.3
Teens 15-17								
US	37.8	37.5	36.5	35.3	33.8	32.1	N/A	
Delaware	40.3	40.6	41.0	40.0	39.2	37.3	35.5	↓ 1.8

AAPP, the Alliance for Adolescent Pregnancy Prevention, is a state-wide teen pregnancy prevention initiative with activities managed and administered by Christiana Care, Eugene duPont, Preventive Medicine & Rehabilitation Institute under contract from the Department of Health and Social Services, Division of Public Health[13]. Now in its 6th year, AAPP has had a major influence in the promotion of community programs and increased awareness of teen pregnancy throughout Delaware. AAPP accomplishments include:

- **Targeted Community Programs** focused on teen pregnancy prevention
- **Mini-Grant Awards** resulting in service provision to approximately 850 adults and youth.
- **Sexuality Education** to support community-based programs focusing on sexual responsibility and postponement of sexual activity.
- **Media Campaign Initiatives** featured award-winning advertising for messages like, ***"A Teen Parent's New Set of Wheels" and "If You Think Homework Stinks, Try Changing Diapers".***
- **Resource Centers** distributed more than 10,000 brochures, videos, pencils, pens, magnets and posters, secondary to written requests, telephone calls and in-person visits to the centers
- **Public Information Activities** including the toll-free information and resource line (800-499-WAIT).

SEXUALLY TRANSMITTED INFECTION/DISEASE (STI/STD)

The STD database[14] collects information on patients diagnosed with an STI or STD are helpful as indicators of high-risk activity in the population. Delaware collects data on gonorrhea, chlamydia, and primary and secondary syphilis. Supplemental projects, like the gonorrhea urine-screening project (GUSP), provide behavioral data.

Delaware's chlamydia case rate has continued to rise and move into a national ranking of 4th in 2000. With a case rate of 379 per 100,000 population, Delaware far surpasses the US case rate of 262 per 100,000 population[15]. The majority, 79% of cases reported in 2000, were between the ages of 15-24 (n=2267). Eighty percent of the chlamydia cases in 2000 were in women (n=2271). African American females (n=1414) accounted for 62% of the 2000 chlamydia cases. Table 15 describes the increasing chlamydia case rate for Delaware.

TABLE 15.
DELAWARE CHLAMYDIA CASES
AND CASE RATE PER 100,000 POPULATION
1995-2000

Delaware	1995	1996	1997	1998	1999	2000
Cases reported	2,701	2,271	2,613	2,608	2,716	2,856
Case rate/per 100,000 population	376.6	313.9	357.2	350.7	371.3	379.0

Gonorrhea remains a large problem in Delaware. Delaware ranked sixth for 2000 reported cases (n=1735). Delaware's case rate was 230 per 100,000 population, compared to the national rate of 131 per 100,000 population. In 2000, Delaware reported 748 male and 987 female gonorrhea cases. Table 16 depicts the distribution of Delaware gonorrhea cases by year of report and gender.

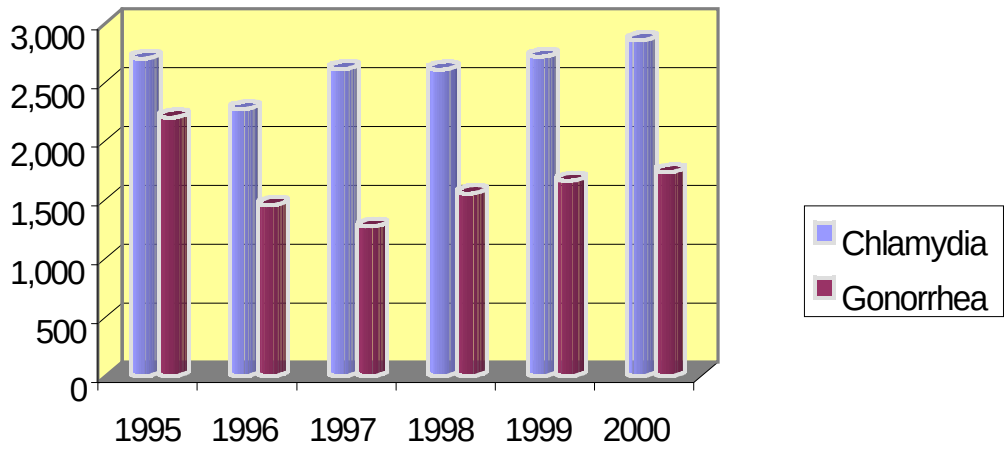
TABLE 16.
DELAWARE GONORRHEA CASES
BY YEAR OF REPORT AND GENDER
1995-2000 [11]

	1995	1996	1997	1998	1999	2000
Male	1030	657	658	701	750	748
Female	1171	799	705	855	912	987
Total	2201	1456	1273	1556	1662	1735

Delaware's primary and secondary syphilis rates are decreasing minimally. The 2000 case rate was 1.2 per 100,000 population, resulting in Delaware's moving up one place within the state ranking from 22nd to 21st. Our rate continues to be below the national rate of 2.2 per 100,000 population[15].

Another view of Delaware's increasing problems with chlamydia and gonorrhea is illustrated in Figure 29.

Figure 29.
Delaware Cases of Chlamydia and Gonorrhea
by Year of Diagnosis
1995 - 2000



The Supplement to HIV/AIDS Surveillance (SHAS) interview includes questions on past history of sexually transmitted diseases. Clients are asked to indicate all the sexually transmitted diseases that have been diagnosed. Persons infected with a STD are more susceptible to recurrent infection and are likely engaging in risky sexual behavior. This population needs increased attention and education about safe sexual practices. More than half, 56% of the SHAS clients, interviewed in 2000-2001, reported having had a diagnosis with genital, oral or rectal gonorrhea. Other sexually transmitted diseases, including syphilis, genital warts, herpes, and chlamydia were reported by at least 15% of the SHAS clients. Seven (6%) of the 120 SHAS participants, attested to being treated for a STD in the last 12 months.

SURVEY OF CHILDBEARING WOMEN (SCBW)

Delaware HIV/AIDS Epidemiology participated in HIV seroprevalence surveys between 1989 and 1993. The Centers for Disease Control and Prevention (CDC) funded the early studies on selected Delaware populations. State funds were used to re-institute the survey of childbearing women in 1999.

During the period June 1999 through July 2000, a total of 12,650 specimens were tested through the Survey of Childbearing Women[16]. A total of nineteen specimens were positive for HIV (0.15%). Twelve of the nineteen positive tests were among African-American women. Fifty-three percent of positive women were younger than 24 years. Eleven of nineteen reside in New Castle County. None of the positive women were Hispanic, according to survey results.

The SCBW indicates the HIV epidemic is hitting hard among young African-American females, especially in Wilmington and New Castle County.

CONCLUSIONS

The State of Delaware has had 2,820 resident cases reported since reporting began in 1981 through the end of 2001. Almost half of Delaware's AIDS cases are living with the virus.

New Castle County, more directly Wilmington, continues to be home to 77% of the AIDS cases reported cumulatively through 2001. Those primarily affected are African-American, IDU and male. There appears to be an increase in the number of Black men being reported as MSM, though more time is needed to measure whether the increase proves to be a trend.

Eighty-one percent of the male AIDS cases statewide are either men who have sex with men or intravenous drug users. Sixty-one percent of the men are African-American and 75% of the males live in New Castle County.

The female cases in Delaware are predominately African-American (80%). County of residence at AIDS diagnosis is 81% New Castle County. Fifty-one percent of the female cases are IDU. When combined with heterosexual contact with an IDU the percentage of women in Delaware who are IDU or IDU associated soars to 75%.

Through the end of 2001, ninety percent of the people living with AIDS were known to be receiving their HIV care here in Delaware. The remaining 10% have no treatment location documented and may or may not be in treatment for their HIV.

It is of major significance to note that 60% of those in care are documented as attending a clinic associated with the HIV Community Program through Christiana Care Health Services. Of further interest, patients attending CCHS clinics are Delaware's most vulnerable populations. Private physicians and the Veteran's Administration Medical Center are treating another 38% and 2% percent are in a correctional facility or other clinic setting.

ACKNOWLEDGEMENTS

Surveillance officers collected data provided in this Epidemiologic Profile. With a grateful heart, I thank them for their diligence and persistence in collecting the quality data. New Castle County medical providers report cases to John Miller. Kent and Sussex County providers report cases to Carolyn Blessing. John and Carolyn are also responsible for recruiting and interviewing SHAS clients. Case managers, public and private agencies, and clinic staff provided assistance recruiting SHAS clients. Our appreciation to all involved in recruiting SHAS participants. Thank you to Ainbint Munn, Secretary, for her assistance in unsnarling my charts and tables. A special thanks to my mentor, Judith Gendler Epstein. Clearly a hard act to follow, Judy's support and guidance was never lacking. Thanks Judy!

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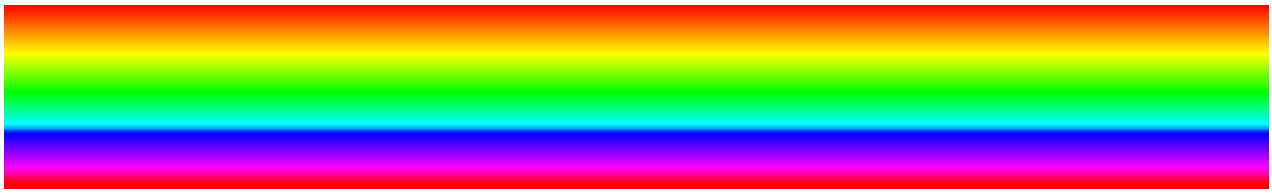
Department of Health and Social Services
Division of Public Health Disease
Prevention and Control
HIV/STD/Hepatitis C Program
HIV/AIDS Surveillance



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