HIV/AIDS EPIDEMIOLOGIC PROFILE FOR THE STATE OF NEW JERSEY 2003

James E. McGreevey
Governor

Division of HIV/AIDS Services

"…preventing disease with care"

Clifton R. Lacy, M.D.

Commissioner

Acknowledgements

This statewide Epidemiologic Profile for the Division of HIV/AIDS Services (DHAS) became a reality due to the support and tireless dedication of key staff within the Division. We gratefully acknowledge the contributions of the following:

Virginia Allen
Barbara Bascara
Barbara Bolden
Helene Cross
Lisa Cummings
Rita Cseh
Linda Dimasi
Sally D'Ericco
Patricia Fleming
Laurence E. Ganges
Clara Gregory
Carmine Grasso
Zona Hall
Abdel Ibrahim
Susan Ju
Lawrence Kane
Peter Khurana
Rose Marie Martin
Cynthia Mozee
Sindy M. Paul
Joseph Ramirez
John Ryan
Charlotte Sadashige
Steve Saunders
Deborah Wells
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The Division of HIV/AIDS Services

Mission Statement

The Division of HIV/AIDS Services (DHAS) mission is to prevent, treat, and reduce the spread of HIV in New Jersey. In keeping with this mission, the DHAS will monitor the epidemic, and assure through its resources that individuals who are at risk for or infected with HIV have access to culturally competent, community-based networks that provide qualitative and comprehensive services.

Vision

Consistent with the mission, the DHAS vision for providing HIV services is a coordinated community and statewide effort supported by public and private partnerships to provide comprehensive services that assure:

- All residents, regardless of age, race, gender, class, sexual orientation, or ethnic background, are equipped with appropriate information to make informed behavioral decisions and choices that will not place them and those with whom they interact at risk for HIV infection;
- Support for strong, positive community attitudes and social norms;
- Communities have the necessary resources for prevention, testing, and interventions to reduce the spread of HIV/AIDS, and
- Communities have the necessary comprehensive, community-based, culturally competent, affordable network of care services to maximize the quality of life for those individuals living with HIV/AIDS.

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Section 1 - Introduction

This statewide Epidemiologic Profile provides a comprehensive analysis of the Human Immunodeficiency Virus and Acquired Immunodeficiency Virus (HIV/AIDS) epidemic in New Jersey. It is a useful tool for planners and providers working to prevent and reduce the spread of HIV in New Jersey. Specifically, the profile summarizes the socio-demographic characteristics of the population; describes the impact of HIV/AIDS on the population; identifies those at risk for becoming HIV infected, and describes the geographic distribution of the epidemic. The epidemiologic profile is written for use by all individuals interested in understanding, planning for, or providing services to those affected by HIV/AIDS in New Jersey.

The profile addresses the following questions:

- **What are the socio-demographic characteristics of the general population in New Jersey?**
- **What is the scope of the HIV/AIDS epidemic and its effect on communities, families and individuals in the State?**
- **What are the indicators of risk for HIV/AIDS infection among New Jersey's residents?**
- **What are the barriers and challenges to preventing the spread of HIV and providing treatment for persons living with HIV in New Jersey?**

Profile Strengths and Limitations

When making planning decisions, it is important to consider the overall strengths and limitations of the available data.

Some of the strengths of this profile are:

- New Jersey has had a comprehensive HIV/AIDS reporting system (HARS) for over twenty years that includes information on demographic characteristics, clinical and laboratory findings, and transmission risk.
- New Jersey has had Enhanced Perinatal Surveillance for 10 years, a system that follows children born to HIV positive mothers; and has continued the Survey of Childbearing Women (SCBW) without federal funding.

- New Jersey participates in several surveys of health behavior including the Behavioral Risk Factor Surveillance System (BRFSS), the HIV Testing Survey (HITS), and the Supplemental HIV/AIDS Surveillance (SHAS) system.

- New Jersey has conducted several anonymous unlinked surveys (AUS) of the HIV epidemic.

Some of the limitations of this profile are:

- Information is not available on persons who are HIV positive but not reported, or who have not been tested.

- Information may be incomplete due to reporting delays and missing data on a person's exposure to HIV.

- Information may be lacking due to incomplete information on those persons who are diagnosed with HIV in New Jersey and reported to the data system but relocate out of the State.

Data Sources

In order to present an accurate description of the epidemic we have used data from multiple sources. The most current analysis available is presented for each source of data; however, the time frames differ from one source to another. For example, the most complete United States Census data set available is for the year 2000. Data from special studies are presented for the year in which the studies were done. Below is a list of the data sources used in this profile. A more detailed description of each data source can be found in Appendix A.

- Anonymous Unlinked Surveys;
- Behavioral Risk Factor Surveillance System (BRFSS);
- Enhanced Perinatal Surveillance;
- HIV Testing Survey;
- HIV/AIDS Surveillance;
- National Sexually Transmitted Disease Surveillance;
- New Jersey Alcohol and Drug Abuse Data System (ADADS);
- New Jersey Death Data;
- Supplemental HIV/AIDS Surveillance System (SHAS);
- Uniform Billing Hospital Discharge Data (UB-92), and
- United States Census Bureau.

Data Definitions

Some of the definitions used in this Epidemiologic Profile are provided to assist in understanding HIV/AIDS data and to provide information on why some data are included.

- An **HIV case** is a person diagnosed and reported to the State's HIV/AIDS Reporting System (HARS) with HIV infection. An **AIDS case** is a person with HIV infection who has an opportunistic infection or a CD4 (+) count of less than 200cu mm or whose proportion of CD4 (+) T-lymphocytes is less than 14% of their total lymphocytes and who has been reported to the HARS. All AIDS cases are persons infected with HIV, but not all persons infected with HIV are AIDS cases.

  Note: Since the HIV disease may be seen as a continuum, throughout this profile the data will be shown on HIV/AIDS when possible. In addition, when comparisons of New Jersey are made to the rest of the nation, only AIDS cases can be reported because a standardized national system of named reporting of HIV cases is not available.

- **Cumulative cases** include all cases that have been diagnosed and reported since 1982, including those individuals who have died.

- **Prevalence** is the total number of individuals who have been diagnosed with HIV/AIDS, minus those who have died. This profile provides data on **reported prevalence** by using the number of persons **living with HIV or AIDS** who have been diagnosed, reported to the HARS and are not known to have died. It does not include data on persons who are infected, but who have not been diagnosed and/or reported to HARS.

- **Incidence** is the number of new cases within a given period of time. This profile includes **reported incidence,** the number of persons who have been diagnosed during the year and reported to the HARS. Since the actual date of HIV infection is not known, the date of diagnosis is used.

  Note: Because rates account for differences in the size of sub-populations, the use of rates is essential for comparing different population categories at different times or places.

- A **rate** is the number of cases (of a condition or event) divided by the total population exposed to the condition or event in a given time period. A rate is often expressed as cases per 100,000. In this profile, **reported prevalence rates** are based on HIV/AIDS cases that were reported to HARS and are not known to have died. Actual prevalence rates are reported only for specific sub-populations for which special studies were conducted.

- Reported incidence rates are based on the number of cases reported as diagnosed during the year.

- Incident infections can only occur if prevalent infections exist. In other words, the disease must be transmitted from someone who already has it. Although **incidence** and **prevalence** are different**,** they are related and both are important to consider in planning for prevention, as well as, care and treatment.

- Following diagnosis, it can take over 18 months for cases of HIV/AIDS to be included in the HARS. Therefore, the most complete data currently available for persons living with HIV/AIDS (PLWHA) in the State of New Jersey are cases **diagnosed through 2001**. The best available source for population size, however, is the 2000 United States census. To ensure the accuracy of the information included in the Epidemiologic Profile when calculating rates and/or making comparisons of groups, this profile used data for cases **diagnosed in 2000.** This includes most tables of **reported incidence and prevalence**.

- Exposure category is determined using a hierarchy so that each individual is reported in only one risk category. Those individuals with HIV/AIDS for whom a mode of transmission has not yet been established are identified as **"unknown."** A more complete description of exposure category is in Appendix B.

- **Anonymous unlinked surveys (AUS)** use blood that remains after tests of routinely collected specimens are completed in various health care settings. Because the blood samples are stripped of all personal identifiers before they are tested for HIV, testing does not require the consent of the individual. The AUS is one of the only means of assessing HIV in people who have not voluntarily been tested for HIV. The AUS method is one way to provide a true estimate of HIV prevalence in a specific group of people without using information on individuals. However, AUS does not give information on individuals. AUS provide unbiased, accurate data on the current status and the direction of the HIV epidemic in specific populations. Although the AUS is a useful tool in assessing HIV in population groups and providing reliable information for prevention planning and resource allocation, to ensure the results are both anonymous and unlinked, AUS does not provide much demographic information.

Section 2 - Socio-demographic Characteristics of the General Population in New Jersey

Description of New Jersey

Lying between New York City and Philadelphia, in the heart of a highly urbanized area, New Jersey is a geographically small, but heavily populated State. With over 8.4 million people (three percent of the total national population), New Jersey is the ninth most populated State, but the fifth smallest geographically.

New Jersey is one of the most urbanized states in the nation. According to the United States Census Bureau, New Jersey is the most densely populated State, with 1,134 people per square mile (the national population density is 80 persons per square mile) and is the only State in which all counties are officially classified as metropolitan.

Demographics

According to the 2000 Census, population estimates (Table 1), 67.0 percent of the population of New Jersey were White non-Hispanic; 13.6 percent were Black non-Hispanic; 6.1 percent were Asian/Pacific Islander; 13.3 percent were Hispanic; and fewer than one percent were Native American/Alaskan Native. New Jersey is more racially and ethnically diverse than most other states in the nation. Slightly more residents of New Jersey were female (51.5%) than male (48.5%) in 2000.

Table 1 - Percentage Distribution of the Population of New Jersey by Race/Ethnicity and Gender

Race/ethnicity	Male, % N=4,082,813	Female, % N=4,331,537	Total, % N=8,414,350
Hispanic	13.9	12.7	13.3
White non-Hispanic	66.7	67.3	67.0
Black non-Hispanic	13.1	13.9	13.6
Native American/Alaskan Native	0.2	0.2	0.2
Asian/Pacific Islander	6.1	5.9	6.0

Source: US Census Bureau April 1, 2000 Bridged Population Estimates

According to the 2000 Census, New Jersey had the seventh highest number of Hispanics in the United States. Hispanics represented 9.6 percent of the State's population in 1990 and 13.3 percent in 2000. Persons of Hispanic origin (of any race) accounted for approximately 55.2 percent of New Jersey's total population growth from 1990 through 2000. The Hispanic population grew 51.0 percent during this decade, outpacing the 4.4 percent growth rate in the non-Hispanic population. By 1997, there were estimated to be more than one

million Hispanic residents in the State, and the population grew to 1,117,191 according to the 2000 Census.

During the decade of the 1990s, however, the fastest growing population in New Jersey was Asian/Pacific Islanders (85.7% increase). This was a continuation of the high growth rate among this population during the 1980s. With an estimated population of 514,273 persons of Asian or Pacific Islander background, New Jersey ranked fifth nationally in numbers of Asian or Pacific Islander residents in the 2000 Census. New Jersey's six percent of the total population was the highest proportion of Asian or Pacific Islanders outside the nation's West Coast. Only three western states (Hawaii, California and Washington) had higher proportions of Asian or Pacific Islanders.

From the 1990 to the 2000 censuses, the Black population in New Jersey increased by 16.8 percent. Blacks (including Hispanics) represented 14.8 percent of the State's population in 2000. With a population of 1,124,469 in 2000, New Jersey's Black population ranked thirteenth in the nation.

The Native American and Alaska Native population is estimated to have grown by 82.1 percent in the State between the censuses of 1990 and 2000. Current estimates reveal that there are 28,778 residents of Native American/ Alaska Native origin (including Hispanics) in the State, representing 0.3 percent of the total population.

Between 1990 and 2000, New Jersey's White population (including Hispanics) increased by 4.1 percent. With a population of 6,629,830, New Jersey had the ninth highest White population among the fifty states in 2000. Almost one third of New Jersey residents were between 25 and 44 years of age (Table 2). A larger proportion of the male population is under 45 years of age compared to females (66.5% for males versus 61.8% for females). The larger number of females in the 65 and older age category is a reflection of the longer life expectancy of females. According to the 2000 Census, New Jersey's population is older than the national average (median age 36.7 years in New Jersey compared to 35.3 years nationally). The percentage of the population aged 65 and older is 13.3 percent in New Jersey compared to 12.7 percent nationally. Similar to the national trend, the oldest age group (85 years and over) is growing at the fastest rate in New Jersey.

Table 2 - Percentage Distribution of the Population in New Jersey by Age Group and Gender

Age Group	Male, % N=4,082,813	Female, % N=4,331,537	Total, % N=8,414,350
0 – 12	19.2	17.3	18.2
13 – 24	15.5	13.9	14.6
25 – 44	31.8	30.6	31.2
45 – 64	22.5	22.9	22.7
65+	10.9	15.4	13.2

Source: US Census Bureau April 1, 2000 Bridged Population Estimates

In Essex and Hudson Counties, the State's majority racial/ethnic group (White non-Hispanic) is the minority. In Essex County the largest racial/ethnic group is Black non-Hispanic; in Hudson County the largest racial/ethnic group is Hispanic (Table 3). The largest concentrations of Hispanics are in Hudson, Passaic, Union and Cumberland Counties. The largest concentrations of Black non-Hispanics are in Essex, Union, Mercer, and Cumberland Counties. The largest concentrations of Asian/Pacific Islanders are in Middlesex and Bergen Counties.

Table 3 - Percentage Distribution of the Population in New Jersey by Race/Ethnicity and County of Residence

County	Population No.	Hispanic	White non-Hispanic	Black non-Hispanic	Native American/ Alaskan Native	Asian/ Pacific Islander
Atlantic	252,552	12.2	64.8	17.5	0.2	5.3
Bergen	884,118	10.3	73.2	5.3	0.1	11.0
Burlington	423,394	4.2	77.3	15.4	0.2	2.9
Camden	508,932	9.7	68.4	17.8	0.2	3.9
Cape May	102,326	3.3	90.6	5.2	0.2	0.7
Cumberland	146,438	19.0	59.2	19.9	0.9	1.0
Essex	793,633	15.4	38.7	41.7	0.2	4.0
Gloucester	254,673	2.6	86.4	9.2	0.2	1.6
Hudson	608,975	39.8	37.3	12.8	0.2	10.0
Hunterdon	121,989	2.8	92.7	2.3	0.1	2.1
Mercer	350,761	9.7	65.0	20.0	0.2	5.2
Middlesex	750,162	13.6	62.9	9.0	0.2	14.3
Monmouth	615,301	6.2	81.3	8.2	0.1	4.2
Morris	470,212	7.8	82.7	2.8	0.1	6.6
Ocean	510,916	5.0	90.5	3.0	0.1	1.4
Passaic	489,049	30.0	53.0	12.9	0.2	4.0
Salem	64,285	3.9	80.2	14.8	0.4	0.7
Somerset	297,490	8.7	74.9	7.6	0.1	8.7
Sussex	144,166	3.3	94.1	1.1	0.1	1.3
Union	522,541	19.7	55.3	20.8	0.1	4.0
Warren	102,437	3.7	92.9	2.0	0.1	1.4
Total	**8,414,350**	**13.3**	**67.0**	**13.6**	**0.2**	**6.0**

Source: US Census Bureau April 1, 2000 Bridged Population Estimates

Socio-economic Status

According to the 2000 Census, New Jersey's median household income ($54,149) ranks first in the nation. As a result, the percentage of New Jersey's population living in poverty is much lower than in the nation as a whole. Less than nine percent of New Jersey's residents (8.5%) had incomes below the level of poverty compared to 12.4 percent nationally (Table 4). However, in six of New Jersey's 21 counties, more than 10 percent of the population is living below the poverty line. Three counties (Cumberland, Essex, and Hudson) have 15 percent or more of their population below the poverty level.

Table 4 - Percentage of New Jersey Population Under the Poverty Level by County in 1999

County	Percent under poverty level
Atlantic	10.5
Bergen	5.0
Burlington	4.7
Camden	10.4
Cape May	8.6
Cumberland	15.0
Essex	15.6
Gloucester	6.2
Hudson	15.5
Hunterdon	2.6
Mercer	8.6
Middlesex	6.6
Monmouth	6.3
Morris	3.9
Ocean	7.0
Passaic	12.3
Salem	9.5
Somerset	3.8
Sussex	4.0
Union	8.4
Warren	5.4
Entire State	**8.5**

Source: US Census Bureau

From the Current Population Survey conducted in 2001 and 2002, it was found that for individuals 19 through 64 years of age, 17 percent of men and 15 percent of women reported that they did not have health insurance coverage. Most men (76%) and women (75%) in New Jersey were covered by employer based health care insurance. However, coverage through individual plans is small and equal for both men and women (3%). New Jersey's Medicaid program accounts for four percent and six percent of insurance coverage for men and women, respectively (Table 5).

Table 5 - Percentage of Population 19 through 64 Years of Age in New Jersey by Insurance Status and Gender for 2000 and 2001

	Male, % N=2,543,750	Female, % N=2,662,120
Employer	76	75
Individual	3	3
Medicaid	4	6
Uninsured	17	15
Total	100	100

Source: Urban Institute and Kaiser Commission on Medicaid and the Uninsured. U.S. Census Bureau, Current Population Survey.

In New Jersey, 82.1 percent of the State's residents (aged 25 years and over) have high school diplomas, compared to 80.4 percent nationally (Table 6). Almost 30 percent of New Jersey residents have bachelor's degrees, compared to 24.4 percent nationally. The counties with the lowest percentages of high school graduates are Cumberland, Hudson, and Passaic. The counties with the highest percentage of high school graduates are Hunterdon, Morris and Sussex.

Table 6 - Percentage of Population 25 Years or Older in New Jersey with High School Diplomas or Higher by County

County	High school diploma or higher	Bachelor's degree or higher
Atlantic	78.2	18.7
Bergen	86.6	38.2
Burlington	87.2	28.4
Camden	80.3	24.0
Cape May	81.9	22.0
Cumberland	68.5	11.7
Essex	75.6	27.5
Gloucester	84.3	22.0
Hudson	70.5	25.3
Hunterdon	91.5	41.8
Mercer	81.8	34.0
Middlesex	84.4	33.0
Monmouth	87.9	34.6
Morris	90.6	44.1
Ocean	83.0	19.5
Passaic	73.3	21.2
Salem	79.4	15.2
Somerset	89.6	46.5
Sussex	89.8	27.2
Union	79.3	28.5
Warren	84.9	24.4
Entire State	**82.1**	**29.8**

Source: US Census 2000

NOTES

Section 3 – Overview of the Epidemic

In the third decade of the HIV epidemic in the United States, there is still no vaccine or cure. Although successful public health efforts have reduced the number of annual new infections from over 150,000 in the late 1980s to about 40,000 today, the fight to end HIV/AIDS related illness and death continues.

Following the introduction of combination antiretroviral therapy in the 1990s, the number of deaths and new AIDS cases in the United States began to decline for the first time in the history of the epidemic. Between 1995 and 1998, the annual number of new AIDS cases fell by 38 percent (from 69,242 to 42,832) and deaths by 63 percent (from 51,760 to 18,823). According to the Centers for Disease Control and Prevention (CDC), declines in morbidity and mortality have stabilized in more recent years.

Nationally, minorities have been disproportionately affected by HIV/AIDS. Black non-Hispanics, who represent only 14 percent of the U.S. population, account for 38 percent of the cumulative AIDS cases and 54 percent of new HIV infections. Hispanics, who comprise about 12 percent of the U.S. population, account for 18 percent of the cumulative AIDS cases and 19 percent of new HIV infections.

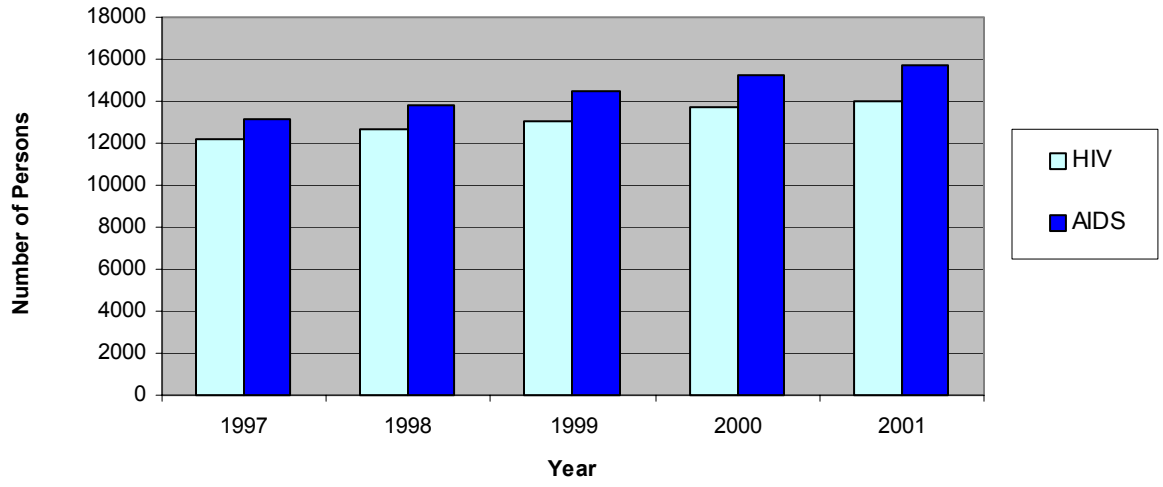
During the past two decades, nearly 60,000 New Jersey residents have been reported with HIV/AIDS and just under half of these individuals have died. As of December 2001, New Jersey had a cumulative total of 43,009 AIDS cases reported. There were also 16,412 persons reported with HIV (not AIDS) in the State as of that date. Nationally, New Jersey ranks fifth in cumulative AIDS cases, third in cumulative pediatric AIDS cases, and has the highest proportion of women among the cumulative AIDS cases.

From the beginning of the HIV/AIDS epidemic, New Jersey differed from the national profile. In the early years of the epidemic, injection drug users represented the largest proportion of AIDS cases in New Jersey, while men who have sex with men represented the largest proportion of AIDS cases nationally. New Jersey reported HIV infections in large numbers of women and minorities in the mid to late 1980s, well before most of the country saw large numbers in that group.

The estimated number of persons living with HIV/AIDS has increased 18 percent from 1997 to 2001 (Figure 1). The increase in the number of persons living with HIV/AIDS over that five-year period may be due to one or more of the following:

- The introduction of effective antiretroviral therapy in 1996
- Improved medical management
- New incidence of HIV/AIDS
- A decrease in the number of deaths due to HIV/AIDS.

Figure 1 - Estimated Persons Living with HIV/AIDS in New Jersey 1997-2001



Source: New Jersey HARS as of 12/31/2002

In 2000, there were an estimated 28,991 persons living with HIV/AIDS (PLWHA) in the State (Table 7). In that same year, 2,606 persons were newly diagnosed with HIV/AIDS. Of the total number of people living with HIV/AIDS in 2000, 18,622 (64%) were male and 10,369 were female. Of those diagnosed in 2000, 1,754 (67%) were male and 852 were female.

Although Black non-Hispanics comprise 13.6 percent of the State's population, they account for 56 percent of persons living with HIV/AIDS and 57 percent of newly diagnosed cases in 2000. Hispanics comprise 13.3 percent of New Jersey's residents, 20 percent of the persons living with HIV/AIDS in 2000, and 20.3 percent of newly diagnosed persons. Sixty-seven percent of New Jersey's residents in 2000 were White non-Hispanics. However, White non-Hispanics accounted for only 22 percent of the total number of persons living with HIV/AIDS and 20 percent of persons diagnosed in 2000.

Approximately, 62 percent of persons living with HIV/AIDS in New Jersey are between 25 and 44 years of age. By contrast, this age group accounts for 31.2 percent of New Jersey's population. In 2000, over 65 percent of newly diagnosed cases were between the ages of 25 and 44. Persons living with

HIV/AIDS between 45 and 64 years of age represented 32.5 percent of the total number of persons living with HIV/AIDS and 22.7 percent of the population. Over 25 percent of the newly diagnosed persons were in this age group.

Approximately, one third (35.6%) of PLWHA in 2000 were exposed through injection drug use (IDU) and another 36.0 percent through sexual contact (heterosexual or male-to-male). Of the new cases in 2000, 23.5 percent were exposed through IDU and 44.3 percent through sexual contact. Mode of exposure has not been identified for almost one quarter (23.2%) of PLWHA in 2000 and for 30.0 percent of those diagnosed in 2000.

Table 7 - Overview of HIV and AIDS in New Jersey for the Year 2000

	Estimated Living with HIV/AIDS	Diagnosed HIV/AIDS in 2000
Gender		
Male	18,622	1,754
Female	10,369	852
Race/Ethnicity		
Black, non-Hispanic	16,278	1,485
Hispanic	5,888	529
White, non Hispanic	6,427	519
Other/Unknown	398	73
Age Group	**Age as of 12/31/2000**	**Age at first HIV or AIDS Diagnosis**
0 – 12	509	16
13 – 24	711	161
25 – 44	17,920	1,705
45 – 64	9,411	680
65+	440	44
Exposure Category		
MSM	4,916	484
IDU	10,317	613
MSM and IDU	845	42
Heterosexual Contact	5,529	670
Mother with/at Risk for HIV	666	14
Other/Unknown[a]	6,718	783
Total	**28,991**	**2,606**

a. Other/Unknown are combined due to the low number of cases in the 'other category.'
Source: New Jersey HARS as of 12/31/2002

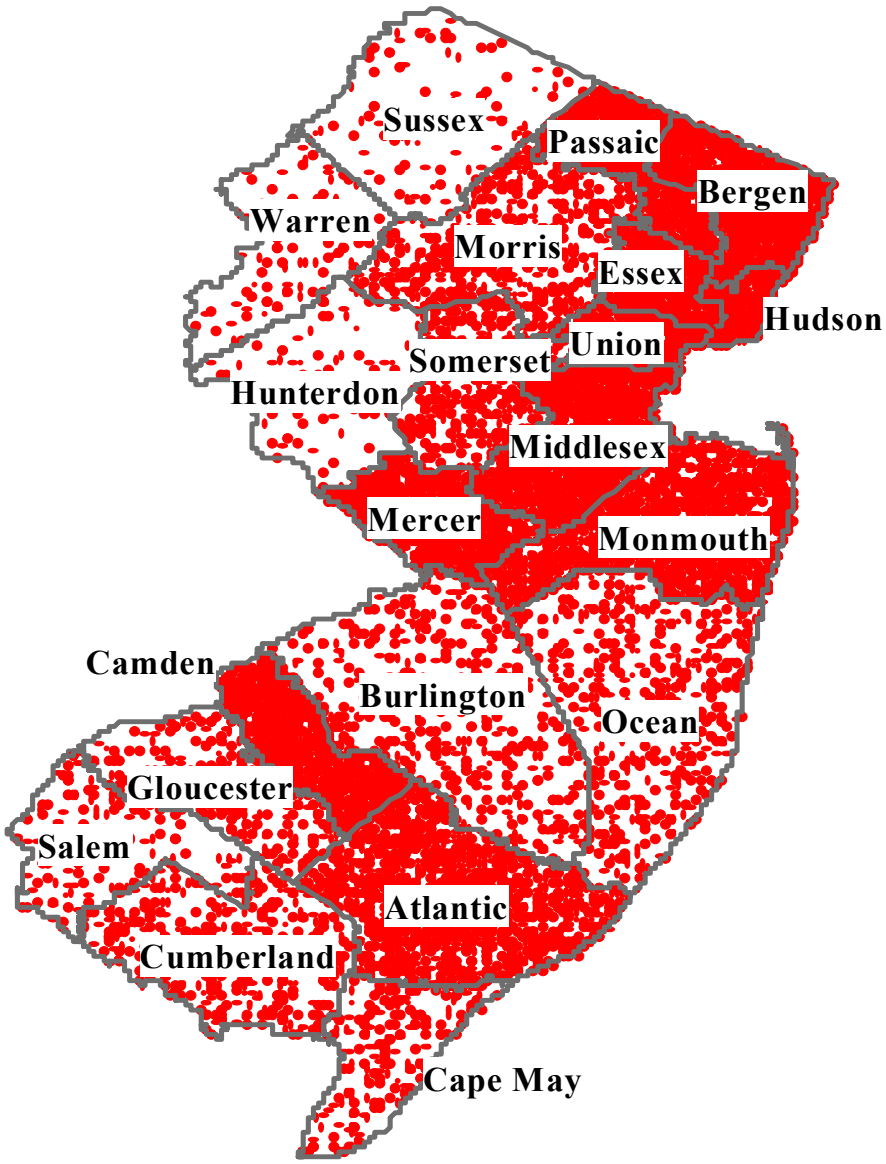
Geographic Impact

By County

Cases of HIV/AIDS are not equally distributed across the State. Patterns of PLWHA and those newly diagnosed in 2000 are similar (Figures 2 and 3). The highest concentration of PLWHA is along the New York City to Philadelphia corridor. This includes the Counties of Passaic, Bergen, Hudson, Union, Essex,

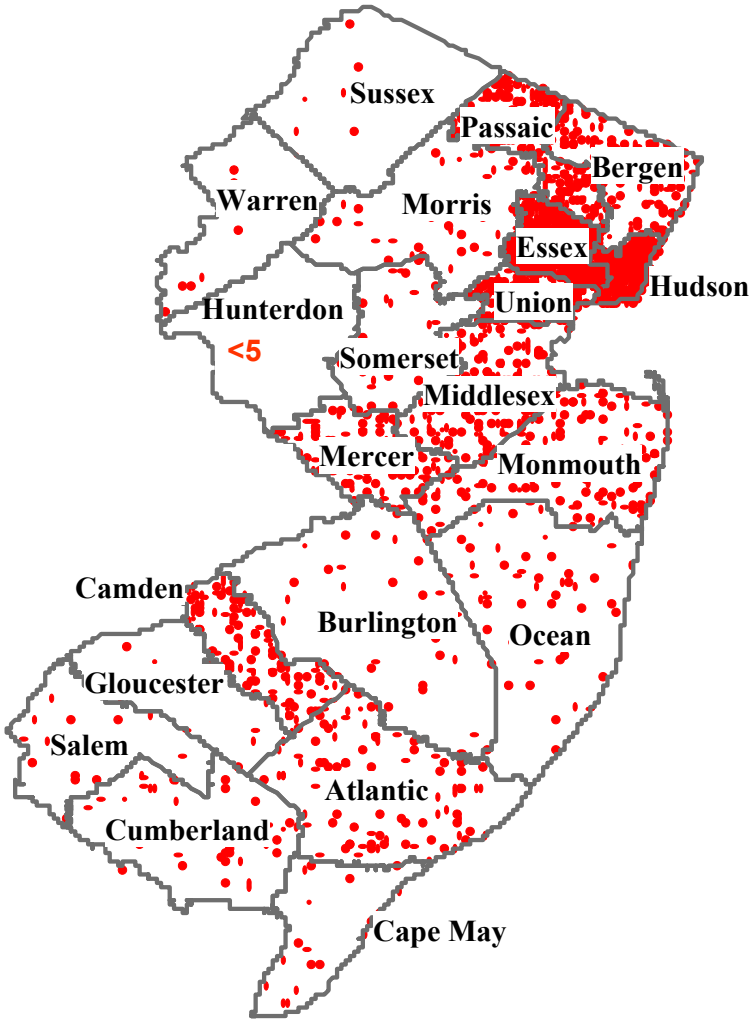
Middlesex, Monmouth, and Mercer. The second highest concentration of HIV/AIDS cases is in the Philadelphia to Atlantic City corridor that includes Camden and Atlantic Counties.

Figure 2 - Estimated Persons Living with HIV/AIDS in New Jersey 2000 One dot equals one person. Cases are randomly placed within the counties.



Source: New Jersey HARS as of 12/31/2002

Figure 3 - Estimated Diagnosed with HIV/AIDS in New Jersey 2000 One dot equals one person. Cases are randomly placed within the counties.



Source: New Jersey HARS 12/31/2002

All 21 counties in New Jersey are classified by the US Census Bureau as "metropolitan," but only ten counties (Atlantic, Bergen, Camden, Essex, Hudson, Mercer, Middlesex, Monmouth, Passaic and Union) account for 84 percent of persons living with HIV/AIDS in the State. Five of these counties (Essex, Hudson, Passaic, Union and Atlantic) are disproportionately affected. This is most dramatic in Essex and Hudson Counties. Statewide, one in every 290 individuals was living with HIV/AIDS in 2000. In Essex County that number was one in every 95 persons, and in Hudson one in every 153 individuals was living with HIV/AIDS in 2000.

HIV/AIDS Services Planning

The Centers for Disease Control and Prevention (CDC) requires that New Jersey support the New Jersey HIV Prevention Community Planning Group (NJHPCPG) process to recommend prioritized target populations and interventions for statewide allocation of prevention funds provided through the HIV Prevention Cooperative Agreement. Those recommendations are made on a biannual basis in the New Jersey Comprehensive HIV Prevention Plan utilizing this Epidemiologic Profile.

New Jersey has ten planning bodies that prioritize allocation of Ryan White CARE Act Title I and Title II funding for HIV care and treatment.[1] Title I provides funding to eligible metropolitan areas (EMA) which are metropolitan statistical areas with a population of at least 500,000 and more than 2,000 reported AIDS cases within the past five years. The Ryan White Title I EMAs in New Jersey are:

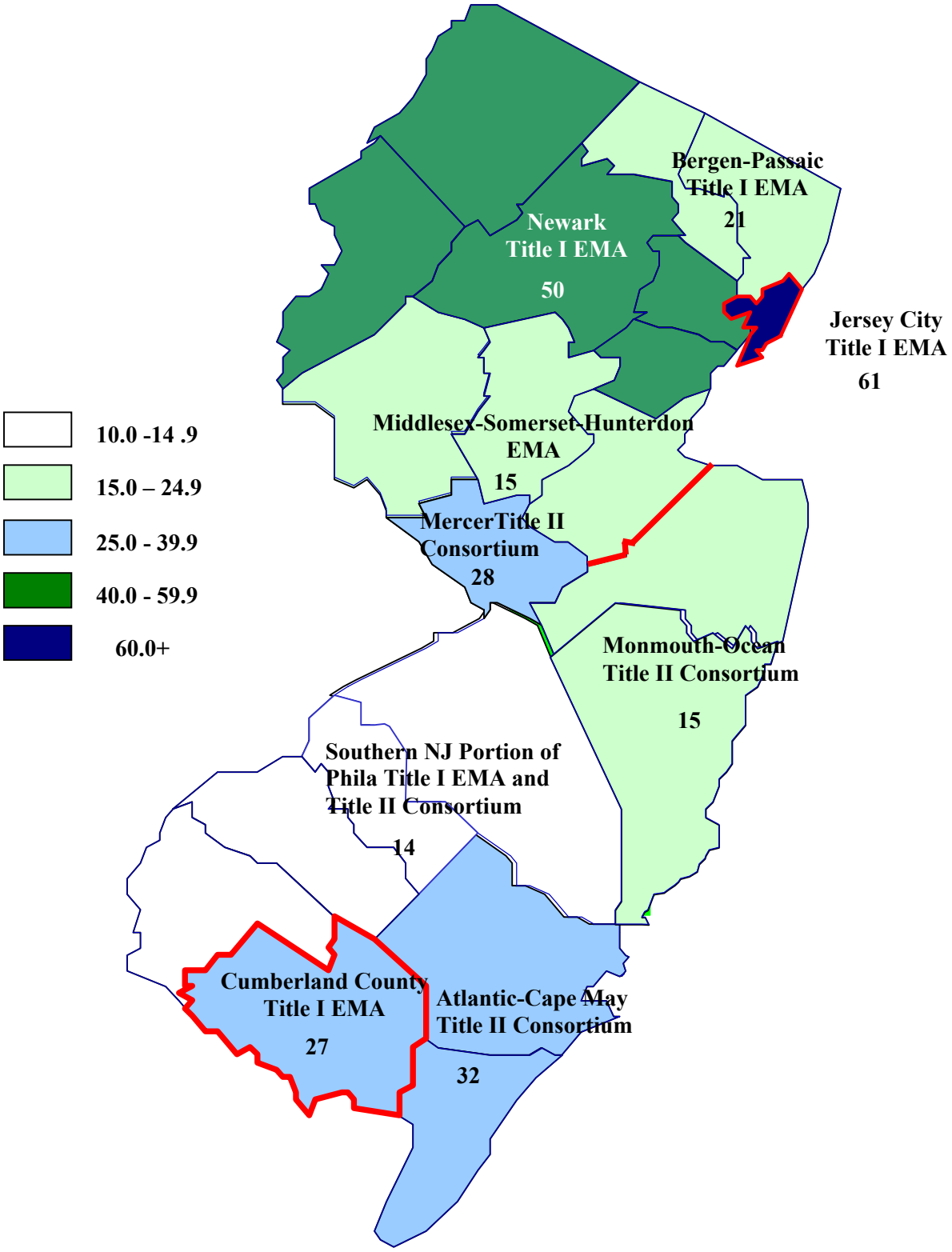
- Bergen-Passaic EMA;
- Hudson County EMA;
- Middlesex-Somerset and Hunterdon County EMA;
- Newark EMA;
- Vineland-Millville-Bridgeton EMA, and
- Philadelphia EMA.

In addition to the Title I planning bodies, the State of New Jersey, as the recipient of Ryan White Title II funds, established a statewide planning body known as the New Jersey Statewide Coordinated Statement of Need Planning Task Force (NJSCSNPTF). This planning body works collaboratively to identify significant issues related to the needs of PLWHA and to maximize coordination of services statewide. The NJSCSNPTF represents the four Title II consortia catchment areas that include the following:

- Monmouth/Ocean Counties;
- Atlantic and Cape May Counties;
- Mercer County, and
- Camden, Burlington, Gloucester and Salem Counties.

The rate of HIV/AIDS infection diagnosed in the 2000 catchment areas for each of the Title I and Title II planning bodies is shown in Figure 4. Among the EMAs, the highest rates of newly diagnosed cases of HIV/AIDS in 2000 occurred in the Hudson County EMA, the Newark EMA and the Consortium of Atlantic and Cape May Counties.

Figure 4 - Rates per 100,000 of HIV/AIDS Cases Diagnosed in 2000 by Planning Area



Source: New Jersey HARS as of 12/31/2002

Race/Ethnicity

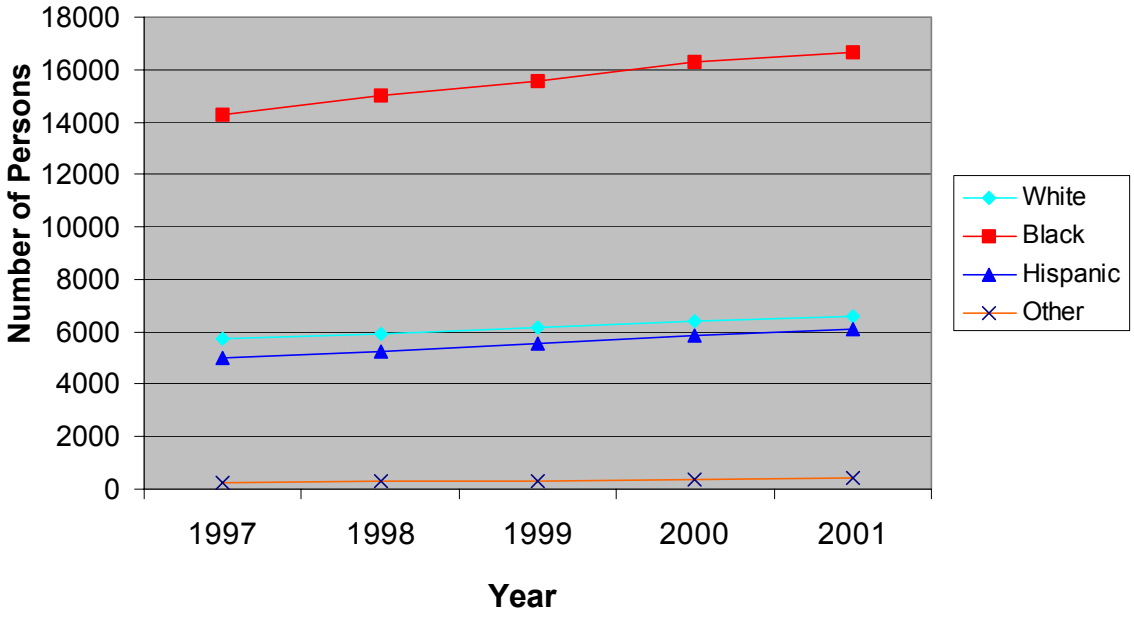
Living With HIV/AIDS

A pattern of disparity of HIV/AIDS among the various racial/ethnic groups has been relatively consistent from 1997 to 2001 (Figure 5). By 2001, Black non-Hispanics represented 56 percent of the total number of persons reported living with HIV/AIDS, although they represent only 13.6 percent of the population of New Jersey. Hispanics represented 20 percent of those living with HIV/AIDS in 2001 while representing 13.3 percent of the population. White non-Hispanics represented 22 percent of persons living with HIV/AIDS, but represented 67.0 percent of the total population. Asians, Native Americans and those with unknown race/ethnicity accounted for 2.8 percent of the infected population and 6.2 percent of the State's total population (Tables 6 and 7).

The rates of persons living with HIV/AIDS in New Jersey as of December 31, 2000 more clearly illustrates this disparity:

- One in every 70 Black non-Hispanics was living with HIV/AIDS;
- One in every 192 Hispanics was living with HIV/AIDS, and
- One in every 877 White non-Hispanics was living with HIV/AIDS.

Figure 5 - Estimated Persons Living with HIV/AIDS in New Jersey by Race/Ethnicity, 1997-2001



Source: New Jersey HARS as of 12/31/2002

New Diagnoses

This same disparity in the impact of HIV/AIDS among the various racial/ethnic groups is also reflected in the pattern of infections diagnosed from 1997 to 2001 (See Table 8). Between 1997 and 2001, the proportion of Black non-Hispanics diagnosed with HIV/AIDS has ranged from 57 percent to 61 percent of the total number of new diagnoses each year. Hispanics consistently represented between 18 and 20 percent of the new diagnoses over the same time period.

Table 8 - New HIV/AIDS Diagnoses in New Jersey by Race/Ethnicity, 1997-2001

Race/Ethnicity	Year of Diagnosis				
	1997	1998	1999	2000	2001
White non-Hispanic	637	486	457	519	369
Black non-Hispanic	1,878	1,511	1,429	1,485	1,102
Hispanic	574	443	456	529	360
Other	43	36	37	73	56

Source: New Jersey HARS as of 12/31/2002

As in other years the rate of infections diagnosed in 2000 was highest for Black non-Hispanics and the disparity was more pronounced among females than males. The non-Hispanic Black female HIV/AIDS diagnosis rate in 2000 was more than 21 times the non-Hispanic White female rate (Table 9). Black non-Hispanics accounted for 52.6 percent of all infections diagnosed in men and 66.1 percent of all infections diagnosed among women in 2000.

Table 9 - HIV/AIDS in New Jersey by Race/Ethnicity and Gender Diagnosed in 2000

Race Category	Males		Females		Total	
	No.	Rate[a]	No.	Rate[a]	No.	Rate[a]
White non Hispanic	389	14.2	130	4.4	519	9.2
Black non-Hispanic	922	171.4	563	93.0	1,485	129.9
Hispanic	393	68.7	136	24.3	529	46.8
Other [b]	22	8.4	8	3.0	30	5.7
Unknown	28	N/A	15	N/A	43	N/A
Total	**1,754**	**42.8**	**852**	**19.6**	**2,606**	**30.9**

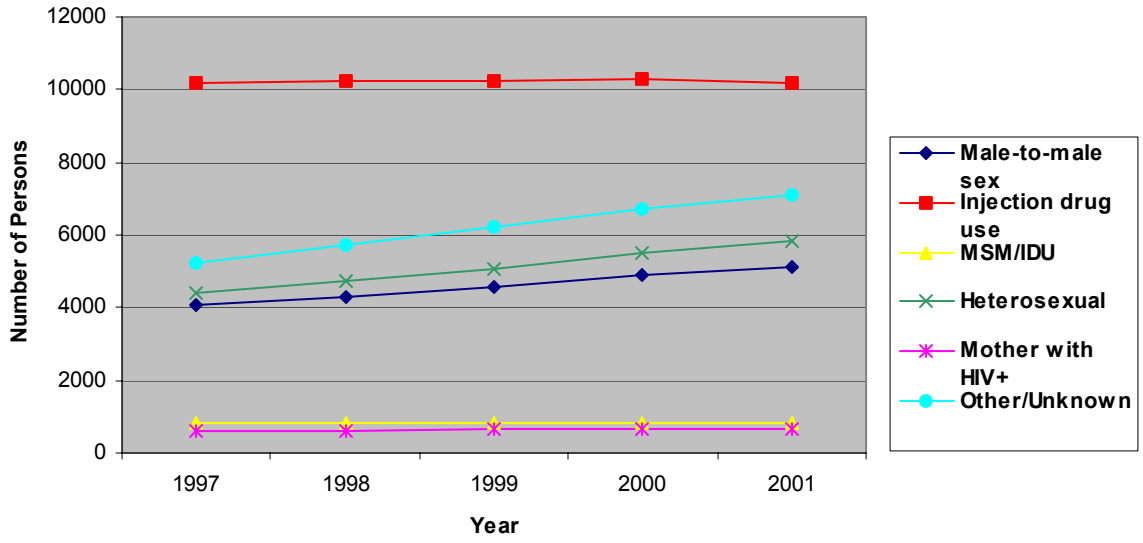
a. Per 100, 000 New Jersey Bridged Race Population Estimates.
b. Other includes Asian/Pacific Islander and American Indian/Alaskan Native.
Source: New Jersey HARS as of 12/31/2002

Exposure Category

Living With HIV/AIDS

From the beginning of the epidemic, the highest proportion of AIDS cases in New Jersey were exposed through IDU, and injection drug use continues as the mode of exposure for the highest number of persons living with HIV/AIDS (Figure 6). However, the number of people living with HIV/AIDS who were exposed through male-to-male sex or heterosexual contact continued to increase from 1997 through 2001 as the number of people living with HIV/AIDS exposed through IDU remained relatively stable over the same period of time. The number of individuals living with HIV/AIDS who were infected perinatally (children born of HIV infected mothers) also remained relatively stable over this period. The number of cases whose mode of exposure is unknown has steadily increased. Exposure category data for these cases is often established by investigators years after the original case is reported.

Figure 6 - Estimated Persons Living with HIV/AIDS in New Jersey by Exposure Category, 1997-2001



Source: New Jersey HARS as of 12/31/2002

The proportion of men and women living with HIV/AIDS in 2000 varied across exposure category and racial/ethnic group. The greatest percentage of Hispanic and Black non-Hispanic men living with HIV/AIDS in 2000 were exposed through injection drug use. However, the greatest percentage of White non-Hispanics were exposed through sex with another man (Table 10).

Table 10 - Estimated Number and Percent of Males Living with HIV/AIDS in New Jersey by Race/Ethnicity and Exposure Category in 2000

Exposure Category	White non-Hispanic		Black non-Hispanic		Hispanic		Other/ Unknown[a]		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	2,076	45.0	1,754	18.1	1,034	25.3	52	19.3	4,916	26.4
IDU	1,230	26.6	3,892	40.2	1,546	37.8	28	10.4	6,696	35.9
MSM/IDU	227	4.9	450	4.6	165	4.0	*	1.1	845	4.5
Heterosexual Contact	256	5.5	1,086	11.2	431	10.5	24	8.9	1,797	9.6
Mother with/ at risk for HIV infection	34	<1	220	2.2	57	1.4	*	*	311	1.6
Other/Unknown[b]	785	17.0	2,260	23.3	849	20.8	163	60.3	4,057	21.7
Total	**4,608**	**100**	**9,662**	**100**	**4,082**	**100**	**270**	**100**	**1,862**	**100**

a. Other includes Asian/Pacific Islander and American Indian/Alaskan Native. The categories of unknown race/ethnicity and other race/ethnicity are combined due to the small number of cases in the 'other' category.
b. The categories of other exposure and unknown exposure are combined due to the small number of cases in the 'other' category.
***Indicates cell size fewer than 5**
Source: New Jersey HARS as of 12/31/2002

A different pattern of known exposure emerges for women living with HIV/AIDS in 2000 (Table 11). Black non-Hispanic women living with HIV/AIDS were equally likely to have been exposed through heterosexual contact as through IDU. White non-Hispanic women were most likely to have been exposed through IDU followed by heterosexual contact. In contrast, the mode of exposure for Hispanic women was more likely to be heterosexual contact, followed by IDU.

For men and women, individuals with another or unknown race/ethnicity, have substantially more cases without exposure information than do White non-Hispanics, Black non-Hispanics, and Hispanics.

Table 11 - Estimated Number and Percent of Females Living with HIV/AIDS in New Jersey by Race/Ethnicity and Exposure Category in 2000

Exposure Category	White non-Hispanic		Black non-Hispanic		Hispanic		Other/ Unknown[a]		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
IDU	765	42.0	2,331	35.2	507	28.0	18	14.1	3,621	34.9
Heterosexual Contact	584	32.1	2,317	35.0	801	44.3	30	23.4	3,732	35.9
Mother with/ at risk for HIV infection	44	2.4	225	3.4	53	2.93	*	*	322	3.1
Other/Unknown[b]	426	23.4	1,743	26.3	445	24.6	80	62.5	2,694	25.9
Total	**1,819**	**100**	**6,616**	**100**	**1,806**	**100**	**128**	**100**	**10,369**	**100**

a. Other includes Asian/Pacific Islander and American Indian/Alaskan Native. The categories of unknown race/ethnicity and other race/ethnicity are combined due to the small number of cases in the 'other' category.
b. The categories of other exposure and unknown exposure are combined due to the small number of cases in the 'other' category.
***Indicates cell size fewer than 5**
Source: New Jersey HARS as of 12/31/2002

New Diagnoses

In 2000, more men and women diagnosed with HIV/AIDS were exposed through sexual contact than by any other mode of exposure excluding cases where the mode of exposure is unknown (Table 12). For men, male-to-male sex (regardless of whether male-to-female sex also occurred) accounted for 27.5 percent of all exposures and heterosexual contact (sex with women but not men) for 15.6% of all exposures. Women were most likely exposed through heterosexual contact (46.4% of all exposures). The proportion of individuals exposed through IDU was almost equal for men and women and was the second most frequent exposure category for both genders.

Table 12 - HIV/AIDS Among Persons in New Jersey by Exposure Category and Gender Diagnosed in 2000

Major Exposure Categories	Males		Females		Total	
	No.	%	No.	%	No.	%
MSM	484	27.5	N/A	N/A	484	18.5
IDU	423	24.1	190	22.3	613	23.5
MSM/IDU	42	2.3	N/A	N/A	42	1.61
Heterosexual contact	274	15.6	396	46.4	670	25.7
Mother with/at risk for HIV infection	6	0.3	8	0.9	14	0.5
Other/unknown	525	29.9	258	30.2	783	30.0
Total	**1,754**	**100.0**	**852**	**100.00**	**2,606**	**100.0**

Note: Rates were not calculated because estimates of the number of people in the State in each exposure category are not available. The categories of other exposure and unknown exposure are combined due to the small number of cases in the 'other' category.
N/A = Not Applicable
Source: New Jersey HARS as of 12/31/2002

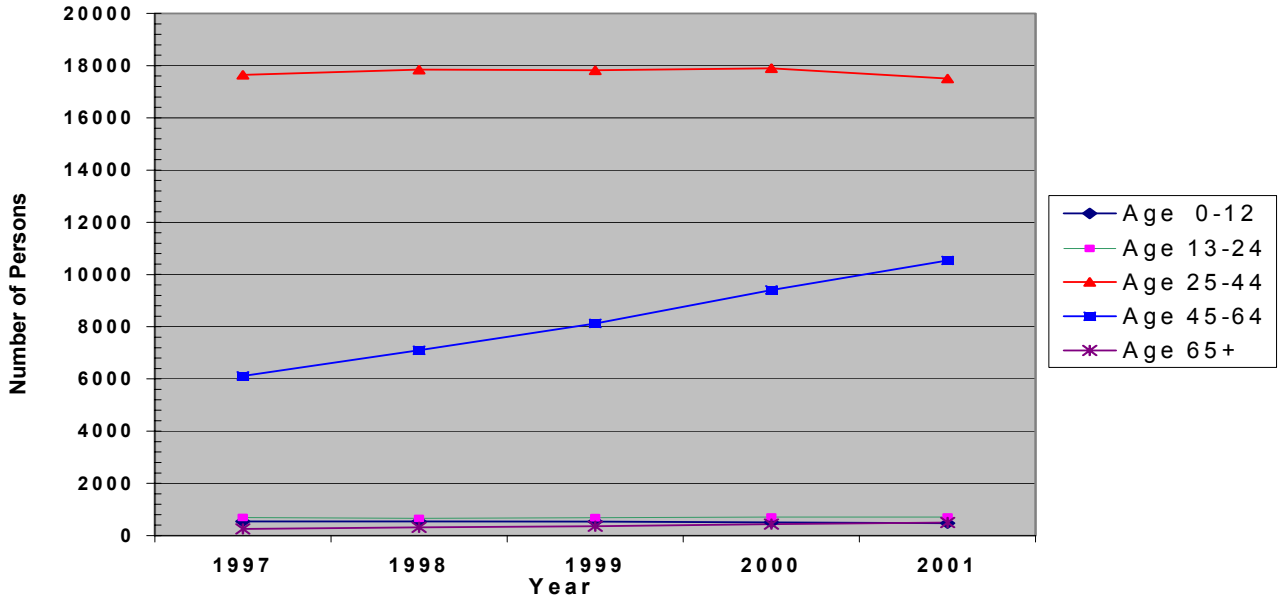
Age

Living With HIV/AIDS

The distribution of persons living with HIV/AIDS within various age groups has not changed substantially in the last 5 years (Figure 7), with the exception of an increase in the number of PLWHA who are 45 to 64 years of age. This increase may be attributed to two factors:

- People are living longer with HIV/AIDS so those who were infected at a younger age are maturing into this age category; and
- Recently reported cases of HIV/AIDS are older at the time of diagnosis.

Figure 7 - Estimated Number of Persons Living with HIV/AIDS in New Jersey by Age Group, 1997-2001



Source: New Jersey HARS as of 12/31/2002

New Diagnoses

As there are variations in diagnosis rates by geographic location, race/ethnicity and gender, there are also differences in HIV/AIDS rates by age group (Table 13). The highest rate of infections diagnosed in 2000 occurred in people 25 through 44 years of age, a time that is typically considered the most productive years of life. The highest rates for women also coincide with the childbearing years.

The rate of infections diagnosed in 2000 was almost equal for males than females under the age of 25, but as age increased, the rate of new infections for males became increasingly higher than the rate for females. Overall for pediatric cases (those under 13 years of age), the equality of rates can be attributed to the fact that most of the individuals were infected perinatally.

Table 13 - HIV/AIDS Among Persons in New Jersey Diagnosed in 2000 by Age Group at Diagnosis and Gender

Age at HIV or AIDS Diagnosis	Males		Females		Total	
	No.	Rate[a]	No.	Rate[a]	No.	Rate[a]
0 – 12	7	1	9	1	16	1
13 – 24	86	13	75	12	161	13
25 – 44	1,138	88	567	43	1,705	65
45 – 64	488	53	192	19	680	35
65+	35	8	9	1	44	4
Total	**1,754**	**43**	**852**	**20**	**2,606**	**31**

a. Per 100, 000 New Jersey Bridged-Race Population Estimates.
Source: New Jersey HARS as of 12/31/2002.

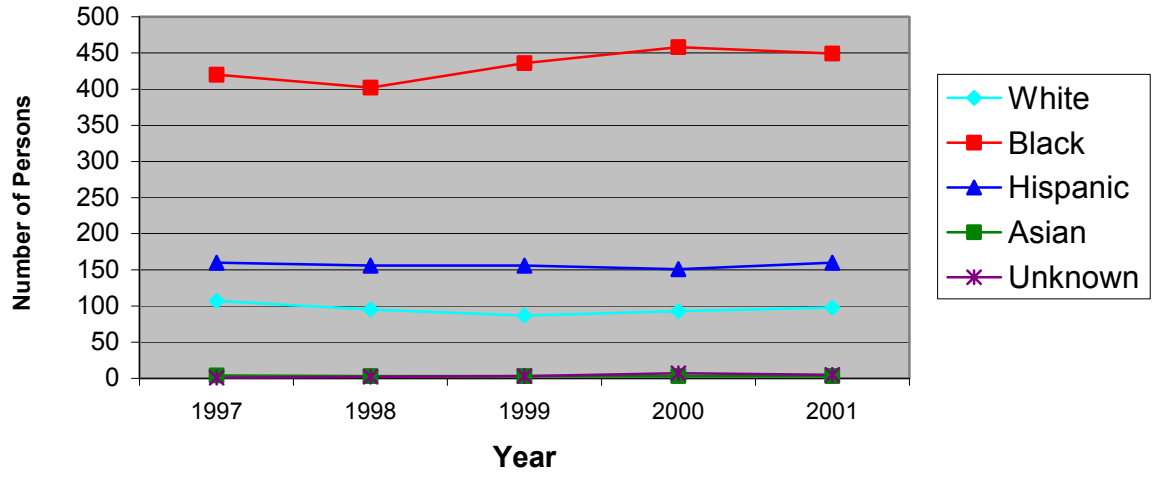
Special Age Categories

Adolescents (13 to 24 Year Olds)

This age group represents a distinct priority population for prevention planning. Although persons 13 through 24 years of age represented only six percent of all new diagnoses occurring in 2000, adolescence is a period of experimentation. The use of alcohol and drugs by adolescents may occur, as well as sexual experimentation. For this reason, it is important to review data for this group.

By race/ethnicity this age group has a similar pattern of infection to that found across all age groups combined. Among persons living with HIV/AIDS between 13 and 24 years of age, Black non-Hispanics represented the largest racial/ethnic group from 1997 through 2001 and the numbers of HIV/AIDS diagnoses among Black non-Hispanics in this age group show an increasing trend (Figure 8).

Figure 8 - Estimated Number of Persons 13 through 24 Years of Age Living with HIV/AIDS in New Jersey by Race/Ethnicity, 1997-2001



Source: New Jersey HARS as of 12/31/2002

For females in this age group, the pattern of infection by race is similar to that for the general population (Table 9) with Black non-Hispanics representing the majority of HIV/AIDS cases followed by a substantially equal number of Hispanics and White non-Hispanics (Table 14). For males, however, the pattern is different. Among all age groups combined, Black non-Hispanics represent more than 60 percent of the cases with the remaining cases evenly divided among Hispanics. Among persons 13-24 years of age, however, Black non-Hispanics represent 62.8 percent of cases with Hispanics accounting for 27.9 percent of cases and White non-Hispanics accounting for seven percent of the cases.

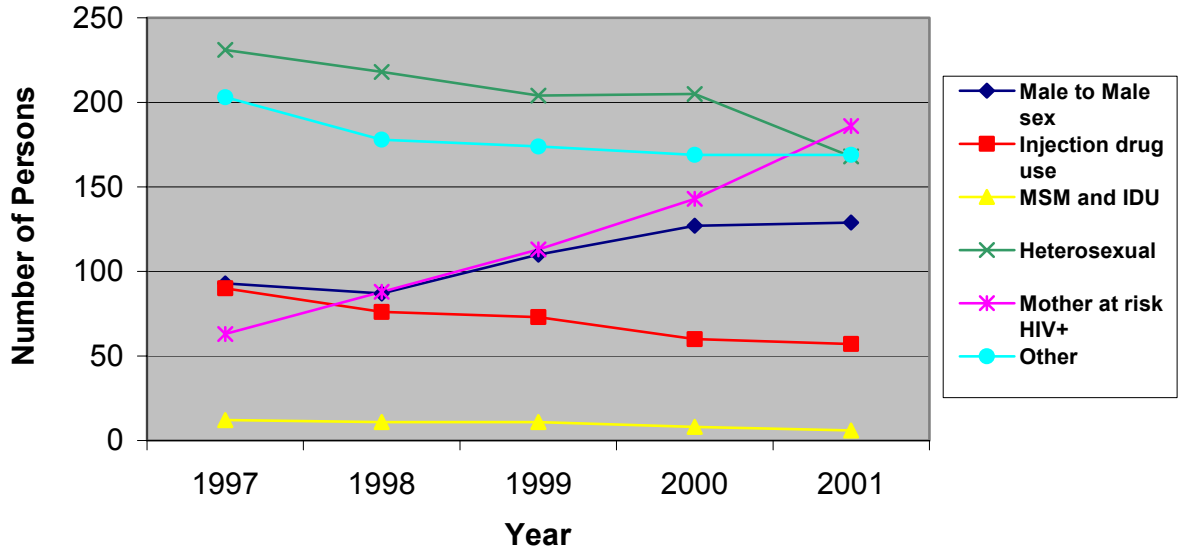
Table 14 - HIV/AIDS Among Persons 13 through 24 Years of Age in New Jersey by Race/Ethnicity and Gender, Diagnosed in 2000[a]

Race/ethnicity	Males		Females		Total	
	No.	%	No.	%	No.	%
White non-Hispanic	6	7.0	12	16.0	18	11.2
Black non-Hispanic	54	62.8	47	62.7	101	62.7
Hispanic	24	27.9	12	16.0	36	22.4
Other/Unknown	2	2.3	4	5.3	6	3.7
Total	**86**	**100**	**75**	**100**	**161**	**100**

a. Rates are not included due to the low number of cases in this population
Source: New Jersey HARS as of 12/31/2002

Unlike the HIV infected population as a whole, more adolescents living with HIV/AIDS in between 1997 and 2001 were infected through sexual contact as opposed to through injection drug use. In 2001 perinatal exposure (mother with HIV) accounted for the highest number of adolescents living with HIV. The number of persons living with HIV/AIDS from 1997 through 2001 who were exposed by injection drug use and through heterosexual sex has declined. The greatest increase occurred among 13 through 24 year olds who were exposed perinatally (mother-at-risk for HIV) (Figure 9). This increase is largely due to the fact that those who were infected perinatally have lived long enough to mature into this age group. The only other increase among 13 through 24 year olds was for those who were exposed through male-to-male sex.

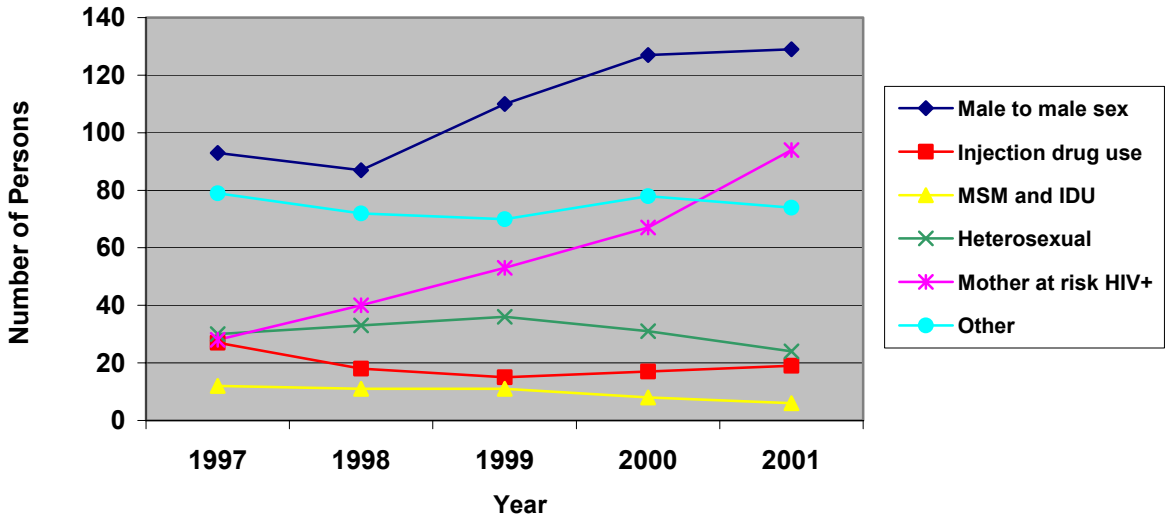
Figure 9 - Estimated Number of Persons 13 through 24 Years of Age Living with HIV/AIDS in New Jersey by Exposure Category, 1997-2001



Source: New Jersey HARS as of 12/31/2002.

From 1997 through 2001, more males between the ages of 13 and 24 living with HIV/AIDS were exposed through male to male sex than through other exposures and this number increased steadily after 1998 (Figure 10).

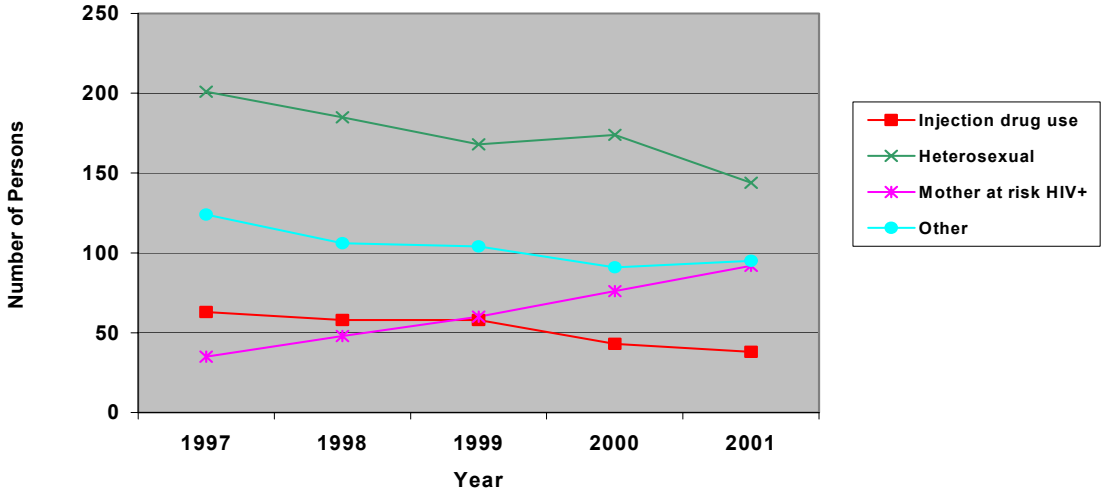
Figure 10 - Estimated Number of Males 13 through 24 Years of Age Living with HIV/AIDS in New Jersey by Exposure Category, 1997-2001



Source: New Jersey HARS as of 12/31/2002.

For females aged 13 through 24, heterosexual contact accounted for the greatest number of exposures from 1997 through 2001, although this number has been declining (Figure11).

Figure 11 - Estimated Number of Females 13 through 24 Years of Age Living with HIV/AIDS in New Jersey by Exposure Category, 1997-2001



Source: New Jersey HARS as of 12/31/2002.

Exposure category is difficult to analyze by race/ethnicity as so few cases were White non-Hispanic and the proportion of cases with unknown mode of exposure for Black non-Hispanics is almost three times that of the other groups (Table 15). For all races, however, heterosexual contact accounted for the largest proportion of all exposures.

Table 15 - Persons 13 through 24 Years of Age Diagnosed with HIV/AIDS in New Jersey in 2000 by Exposure Category and Race/Ethnicity

Exposure category	White non-Hispanic		Black non-Hispanic		Hispanic		Other/ Unknown[a]		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	<5	16.7	27	26.7	11	30.6	<3	16.7	42	26.1
IDU	6	33.3	6	5.9	8	22.2	0	0	20	12.4
MSM/IDU	0	0	<3	2.0	0	0	0	0	<3	1.2
Heterosexual contact	7	38.9	36	35.6	13	36.1	<3	16.7	57	35.4
Other/unknown	<3	11.1	30	29.7	<5	11.1	<5	66.7	40	24.8
Total	**18**	**100.0**	**101**	**100.0**	**36**	**100.0**	**6**	**100.0**	**161**	**100.0**

a. Other includes Asian/Pacific Islander and American Indian/Alaskan Native.
Source: New Jersey HARS as of 12/31/2002.

Pediatric Infection

As the reporting of pediatric cases of HIV/AIDS is more current than cases for other age groups due to the continual monitoring of birth certificates and reports from facilities, pediatric infections through December 31, 2002 are presented in this report. Most of the cumulative pediatric HIV/AIDS infections (Table 16) resulted from a child's mother being infected with HIV (perinatal transmission). Due to improvements in the screening of donated blood, transfusions have been virtually eliminated as an exposure category. In the case of pediatric HIV, as well as, all other categories, the highest proportion of cases occurred in Black non-Hispanics.

Table 16 - New Jersey Pediatric HIV/AIDS Cases as of December 31, 2002

Exposure Category	White non-Hispanic	Black non-Hispanic	Hispanic	Other/Not Reported	Total
Mother With/At Risk of AIDS	158	789	213	3	1,163
Hemophilia/Coagulation Disorder	10	7	5	0	22
Transfusion/Blood Components	15	3	3	0	21
Risk Not Reported/Other Risk	6	17	5	1	29
Total	**189**	**816**	**226**	**4**	**1,235**

Source: New Jersey HARS as of 12/31/2002.

Section 4 - Special Studies

Survey of Childbearing Women (SCBW)

Estimating Prevalence

The SCBW is an anonymous unlinked survey, and is the State's only population based HIV/AIDS prevalence survey. It is important because it provides the prevalence of HIV/AIDS in women who deliver live births each year and it is the best indication of the number of pediatric exposures available each year. The SCBW also provides data on the frequency of zidovudine (ZDV) or AZT therapy among pregnant women.

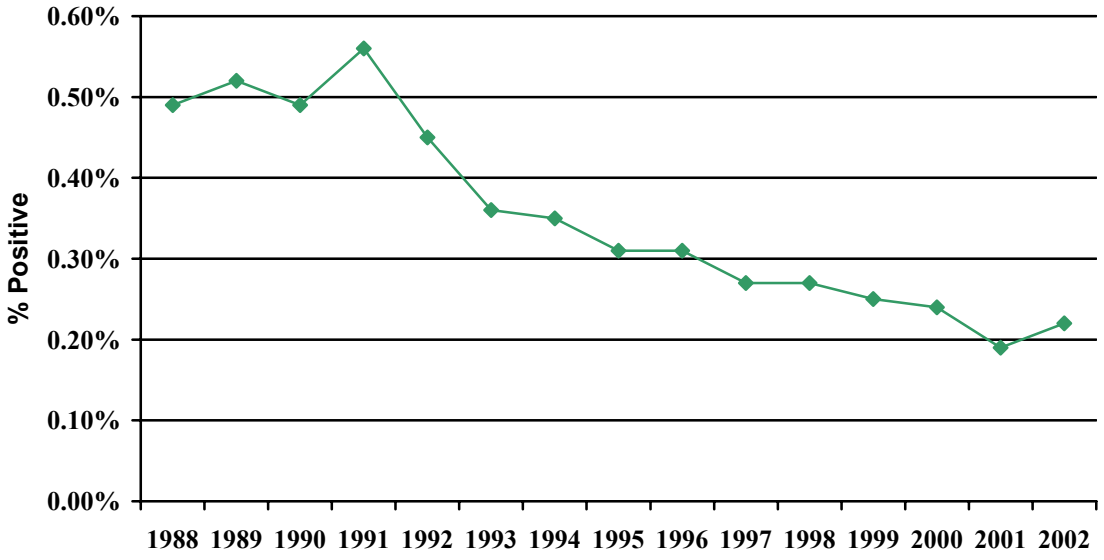
The greatest success story in New Jersey's fight against HIV/AIDS has been the reduction of new perinatal exposures to HIV. Following a nationwide trend (and continuing a trend started with the publication of guidelines by the United States Public Health Service on the use of zidovudine in 1994), perinatal transmission in New Jersey has decreased dramatically. The introduction of ZDV along with the declining HIV prevalence rate among childbearing women, led to a 77 percent decrease in the number of pediatric cases of HIV infection from 1997 through 2001 (Table 17).

Approximately, each year, the State's 120,000 newborns are routinely screened for inborn errors of metabolism. The process involves obtaining a blood specimen from each newborn. During the months of July through September, almost 30,000 excess blood samples remaining from the inborn errors of metabolism screening are analyzed for HIV through anonymous, unlinked surveys. Each specimen is assigned a study number that is associated with certain information about the infant and mother. There is no link between the study number and the identity of the mother or infant. A positive HIV antibody test for the infant is indicative of the presence of HIV in the mother. The results are analyzed and reported by age of the mother. Since 1991, the results were also reported by the race/ethnicity of the mother.

Since its inception, the proportion of women included in the SCBW, who were infected with HIV, has been less than one percent. In 2001, the percentage of women who tested positive for HIV (0.19 percent) was the lowest since 1988. In 2002, the proportion of HIV infected women increased to 0.22 percent (Figure 12).

The prevalence rate for HIV positive women under thirty years of age has declined more than the rate for older women (Table 17). However, the rates for both groups decreased between 1991 and 2002. As with all other prevalence categories, there are disparities by race/ethnicity. Although the prevalence rates for all groups have decreased since 1991, the prevalence rate in 2002 for Black non-Hispanics was more than three times the rate for Hispanics and over nine times the prevalence rate for White non-Hispanics.

Figure 12 - HIV Prevalence Among New Jersey Resident Childbearing Women, 1988-2002



Source: DHAS SCBW

Table 17 - HIV Prevalence Among New Jersey Resident Childbearing Women, 1991-2002

Year	1991 %	1992 %	1993 %	1994 %	1995 %	1996 %	1997 %	1998 %	1999 %	2000 %	2001 %	2002 %
Age Group												
<30	0.62	0.5	0.37	0.39	0.38	0.3	0.26	0.28	0.29	0.21	0.16	0.25
>=30	0.43	0.38	0.31	0.3	0.21	0.33	0.28	0.25	0.21	0.25	0.2	0.19
Race/Ethnicity												
White non-Hispanic	0.11	0.12	0.11	0.09	0.08	0.05	0.07	0.07	0.06	0.08	0.06	0.08
Black non-Hispanic	1.88	1.6	1.28	1.29	1.18	1.38	0.95	0.89	0.88	0.88	0.86	0.74
Hispanic	0.84	0.56	0.35	0.32	0.28	0.27	0.42	0.42	0.35	0.25	0.1	0.22
Total N HIV+	**164**	**132**	**104**	**98**	**86**	**87**	**74**	**78**	**72**	**70**	**53**	**62**
Total % HIV+	**0.56**	**0.45**	**0.36**	**0.35**	**0.31**	**0.31**	**0.27**	**0.27**	**0.25**	**0.24**	**0.19**	**0.22**

Source: DHAS-SCBW

Monitoring Zidovudine (also known as AZT) Therapy

Monitoring trends in the use of ZDV during the peripartum period provides a measure of implementation of the National Institutes of Health guidelines for ZDV therapy during pregnancy and delivery. This allows specific education and prevention programs targeting providers and pregnant women to be developed.

The survey also provides an estimate of the number of mother/child pairs that should be identified through the surveillance system and provides the opportunity for evaluation and implementation of the recommendations for reducing vertical transmission.

The percentage of HIV infected samples that tested positive for ZDV use increased dramatically from 1994 to 2002 (Table 18). Although no samples were tested for ZDV in 2000, the percent of positive specimens for ZDV in 2001 and 2002 were the highest ever, reaching over 88 percent in 2002.

Table 18 - Percentage Testing Positive for ZDV Among Sampled New Jersey Resident HIV+ Childbearing Women, 1994-2002

Year	Total Births In Sample	No. HIV+	No. Tested for ZDV	No. ZDV+	% ZDV+
1994	27,892	98	98	13	13.2
1995	28,120	86	86	41	47.6
1996	28,025	87	87	50	57.4
1997	27,782	74	73	51	69.8
1998	28,780	78	77	50	64.9
1999	28,709	72	70	42	60.0
2000	29,483	70	NA	NA	NA
2001	28,606	53	53	39	73.5
2002	28,704	62	61	54	88.5

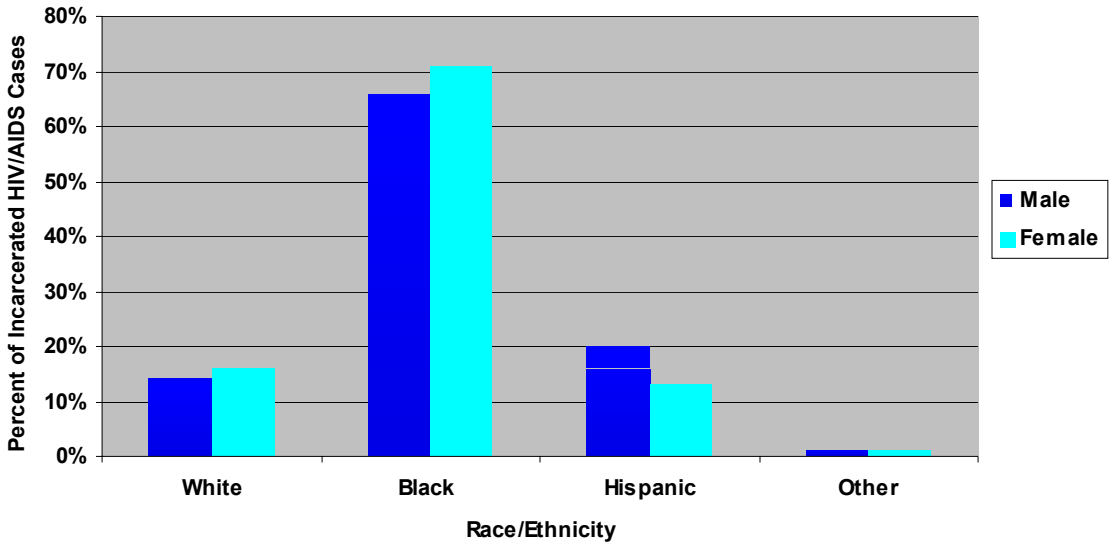
Source: DHAS-SCBW

Incarcerated Persons

Cases Reported while Incarcerated

Five percent of the cumulative HIV/AIDS cases and of persons living with HIV/AIDS (PLWHA) in New Jersey were incarcerated at the time of diagnosis. The highest proportion of incarcerated PLWHA, as with the population of people with HIV/AIDS in general (Table 7), is Black non-Hispanics. Black non-Hispanic women represent 71 percent of the incarcerated women with HIV/AIDS and Black non-Hispanic men represent 66 percent of the incarcerated men in New Jersey (Figure 13).

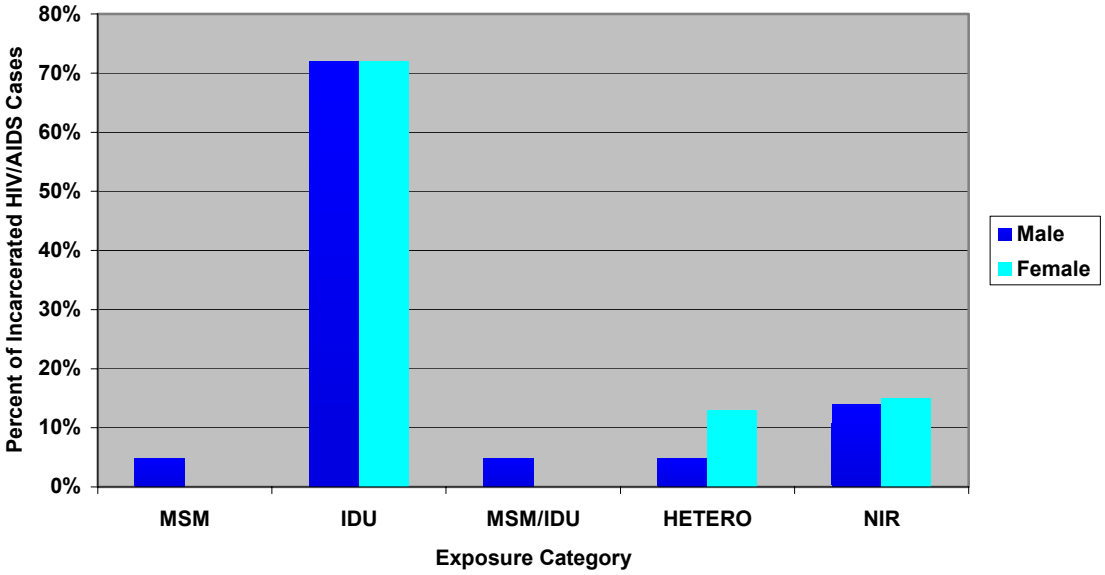
Figure 13 - Percentage of Cumulative HIV/AIDS Cases Among the Incarcerated at Diagnosis by Race/Ethnicity and Gender, 2002



Source: New Jersey HARS as of 12/31/2002

The most common known exposure among New Jersey's incarcerated cumulative HIV/AIDS cases (Figure 14) as it is with the general population of PLWHA (Table 7), is IDU. Heterosexual contact is the known exposure for 13 percent of HIV/AIDS cases among incarcerated women, compared to 36 percent of all females living with HIV/AIDS in New Jersey.

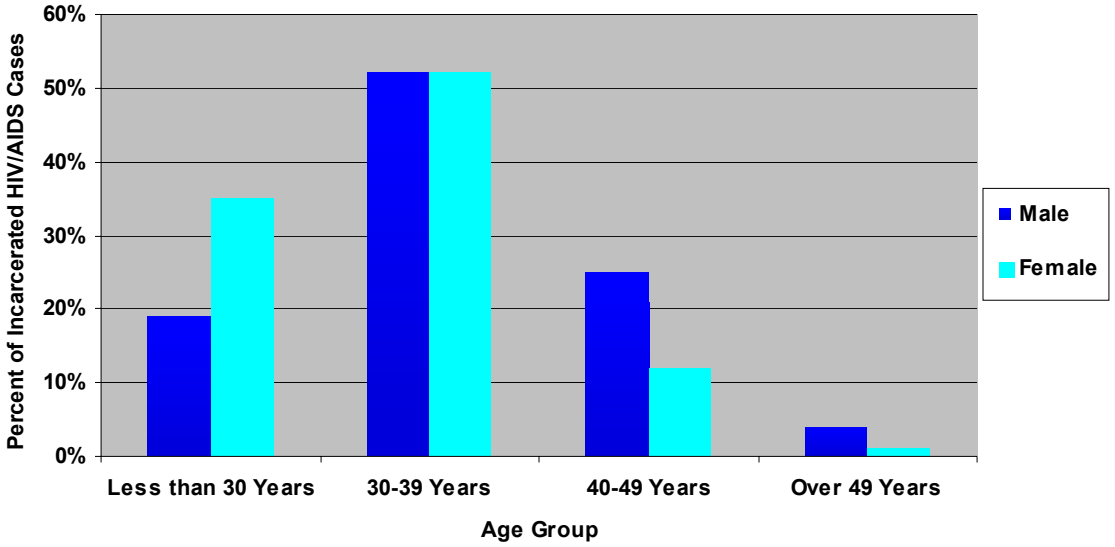
Figure 14 - Percentage of Cumulative HIV/AIDS Cases Among the Incarcerated at Diagnosis by Exposure Category and Gender, 2002



Source: New Jersey HARS as of 12/31/2002

The majority of incarcerated cases of HIV/AIDS are diagnosed among prisoners 30-39 years of age for both males and females (52% each) (Figure 15). However, the average age of men at diagnosis while incarcerated is 36 years of age as opposed to 32 years of age for women.

Figure 15 - Percentage of Cumulative HIV/AIDS Cases Among the Incarcerated at Diagnosis by Age Group and Gender, 2002



Source: New Jersey HARS as of 12/31/2002

Anonymous Unlinked Surveys (AUS) Among Admissions to Correctional Facilities

Prisoners are not routinely tested for HIV. Consequently many infections may go undetected and unreported. To more accurately assess the prevalence of the infection within this population, two anonymous unlinked surveys were conducted. One AUS done through collaboration between the Division of HIV/AIDS Services (DHAS) and the New Jersey Department of Corrections (DOC) was a study of persons admitted to the State correctional system for a portion of 1999. A second AUS on admissions to the Essex County Jail was conducted in 2001.

Admissions to State Correctional Facilities

This study used excess blood from routinely collected specimens for syphilis testing among incoming inmates in the New Jersey State prison facilities. The sample included 1,561 males and 296 females. The overall prevalence rate was 4.7 percent. Injection drug use was a major predictor of infection. Those with injection drug use indicated in their intake record were five times as likely to be HIV positive compared to those who did not report IDU (Table 19).

Table 19 - HIV Prevalence of Admissions to State Correctional Facilities in 1999 by Injection Drug Status

Injection Drug Use	No. Sampled	% HIV+
Indicated	163	17.8
Not Indicated	1,694	3.5

Source: DHAS Prison Study of 1999

Age was also a major predictor of HIV infection among those entering the prison system. Those who were over age 30 were 10 times more likely to be HIV positive. Although it appeared that gender was a strong predictor of HIV infection, most of the differences between the genders may be explained by the differences in the age distribution of the two populations.[2]

Minorities accounted for the majority of HIV infections found, the rates within each racial category did not differ substantially (Table 20).

Table 20 - HIV Prevalence of Admissions to the State Correctional Facilities in 1999 by Race/Ethnicity

Race/Ethnicity	No. HIV+	% HIV+	Total
Black non-Hispanic	65	5.4	1,214
White non-Hispanic	11	3.4	325
Hispanic	11	3.8	288
Other/unknown	0	0.0	30
Total	**87**	**4.7**	**1,857**

Source: DHAS Prison Study of 1999.

Incarcerations at the Essex County Jail

An AUS was also conducted at the correctional facilities located in Newark and Caldwell, New Jersey. This study was conducted over a period of three months in 2001 and included 1,064 participants: 903 males and 161 females. HIV test results were linked to demographic and medical information maintained by the correctional facility.

The results of the 2001 study were similar to those of the results found in 1999 for admissions to the State prisons. The overall prevalence rate was 5.6 percent, 4.7 percent for males and 11.2 percent for females (Table 21). Unfortunately, age data were not available to determine whether this difference was due to increased age for females at admission to the Essex County Jail. Among the individuals from whom samples were collected, 1.4 percent of the men and 4.3 percent of the women had self-reported HIV infection indicating that many of those infected were either unaware of their infection or unwilling to divulge it.

Table 21 - HIV Prevalence of Newly Incarcerated Persons in the Essex County Jail by Gender, 2001

Gender	No. of Participants	No. Positive	Prevalence %
Male	903	42	4.7%
Female	161	18	11.2 %
Total	**1,064**	**60**	**5.6%**

Source: DHAS Essex County Jail Study 2001

The prevalence rate was substantially higher for inmates who indicated that they had injected heroin but more so for males than for females. The prevalence rate was also higher for males who had injected cocaine (Table 22).

Table 22 - HIV Prevalence for Newly Incarcerated Persons in the Essex County Jail by Injection Drug Use and Gender, 2001

Injection Status	Gender	Number Tested	% HIV Positive
Ever Injected Heroin	Male	52	23.1%
Ever Injected Heroin	Female	12	16.7%
Ever Injected Cocaine	Male	43	23.3%
Ever Injected Cocaine	Female	3	0.0%

Source: DHAS Essex County Jail Study 2001.

Persons Using Emergency Rooms

Persons using emergency rooms often include the medically indigent population who do not have access to routine health care. They can include homeless persons, drug users who are not in treatment, and the poor and uninsured. Knowledge of these populations is important to prevention and planning processes. Injection drug users who are not in treatment are an important population on whom to gather data, because targeting injection drug users has always been a priority of the New Jersey HIV Prevention Community Planning Group. The medically indigent population is also important, because these individuals are most likely to fall through the cracks of the prevention system, and the least likely to be known within other health care settings.

A large proportion of individuals at greatest risk for contracting HIV have not been tested. It is estimated by the CDC that for every two people who know they are infected with HIV, another person is infected with HIV, but is unaware of the infection. Studying persons using an emergency room provides information on persons who are most likely to comprise the hard-to-reach, untested, unidentified, infected population.

Emergency Room Patients at the University of Medicine and Dentistry of New Jersey

In collaboration with the University of Medicine and Dentistry of New Jersey (UMDNJ), the DHAS conducted an anonymous unlinked study. The study was designed to measure HIV prevalence among adults who present to an emergency room located in a high HIV prevalence region in northern New Jersey.

Patients aged 18 years of age and over who had blood drawn as part of their medical care in the UMDNJ emergency room between October and December 2002 were included in the study. The study population consisted of 3,193 individuals: 51 percent male and 49 percent female; 68 percent Black non-Hispanic, 11 percent Hispanic, and 10 percent White non-Hispanic; 23 percent under age 30, 24 percent between the ages of 30 and 39, 23 percent between the ages of 40 and 49, 14 percent between the ages of 50 and 59 and 17 percent over the age of 60. Based on patient zip codes, 79 percent were residents of Essex County and 62 percent were residents of the city of Newark. Twenty-two percent of individuals reported illicit drug use.

Of the 3,193 respondents, 332 individuals tested positive for HIV. Moreover, of the 332 individuals testing HIV positive, 206 (62%) reported that they had voluntarily received a previous HIV test (seven indicated the previous results were negative, one had an unknown result and 198 were HIV positive). Women were more likely to be aware of their infection (66%) than were men (55%). More Hispanics (64%) were aware of their HIV sero-positive status than were Black non-Hispanics (58%) and White non-Hispanics (55%) (Table 23). Of those reporting HIV infection, only 25 percent reported using antiretroviral drugs.

Table 23 - Knowledge of HIV Status in the UMDNJ Emergency Room Study by Race/Ethnicity, 2002

Race/Ethnicity	No. HIV+	No. with Status Known	% Status Known
Black non-Hispanic	277	161	58.1
Hispanic	22	14	63.6
White non-Hispanic	11	6	54.5
Other/unknown	22	17	77.3
Total	**332**	**198**	**59.6**

Source: DHAS Emergency Room Study 2002

Of the 686 individuals who reported illicit drug use, 174 (25.4%) were HIV positive: 82 (40%) of those who reported injection drug use, and 92 (19%) of those who reported non-injection drug use. This percentage was higher than had been reported in 1999 studies of admissions to drug treatment in the city of Newark.

Individuals 40 through 44 years of age had the highest percentage of infection among all age groups (20.7%) for both men and women (data not shown). Women under 35 years of age had higher prevalence percents than did similarly aged men, and men over 50 years of age had higher prevalence percents than did similarly aged women (Table 24).

Table 24 - HIV Prevalence in the UMDNJ Emergency Room Study by Age Group and Gender, 2002

	Male			Female			Total		
Age	Tested	HIV+		Tested	HIV+		Tested	HIV+	
Group	No.	No.	%	No.	No.	%	No.	No.	%
<35	487	26	5.3	599	3	7.2	1,086	69	6.4
35-49	613	107	17.5	505	92	18.2	1,118	199	17.8
50+	520	46	8.8	463	16	3.5	983	62	6.3
Total	**1,620**	**179**	**11.0**	**1,567**	**151**	**9.6**	**3,187**	**330**	**10.4**

Source: DHAS Emergency Room Study 2002.

The highest percentage of HIV positives by race/ethnicity was for Black non-Hispanics, followed by Hispanics and White non-Hispanics (Table 25).

Table 25 - HIV Prevalence in the UMDNJ Emergency Room Study by Race/Ethnicity and Gender, 2002

	Male			Female			Total		
	Tested	HIV+		Tested	HIV+		Tested	HIV+	
Race/Ethnicity	No.	No.	%	No.	No.	%	No.	No.	%
Black non-Hispanic	1,034	148	14	1,136	127	11	2,170	275	13
Hispanic	191	14	7	147	8	5	338	22	7
White non-Hispanic	201	5	2	106	6	6	307	11	4
Other/unknown	194	12	6	178	10	6	372	22	6
Total	**1,620**	**179**	**11**	**1,567**	**151**	**10**	**3,187**	**330**	**10**

Source: DHAS Emergency Room Study 2002

Section 5 - Comorbidities and Mortality

HIV Comorbidities

The health care treatment for many persons living with HIV/AIDS, particularly the newly diagnosed, includes treatment for one or more comorbid conditions in addition to HIV/AIDS. Under the Ryan White CARE Act, comorbidity is very broadly defined. Comorbidity can include physical illnesses (such as tuberculosis, hepatitis, sexually transmitted infection), mental health problems (depressions or other mental illness), behavioral problems (substance abuse), and/or social problems (homelessness, incarceration).

To meet the multiple needs of people living with HIV/AIDS who have comorbidities requires attentive coordination of services. In addition, the presence of one or more health conditions (such as hepatitis and tuberculosis) may not only increase the likelihood of HIV infection in individuals but also lead to progression to AIDS in persons with HIV.

Hepatitis C (HCV)

According to the CDC, one quarter of HIV-infected persons in the United States are also infected with the hepatitis C virus. This figure may be even higher in New Jersey since much of the State's epidemic is related to injection drug use. Hepatitis C is one of the most important causes of chronic liver disease in the United States and it progresses more rapidly to liver damage in HIV-infected persons. Hepatitis infection may also impact the course and management of HIV infection. Because HCV is transmitted through the skin by puncture, co-infection with HIV and HCV is common (50%-90%) among HIV-infected injection drug users. For persons infected with HIV through sexual exposure, co-infection with HCV is no more common than among similarly aged adults in the general population (3%-5%). Chronic HCV infection develops in 75-85 percent of infected persons and leads to chronic liver disease in 70 percent of these chronically infected persons. Hepatitis infection is an opportunistic infection in HIV-infected persons, but it is not considered an AIDS-defining illness. As highly active antiretroviral therapy (HAART) and prophylaxis of opportunistic infections increase the life span of persons living with HIV, HCV-related liver disease has become a major cause of hospital admissions and deaths among HIV-infected persons.

Data in Table 26 were derived from the total HIV and HCV diagnoses for persons hospitalized in, and discharged from New Jersey acute care hospitals in the year 2001. There were 8,848 hospital discharges that were HIV related and 9,619 hepatitis C related discharges. Each amounts to less than one percent (0.6%) of all hospitalizations in that year. Among the HIV-related hospitalizations, 1,184, or 13.4 percent, were also diagnosed with HCV. Unreported in these figures are those persons in the State who either are living

with HIV and have yet to be tested for HCV or those who were not admitted to a hospital during this time period.

Table 26 - HIV and Hepatitis C Diagnosis Among Hospital Discharges in 2001

HIV STATUS	No Hepatitis C		Hepatitis C		Total	
	No.	%	No.	%	No.	%
No HIV	1,467,047	99.4	8,435	0.6	1,475,482	100.0
HIV	7,664	86.6	1,184	13.4	8,848	100.0
Total	**1,474,711**	**99.4**	**9,619**	**0.6**	**1,484,330**	**100.0**

Source: Uniform Billing hospital discharge file. Division of Health Care System Analysis, New Jersey Department of Health and Senior Services. Tabulation by DHAS

Tuberculosis (TB)

A person co-infected with HIV and TB is classified as an AIDS case. According to the CDC, TB is a leading cause of death among people infected with HIV. The risk of developing TB disease is much greater for those infected with HIV. The HIV infection so severely weakens the immune system that people dually infected with HIV and TB have a 100 times greater risk of developing active TB disease and becoming infectious compared to people not infected with HIV. The CDC estimates that 10 to 15 percent of all TB cases and nearly 30 percent of cases among people ages 25 through 44 are occurring in HIV-infected individuals. Consequently the CDC recommends that, "All people infected with HIV should be tested for TB, and, if infected, complete preventive therapy as soon as possible to prevent TB disease."

Extra Pulmonary TB and Pulmonary TB are included among the opportunistic infections that define AIDS. Men comprise 71.5 percent of the cumulative AIDS cases and 74 percent of TB/AIDS cases in New Jersey (Table 27). The rate of comorbid infection with HIV/TB in men is 6 per 100 of men with AIDS. Black non-Hispanics had the highest proportion of TB cases. Overall, six percent of all persons diagnosed with AIDS are co-infected with TB.

Table 27 - Overview of Cumulative AIDS Cases and AIDS Cases with Tuberculosis in New Jersey, 2001

	AIDS		TB/PULM TB and AIDS		TB Cases per 100 AIDS Cases
	No.	%	No.	%	
Gender					
Male	30,737	71.5	1,850	74.3	6
Female	12,272	28.5	640	25.7	5
Race/Ethnicity					
White non-Hispanic	11,473	26.7	245	9.8	2
Black non-Hispanic	24,180	56.2	1,847	74.2	8
Hispanic	7,110	16.5	371	14.9	5
Asian	166	<1	22	<1	13
Other/Unknown	80	<1	5	<1	6
Age Group					
0 – 12	726	1.7	18	<1	2
13 – 24	1,122	2.6	73	2.9	7
25 – 44	31,760	73.8	1,909	76.7	6
45 – 64	8,784	20.4	457	18.4	5
65+	617	1.4	33	1.3	5
Total	**43,009**	**100**	**2,490**	**100**	**6**

Source: New Jersey HARS as of 12/31/2001.

Mortality Due to AIDS

Causes of Death

The HIV disease is the fourth leading cause of deaths for Blacks in the State, and the nineteenth cause of death for Whites (Table 28). When AIDS was first diagnosed in the early 1980s, the life expectancy of a person with the disease was measured in months. Since the advent of the highly active anti-retroviral therapy (HAART), persons are living with HIV/AIDS for years, and in many cases are dying of diseases other than HIV.

A dramatic decline in deaths from all causes among AIDS patients from 1997 to 2001 (Figure 16) is evident. During that time period, the number of deaths of persons with AIDS declined steadily among both males and females. Overall, for both genders, the decline during this period was 32.8 percent. The CDC reported that during the same period of time, for the country as a whole, the decline in the deaths of persons with AIDS was 29.5 percent. Among males with AIDS, deaths in New Jersey declined 36 percent, from 968 in 1997 to 620 in 2001. This compares to a 33 percent decline, nationwide. Among females with AIDS, deaths in New Jersey declined 25 percent from 428 in 1997 to 319 in 2001. Nationally, the deaths of females with AIDS declined 18 percent. Although these declines have continued for both males and females through 2001, the deaths of males with AIDS declined more sharply. In recent years the decline in the number of deaths among persons with AIDS has slowed. This may

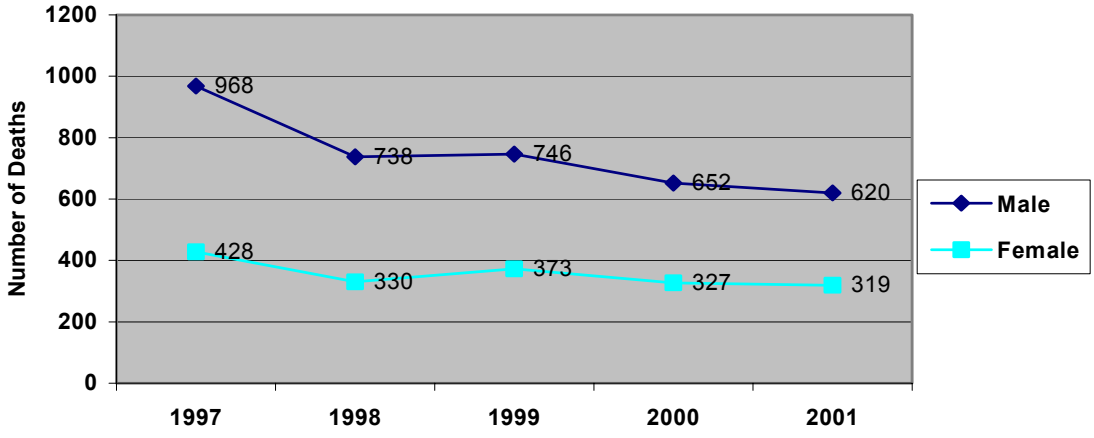
reflect limited access to or use of health care services and difficulty in using current therapies. While drug therapies for infected persons are effective, compliance with the drug regimens is very difficult.

Table 28 - Ranking of Leading Underlying Causes of Death by Race in New Jersey in 2000

CAUSE GROUP (ICD-10 CODES)	Black[a]		White[a]		Total	
	Rank	No.	Rank	No.	Rank	No.
Diseases of the Heart	1	2,394	1	21,090	1	23,274
Malignant Neoplasms	2	2,162	2	15,656	2	18,073
Cerebrovascular Diseases	3	571	3	3,681	3	4,316
HIV DISEASE	**4**	**555**	**19**	**272**	**11**	**830**
Diabetes Mellitus	5	449	5	1,990	5	2,483
Unintentional Injuries	6	359	6	1,890	6	2,284
Nephrotic Syndrome and Nephrosis	7	279	9	1,198	9	1,495
Chronic Respiratory Diseases	8	270	4	2,712	4	3,007
Septicemia	9	254	8	1,471	8	1,744
Influenza and Pneumonia	10	194	7	1,834	7	2,044
Alzheimer's Disease	15	86	10	1,178	10	1,267

a. Includes Hispanics
Source: New Jersey Department of Health and Senior Services, Center for Health Statistics

Figure 16 - Deaths From All Causes of Persons with AIDS in New Jersey by Gender 1997-2001



Source: New Jersey HARS as of 12/31/2002

For the year 2000, the number of deaths (from all causes) among persons diagnosed with HIV/AIDS in New Jersey was 1,166 (Table 29). Of these, 775 (66.5%) were male and 391 (33.5%) were female. The percentage of deaths for females is slightly higher than the percentage of females living with HIV/AIDS

(Table 7). By race/ethnicity, 762 of the deaths (65.4%) were Black non-Hispanics, 230 (19.7%) were White non-Hispanics and 169 (14.4%) were Hispanics. For all persons infected with HIV/AIDS in the State, the ratio of death was four deaths per 100 infected persons. Of these, the death rate for males was slightly higher than that of females (4.2 per 100 persons versus 3.8 per 100 persons).

Table 29 - Death Rates of New Jersey HIV/AIDS Patients by Race/Ethnicity and Gender in 2000

	Males			Females			Total		
Race/ethnicity	**No.**	**%**	**Ratio[a]**	**No.**	**%**	**Ratio[a]**	**No.**	**%**	**Ratio[a]**
White non-Hispanic	155	20.0	3.36	75	19.1	4.12	230	19.7	3.58
Black non-Hispanic	492	63.4	5.09	270	69.0	4.08	762	65.4	4.68
Hispanic	125	16.1	3.06	44	11.2	2.44	169	14.4	2.87
Asian/Pacific Islander	<3	<1	1.85	<3	<1	4.44	<5	<1	2.61
Native American/ Alaskan Native	<3	<1	7.69	0	<1	0.00	<5	<1	5.00
Total	**775**	**100.0**	**4.16**	**391**	**100.0**	**3.77**	**1166**	**100.0**	**4.02**

a. The denominator is per 100 persons living with HIV/AIDS in the demographic category.
Source: New Jersey HARS as of 12/31/2002

Premature Death Due to HIV Infections in New Jersey

Years of Potential Life Lost (YPLL) is a measure of premature death. It is calculated by adding all of the years of life not lived by persons who died during a year if they did not live as long as persons are normally expected to live. The higher the YPLL, the more premature the deaths. For this study the expected age of death is 75 years of age. The total of the differences between 75 and the age at which each person in the study died is the YPLL.

Cause of death data under the current method of classifying deaths are only available through 1998 so this study focused on YPLL from 1990 through 1998. Causes of death from New Jersey resident death certificates for 1990 through 1998 were used to combine deaths coded under the International Classification of Diseases (ICD), Version 9, from all causes, and specifically those from HIV infection.

Age-adjusted YPLL rates were computed per 100,000 people under the age of 75 for HIV infection and all deaths, for each year, 1990 through 1998 (Table 30). The YPLL for each of the ten leading causes of YPLL in 1990 were lower by 1998, however, the percentage decline in YPLL due to HIV infection was greater than the decrease in any of the other leading causes. This dramatic decrease in the YPLL caused HIV infection, which ranked third as a cause of YPLL in 1990, to rank fifth in 1998. Rates of premature death due to HIV infection increased from 1990 through 1995, but declined dramatically from 1996 through 1998. The decrease in YPLL due to HIV infection is ascribed to the introduction of HAART in 1996.

Table 30 - Age-adjusted Rates of Years of Potential Life Lost to Age 75 in New Jersey, 1990-1998

Year	HIV Infection	Total, All Causes
1990	771.6	8,871.0
1991	886.5	8,791.4
1992	884.7	8,704.4
1993	1,035.9	8,829.4
1994	1,075.4	8,748.5
1995	1,108.8	8,646.0
1996	779.3	8,047.2
1997	437.8	7,502.7
1998	305.5	7,041.5
% Change	**-60.4**	**-20.8**

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics

The age-adjusted YPLL rate due to HIV infection in males declined at a greater rate than in females over the 1990 through 1998 period (Table 31).

Table 31 - Age-adjusted Rates of Years of Potential Life Lost to Age 75 by Gender in New Jersey, 1990-1998

	Male			Female		
Cause	**1990**	**1998**	**%Change**	**1990**	**1998**	**%Change**
HIV Infection	1157.2	424.4	-63.3	402.4	192.4	-52.2
Total, All Cases	11435.2	8906.2	-22.1	6476.4	5278.1	-18.5

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics

At the same time, this rate decreased faster in the White population than in the Black population (Table 32). Major disparities by race continue to exist in HIV infection deaths and the gap actually widened during this period.

Table 32 - Age-adjusted Rates of Years of Potential Life Lost to Age 75 by Race in New Jersey, 1990-1998

	White			Black		
Cause	**1990**	**1998**	**%Change**	**1990**	**1998**	**%Change**
HIV Infection	393.7	140.1	-64.4	3209.0	1368.3	-57.4
Total, All Cases	7416.3	6273.9	-15.4	18466.5	12954.3	-29.8

Note: White and Black rates include persons of Hispanic ethnicity
Source: New Jersey Department of Health and Senior Services Center for Health Statistics

Section 6 – Indicators of Risk

Information related to the behavioral and social indicators of risk for HIV infection are necessary for the planning of HIV prevention, care, and treatment. This section of the Epidemiologic Profile includes information about the following indicators: sexual behaviors (such as the number and gender of partners), drug use behavior (including alcohol), prevention behaviors (such as condom use), and testing behaviors (such as where and/or why tested). The data were collected through surveillance, or special surveys designed to measure HIV-related behaviors. Each of these methods has its limitations. Surveillance does not provide information on at-risk, but not yet infected populations. Special surveys provide only information on the population questioned, and the risk behaviors are self-reported. Direct comparisons between the data are not possible because the data collection methods may differ. However, collectively, they provide useful indicators of risk behavior for the purposes of planning.

Sexually Transmitted Disease

An estimated 15 million people each year in the United States are infected with a sexually transmitted disease (STD). It is important to include STD data in the reporting about HIV/AIDS because sexual contact is a primary exposure category for HIV/AIDS. The STDs are indicators of individual high-risk behavior and the presence of some STDs increases the transmissibility of HIV.

The most commonly reported STD in New Jersey is chlamydia (16,312 cases reported in 2001). It is asymptomatic in most cases and occurs most often in female adolescents who are physiologically more susceptible to this infection than are older women. If exposed to HIV, women infected with chlamydia are up to five times more likely to become infected with HIV. Gonorrhea is the second most commonly reported infectious disease, (8,921 cases reported in 2001). Drug-resistant strains of this STD are becoming increasingly common. Unless successfully treated, gonorrhea can facilitate HIV transmission.[5]

The number and rate per 100,000 chlamydia, gonorrhea and syphilis cases have increased dramatically from 2000 to 2001. In 2001, the rates for gonorrhea and chlamydia were the highest they have been in New Jersey for the last five years, although still below the national rates. From 2000 to 2001, New Jersey's gonorrhea and chlamydia rates increased 20.3 and 57.0 percent, respectively. The rate of syphilis in New Jersey is slightly higher than the national rate. While the rate of syphilis infection in New Jersey increased 30 percent from 2000 to 2001, nationally the increase was less than two percent for the same time period (Table 33).

Table 33 - Sexually Transmitted Disease (STD) Incidence and Rates in New Jersey and the United States for 1997-2001

	United States		New Jersey	
	Cases	Rate	Cases	Rate
Syphilis				
1997	48,300	17.8	1,166	14.5
1998	39,785	14.5	836	10.3
1999	36,867	13.3	803	9.9
2000	32,952	11.5	802	9.5
2001	33,527	11.7	1,040	12.4
Gonorrhea				
1997	328,278	120.8	7,566	94.0
1998	357,003	130.1	7,858	96.8
1999	361,244	130.5	7,852	96.4
2000	363,749	127.4	7,232	85.9
2001	362,376	126.9	8,921	106.8
Chlamydia				
1997	540,409	207.1	10,339	128.4
1998	616,315	233.8	11,686	144.0
1999	664,725	249.8	12,424	152.6
2000	712,803	249.7	10,814	128.5
2001	786,552	275.5	16,312	193.9

Source: US Centers for Disease Control and Prevention

Illicit Drug Use

A major factor in the prevention, care and treatment of HIV is illicit drug use. Sharing of injection drug equipment can transmit HIV and hepatitis. In addition, illicit drug use, as well as, the use of alcohol, is linked with unsafe sexual activity. Drug users may exchange sex for drugs and some people think that drugs make sex more enjoyable. Most importantly, drug use (including alcohol) decreases the chances that people will protect themselves during sexual activity.

Illicit drug use can lead to other problems for people who are taking HIV/AIDS medication.[3,4] People who use illicit drugs are less likely to take all of their medications, which can cause treatment failure and may lead to the transmission of HIV that is resistant to some of the drug therapies available. Additionally, people who use illicit drugs and take prescribed medications for HIV may develop adverse drug reactions which are potentially life threatening.

There were 55,945 people admitted to drug treatment in 2001. Of these, approximately half (50.6 percent) were White non-Hispanic and one-third (33.9 percent) were Black non-Hispanic (Table 34). Heroin was the primary drug of choice for 26,968 persons or almost half (48.2 percent) of the total admissions in

2001. Of the heroin admissions, 39 percent reported injecting the drug (data not shown). By race/ethnicity, persons admitted for heroin use were primarily White non-Hispanic (43.5 percent) and Black non-Hispanic (37.8 percent). The second most frequent primary drug on admission in 2001 was alcohol with 15,756 admissions. More than two-thirds (67.4 percent) of the admissions for alcohol treatment were White non-Hispanic and about one-fifth (21.1 percent) were Black non-Hispanic.

Table 34 - Primary Drug Use by Race/Ethnicity for New Jersey Resident Admissions to Drug Treatment in 2001

Race/ Ethnicity	Alcohol		Cocaine		Heroin		Marijuana		Others		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Black non-Hispanic	3,330	21.1	2,798	49.2	10,188	37.8	2,429	41.6	200	11.8	18,945	33.9
Hispanic	1,547	9.8	671	11.8	4,528	16.8	903	15.5	112	6.6	7,761	13.9
White non-Hispanic	1,626	67.4	2,169	38.1	11,739	43.5	2,410	41.3	1,349	79.7	28,293	50.6
Other	253	1.6	50	0.9	513	1.9	99	1.7	31	1.8	946	1.7
Total	**15,756**	**100.0**	**5,688**	**100.0**	**26,968**	**100.0**	**5,841**	**100.0**	**1,692**	**100.0**	**55,945**	**100.0**

Source: New Jersey Department of Health and Senior Services, Division of Addiction Services

Behavioral Risk Factor Surveillance System (BRFSS)

The New Jersey Behavioral Risk Factor Surveillance System (BRFSS) is a survey of the adult population (accessible by phone) regarding their personal health behaviors and health experiences. Because it is population-based, estimates about testing attitudes and practices can be generalized to the adult population, not just those at highest risk for HIV/AIDS.

Questions regarding HIV-related attitudes and behaviors were asked of 4,814 respondents under the age of 65. Of the adults surveyed for the BRFSS in 2001, 61 percent of those aged 25-44 reported having had an HIV test (Table 35). In every age group, a greater proportion of Black non-Hispanics reported having had an HIV test than did any other race/ethnic group.

Table 35 - Percentage of New Jersey Adults Who Have Ever Had an HIV Test by Age Group and Race/Ethnicity, 2001

Age	White non-Hispanic	Black non-Hispanic	Other non-Hispanic	Hispanic	Total
18-24	43.4	61.6	32.0	42.4	44.5
25-44	58.6	79.5	55.1	58.9	60.8
45-64	29.3	50.0	24.2	26.8	32.5

Note: Excluding blood donations
Source: 2001 BRFSS

In the 2001 survey, the data from BRFSS indicated that the proportion of women who had had an HIV test was higher than the proportion of men who had been tested, among respondents 45 years of age and younger. A higher proportion of men aged 45-64 reported having had an HIV test than did women in the same age category (Table 36).

Table 36 - Percentage of New Jersey Adults Who Have Ever Had An HIV Test by Age Group and Gender, 2001

Age	Male	Female	Total
18-24	37.5	51.8	44.5
25-44	56.2	65.4	60.8
45-64	35.2	30.0	32.5

Note: Excluding blood donations
Source: 2001 BRFSS

Almost 42 percent of adults 18 through 64 years of age who reported they have had an HIV test indicated their last HIV test was at a doctor's office or HMO. Less than five percent of the respondents indicated their last HIV test was obtained at a community health clinic (4.3%), a health department (3.7%) or an AIDS clinic (3.2%) (Table 37).

Table 37 - Percentage of Persons Tested[a] in New Jersey by Where Last HIV Test Was Obtained 2001

Site	Percentage Tested
Doctor's Office or HMO	41.7
Hospital/Emergency Room	23.0
Home Health	5.4
Community Health	4.3
Health Department	3.7
AIDS Clinic	3.2

a. Adults who have had an HIV test, excluding blood donations
Source: 2001 BRFSS

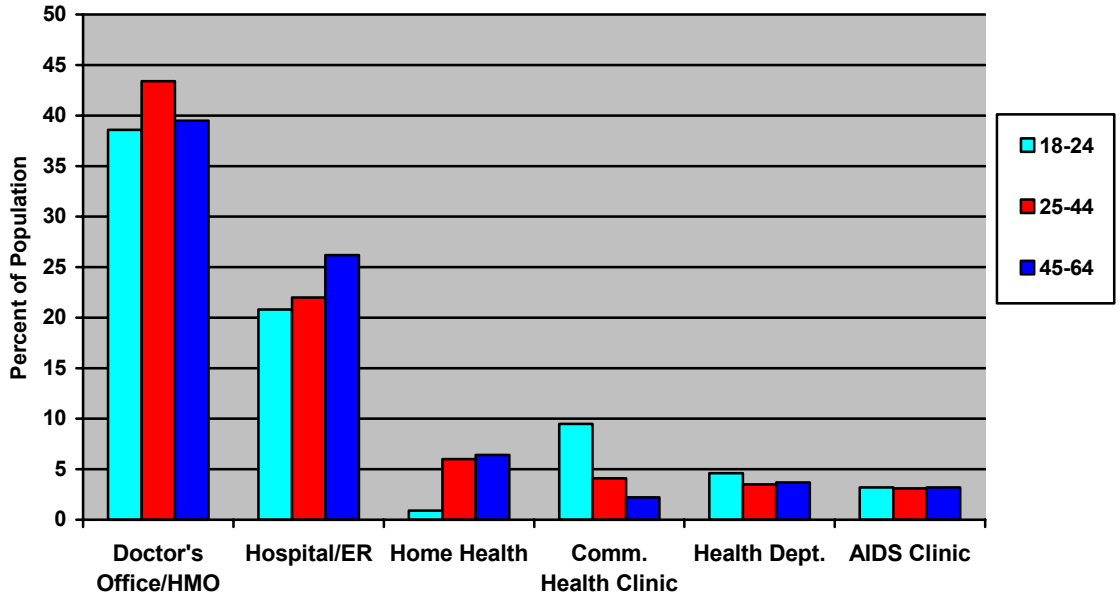
Although a doctor's office/health maintenance organization (HMO) and hospital/emergency room were the most common sites for HIV tests among this population across all age categories, respondents aged 18 through 24 years were the most likely age group to have been tested at a community health clinic (9.5%) (Figure 17).

Across all age categories, male respondents to BRFSS reported having two or more new sex partners in the last year about three times more frequently than did females (Table 38). The highest proportion of respondents who indicated they had two or more new sex partners in the last year for both genders was the population 18 through 24 years of age (30.5% of males and 10.8% of females).

Younger adults (aged 18 through 24 years) also reported the highest proportion of condom use at their last intercourse (Table 39). Among males 18 through 24 years of age, 67.2 percent indicated they had used a condom at their last intercourse. Among females in this age category, 52.5 percent reported

using a condom at last intercourse. Across all age categories reported in the BRFSS, a higher proportion of males than females reported using condoms at last intercourse.

Figure 17 - Major Sites Where New Jersey Adults Last Obtained an HIV Test by Age, 2001



Note: Adults who had an HIV test, excluding blood donations.
Source: 2001 BRFSS

Table 38 - New Jersey Adults Who Had Two or More New Sex Partners in the Past Year by Age Group and Gender, 2001

Age	Male	Female	Total
18-24	30.5	10.8	20.7
25-44	7.9	1.5	4.7
45-64	3.6	0.9	2.3

Source: 2001 BRFSS

Table 39 - Condom Use at Last Intercourse Among New Jersey Adults by Age Group and Gender, 2001

Age	Male	Female	Total
18-24	67.2	52.5	59.7
25-44	30.7	24.7	27.8
45-64	14.7	12.5	13.7

Source: 2001 BRFSS

HIV Testing Survey (HITS)

The HITS project was developed by the CDC to assess HIV testing among members of three groups considered at high risk for HIV infection. In New Jersey, HITS was conducted in two communities (Newark and Jersey City) over a period of six months between September 2002 and February 2003. To be included in the HITS in New Jersey, respondents had to be at least 18 years of age and a resident of New Jersey for at least six months. To be considered eligible for inclusion in the men who have sex with men (MSM) group, male respondents had to have had sex with another man within the last 12 months. Users of injection drugs had to have used injection drugs within the last 12 months. Members of the high-risk heterosexual (HRH) group had to have had sex with a partner of the opposite sex (but not the same sex) in the last 12 months.

The HITS interviews were conducted with members of three high-risk groups in three different venues:

- Men who have sex with men were interviewed in gay bars;
- Injection drug users were interviewed on the street at high drug use locations, and
- High-risk heterosexuals were interviewed at sexually transmitted disease clinics.

Of the respondents included in the HITS study, most had been tested for HIV at least once (86.2 percent) (Table 40). Among the IDU respondents, 63.1 percent had been tested for HIV 2-5 times. Within the MSM respondents, 44.9 percent had been tested that frequently. A larger proportion of IDU respondents had been tested from 6-10 times than either MSM (18.6 percent) or HRH (6.4 percent) respondents.

Table 40 - Number of Times Tested for HIV by Risk Behavior Category, 2002

	Bar (MSM)		STD Clinic (HRH)		Street (IDU)		Total	
	No.	%	No.	%	No.	%	No.	%
# of Times Tested for HIV per Participant								
0	7	5.9	39	36.1	2	1.6	48	13.8
1	19	16.1	21	19.4	8	6.6	48	13.8
2 – 5	53	44.9	39	36.1	77	63.1	169	48.6
6 –10	22	18.6	7	6.5	28	23.0	57	16.4
More than 10+	17	14.4	2	1.9	7	5.7	26	7.5
Total	**118**	**100.0**	**108**	**100.0**	**122**	**100.0**	**348**	**100.0**

Source: New Jersey HITS 2002

The sites where the respondents included in HITS indicated they were last tested for HIV varied by the exposure category. Among MSM, the most frequently cited place for the most recent HIV test was a physician's office,

followed by a public clinic (Table 41). For high-risk heterosexuals (HRH) the most frequently cited place was STD clinics followed by a private physician's office. For injection drug users (IDU) the most frequently cited place was a drug treatment program, followed by a counseling and testing site, public clinic and correctional facility. For the HITS respondents in all modes of transmission, a smaller proportion indicated they were tested at a physician's office or hospital emergency room than did the respondents to the BRFSS (Table 37).

Table 41 – Percentage of Persons Tested for HIV by Most Recent Test Site, 2002

Site of Most Recent HIV Test	Exposure Category and Venue Where Interviewed			
	MSM (BAR)	HRH (STD Clinic)	IDU (Street)	Total
Private Physician	33.9	4.6	2.5	13.8
Hospital	9.3	0.0	5.7	5.1
ER	0.0	0.9	0.0	0.2
HIV/AIDS Clinic	0.9	0.9	4.1	2.0
Public Clinic	11.9	0.9	12.3	8.6
Counseling/Testing Site	5.9	3.7	13.9	8.0
STD Clinic	6.8	28.7	2.4	12.1
Drug Treatment Program	0.0	0.0	22.9	8.0
Correctional Facility	0.0	1.9	12.3	4.8
Other/Missing	31.3	58.4	23.9	37.4
Total	100.0	100.0	100.0	100.0

Source: New Jersey HITS 2002

Seventy-seven percent of the respondents indicated they had received the results of their HIV tests (Table 42). The proportion of IDU respondents who received the results of their tests was 92.6 percent, compared with 89 percent of MSM and 45.4 percent of the HRH respondents.

Table 42 - Results Received for Each HIV Test by Risk Category, 2002

	Bar		STD clinic		Street		Total	
	No.	%	No.	%	No.	%	No.	%
Received Results of Every Test								
Yes	105	89.0	49	45.4	113	92.6	267	76.7
No	1	0.9	19	17.6	6	4.9	26	7.5
Missing	12	10.2	40	37.0	3	2.5	55	15.8
Total	**118**	**100.0**	**108**	**100.0**	**122**	**100.**	**348**	**100.0**

Source: New Jersey HITS 2002

Of those respondents who did not get their test results (Table 43), the most frequently cited reasons were because they expected the testing site to contact them (11) and because they were too busy or forgot to get the results (11). These responses were most often cited by HRH. The most frequently cited reason for not getting their results for injection drug users included in the HITS was that they were afraid to get the results (4). The only reason cited by MSM was also, "afraid of the result" (1).

Table 43 - Reasons for Not Receiving HIV Test Results by Risk Category and Venue, 2002

	Bar (MSM) No.	STD Clinic (HRH) No.	Street (IDU) No.	Total No.
Reason for Not Receiving HIV Test Results				
Thought site would contact	0	9	2	11
Afraid of result	1	1	4	6
Too busy/forgot	0	8	3	11
Other reason	0	3	2	5
Total	**1**	**21**	**11**	**33**

Source: New Jersey HITS 2002

The HITS respondents were asked how many sex partners (other than their primary sex partner) the respondents had in the last 12 months. Approximately, one half of the male and female respondents reported they had not had a sexual partner other than their primary sex partner in the last 12 months (Table 44). Of those respondents who had at least one sex partner other than their primary sex partner, the most frequent number of sex partners (other than the primary sex partner) cited by women was one and by men was 2-3. However, 18.4 percent of the men and 16.1 percent of the women indicated they had more than four sex partners other than their primary sex partner in the past 12 months.

Table 44 - Number of Non-Primary Sexual Partners by Gender, 2002

	Male		Female	
	No.	%	No.	%
Number of Non-Primary Partners In the Last 12 Months				
0	132	49.4	41	50.6
1	29	10.9	17	21.0
2 – 3	57	21.4	10	12.4
4+	49	18.4	13	16.1
Total	**267**	**100.0**	**81**	**100.0**

Source: New Jersey HITS 2002

Supplemental HIV/AIDS Surveillance (SHAS)

The SHAS project is an interview study designed by the CDC to obtain supplemental descriptive information on persons living with HIV/AIDS who have been reported through routine surveillance. In New Jersey, the project began in 1993 at Jersey City Medical Center, Jersey City, and at St. Joseph's Medical Center, Paterson, in 2000. Clients who come for care at the study site and who are at least 18 years of age are eligible for the study. All eligible clients are recruited and 78 percent consented to participate. Data are presented for the most recent three years of the study.

Trained interviewers collected self-reported behavioral data from over 500 SHAS respondents from June 2000 through June 2003. Fifty-eight percent of the participants are men and 42 percent are women. The largest percentage of completed interviews is among Black non-Hispanics (53%), followed by individuals of Hispanic origin (36%), and White non-Hispanics (10%). The mode of exposure reported with the greatest frequency among SHAS participants is injection drug use (36%). Heterosexual contact is the second leading reported mode of exposure (26%) followed by MSM (19%), No Identified Risk (14%) and MSM/IDU (3%). Sixty-two percent of the respondents meet the AIDS definition, while 38% have HIV but not AIDS.

Respondents were asked how many sex partners they had in the past 12 months. A higher proportion of MSM (36% of MSM and 50% of MSM/IDU) reported having had more than one sex partner in the past 12 months compared with other groups. Essentially, a quarter of all respondents in the other exposure categories reported having more than one sex partner in the year preceding the survey (Table 45).

Table 45 - Percentage of Men Who Had More than One Sex Partner in the Past 12 Months by Risk Category, 2000-2003

	Male Respondents	Men Who Had More than 1 sex Partner in Past 12 Months	
Exposure Category	**No.**	**No.**	**%**
MSM	98	36	36.7
IDU	112	30	26.7
MSM/IDU	14	7	50.0
Heterosexual	39	10	25.6
No Reported Risk	38	10	26.3
Total of Men	**301**	**93**	**30.9**

Source: New Jersey SHAS June 2000-June 2003

When questioned about injection drug use history, approximately a third of the respondents indicated that they had injected drugs. Within racial/ethnic groups, a greater proportion of injection drug users were found among White non-Hispanics as compared to Black non-Hispanics and Hispanic groups.

Any history of injection drug use increases the risk for HIV infection, however, having injected drugs within the past 12 months is an indication of recent risk for acquiring or transmitting HIV. A little over a quarter of all respondents admitted that they injected drugs in the past year. Due to the small number of injection drug users in the prior year (N=45) it is difficult to draw conclusions about differences in racial/ethnic groups. There is however, an indication that White non-Hispanics and Hispanics are more likely to have ever used or to be recent injection drug users than are the Black non-Hispanic respondents (Table 46).

Table 46 - Injection Drug Use History By Race/Ethnicity, 2000-2003

Injection Drug Use	White non-Hispanic		Black non-Hispanic		Hispanic		Total (1)	
	No.	%	No.	%	No.	%	No.	%
Ever								
Yes	**24**	**47.1**	**88**	**31.8**	**56**	**29.5**	**168**	**32.2**
No	27	52.9	189	68.2	134	70.5	353	67.8
Past Year								
Yes	**8**	**33.3**	**21**	**23.9**	**16**	**28.6**	**45**	**26.8**
No	16	66.6	67	76.1	40	71.4	123	73.2

a. Total includes respondents who are Asian/ Pacific Islander or Alaskan/Native American but the responses for these groups are not shown due to small cell sizes.
Source: New Jersey SHAS June 2000-June 2003

Reasons for HIV testing were also collected. Illness was identified as the main reason all SHAS participants sought HIV testing (Table 47). Among the Black non-Hispanic and Hispanic populations, illness was the most frequently cited reason for testing followed by curiosity or "wanted to know." For White non-Hispanics, participating in a risky behavior was the major reason for seeking to be tested, followed by illness. Among those participants who received HIV testing at the recommendation or suggestion of a health or clinical care provider, the proportion of White non-Hispanics was larger than Black non-Hispanic and Hispanic populations (data not shown).

Table 47 - Main Reason for Voluntary HIV Testing by Race/Ethnicity, 2000-2003

Main Reason	White non-Hispanic		Black non-Hispanic		Hispanic		Total	
	No.	%	No.	%	No.	%	No.	%
Illness	12	25.0	82	31.9	60	35.1	155	32.4
Just Wanted to Know	9	18.7	78	30.4	48	28.1	137	28.6
Clinic or Routine	6	12.5	27	10.5	24	14.0	57	11.9
Risk perceived	21	43.8	70	27.2	39	22.8	130	27.1
Total	**48**	**100.0**	**257**	**100.0**	**171**	**100.0**	**479**	**100.0**

a. Total includes respondents who are Asian/ Pacific Islander or Alaskan/Native American but the responses for these groups are not shown due to small cell sizes.
Source: New Jersey SHAS June 2000-June 2003

Section 7 – Successes and Future Challenges

New Jersey's response to the HIV/AIDS epidemic has yielded many successes. The greatest success in New Jersey's fight against HIV/AIDS is the reduction of perinatal transmission of HIV with a decrease from 11 percent in 1997 to three percent in 2001. Due to improvements in the screening of donated blood, transfusions have been virtually eliminated as an exposure category for HIV infection. When AIDS was first diagnosed in the early 1980s, life expectancy for individuals with the disease was measured in months. Since the advent of HAART, the number of deaths in New Jersey among AIDS patients declined 33 percent and there has also been a sharp decrease in years of potential life lost (YPLL) since 1995.

In the absence of an HIV vaccine or cure, prevention remains one of the most effective methods of containing the epidemic. Successful public health efforts have reduced the number of annual new infections, but despite the existence of strong proven prevention programs, individuals are still becoming infected with a preventable disease.

The DHAS has taken a three-pronged approach to prevention: programs to help individuals reduce their risk of infection; providing HIV testing to identify and refer for care of those already infected; and working with those infected to prevent further transmission. Research and surveillance data indicate that New Jersey has successfully targeted many populations for testing. Among the BRFSS respondents, a population that is not considered to be high risk, 61 percent of those in the age group with the highest prevalence of HIV/AIDS reported having taken an HIV test. Most of the at-risk respondents in the HITS study (86.2%) had been tested for HIV at least once and 76.7 percent had received the results of their tests. However, almost 40 percent of HIV infected persons identified from the UMNDJ emergency room study did not know that they were HIV infected.

Early in the epidemic, fear of being stigmatized discouraged many individuals from being tested. Although discrimination has become less of a problem, it still remains a significant challenge, especially in minority communities. Race and ethnicity alone are not risk factors for HIV/AIDS, however, social and economic disparities may increase the risk for infection in minority communities. Services are available and accessible statewide, yet many in the minority population are not using the services.

The recent Food and Drug Administration (FDA) approval of a rapid HIV diagnostic test creates opportunities for expanding testing programs. The challenge will be to use this new technology to reach the hard-to-reach populations, including out-of-treatment injection drug users, the homeless, the mentally ill, out-of-school youth and men who have sex with men. Although surveillance data show that persons are living longer with HIV/AIDS, the older adult is often overlooked in targeting prevention. In 2000, 30 percent of newly diagnosed HIV/AIDS cases occurred in individuals 45 years of age and older.

Many adults 45 years of age and older do not take precautions against HIV because they don't consider themselves to be at risk for infection. If they are infected, older adults often mistake the symptoms of HIV/AIDS with the signs of the normal aging process. Similarly, physicians may be less likely to consider the possibility of HIV infection in older adults, resulting in inadequate prevention and delayed diagnosis.

If we are successful in our attempt to identify all HIV infected persons in the State, our next challenge will be in caring for them. As we move into the 21st century, we are faced with an increasing number of persons living longer with HIV. The advent of highly active antiretroviral therapy and an improved understanding of adherence issues have slowed the progression of HIV disease, increasing the survival of persons who are HIV positive. One factor that continues to impede the care of persons infected with HIV is the rising costs of prescription drugs. Spending on prescription drugs is one of the fastest growing segments of overall health care costs. Spending by State Medicaid programs and AIDS Drug Assistance Programs (ADAP) has risen significantly over the past several years. Costs for combination antiretroviral therapy range between $10,000 and $12,000 per year, per patient.

The advent of highly active antiretroviral therapy has been a huge success in an area where there was previously little hope. However, drug resistance threatens to erase the recent gains made in treating HIV. As strains resistant to HAART increase in the HIV infected population, new pharmaceutical agents must be readily available for use in these patients. Moreover, medical treatments must also be developed to meet the future needs that current drug therapies may not resolve. The DHAS continues to monitor changes in the epidemic using its surveillance system to look for resistant strains. However, the challenge will be to maintain and modify this system as laboratory testing for these strains evolves.

Transmission of HIV, hepatitis and other blood-borne pathogens, by the sharing of contaminated needles, has given rise to needle exchange programs in other states. Although some epidemiologic studies have shown that these programs decrease the transmission of HIV disease without increasing the rates of addiction, they remain controversial. Some people think it is inconsistent with public health policy to provide drug paraphernalia to addicts. Although several bills have been introduced surrounding needle exchange, none has passed in New Jersey. As a result, the DHAS will continue to monitor and respond to the political challenges regarding this important issue.

The DHAS believes that these challenges represent our greatest opportunity for improvement in advancing the fight against HIV. Turning the tide on reducing the spread of HIV remains a formidable challenge, and we must not underestimate the commitment needed. The value of this Epidemiologic Profile is that it provides the surveillance and research information necessary for the planning processes for HIV/AIDS prevention, education, care, treatment and HIV testing. To this end, the Division of HIV/AIDS Services invites your comments and suggestions for the use and improvement in future versions of the Epidemiologic Profile.

Appendix A

Major Data Sources

Behavioral Risk Factor Surveillance System (BRFSS)

Overview:	The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based surveillance system used to collect information on the risk behaviors of adults.
Funding Source:	U. S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) and the New Jersey Department of Health and Senior Services.
Mode of Administration:	Telephone interview.
Population:	Civilian noninstitutionalized population 18 years of age and older who reside in households with a telephone.
Survey Sample Design:	The first BRFSS survey was conducted in 1984 with 15 states participating. All 50 states and the District of Columbia have participated since 1996. The sample design uses state-level random digit-dialed probability samples of the adult population 18 years of age and over. The current New Jersey sample design is disproportionate stratified random sampling. The New Jersey annual sample size has ranged from 1,500 to approximately 3,800.
Survey Content:	The survey consists of a core set of questions asked in all states and includes optional questions on selected topics identified by the CDC and administered at the State's discretion. Questions cover behavioral risk factors (HIV/AIDS) preventive health measures, health status, limitation of activity and health care access and utilization.
Strengths:	Data are population-based, thus, estimates about testing attitudes and practices can be generalized and applied to the adult population of a state.
Limitations:	Because the data are self-reported the information may be subject to recall bias. Moreover, the extent of HIV behavioral risk information collected by the BRFSS questionnaire is limited.
Response Rate:	The response rate varies from year to year.
Demographic Data:	Gender, age, educational attainment, race/ethnicity, household income, employment status, and marital status.

Geographic Estimates: State

Schedule: Ongoing, Reported annually.

HIV/AIDS Reporting System

Overview: Since 1992 HIV/AIDS has been a reportable disease in New Jersey. The surveillance system was established to monitor incidence and the demographic profile of HIV/AIDS; describe the modes of HIV transmission among persons with a diagnosis of HIV or AIDS; guide the development and implementation of public health intervention and prevention programs; and assist in the assessment of the efficacy of public health interventions.

Funding Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for HIV, STD, and TB Prevention, New Jersey Department of Health and Senior Services (DHSS) and the Division of HIV/AIDS Services (DHAS).

Mode of Administration: The CDC designed case report forms are completed by providers, and/or New Jersey Department of Health and Senior Services staff, based on a review of medical records. Records are updated based on laboratory reports received from testing laboratories.

Population: All persons whose conditions meet the 1993 CDC AIDS surveillance case definition or who are identified as HIV positive.

Strengths: These data reflect the effect of HIV/AIDS on a community and the trends of the epidemic in a community. The HIV/AIDS surveillance has been determined to be >85% complete. The data include all demographic groups (age, race/ethnicity, gender).

Limitations: Information is not available on persons who are HIV positive but not reported, or who have not been tested. Information on the mode of transmission of the disease is not complete, and follow-up on known positives may not be complete because they may move out-of-state after diagnosis. Because of the prolonged and variable period from infection to the development of AIDS, trends in AIDS surveillance do not represent recent HIV infections. Asymptomatic HIV-infected persons are also not represented by AIDS case data. In addition, incomplete HIV or CD4+ T-cell testing may interfere with the representativeness of reporting. Further, the widespread use of highly active antiretroviral therapy (HAART) complicates the interpretation of AIDS case surveillance data and estimation of the HIV/AIDS epidemic in an area.

Newly reported AIDS cases may reflect treatment failures or the failure of the health care system to halt the progression of HIV infection to AIDS. The AIDS cases represent late-stage HIV infections.

Response Rate: Population based system of reporting, mandated by both statute and regulation. Evaluations of completeness are consistently greater than 85 percent.

Demographic Data: Gender, age and race/ethnicity.

Other Data: Mortality status, mode of transmission, year of diagnosis and date of report.

Schedule: Ongoing.

Geographic Estimates: State, county and municipality.

Supplemental HIV/AIDS Surveillance (SHAS)

Overview: The Supplemental HIV/AIDS Surveillance (SHAS) is an adjunct to the AIDS case registry. This study consists of a cross-sectional interview that collects self-reported characteristics and behaviors of persons who are 18 years or older and have been recently reported with HIV infection or AIDS through routine surveillance to state or local health departments. Using a sample of AIDS cases, detailed information is collected on socio-demographic issues, sexual behavior and STD history, drug and alcohol use and treatment, and access to health and social services.

Eligible persons are recruited by using population-based or facility-based sampling methods, depending upon the area's HIV/AIDS case load. In areas with fewer than 500 persons eligible for interview, all persons are interviewed. Areas conducting population-based or facility-based sampling use three strategies in recruiting patients for interviews: I) all persons reported to surveillance, 2) 30% random sample of HIV-infected MSM (i.e., if male to-male sex is the predominant mode of HIV transmission) and 100% of HIV-infected persons from other risk groups, or 3) 50% random sample of all persons for whom male-to-male sex is not the primary mode of transmission.

Population: The HIV-infected persons who are 18 years or older and reported to state or local health departments are eligible for a SHAS interview. Persons who are medically or mentally unstable are excluded.

Strengths: The SHAS provides detailed information that is unavailable in other databases. A standardized questionnaire is used to gather self-reported information on the use of HIV care

services and adherence to therapies. In some areas, the information is representative of all or nearly all persons reported as having HIV/AIDS.

Limitations: The SHAS gathers self-reported data; thus, the data are subject to recall bias, particularly for questions concerning injection drug use and sexual history, and cannot be validated by another source of information. Because SHAS is a cross-sectional survey, changes in behavior over time cannot be examined.

New Jersey Death Data

Overview: New Jersey law requires the prompt filing of a death certificate by the proper authority in the event of a death occurring in the State. These certificates are submitted to the office of the State Registrar, where they are recorded and filed permanently. Statistics on deaths of New Jersey residents that occurred in other states are obtained through an exchange program sponsored by the national Vital Statistics Cooperative Program and added to the death file. Records of deaths occurring to non-residents of New Jersey were eliminated from the analysis. Deaths included in this report encompass all of the deaths to New Jersey residents that occurred within a calendar year. The records follow the standard certificate promulgated by the National Center for Health Statistics and include demographic information on the decedent, underlying cause of death and contributions of selected factors to the death. The underlying cause of death for deaths occurring prior to 1999 were coded in accordance with the International Classification of Diseases, Ninth Revision.

Years of Data Collected: New Jersey, along with Massachusetts, the District of Columbia, and several large cities that had efficient systems for death registration, was part of the first national death "registration area" created in 1880. New Jersey has continued to collect death records since that time, through a number of changes in the death record format and several versions of the classification system for cause of death. The standard death certificate that provided the data for this report was implemented in 1989. The certificate was revised in 2003 using a new format. The manual for coding the cause of death that had been in effect from 1979 through 1998, Ninth Revision was replaced by the International Classification of Diseases, Tenth Revision in 1999.

Population: The entire State population.

Strengths: Reporting of deaths is universal and complete. Standardized procedures and definitions are used

throughout the country to collect and process death certificate data. The data are widely available and can be analyzed by demographic characteristics and geographic residence of individuals who are reported to have died with an underlying cause of HIV infection.

Limitations: Deaths from HIV infection as an underlying cause may be under-reported and as a consequence, information may be incomplete when using only the underlying cause of death. Death records may be less timely than reports to the HIV/AIDS reporting system.

Demographic Data: Gender, age, educational attainment, race/ethnicity, employment status, and marital status.

Schedule: Reported annually.

Geographic Estimates: State, county, municipality.

HIV Anonymous Unlinked Surveys (AUS)

Overview: Anonymous unlinked surveys (AUS) were designed to estimate the prevalence of HIV infection among selected populations, such as patients attending specific health care settings. Residual sera, originally collected for other purposes and which otherwise would have been discarded, were tested for HIV after all personal identifiers were permanently removed from the specimens. All sites that conducted AUS offered voluntary counseling and testing, allowing anyone who participated in the surveys the opportunity to learn his or her HIV status.

Population: Populations included in the AUS included clients attending the venue where the study was conducted.

Strengths: The AUSs allow estimates of HIV infection without the participation bias that results from a person's decision to seek or not seek HIV testing. Because testing behavior may differ considerably in racial and ethnic, socioeconomic, and behavioral risk groups, AUS are especially important in providing data that are representative of specific subgroups of the population. Demographic and risk information, linked to the residual specimens through a unique study number, were abstracted from routine medical records and intake forms. Data from these surveys have been instrumental in defining populations with the highest need for preventive services and future care.

Limitations: Persons attending the participating AUS clinics may not be representative of the selected population. For example,

persons attending STD clinics are likely at higher risk for HIV than are MSM or heterosexual persons who do not attend the clinics. Also, because of the nonrandom selection of venues, results cannot be generalized to persons who do not attend these venues. However, trend data are less subject to bias within a particular group.

HIV Testing Survey (HITS)

Overview: Established to monitor HIV testing patterns by assessing reasons for seeking or avoiding testing, examining knowledge of state policies for HIV surveillance, and assessing HIV testing patterns among persons at high risk for HIV. Because HITS collects information from persons who are at high risk for HIV infection, this can be used to evaluate the representativeness of HIV surveillance data.

Survey Sample Design: The HITS is an anonymous cross-sectional survey of populations at high risk for HIV infection. To recruit participants, the study is conducted at three venues: gay bars, street locations in areas of heavy drug use, and STD clinics. At a minimum, 100 persons in each population group are interviewed; thus, states have a minimum sample of 300 persons. Persons who are not tested or self-report as being positive for HIV are interviewed. Also, persons who are HIV negative may be interviewed.

Targeted Population: The core populations are MSM, IDU, and high risk heterosexual adults. Regardless of the venue, persons who are at least 18 years of age, able to give informed consent, and have been a resident of the State for at least one year are eligible for a HITS interview. In addition, the following behavioral criteria apply for each risk group: men at MSM venues are eligible if they have had sex with a man within the past 12 months; IDUs must have injected within the past 12 months; and high risk heterosexual adults who seek care at an STD clinic are eligible if they are at the clinic because of a suspected STD, have not been treated during the past 90 days, are not at the clinic because of referral or follow-up, and have not had homosexual sex within the past 12 months.

Strengths: The survey collects valuable public health information about HIV testing attitudes, history and behaviors, as well as, knowledge about testing, and risk behaviors from population groups at high risk for HIV.

Limitations: The HITS is a cross-sectional survey and relies on a convenience sample for participation. Information collected is self-reported and may be subject to recall bias. Further, HITS data may not represent the entire high risk population of an area.

New Jersey Alcohol and Drug Abuse Data System (ADADS)

Overview: Drug abuse treatment agencies throughout the State submit reports on treatment admissions and discharges to the State's Alcohol and Drug Abuse Data System (ADADS). The system collects data on drug use and sociodemographic characteristics of persons admitted to drug treatment.

Population: All persons admitted to drug treatment in New Jersey.

Strengths: Data are provided statewide and by county. Data include detailed information on drugs used, length of time used, and methods of use including injection. Data are available on the NJDHSS' web site with links to other useful sites.

Limitations: The system does not contain data on persons who use illicit drugs but do not enter treatment. It does not contain data on needle sharing for those admitted to drug treatment.

Sexually Transmitted Disease Case Reporting

Overview: The CDC conducts surveillance to monitor the levels of syphilis, gonorrhea, chancroid, and, more recently, chlamydia, in the United States in order to establish prevention programs, develop and revise treatment guidelines, and identify populations at risk for STDs. States, local areas, and US territories submit to CDC (weekly, monthly, or annually) case reports of STDs that have met the respective case definition for the infection.

Funding Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for HIV, STD and TB Prevention and the New Jersey Department of Health and Senior Services.

File Content: Case report forms include date of report, name, telephone number, address, age, birth date, pregnancy status, gender, race/ethnicity, disease type, name, address and phone number of the provider/physician, laboratory test and treatment.

Population: All persons with a diagnosis of an infection that meets the CDC surveillance case definition for the infection and who are reported to a local health department.

Years of Data Collected: New Jersey started to require reporting of venereal disease in 1917. New Jersey has continued to collect these reports since that time, through a number of format changes.

Response Rates: Laboratories and providers are surveyed to determine compliance with regulations.

Demographic Data: Gender, age and race/ethnicity.

Schedule: Reported annually.

Strengths: Sexually Transmitted Disease surveillance data can serve as a surrogate marker for unsafe sexual practices and/or demonstrate the prevalence of changes in a specific behavior (e.g., rectal gonorrhea). The STD data are widely available at the State and local level and because of shorter incubation periods between exposure and infection, STDs can serve as a marker of recent unsafe sexual behavior. In addition, certain STDs (e.g., ulcerative STDs) can facilitate transmission and/or acquisition of HIV infection. Finally, changes in trends of STDs may indicate changes in community sexual norms (e.g., unprotected sex).

Limitations: Sexually Transmitted Diseases are reportable, but requirements for reporting differ by state. Reporting of STDs from private sector providers may be less complete. Although STD risk behaviors result from unsafe sexual practices, they do not necessarily correlate with HIV risk. Trends in chlamydia infections may reflect changes in reporting and screening practices rather than actual trends in disease.

Survey of Childbearing Women

Overview: Beginning in 1988 and continuing annually since, the New Jersey Division of HIV/AIDS Services has conducted a study of the HIV status of newborns. This is an anonymous unlinked study done through testing of a blood specimen from infants born in the State. The HIV antibodies are present in the blood of a newborn in about the same concentration as in the blood of the mother. Therefore, the test of a newborn's blood is a good indicator of the presence of HIV in the mother and infant pair. The State's 120,000 newborns each year are routinely screened for inborn errors of metabolism. This involves obtaining a blood specimen from each newborn. During the months of July, August and September, excess blood remaining from the inborn errors of metabolism screening are analyzed for HIV through blinded, anonymous surveys. Since 1994, positive specimens have been tested for the presence of ZDV.

Population: All women giving birth to a live infant whose routine specimens for Inborn Errors of Metabolism testing are received at the State Public Health and Environmental

Laboratory during July, August, and September of each year.

Strengths: It is the State's only population based study of HIV prevalence.

Limitations: Women giving birth may not be representative of women in general. Limited information is available about the participants.

Tuberculosis Surveillance

Overview: All reporting areas (the 50 states, the District of Columbia, New York City, Puerto Rico, and other US jurisdictions in the Pacific and Caribbean) report tuberculosis (TB) cases to CDC by using a standard case report form, the Report of a Verified Case of Tuberculosis (RVCT). Reported TB cases are verified according to the TB case definition for public health surveillance. In 1993, the surveillance of TB was expanded to collect additional data to better monitor and target groups at risk for TB disease, to estimate and follow the extent of drug-resistant TB, and to evaluate outcomes of TB cases. The RCVT form was revised to obtain information on occupation, initial drug regimen, HIV test results, history of substance abuse and homelessness, and residence in correctional or long-term care facilities at the time of diagnosis.

Population: All persons whose case of TB meets the public health surveillance definition.

Strengths: The level of active TB disease reporting is more than 95% complete. As a result of the 1993 expansion of surveillance activities, jurisdictions have been able to evaluate the success of TB control efforts and monitor the status of the TB epidemic. Tuberculosis surveillance data provide areas with a minimum estimate of the level of HIV comorbidity.

Limitations: Data on HIV infection status of reported TB cases should be interpreted with caution, because these data are not representative of all TB patients with HIV infection. HIV testing is voluntary, and some TB patients may decline HIV testing. In addition, TB patients who have been tested anonymously may not share their HIV test results with their health care provider. Further, testing may be influenced by other factors, such as the extent to which testing is focused on, or routinely offered to, specific groups.

Uniform Billing (UB-92)

Overview: The New Jersey Department of Health and Senior Services collects discharge records from hospitals. The UB-92 Hospital Discharge Data file contains medical abstracts, patient information and billing of all hospital discharges from acute care facilities.

Population: All discharges from hospitals statewide.

Strengths: Broad coverage.

Limitations: Data are largely administrative in nature and may not be adequate for detailed research. Medical and patient information may not be accurate.

U.S. Bureau of the Census Population Data

Overview: The Census Bureau collects and provides timely information about the people and the economy of the United States. The decennial censuses provide data on demographic characteristics (e.g., age, race, Hispanic ethnicity, sex) of the population, family structure, educational attainment, income level, housing status, and the percentage of persons living at or below the poverty level. In addition, the Census Bureau provides intracensal population estimates for counties by age, race, ethnicity and gender for each year. Also, the Census Bureau conducts a number of population surveys such as the current Population Survey and the American Community Survey.

Population: United States population.

Strengths: A wide range of online statistical data on the United States population is available on the web in different formats (e.g., tables, maps). State- and county-specific information is easily accessible, and links to other census web sites are provided.

Limitations: Only limited municipality data are available between censuses. The availability may improve when the American Community Survey is completely implemented.

Enhanced Perinatal Surveillance (EPS)

Overview: The project was established to monitor the implementation and effect of the Public Health Service recommendations for preventing perinatal HIV transmission on pediatric HIV/AIDS trends, provide a data collection system that enables states to respond to selected requirements of the Ryan White CARE Act, and assist with timely evaluation of perinatal prevention efforts.

The project collects data using the HIV/AIDS case report form and collects additional information from supplemental records by the use of a medical record abstraction form. The enhanced surveillance methods used to identify HIV-infected mothers and their perinatally exposed children include matching of birth file to the HIV/AIDS surveillance registry and linking of mother-infant pairs. Information on HIV-infected mothers and their perinatally exposed children is abstracted from multiple sources: the maternal HIV record, prenatal care records, labor and delivery records, birth records, pediatric HIV records, birth and death certificates, and laboratory reports. The data that are collected include maternal and prenatal care, mother's HIV test history, prenatal and neonatal antiretroviral therapy, other interventions to prevent transmission, receipt of prophylaxis and treatment of the infant, appropriate follow-up care of the mother and child, and other interventions relevant to the evaluation of recommended public health actions to prevent perinatal HIV transmission. Infants identified through enhanced surveillance are followed up every six months until their HIV infection status is determined; if they meet the case definition, they are followed up to determine their vital status.

Population: All HIV-exposed infants born during 1999 or later years and their HIV-positive mothers.

Strengths: The project is population based in most areas. Data from population-based areas are complete. In a study that included data from four population-based project areas (Louisiana, Michigan, New Jersey, and South Carolina), 90% ascertainment of infants born to HIV-infected women was found when data were compared with data from the Survey of Childbearing Women. The project collects information on HIV-exposed infants every six months until HIV infection is diagnosed. Study sites are able to characterize trends in perinatal HIV/AIDS, monitor the implementation and effect of perinatal prevention guidelines, assess resource needs, assess missed prevention opportunities, and monitor the effect of prevention programs.

Limitations: Data for the project rely upon the ability to identify an HIV-exposed infant and locate the supplemental medical charts needed to complete the abstraction form. The completeness of data elements relies upon the level of documentation in each of these medical records.

Appendix B

Exposure Category Hierarchy

The following is an excerpt from CDC technical notes at CDC.gov/hiv/stats/hasr1402/technotes.htm.

For surveillance purposes, HIV infection cases and 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 exposure category listed first in the hierarchy, except for men with both a history of sexual contact with other men and injecting drug use. They make up a separate exposure category.

"Men who have sex with men" cases include men who report sexual contact with other men (i.e., homosexual contact) and men who report sexual contact with both men and women (i.e., bisexual contact). "Heterosexual contact" cases are in persons who report specific heterosexual contact with a person with, or at increased risk for, HIV infection (e.g., an injecting drug user).

Adults/adolescents born, or who had sex with someone born, in a country where heterosexual transmission was believed to be the predominant mode of HIV transmission (formerly classified as Pattern-II countries by the World Health Organization) are no longer classified as having heterosexually-acquired AIDS. Similar to case reports for other persons who are reported without behavioral or transfusion risks for HIV, these reports are now classified (in the absence of other risk information which would classify them in another exposure category) as "no risk reported or identified" (MMWR 1994;43: 155-60). Children whose mother was born, or whose mother had sex with someone born, in a Pattern II country are now classified (in the absence of other risk information which would classify them into another exposure category) as "Mother with/at risk for HIV infection: has HIV infection, risk not specified."

"No risk reported or identified" (NIR) cases are in persons with no reported history of exposure to HIV through any of the routes listed in the hierarchy of exposure categories. The NIR cases include persons who are currently under investigation by local health department officials; persons whose exposure history is incomplete because they died, declined to be interviewed, or were lost to follow-up; and persons who were interviewed or for whom other follow-up information was available and no exposure mode was identified. Persons who have an exposure mode identified at the time of follow-up are reclassified into the appropriate exposure category. Historically, investigations and follow-up for modes of exposure by state health departments were conducted routinely for persons reported with AIDS and as resources allowed for persons reported with HIV infection. Therefore, the percentage of HIV infected persons with risk not reported or identified is substantially higher than for those reported with AIDS.

Appendix C

Acronyms

ADDP	AIDS Drug Distribution Program
ADADS	New Jersey Alcohol and Drug Abuse Data System
AIDS	Acquired Immunodeficiency Syndrome
AUS	Anonymous Unlinked Surveys
BRFSS	Behavioral Risk Factor Surveillance System
CARE	(Ryan White) Comprehensive AIDS Resources Emergency (Act)
CDC	Centers for Disease Control and Prevention
EIP	Early Intervention Program
HARS	HIV/AIDS Reporting System
HAART	Highly Active Antiretroviral Therapy
HITS	HIV Testing Survey
HIV	Human Immunodeficiency Virus
IDU	Injection Drug Use
MSM	Men Who Have Sex With Men
PLWHA	People Living With HIV/AIDS
RWCA	Ryan White CARE Act
SCBW	Survey of Childbearing Women
SHAS	Supplemental HIV/AIDS Surveillance
STD	Sexually Transmitted Disease
UB	Uniform Billing
UMDNJ	University of Medicine and Dentistry of New Jersey
ZDV	Zidovudine (also known as AZT)

Glossary

Acquired Immunodeficiency Syndrome	A disease caused by the human immunodeficiency virus.
Antiretroviral Drug	A drug used to combat the Human Immunodeficiency Virus (HIV).
Core Surveillance	Activities conducted by the Epidemiologic Services Unit within the Division of HIV/AIDS Services.
Diagnosis	The art or act of identifying a disease from its signs and symptoms.
Eligible Metropolitan Area	Geographic areas highly impacted by HIV/AIDS that are eligible to receive Title I CARE Act funds.
Epidemic	The occurrence of more cases of a disease than would be expected in a community or region during a given time period.
Epidemiology	The study of the populations in order to determine frequency and distribution of disease and measure risks.
Exposure Category	In describing HIV/AIDS cases, same as transmission categories; how an individual may have been exposed to HIV, such as injection drug use, male-to-male sexual contact, and heterosexual contact.
Heterosexual	Relating to or characterized by a tendency to direct sexual desire toward the opposite sex.
HIV	Human Immunodeficiency Virus: a type of virus called a retrovirus.
Incidence	The number of new events (i.e., diagnosed cases) in a period of time. Incidence is often expressed as an annual measure (the number of new cases occurring during a year). Incidence rate is the number of newly diagnosed cases per standard population size, usually expressed as cases per 100,000 population.

Morbidity	The relative incidence of disease.
Mortality	The number of deaths in a given time or place: the proportion of deaths to the population.
Poverty Level	A measure of household income set by the U.S. Census Bureau.
Prevalence	The number of occurrences of a given disease or other condition existing in a given population at a designated time. The prevalence rate is the number of living (prevalent) cases per standard population size, usually expressed as cases per 100,000 population.
Proportion	The amount of things or events relative to the total number of things or events. Measures are usually presented as percentages. Proportions are useful when describing the composition of populations.
Rate	The amount of things or events relative to a standard quantity. It is derived by dividing the number of cases for a given sub population (e.g., African American males), by the total population count for that group. A rate is useful for making comparisons between groups having different population sizes.
Report Delay	The time internal between when an HIV diagnosis was made and reported to the New Jersey Department of Health and Senior Services (Division of HIV/AIDS Services).
Ryan White CARE Act	Federal legislation created to address the unmet health care and service needs of people living with HIV disease and their families.
Seroprevalence	The number of persons in a defined population who test HIV positive based on HIV testing of blood specimens. (Seroprevalence is often presented either as a percent of the total specimens tested or as a rate per 100,000 persons tested.)
Surveillance	An ongoing, systematic process of collecting, analyzing and using data on specific health conditions and diseases.

Title I	The part of the CARE Act that provides emergency assistance to localities (EMAs) disproportionately affected by the HIV/AIDS epidemic.
Title II Consortia	The part of the CARE Act that provides funds to states and territories for primary health care and support services that enhance access to care to persons living with HIV and their families.
Trend	A measurable direction that can be determined for a condition being examined.
Uninsured	A person or group of persons who do not have health Insurance.

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