Division of HIV, STD and TB Services
…preventing disease with care

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  HIV Related Training
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  ARCH Nurse Program
  Special Projects
  NJ AIDS/STD Hotline   **1-800-624-2377**

  Sexually Transmitted Disease Services   **(609) 826-4869**

  Partner Services – Newark   **(973) 648-7500**

  Tuberculosis Services   **(609) 826-4878**

  Visit the New Jersey Department of Health website: **www.nj.gov/health/hivstdtb**

To request to have this report link e-mailed to you, to be added to our mailing list, or to request other information, contact us by telephone or by e-mail.

Telephone **(609) 984-5940**   E-mail **aids@doh.nj.gov**

Questions?

Contact New Jersey HIV/AIDS Hotline   **1-800-624-2377**

The Division of HIV, STD and TB Services

Mission Statement

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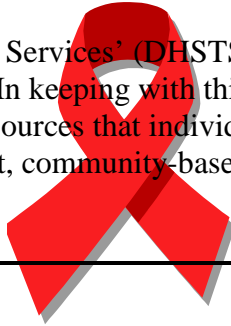
Vision

The DHSTS vision for providing HIV services is an integrated and coordinated statewide approach with input from consumers, public and private partnerships to plan and implement 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, 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 infection.

HIV/AIDS EPIDEMIOLOGIC PROFILE

FOR THE
STATE
OF NEW JERSEY

2015

Acknowledgements

We gratefully acknowledge the following for their work on the 2015 profile.

List of Abbreviations

ADDP	AIDS Drug Distribution Program
ADADS	New Jersey Alcohol and Drug Abuse Data System
AIDS	Acquired Immunodeficiency Syndrome
AUS	Anonymous Unlinked Surveys
AZT	Zidovudine
BRFSS	Behavioral Risk Factor Surveillance System
CARE	Comprehensive AIDS Resources Emergency (Act)
CDC	Centers for Disease Control and Prevention
CD	Division of Communicable Diseases
DHSTS	Division of HIV, STD and TB Services
NJDOH	New Jersey Department of Health
EHARS	HIV/AIDS Reporting System
EIP	Early Intervention Program
EMA	Eligible Metropolitan Area
GA	General Assistance
HAART	Highly Active Antiretroviral Therapy
HCV	Hepatitis C Virus
HITS	HIV Testing Survey
HIV	Human Immunodeficiency Virus
HRH	High-risk Heterosexual
ICD-10	International Classification of Diseases Tenth Revision
IDU	Injection Drug Use(r)
MSM	Male-to-Male Sex/Men Who Have Sex with Men
MMWR	Morbidity and Mortality Weekly Report
NHBS	National HIV Behavioral Surveillance
PAAD	Pharmaceutical Assistance to the Aged and Disabled
PLWHA	People Living with HIV/AIDS
RVCT	Report of a Verified Case of Tuberculosis
RWCA	Ryan White CARE Act
SCBW	Survey of Childbearing Women
STD	Sexually Transmitted Disease
TB	Tuberculosis
UB	Uniform Billing
ZDV	Zidovudine (also known as AZT)

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Executive Summary

The New Jersey statewide epidemiologic profile was developed to assist HIV/AIDS planning groups in the state. It summarizes the socio-demographic characteristics of New Jersey, describes the scope of the HIV/AIDS epidemic, identifies those at risk for HIV/AIDS, examines services that are needed, and highlights our successes and challenges.

New Jersey is the most densely populated state in the nation, and it has a very racially and ethnically diverse population. New Jersey's median household income ranked second in the nation in 2015. Less than twelve percent of the households (8.5% in 2007, 9.4% in 2009 and 11.1% in 2014) had incomes below the poverty line. However, in eleven of New Jersey's 21 counties, more than 11% of residents had income below the poverty level (Figure 3). Approximately 12.6% of New Jersey residents under the age of 65 were uninsured in 2014 (Table 4).

Over 80,300 New Jersey residents have been reported diagnosed with HIV/AIDS, and approximately half of these individuals had died by the end of 2015. In 2009, New Jersey ranked sixth in nation in the rate of AIDS diagnoses with a rate of 16.9/100,000 vs. the national rate of 11.2/100,000. Cumulatively, NJ ranked fifth in the nation in total number of AIDS cases and third in the number of pediatric AIDS cases. New Jersey also has one of the highest proportions of women among those living with AIDS through 2009.

Fifty-five percent of the Person Living With HIV/AIDS (PLWHA) in 2015 were aged 50 and older. Trends in new diagnoses of HIV by age for 2009 to 2013 appear in Figures 14 (men) and 15 (women).

As of December 31, 2015: one in 63 Black non-Hispanics, one in 178 Hispanics, and one in 646 White non-Hispanics was living with HIV/AIDS. Most PLWHA in 2015 were exposed through sexual contact (male-to-male sex or heterosexual sex); injection drug use as a mode of exposure continues to decline. Modes of transmission for newly diagnosed HIV/AIDS cases from 2009 to 2013 are displayed in Figure 12 for men and Figure 13 for women. Figure 12a shows that MSM was a major mode of transmission for men, and Figure 13a shows that heterosexual contact was a major mode of transmission for women during 2009-2013.

Advances in treatment have led to a decline in the number of pediatric infections, slowed the progression from HIV to AIDS, and enhanced survival after AIDS. The number of deaths due to HIV disease has declined, and over half of the HIV-infected population survives more than ten years after diagnosis with AIDS disease. However, HIV remained the tenth leading cause of death for Black males (Table 31) and the eleventh leading cause of death for Black females (Table 32) in 2014. For Black men 25 to 44 years of age, HIV disease was the ninth leading cause of death in 2014.

We have identified and provided care for thousands of HIV-infected individuals in New Jersey. However, individuals are still being infected with a preventable disease, and an analysis of unmet needs indicates that many individuals may not be in care. Self-reported survey and other data, the increasing rate of STDs, increased comorbidity between HIV and STDs, and HIV and Hepatitis C, as well as admissions to drug treatment demonstrate that risky behavior still occurs. Our challenge is to continue to care for those already infected while reducing the rate of new infections.

Introduction

This epidemiologic profile provides a comprehensive analysis of the HIV/AIDS epidemic in New Jersey. It is a useful tool for planners and providers working to prevent and reduce the spread of HIV and care for those already infected. 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 impact on communities, families and individuals in New Jersey?**

- **What are the indicators of risk for HIV/AIDS infection among New Jersey residents?**

- **What is the unmet need for HIV services in New Jersey?**

- **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 for over 30 years that includes information on demographic characteristics, clinical and laboratory findings, and transmission risk for men, women, and children infected with HIV/AIDS.

- New Jersey has had Enhanced Perinatal Surveillance since 1995, a system that follows children born to HIV positive mothers, and has continued the Survey of Childbearing Women (SCBW) to monitor births to HIV positive mothers.

- New Jersey has participated in several behavioral and testing studies.

Some of the limitations of this profile are:

- Information is not available on persons who are HIV positive but have not reported or 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 incomplete on those persons who are diagnosed with HIV in New Jersey and reported to the data system but relocate out-of-state.

Data Sources

In order to present an accurate description of the epidemic, we 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. Due to a lag in reporting, data for new diagnoses are presented through 2013. Data for persons living with HIV/AIDS are presented through 2015 as the reporting lag has minimal effect on this value. Data from the United States Census Bureau July 1, 2015 Bridged Population Estimates is used for calculating rates by race/ethnicity, gender distribution and county. When population data are not available for 2015, data from the 2010 Census are used.

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.

- Behavioral Surveys;
- Enhanced Perinatal Surveillance (EPS);
- HIV/AIDS Reporting System (eHARS);
- National Sexually Transmitted Disease Surveillance;
- New Jersey Alcohol and Drug Abuse Data System (ADADS);
- New Jersey Death Certificate Data;
- Survey of Childbearing Women (SCBW);
- Tuberculosis Surveillance;
- Uniform Billing Hospital Discharge Data (UB-92);
- United States Census Bureau;
- Urban Institute and Kaiser Commission on Medicaid and the Uninsured;
- New Jersey Department of Labor's Division of Labor Market and Demographic Research; and
- Communicable Disease Services (Hepatitis C and Sexually Transmitted Diseases surveillance).

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 enhanced HIV/AIDS Reporting System (eHARS) with HIV infection. An **AIDS case** is a person with HIV infection who has an opportunistic infection or a CD4+ count of less than 200 cells/mm or whose proportion of CD4+ T-lymphocytes is less than 14 percent of their total lymphocytes and who has been reported to the eHARS. 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.

- **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 **estimated prevalence** by using the number of persons **living with HIV or AIDS** who have been diagnosed, reported to the eHARS 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 eHARS.

- 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, **estimated prevalence rates** are based on HIV/AIDS cases that were reported to eHARS and are not known to have died. Actual prevalence rates are reported only for specific sub-populations for which special studies were conducted. **Estimated diagnosed 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 for care and treatment.

- **Incidence** is the number of new cases within a given period of time. This profile includes **estimated diagnosed incidence,** the number of persons who have been diagnosed during the year and reported to the eHARS. 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.

- **Risk exposures -** Although we usually cannot determine exactly how or when a person was infected, it is possible to determine which behaviors put a person at risk for infection. In the 1980s, the Centers for Disease Control and Prevention (CDC) established a hierarchy to categorize modes of exposure for persons reported with AIDS based on their risk exposures. Behaviors most likely to lead to infection are higher in the hierarchy than those less likely to lead to infection.

Individuals are categorized as follows. Men who report sexual contact with other men, and men who report sexual contact with both men and women are placed in the 'male-to-male sex" (MSM) category. Persons reporting having injected drugs anytime since 1978 are placed in the "injection drug use" (IDU) category. Men with both a history of sexual contact with other men and injection drug use are placed in the "MSM-IDU" category. The MSM/IDU category is followed by persons with hemophilia/coagulation disorder. Persons who report specific heterosexual sex with a person with, or at increased risk for, HIV infection (e.g., a person who injects drugs or a person known to be infected with HIV) are placed in the "Heterosexual" category. Heterosexual sex with a person of unknown risk or unknown HIV status is reported as "heterosexual sex with partners of unknown HIV risk," and heterosexual risk with persons of known risk will be reported by the risk status of the partner. Persons who received a transfusion prior to March 1985 are placed in the "other/unknown" category. The ascertainment of exposure category is incomplete, especially for cases reported recently. Some cases currently in the "other/unknown" category may be redistributed later to known exposure as follow-up investigations are completed.

Individuals diagnosed under the age of 13 are considered pediatric cases. Perinatal transmission occurs when the virus is passed from mother to child during pregnancy or delivery.

Socio-demographic Characteristics of the General Population in 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 8.9 million people in 2015, New Jersey accounted for 2.8 percent of the national population. Geographically, New Jersey is the fifth smallest state, but it 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. All 21 counties are officially classified as metropolitan; New Jersey is the only state in the nation to have such distinction.

Despite the urban classification, New Jersey includes vast wetlands and undisturbed stretches of the Delaware Bay, as well as many farms and rugged terrain. One of the state's most treasured prizes is its 127 miles of white sand beaches that draw thousands of visitors and families each year. There are more than 50 famous vacation spots in New Jersey.

Demographics

Slightly more residents of New Jersey were female (51.2%) than male (48.8%) in 2015. Just 25.9% of New Jersey residents were between 25 and 44 years of age (Figure 1). A larger proportion of males was under 45 years of age compared to females (59.1% for males versus 57.0% for females). The larger percentage and number of females in the 65 and older age category is a reflection of the longer life expectancy of females. According to 2016 population estimates, New Jersey's population is older than the national average (median age of 38 years in New Jersey compared to 36 years nationally). The percentage of the population aged 65 and older was 15% in New Jersey compared to 12.4% nationally. The oldest age group (85 years and over is 1.6%) is growing at a faster rate in New Jersey compared to the nation. With 8,948,013 residents, New Jersey was the nation's eleventh most populous state for 2010 and for 2016. New Jersey experienced a 1.75% growth rate from 2010 to 2016, while the growth rate was 4.45% for the U.S. New Jersey had a 1% growth rate between July 2015 and July 2016.

Figure 1. Percentage Distribution of the Population of New Jersey by Age Group and Gender – July 2016 Vintage for Estimates of July 1, 2015 Population

13.1%

27.7%

26.5%

16.1%

16.5 %

Males (N=4,372,116)

16.8%

28.2%

15.1%

25.3%

14.6.%

Females (N=4,585,897)

15.0%

28.0%

25.9%

15.4%

15.8%

New Jersey (N=8,958,013)

■ 0 - 12

■ 13 -24

■ 25 - 44

■ 45 - 64

■ 65+

Based upon the July 2016 Vintage for the 2015 Bridged-Race population estimates* (Figure 2), 56.9% of the population of New Jersey was White non-Hispanic; 13.4% was Black non-Hispanic; 9.8% was Asian/Pacific Islander; 19.7% was Hispanic; and 0.2% was Native American/Alaska Native. New Jersey is more racially and ethnically diverse than most other states in the nation. New Jersey added 297,224 international residents from April 2010 to July 2016 and ranks 5th highest in net migration change during this period.

*The Vintage report is a bridged-race postcensal population estimates files, released annually by the National Center for Health Statistics (NCHS) contain estimates of the resident population of the United States as of April 1, 2010 - July 1, 2015 (based on the 2010 census).

Figure 2. Percentage Distribution of the Population of New Jersey by Race/Ethnicity and Gender – July 2016 Vintage for Bridged-Race Estimates of July 2015 Population
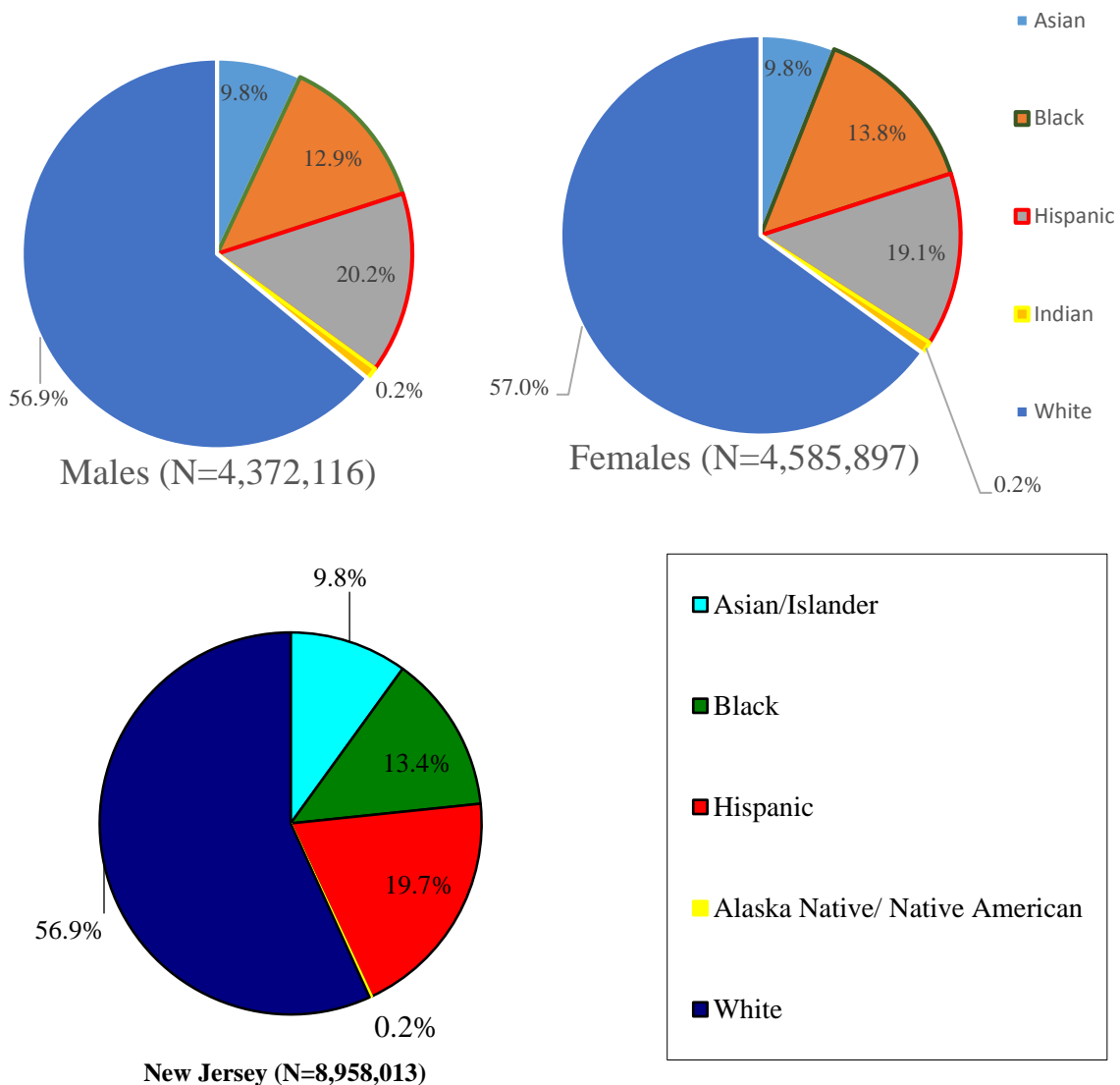
Source: U.S. Census Bureau July 2016 Vintage for Bridged-Race Estimates of July 2015.

While New Jersey experienced a 1.75% growth rate from 2010 to 2016, the growth rate was 12.5% for Hispanics in NJ. Hispanics represented 9.6 percent of the state's population in 1990, 16.3 percent in 2008 and 19.7% in 2015. Persons of Hispanic origin (of any race) accounted for approximately 55.2 percent of New Jersey's total population growth from 1990 through 2000. Furthermore, the Hispanic population grew 39.2 percent from 2000 through 2010, while there was a negative (-0.8 percent) growth rate during this period in the non-Hispanic population. The Latino population grew to 1,762,181 according to 2016 Bridged-Race estimates for the 2015 population. 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, and 48.9 percent from 2000 through 2010 current estimates reveal that there are 17,293 New Jersey residents of Native American/Alaska Native heritage this accounted for 0.2 percent of the state's population.

During the decade of the 1990s, however, the fastest growing population in New Jersey was Asian/Pacific Islander (85.7% increase). This was a continuation of the high growth rate among this population during the 1980s. In 2008 the Asian or Pacific Islander population was estimated at 677,251. In 2015 881,025 were Asian or Pacific Islander residents. At six percent of the total population, this was the highest proportion of Asian or Pacific Islanders outside the nation's West Coast. Based on data from the New Jersey Department of Labor, Division of Labor Market and Demographic Research, only California had a higher proportion of Asian or Pacific Islanders. The Asian population alone grew 51.1 percent from 2000 through 2010 in New Jersey according 2010 Census data.

From the 1990 to the 2000 censuses, the Black population in New Jersey increased by 16.8 percent. Blacks (including black 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 Black or African American population grew 5.5 percent from 2000 through 2010 however, by 2015 the Black population accounted for 13.4 percent of the state's 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 50 states in 2000. The White population decreased 1.2 percent from 2000 through 2010 in New Jersey according 2010 Census data. Based on the 2008 population estimate, the state's majority racial/ethnic group (White non-Hispanic) is the minority in Essex and Hudson Counties. In Essex County the largest racial/ethnic group is Black non-Hispanic; in Hudson County the largest racial/ethnic group is Hispanic. 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, Cumberland and Camden counties (Table 1). There were a high percentage of residents under the poverty level living with HIV/AIDS in these specific counties (Figure 3).

Table 1. Percentage Distribution of the Population of New Jersey by Race/Ethnicity (number and percent) for Each County of Residence – Estimates for 2015 population

County	White not Hispanic	Black not Hispanic	Hispanic	American Indian/Alaska Native	Asian/ Pacific Islander	Total
ATLANTIC	156,634	42,002	51,414	689	23,480	274,219
	57.12	15.32	18.75	0.25	8.56	
BERGEN	547,602	5,3839	177,650	1,217	158,198	938,506
	58.35	5.74	18.93	0.13	16.86	
BURLINGTON	311,637	77,807	35,069	1,091	24,622	450,226
	69.22	17.28	7.79	0.24	5.47	
CAMDEN	299,198	97,940	81,752	1,103	30,930	510,923
	58.56	19.17	16.00	0.22	6.05	
CAPE MAY	81,557	4,637	7,152	189	1,192	94,727
	86.10	4.90	7.55	0.20	1.26	
CUMBERLAND	74,854	31,124	46,279	1,252	2,345	155,854
	48.03	19.97	29.69	0.80	1.50	
ESSEX	257,764	314,581	178,837	2,019	4,4233	797,434
	32.32	39.45	22.43	0.25	5.55	
GLOUCESTER	232,961	31,405	17,113	576	9,424	291,479
	79.92	10.77	5.87	0.20	3.23	
HUDSON	200,628	77,619	290,263	1,465	104,861	674,836
	29.73	11.50	43.01	0.22	15.54	
HUNTERDON	108,821	3,269	7,875	120	5,403	125,488
	86.72	2.61	6.28	0.10	4.31	

County						
MERCER	192,266	74,610	62,973	726	40,823	371,398
	51.77	20.09	16.96	0.20	10.99	
MIDDLESEX	378,910	82,374	170,536	1,828	207,252	840,900
	45.06	9.80	20.28	0.22	24.65	
MONMOUTH	477,606	46,280	67,329	845	36,655	628,715
	75.97	7.36	10.71	0.13	5.83	
MORRIS	363,403	17,169	65,122	533	53,282	499,509
	72.75	3.44	13.04	0.11	10.67	
OCEAN	502,340	19,510	53,577	652	12,642	588,721
	85.33	3.31	9.10	0.11	2.15	
PASSAIC	218,537	56,466	205,546	1,096	29,271	510,916
	42.77	11.05	40.23	0.21	5.73	
SALEM	48,761	9,210	5,247	201	761	64,180
	75.98	14.35	8.18	0.31	1.19	
SOMERSET	194,977	31,562	48,471	445	58,199	333,654
	58.44	9.46	14.53	0.13	17.44	
SUSSEX	126,150	3,313	10,818	188	3,204	1,143,673
	87.80	2.31	7.53	0.13	2.23	
UNION	234,321	119,885	169,913	806	30,861	555,786
	42.16	21.57	30.57	0.15	5.55	
WARREN	89,244	4,856	9,245	137	3,387	106,869
	83.51	4.54	8.65	0.13	3.17	
Total	555,098,171	1,199,458	1,762,181	17,178	881,025	895,8013

Source: U.S. Census Bureau July 2016 Bridged-Race Population Estimates

The two-year average (2013-2014) of foreign born persons accounted for 22.6 % of New Jersey's total population. But foreign born persons accounted for last of the nation's population 13.7% during the same period. New Jersey residents are more likely to speak languages other than English (30.5%) than United States residents (21%). In the United States as a whole, Spanish is the most frequently spoken language (13%) other than English. In New Jersey, the percentage of Spanish spoken (15.8%) was greater than the percentage in U.S. (Table 2).

Table 2. Major Languages Spoken at Home in New Jersey

	New Jersey % Residents N=8,370,769	United States % Residents N=296,603,003
English	69.5%	79.0%
Spanish	15.8%	13.0%
Other Indo-European	8.5%	3.7%
Asian/Pacific Island	4.8%	3.4%
Other Language	1.5%	1.0%

Source: U.S. Census Bureau: 2011-2015 American Community Survey 5-year Estimates.
Note: Those data are collected from person five years old and older.

Socio-economic Status

The Census Bureau reported that in 2015, New Jersey had a median household income of $72,337. This was well above the national median household income of $55,775. Not unexpectedly, given the average income level, the percentage of New Jersey's population living in poverty is lower than the percentage of the U.S. as a whole. More than eleven percent (11.1%) of New Jersey residents had incomes below the poverty level in 2014 compared to 15.8% nationally. New Jersey was 4th lowest with respect to the poverty rate among 50 states and the District of Columbia. However, in 11 of New Jersey's 21 counties, more than the 10 percent of the residents had incomes below the poverty line. These 11 counties had a lower median household income in 2015 ($50,259 for Cumberland County to $72,172 for Mercer County). In four counties from, (Cumberland, Passaic, Hudson and Essex), 16 percent or more of the residents were below the poverty level in 2014 (Figure 3a).

The HIV/AIDS 2015 prevalence rates in descending order for the 21 counties are listed on the right side of Figure 3b and the poverty rates in 2014 are listed on the left side of Figure 3b. It shows that the poorer counties tended to have a higher HIV prevalence rate (persons living with HIV/AIDS per 100,000 population). The 12 counties with highest percentage of poverty ranked among the top with highest HIV/AIDS prevalence rate. These twelve counties accounted for about 77% of the number of NJ persons living with HIV/AIDS in 2015. Many persons living with HIV/AIDS were residing in poor areas, with low income and faced limited access to the health care system and experienced disparities in receipt of care and treatment.

Figure 3a.

Percent of Residents with Income Below the Poverty Level by County – New Jersey, 2014

County	Percent
Hunterdon	4.7
Morris	5
Somerset	5
Susex	6.2
Burlington	7.2
Bergen	7.6
Gloucester	8.2
Monmouth	8.2
Warren	8.3
Middlesex	8.3
Union	11.1
State	11.1
Mercer	11.8
Ocean	11.9
Cape-May	13
Camden	13
Salem	13.1
Atlantic	15.1
Essex	16.7
Hudson	17.7
Passaic	18.2
Cumberland	19.5

Small Area Income and Poverty Estimates Program, U.S. Bureau of the Census. Estimates for New Jersey Counties, 2014.

Source: Small Area Income and Poverty Estimates Program, U.S. Bureau of the Census, 2015.

Figure 3b. Percentage of New Jersey Residents with Income Below the Poverty Level by County in 2014

Poverty Rates in 2014 by County

Statewide poverty rate = 11.1%

Counties:	Poverty Rates
1 Cumberland	19.5%
2 Passaic	18.2%
3 Hudson	17.7%
4 Essex	16.7%
5 Atlantic	15.1%
6 Salem	13.1%
7 Camden	13.0%
8 Cape May	13.0%
9 Ocean	11.9%
10 Mercer	11.8%
11 Union	11.1%
12 Middlesex	8.3%
13 Warren	8.3%
14 Monmouth	8.2%
15 Gloucester	8.2%
16 Bergen	7.6%
17 Burlington	7.2%
18 Sussex	6.2%
19 Somerset	5.0%
20 Morris	5.0%
21 Hunterdon	4.7%

Data as of 12/31/2015

Counties: 2015 Living with HIV/AIDS	N	(Rates)
Essex	9716	(1221)
Hudson	5007	(748)
Union	2866	(518)
Atlantic	1414	(514)
Passaic	2505	(492)
Mercer	1506	(405)
Cumberland	599	(381)
Camden	1869	(366)
Monmouth	1913	(304)
Middlesex	2147	(257)
Salem	160	(247)
Cape May	212	(222)
Burlington	862	(192)
Bergen	1781	(191)
Somerset	612	(184)
Morris	867	(174)
Warren	179	(167)
Gloucester	443	(152)
Ocean	779	(133)
Hunterdon	159	(126)
Sussex	173	(119)

Source: Small Area Income and Poverty Estimates Program, U.S. Bureau of Census, 2015.
❖ Rate = Cases/100,000

According to the 2011-2015 American Community Survey 5-year estimate, 88.6 percent of New Jersey's residents have high school or higher diplomas (Table 3), compared to 86.7 percent nationally. The counties with the highest percentage of high school graduates and bachelor's degrees or higher are Hunterdon, Somerset, Sussex and Morris counties. The county with the lowest percentage of high school degree or higher is Cumberland (77.5%). The other counties with lower percentages of high school diploma or higher are Passaic, Essex, and Hudson. All 12 counties with lower percentages of high school diploma or higher are also the 12 counties with the highest percentage of persons living below the poverty level in 2014 (Figure 3a). The results from Figure 3b show that the prevalence rates of living with HIV/AIDS are largely correlated with poverty which indicates that education level is highly correlated with HIV prevalence.

Table 3. Percentage of Educational Attainment in New Jersey with High
School Diplomas or Higher by County, 2011-2015 Survey Estimates

County	High school diploma or higher
Atlantic	84.6
Bergen	91.6
Burlington	92.7
Camden	87.9
Cape May	89.5
Cumberland	77.5
Essex	84.2
Gloucester	91.7
Hudson	82.9
Hunterdon	94.4
Mercer	87.4
Middlesex	88.8
Monmouth	92.7
Morris	93.8
Ocean	90.5
Passaic	82.3
Salem	86.4
Somerset	94.2
Sussex	93.9
Union	85.6
Warren	90.1
State of NJ	**88.6**
Entire U.S.A	**86.7**

Source: U.S. Census Bureau, 2011-2015 American Community 5-Year Estimates for Educational Attainment.

The US Bureau of the Census, Current Population Survey conducted in 2012, revealed that among individuals 19 through 64 years of age, 19 percent of New Jersey residents do not have health insurance coverage compared to 22 percent for the U. S. Most persons (68%) in New Jersey were covered by employer based health care insurance. The percentage covered through individual plans was small (4%). New Jersey's Medicaid program accounted for 7 percent, while nationally Medicaid accounted for ten percent of health insurance coverage for adults (Table 4). The percentage of persons with Medicaid was higher than the previous year at both the state and national level. White non-Hispanic are more likely to be insured than any other race.

The Kaiser Family foundation indicated that Medicaid and Medicare provided health insurance coverage to an estimated half of all persons living with HIV/AIDS who are receiving care. Recently, a new analysis from Kaiser found that rolling back Medicaid expansion would significantly impact coverage for people with HIV. Nationwide, Medicaid coverage for people with HIV rose six percentage points between 2012 to 2014.

The analysis also found that an increasing share of people with HIV in care rely on the Ryan White HIV/AIDS program, rising from 42 percent in 2012 to 48 percent in 2014. Supplemental coverage by Ryan White rose 15% among those with private insurance, and by 7 percentage for those with Medicaid.

Table 4. Health Insurance Coverage Status and Type for people under 65, 2014

	NJ % N=7,559,000	US % N=268,977,000
Employer	65.5	57.6
Individual	3.2	5.6
Medicaid	16.0	20.1
Medicare	2.3	3.0
Military	0.4	1.2
Uninsured	12.6	13.5
Total	**100.0**	**100.0**

Source: NJ Department of Labor and Workforce Development Table HI-06, March 2017, based on US bureau of the Census, Current Population Survey, Annual Social and Economic Supplements and American Community Survey.

Scope of the Epidemic

Reported Cases

The reported data underestimates true incidence and prevalence, because individuals who are infected but not tested and diagnosed are not included in the reported cases. It is estimated that in 2014 11% of cases were undiagnosed or unreported cases.

Overview

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 no more than 50,000 cases a year in the United States. 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 United States 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 United States population, account for 18 percent of the cumulative AIDS cases and 19 percent of new HIV infections.

By the end of December 2015, over 81,736 New Jersey residents were reported with HIV/AIDS and approximately half of these individuals have died. As of December 31, 2015, New Jersey had a cumulative total of 58,82 AIDS cases reported. There were also 22,904 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 through 2009. New Jersey has one of the highest proportion (33%) of females among those living with AIDS through 2015 (compared 23.4% of females among U.S. of persons estimated to be living with AIDS).

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 those populations. As of December 31, 2015, women represent 33 percent of persons living with HIV/AIDS, and minorities represent 78 percent of persons living with HIV/AIDS.

Overall, diagnosed cases and deaths have declined slightly in the last few years following dramatic declines during the 1990s. The number of people living with HIV/AIDS has increased. Prior to 1992, AIDS, but not HIV-only cases were reported. The number of AIDS cases increased steadily from 1985 through 1991. The implementation of named HIV reporting in

1992 led to a spike in diagnosed cases of HIV/AIDS in that year as HIV cases were added to the count. Figure 4 shows that in general diagnoses of new HIV/AIDS cases in NJ decreased from 1996 through 2013 with a slight increase occurring in 2000. The increase in 2000 may be due to the fact that viral load reporting was initiated in that year and additional laboratory reports were added to the registry, rather than of an actual change in the epidemic. Improved treatments led to a sharp decline in deaths (from any cause) after 1995, and smaller decreases since 1997. As of December 31, 2015, 37,435 individuals were known to be alive and residing in NJ. These prevalent cases include 17,479 (47%) persons living with HIV and 19,956 (53%) persons living with AIDS. While there is a continuous increase in the number of people living with HIV/AIDS in NJ, the number of new adult/adolescent HIV/AIDS diagnosed decreased 33% between 2004 and 2013. Most figures depicted in this profile present data on the new HIV infections over the past 5 to 10 years in New Jersey.

Figure 4. Diagnosed HIV/AIDS Cases, Deaths and Persons Living with HIV/AIDS, NJ
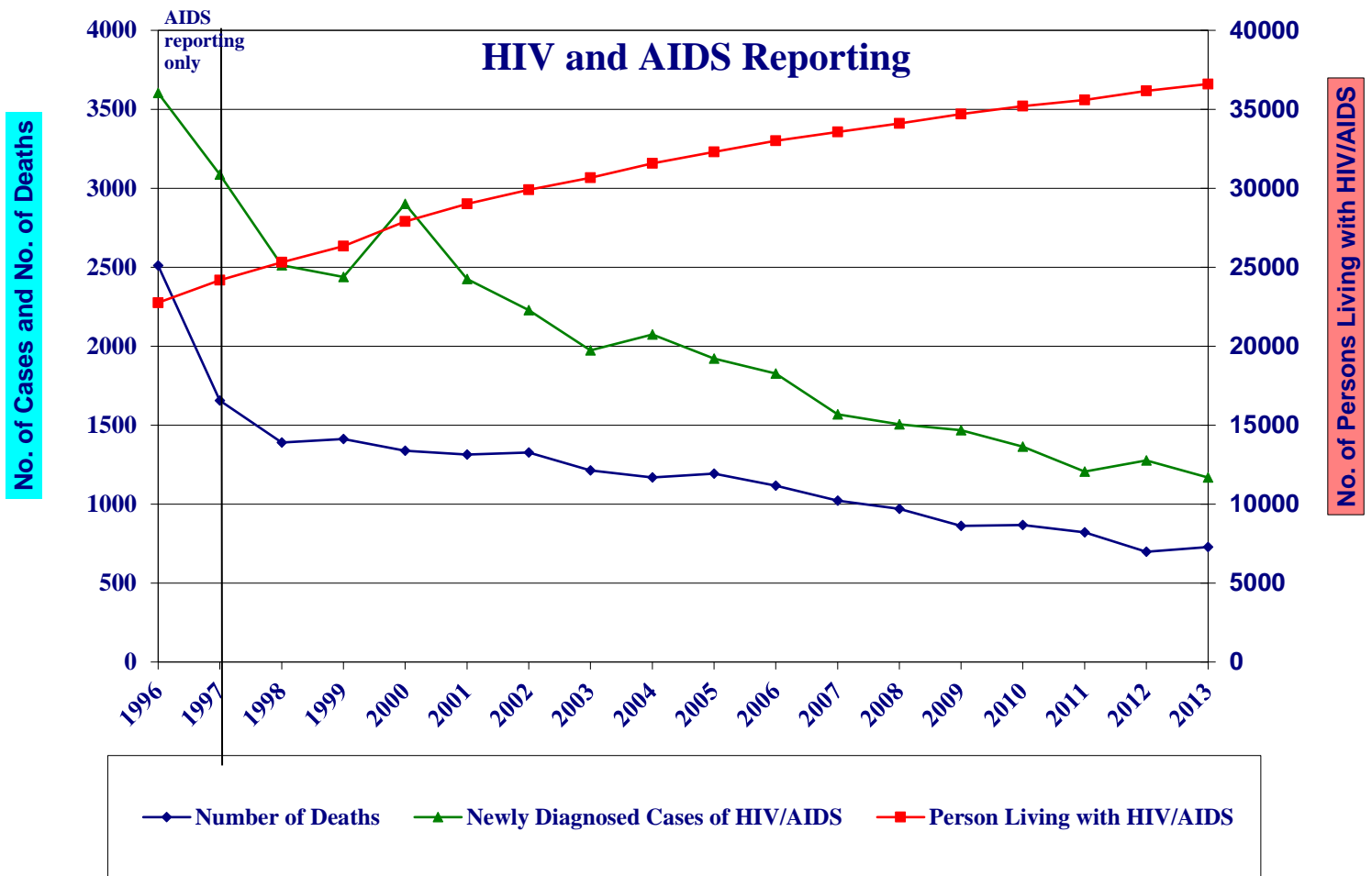
Data Source: New Jersey eHARS as of December 31, 2015.

The epidemic differs geographically and across racial/ethnic, gender, and age groups as well as exposure categories. An overview of the epidemic is shown in Table 5. Discussions on the impact of geographic location, gender at birth, race/ethnicity, age, and exposure category follow.

Table 5.
Overview of HIV/AIDS in New Jersey

| | Living with HIV/AIDS in 2015 | | | | | | Diagnosed HIV/AIDS in 2013 | | | | | |
| | Male | | Female | | Total | | Male | | Female | | Total | |
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Race/Ethnicity												
Black, non-Hispanic	11,553	46	7,498	61	**19,051**	51	364	42	180	57	**544**	46
Hispanic	7,037	28	2,851	23	**9,888**	26	274	32	85	27	**359**	31
White, non-Hispanic	6115	24	1,774	15	**7,889**	21	209	24	43	14	**252**	21
Other/Unknown [a,b]	445	2	162	1	**607**	2	17	2	7	2	**26**	2
Age Group	Age at 12/31/2015						Age at the first diagnosis					
0 – 12	28	0	35	0	**63**	**0**	1	0	4	1	**5**	**1**
13 – 24	696	3	323	3	**1,019**	**3**	162	19	33	10	**195**	**16**
25 – 44	6,785	27	3,185	26	**9,970**	**27**	408	47	154	49	**562**	**48**
45 – 64	15,312	61	7,711	63	**23,023**	**61**	273	32	109	35	**382**	**32**
65+	2,329	9	1,031	8	**3,360**	**9**	20	2	15	5	**35**	**3**
Exposure												
MSM	10,115	40	N/A	N/A	**10,115**	**27**	377	44	N/A	N/A	**377**	**32**
IDU	4,253	17	2,552	21	**6,805**	**18**	31	3	16	5	**47**	**4**
MSM/IDU	873	4	N/A	N/A	**873**	**2**	7	1	N/A	N/A	**7**	**1**
Heterosexual sex with:												
-Injection Drug User	358	1	1,135	9	**1,493**	**4**	6	1	01	3	**16**	**1**
-Bisexual male	N/A	N/A	134	1	**134**	**0**	N/A	N/A	8	3	**8**	**1**
-HIV+ partner with other risk	2,492	10	3,716	30	**6,208**	**17**	42	5	53	17	**95**	**8**
-Partner with unknown risk	3,506	14	3,175	26	**6,681**	**18**	127	15	127	40	**254**	**21**
Other/Unknown([b])	3,553	14	1,573	13	**5,126**	**14**	274	31	101	32	**375**	**32**
Total	**25,150**	**100**	**12,285**	**100**	**37,435**	**100**	**864**	**100**	**325**	**100**	**1,179**	**100**

Data Source: New Jersey eHARS as of 12/31/2015.

Geographic Impact by County

Cases of HIV/AIDS are not equally distributed across the state. Patterns of persons Living with HIV/AIDS (PLWHA) in 2015 and those newly diagnosed in 2013 are similar (Figures 5 and 6). 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 5.
Persons Diagnosed with HIV/AIDS in New Jersey in 2013

Note: One dot equals one person. Dots are randomly placed within each county.
Source: New Jersey eHARS as of December 31, 2015.

Figure 6.
Rate of Persons Living with HIV/AIDS in New Jersey
as of December 31, 2015

Sussex	119.4
Passaic	492.3
Bergen	190.8
Warren	167.4
Morris	173.5
Essex	1221
Hudson	748.3
Union	518.3
Hunterdon	126.1
Somerset	184
Middlesex	257
Mercer	405.3
Monmouth	304
Burlington	191.7
Ocean	132.9
Camden	365.7
Gloucester	152.3
Salem	247.2
Atlantic	513.8
Cumberland	380.6
Cape May	222.4
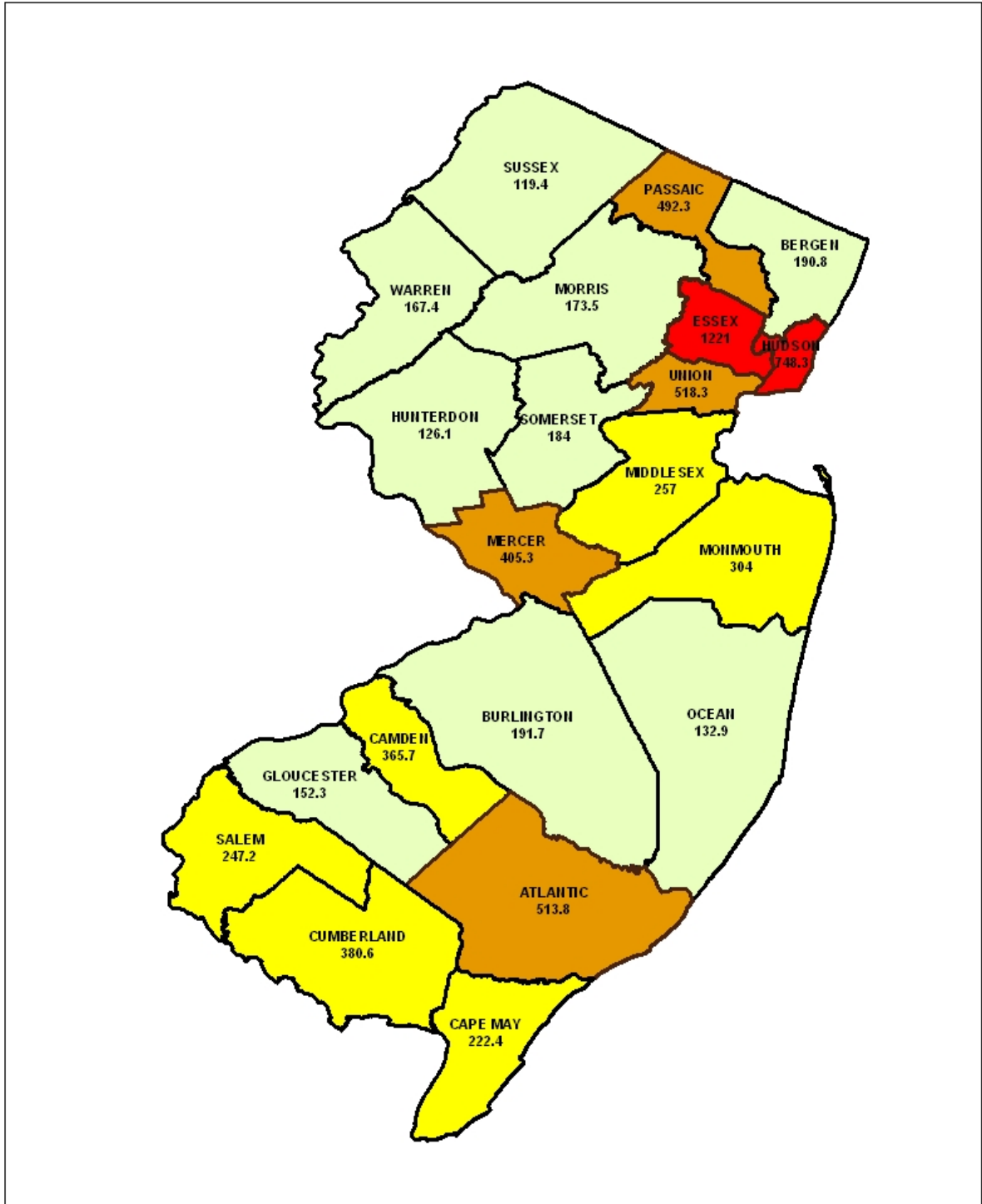
**Note: Rates are per 100,000 population based on the July 2016 Bridged Race Estimates for July 2015 population.
Source: New Jersey eHARS as of December 31, 2015.**

All 21 counties in New Jersey are classified by the United States Census Bureau as "metropolitan," but only ten counties (Atlantic, Bergen, Camden, Essex, Hudson, Mercer, Middlesex, Monmouth, Passaic and Union) accounted for 83.7 percent of persons living with HIV/AIDS in the 21 counties in 2015. Of these counties, Essex and Hudson Counties house a disproportionate number of persons living with HIV/AIDS. Statewide, one in 239 individuals was living with HIV/AIDS in 2015. In Essex County that number was one in 82 persons, and in Hudson County one in every 135 individuals was living with HIV/AIDS in 2015.

Project IMPACT

Figure 7 shows the ten cities with highest prevalence of persons living with HIV/AIDS. Intensive Mobilization to Promote AIDS Awareness through Community-based Technologies (IMPACT) is a city-by-city community mobilization initiative designed to galvanize and support African American leaders to reduce the spread of HIV/AIDS in cities with the highest prevalence of the disease. About 62 percent of the state's African Americans living with HIV/AIDS resided in one of the ten IMPACT cities in 2015. About 48.7 percent of the state's population living with HIV/AIDS resided in one of the ten IMPACT cities in 2015. Newark and Atlantic City had the highest prevalence rates of African Americans living with HIV/AIDS. One in 32 African American residents in Newark, and one in 35 African American residents in Atlantic City were living with HIV/AIDS as of December 31, 2015. Newark had the highest number (4,266) of African Americans living with HIV/AIDS among the ten IMPACT cities in 2015. More than one in five (22%) African Americans living with HIV/AIDS in the state resided in Newark in 2015.

Figure 7.
Persons Living with HIV/AIDS in Top 10 Cities with the Highest Number of People Living with HIV/AIDS in 2015
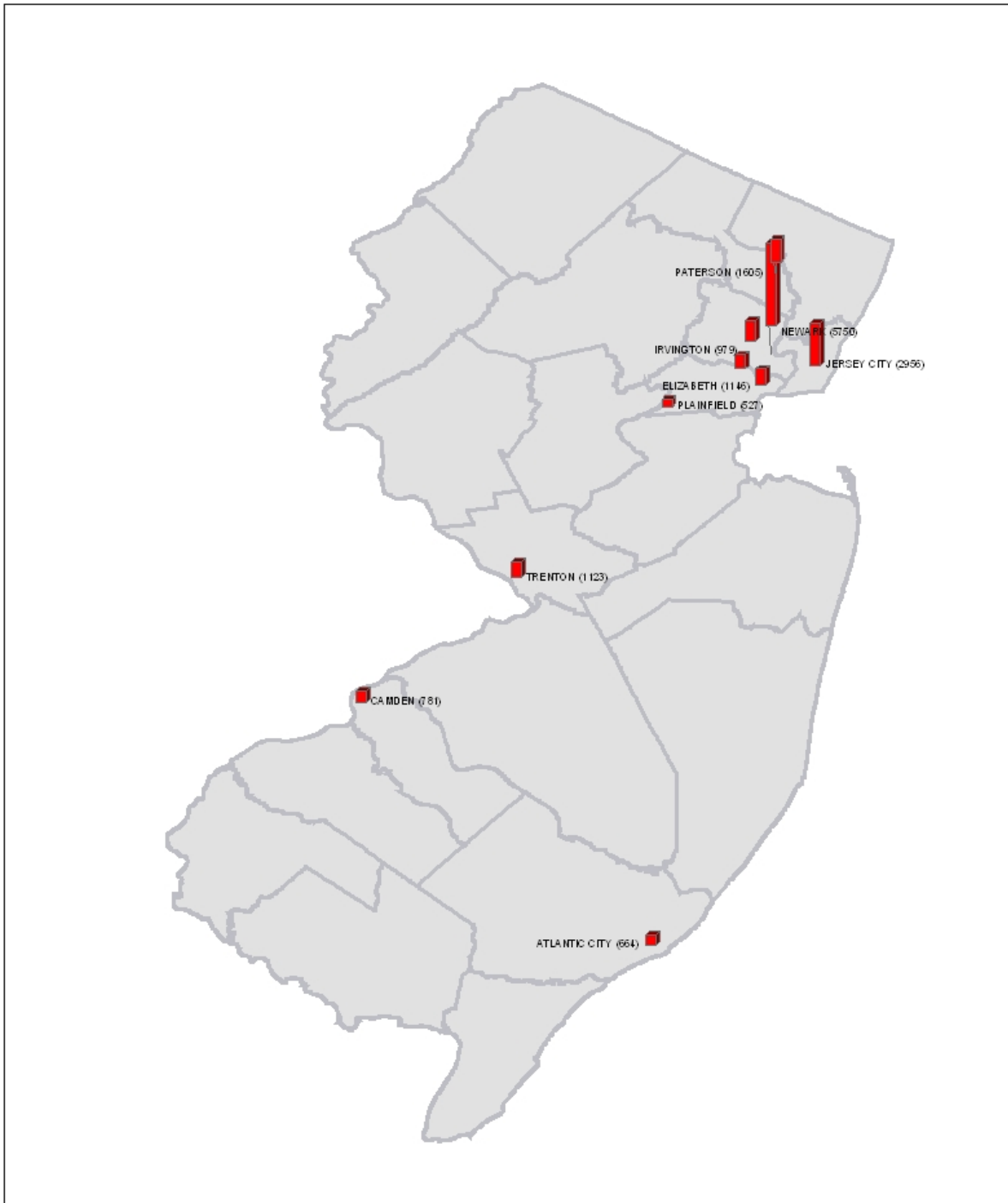
Source: New Jersey eHARS as of December 31,2015

HIV/AIDS Services Planning

The Division of HIV, STD and TB Services (DHSTS) holds the primary responsibility for program development, as well as planning and resource allocation for HIV care and treatment, HIV testing, and other prevention services such as Pre-Exposure Prophylaxis (PrEP). Three major funding sources are utilized to support direct client services, planning and evaluation activities, and administrative costs as follows: 1) Ryan White Part B funds from the Health Resources and Services Administration (HRSA) support a wide array of care and treatment, anti-HIV and other medications, case management and support services for people living with HIV; 2) funds from the Centers for Disease Control and Prevention (CDC) are used for HIV testing, PrEP and other prevention programs such as syringe support services and condom distribution, and 3) financial support from the State of New Jersey allows the DHSTS to more fully fund the major initiatives mentioned above and to respond to unmet and emerging needs as they are identified.

DHSTS representatives serve on all statewide and regional planning bodies, ensuring a coordinated effort among state and local stakeholders. To complement the state's efforts and enhance planning, a consumer-focused, community planning process is required by both CDC and HRSA. A combined, single statewide planning body, The New Jersey HIV Planning Group (NJHPG), serves to meet both CDC and HRSA requirements for a New Jersey HIV Prevention Planning Group, and its Statewide Coordinated Statement of Need Planning Task Force. In addition, five regional Ryan White Part A planning councils hold the responsibility for prioritizing and allocating HRSA funds provided directly to these jurisdictions for care and treatment services for HIV positive individuals. Both the statewide and local planning bodies monitor the epidemic, work to enhance service delivery, minimize duplication of effort and ensure that the voice of the consumer is heard.

The NJHPG meets monthly to develop recommendations regarding prioritized target populations and interventions for statewide allocation of HIV prevention funds, and works collaboratively to identify significant issues related to the needs of people living with HIV to maximize coordination of care services throughout the state. The NJHPG recommendations are set forth in the New Jersey Comprehensive HIV Plan, which is updated annually.

Five New Jersey HIV geographic epicenters receive Ryan White Part A funds, and all five have active planning councils that prioritize services and allocate HRSA funding for primary medical care and support services. The Ryan White Part A regions in New Jersey are:
- Bergen-Passaic Counties;
- Hudson County;
- Middlesex-Somerset-Hunterdon Counties;
- Essex-Morris-Sussex-Union-Warren Counties; and
- Burlington-Camden-Gloucester-Salem Counties (as part of the Philadelphia region).

Figure 8.
Rate per 100,000 of HIV/AIDS Cases Diagnosed in 2013 by Planning Area
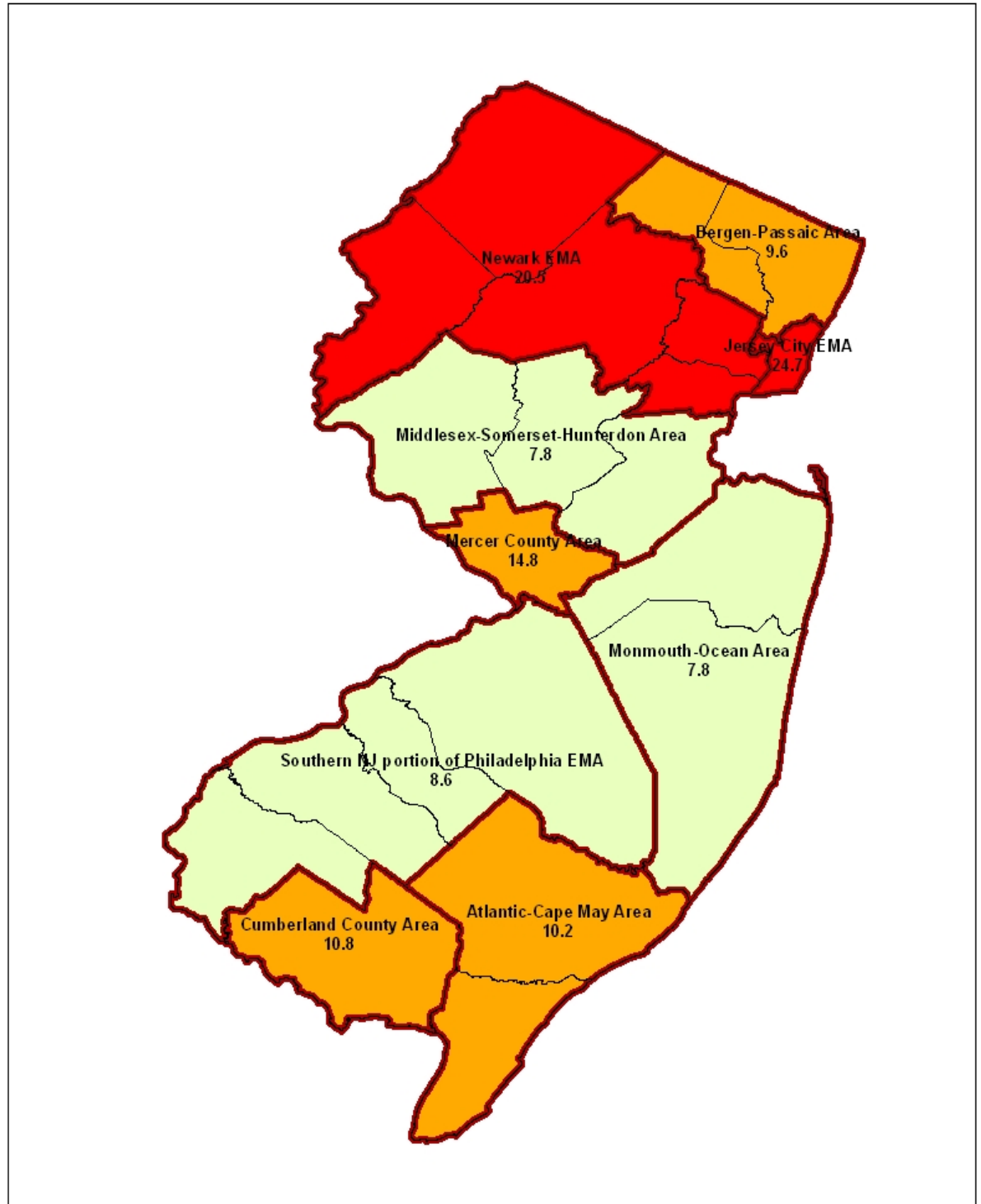
Note: The 2013 Incidence Rate for New Jersey in 2013 was 13/100,000 as of July 1, 2015; Bridged estimates for 2013 Population.
Source: New Jersey eHARS as of December 31, 2015.

Race/Ethnicity

Living With HIV/AIDS

A pattern of disparity of HIV/AIDS among the various racial/ethnic groups has been relatively consistent. By 2015, Black non-Hispanics represented 51 percent of the total number of persons reported living with HIV/AIDS, although they represented only 13.4 percent of the 2015 population of New Jersey. Hispanics made up 26 percent of those living with HIV/AIDS in 2015, while representing just 19.7 percent of the NJ population in 2015. White non-Hispanics represented 21 percent of persons living with HIV/AIDS, but represented 56.9 percent of the total population. Latinos were infected with HIV/AIDS at a rate 3.6 times greater than White. Asians, Native Americans and those with unknown race/ethnicity accounted for 2 percent of the infected population and 9.8 percent of the state's total population. In New Jersey HIV/AIDS affects the African American community more than any other racial, ethnic or demographic group. The infection rates below more clearly illustrate this disparity.

As of December 31, 2015

- **One in 63 Black non-Hispanics was living with HIV/AIDS;**
- **One in 175 Hispanics was living with HIV/AIDS, and**
- **One in 652 White non-Hispanics was living with HIV/AIDS.**

The prevalence rate among Black non-Hispanic men living with HIV/AIDS in 2015 was 8.3 times greater than for White non-Hispanic men. This disparity was even greater among women. Compared with white non-Hispanic females, the prevalence rate in 2015 were 17.4 times higher among black non-Hispanic females and 4.8 times higher among Hispanic females (Table 6). Black females represented 39.4 percent of cases living with HIV/AIDS among Blacks (males and females combined); Hispanic females represented 28.8 percent of Hispanics living with HIV/AIDS; and White females represented 22.5 percent of cases living with HIV/AIDS among Whites in 2015 (Table 6). The percentage of persons living with HIV/AIDS that are female are lower than in past years.

Table 6. Persons Living with HIV/AIDS in New Jersey by Race/Ethnicity and Gender in 2015

Race	Male			Female			Total		
	No.	%	Rate	No.	%	Rate	No.	%	Rate
Black, non-Hispanic	11,553	46	2,047	7,498	61	1,181	19,051	51	1,588
Hispanic	7,037	28	795	2,851	23	325	9,888	26	561
White, non- Hispanic	6,115	24	246	1,774	15	68	7,889	21	155
Other [a]	445	2	102	162	1	35	607	2	68
Total	**25,150**	**100**	**575**	**12,285**	**100**	**268**	**37,435**	**100**	**418**

a. **Other includes Asian/Pacific Islander and American Indian/Alaska Native.**
Note: Rates are per 100,000 population based on Bridged Race Estimates for July 2015 population in NJ.
Source: New Jersey eHARS as of December 31, 2015.

Trends in New Diagnoses by Race/Ethnicity

The disparity in the impact of HIV/AIDS among three major racial/ethnic groups is reflected in the continuous pattern of infections diagnosed from 2004 to 2013 (Figure 9). The HIV new infection number declined by 50% from 1,094 in 2004 to 544 in 2013 among Black Non-Hispanic. The number of infections decreased from 386 in 2004 to 252 in 2013 (35% decline) among White Non-Hispanic. Among Hispanics the decline was from 511 in 2004 to 359 in 2013 (30% decline). As a whole, the trend in new HIV/AIDS diagnoses is down by 42% from 2,023 to 1,179 over 10 years (2004 to 2013) in New Jersey (includes all race/ethnicity). In generally, the number of HIV infections has decreased in each racial/ethnic group, but minorities still comprise the majority of new infections. Blacks accounted for 47% of 2013 new infections, but only 13.3% of the NJ population in 2013; and Hispanics accounted for 31% of 2013 new infections, but only 18.9% of the NJ population in 2013. Blacks and Hispanics (78% of new cases in 2013) continue to be far more affected by HIV/AIDS than whites.

Figure 9. Estimated Number of Individuals Diagnosed with HIV/AIDS in New Jersey by Race/Ethnicity and Year of Diagnosis: 2004-2013

Source: New Jersey eHARS as of December 31, 2015.

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Trends in New Diagnoses by Race/Ethnicity and Gender

New Jersey has historically had one of highest proportions of HIV infection occurring in females. Although this proportion is declining (female proportion from 28.4% in 2009 to 26.7% in 2013 among new HIV infection), it is still very high compared to the female percentage nationally.

Blacks in New Jersey comprised 47 percent of all new 2013 HIV infection diagnosed. The rate of 2013 new infection among black males was the highest (65 per100,000 black males) of any group by race and sex. Black females accounted for 33 percent of new HIV infection among blacks. Despite the decline in infection and death due to HIV/AIDS, disparities have not disappeared. Black women continue to have a much higher rate of HIV diagnoses than Hispanic or white women. Black women represent 58% of all 2013 new HIV/AIDS cases among women. Comparing 2009 to 2013, new HIV infection among black men decreased 19.5% (Figure 10), and new HIV infection among black women decreased 33.8% (Figure 11). While new infections among black women remain high, the decreasing trend is an indication of improvements in preventing the disease.

Hispanic represents approximately 18.9 percent of the total New Jersey population in 2013 but accounted for 30.5 percent of all new HIV infection in 2013 (Hispanic HIV percent is increasing faster than Hispanic population percent). Hispanic females accounted for 23.7 percent of new HIV infection among Hispanic in 2013. Comparing 2009 to 2013, new HIV infection among Hispanic males decreased 14% (Figure 10), and new HIV infection among Hispanic females decreased 9.6% (Figure 11). White accounted for only 21.4 percent of all new HIV infection in 2013, and had a substantially lower HIV infection rate than African Americans or Hispanic. White women continue to account for a much lower number (43) and percent (14%) among the women.

Figure 10.   Estimated Number of Males Diagnosed with HIV/AIDS in New Jersey by Race/Ethnicity and Year of Diagnosis: 2009-2013

Number of Males

	2009	2010	2011	2012	2013
White	230	194	195	206	209
Black	452	422	396	394	364
Hispanic	319	313	260	309	274
Other	28	23	18	33	17
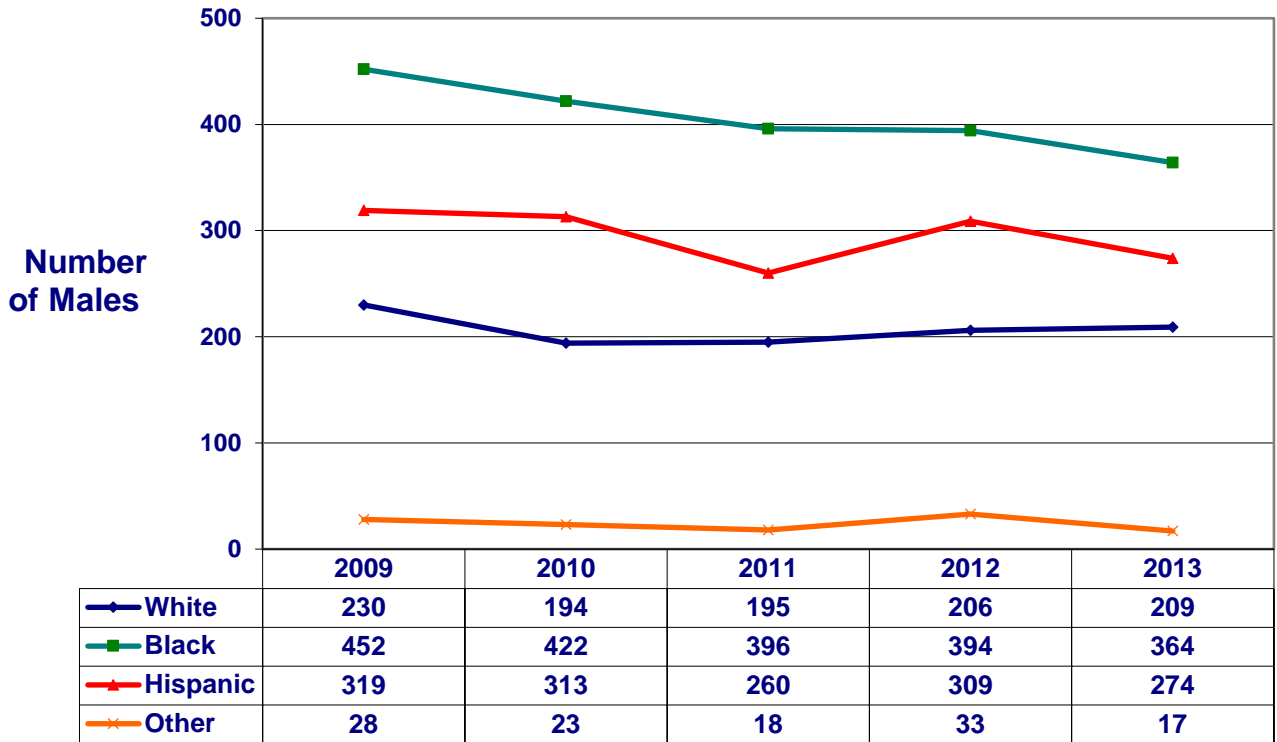
Source: New Jersey eHARS as of December 31, 2015.

Figure 11. Estimated Number of Females Diagnosed with HIV/AIDS in New Jersey by Race/Ethnicity and Year of Diagnosis: 2009-2013

Number of Females

	2009	2010	2011	2012	2013
White	34	38	34	43	43
Black	272	217	197	216	180
Hispanic	94	116	73	70	85
Other	9	6	6	7	3
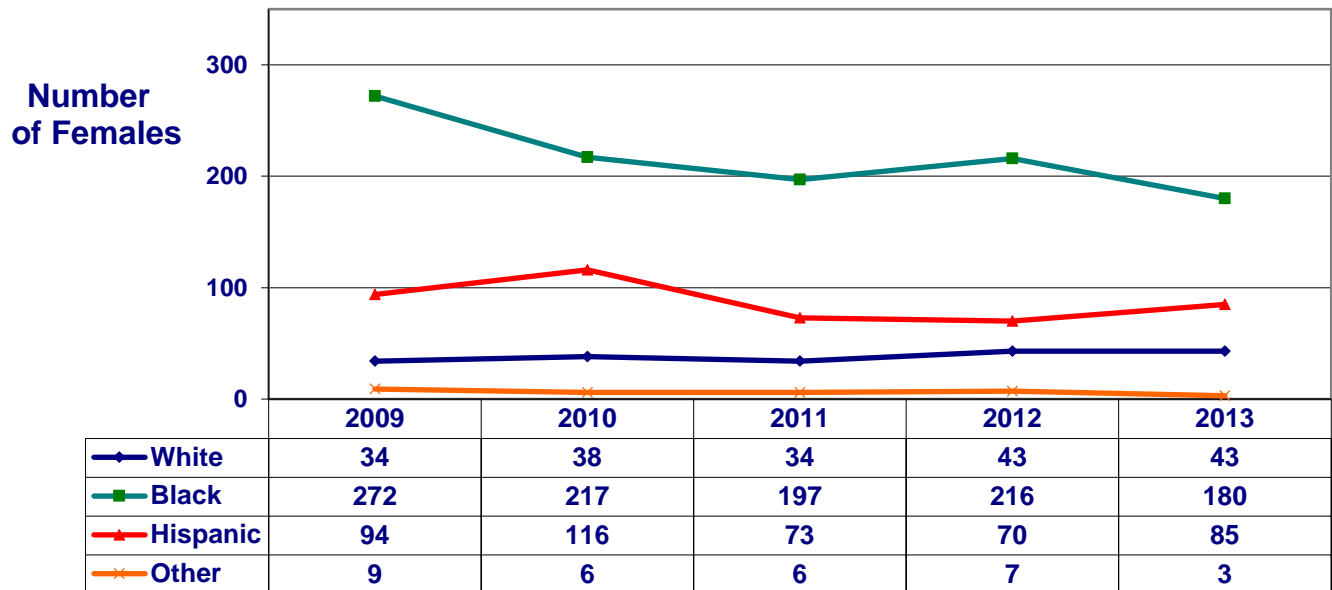
Source: New Jersey eHARS as of December 31, 2015.

Exposure Category

Living With HIV/AIDS

At the beginning of the epidemic, the highest proportion of AIDS cases in New Jersey were exposed through IDU. In 2015, persons exposed through IDU (18.2% IDU, and 2.3% IDU and MSM with an IDU) continued to account for a large proportion of cases (20.5%). Those exposed through sexual contact (heterosexual and male-to-male) accounted for 66 percent of all adult/adolescents persons living with HIV/AIDS in 2015 (Tables 7 and 8). The high percentage of reported exposures due to heterosexual sex is in part due to the fact that this report classifies heterosexually active persons with partners of unknown risk as exposed through heterosexual sex. Previously these individuals were classified as having an unknown risk. Fifty-five-point two percent of men reporting heterosexual exposure as their mode of exposure had partners with unknown risk, compared to just 38.9 percent of women. In the heterosexual category, men living with HIV/AIDS have lower proportions of documented HIV positive partners than women. As heterosexual transmission from females to males is less likely, this may represent an underreporting of male-to-male sex by men (Table 7).

Table 7. Adult/Adolescents Living with HIV/AIDS in New Jersey by Risk Exposure, 2015

Risk Exposure	Male		Female		Total	
	No.	%	No.	%	No.	%
MSM[a]	10,115	40.3	N/A	N/A	10,115	27.1
IDU[b]	4,253	16.9	2,552	20.8	6,805	18.2
MSM/IDU	873	3.5	N/A	N/A	873	2.3
Heterosexual sex	6,356	25.3	8,160	66.7	14,516	38.9
Adult Other/Unknown[c]	3,254	12.8	1,214	9.9	4,418	11.8
Pediatric Exposure	321	13	324	2.6	645	1.7
Total	25,112	100	12,250	100	37,372	100

Note: Does not include individuals under the age of 13 as of December 31, 2015.
a. MSM=Male-to-male sex
b. IDU=Injection drug use
c. Other/Unknown are combined due to the low number of cases in the 'other' category.
Source: New Jersey eHARS as of December 31, 2015.

Table 8. Adult/Adolescents Living with HIV/AIDS in New Jersey Exposed by Heterosexual Contact, by Partner Risk, 2015

Risk of Heterosexual Partner	Male		Female		Total	
	No.	%	No.	%	No.	%
Injection Drug User	358	5.6	1,135	13.9	1,493	10.3
Bisexual Male	N/A	N/A	134	1.6	134	0.9
HIV+ Partner with Unspecified Risk	2,492	39.2	3,716	45.5	6,208	42.8
Partner with Unknown Risk	3,506	55.2	3,175	38.9	6,681	46.0
Total	6,356	100	8,160	100	14,516	100

Note: Does not include individuals under the age of 13 as of December 31, 2015.
Source: New Jersey eHARS as of December 31, 2015.

The proportion of men and women living with HIV/AIDS in 2015 varied by exposure category and racial/ethnic group. White non-Hispanic men have the highest percentage exposed through sex with another man (Table 9). In 2015 men living with HIV/AIDS across all race/ethnic groups have a higher percentage of exposure through MSM than in the past years. The lower proportion of non-White men indicating sex with men, and the higher proportions of non-White men indicating exposure through heterosexual sex and IDU, may explain the greater racial disparity in women. The risks of the partners of men who reported heterosexual exposure were comparable across all races and ethnic groups with most being exposed with a partner of unknown HIV risk (Table 10). The percentage of unknown risk partner for heterosexual men was 55% in 2015 down from 62% in 2010.

Table 9. Number and Percent of Men Living with HIV/AIDS in New Jersey by Exposure Category and Race/Ethnicity in 2015

Risk of Heterosexual Partner	White non-Hispanic		Black non-Hispanic		Hispanic		Other[a]		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
MSM[b]	3,424	56	3,625	31	2,891	41	175	39	10,115	40
IDU[c]	712	12	2,285	20	1,237	18	19	4	4,253	17
MSM/IDU	259	4	388	3	218	3	8	2	873	4
Heterosexual Contact	847	14	3,580	31	1,810	26	119	27	6,356	25
Other/Unknown[d]	830	13	1,447	13	805	11	122	28	2,504	13
Pediatric Exposure	41	1	205	2	74	1	1	0	321	1
Total	6,113	100	11,142	100	7,035	100	444	100	25,122	100

Note: Does not include individuals under the age of 13 as of December 31, 2015.
a. Other includes Asian/Pacific Islander and American Indian/Alaska Native.
b. MSM=Male-to-male sex
c. IDU=Injection drug use
d. The categories of other exposure and unknown exposure are combined due to the small number of cases in the 'other' category.
Source: New Jersey eHARS as of December 31, 2015.

Table 10. Number and Percent of Men Living with HIV/AIDS in New Jersey Exposed by Heterosexual Sex by Risk of Partner and Race/Ethnicity in 2015

Risk of Heterosexual Partner	White non-Hispanic		Black non-Hispanic		Hispanic		Other[a]		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Injection Drug User	43	5	207	6	105	6	3	3	358	6
HIV+ Partner with Undetermined Risk	335	40	1,380	38	737	41	40	33	2,492	39
Partner with Unknown Risk	469	55	1,993	56	968	53	76	64	3,506	55
Total	847	100	3,580	100	1,810	100	119	100	6,356	100

Note: Does not include individuals under the age of 13 as of December 31, 2015.
a. Other includes Asian/Pacific Islander and American Indian/Alaska Native.
Source: New Jersey eHARS as of December 31, 2015.

A different pattern of known exposure emerged for women living with HIV/AIDS in 2015 (Table 11). For all racial and ethnic groups, women were most likely to have been exposed through heterosexual sex (67%). However, IDU exposures are still a major risk (21%). Among heterosexuals 14% were associated with sex an IDU. The majority of White non-Hispanic women were exposed through IDU (32%) and among White heterosexuals 21% were with an IDU. In contrast, Black non-Hispanic and Hispanic women living with HIV/AIDS were more likely to have been exposed through heterosexual sex than through IDU or IDU associated exposure. Black non-Hispanic women who reported exposure through heterosexual sex were less likely to know the risk of their partner than Hispanic and white non-Hispanic women (Table 12). However, Table 12 shows that the percentage of unknown risk partner for heterosexual women of all races was 38% which decreased from 42% in 2010.

Table 11. Number and Percent of Women Living with HIV/AIDS in New Jersey by Race/Ethnicity and Exposure Category in 2015

Exposure Category	White non-Hispanic		Black non-Hispanic		Hispanic		Other[a]		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Injection Drug Use	588	32	1496	20	478	17	20	13	**2,552**	**21**
Heterosexual sex	999	56	4,990	67	2,069	73	102	63	**8,160**	**67**
Other/Unknown[b]	172	10	766	10	239	8	37	23	**1,214**	**10**
Pediatric Exposure	43	2	221	3	58	2	2	1	**324**	**2**
Total	**1,772**	**100**	**7,473**	**100**	**2,844**	**100**	**161**	**100**	**12,250**	**100**

Note: Does not include individuals under 13 years of age as of December 31, 2015.
a. Other includes Asian/Pacific Islander and American Indian/Alaska Native.
b. The categories of other exposure and unknown exposure are combined due to the small number of cases in the 'other' category.
Source: New Jersey eHARS as of December 31, 2015.

Table 12. Number and Percent of Women Living with HIV/AIDS in New Jersey Exposed by Heterosexual Sex by Risk of Partner and Race/Ethnicity in 2015

Risk of Heterosexual Partner	White non-Hispanic		Black non-Hispanic		Hispanic		Other[a]		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Injection Drug User	210	21	608	12	311	15	6	6	**1,135**	**14**
Bisexual male	21	2	79	2	34	2	0	0	**134**	**2**
HIV+ partner with	448	45	2,217	44	996	48	55	54	**3,716**	**46**
Partner with unknown risk	320	32	2,086	42	728	35	41	40	**3,175**	**38**
Total	**999**	**100**	**5,003**	**100**	**2,069**	**100**	**102**	**100**	**8,160**	**100**

Note: Does not include individuals under 13 years of age as of December 31, 2015.
a. Other includes Asian/Pacific Islander and American Indian/Alaska Native.
Source: New Jersey eHARS as of December 31, 2015.

Targeted at Risk Populations

Some populations of HIV infected individuals are of special interest for planning purposes. These include persons exposed to HIV through injection drug use, women exposed to HIV through sexual contact with men, and men exposed to HIV through sexual contact with men. Characteristics of these populations living with HIV/AIDS can be seen in Tables 13-17. Men exposed through IDU tend to be older than women similarly exposed. Generally, persons exposed through IDU are more likely to be 50 years of age or older. (Table 13 and 14). Black non-Hispanics represent the greatest percentage of cases in the 50 years or older group. The percent of men and women aged 50 years or older living with HIV/AIDS who were exposed through IDU has steadily increased from previous years. This may reflect the fact that the epidemic in New Jersey a decade ago was predominately among persons exposed through IDU, and they have aged into the older group.

Among the heterosexual population, White non-Hispanic men exposed by sexual contact with women tend to be older than other men exposed through sexual contact with women. The proportion of heterosexual men living with HIV/AIDS in 2015 aged 50 and older was greater than in previous years (Table 15). Women show the same disparity as men (Table 16). White non-Hispanic men who were exposed through sexual contact with other men also tend to be older (Table 17) and increased in recent years. Table 17 also shows that Black MSM aged 13-39 living with HIV/AIDS in 2015 had a much higher number and percentage of MSM HIV infections as compared to the same age cohort of other race/ethnicity groups.

Table 13. Number and Percent of Men (Aged 13+ as of 12/31/2015) Exposed through IDU* Living with HIV/AIDS in New Jersey by Age and Race/Ethnicity, 2015

Age Group as of 12/31/2015	White non-Hispanic		Black non-Hispanic		Hispanic		Other/ Unknown**		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
13-24	2	0.3	0	0	3	0.2	0	0	5	0.1
25-29	5	0.7	3	0.1	4	0.3	0	0	12	0.3
30-39	33	4.6	23	1.0	52	4.2	0	0	108	2.5
40-49	106	14.9	204	8.9	303	24.5	2	10.5	615	14.5
50+	566	79.5	2,055	89.9	875	70.7	17	89.5	3,513	82.6
Total	712	100	2,285	100	1,237	100	19	100	4,253	100

Source: New Jersey eHARS as of December 31, 2015.
*. Not include MSM/IDU.
**. Other includes Asian/Pacific Islander and American Indian/Alaska Native.

Table 14. Number and Percent of Women (Aged 13+ as of 12/31/2015) Exposed through IDU Living with HIV/AIDS in New Jersey by Age and Race/Ethnicity, 2015

Age Group as of 12/31/2015	White non-Hispanic		Black non-Hispanic		Hispanic		Other/ Unknown*		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
13-24	3	0.5	0	0	0	0	0	0	3	0.1
25-29	8	1.4	2	0.1	8	1.7	0	0	18	0.7
30-39	62	11.1	52	3.5	37	7.7	2	10.0	153	6.0
40-49	138	24.7	384	25.7	162	33.9	5	25.0	689	27.0
50+	347	62.2	1059	70.7	271	56.7	13	65.0	1,690	66.2
Total	558	100	1,497	100	478	100	20	100	2,553	100

Source: New Jersey eHARS as of December 31, 2015.
*. Other includes Asian/Pacific Islander and American Indian/Alaska Native.

Table 15. Number and Percent of Men (Aged 13+ as of 12/31/2015) Exposed through Sex with Females Living with HIV/AIDS in New Jersey by Age and Race/Ethnicity, 2015

Age Group as of 12/31/2015	White non-Hispanic		Black non-Hispanic		Hispanic		Other/ Unknown*		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
13-24	3	0.4	46	1.3	8	0.4	0	0	7	0.9
25-29	13	1.5	100	2.8	37	2.0	0	0	150	2.4
30-39	65	7.7	356	9.9	287	15.9	18	15.1	726	11.4
40-49	180	21.3	900	25.1	543	30.0	32	26.9	1,655	26.0
50+	586	69.2	2,178	60.8	935	51.7	69	58.0	3,768	59.3
Total	847	100	3,580	100	1,810	100	119	100	6,356	100

Source: New Jersey eHARS as of December 31, 2015.
*. Other includes Asian/Pacific Islander and American Indian/Alaska Native.

Table 16. Number and Percent of Women (Aged 13+ as of 12/31/2015) Exposed through Sex with Men Living with HIV/AIDS in New Jersey by Age and Race/Ethnicity, 2015

Age Group as of 12/31/2015	White non-Hispanic		Black non-Hispanic		Hispanic		Other/ Unknown*		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
13-24	10	1.0	62	1.2	19	0.9	3	2.9	94	1.2
25-29	21	2.1	168	3.4	68	3.3	1	1.0	258	3.2
30-39	97	9.7	734	14.7	323	15.6	18	17.6	1,172	14.4
40-49	240	24.0	1,419	28.4	602	29.1	34	33.3	2,295	28.1
50+	631	63.2	2,607	52.2	1057	51.1	46	45.1	4,341	53.2
Total	999	100	4,990	100	2,069	100	102	100	8,160	100

Source: New Jersey eHARS as of December 31, 2015.
*. Other includes Asian/Pacific Islander and American Indian/Alaska Native.

Table 17. Number and Percent of Men (Aged 13+ as of 12/31/2015) Exposed Through Sex with Men* Living with HIV/AIDS in New Jersey by Age and Race/Ethnicity, 2015

Age Group as of 12/31/2015	White non-Hispanic		Black non-Hispanic		Hispanic		Other/ Unknown**		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
13-24	0	0	24	0.7	10	0.4	1	0.7	**35**	**0.4**
25-29	49	1.5	255	7.8	119	5.0	3	2.2	**426**	**4.7**
30-39	255	7.9	654	20.1	462	19.5	34	24.5	**1,405**	**15.6**
40-49	721	22.3	897	27.5	776	32.7	42	30.2	**2,436**	**27.1**
50-59	1,445	44.8	1,052	32.3	731	30.8	48	34.5	**3,276**	**36.4**
60+	759	23.5	376	11.5	276	11.6	11	7.9	**1,422**	**15.8**
Total	**3,229**	**100**	**3,258**	**100**	**2,374**	**100**	**139**	**100**	**9,000**	**100**

Source: New Jersey eHARS as of December 31, 2015.
*. Not include MSM and IDU.
**. Other includes Asian/Pacific Islander and American Indian/Alaska Native.

Trends in New Diagnoses by Exposure Category

From 2009 through 2013, MSM was the most frequent mode of exposure for men. (Figure 12a). The percent of MSM among all diagnoses remained the same in 2009 and 2013 at 44%. For men, male-to-male sex (regardless of whether male-to-female sex also occurred) accounted for 44 percent of all exposures and heterosexual sex (sex with women but not men) for 20 percent of all exposures in 2013 HIV/AIDS diagnoses. From 2009 to 2013, the number of new cases among males attributed to IDU decreased over 46%, while exposure through heterosexual sex decreased approximately 41%.

Among women the greatest risk of exposure is through heterosexual contact (Figure 13a). The proportion of newly diagnosed women exposed through IDU declined from 14 percent in 2009 to 5 percent in 2013. The greater proportion of new HIV infection among women from 2009 through 2013 reporting heterosexual exposure was with partners who were HIV+ or of unknown risk. (See Figures 13b).

Figure 12a. Number of Men (Age 13+ at Diagnosis) Diagnosed With HIV/AIDS in NJ by Mode of Exposure and Year of Diagnosis (2009-2013)

	2009	2010	2011	2012	2013
MSM	457	446	413	456	377
IDU	58	43	29	17	31
MSM and IDU	21	23	16	15	7
Heterosexual	296	270	217	228	175
Other/Unknown	196	169	188	222	273
Pediatric Exposure	0	0	1	1	0
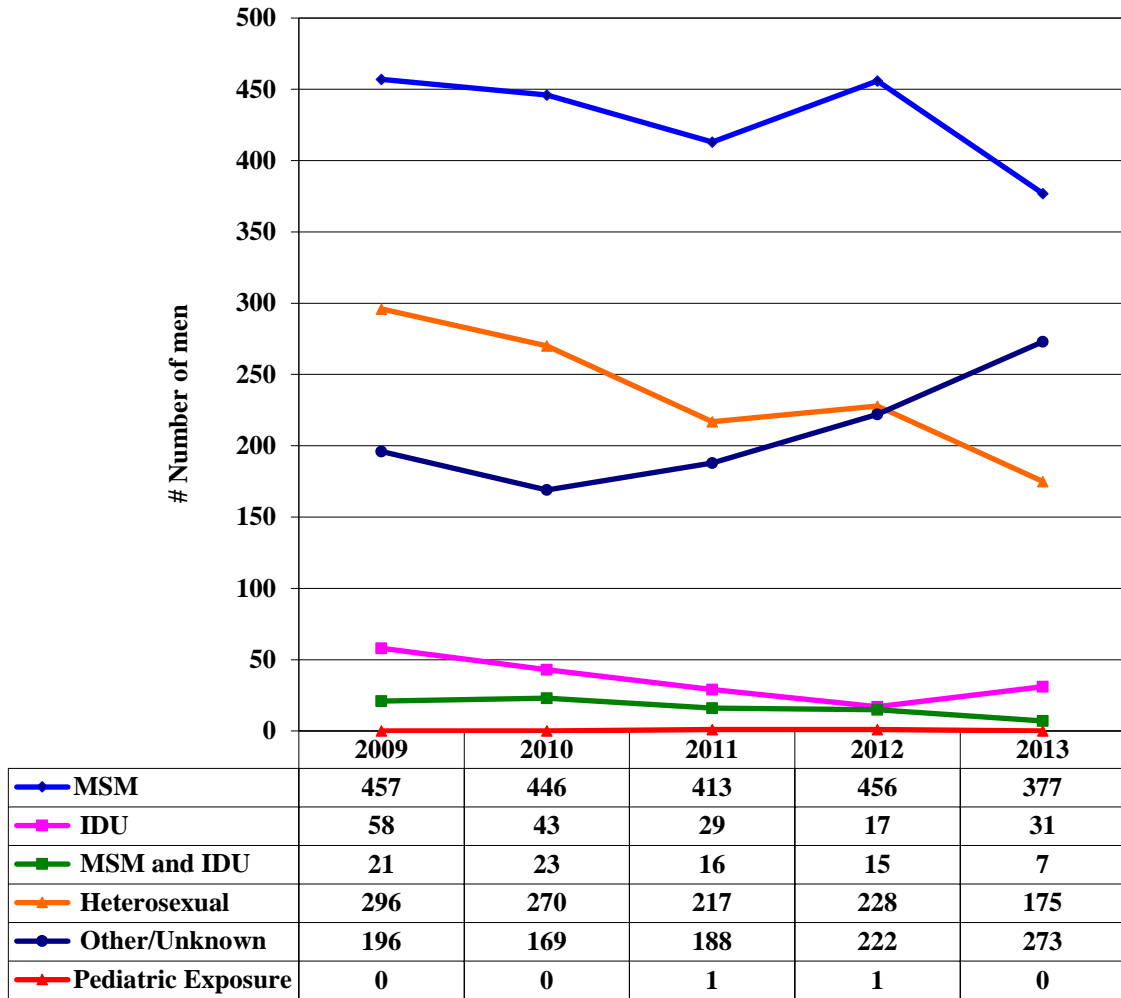
Source: New Jersey eHARS as of December 31, 2015.

Figure 12b. Number of Men (Age 13+ at Diagnosis) Diagnosed With HIV/AIDS in New Jersey by Mode of Heterosexual Exposure and Year of Diagnosis

	2009	2010	2011	2012	2013
Heterosex with HIV+	101	92	65	60	42
Hetero with IDU	11	7	6	8	6
Heterosexual with unknown	184	171	146	160	127

Figure 13a. Number of Women (Age 13+ at Diagnosis) Diagnosed With HIV/AIDS in New Jersey by Mode of Exposure and Year of Diagnosis

	2009	2010	2011	2012	2013
IDU	57	32	19	26	16
Heterosexual	271	255	232	213	198
Other/Unknown	77	81	54	91	97
Pediatric Exposure	0	2	1	0	0
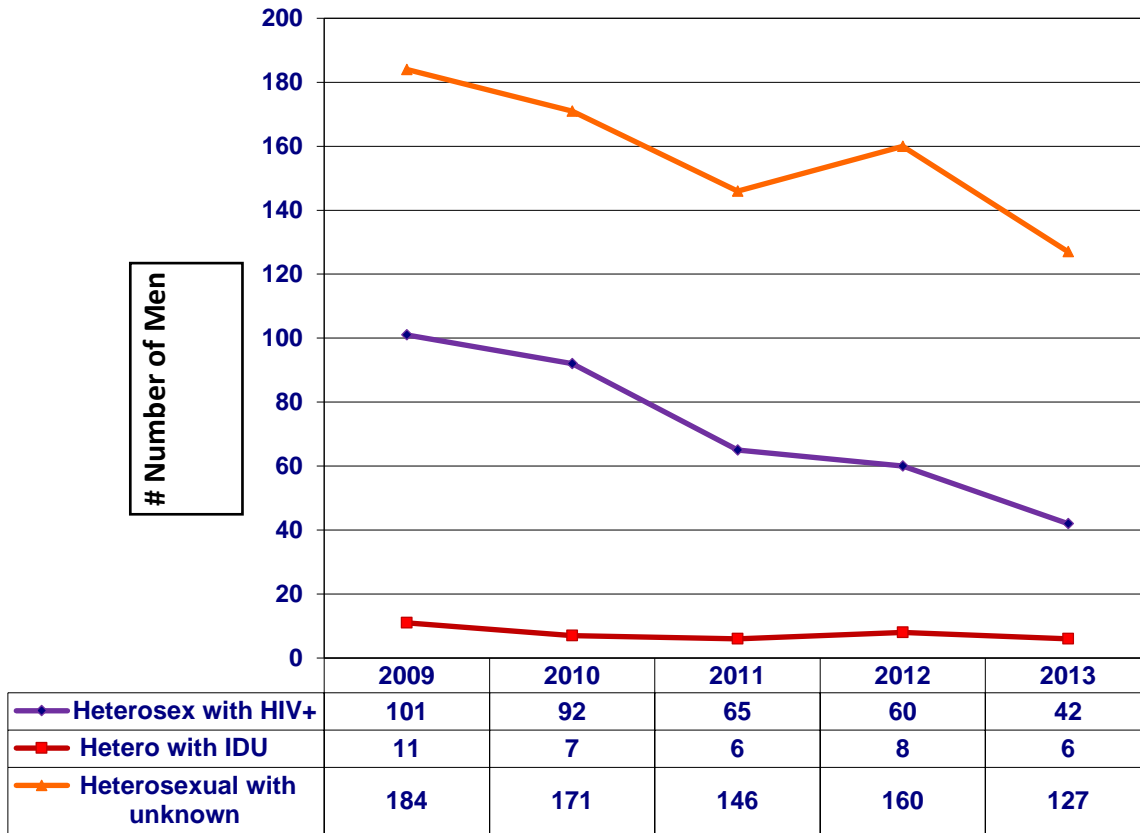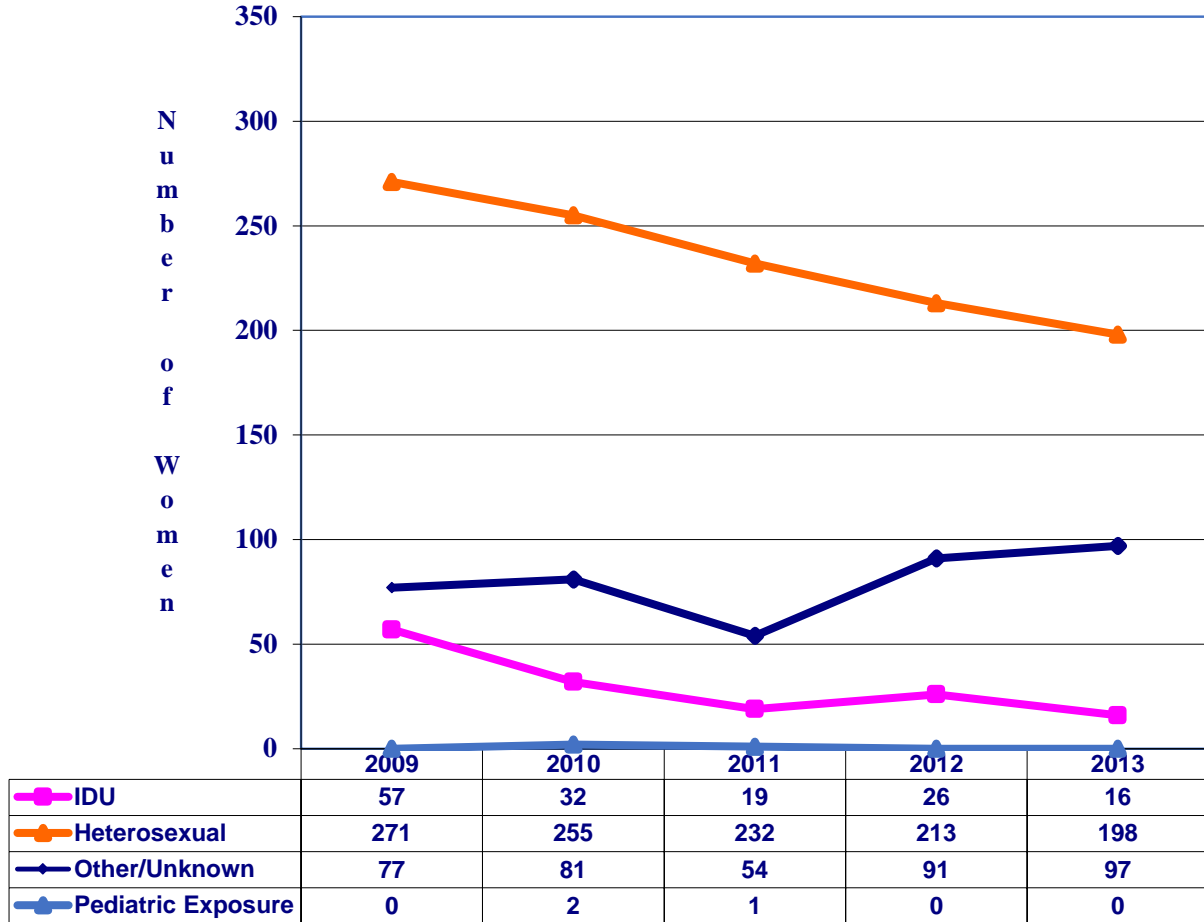
Source: New Jersey eHARS as of December 31, 2015.

Figure 13b. Number of Women (Age 13+ at Diagnosis) Diagnosed With HIV/AIDS in New Jersey by Mode of Heterosexual Exposure and Year of Diagnosis

	2009	2010	2011	2012	2013
Heterosex with IDU	9	11	3	7	10
Heterosex with unknown	149	137	140	152	127
Heterosex with HIV+	108	104	87	53	53
Heterosex with Bisex	5	3	2	1	8
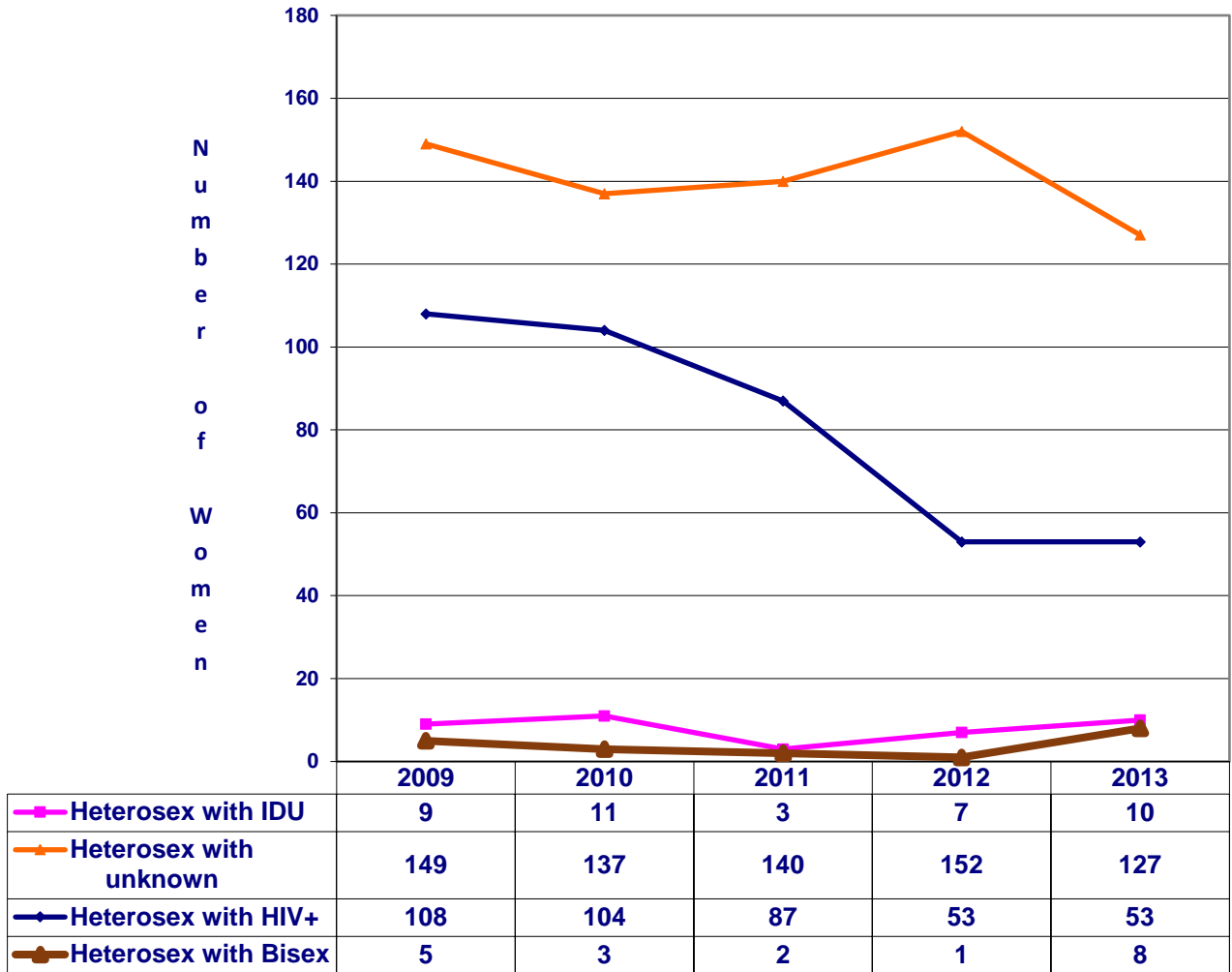
Source: New Jersey eHARS as of December 31, 2015.

Age

Living With HIV/AIDS

In 2015, the median age of PLWHA was 51 years, and 79.6 percent of all PLWHA were 40 years and older. In general prevalence increases with age, peaks at the age group 40-54 and declines thereafter. The age group of 50-54 has the highest rate of PLWHA. The number of persons older than 50 living with HIV/AIDS was more than 12 times higher in 2015 than it was in 1992. By contrast, the total number of PLWHA (all ages) in 2015 was nearly twice as high as it was in 1996 . The increase in persons older than 50 living with HIV/AIDS may be attributed to the fact that people are living longer with the disease, so those who were infected at a younger age are maturing into the other age categories. The proportions and rates of all persons living with HIV/AIDS who were aged 50 and older in 2015 were greater those aged 50 and older who were living with HIV/AIDS in the past. The prevalence rate for all males living with HIV/AIDS is about twice that of females (Table 18). The total prevalence rate remained the same for the past 5 years, and prevalence rates for males and females infected under the age of 20 were lower than the rate in the past. However, among males living with HIV aged 25-39 the rates were higher than in the past, but the rate among 40-49 men was lower than in the past. For women living with HIV/AIDS aged 25-49, all rates were lower than in the past.

Table 18. Number of Persons Living with HIV/AIDS in New Jersey by Age Group, 2015

Age Group (as of 12/31/2015)	Male			Female			Total		
	No.	%	Rate	No.	%	Rate	No.	%	Rate
0 - 12	28	0.1	4	35	0.3	5	63	0.2	5
13 - 19	104	0.4	25	93	0.8	24	197	0.5	25
20 - 24	593	2.4	202	230	1.9	82	822	2.2	143
25 - 29	1322	5.3	451	394	3.2	140	1,716	4.6	299
30 - 39	3,317	13.2	576	1,501	12.2	259	4,818	12.9	417
40 - 49	5,786	23.0	959	3,292	26.8	526	9,078	24.3	738
50 - 54	4,686	18.6	1,406	2,444	19.9	698	7,130	19.0	1,043
55 - 59	4,220	16.8	1,350	2,066	16.8	618	6,286	16.8	972
60 - 64	2,766	11.0	1,090	1,199	9.8	430	3,965	10.6	744
65+	2,329	9.3	406	1,031	8.4	134	3,360	9.0	250
Total	25,150	100	575	12,285	100	268	37,435	100	418

Note: Rates are per 100,000 for 2015 population-based U.S. Census June 2016 Bridged Estimates.
Source: New Jersey eHARS data as of 12/31/2015.

Trends in New Diagnoses by Age Groups

The largest number of diagnosed cases 2009 through 20013 occurred in people 20 through 49 years of age, a time that is typically considered the most productive years of life.   The number of diagnoses are low for males and females under the age of 20. Figures 14 and 15 show the trends of new diagnoses of men and women from 2009 to 2013. The number of newly diagnosed HIV/AIDS cases aged 30-39, 40-49 were high from year 2009 to year 2013 for both men and

women. Although the numbers have fluctuated for newly diagnosed men and women aged 30-39 and 40-49, the overall trends declined. That means the HIV/AID diagnosis age for women was slightly younger in the 5-year period. For males, the median age of diagnosis in 2013 was 36, while the median age of diagnosis in 2009 was 38. For women the median age in 2009 was 39 and 41 in 2013.That means the HIV/AIDS diagnosis age for men was younger compared to women.

Figure 14. Estimated Number of Men Diagnosed with HIV/AIDS in NJ by Age Groups and Year of Diagnosis

	2009	2010	2011	2012	2013
Age 13-19	36	38	38	33	20
Age 20-24	148	129	127	159	142
Age 25-29	131	132	133	151	131
Age 30-39	231	223	190	222	187
Age 40-49	272	238	212	211	202
Age 50-54	93	72	75	77	79
Age 55-59	59	69	43	39	52
Age 60-64	33	23	27	22	30
Age 65+	25	27	19	25	20
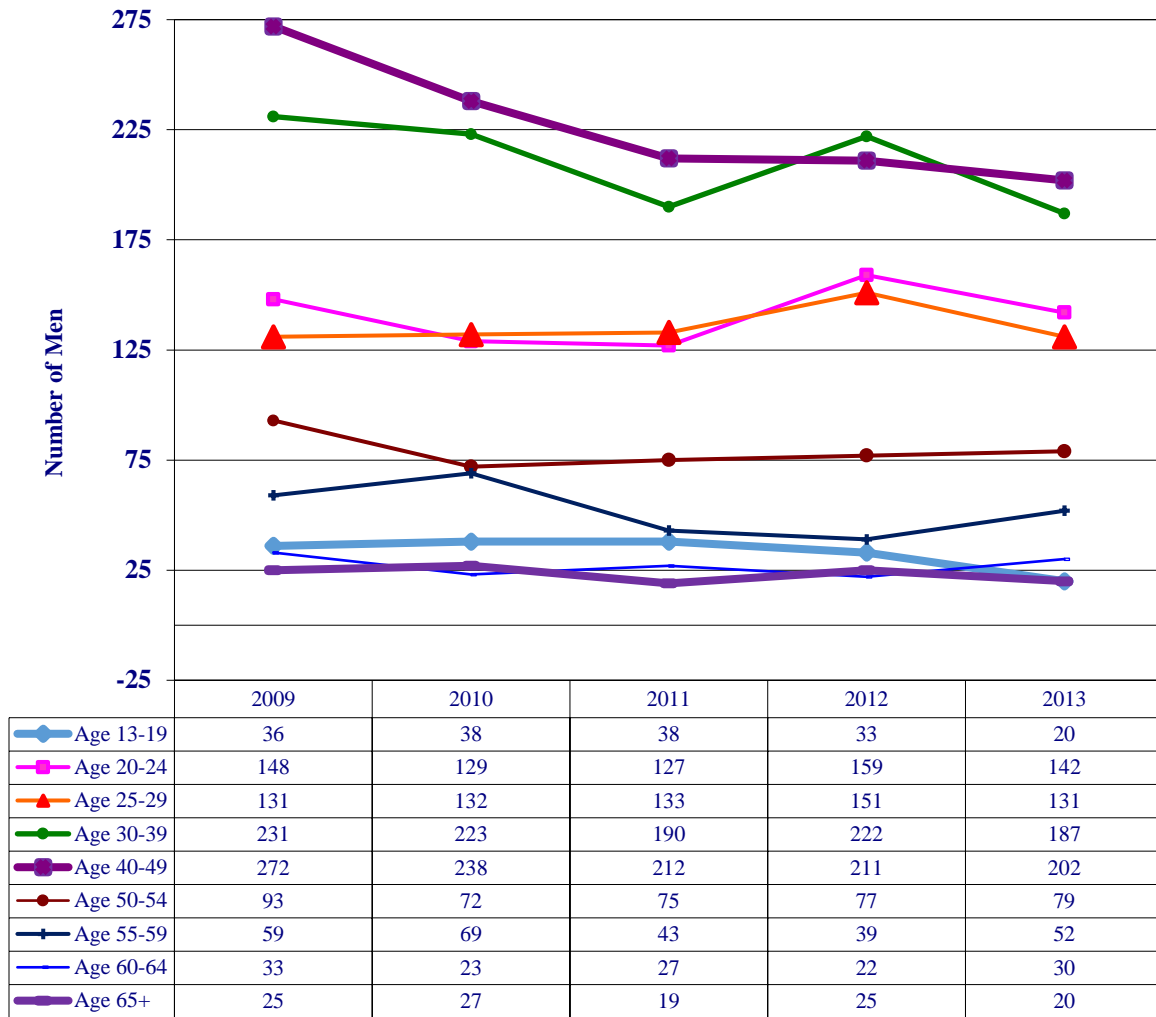
Source: New Jersey eHARS as of December 31, 2015.
Note: Only for males aged 13 years or older at diagnosis.

Figure 15. Estimated Number of Women Diagnosed With HIV/AIDS in NJ by Age Groups and Year of Diagnosis

	2009	2010	2011	2012	2013
Age 13-19	11	14	11	7	8
Age 20-24	24	40	24	36	25
Age 25-29	56	42	35	32	47
Age 40-49	110	89	73	104	75
Age 50-54	36	39	31	39	30
Age 55-59	20	31	23	17	24
Age 60-64	11	15	8	14	20
Age 65+	15	9	12	8	15
Age 30-39	122	91	89	73	67
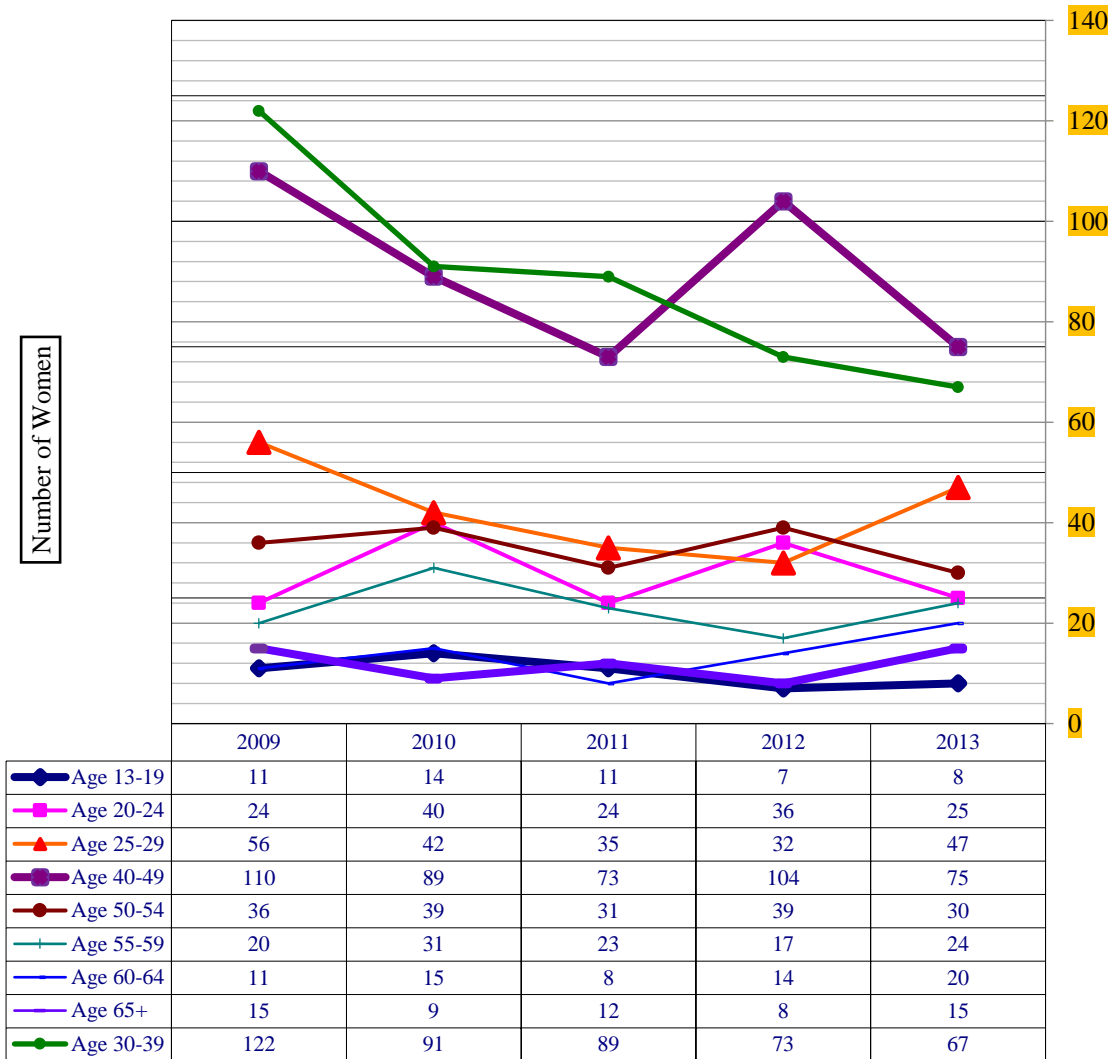
Source: New Jersey eHARS as of December 31, 2015.
Note: Only for females aged 13 years or older at diagnosis.

Diagnoses in Special Age Groups

The number of persons aged 19 or under constitute less than 5% of the total number of infected persons; and are decreasing for each year. Two age categories are of special interest and represent distinct priority population for planning: persons 20 to 29 years of age, and persons 50 years of age and older. Both of these groups represent the largest percentage of cases diagnosed in recent years. The percentage of newly diagnosed cases aged 20-29 increased (Table 19), mainly among young men (Figure 14). The percentage of newly diagnosed cases among persons 50 years or old have increased slightly. As the HIV infected population ages, a greater proportion of those living with HIV/AIDS aged 50 years or older is increasing rapidly. More than 55% of those living with HIV or AIDS are 50 years of age or older in 2015.

Table 19. Newly Diagnosed Cases of HIV/AIDS for Persons Ages 20-29 and 50 and Over by Year of Diagnosis: 2004-2013

Year	Age 20-29		Age 50 and over		All Ages	
	No.	% (row)	No.	% (Row)	No.	%
2004	334	16.5	399	19.7	2,023	100
2005	332	17.4	386	20.3	1,905	100
2006	345	19.6	334	18.9	1,765	100
2007	317	20.9	300	19.8	1,519	100
2008	341	23.5	272	18.8	1,451	100
2009	359	25.0	292	20.3	1,438	100
2010	343	25.8	285	21.4	1,329	100
2011	319	27.1	238	20.2	1,179	100
2012	378	29.6	241	18.9	1,278	100
2013	345	29.3	270	22.9	1,179	100

Note: Percent is the percentage of all cases diagnosed in the year specified.
Source: New Jersey eHARS as of December 31, 2015.

Diagnosed HIV/AIDS among Persons at 20 to 29 Years of Age

The number of new HIV infection among men aged 20-24 and aged 25-29 has increased in New Jersey in the past 5 years (Figure 14 and 15). Additionally, most of the infections diagnosed in this group are relatively recent infections as opposed to infections diagnosed among people older than 29 years of age. The number of newly diagnosed HIV/AIDS cases in all race groups declined from 2004 to 2013 (Figure 9), especially for black non-Hispanic HIV/AIDS cases. Table 19 shows that the numbers of newly diagnosed cases among this ages 20-29 in the last ten years remain the same, but the percentage of new diagnosis's in this group increased from 16.5% (year 2004) to 29.3% (year 2013). Young men who have sex with men (YMSM) are of particular concern, especially, young black MSM. Table 20 shows that Black YMSM aged 20-29 had a much higher number of cases than other race MSM aged 20-29. The largest percent (more than 60%) of risk

exposure is MSM for all three races among HIV infected men 20 through 29 years of age. Hispanic MSM (include MSM/IDU) 70% of infections of Hispanic aged 20-29 diagnosed in 2011-2013 (table 20).

Table 20. Persons 20 through 29 Years of Age Diagnosed with HIV/AIDS in 2011-2013 by Exposure Category, Race/Ethnicity and Gender in New Jersey

Risk Exposure	White non-Hispanic				Black non-Hispanic				Hispanic			
	Male		Female		Male		Female		Male		Female	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	72	61	NA	NA	270	63	NA	NA	197	70	NA	NA
IDU	0	0	9	28	1	0	1	3	3	1	6	10
MSM/IDU	4	3	NA	NA	1	0	NA	NA	6	2	NA	NA
Heterosexual sex with[a]	**13**	**11**	**16**	**56**	**87**	**22**	**89**	**87**	**25**	**10**	**42**	**71**
Injection Drug User	1	1	2	6	1	1	5	2	0	1	0	0
Bisexual Male	NA	NA	0	0	NA	NA	3	2	NA	NA	0	0
HIV+ partner	5	4	7	22	19	4	19	31	6	2	17	29
Partner with unknown risk	7	6	9	28	67	16	62	52	19	7	25	42
Other/Unknown[b]	29	25	5	16	68	16	13	8	52	18	11	19
Totalc	**118**	**100**	**32**	**100**	**426**	**100**	**103**	**100**	**283**	**100**	**59**	**100**

Data are not presented for Asian/Pacific Islanders or Alaska Natives/American Indians due to the small number of cases.
 a. This row is a total of all the heterosexual exposures listed.
 b. The categories of other and unknown exposure are combined due to the small number of cases in the 'other' category.
 c. Column values will not add to the total as heterosexual risk is shown as a subtotal of all heterosexual risks and as separate sub categories.
Source: New Jersey eHARS as of December 31, 2015.

MSM (aged 13+ at diagnosis) diagnosed HIV/AIDS, 2004 -2013

Between 2004-2013, the number of MSM diagnoses have not decreased significantly among all race groups. In 2004 the numbers of new HIV+ was 456 compared to 377 in 2013 among MSM (not include MSM/IDU in the Chart below). Hispanic MSM comprised 29.4% of all MSM diagnosed in 2004, but 35.5% of all MSM diagnosed with HIV/AIDS in 2013. Based upon the Bridged-Race estimates for the 2013 population, only 18% of the male population is Hispanic in NJ. A 2008-2013 national study shows, the number of the diagnoses of HIV infection among Hispanic MSM aged 13 years or older increased, compared with other transmission categories among Hispanics aged 13 or older decrease.

Figure 16. MSM Diagnosed HIV/AIDS by Race, 2004-2013
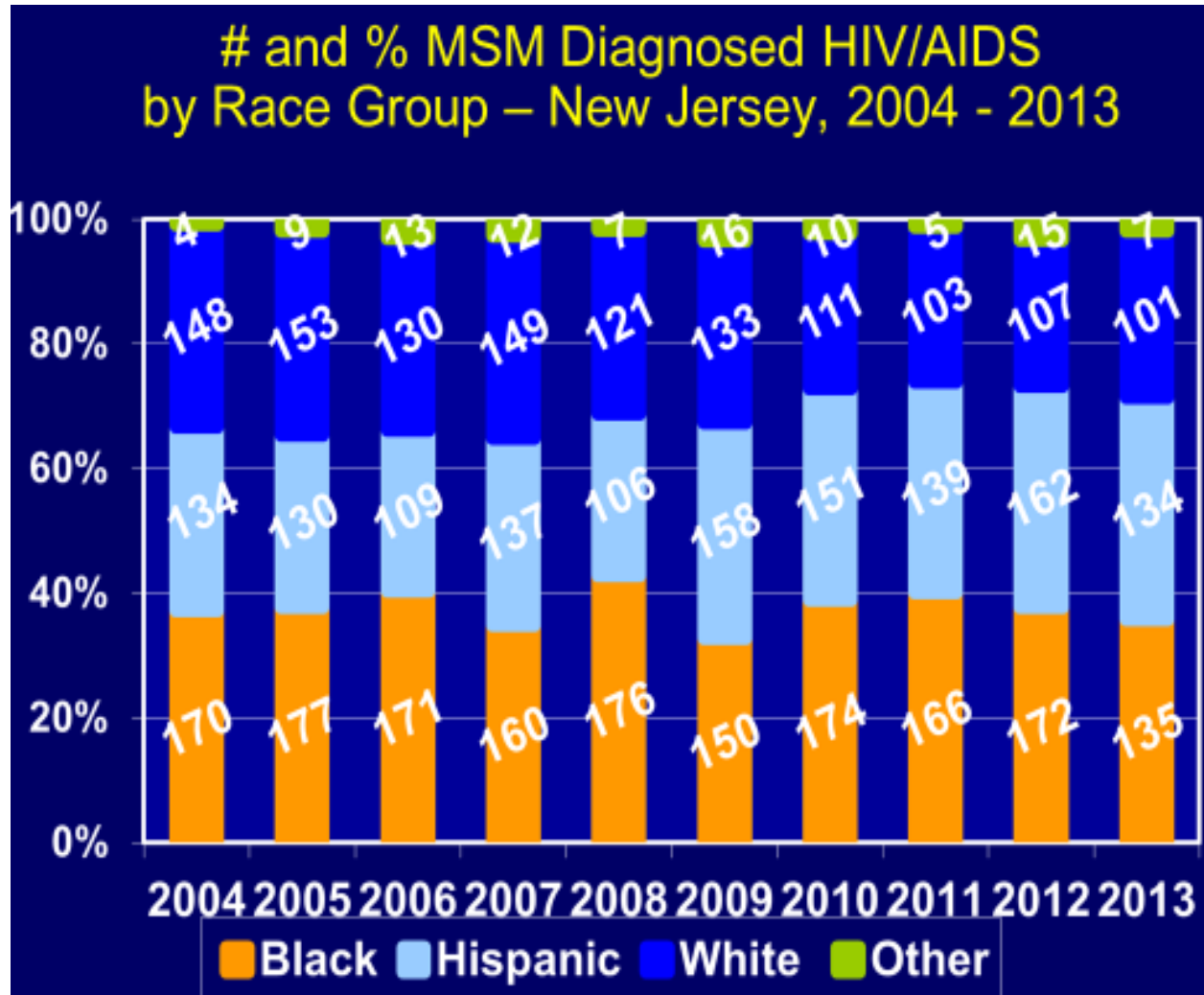
and % MSM Diagnosed HIV/AIDS by Race Group – New Jersey, 2004 - 2013

MSM (Men Exposed Through Sex with Other Men) Diagnosed with HIV/AIDS in 2013

Table 21 shows the number and percentage with MSM diagnosed HIV/AIDS in 2013. Although the total 2013 number of MSM diagnosed HIV/AIDS is less than the number in 2012, numbers fluctuates between two consecutive years and are not indicated of a trend. (Figure 16). Cases among MSM under 35 years of age accounted for 62% of MSM diagnosed HIV/AIDS in 2013 (only 51% of MSM diagnosed in 2004). But the case number among Black MSM, under 35 years old accounted for which was 77.9% in 2013, compared with the number among white MSM under 35 years of age accounted for 39.6%.

Black MSM, aged 20-29 infected with HIV in 2013 have a much higher number and percentage of cases than any other race/ethnicity. The median age of black MSM diagnosed with HIV/AIDS in 2013 was 26, while the media age of Hispanic MSM was 30. The total number of Hispanic MSM diagnosed with HIV/AIDS was almost equal to the total number of Blacks diagnosed HIV/AIDS in 2013. Higher prevalence of HIV among MSM, leads to a greater risk of HIV exposure with each sexual encounter. Many young color MSM may underestimate their personal risk for HIV. The disproportionate increase among young MSM indicates a gap in our current prevention efforts.

Table 21. Number and Percent of Men (Aged 13+ at HIV/AIDS diagnoses) Exposed through Sex with Men (include MSM/IDU) diagnosed HIV/AIDS in 2013 by Age Groups and Race/Ethnicity in New Jersey

Age Group at HIV/AIDS diagnosis	White non-Hispanic		Black non-Hispanic		Hispanic		Other/ Unknown*		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
13-19	0	0	9	6.6	4	3.0	1	14.3	14	3.7
20-24	14	13.2	48	35.3	33	24.4	0	0	95	24.7
25-29	15	14.2	35	25.7	27	20.0	1	14.3	78	20.3
30-34	13	12.3	14	10.3	20	14.8	2	28.6	49	12.8
35-39	9	8.5	12	8.8	15	11.1	2	28.6	38	9.9
40-49	29	27.4	12	8.8	31	23.0	1	14.3	73	19.0
50+	26	24.5	6	4.4	5	3.7	0	0	37	9.6
Total	**106**	**100**	**136**	**100**	**135**	**100**	**7**	**100**	**384**	**100**

Source: New Jersey eHARS as of December 31, 2015.
*. Other includes Asian/Pacific Islander and American Indian/Alaska Native.

Persons 50 Years of Age and Older

Persons 50 years of age and older are often overlooked in planning for HIV services. This group is important to consider for two reasons: the immune system weakens with age so the body has less ability to fight infection, and people age 50 and older tend to have more chronic conditions for which they take medication. These medications may interfere with HIV treatment.

Overall, Black non-Hispanics accounted for 51% of the 2013 new cases among persons aged 50+ and PLWHA. In 2013, Hispanics accounted for a little less than White non-Hispanics. Black non-Hispanics comprise the largest percentage of cases, but Hispanics comprise larger percentage than white non-Hispanic (Table 6 and Figure 9). This is due, in part, to the fact that Hispanics comprise a smaller percentage of the population 50 years of age and older compared to the general population (9.7% of 50+ versus 16.3% of all groups). Similar to the HIV infected population in general, Black non-Hispanic women groups aged 50+ are disproportionately infected, 66% of newly diagnosed women 50+ cases, and 61% in 2015 among those living with HIV/AIDS. The percentages of 2013 newly diagnosed cases among black men and 2015 PLWHA among men aged 50+ high comprise the majority of the cases.

In 2013, 7% of new diagnoses among the 50th population were due to IDU, while 25% of persons in this age group who were living with the infection in 2015 were infected through IDU (Table 23).

Table 22. Cases of HIV/AIDS Among Persons 50 Years of Age and Older in New Jersey by Race/Ethnicity and Gender

Race/ethnicity	Males				Females				Total			
	Diagnosed in 2013		Living in 2015		Diagnosed in 2013		Living in 2015		Diagnosed in 2013		Living in 2015	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
White non-Hispanic	64	35	4,010	29	12	14	1,100	16	76	28	5,110	25
Black non-Hispanic	70	39	6,531	47	59	66	4,104	61	129	48	10,635	51
Hispanic	45	25	3,240	23	17	19	1,454	22	62	23	4,694	23
Other/Unknown	2	1	220	1	1	1	8260	1	3	1	302	1
Total	181	100	14,001	100	89	100	6,740	100	270	100	20,741	100

Note: Rates are not included due to the low number of cases in this population.
Source: New Jersey eHARS as of December 31, 2015.

Table 23. Cases of HIV/AIDS Among Persons 50 Years of Age and Older in New Jersey by Exposure Category and Gender

Exposure Category	Males				Females				Total			
	Diagnosed in 2013		Living in 2015		Diagnosed in 2013		Living in 2015		Diagnosed in 2013		Living in 2015	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM[a]	37	20	4,421	32	-	-	-	-	37	14	4,421	21
IDU[b]	19	11	3,513	25	1	1	1,689	25	20	7	5,202	25
MSM/IDU	0	0	546	4	-	-	-	-	0	0	546	3
Heterosexual sex	51	28	3,768	27	48	54	4,341	64	99	37	8,109	39
Other/Unknown[c]	74	41	1,753	12	40	45	710	11	114	42	2,463	12
Total	181	100	14,001	100	89	100	6,740	100	270	100	20,741	100

a. MSM=Male-to-male sex.
b. IDU=Injection drug use.
c. The categories of other exposure and unknown exposure are combined due to the small number of cases in the 'other' category.
Source: New Jersey eHARS as of December 31, 2015.

Children Affected by HIV

Children are affected by HIV disease in two ways: they may be infected with HIV themselves, or they are affected because they lose one or both parents to HIV disease. The latter may happen because the parent is too sick to care for the child, or the parent dies.

Pediatric Infections

Children who are diagnosed before 13 years of age are considered as pediatric infections. 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; cumulative pediatric infections through December 31, 2015 are presented in this report. Most of the 1,391 pediatric HIV/AIDS infections (Table 24) resulted from a child's mother being infected with HIV (perinatal transmission). Due to improvements in the screening of donated blood in 1985, transfusions have been virtually eliminated as a means of exposure. As with adult/adolescent infections, the highest proportion of cases have occurred in Black non-Hispanic children (Table 24).

Table 24. Cumulative Pediatric HIV/AIDS Cases in New Jersey

Exposure Category	White non-Hispanic	Black non-Hispanic	Hispanic	Other/Not Reported	Total
Mother With/At Risk of AIDS	156	859	268	6	**1,289**
Hemophilia/Coagulation Disorder	10	7	5	0	**22**
Transfusion/Blood Components	10	1	2	0	**13**
Risk Not Reported/Other Risk	13	39	13	2	**67**
Total	**189**	**906**	**288**	**8**	**1,391**

Source: New Jersey eHARS as of December 31, 2015.

In 1993, the DHSTS began monitoring pediatric exposures to HIV through Enhanced Perinatal Surveillance (see Appendix A). Since that time over 5000 exposures have been followed, and the number of annual pediatric infections has dropped by greater than 90 percent (Table 25).

Table 25. New Jersey Born HIV Pediatric Exposures (1) by Current Status and Year of Birth for Children Born 2001-2015 - As of December 31, 2015

Birth Year	Infected (2) No.	(%)	Indeterminate (3) No.	(%)	Sero-reverter (4) No.	(%)	Total Reported No.
2001	10	5%	58	26%	151	69%	219
2002	14	6%	60	24%	171	70%	245
2003	16	8%	50	24%	141	68%	207
2004	11	5%	33	15%	178	80%	222
2005	12	6%	35	18%	146	76%	193
2006	5	3%	37	20%	140	77%	182
2007	7	4%	28	17%	131	79%	166
2008	4	2%	31	16%	160	82%	195
2009	4	2%	21	13%	136	84%	161
2010	5	3%	14	9%	137	88%	156
2011	8	5%	13	9%	129	86%	150
2012	3	2%	11	9%	112	89%	126
2013	2	2%	11	9%	114	90%	127
2014*	0	0%	19	14%	113	86%	132
2015*	0	0%	49	55%	40	45%	89

(1) Exposure - Child was exposed to HIV during pregnancy/delivery.
(2) Infected - Child is infected with HIV/AIDS.
(3) Indeterminate - Child was exposed but actual status of infection is unknown.
(4) Seroreverter - Child was perinatally exposed and proven to be uninfected.
 * Years 2014 and 2015 data are incomplete

Children Whose Mothers have Died due to HIV/AIDS

 As part of Enhanced Perinatal Surveillance, the eHARS was matched against birth certificate files from 1989 to 2015. In this way, mother child pairs are linked. Additionally, case reports for children are linked to their mothers, and siblings are noted when the data is available. As of December 31, 2015, there are an estimated 6,711women in eHARS with an indication that they have had at least one live birth. Of these, 2,704 have died leaving a child. For 1,530 of these women there is birth date information on the child whether to indicate they had at least one child under the age of eighteen at the time of their death. HIV prevention programs need to reinforce and expand critical resources for all HIV-infected women.

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. Meeting the multiple needs of people living with HIV/AIDS who have comorbidities requires attentive coordination of services as, generally, TB and hepatitis C morbidity accelerate with HIV co-infection.

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 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 nearly 30 percent of cases among people with TB are occurring in HIV-infected individuals. Among the 1.2 million lives that **TB** claimed in 2014 in the world, 390,000 were among people with **HIV** infection. 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".   Men comprise 70.3 percent of the cumulative AIDS cases and 72.9 percent of TB/AIDS cases in New Jersey in 2015 (Table 26). The rate of co-morbidity infection with HIV/TB is 5.06 per 100 of males with AIDS and 4.4 per 100 females with AIDS. Black non-Hispanics show a higher proportion of TB cases than white non-Hispanics and Hispanics. Overall, 4.87 percent of all persons diagnosed with AIDS are co-infected with TB in 2015. Nearly 76 percent of people with TB and AIDS are among those cases aged 25 through 44.

Table 26. Overview of Cumulative AIDS Cases and AIDS Cases with Tuberculosis in New Jersey, 2015

Gender	AIDS as of 2015		TB/PULM TB and AIDS to 2015		TB Cases to 2015 per 100 AIDS Cases
	No.	%	No.	%	Rate
Male	41,341	70.3	2,868	72.9	5.1
Female	17,491	29.7	776	27.1	4.4
Race/Ethnicity					
White non-Hispanic	14,012	23.8	252	8.9	1.8
Black non-Hispanic	32,419	55.1	2,015	71.4	6.3
Hispanic	12,011	20.4	488	18.0	4.3
Asian non-Hispanic	330	0.6	36	1.6	13.9
Other/Unknown	60	0.1	4	0.1	6.7
Age Group at Diagnosis of AIDS					
0 – 12	464	0.8	13	0.4	2.4
13 – 24	2,229	3.8	106	3.7	4.8
25 – 44	40,529	68.9	2,114	75.5	5.3
45 – 64	14,494	24.6	522	18.9	3.8
65+	1,116	1.9	40	1.5	3.9
Total	**58,832**	**100.0**	**2,868**	**100.0**	**4.9**

Source: New Jersey eHARS as of December 31, 2015.

Hepatitis C

According to the CDC, one quarter of the HIV-infected persons in the United States are also infected with the hepatitis C virus (HCV). 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.

Hepatitis-C (HCV) Among HIV/AIDS Patients in New Jersey*

Hepatitis-C (HCV) reports during 2015 were matched probabilistically to the HIV/AIDS Registry in New Jersey as of August 31, 2016 using AUTOMATCH[1]. The matching algorithm

used date of birth, name (including aliases), street address, city, county, zip code, sex and race/ethnicity to match and verify matched records. Weak matching pairs were clerically reviewed prior to deciding on their matching status. The match was performed by the HIV/AIDS surveillance program to maintain confidentiality of the HIV information. Of the 8,331 unduplicated HCV reports in 2015, 380 (4.6%) were matched to HIV/AIDS records. While newly reported HCV in 2015 increased by 5.7% from 2014; co-infection of HCV and HIV declined by 11.5% from 5.2% in 2014 to 4.6% in 2015.

Of the 380 matched reports, 305 were found to be NJ residents diagnosed with HIV/AIDS and alive as of 1/1/2015. Table 1 shows the demographic distribution of the co-infected cases compared to all other HIV/AIDS cases that were not co-infected with HCV and alive as of January 1, 2015. Higher proportions among the co-infected group were AIDS cases as of August 31, 2016 compared to HIV/AIDS cases that were not co-infected with HCV. Sex and Race\ethnicity distribution are similar for both groups of patients. Average age at HIV/AIDS diagnosis is older for the co-infected group (37.3 years) than for the HIV/AIDS group that is not co-infected with HCV (35.6 years).

Geographic distribution of the co-infected persons is similar to that of HIV/AIDS cases. Over half in both groups resided in Essex, Hudson, Union, Passaic and Middlesex counties. Twenty-seven percent of the co-infected individuals resided in Essex County alone. (Results not shown)

There is a high association between injection drug use and HCV/HIV co-infection. Sixty percent of the co-infected individuals were exposed to HIV/AIDS through IDU or MSM/IDU, 2.9 times the proportion among the group that is not co-infected with HCV. An additional 10% of the co-infected group reported MSM and 22% reported heterosexual contact compared to 27% and 39% for the not co-infected group, respectively. Seven percent of the co-infected and 11.5% of the not co-infected group did not report any exposure category. Mortality is higher among the co-infected group, 7.2% died in or after 2015 compared to only 2.6% for the not co-infected group. The risk of mortality among the co-infected group is 2.8 times that of the not co-infected group.

Table 29 shows the adjusted odds of having HCV infection among HIV/AIDS patients associated with risk exposure categories, controlling for sex, age at HIV/AIDS diagnosis, year of HIV/AIDS diagnosis and race/ethnicity. The odds were calculated from Logistic regression using the SAS system[2]. Only significant variables are kept in the table. The odds of co-infection with HCV among HIV/AIDS patients are almost 5 times higher among those who inject drugs than among those who did not report any risk exposure. Odd of co-infection were significantly reduced to those who were exposed to HIV disease through MSM and other non-IDU categories compared to those who did not report any risk exposure. Increased age at HIV diagnosis is associated with increased odds of co-infection though not statistically significant at 5%. No significant effects (at <= 5%) among ethnic groups, year of HIV diagnosis and sex were observed, once the exposure category was controlled for.

Despite data limitations these results suggest new HIV prevention challenges. The frequent co-infection of HCV and HIV underscores the importance of an integrated prevention message that

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[1] AUTOMATCH is a generalized record linkage system that provides individual matching. It uses new advances in record linkage technology to provide statistically justifiable methodology for file matching.
[2] SAS= Statistical Analysis System.

addresses high-risk behaviors, especially injection drug use, to reduce both HIV and Hepatitis-C infection. The higher short-term mortality among HIV/AIDS patients who were co-infected with HCV in 2015, calls attention to the need for HIV/AIDS care and treatment programs to control HCV.

Table 27. New Jersey Department of Health
Division of HIV, STD and TB Services
Epidemiologic Services Unit
Distribution of HIV Infection and HIV/HCV Co-Infection by Demographics
Data as of August 31, 2016

	INFECTION TYPE:			
	HIV & Hep-C		HIV/AIDS Only	
	#	col%	#	col%
ALL HIV/AIDS CASES ALIVE ON 1/1/2015	305	100	38399	100
HIV CATEGORY:				
AIDS	183	60.0	20263	52.8
HIV Not-AIDS	122	40.0	18136	47.2
VITAL STATUS				
1. PRESUMED ALIVE	283	92.8	37418	97.4
2. KNOWN DEAD	22	7.2	981	2.6
SEX:				
(F) Female	106	34.8	12745	33.2
(M) Male	199	65.2	25654	66.8
RACE/ETHNICITY:				
White Not Hispanic	62	20.3	7953	20.7
Black Not Hispanic	169	55.4	19584	51.0
Hispanic	71	23.3	10263	26.7
Other/Unknown	3	1.0	599	1.6
EXPOSURE CATEGORY:				
1. MSM	29	9.5	10256	26.7
2. IDU & IDU/MSM	184	60.3	7951	20.7
3. HETEROSEXUAL CATEGORIES	67	22.0	15022	39.1
4. PEDIATRIC	4	1.3	759	2.0
5. OTHER/UNKNOWN	21	6.9	4411	11.5
AGE AT DIAGNOSIS:				
1. <13	4	1.3	739	1.9
2. 13-19	4	1.3	1056	2.8
3. 20-24	13	4.3	3674	9.6
4. 25-29	42	13.8	5833	15.2
5. 30-34	58	19.0	6943	18.1
6. 35-39	65	21.3	6803	17.7
7. 40-45	45	14.8	5515	14.4
8. 45-49	38	12.5	3679	9.6
9. 50+	36	11.8	4157	10.8
YEAR OF DIANOSIS:				
1. <1990	15	4.9	1209	3.1
2. 1990-99	150	49.2	15000	39.1
3. 2000-09	91	29.8	14707	38.3
4. 2010+	49	16.1	7483	19.5

Table 28. The Adjusted Odds of HCV/HIV Co-Infection Associated with Exposure Risk and other variables of HIV/AIDS Patients.

Predictors	Estimated Odds and 95% Confidence Limits
HIV Disease Exposure Category:	
Men Having Sex With Men (MSM)	0.60 (0.35 – 1.05)
Injection Drug Use Related (IDUs and MSM/IDUs)	4.93 (3.1 – 7.71)*
Heterosexual categories	0.94 (0.58 – 1.51)
Other/Unknown (Reference category)	1.00
Age at HIV/AIDS Diagnosis (in years)	1.01 (.99 - 1.02)

- Significant at 1%. Controlling for sex, ethnicity, age at HIV diagnosis and year of HIV/AIDS. The Odds for categorical variables are interpreted in relation to the reference category.

Sexually Transmitted Diseases (STD)

CDC estimates that there are approximately 20 million new STD infections each year in the United States almost half of the infections are among young people ages 15 to 24. The social factors contributing to the spread of STD and HIV are those related to sex. It is important to include STD data in the reporting of 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 (Table 29: 31,337 cases reported in 2015). It is a symptomatic in most cases and occurs 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 STD in New Jersey (7,228 cases reported in 2015). Drug-resistant strains of this STD are becoming increasingly common. Unless successfully treated, gonorrhea can facilitate HIV transmission.

The number and rate per 100,000 of cases of chlamydia increased dramatically from 2011 to 2015. Since 2005, the rates for chlamydia are the highest they have been in New Jersey for the last ten years. The number and rate of syphilis infections has increased nationally from 2011-2015. The rate of syphilis in New Jersey increased slightly from 2013 to 2015.   Overall, the rate of syphilis, gonorrhea, and chlamydia in New Jersey was lower than the national rate for the past five years (Table 29).

Table 29. Sexually Transmitted Disease (STD) Incidence and Rates in New Jersey and the United States for 2011-2015

	United States		New Jersey	
	Cases	Rate	Cases	Rate
Syphilis				
2011	46,040	14.8	971	11.0
2012	49,915	15.9	883	10.0
2013	56,484	17.9	968	10.9
2014	63,453	19.9	1,172	13.1
2015	74,702	23.4	1,306	14.6
Gonorrhea				
2011	321,849	103.3	7,348	83.3
2012	334,826	106.7	7,486	84.4
2013	333,004	105.3	7,014	78.8
2014	350,062	109.8	6,636	74.2
2015	395,216	123.9	7,228	80.9
Chlamydia				
2011	1,412,791	453.4	26,209	297.1
2012	1,422,976	443.3	27,271	307.6
2013	1,401,906	443.5	28,327	318.3
2014	1,441,789	452.2	29,904	334.6
2015	1,526,658	478.8	31,337	350.6

Note :   Rates are per 100,000 population.
Source: Division of Sexually Transmitted Diseases Prevention, CDC.

Mortality

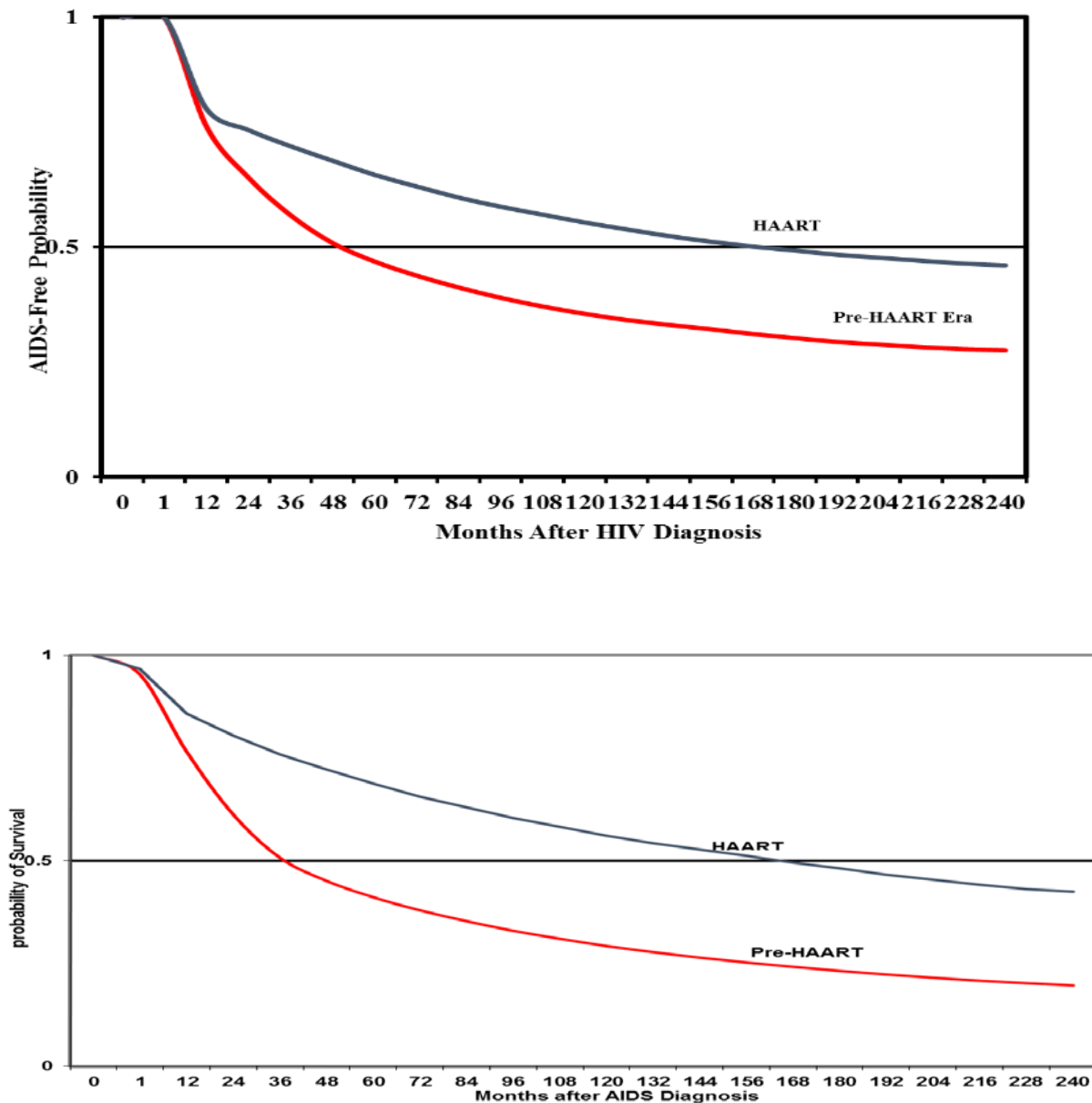## Progression from HIV to AIDS and Survival after AIDS Diagnosis

The era of Highly Active Antiretroviral Therapy (HAART), which began in 1996, has also witnessed a significant improvement in the health of HIV patients. It has slowed progression of HIV to AIDS and witnessed a reduction in the death rates among AIDS Patients. This marked increase in AIDS-free and survival improved the quality of life of AIDS patients.

To explore this further, we examined adult/adolescent AIDS patients' progression from HIV to AIDS and survival rates after AIDS diagnosis during 1996 to 2013, the last year for which we have complete data. AIDS-Free and survival times[1] were computed directly from dates of death and dates of HIV and AIDS diagnosis or censoring date as of 12/31/2015. AIDS-Free rates from HIV to AIDS and survival after AIDS diagnosis, and differences in survival were analyzed to compare socio-demographic and HIV exposure categories during the HAART era. First, we illustrate the significant gains in AIDS-Free and in survival after AIDS diagnosis comparing the pre and post HAART era.

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[1] *Progression includes only patients with over a month of an observed progression from HIV to AIDS. Survival excludes those born outside the USA and its dependencies where mortality reporting is incomplete and/or inaccessible to US national/state vital statistics files.*

Figure 19 shows the AIDS-Free and survival curves for those diagnosed with HIV or AIDS between 1996 and 2013 (during the HAART era) compared to those diagnosed between 1992 and 1996 (Pre-HAART era). Those diagnosed during the HAART era have considerably slower progression from HIV to AIDS and higher survival rates after AIDS diagnosis than those diagnosed prior to the HAART era. The impact of the HAART era seems to be more pronounced on slowing the progression from HIV to AIDS than on survival after AIDS diagnosis. This improvement in AIDS-Free and survival times is attributed largely to advancements in the treatment of HIV/AIDS patients from 1996 to 2013.

Figure 17. Progression to AIDS and Survival Curves after AIDS Diagnosis: Pre-HAART Vs. HAART Era

The improvement in HIV/AIDS therapy on progression to AIDS and on survival rates during the HAART era has not been uniform across socio-demographic and exposure categories in New Jersey. The observed differences in progression from HIV to AIDS and on survival after AIDS diagnosis between males and females (Figure 20) were slight during 1996-2013.

Figure 18. Progression from HIV to AIDS and Survival Curves after AIDS Diagnosis by Gender: 1996-2013
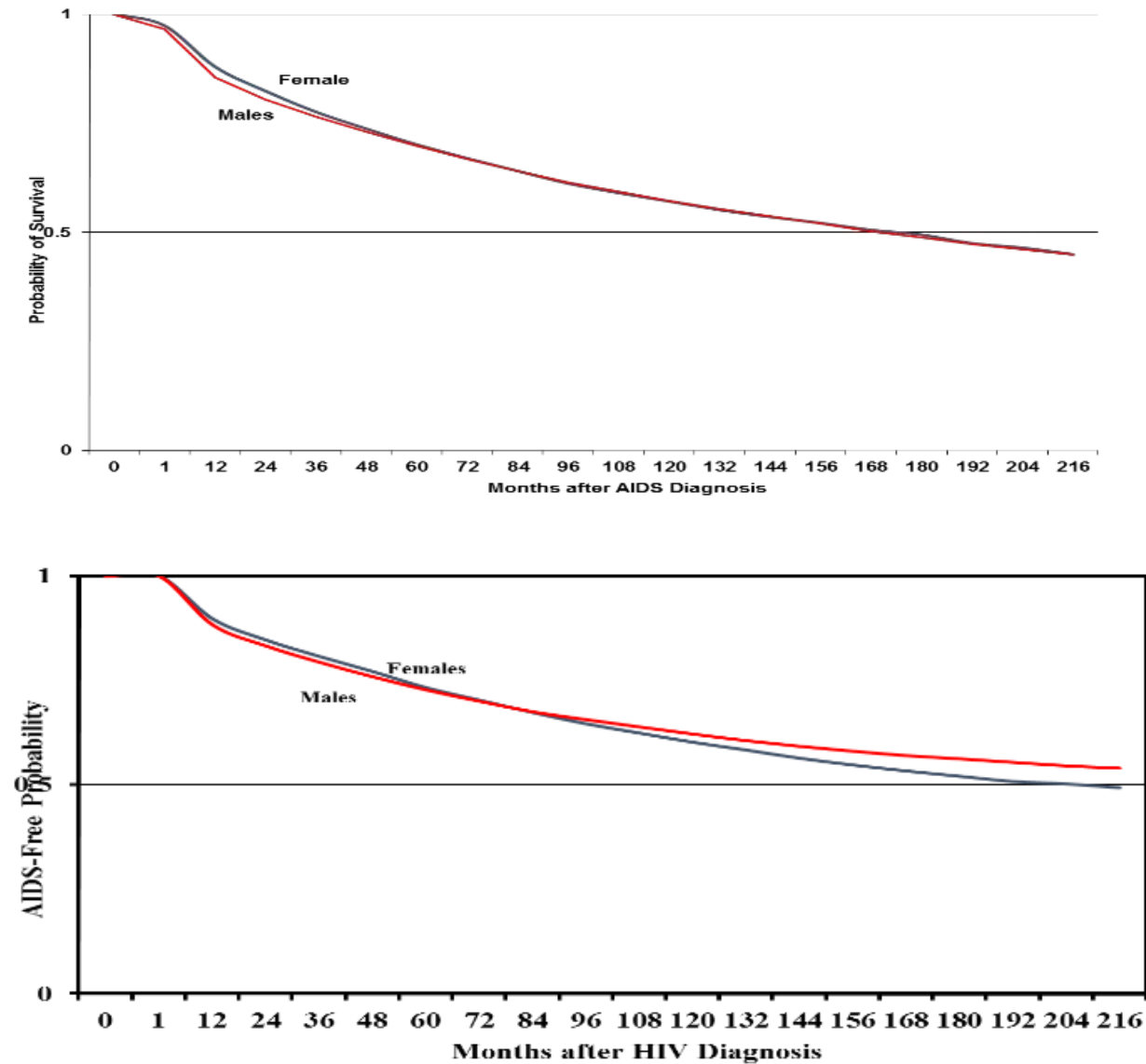
By contrast, ethnic differences in progression to AIDS and on survival from AIDS to death (Figure 21) show that Black Non-Hispanic and Hispanic patients progress to AIDS and succumb to death significantly faster after AIDS diagnosis than White Non-Hispanic. Black Non-Hispanics in particular experienced a considerably faster progression from HIV to AIDS and higher mortality after AIDS diagnosis. Ethnic differences in survival rates may reflect, at least in part, differences in access to medical care, as is documented in the literature. Hispanic mortality may also be affected by a differential in mortality reports.

Figure 19. Survival Curves after AIDS Diagnosis by Race/Ethnicity: 1996-2013
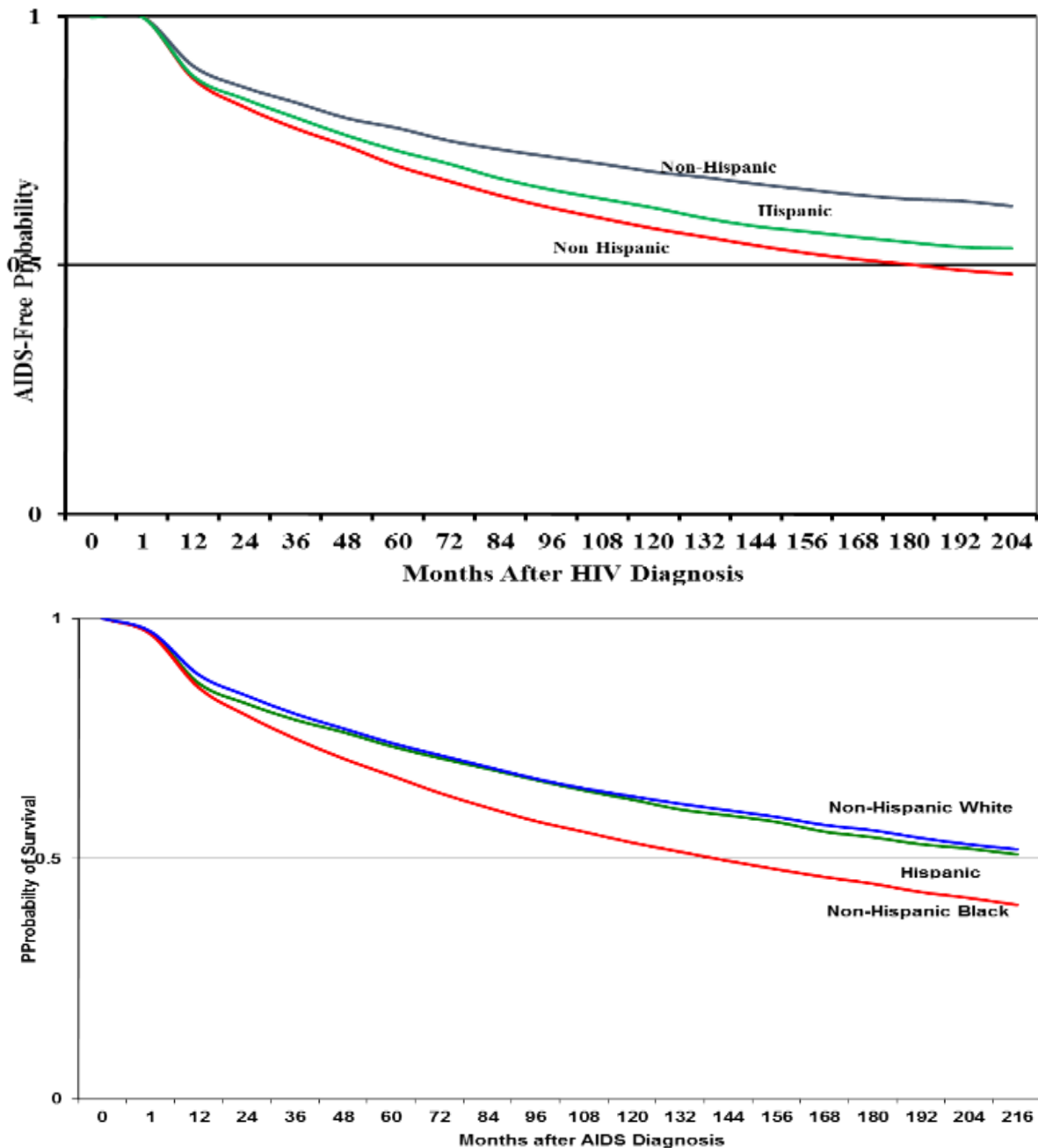
Differences in progression to AIDS and in survival after AIDS diagnosis by major exposure groups (Figure 22) show that those whose HIV exposure was injecting drug use have experienced significantly faster progression to AIDS and higher mortality after AIDS diagnosis than those whose HIV disease exposure was heterosexual sex or men having sex with men.

Figure 20. Survival Curves after AIDS Diagnosis by Major Exposure Category: 1996-2013
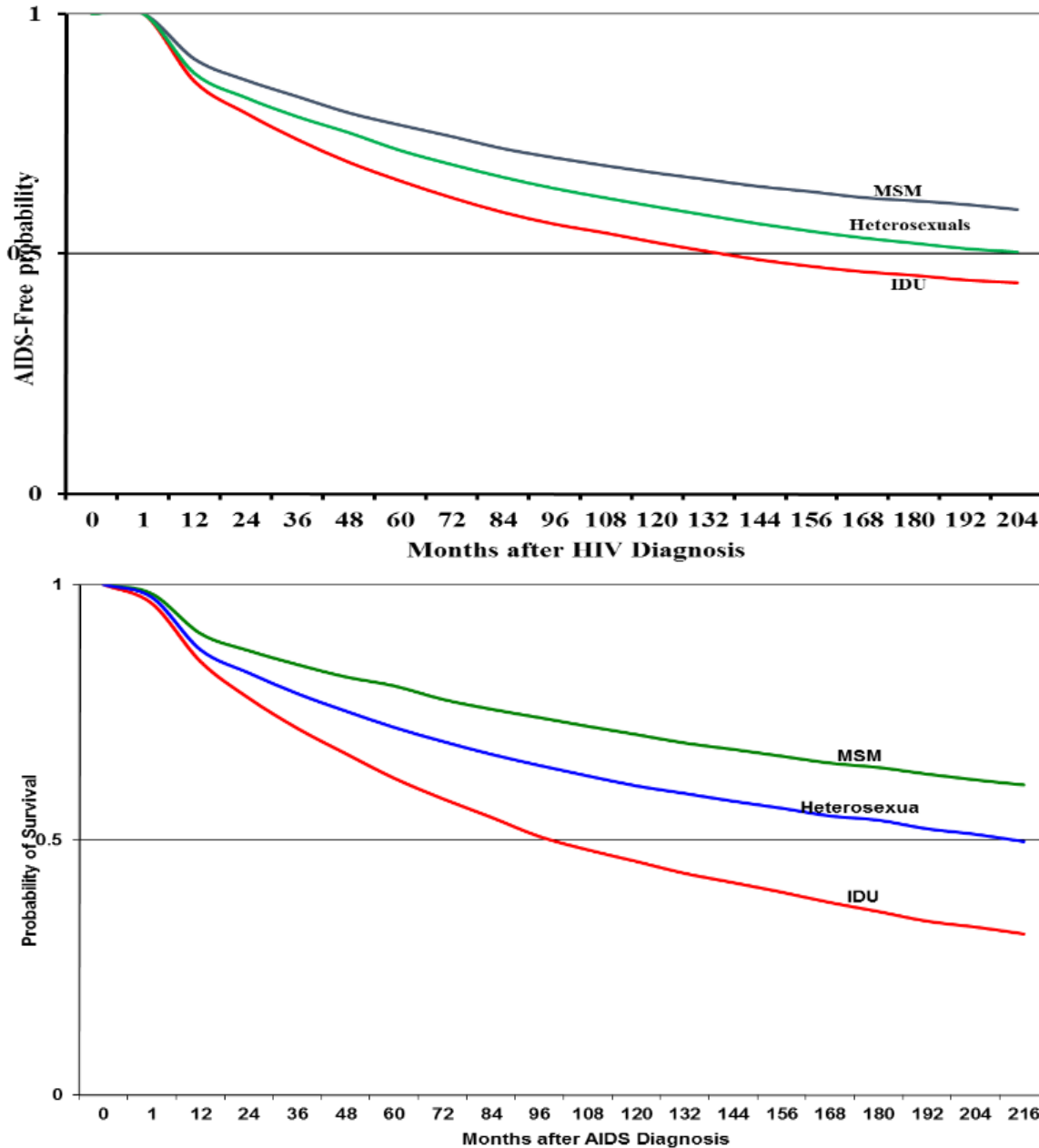
Marked differences in progression to AIDS and in survival after AIDS diagnosis occurred by age at AIDS diagnosis. Progression from HIV to AIDS increases significantly by age and survival after AIDS diagnosis decreases significantly with age. Figure 23 shows that those diagnosed at younger ages consistently show slower progression from HIV to AIDS and improved survival compared to those who were diagnosed with AIDS when they were older.

Figure 21. Progression to AIDS and Survival After AIDS Diagnosis by Age Group: 1996-2013
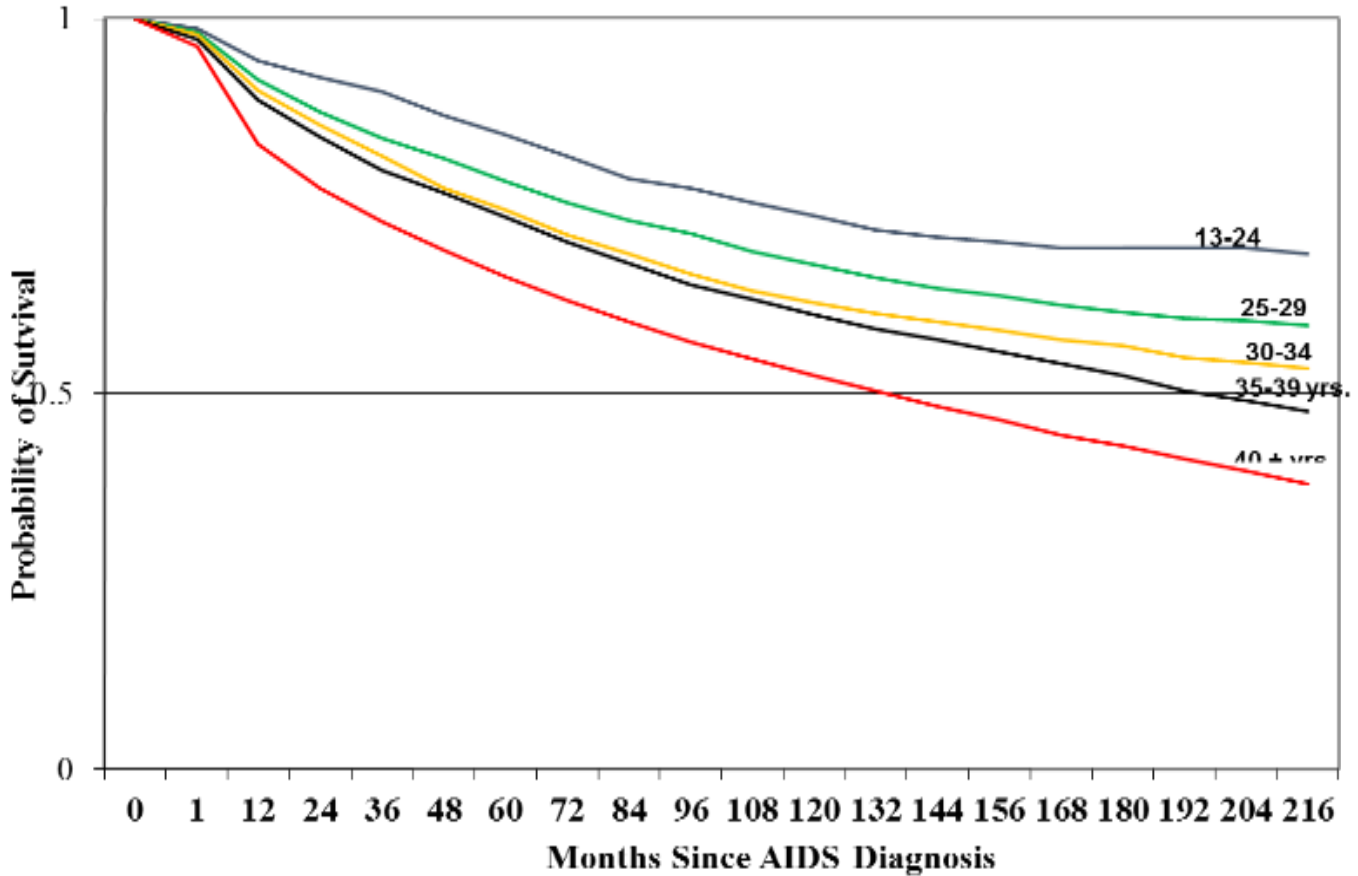
Causes of Death

HIV disease was the tenth leading cause of death for Black males in the state, the twenty-sixth leading cause for White males, and the eighteenth leading cause of death for all males in 2014 (Table 31). The HIV disease was the eleventh leading cause of death for Black females, the twenty-eighth leading cause for White females, and the twenty-first leading cause of death for females overall in 2014 (Table 32). For all persons 25 to 44 years of age, HIV disease is the ninth leading cause of death. For Black men 25 to 44 years of age, HIV disease is the fifth leading cause of death (Homicide and Unintentional Injuries are first and third). 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 antiretroviral therapy (HAART), persons are living with HIV/AIDS for years, and in many cases are dying of diseases other than HIV after a normal life span (expectancy).

Table 30. Ranking of Leading Underlying of Death Causes by Race/Ethnicity for Males in New Jersey, 2014

CAUSE GROUP (ICD-10 CODES)	Black non-Hispanic		White non-Hispanic		Total	
	Rank	No.	Rank	No.	Rank	No.
Heart Disease	1	974	1	7,043	1	8,879
Cancer	2	956	2	6,277	2	8,080
Accident (Unintentional Injuries)	5	196	3	1,371	3	1,873
Stroke	3	203	5	998	4	1,378
Chronic Respiratory Disease	7	150	4	1,100	4	1,378
Diabetes	6	184	6	772	6	1,107
Septicemia	8	135.	7	582	7	846
Kidney	9	120	8	565	8	771
Alzheimer's disease	13	39	9	527	9	605
Influenza and Pneumonia	11	54	11	435	10	570
Suicide	15	34	10	456	10	570
Liver Disease and Cirrhosis	12	45	13	367	12	503
Parkinson's disease	23	11	12	379	13	425
Pneumonitis	17	31	14	247	14	314
Homicide	4	197	27	30	15	298
Renal disease	3	203	16	181	16	268
In situ neoplasms	19	22	15	217	17	259
HIV DISEASE	10	105	26	40	18	181
Aortic aneurysm and dissection	25	9	18	99	19	131
In perinatal period	14	35	25	42	20	128

Note: Total include all race/ethnicity.
         Cause with 'All other diseases' category excluded from ranking.
Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.

Table 31. Ranking of Leading Underlying Death Causes by Race/Ethnicity for Females in New Jersey, 2014

CAUSE GROUP (ICD-10 CODES)	Black non-Hispanic		White non-Hispanic		Total	
	Rank	No.	Rank	No.	Rank	No.
Heart Disease	2	1,002	1	8,467	1	9,144
Cancer	1	1,046	2	6,795	2	8,313
Stroke	3	229	3	1,551	3	1,985
Chronic Respiratory Disease	8	116	4	1,377	4	1,670
Alzheimer's Disease	9	75	6	787	5	1,331
Accident	7	126	5	1,059	6	1,009
Diabetes	4	196	7	768	7	943
Septicemia	5	155	8	612	8	901
Kidney	6	130	10	510	9	715
Influenza/Pneumonia	12	63	9	511	10	649
Hypertension & Renal Disease	10	78	11	324	11	431
Parkinson's disease	25	11	12	282	12	322
Liver Disease and Cirrhosis	15	29	14	206	13	280
In situ, benign and Unspecified	15	29	13	224	14	279
Pneumonitis due to Solids,	14	30	15	199	15	255
Suicide	20	17	16	133	16	191
In perinatal period	13	39	21	41	17	114
Atherosclerosis	26	6	17	106	18	113
Aortic	22	13	14	82	19	98
Anemias	22	13	19	71	20	97
HIV DISEASE	**11**	**69**	**28**	**8**	**21**	**89**
Assault	19	24	25	26	22	69
Viral hepatitis	24	12	23	33	23	60

Note: Total includes all race/ethnicity.
       'All other diseases' category excluded from ranking.
Source: New Jersey Department of Health, Center for Health Statistics.

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, and testing behaviors (such as where and/or why tested). The data were collected through mandated reports of disease or admission to drug treatment, or through special surveys designed to measure health behaviors. Each of these methods has its limitations. Mandated reports do not provide information on at-risk, but not yet infected populations. Surveys provide only information on the population questioned, and the risk behaviors are self-reported.

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.[1,2] 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.

Admissions to Drug Treatment

There were 76,730 people admitted to drug and alcohol treatment in 2016. Of these, approximately 62 percent were White non-Hispanic and one-fourth (22%) were Black non-Hispanic (Table 32). Heroin/Opiates were the primary drug of choice for about 50 percent of the total admissions in 2016. Persons admitted for heroin use were primarily White non-Hispanic (72%) and Black non-Hispanic (15%). This represents an increase in the number of heroin related admissions for White non-Hispanic compared to previous years. The second most frequent primary drug on admission in 2016 was alcohol with 20,928 admissions. Less than two-thirds (62%) of the admissions for alcohol treatment were White non-Hispanic and about one-fifth (19%) were Black non-Hispanic. The third most frequent primary drug in 2016 was marijuana with 10,999 admissions. This represents an increase in the number of marijuana and alcohol related admissions in almost all race/ethnic groups compared to previous years.

Table 32. Primary Drug Use by Race/Ethnicity for New Jersey Resident Admissions to Drug Treatment in 2016

Race/Ethnicity	Alcohol		Cocaine		Heroin/Opiates		Marijuana		Others		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Black non-Hispanic	4,072	19	1,349	37	5,853	15	4,838	44	635	25	34	18	16,781	22
Hispanic	3,465	17	625	17	4,381	11	2,770	25	404	16	37	20	11,682	15
White non-Hispanic	12,975	62	1,630	45	27,863	72	3,238	29	1,418	56	113	60	47,237	62
Other	416	2	41	1	361	1	153	1	54	2	5	3	1030	1
Total	20,928	100	3,645	100	38,458	100	10,999	100	2,511	100	189	100	76,730	100

Source: New Jersey Department of Human Services, Division of Addiction Services.

Analysis of Unmet Need

For purposes of determining unmet need, individuals who had at least one HIV care-related antiretroviral drug prescription, a viral load test and/or a CD4 test during 2016 were considered to have been in care in 2016. Individuals not "in care" were considered to have an unmet need for HIV-related primary medical care. Unmet need was estimated for individuals reported to eHARS as of March 2017) as having been diagnosed prior to 2016 and still living in New Jersey

as of March 31, 2017 (n=35,485). Those incarcerated at time of diagnosis and those with Unknown County of residence are not included in the analysis (not included in the 35,485).

The 2016 unduplicated antiretroviral drug prescription claims data from New Jersey Medicaid, the AIDS Drug Distribution Program, General Assistance, Pharmaceutical Assistance to the Aged and Disabled (PAAD) and the Senior Gold program were linked to eHARS to identify those who received prescription drugs in 2016. Viral load and CD4 data in eHARS, laboratory reports not yet updated in eHARS, and those laboratory test data available from Early Intervention Programs were also matched to eHARS to determine who had laboratory work had ordered during 2016. Out of 35,485 individuals who were diagnosed prior to 2016 and still alive at the end of 2016, 21,457 patients (60%) had at least one indicator (antiretroviral drugs, a viral load test and/or a CD4 test in 2016) of HIV primary medical care in 2016. The remaining 14,028 patients (40%) were classified as individuals with unmet need for HIV-related primary care.

Differences in unmet need were found by gender, race/ethnicity, current age, mode of transmission, HIV status, year of HIV diagnosis and residence (EMA) at time of diagnosis. In 2016, 68 percent of AIDS patients received primary care compared to 52 percent of HIV patients. A higher percentage of females than males received primary medical care in 2016. Sixty-two percent of White non-Hispanics, 60 percent of Black non-Hispanics and 60 percent Hispanics were in care. The percentage of people in care has generally increased by year of HIV diagnosis. Seventy-one percent of HIV/AIDS patients diagnosed during 2008-2015 reported having primary medical care compared to only 55 percent who those were diagnosed in or before 2000.

The estimates of people in care represent minimum numbers in care. This is because many indications of care are not included in this analysis. These include medical visit data, and data on laboratory tests and prescription drugs paid for by private sources. Finally, gaps in mortality data and population movement may affect the estimated level of HIV-related primary medical care.

HIV INCIDENCE SURVEILLANCE

HIV Incidence Surveillance provides the information needed to produce scientifically valid estimates of newly acquired HIV infections (within five months of acquiring the HIV infection) based on the total estimates of persons diagnosed and reported, as well as those infected but not yet diagnosed or reported. Since patients are diagnosed at different stages of the HIV disease, a newly diagnosed case is not necessarily a new infection (or recently acquired). Patients getting tested long after they acquired the infection (late testers), are either simultaneously diagnosed with HIV and AIDS or often progress to AIDS within six months of their initial diagnosis.

HIV Incidence Surveillance requires the collection of remnant serum from positive HIV diagnostic test specimens along with patients' HIV testing and antiretroviral use history. The current method uses laboratory assays referred to as Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS) to classify infections as recently acquired (within five months' diagnosis) versus long-standing infections on a population level. A rule requiring the retention of remnant confirmatory HIV positive specimens was added to the New Jersey HIV/AIDS reporting

regulations in April 2009. An in-depth understanding of Newly infected vs Newly Diagnosed and the factors involved, including risk, is paramount to effectively control HIV disease.

HIV Incidence in New Jersey

In New Jersey, approximately 1,200 – 1,300 persons were infected with HIV each year from 2011 to 2013. The overall prevalence of HIV/AIDS diagnosis among persons' age 13 and above is 16.5 per 100,000 residents. The proportion of new infections remained higher for the 25-34 age group and increased for the 45-54 age group compared with that of 2008-2010 data. Black non-Hispanics remained disproportionately affected by newly acquired infections (41%), the proportion of new infection among Hispanics increased to 32%. MSM accounted for 62% of all new infections and Males comprised 77% of all new infections; both groups showed increases from the 2008-2010 estimates. Understanding the distribution of newly infected patients helps provide specific prevention measures to curb transmission in those groups. The estimates of new infections for the three-year period 2011-2013 were about 6% less than the previous estimates for 2008-2010. Table 35 compares the demographic and risk characteristics of the previously estimated new infections for 2008-2010 with the recently estimated new infections for 2011-2013. The final column shows the characteristics of newly diagnosed cases of HIV among New Jersey residents for the 2011-2013 period.

Table 33.	HIV Incidence Estimate for NJ and HIV Diagnosis in NJ			
		Estimated	Estimated	Total
		New Infections	New Infections	HIV Diagnosis
		2008-2010	2011-2013	2011-2013
Sex				
	(M) Male	70%	77%	74%
	(F) Female	30%	23%	26%
Race/Ethnicity				
	White, non-Hispanic	21%	21%	19%
	Black, non- Hispanic	49%	41%	45%
	Hispanic	27%	32%	30%
	Other/Unknown	4%	6%	6%
Age at HIV Infection				
	13-24	25%	22%	17%
	25-34	29%	29%	27%
	35-44	23%	22%	22%
	45-54	16%	19%	22%
	55+	6%	8%	12%
Transmission Category				
	MSM	53%	62%	55%
	IDU	18%	11%	14%
	Heterosexual	29%	27%	31%

Source: eHars, 2016

The Centers for Disease Control and Prevention (CDC) estimates nearly 1.2 million people are living with HIV in the United States, but roughly one in five HIV-infected Americans remains undiagnosed.

HIV Testing Behavior Observed in New Jersey
Behavioral Risk Factor Surveillance Survey (BRFSS)

Introduction

The National Behavioral Risk Factor Surveillance System (BRFSS) is the largest telephone-based surveillance system in the world, with nearly a half million interviews conducted each year. Since 2011, one of BRFSS's major protocol change Included reaching and interviewing survey participates on their cellular telephone. The New Jersey BRFSS is a component of the national BRFSS. The data reported by responds was collected as part of the BRFSS. Questions regarding HIV-related attitudes and behaviors were asked of persons aged 18-64 who were accessible by telephone. 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. The BRFSS is a cross-sectional, random-digit-dialed, state-based survey that includes more than 400,000 adult participates aged 18 years or older. Self-reported data was collected as part of the New Jersey Behavioral Risk Factor Surveillance System (NJBRFS).

HIV Testing Behaviors

In the 2013-2015 surveys, the data from the NJBRFS indicated that the proportion of women who had an HIV test was higher than the proportion of men who had been tested, among respondents aged 25-44 years old. Mandatory counseling and voluntary testing of pregnant women at the time of labor and delivery may account for the higher estimated percentages. A higher proportion of men aged 45-64 reported having had an HIV test than women in the same age category. Been tested 2013-2015 is the same as Odds Ratio of men had. Men and women 2013-2015 are being tested HIV older than ages in previously years tested.

The NJBRFS asked 23,269 respondents from 2013-2015 if they had ever been tested for HIV. Persons ages 25-44 of most races were more likely to have been tested than persons in other age groups. In every age group, a greater proportion of Black non-Hispanics said they have had an HIV test than did any other racial or ethnic group (Table 34 and Figure 23).

Table 34. Estimated Percentage of New Jersey Adults aged (18-64) Who Have Ever Had an HIV Test* by Age Group and Race/Ethnicity, 2013-2015

Age	White non-Hispanic	Black non-Hispanic	Hispanic	Asian non-Hispanic	Other non-Hispanic	Total
18-24	19.5	53.2	37.8	12.2	37.3	27.8
25-34	55.1	80.1	59.9	27.9	64.7	56.5
35-44	58.2	80.4	65.2	36.6	65.6	58.2
45-54	37.2	67.7	55.3	20.8	43.1	42.8
55-64	22.5	51.1	43.8	24.5	47.5	28.7
Total	36.9	67.7	54.6	25.8	51.9	43.5

Source: Prevalence Estimates for 2013-2015 from NJBRFSS.
New Jersey Center for Health Statistics.

**Figure 22. Estimated Percentage of New Jersey Adults (18-64) Who Have
Ever Had an HIV Test* by Age and Race/Ethnicity 2013-2015**
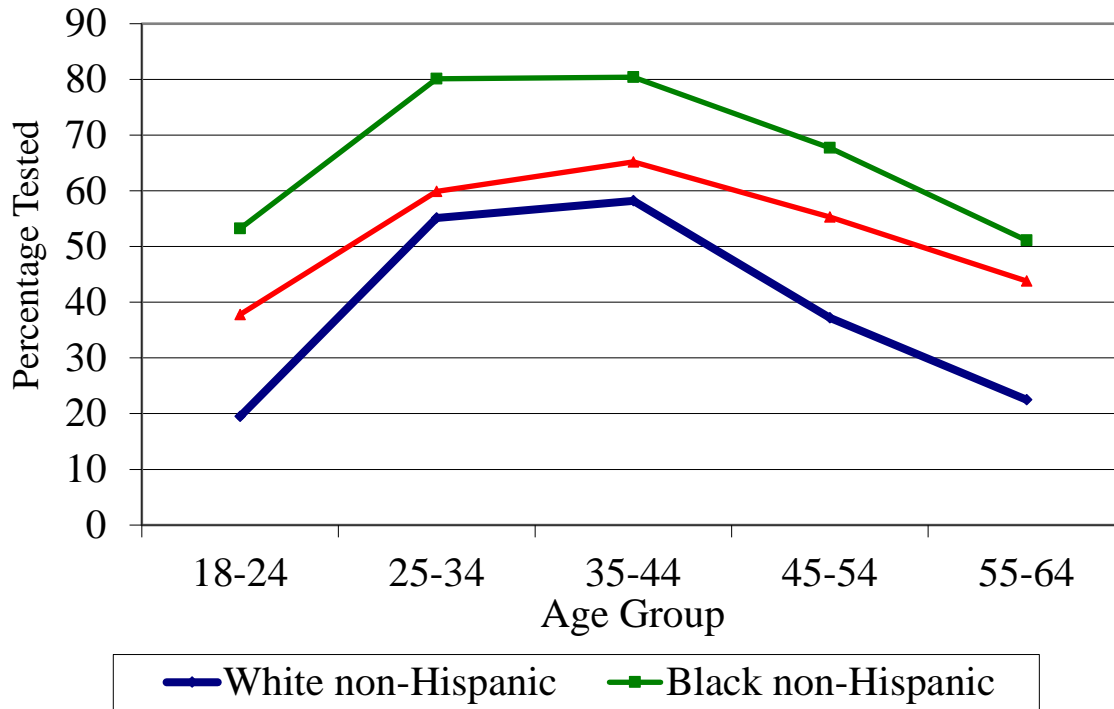
In the 2013-2015 surveys, the data from the NJBRFS indicated that the proportion of women
who had an HIV test was higher than the proportion of men who had been tested, among
respondents aged 25-44 years old. Mandatory counseling and voluntary testing of pregnant
women at the time of labor and delivery may account for these higher estimated percentages.
The only age category in which males exceeded the testing rate of females was the 55-64
year-old age group. Overall, men and women who tested in 2013-2015 were older than those
taking the HIV test in the past.

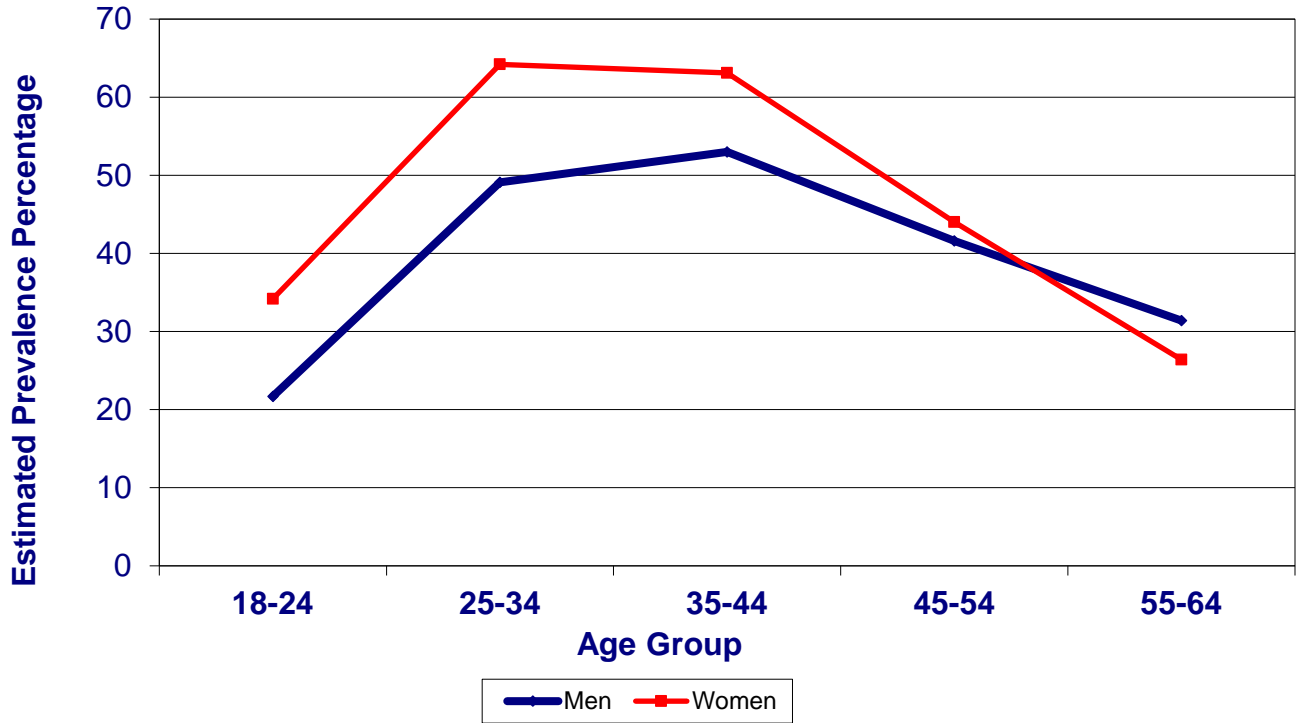**Table 35. Prevalence Percentage of New Jersey Adults Aged
(18-64) Who Have Ever Had an HIV Test* by Age Group and
Gender, 2013-2015**

Age	Men	Women	Total
18-24	21.7	42.7	27.8
25-34	49.1	64.2	56.5
35-44	53.0	63.1	58.2
45-54	41.6	44.0	42.8
55-64	29.0	26.4	25.9
Total	40.4	46.5	43.5

Figure 23. Percentage of New Jersey Adults (18-64) Who Have Ever Had an HIV Test* by Age Group and Gender, 2013-2015

* Excluding blood donations.
Source: Prevalence Estimates for 2013-2015 from NJBRFSS in New Jersey Center for Health Statistics.

More than ten thousand (10,100) respondents between the ages of 18 and 64 in 2013-2015 indicated where they had their last HIV test. Most adults 18 through 64 years of age who said they have had an HIV test indicated their last HIV test was at a doctor's office or at a health maintenance organization (HMO). The estimated prevalence percentage of White non-Hispanics tested in a private doctor's office or a HMO (59.1%) and Home Care Health (3.5%) were higher than in other race/ethnic groups. The estimated prevalence percentages of Hispanics tested in a Hospital (13%) and in a clinic (24.9%) were higher than in other race/ethnicity groups in New Jersey. A small percent of the respondents indicated that their last HIV test was obtained at a Counseling and Testing Site or a Correctional (Drug treatment) facility. The estimated prevalence percentage of Black non-Hispanics tested in a Counseling testing site (6.7%) and prison or other correctional facility (1.8%) were larger than for other race/ethnic groups (Table 35 and Figure 22).

Table 36. New Jersey Adults (18-64) by Site of Last HIV Test* and Race/Ethnicity, 2013-2015

Site of HIV Test	White non-Hispanic	Black non-Hispanic	Hispanic	Total**
Doctor's Office or HMO	59.1	49.0	45.2	53.2
Hospital	7.7	11.6	13.0	10.1
ER	1.8	2.3	2.2	2.0
At Home	3.5	1.8	1.4	2.5
Counseling & Testing site	4.7	6.7	5.3	5.2
Drug treatment facility	1.1	0.2	0.6	0.7
Clinic	12.1	17.5	24.9	16.4
Jail, Prison or other correctional facility	0.6	1.8	0.8	0.9
Somewhere else	9.4	9.1	6.6	9.0
Total	**100**	**100**	**100**	**100**

*   Excluding blood donations.
** Total includes all Race/Ethnicity (plus refused/unknown).
Source: Prevalence Estimates from NJBRFS 2013-2015.

Figure 24. Major Sites Where New Jersey Adults (18-64) Obtained the Most Recent HIV Test* by Race/Ethnicity, 2013-2015
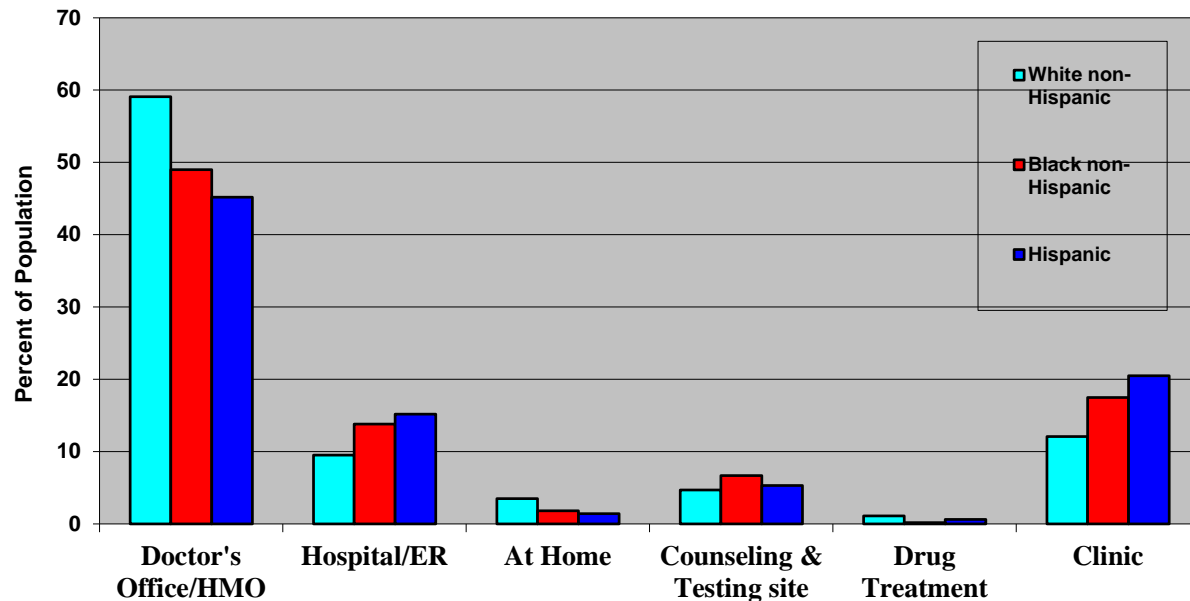
*: Excluding blood donations.
** includes refused/unknown and Asian/Pacific Islander race.
Source: Prevalence Estimates from NJBRFS 2013-2015.

The doctor's office/HMO is the most common sites for 2013-2015 HIV tests among 18-64 population across all age categories. The respondents aged 18 through 24 years were the most likely age group to have been tested at a community health clinic, and the prevalence estimates are relatively greater for young people to use clinics than for older people. At the same period, older persons are more likely to say they used a hospital or at home health for their recent HIV test than younger people (Table 36 and Figure 24).

Table 37. Major Sites Where New Jersey Adults (18-64) Obtained the Most Recent HIV Test* by Age Group, 2013-2015

Site of HIV Test	18-24	25-34	35-44	45-54	55-64
Doctor's Office or HMO	40.3	52.9	58.5	54.9	49.1
Hospital	7.6	8.2	9.9	11.7	12.9
ER	4.4	1.8	1.6	1.6	2.4
At Home	0.7	1.1	2.5	4.0	4.2
Counseling & Testing site	7.7	5.0	5.0	4.7	4.7
Correction or Drug Treatment	1.5	1.0	0.3	0.8	0.5
Clinic	23.9	21.8	13.3	13.1	12.5
Jail, Prison or Correction	0.3	1.4	1.1	0.5	0.5
Somewhere else	13.6	6.7	7.7	8.7	13.2
Total	**100**	**100**	**100**	**100**	**100**

*: Excluding blood donations.
Source: Prevalence Estimates from NJBRFS 2013-2015.

Figure 25. Percent Distribution of Major Sites Where New Jersey Adults (18-64) Obtained an HIV Test by Age, 2013-2015
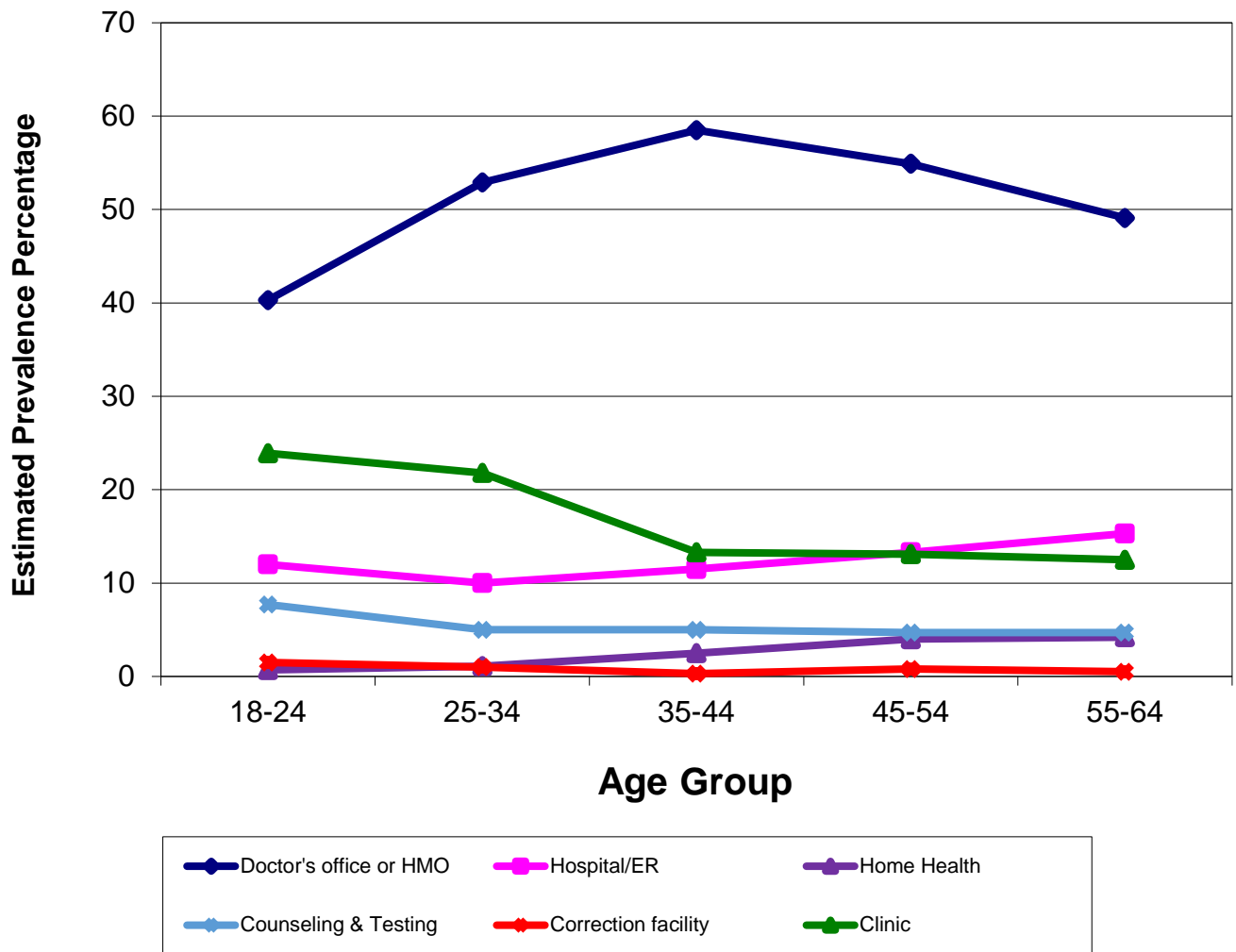
Note: Adults who had an HIV test, excluding blood donations.
Source: 2013-2015 NJBRFS.

High-Risk Situations

The NJBRF questions regarding any high-risk behavior for HIV were asked of 10,445 respondents in 2012 (Table 40 and Table 41). Statistical inferences from the NJBRF indicate that education level accounts for major differences in exposure to high-risk situations among age groups and among race/ethnic groups. The results also indicate a decrease in risk at any education level with increasing age. The young people (Table 39) response more applying for risk situation of HIV than the old people in 2012. This 2012 High-Risk pattern is clearer than past years. The results are also significant in showing decreasing percentage of any risk situation in college grade education level communities for all major race/ethnicity groups (except other non-Hispanic group) in 2012 lists of NJBRFS questions regarding one or more high-risk situations for HIV. Overall High-Risk percentage of is showing lower in college graduate for all age and all Race/ethnicity than other educational levels.

Table 38. Estimated Percentage of New Jersey Adults (18-64) Who Have One or more High-Risk Behavior by Education Level and Race/Ethnicity, 2012

Education Level	White non-Hispanic	Black non-Hispanic	Hispanic	Asian non-Hispanic	Other non-Hispanic	Total
High School or less	4.4	7.1	6.1	1.6	11.3	**5.3**
Attend College or Technical School	1.7	6.8	4.2	0.0	8.2	**3.2**
College Graduate (4 Years or more)	2.3	5.2	2.6	0.9	2.1	**2.3**
All	2.9	6.6	5.5	0.8	7.4	**3.7**

Note: 'Do not know' responses and refusals have been excluded from this analysis.
Source: New Jersey Center for Health Statistics.

Table 39. Estimated Percentage of New Jersey Adults (18-64) Who Have One or more High-Risk Behavior by Education Level and Age Group, 2012

Education Level	18 - 24	25 - 34	35 - 44	45 - 54	55-64	Total (18-64)
High School or less	11.8	6.9	5.9	2.4	1.2	**5.3**
Attend College or Technical School	6.2	4.6	2.9	2.1	0.5	**3.2**
College Graduate (4 Years or more)	2.8	4.3	2.51	1.7	0.5	**2.3**
All	8.4	5.3	3.8	2.1	0.8	**3.7**

Note: 'Do not know' responses and refusals have been excluded from this analysis.
Source: New Jersey Center for Health Statistics

Successes, Challenges and Future Initiatives

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 0 percent in 2015. 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, however, by 2011 the additional life expectancy of a 20-year old infected with HIV was 53 years. Thus, overall life expectancy for someone infected early in life is 73 years.

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 HIV infections. Beyond the view of traditional prevention, the CDC has advocated a

strategy of Treatment as Prevention. Evidence shows that if a person is virally suppressed, the risk of transmitting the virus is virtually zero. Despite, the overall success in addressing the epidemic, disparities amongst sub groups have not disappeared, this is particularly true in minority communities. Hispanics accounted for 31% of new HIV infection in 2013, furthermore, Hispanic MSM accounted for 36% of all MSM diagnosed with HIV/AIDS in 2013 (Figure 16). Similarly, although the number of infections was decreased by 50% for Black non-Hispanics during the period of 2004-2013 (Figure 9), the rate of infection in the Black population is still significantly higher than in the White population.

While the availability and expansion of rapid HIV testing has revolutionized our ability to introduce testing to a greater population by informing participants of their status on the same day within 30 minutes, we must also offer more innovative programming to get African Americans and Hispanics to test sooner, long before they are symptomatic from the effects of possible HIV infection.

Although surveillance data show that persons are living longer with HIV/AIDS, the older adult is often overlooked in targeting prevention. In 2013, 35 percent of newly diagnosed HIV/AIDS cases occurred in individuals 45 years of age and older, but 70 percent of persons living with HIV/AIDS were 45 years of age or older in 2015 (Table 5). Many adults 45 years of age and older do not take precautions against HIV because they do not 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. This is a population that needs more attention.

The DHSTS is proposing the implementation of a Pre-exposure Prophylaxis (PrEP) program in January 2016. The PrEP Counselors will be located in community-based organizations and healthcare settings. These include HIV prevention programs that serve gay and bisexual men, women's reproductive health clinics, HIV clinics and STD clinics. PrEP Counselors will provide free and confidential linkage to medical professionals who can prescribe PrEP to individuals at substantial risk of acquiring HIV infection. PrEP Counselors help clients assess their levels of risk, provide accurate education regarding PrEP, assist clients in obtaining insurance or other types of medication coverage, and refer clients directly to a PrEP prescriber.

On December 19, 2006, the "Bloodborne Disease Harm Reduction Act" (P.L. 2006, c. 99, or BDHRA) was signed into law, which allowed New Jersey's first legally sanctioned syringe access programs (SAPs). The DHSTS is charged with implementing the provisions of the law. Five SAPs have been operating in NJ since 2009, and two additional, sites are proposed for 2017. The five original SAP programs are in Atlantic City, Camden, Newark, Jersey City, and Paterson. The proposed new sites are in Asbury Park and Trenton. The SAPs are intended to reduce HIV and Hepatitis C transmission among people who inject drugs (PWID) by providing immediate access to sterile syringes for PWID, increase the annual level of syringe distribution, decrease overdose deaths by Naloxone distribution to SAP participants, and refer SAP participants to drug treatment programs.

The DHSTS believes that these initiatives 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 DHSTS invites your comments and suggestions for the use and improvement of future versions of the Epidemiologic Profile.

BIBLIOGRAPHY

Appendix A - Major Data Sources

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 until their HIV infection status is determined.

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 percent ascertainment of infants born to HIV-infected women was found when data were compared with data from the Survey of Childbearing Women. 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.

HIV/AIDS Reporting System (eHARS)

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 (NJDOH) and the Division of HIV, STD and TB Services (DHSTS).

Mode of Administration: The CDC designed case report forms are completed by providers, and/or the NJDOH 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 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 >95 percent 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. In addition, incomplete HIV or CD4+ T-cell testing may interfere with the representation of reporting.

Response Rate: Population-based system of reporting, mandated by both statute and regulation. Evaluations of completeness are consistently greater than 95 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.

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 socio demographic 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 NJDOH website 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.

National HIV Behavioral Surveillance (NHBS)

Overview:　　　　　　The National HIV Behavioral Surveillance (NHBS) maintains a surveillance system designed to ascertain the prevalence of HIV risk behaviors, HIV infection and access to prevention services among groups at highest risk for HIV infection. Findings from the NHBS are used to enhance understanding of risk and testing behavior, and to develop and evaluate HIV prevention programs that provide services to these groups. The targeted populations for this project cycle annually with men who have sex with men (MSM), injection drug users (IDU), and heterosexuals at increased risk for HIV infection (HET). The development of this ongoing surveillance system to assess the prevalence of, and trends in HIV risk behavior among at risk populations, combined with an estimate of HIV incidence in these populations, are of utmost importance to the planning and evaluation of prevention programs.

The data presented reflects findings from the initial MSM cycle. NHBS-MSM is an anonymous, cross-sectional survey of men who attend randomly selected MSM-identified venues within the Newark EMA. The survey method is based on an application of time-space sampling. The survey collects information on socio-economic issues, sexual behavior, alcohol and drug use and treatment, health conditions, HIV testing history and an assessment of HIV prevention services.

Population:　　　　　　Eligibility for participation in the NHBS-MSM includes men or transgender persons born male who are approached by NHBS staff at sampled venues; are 18 years of age or older; reside in the Newark EMA; and are first-time participants (persons cannot participate more than once during a surveillance period). Male-to-male sexual behavior is not an eligibility criterion so that MSM who are reluctant to disclose their sexual orientation during a brief-street-eligibility interview might also participate in the survey.

Strengths:　　　　　　The survey collects valuable information about high-risk behaviors, HIV testing practices and access to, and use of, HIV prevention services in the Newark EMA. Because the NHBS cycles will be repeated over time, changes in behaviors and trends can be measured.

Limitations:　　　　　　Information collected is self-reported and may be subject to recall bias and cannot be validated by another source of information. Data is limited to the Newark EMA and may not be reflective of the population.

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 consequently, 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.

Sexually Transmitted Disease Case Reporting

Overview: The CDC conducts surveillance to monitor the levels of syphilis, gonorrhea, chancroid, and, more recently, chlamydia, in the U.S. in order to establish prevention programs, develop and revise treatment guidelines, and identify populations at risk for STDs. States, local areas, and U.S. territories submit to the 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 (NJDOH).

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 telephone 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.

Tuberculosis Surveillance

Overview: All reporting areas (the 50 states, the District of Columbia, New York City, Puerto Rico, and other United States jurisdictions in the Pacific and Caribbean) report tuberculosis (TB) cases to the 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 percent 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.

Hepatitis C Registry

Overview: Communicable Disease Services within the New Jersey Department of Health and Senior Services conducts surveillance to monitor the levels of hepatitis C in the state.

Funding Source: Federally funded through the CDC.

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 telephone number of the provider/physician, laboratory test and treatment. Demographics, however, are not always available.

Population: The enabling regulations for collecting and reporting hepatitis C are outlined in N.J.A.C. 8:57. As per the regulations, all physicians, hospitals and clinical laboratories are required to report this disease. Hepatitis C is directly reportable to the New Jersey Department of Health.

Demographic Data: Gender, age and race/ethnicity.

Schedule: Reported annually.

Strengths: Allow to assess, level, trends and prevalence of the disease. Can be used to measure comorbidity with other diseases through matching the hepatitis C registry to other disease registries like HIV/AIDS and other communicable diseases.

Limitations: Some demographics are missing.

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.

United States Bureau of the Census Population Data

United States Census Bureau:

Bridged-race vintage estimates of resident population 2015, U.S. Bureau of the Census, Population Division, released July 2016, and U.S. Census Bureau, American Community Survey.

Overview: The Census Bureau collects and provides timely information about the people and the economy of the U.S. 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 intra-censual 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 websites are provided.

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

Appendix B - Glossary

**Acquired Immunodeficiency
Syndrome (AIDS):**   The current Centers for Disease Control and Prevention
                         AIDS definition includes the following conditions: HIV
                         positive, **AND**
                         CD4 (T-cell) count below 200 **OR** presence of one or more
                         opportunistic infections.

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 sex.

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.

ICD-10:   The International Classification of Disease.
                            Tenth revision.

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 populations.

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 United States 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 populations.

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.

Appendix C – Other Data Sources

New Jersey Department of Health
Division of HIV, STD and TB Services
http://www. nj.gov/health/hivstdtb/

Centers for Disease Control and Prevention
National Centers for HIV, STD and TB Prevention
www.cdc.gov/nchstp/od/nchstp.html

Division of HIV/AIDS Prevention:
www.cdc.gov/hiv/dhap.htm

Division of Sexually Transmitted Diseases
www.cdc.gov/nchstp/dstd/HIVSTDinfo.htm

National Institute of Allergies and Infectious Diseases
www.niaid.nih.gov/final/aids/aids.htm

National Institute on Drug Abuse
www.nida.nih.gov/

National Institute of Health – Office of AIDS Research
www.nih.gov/od/oar/index.htm

Kaiser Family Foundation
www.KFF.org/hivaids/index.html

New Jersey Department of Education
New Jersey Student Health Survey of High School Students at
www.nj.gov/njded/students/yrbs/index.html