

**NEW HAMPSHIRE
INTEGRATED
EPIDEMIOLOGIC PROFILE
FOR HIV/AIDS PREVENTION
AND CARE PLANNING,
2005**

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New Hampshire Integrated Epidemiologic Profile for HIV/ AIDS Prevention and Care Planning, 2005

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Prevention and Care Planning, 2005:*

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LIST OF ABBREVIATIONS

ACS	American Community Survey
ADAP	AIDS Drug Assistance Program
AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral therapy
ASEC	Annual Social and Economic Supplement
ASO	AIDS service organization
BPHC	Boston Public Health Commission
BRFSS	Behavioral Risk Factor Surveillance System
CARE	Comprehensive AIDS Response Emergency
CDC	Centers for Disease Control and Prevention
CDSS	Communicable Disease Surveillance Section
CI	Confidence interval
CPG	Community planning group
CPS	Current Population Survey
CTR	Counseling, testing and referral
CY	Calendar year
DC	District of Columbia
EMA	Eligible metropolitan area
FPL	Federal poverty level
FY	Fiscal year
GED	General equivalency diploma
HARS	HIV AIDS Reporting System
HAART	Highly active antiretroviral therapy
HCBC	Home and Community Based Care
HIV	Human Immunodeficiency Virus
HOPWA	Housing Opportunities for People with AIDS
HRSA	Health Resources and Services Administration
IDU	Injection drug user
IEP	Integrated epidemiologic profile
MSM	Men who have sex with men
NH	New Hampshire
NSDUH	National Surveys of Drug Use and Health
NIR	No identifiable risk
NRR	No risk reported
OMB	Office of Management and Budget
PLWA	People living with AIDS
PLWH	People living with HIV
PLWHA	People living with HIV and AIDS
SAMHSA	Substance Abuse and Mental Health Services Administration
STD	Sexually transmitted diseases
US DHHS	United States Department of Health and Human Services
VA	United States Department of Veterans Affairs
YRBS	Youth Risk Behavior Survey

EXECUTIVE SUMMARY

In New Hampshire, the HIV and AIDS epidemic affects individuals of all ages, sex, and racial and ethnic groups. Individuals living with HIV and AIDS reside statewide. As of December 2004, 998 cumulative AIDS cases have been diagnosed since AIDS reporting began in 1983, and 449 HIV cases have been diagnosed since HIV infection reporting began in 1991.

The majority of HIV and AIDS cases in New Hampshire have been diagnosed among men. For men diagnosed with HIV/ AIDS, the most common mode of exposure is sex with other men (MSM), accounting for 45% of the total reported cases. Among women diagnosed with HIV/ AIDS, the most common mode of exposure is heterosexual contact with a partner at risk for or infected with HIV, which makes up 38% of the total female cases reported. The majority of HIV and AIDS cases are diagnosed among individuals age 25 to 44. Although the majority of AIDS cases are diagnosed among individuals who are White and non-Hispanic, an increase in cases has been seen over the past 5 years among Blacks in NH. In 2000, 10% of AIDS cases occurred in individuals who were Black as compared to 2004, when 26% of reported AIDS cases were among individuals who were Black. The geographic area in New Hampshire primarily affected by AIDS is Hillsborough, Rockingham and Strafford counties. These three counties are included in the Ryan White Care Act Title I Eligible Metropolitan Area, which qualifies them for additional funding through the Ryan White Care Act.

An estimated 1,247 to 1,422 individuals were living with HIV/ AIDS in New Hampshire as of the end of 2003. This estimate includes individuals who have been diagnosed with HIV disease and individuals who are infected but do not know their HIV status. According to the 2004 Behavioral Risk Factor Surveillance System (BRFSS), less than half of New Hampshire respondents had ever had an HIV test, excluding tests associated with donating blood. Moreover, a high number of concurrent diagnoses of HIV and AIDS have been made over the past 5 years annually in New Hampshire, which may demonstrate that HIV testing is being delayed long after exposure has occurred. Delays in testing are significant because antiretroviral treatment can slow the progression of HIV infection to AIDS and delay death from opportunistic infectionsⁱ. Additionally, early identification of HIV infection may control the communication of HIV from infected individuals to othersⁱⁱ.

As of December 31, 2004, there were 410 clients enrolled in the New Hampshire CARE Program. Funding for the New Hampshire CARE Program comes from the Health Resources and Services Administration (HRSA) through Title I and Title II of the Ryan White Comprehensive AIDS Resource Emergency (CARE) Act. The Boston Public Health Commission (BPHC) administers Title I. Title I funds are used by the NH CARE Program to fund primary care medical visits and prescription drugs for New Hampshire residents who reside in the Ryan White CARE Act Title I EMA. Title II funds are used to pay for prescriptions, primary care medical visits, and case management in the remaining seven counties, as well as home/ community based care and insurance continuation for the entire state.

For 2004, the NH STD/HIV Section estimated that 53% of individuals living with HIV/ AIDS in New Hampshire had an unmet need for care. The accepted definition of unmet need includes individuals aware of their HIV infection who, over the previous 12 months, have no documentation of standard markers for primary medical care for HIV infection. These markers are a CD4 lymphocyte count, a viral load test and use of antiretroviral therapy. Among the individuals most likely have unmet need are the young (age 13-24), the old (age 50-54 and 60) and older) and those for whom the mode of exposure to HIV was not reported. Others likely to have unmet need include HIV positive individuals who have not developed AIDS, those who live in the Ryan White Title I EMA, and those exposed to HIV through injection drug use. Finally, a needs assessment conducted between October 2004 and June 2005

demonstrated that women, Hispanic and Black respondents were more likely than their counterparts to go 12 months or more without having HIV specific medical care or HIV medications.

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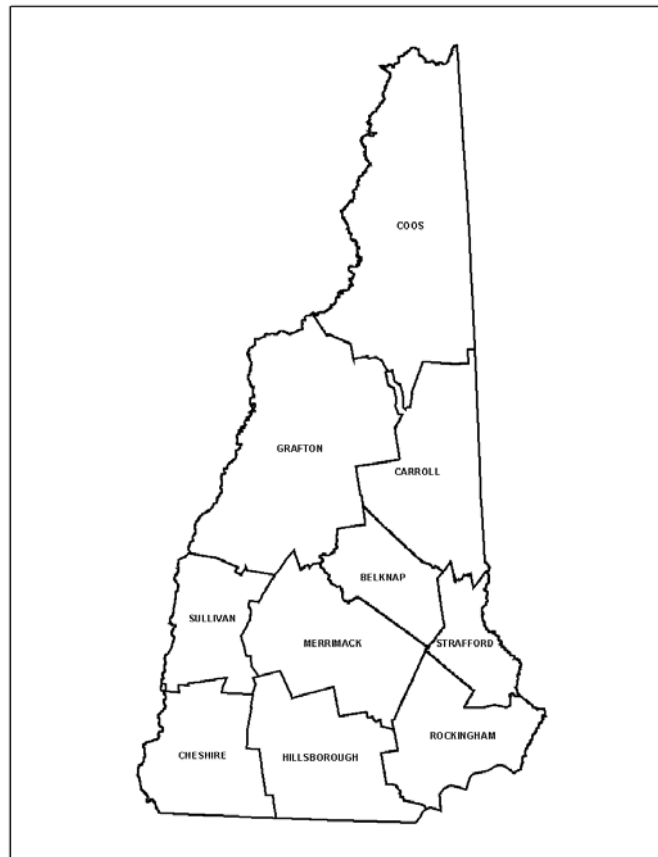
INTEGRATED EPIDEMIOLOGIC PROFILE

INTRODUCTION

BACKGROUND

The State of New Hampshire (NH) is located in the northeast corner of the United States and covers 9,304 square miles. The “Granite State” is bordered by Maine and the Atlantic Ocean to the east, Vermont to the west, Massachusetts to the south, and Canada to the north. New Hampshire has ten counties: Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack, Rockingham, Strafford, and Sullivan. New Hampshire’s capitol, Concord, is located in Merrimack County. Rockingham, Strafford and Hillsborough counties are part of the Ryan White CARE Act (RWCA) Title I Boston Eligible Metropolitan Area (EMA) that includes portions of Massachusetts and New Hampshire. (See *Figure 1*)

Figure 1: State of NH



The *New Hampshire Integrated Epidemiologic Profile for HIV/ AIDS Prevention and Care Planning* (IEP) is a collection of data related to the HIV/ AIDS epidemic and HIV prevention and care services in New Hampshire. The development and presentation of the IEP is the first step in combined prevention and care community planning in the state. The IEP is divided into two sections. The first section examines HIV and AIDS epidemiology in New Hampshire and the second section looks at the Ryan White Care Program. The following questions are answered in the document:

- Section 1: HIV and AIDS Epidemiology
 - What are the sociodemographic characteristics of the general population in New Hampshire?
 - What is the scope of the HIV/ AIDS epidemic in New Hampshire?
 - What are the indicators of risk for HIV infection and AIDS in New Hampshire?

- Section 2: Ryan White Care Questions
 - What are the patterns of service utilization of HIV-infected persons in New Hampshire?
 - What are the number and characteristics of persons in New Hampshire who know they are HIV-positive but who are not receiving primary medical care?

The information presented in response to these questions can be used by state and local health officials, the New Hampshire HIV Community Planning Group (CPG), and others to make decisions related to target populations, interventions and funding for HIV prevention and care services. The information can be used for community planning, designing and implementing prevention activities and evaluations, informing policy decisions, and documenting care needs for underserved groups.

When this document is used as part of a decision making process, readers should keep in mind that New Hampshire is a low incidence state for HIV infection. Therefore, readers are advised that some data included in this report represent a small number of cases and, therefore, should be interpreted with caution. Also, percents may not total one hundred due to rounding errors.

DATA SOURCES

BEHAVIORAL RISK SURVEILLANCE

Behavioral Risk Factor Surveillance System (BRFSS)

The Behavioral Risk Factor Surveillance System (BRFSS) is a survey on health behaviors conducted with adults 18 and older. The BRFSS is done by telephone once per year in New Hampshire and across the United States. Survey participants are selected randomly and complete the survey anonymously. Individuals without phones and/ or who speak a language other than English are excluded from the New Hampshire sample. Questions on HIV testing behavior and perceived risk are only administered to individuals between the ages of 18 and 64. There is a 95% confidence interval associated with data from this source.

Youth Behavioral Risk Surveillance System (YRBSS)

The Youth Risk Behavior Surveillance System (YRBSS) is an anonymous paper and pencil survey that is administered every other year to a statistically representative sample of New Hampshire students enrolled in grades 9 through 12. Students who are not enrolled in school or students who are absent on the day of survey are not included in the sample. On the YRBSS, specific questions concern sexual behaviors and drug and alcohol use. In New Hampshire, statistically representative samples were achieved in 1993, 1995, and 2003. Statistically representative samples were not achieved in New Hampshire in 1997 and 2001. Comparisons in this report are made between New Hampshire student responses in 1993 and 2003 and between New Hampshire student responses and a representative national sample of students in 2003.

CORE HIV/AIDS SURVEILLANCE

HIV/AIDS case reporting

The New Hampshire Department of Health and Human Services, Division of Public Health Services, Communicable Disease Surveillance Section (CDSS) maintains HIV/AIDS surveillance. Since 1983, New Hampshire has conducted confidential name-based AIDS case surveillance. However, incident AIDS cases have declined over time. This decrease was due to the introduction of antiretroviral therapy, improved medical care, and improved treatment for opportunistic infectionsⁱⁱⁱ. Therefore, AIDS case reporting alone is increasingly representative of only a subset of the HIV epidemic. Recognizing this change, the Centers for Disease Prevention and Control (CDC) has required that all states receiving federal HIV and AIDS funding implement HIV reporting as an extension to AIDS surveillance systems in order to create a nationwide HIV surveillance framework. The New Hampshire AIDS surveillance system was expanded in 1991 to include non-name identified HIV reporting. Since that time, New Hampshire legislative rule was modified to allow confidential name-based HIV reporting as of January 1, 2005. The HIV and AIDS surveillance system is a combined system, which includes laboratory and healthcare provider reports.

The HIV and AIDS surveillance data are entered into the CDC developed software, the HIV/AIDS Reporting System (HARS), by the surveillance coordinator in the CDSS. Standardized CDC case report forms are used to collect sociodemographic information, mode of exposure, laboratory and clinical

information, whether the case is living or deceased, and referrals for treatments and other services. Historically, individuals who tested positive at an anonymous test site and have not sought medical care are not included in the surveillance statistics. Due to the changes in surveillance methodology over time, it is likely that HIV surveillance data may provide minimum estimates of the number of persons known to be HIV infected. Therefore, it is recommended that HARS data be interpreted in combination with additional data sources, such as CARE data, in order to provide a more complete description of the epidemic in the state.

Data included in this report account for cases by the date they are reported to CDSS. However, for analysis of concurrent diagnosis, it was necessary to analyze data according to the diagnosis date.

HIV COUNSELING AND TESTING DATA

Publicly funded counseling and testing data

In 2004, the New Hampshire Department of Health and Human Services, Division of Public Health Services, STD/ HIV Section funded 22 clinics and 4 AIDS Service Organizations (ASOs) across the state to provide free or reduced price HIV tests. Analysis of data collected during testing services provides an overview of the demographic and behavioral characteristics of individuals seeking an HIV test. It is important to note that the data are test level and not client level. This means that if an individual has multiple tests during the time period, each test is counted one time. If the data was client level and an individual had multiple tests during the time period, only the most recent test would be counted. There is no way to remove duplicates. Therefore, the presence of repeat testers can skew the data.

SOCIODEMOGRAPHIC DATA

The United States Bureau of the Census

The United States Bureau of the Census (US Census) collects population-based data from residents of the United States every ten years via the decennial census. An effort is made to include incarcerated individuals, individuals living in group quarters and individuals who do not speak and/ or read English. Although an effort is made to include all individuals residing in the United States in the Census survey, the national response rate in 2000 was 67%. New Hampshire also had a 67% response rate in 2000. Participation in the decennial census is required by law, either through the short form, that simply counts the population, or the long form, that collects additional information including demographic, social and economic information.^{iv}

Individuals who cannot read English and who did not receive language assistance from a Census worker may have been excluded from the Census sample. Most of the Census measures included in this report are based on one hundred percent (100%) of the responses in New Hampshire, unless otherwise indicated in the source notes.

The US Census also conducts the American Community Survey (ACS). The ACS is conducted annually with a random sample of individuals and collects the same information as the “long form” that is part of the decennial census. Because the ACS samples only a section of the population, the estimates developed from the responses have confidence intervals associated with them. Confidence intervals (CI) are a range of values associated with an estimate that is believed to contain the true at a certain level of

certainty.^v The confidence intervals associated with the ACS are all 90%. The response rate of the 2004 ACS for NH was 93% in 2004, with a total of 4,581 addresses interviewed^{vi}.

The US Census additionally conducts the Annual Social and Economic Supplements (ASEC) to the Current Population Survey (CPS) on an annual basis. This survey collects detailed information about income and health insurance. Individuals included in the random sample live in the US and are not institutionalized. Estimates from the CPS ASEC have a 90% confidence interval associated with them.

HIV AND AIDS HEALTH SERVICES DATA

CARE Database and CADR

The New Hampshire CARE Program maintains the CARE database. The database collects information on client demographics, service utilization and billing information. The main purpose of data collection for the CARE Program is to allow program staff to process payments for services delivered to its clients by contracted providers. Also, the data are used to track the delivery of services and to report on the quantity, quality, and cost of services provided to funding agencies and the State of New Hampshire. The accuracy and completeness of the database are regularly reviewed and corrected, if necessary.

The CARE Act Data Report (CADR) is a report that is completed annually for the Health Resources and Services Administration (HRSA). The CARE database generates all data used to complete the CADR.

Medicaid

New Hampshire Medicaid HIV service utilization data are based on calendar year 2004 claims data for NH Medicaid enrolled clients. The purpose of including NH Medicaid HIV service utilization data is to indicate the number of clients who receive HIV services and care through funding sources other than the Ryan White Care Act. Medicaid selected clients whose claims data indicated a primary ICD-9 code for HIV or AIDS for the utilization count and calculated services for medication, in-patient care, home care, outpatient care, ambulance, durable medical equipment, mental health, dental and eyeglasses. The NH Medicaid claims processing system accepts client level data with diagnosis code and procedure or visit information for all Medicaid utilization. Therefore, the limitations of the data are that it only reflects NH Medicaid clients with a primary diagnosis of HIV or AIDS and only those claims related to that diagnosis. There may be other NH Medicaid clients who have HIV or AIDS as secondary or tertiary diagnoses on claims data and therefore they, and their service utilization data, would not appear in this data set.

STD SURVEILLANCE

STD Case Reporting

The New Hampshire Department of Health and Human Services, Division of Public Health Services, Communicable Disease Surveillance Section (CDSS) conducts statewide sexually transmitted disease (STD) surveillance for chlamydia, gonorrhea, and syphilis. Prior to January 1, 2005, surveillance was also conducted on mucopurulent cervicitis, nongonococcal urethritis, and pelvic inflammatory disease. The surveillance system determines the incidence of STDs in the state and systematically monitors

epidemiologic trends. Additionally, the STD/HIV Section provides partner counseling and referral services (PCRS) to affected individuals to ensure timely and appropriate STD treatment.

Local surveillance capacity is useful to identify new trends and to describe risk behaviors associated with acquisition of STDs. For example, rates of gonorrhea among men who have sex with men (MSM) may serve as a risk indicator for HIV infection and may suggest changes in unsafe sexual practices. In 2002, to expand this capacity, routine case reporting of syphilis and gonorrhea began including inquiry and tracking on mode of transmission. This modification was made in response to studies suggesting increases in unsafe sexual practices, specifically among men who have sex with men. These data have been useful locally to prioritize high-risk populations and to describe recent changes in the epidemiology of STDs.

SUBSTANCE ABUSE DATA

National Survey of Drug Use and Health (NSDUH)

The Substance Abuse and Mental Health Services Administration (SAMHSA) conducts the National Survey of Drug Use and Health (NSDUH) in order to statistically measure illicit drug use and mental health in the United States. Individuals are eligible to participate in the survey if they are twelve years or older and a civilian. Interviewers collected data in participant's homes using hand-held computers. SAMHSA estimates illicit drug use and mental health status for New Hampshire based on a statistical sample.

STRENGTHS AND WEAKNESSES

SOCIODEMOGRAPHIC

The strengths of the sociodemographic section of the IEP are that several data sources are included to get a more complete picture of the measures. Also, when available, data from multiple years and data from different geographic units (i.e. national, state and county) are provided for comparison.

The limitations of the sociodemographic section are that data from multiple years and data from different geographic units are missing for some measures. Therefore, comparisons cannot be made over a multiyear or multiple geographies for measures like race and ethnicity by county, and race and ethnicity by the percent of the NH population who does not have health insurance.

EPIDEMIOLOGIC

A major strength of the epidemiologic section of the profile is that data are presented at national, state and county levels. Another strength includes the ability to include HIV data reported to New Hampshire prior to confidential named HIV surveillance beginning on January 1, 2005, due to the methodology used to collect the data and CDC's acceptance of the data.

A limitation of the epidemiologic section of the profile is that HIV data collected prior to January 1, 2005 may be an underestimate of HIV disease in New Hampshire because positive anonymous cases that did not subsequently access care services were not included in HARS. An additional limitation is that the prevalence estimate was generated using 2003 data.

BEHAVIORAL

A strength of the behavioral section of the IEP is that detailed sexually transmitted disease (STD) data is available for many of the target populations, including men who have sex with men and youth. Another strength is the depth and breadth of data available on youth via the Youth Risk Behavior Surveillance System (YRBSS).

A limitation of the behavioral section of the IEP includes the non-existence of population based behavioral data for men who have sex with men and high-risk heterosexuals. An additional limitation is that information on risk behavior for the general population is only available on individuals between the ages of 18 – 64; therefore data on health behaviors related to HIV transmission on adults 65 and older are not available.

SERVICE UTILIZATION

A strength of the data in the utilization section is that it comes from databases that are linked to billing; therefore, there is higher confidence that it is accurate. An additional strength is that it looks at service utilization from three major payees of HIV care in the State of NH: Title I, Title II and Medicaid.

A limitation of the service utilization section is that it does not include utilization data from Title III, Title IV, or Housing Opportunities for People Living with AIDS (HOPWA).

UNMET NEED

The strengths of the unmet need section include the extensive cleaning and de-duplication process the data were put through to remove from the population estimate individuals who may have died or may have received care services because they were perinatally exposed but later found not to be infected with HIV. The cleaning and de-duplication process also accounted for individuals who were diagnosed in other states, and therefore not included in the population estimate in HARS, but who are accessing care services in New Hampshire. A further strength of the unmet need section is that the STD/HIV Section adjusted the measure to account for out-migration of clients due to change of residence or death. Another strength of the unmet need section is the variety of data sources that were included in the analysis, including data from NH HARS, the NH CARE Program, the Dartmouth-Hitchcock Family HIV Program, and Medicaid.

A limitation of the unmet need section is that there is currently no way to account for all clients receiving care services privately, either through private health insurance or self pay.

PROCESS FOLLOWED TO DEVELOP THE PROFILE

The *New Hampshire Integrated Epidemiologic Profile for HIV/ AIDS Prevention and Care Planning 2005* (IEP) was written by Mary Catherine Gorman, Assistant State Epidemiologist and Heather Barto, STD/HIV/AIDS Surveillance Coordinator, with the assistance of Christine Adamski, Section Chief of Communicable Disease Surveillance. Heather Hauck, former Section Chief of the STD/ HIV Section and Christopher Cullinan, New Hampshire CARE Program Manager, provided oversight and statistical support, respectively, for the calculation of the portions of the report pertaining service utilization and unmet need.

Preliminary data from the report, including HIV surveillance data, HIV medical and support service utilization data, and an estimate of unmet need was presented via PowerPoint to the New Hampshire HIV/ AIDS Community Planning Group (NH CPG) in May of 2005. At the conclusion of the presentation, NH CPG members and advisors were able to provide feedback on the content of the presentation.

In August and September of 2005, the Data, Assessment and Evaluation Workgroup of the NH CPG met to discuss the sociodemographic and behavioral sections of the NH IEP. They provided guidance on additional measures that could be included in these sections in future versions of the NH IEP, as well as additional clarifying information they would like to see included on current measures.

In October 2005, the Data, Assessment and Evaluation Workgroup of the NH CPG met to discuss and review the presentation on the sociodemographic and behavioral sections of the NH IEP that was presented to the NH CPG in November 2005. Edits were made accordingly.

In November 2005, the NH CPG received a second presentation of the NH IEP, which focused on the sociodemographic and behavioral sections of the NH IEP. They also received updated HIV surveillance information and a revised estimate of unmet need. Feedback was solicited at the conclusion of the presentation by an evaluation form.

A NOTE ABOUT RACE AND ETHNICITY

Various data systems capture the concept of race and ethnicity in different ways. The US Office of Budget and Management (OMB) has tried to standardize the format used to collect data on race and ethnicity in federal data sets. This standardization calls for the separate collection of Hispanic or Latino/a ethnicity from 6 standard race categories: White; Black/African American; American Indian/ Alaska Native; Asian, Native Hawaiian/ Other Pacific Islander; and Other. According to this system, individuals may indicate if they identify with more than one race.

Not all data in this report conforms to the OMB standard of race and ethnicity data collection. For example, the HIV/AIDS Reporting System (HARS) collects race and ethnicity data as a combined variable. So, an individual may be White, non-Hispanic, Black, non-Hispanic, Hispanic, etc. The New Hampshire CARE database, on the other hand, collects on race and ethnicity separately, as standardized from OMB, but the categories for race are different than those put forth by OMB: White; Black; Asian/Pacific Islander; American Indian/ Alaska Native.

An additional point that needs to be taken into account when reading the following report is that race and ethnicity are sometimes collected via self reported, but other times they are reported by a third party. An example of self-reported race and ethnicity would be data from the US Census. An example of third party reported data could include infectious disease case reports, including HIV/ AIDS. Therefore, when a third party reports data on race and ethnicity, the reported race and ethnicity may not be a reflection of an individual's personal concept of their race or ethnicity.

SECTION 1: HIV AND AIDS EPIDEMIOLOGY

QUESTION 1: WHAT ARE THE SOCIODEMOGRAPHIC CHARACTERISTICS OF THE GENERAL POPULATION IN NEW HAMPSHIRE?

The purpose of this section of the IEP is to provide a picture of the entire State of New Hampshire (NH) from a demographic and socioeconomic perspective. Demographic information tries to characterize populations in different ways; demographic measures include the number of residents, how residents are distributed across counties and other geographic areas, and characteristics of a population. Characteristics of a population include gender, race, ethnicity, age and location of birth. Comparisons of demographic subpopulations and the population of people living with HIV and AIDS allow individuals working on HIV prevention and care issues to identify disproportionately impacted populations. Additionally, individuals working on HIV prevention and care issues can estimate the size of the target populations potentially accessing prevention and care services. Socioeconomic information looks at factors like educational attainment, insurance status, and poverty status. It is important to look at socioeconomic information because it can document conditions that impact health behaviors.

DEMOGRAPHIC INFORMATION

According to the United States (US) Census Bureau, New Hampshire had 1,235,786 residents in 2000. The US, as of 2000, had a population of 281,421,906 individuals. Therefore, as of 2000, 0.4% of all US residents lived in NH.

As of 2000, almost two-thirds of New Hampshire residents lived in the southeastern section of the state, specifically Rockingham, Strafford and Hillsborough counties. Six of the seven remaining counties have less than 100,000 residents living within their borders. The North Country, which consists of Carroll, Coos and Grafton counties, is home to less than 10% of the state's population. (*See Table 1*)

Table 1: Number and distribution of the population in New Hampshire, by county, 2000

County	Count	Percent, % (n=1,235,786)	County	Count	Percent (n=1,235,786)
Belknap	56,325	4.6	Hillsborough	380,841	30.8
Carroll	43,666	3.5	Merrimack	136,225	11.0
Cheshire	73,825	6.0	Rockingham	277,359	22.4
Coos	33,111	2.7	Strafford	112,233	9.1
Grafton	81,743	6.6	Sullivan	40,453	3.3

Source. Census 2000 Summary File 1 (SF1) 100-Percent Data, available at <http://factfinder.census.gov>.

As of 2004, the American Community Survey (ACS) estimated that New Hampshire's population had grown to 1,261,970 individuals. During the same year, it was estimated that the entire population of the US had grown to 285,691,501 individuals. The overall percent of US residents living in NH did not change between 2000 and 2004.

Location of Birth

As of 2000, 5% of NH's residents were born outside of the US, excluding those born abroad to US parents. (See Table 2). Also, in 2000, just over half of these individuals were not US citizens. As of 2000, 12% of the all US residents were born outside of the US and 60% of those individuals were not citizens. Therefore, NH has fewer residents who were born outside of the US and a smaller percent who were not citizens as of 2000. Individuals who are born outside of the US may have unique barriers to accessing health care, including language and cultural barriers. Additionally, individuals who are living in the US but are not US citizens may have additional barriers related to access to care because of citizenship status.

Table 2: Count and distribution of the general population in New Hampshire, by location of birth, 2000

Place of birth	Count	Percent, % (n=1,235,786)
In the United States or US territory	1,193,124	95.0
Outside of the United States or US territory	54,154	5.0

Source. Census 2000 Summary File 3 (SF3) Sample Data, available at <http://factfinder.census.gov>.

According to the ACS in 2004, the number of individuals born outside of the US and living in NH increased to 62,288 (90% CI = 57,507 – 67,069). There was no change in the percent of NH residents born outside of the US or the percent that were not citizens. As of 2004, the percent of all US citizens born outside of the US remained constant at 12%. Over half, or 58%, were not citizens.

Age

As of 2000, two-thirds of NH residents were 25 years or older, and over half of those were 45 years or older. A similar picture is seen nationally. The proportion of males and females in each age group were similar in NH except for the 65 and older group where there were 38% more females. (See Table 3)

Table 3: Count and distribution of the general population in New Hampshire, by age group and sex, 2000

Age group (years)	Males (n=607,687)		Females (n=628,099)		Total (n=1,235,786)	
	Count	Percent, %	Count	Percent, %	Count	Percent, %
0-12	113,146	18.6	107,635	17.1	220,781	17.9
13-17	45,507	7.5	43,274	6.9	88,781	7.2
18-24	51,624	8.5	51,745	8.2	103,369	8.4
25-29	35,427	5.8	35,928	5.7	71,355	5.8
30-34	44,002	7.2	44,704	7.1	88,706	7.2
35-39	53,947	8.9	55,707	8.9	109,654	8.9
40-44	55,707	9.2	55,818	8.9	111,525	9.0
45-49	48,901	8.0	49,216	7.8	98,117	7.9
50-54	42,892	7.1	42,977	6.8	85,869	6.9
55-59	31,380	5.2	31,284	5.0	62,664	5.1
60-64	23,020	3.8	23,975	3.8	46,995	3.8
≥ 65	62,134	10.2	85,836	13.7	147,970	12.0

Source. Census 2000 Summary File 1 (SF1) 100-Percent Data, available at <http://factfinder.census.gov>.

New data was not available from the US Census in 2004 on the age and sex breakdown of the NH and US population in the same format as 2000.

Race

As of 2000, the majority of New Hampshire residents were White. Only 4% of the population identified as a racial minority. One quarter of those who identified as a racial minority indicated that they were Asian and another quarter indicated that they were two or more races. In NH, there were no major differences in race by sex. (See Table 4) Nationally, 25% of the population identified as a racial minority in 2000. One half of those individuals indicated that they were Black or African American and another fifth indicated they were a race other than the standard OMB listed races on the Census form.

Table 4: Count and distribution of the general population in New Hampshire, by race and sex, 2000

Race	Males (n=607,687)		Females (n=628,099)		Total (n=1,235,786)	
	Count	Percent, %	Count	Percent, %	Count	Percent, %
White	582,631	95.9	604,220	96.1	1,186,851	96.0
Black/ African American	5,076	0.8	3,959	0.6	9,035	0.7
American Indian/ Alaska Native	1,582	0.3	1,382	0.2	2,964	0.2
Asian	7,769	1.3	8,162	1.3	15,931	1.3
Native Hawaiian/ Other Pacific Islander	171	< 0.1	200	< 0.1	371	< 0.1
Other	3,836	0.6	3,584	0.6	7,420	0.6
Two or more races	6,622	1.1	6,592	1.0	13,214	1.1

Source. Census 2000 Summary File 1 (SF1) 100-Percent Data, available at <http://factfinder.census.gov>.

As of 2004, there was no change in the estimated percent of the NH population that identified as a racial minority; it remained stable at 4%. There was a slight decrease in the estimated percent of the US that identified as a racial minority in 2004; it was 24%.

In 2000, the counties in NH with the highest proportion of residents who identified as a racial minority were Grafton and Hillsborough counties. Over one half of residents who identified as Black or African American lived in Hillsborough County. Over one quarter of residents who identified as Asian lived in the RWCA Title I Boston EMA. (See Table 5)

Table 5: Count and distribution of the general population in New Hampshire, by race and county, 2000

Race	Belknap (n=56,325)		Carroll (n=43,666)		Cheshire (n=73,825)	
	Count	Percent, %	Count	Percent, %	Count	Percent, %
White	54,979	97.6	42,890	98.2	72,167	97.8
Black/ African American	165	0.3	73	0.2	271	0.4
American Indian/ Alaska Native	170	0.3	122	0.3	226	0.3
Asian	311	0.6	167	0.4	350	0.5
Native Hawaiian/ Other Pacific Islander	13	< 0.1	4	< 0.1	26	< 0.1
Other	92	0.2	75	0.2	131	0.2
Two or more races	595	1.1	335	0.8	654	0.9

Race	Coos (n=33,111)		Grafton (n=81,743)		Hillsborough (n=380,841)	
	Count	Percent, %	Count	Percent, %	Count	Percent, %
White	32,466	98.1	78,276	95.8	357,615	93.9
Black/ African American	40	0.1	435	0.5	4,904	1.3
American Indian/ Alaska Native	93	0.3	255	0.3	943	0.2
Asian	123	0.4	1,414	1.7	7,601	2.0
Native Hawaiian/ Other Pacific Islander	5	< 0.1	22	< 0.1	112	< 0.1
Other	53	0.2	315	0.4	5,006	1.3
Two or more races	311	0.1	1,026	1.3	4,660	1.2

Race	Merrimack (n=136,225)		Rockingham (n=277,359)		Strafford (n=112,233)	
	Count	Percent, %	Count	Percent, %	Count	Percent, %
White	132,254	97.1	268,486	96.8	108,073	96.2
Black/ African American	730	0.5	1,619	0.6	702	.06
American Indian/ Alaska Native	311	0.2	487	0.2	238	0.2
Asian	1,171	0.9	3,084	1.1	1,560	1.4
Native Hawaiian/ Other Pacific Islander	29	< 0.1	98	< 0.1	53	< 0.1
Other	315	0.2	1,042	0.4	333	0.3
Two or more races	1,415	1.0	2,543	0.9	1,274	1.2

Source: Census 2000 Summary File 1 (SF1) 100-Percent Data, available at <<http://factfinder.census.gov>>.

Table 5: Count and distribution of the general population in New Hampshire, by race and county, 2000, continued

Race	Sullivan (n=40,458)	
	Count	Percent, %
White	39,645	98.0
Black/ African American	96	0.2
American Indian/ Alaska Native	119	0.3
Asian	150	0.4
Native Hawaiian/ Other Pacific Islander	53	0.1
Other	58	0.1
Two or more races	381	0.9

Source. Census 2000 Summary File 1 (SF1) 100-Percent Data, available at <http://factfinder.census.gov>.

Data on race and county of residence were not available in 2004 in the same format from the US Census as in 2000.

Ethnicity

In 2000, just over 20,000 New Hampshire residents identified as Hispanic or Latino/a. This equaled 2% of the state's population. (See Table 6) Nationally, in 2000, 13% of the population identified as Hispanic or Latino/a.

Table 6: Count and distribution of the general population in New Hampshire, by Hispanic or Latino/a ethnicity and sex, 2000

Ethnicity	Males (n=607,687)		Females (n=628,099)		Total (n=1,235,786)	
	Count	Percent, %	Count	Percent, %	Count	Percent, %
Hispanic or Latino/a	10,499	1.7	9,990	1.6	20,489	1.7
Non-Hispanic or non-Latino/a	597,188	98.3	618,109	98.4	1,215,297	98.3

Source. Census 2000 Summary File 1 (SF1) 100-Percent Data, available at <http://factfinder.census.gov>.

As of 2004, there was no change in the estimated percent of the NH population that identified as a Hispanic or Latino/a; it remained stable at 2%. Nationally, the Census estimated in 2004 that 14% of the US population identified as Hispanic or Latino/a.

As of 2000, the majority of residents who identified as Hispanic/ Latino lived in Hillsborough County. (See Table 7) Data was not available in 2004 from the US Census on ethnicity and county of residence as it was in 2000.

Table 7: Count and distribution of the general population in New Hampshire, by Hispanic or Latino/a ethnicity and county, 2000

Ethnicity	Belknap (n=56,325)		Carroll (n=43,666)		Cheshire (n=73,825)	
	Count	Percent, %	Count	Percent, %	Count	Percent, %
Hispanic or Latino/a	418	0.7	209	0.5	529	0.7
Non-Hispanic or non-Latino/a	55,907	99.3	43,457	95.5	73,296	99.3

Ethnicity	Coos (n=33,111)		Grafton (n=81,743)		Hillsborough (n=380,841)	
	Count	Percent, %	Count	Percent, %	Count	Percent, %
Hispanic or Latino/a	201	0.6	914	1.1	12,166	3.2
Non-Hispanic or non-Latino/a	32,910	99.4	80,829	98.9	368,675	96.8

Ethnicity	Merrimack (n=136,225)		Rockingham (n=277,359)		Strafford (n=112,233)	
	Count	Percent, %	Count	Percent, %	Count	Percent, %
Hispanic or Latino/a	1,362	1.0	3,314	1.2	1,155	1.0
Non-Hispanic or non-Latino/a	134,863	99.0	274,045	98.8	111,078	99.0

Ethnicity	Sullivan (n=40,458)	
	Count	Percent, %
Hispanic or Latino/a	221	0.5
Non-Hispanic or non-Latino/a	40,237	99.5

Source. Census 2000 Summary File 1 (SF1) 100-Percent Data, available at <http://factfinder.census.gov>.

SOCIOECONOMIC INFORMATION

Income

Income is one measure of socioeconomic status. The United States Department of Health and Human Services (US DHHS) annually calculates the Federal Poverty Level (FPL) to create an average threshold by which residents qualify for certain federal programs. The FPL is dependent upon income and the number of dependents in a household. The FPL for 2004 is below in Table 8.^{vii}

Table 8: Weighted average poverty thresholds, by size of family, 2004

Size of Family	Dollars
One person	9,645
Two people	12,334
Three people	15,067
Four people	19,307
Five people	22,831
Six people	25,788
Seven people	29,236
Eight people	32,641
Nine people or more	39,048

Source: US Census

The US Census Bureau collects information to determine what percent of individuals are living under the FPL via the ACS. According to the ACS, in NH, 7.6% (90% CI = 6.8 – 8.4) of residents were living under the poverty level in 2004. Nationally, 13.1% (90% CI = 12.9 – 13.3) of US residents were living under the poverty level in 2004. This estimate includes Puerto Rico and other US Territories in the national estimate, in addition the 50 states and the District of Columbia (DC).

The US Census Bureau develops a second measure of the percent of the population living under the poverty level through the Annual Social and Economic Supplement (ASEC) to the 2005 Current Population Survey (CPS). Only the 50 states and the District of Columbia are included in the national estimate; Puerto Rico and other US Territories are excluded. The percent of the population living under the poverty level is available annually for the nation, while estimates for states and DC are averaged over two and three years. According to the CPS ASEC, in NH, the 2003-2004 two-year average moving poverty rate was 5.6% (90% CI = 4.5 – 6.7). Also according to the CPS ASEC, New Hampshire's three-year average moving poverty rate is significantly lower than 48 other states and DC (5.7%, 90% CI = 4.8 – 6.6)^{viii}. Nationally, 12.7% (90% CI = 12.5 – 12.9) of US residents lived below the FPL in 2004. The percent of the US population living under the FPL has increased annually from the most recent low of 11.3% in 2000.^{ix}

Educational Attainment

Educational attainment is another measure of socioeconomic status. One measure of educational attainment is the proportion of individuals 25 years or older who have a high school diploma or GED. According to the ACS, 88.3% (90% CI = 87.4 – 89.2) of NH residents 25 years or older had a high school diploma, GED or higher in 2004. Data were not available on educational attainment through the ACS at the county level. Nationally, 83.9% (90% CI = 83.8 – 84.0) of residents had a high school diploma, GED or higher. New Hampshire's percent of individuals 25 year or older with a high school diploma, GED or higher was significantly higher than the national figure.

Another measure of educational attainment is the proportion of individuals 25 years or older who have a bachelor's degree. According to the ACS, in 2004, 32.1% (90% CI = 31.0 – 33.2) of NH residents had a bachelor's degree or higher. Nationally, 27.0% (90% CI = 26.8 – 27.2) of US residents had a bachelor's degree or higher.

Health Insurance

The proportion of individuals with health insurance may be a proxy measure for access to health services, although individuals without health insurance may access publicly funded health services and individuals with health insurance may not access any health services. According to the CPS ASEC, the NH 2003 – 2004 two-year moving average percent of people without health insurance coverage was 11.0% (90% CI = 10.0 – 12.0). This means that 11.0% did not have private or governmental health insurance, like Medicaid. NH was one of five states that had a significant increase in the number of people without health insurance coverage when the two-year moving average for 2002 – 2003 and 2003 – 2004 was compared. The percentage change was 0.9% (90% CI = 0.0 – 0.18)^x. Nationally, in 2004, it was estimated that 15.7% (90% CI = 15.5 – 15.9) of people did not have health insurance coverage.^{xi}

Data are currently not available in NH on the percent of people without health insurance coverage by race and ethnicity. Nationally, data are available from the CPS ASEC. According to the 2002 – 2004 three-year moving average, the Hispanic population, regardless of race, had the highest percent of people without health insurance coverage. (32.6%, 90% CI = 32.1 – 33.1). The 2002 – 2004 three-year moving average for the remaining racial and ethnic groups is listed below in Table 9.

*Table 9: People without health insurance, by race and Hispanic origin using 3-year averages:
2002 – 2004, US*

Race or Ethnicity	3-Year Moving Average 2002 – 2004 Estimate	90% CI
White	14.6	14.5 – 14.7
Black	19.8	19.3 – 20.3
American Indian and Alaska Native	29.0	26.9 – 31.1
Asian	18.0	17.2 – 18.8
Native Hawaiian and Other Pacific Islander	21.8	18.4 – 25.2
Hispanic Origin (any race)	32.6	32.1 – 33.1

Source: DeNavas-Walt, Carmen, et al., U.S. Census Bureau, Current Population Reports, P60-229, *Income, Poverty, and Health Insurance Coverage in the United States: 2004*, U.S. Government Printing Office, Washington, DC, 2005.

QUESTION 2: WHAT IS THE SCOPE OF THE HIV/AIDS EPIDEMIC IN NEW HAMPSHIRE?

OVERVIEW

In New Hampshire, the HIV/AIDS epidemic has affected persons of all ages, sex, and racial/ethnic groups, in every county area of the state. However, since the beginning of the epidemic, the predominant group affected has been white men who have sex with men (MSM). Although this group remains a predominant risk group for HIV infection, recent trends suggest a movement toward high-risk heterosexuals, particularly women and individuals who are Black.

This section provides information on demographic and risk characteristics of recent HIV/AIDS cases and information on the occurrence of the disease statewide between 2000 and 2004. These recent data provide epidemiologic trends that CDC and HRSA require federally funded HIV prevention and care planners to use to allocate resources as efficiently as possible to populations most affected by HIV infection.

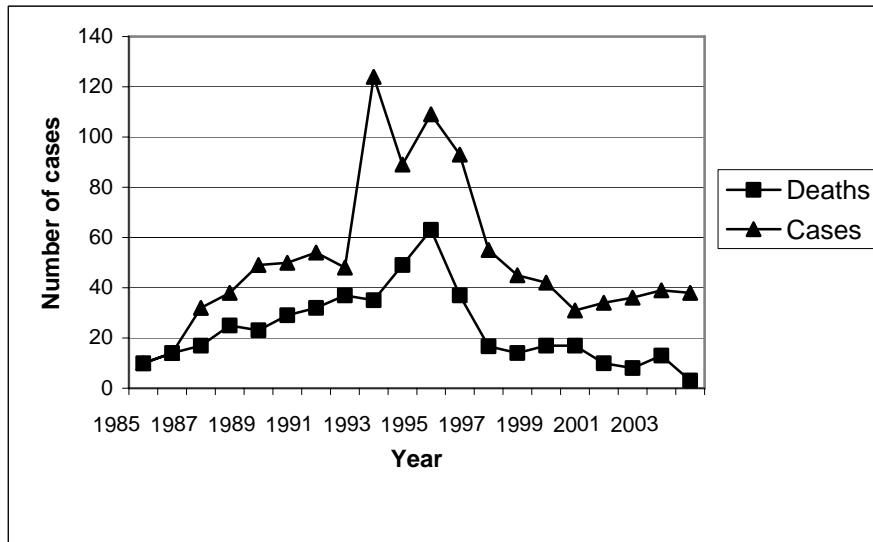
New Hampshire is a low incidence state, accounting for approximately less than one percent (0.1%) of AIDS cases nationally. In 2004, the annual New Hampshire AIDS incidence rate was 3.0/100,000 persons as compared to 2.6/100,000 persons in 2000. The annual HIV incidence rate was 3.6/100,000 persons in 2004. The annual number of reported AIDS cases increased from 34 cases in 2001, to 36 and 39 cases in 2002 and 2003, respectively. In 2004, AIDS cases declined slightly with 38 cases reported. This trend suggests a leveling of the previous decline of AIDS incidence. The cumulative number of people living with AIDS (PLWA) has increased in the past five years.

From 2000 through 2004, the predominant racial and ethnic group most affected by HIV and AIDS in New Hampshire were individuals who are White, representing 74% of AIDS cases and 73% of HIV cases. The proportion of AIDS diagnoses among women has increased in recent years. In 2000, 19% of cases were among women as compared to 24% of cases in 2004. By exposure category, MSM represents the largest proportion of AIDS cases (41%) and similarly at for 42% of HIV cases reported from 2000 through 2004. The geographical area primarily affected by AIDS is Rockingham, Hillsborough, and Strafford counties, accounting for 70% of AIDS cases from 2000 through 2004. This is significant because these are the same counties included in the Ryan White Title I EMA.

OVERALL HIV/AIDS TRENDS

The reporting of AIDS cases began in 1983. As of December 2004, 997 cumulative cases of AIDS were diagnosed in New Hampshire. In addition, a total of 450 cases of HIV infection (non AIDS) cases were diagnosed as a result of the implementation of HIV infection reporting in 1991. Statewide, 38 AIDS cases and 45 HIV cases were reported to the Communicable Disease Surveillance Section (CDSS) in 2004. In recent years, the number of AIDS cases reported has leveled from the notable decline after the widespread use of antiretroviral therapy in the mid 1990s. The trend analysis for annual AIDS cases corresponds with the decrease in the number of deaths each year. (*See Figure 2*) Beginning in 2001, the annual number of AIDS cases began to increase, until 2004 where a slight decrease in the number of reported AIDS cases was noted. However, it should be noted that these data represent a small number of cases and, therefore, should be interpreted with caution.

Figure 2: AIDS incidence and death, New Hampshire 1985-2004

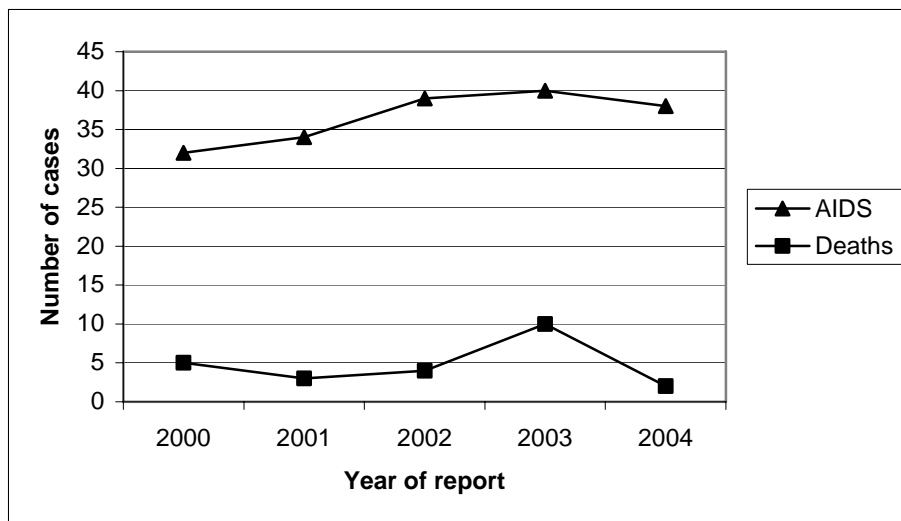


Source: New Hampshire HIV/AIDS Reporting System (HARS) database

MORTALITY TRENDS

The mortality data described in this section are from HARS and Vital Records in New Hampshire. Four hundred and fifty-five persons reported with AIDS through December 2004 have died, resulting in a cumulative case fatality rate of 46%. Of those known to have died, 85% were male and 15% female. In the most recent 5 year time period, the number of AIDS cases and the number of deaths due to AIDS have remained fairly stable in New Hampshire. (See Figure 3) These data cannot be considered complete at this time due to reporting delays to the HARS system for vital status information, such as death certificate data. Vital Statistics information may be provided to the surveillance program by multiple sources including healthcare providers; death certificate data are the primary source of vital status information. The surveillance program annually requests the number of AIDS deaths to substantiate mortality trends and to update the status of persons previously reported to the HARS database.

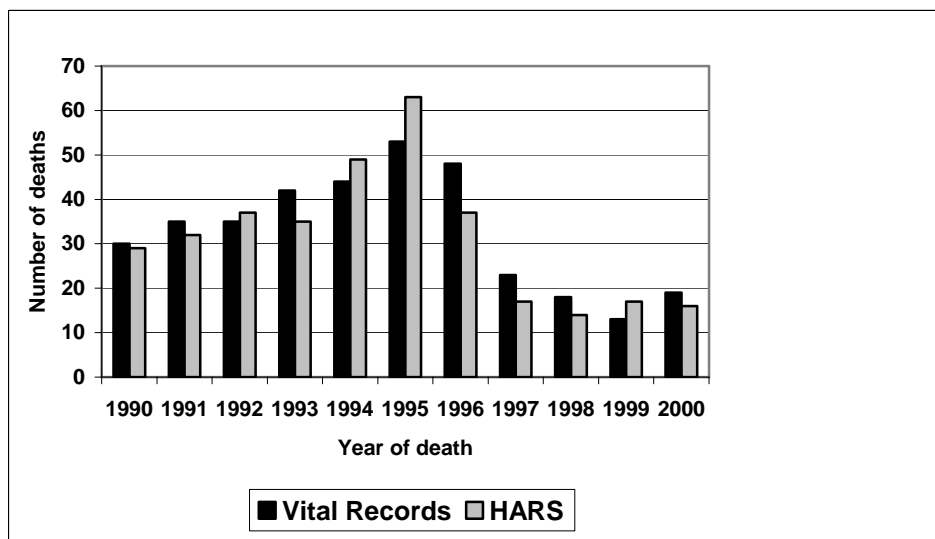
Figure 3: Number of AIDS cases and number of deaths of persons with AIDS, New Hampshire, 2000-2004



Source: New Hampshire HIV/AIDS Reporting System (HARS) database

In 2002, in an effort to obtain a representative number of persons who have died of AIDS in New Hampshire, the surveillance program compared HARS data to Vital Records data in a 10-year time period. The Department of State, Division of Vital Records Administration maintains data on deaths, births, and marriages for the State of New Hampshire. Surveillance data were compared to vital statistics data for the time period from 1990 through 2000 for all deaths in the state due to AIDS. (See Figure 4) In general, the number of deaths due to AIDS significantly declined after the mid 1990s. This decline remained constant and accounts, in part, for the increases noted in the number of persons living with AIDS. The comparison of these data provided a comparable number of annual deaths due to AIDS, as well as validated the completeness for death data in the HARS database.

Figure 4: The annual number of deaths due to AIDS, New Hampshire, 1990-2000

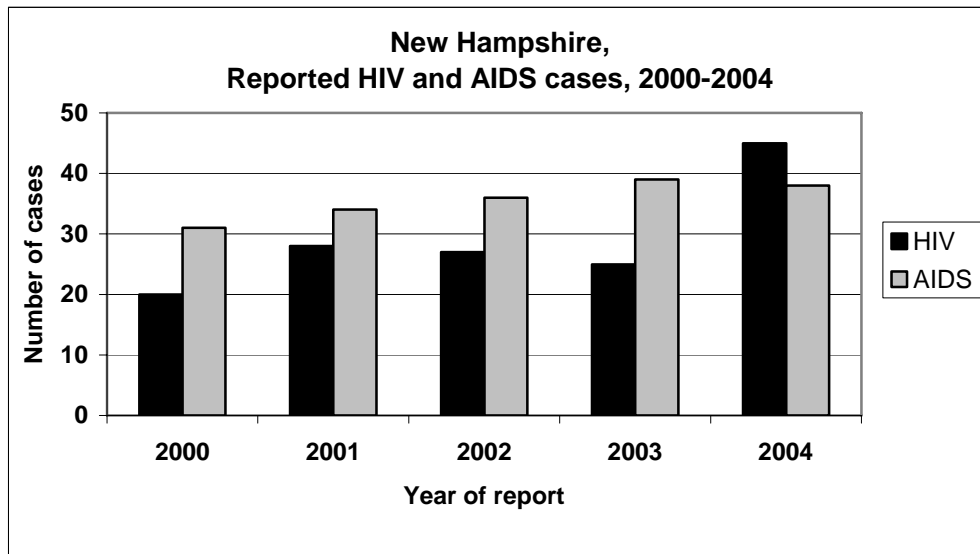


Source: New Hampshire HIV/AIDS Reporting System (HARS) database

HIV/AIDS 2000-2004

In the most recent five-year period from 2000 through 2004, a total of 178 AIDS and 145 HIV cases were reported to the surveillance system in New Hampshire. (See Figure 5) The mean number of AIDS cases reported annually is 36, as compared to 29 HIV cases reported annually during the same time period. The number of reported HIV infection cases annually has varied and these data should be interpreted with caution due to changes in HIV case surveillance methodology during this time period. In 2004, reported cases of HIV increased from the previous year, while reported AIDS cases decreased slightly. The increase in the number of HIV cases in 2004 can be attributed in part to an increase in the number of foreign-born individuals diagnosed with HIV, especially refugees. A decrease in the number of annual AIDS cases has been observed, with 38 reported cases in 2004 and a corresponding annual incidence rate of 3.0/100,000 persons.

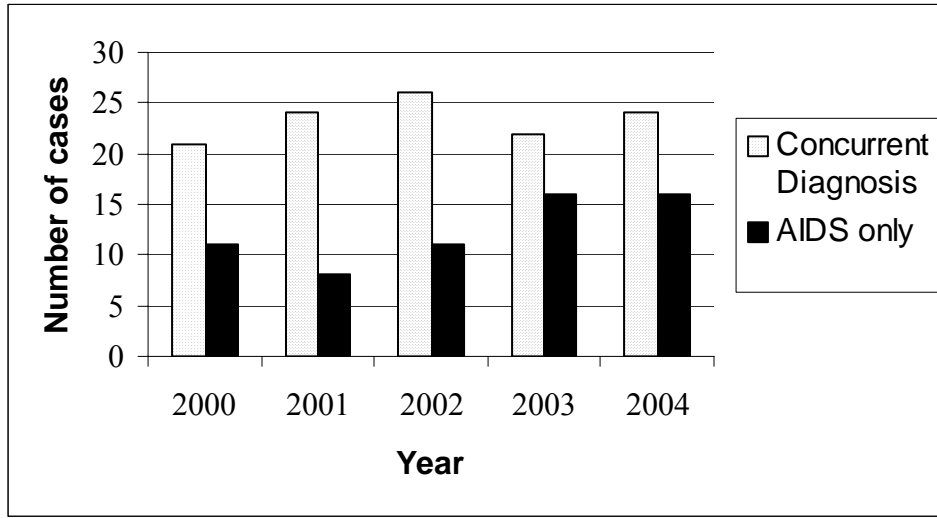
Figure 5: Number of HIV/AIDS reported, New Hampshire, 2000-2004



Source: New Hampshire HIV/AIDS Reporting System (HARS) database

Of the newly diagnosed AIDS cases in 2004, over half (60%) were concurrently diagnosed with new HIV infection and AIDS. A case was considered concurrently diagnosed if an individual was reported with AIDS within 1 year of his/her HIV diagnosis. The percent of concurrently diagnosed cases has ranged from a low of 58% (n = 22) in 2003 to a high of 75% (n = 24) of cases in 2001. The trend of concurrent diagnosis is concerning given the availability of successful medical treatment in delaying HIV infection from progression to AIDS and the delay in the ability to conduct public health interventions that decrease infection in others^{xii, xiii}. Due to differences in the methodology used to measure concurrent diagnosis, we are unable to compare our data to national measures of concurrent diagnosis.

Figure 6: Trends in HIV infection and AIDS, number of AIDS cases and number of concurrently diagnosed cases, New Hampshire, 2000-2004



Source: New Hampshire HIV/AIDS Reporting System (HARS) database

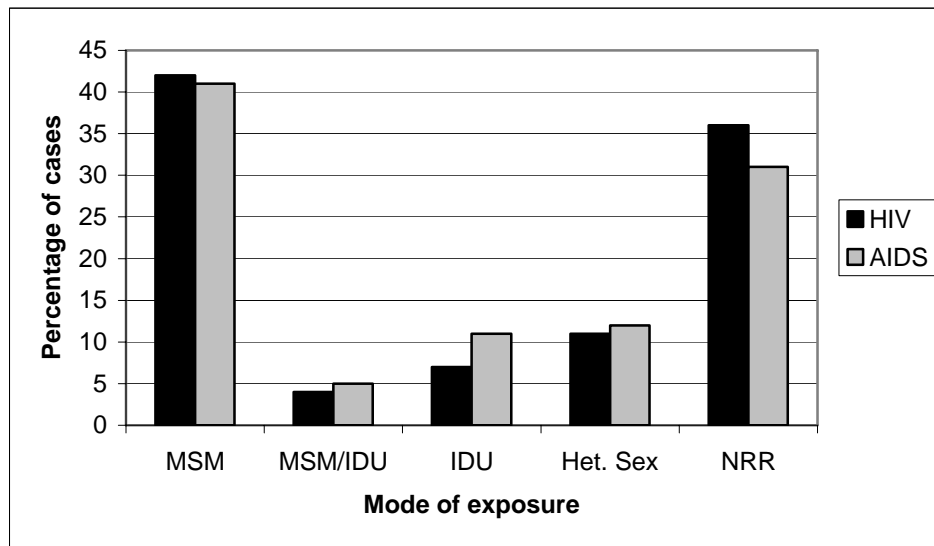
HIV/AIDS, BY SEX AND MODE OF EXPOSURE, 2000-2004

HIV disease has primarily affected adult males in New Hampshire. In the time period from 2000 through 2004, 132 (74%) of adult AIDS cases were diagnosed in males and 45 cases (25%) in females. In 2004, the AIDS incidence rate among New Hampshire men was 4.6/100,000, while the AIDS incidence rate among females was 1.4/100,000. When comparing annual HIV infection diagnoses, 24% of cases were female in 2000 through 2003. However, in 2004, the proportion almost doubled, with 42% of the cases occurring in females. For AIDS diagnoses, 19% of cases were among females in 2000 and that proportion rose slightly in 2004, when 24% of reported AIDS cases were female. These data may indicate a shift toward infection among females and the distribution appears more prominent among persons diagnosed with late stage HIV infection (AIDS).

Most HIV transmission in the male population is attributed to the MSM risk factor, accounting for 42% of HIV cases and 41% of AIDS cases. (See Figure 7) The overall proportion of these cases has remained relatively stable in recent years. Among females, the predominant exposure to HIV infection is due to heterosexual contact with an at-risk or HIV infected partner. For the most recent five-year period, the NH HARS system reported heterosexual contact as the presumed mode of exposure for 29% of HIV cases and 37% of AIDS cases in adult females.

The proportion of cases that report heterosexual contact has increased and this may be due, in part, to a higher proportion of females reported with HIV infection in recent years. However, the predominant mode of HIV exposure continues to be MSM, with a comparable proportion of cases attributed to injection drug use and heterosexual contact.

Figure 7: HIV/ AIDS, by mode of exposure, New Hampshire, 2000-2004



Source: New Hampshire HIV/AIDS Reporting System (HARS) database

A high proportion of cases in this time period are categorized as no reported risk factor (NRR). This classification for HIV/AIDS cases often corresponds to recently reported cases in which the individual HIV risk factor has not yet been reported or identified to the surveillance program. These cases will likely be reclassified as epidemiologic follow-up is completed.

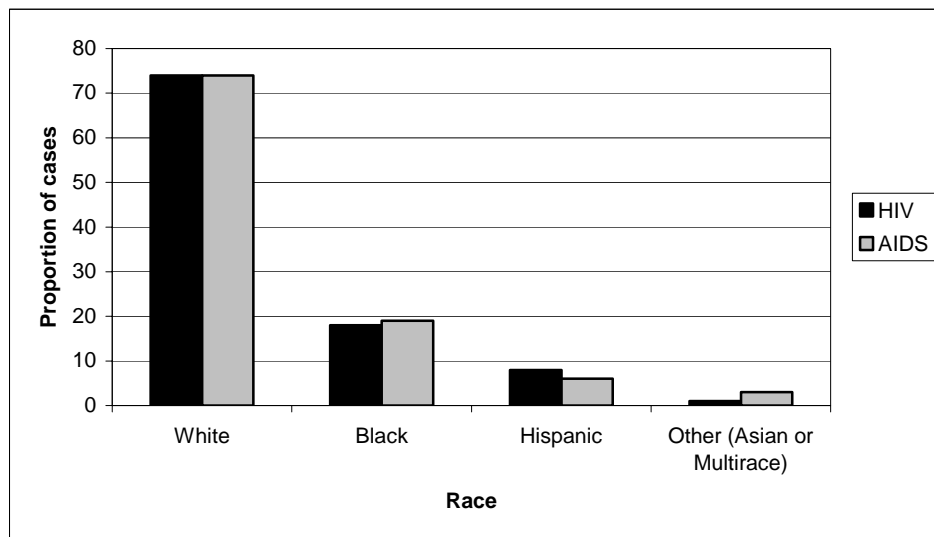
In the period from 2000-2004, 27% (n=35) of the male AIDS cases and 44% (n=20) of the female cases were identified as NRR. Similarly, the majority of HIV infections with NRR were males (28%) and a much higher proportion of 63% (22 cases) were females. According to CDC definitions for HIV risk factors, a confirmed heterosexual contact for an HIV or AIDS case must identify either known HIV infection or an established HIV risk factor of the heterosexual partner. Based upon past epidemiology of the disease in New Hampshire, a majority of the male cases may be attributed to MSM whereas the female cases may be presumed heterosexual transmission from an at risk or HIV infected partner.

Currently, the small number of pediatric AIDS cases related to a mother at risk for or living with HIV prevents us from calculating the rate of perinatal transmission in NH. According to the CDC, when antiretroviral medications are administered prior to, during and after birth, HIV transmission rates can be reduced to less than 2%. Without medical intervention, the HIV transmission rate from mother to child is 25%^{xiv}. Nationally, CDC estimates that perinatal transmission has decreased 90% between 1999 and 2002^{xv}.

HIV/AIDS BY RACE/ETHNICITY, 2000-2004

More individuals who are White have been reported with HIV/AIDS in New Hampshire than any other racial or ethnic group. These data mirror the predominantly White population in the state, as does much of the incidence data for communicable diseases. However, many racial and ethnic groups have been impacted by the HIV/AIDS epidemic. In the most recent five year time period, the racial/ethnic proportion of case distribution has been comparable between HIV and AIDS cases. (See Figure 8)

Figure 8: HIV/ AIDS, by race/ ethnicity, New Hampshire, 2000-2004



Source: New Hampshire HIV/AIDS Reporting System (HARS) database

The annual proportion of infections among racial and ethnic minorities has been stable over this five-year period. However, HIV surveillance recently revealed a higher proportion of AIDS cases among black individuals, as compared to previous years. In 2000, HIV surveillance demonstrated that 10% of AIDS occurred in individuals who are Black as compared to 2004, when 26% of cases were among individuals who are Black. This increase is likely due to the increase in cases among foreign-born individuals, rather than an increase in the population size of this race group.

HIV/AIDS, BY COUNTRY OF ORIGIN, NEW HAMPSHIRE, 2000-2004

Although the vast majority of the HIV and AIDS cases in New Hampshire are among individuals born in the United States, a consistent number of cases have been reported annually among individuals born outside of the US. Epidemiological follow-up demonstrated that these infections were most likely acquired before coming to the US. Foreign-born persons infected with HIV/AIDS are included in United States case counts once they come to this county. A summary of the number of cases by origin is provided below. (See Table 10) From 2000 through 2004, the distribution of cases with HIV versus AIDS was similar. Of the 31 foreign-born AIDS cases, 66% (n = 21) were Black and 19% (n = 6) were White. With regard to HIV cases, 86% (n = 24) were Black and 11% were Hispanic (n = 3). These data will be useful to monitor as future migration patterns into the state continue to evolve. These data may have a substantial impact on overall HIV/AIDS trends over time.

Table 10: HIV/AIDS, by origin, New Hampshire, 2000-2004

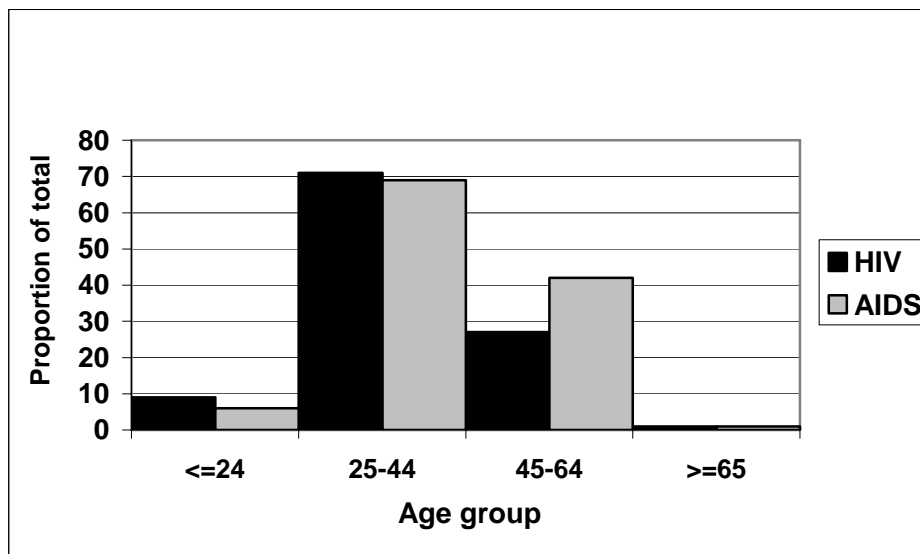
Origin	HIV (n = 144)		AIDS (n = 178)	
	Count	Percent, %	Count	Percent, %
US Born/US Dependency	114	79	141	79
Foreign Born	28	19	32	18
Unknown	2	1	5	3
Total	144	100	178	100

Source: New Hampshire HIV/AIDS Reporting System (HARS) database

HIV/AIDS BY AGE DISTRIBUTION, 2000-2004

Figure 9 illustrates the number of HIV and AIDS cases by age group during 2000 – 2004. New Hampshire’s HIV/AIDS cases cluster in the 30-39 age range. Within this age range, HIV cases account for 42% of the total and AIDS cases account for 46% of the total. These data show that significant numbers of New Hampshire cases were exposed as adults, rather than as adolescents. For individuals age 24 years and younger, diagnosis is skewed towards HIV, with 9% of total HIV cases and 6% of total AIDS cases reported in this population. HIV data generally represent more recent HIV transmission (i.e. younger persons) and may provide a more accurate description of emerging trends in HIV transmission. Consistent with the notion that HIV transmission represents more recent infection, the proportion of AIDS cases age 45 – 64 is 42%, as compared to the proportion of HIV cases age 45 – 65, which is 27%.

Figure 9: HIV/AIDS age distribution, New Hampshire, 2000-2004



Source: New Hampshire HIV/AIDS Reporting System (HARS) database

HIV/AIDS IN 2004

A detailed summary of characteristics of persons diagnosed with AIDS in 2004 and persons living with AIDS at the end of 2004 are provided. (See Table 11) The majority of persons diagnosed with AIDS in New Hampshire were in the 30-39 year age group; however, closely following was the 40-49 year age group. Although individuals who are White accounted for 63% of the cases, Blacks accounted for 26% of the cases and Hispanics accounted for 8% of the cases.

Males continued to experience the greatest impact of AIDS in New Hampshire, accounting for 76% of the adult cases whereas 24% were female. This distribution is a significant change from data five years before. In 2000, 81% of AIDS cases were male and 19% were female. These data support the shift toward more women being diagnosed with AIDS.

By mode of exposure, 39% of AIDS cases were MSM, followed by 11% IDU and 13% attributed to heterosexual contact. The shift in mode of exposure may be due in part to the increase in cases among women, as discussed in a previous section. However, these data are new and a significant percentage of cases have not been reported with an identified risk (37%). These cases will likely be reclassified after epidemiologic follow-up is complete.

Table 11: Characteristics of persons diagnosed with and living with AIDS, New Hampshire, 2004

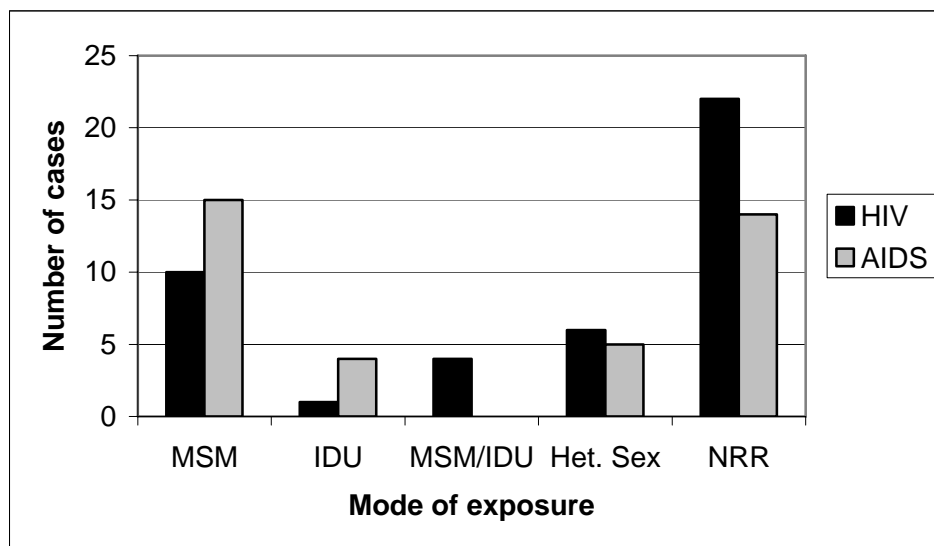
Characteristic	Reported AIDS 2004 ² (n = 38)		Persons living with AIDS, through 2004 ³ (n = 542)	
	Count	Percent, %	Count	Percent, %
GENDER				
Male	29	76	429	79
Female	9	24	113	21
AGE GROUP (YRS.)				
0-12	0	0	4	1
13-19	0	0	4	1
20-29	5	13	83	15
30-39	15	39	276	51
40-49	14	37	135	25
50 and older	4	11	40	7
RACE/ETHNICITY				
White (not Hispanic)	24	63	419	77
Black (not Hispanic)	10	26	63	12
Legacy Asian/Pacific Islander	1	3	3	1
American Indian/Alaskan Native	0	0	2	0
Multi-race	0	0	1	0
Hispanic (All races)	3	8	54	10
MODE OF EXPOSURE-ADULT				
Men who have sex with men (MSM)	15	39	237	44
Injecting drug use (IDU)	4	11	110	20
MSM/IDU	0	0	28	5
Heterosexual contact	5	13	62	11
Hemophilia/coagulation disorder	0	0	8	1
Receipt of blood transfusion, components, or tissue	0	0	8	1
Risk not reported or identified	14	37	84	16
TOTAL ADULT CASES	38	100	537	*100
MODE OF EXPOSURE –PEDIATRIC⁵				
Hemophilia/coagulation disorder	0	0	1	20
Mother w/at risk for HIV infection	0	0	4	80
Receipt of blood transfusion, components, or tissue	0	0	0	0
Risk not reported or identified	0	0	0	0
Total Pediatric cases	0	0	5	100
Total cases	38	100	542	100

Source: New Hampshire HIV/AIDS Reporting System (HARS) database

Note: Total percents may not equal 100 due to rounding.

HIV cases reported in 2004 revealed similar trends. A comparison of mode of exposure is included for HIV and AIDS in the most recently available time period. (See Figure 10) This comparison of 2004 data by mode of exposure may be useful to identify emerging populations at risk for HIV infection.

Figure 10: HIV/AIDS adult cases by mode of exposure, New Hampshire, 2004



Source: New Hampshire HIV/AIDS Reporting System (HARS) database

Any case where risk information is unknown is classified as “no risk reported” or NRR. Of the NRR cases in 2004, 9 were males and 13 cases were females. 15 AIDS cases and 10 HIV cases were among MSM. For heterosexual contact, AIDS accounted for 5 cases and HIV for 6 cases. Of the heterosexual cases, one was male and five were female. In the IDU category, two AIDS cases were male and two were female; there was one male HIV case reported. Not included in the chart is one female who received blood, components, or tissue.

The predominant exposure category for both HIV and AIDS cases reported in 2004 was MSM. The second most predominant exposure category was heterosexual contact. In 2004, 11 HIV and AIDS case reports identified heterosexual contact with a person with, or at increased risk for, HIV infection as the mode of transmission.

GEOGRAPHIC DISTRIBUTION, HIV/AIDS IN 2004

HIV and AIDS cases reported in 2004 were distributed throughout New Hampshire’s ten counties. (See Table 12) The majority of newly diagnosed cases have been reported in the RWCA Title I Boston EMA region. In 2004, the RWCA Title I Boston EMA region accounted for 64% of the HIV/AIDS cases in New Hampshire. It is important to note that these data correspond to residence at time of report to HARS and include both HIV and AIDS cases reported in 2004. These numbers may underestimate the true absolute number of disease.

Table 12: Persons reported with HIV/AIDS, by county, New Hampshire, 2004

County	Count	Percent, %
Belknap	6	7
Carroll	2	2
Cheshire	3	4
Coos	1	1
Grafton	3	4
Hillsborough	35	42
Merrimack	13	16
Rockingham	12	14
Strafford	6	7
Sullivan	2	2
Total	83	*100

Source: New Hampshire HIV/AIDS Reporting System (HARS) database

Note: Total percents may not equal 100 due to rounding.

PREVALENT HIV/AIDS CASES

As of December 2004, case reports indicated that 542 persons were living with AIDS in the State of NH. These data reveal that the prevalence of AIDS occurred primarily in the southeastern region of the state. Although, every geographic region of the State reported AIDS cases, the majority of people living with AIDS (PLWA) resided within the RWCA Title I Boston EMA. (See Table 13) This region collectively accounted for 68% of PLWA in New Hampshire. Although 30.8% of New Hampshire's population resides in Hillsborough County, 42% of the State's cases of HIV and AIDS reside there.

Table 13: Persons living with AIDS by county, as of December 2004

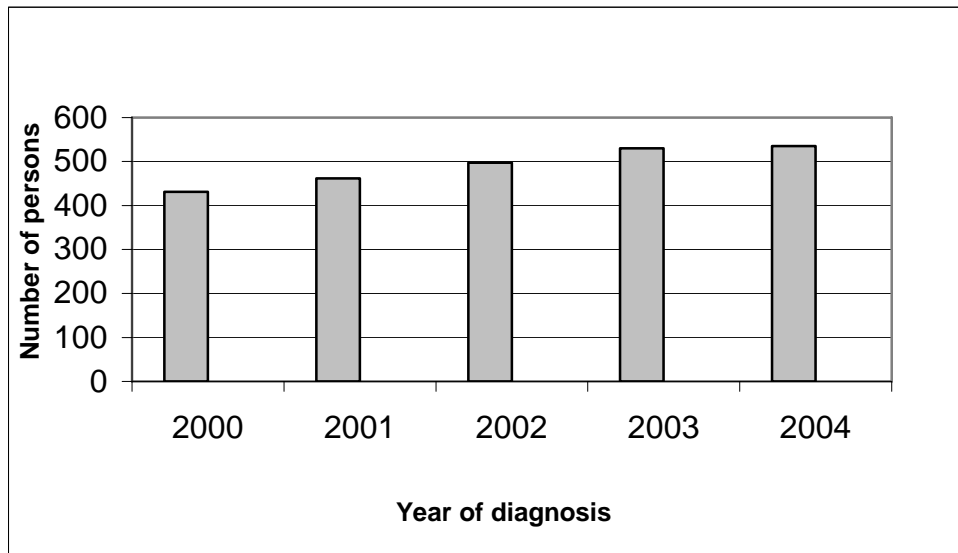
County	Count	Percent, %
Belknap	23	4
Carroll	13	2
Cheshire	28	5
Coos	6	1
Grafton	29	5
Hillsborough	221	41
Merrimack	58	11
Rockingham	110	20
Strafford	39	7
Sullivan	14	3
Unknown	1	<1
Total	542	*100

Source: New Hampshire HIV/AIDS Reporting System (HARS) database

Note: Total percents may not equal 100 due to rounding.

As newly reported AIDS cases have increased, similarly, the number of persons living with AIDS (PLWA) has steadily increased in the past five years. (See Figure 11) As of December 2004, a total of 542 persons were presumed to be living with AIDS in New Hampshire, as compared to 411 persons in 2000. In addition, a total of 428 persons were diagnosed and living with HIV infection. The observed increase in persons living with AIDS is largely attributed to effective drug treatments, which delay progression from AIDS to death^{xvi}.

Figure 11: Persons living with AIDS, New Hampshire, 2000-2004



Source: New Hampshire HIV/AIDS Reporting System (HARS) database

HIV PREVALENCE

Prevalence is the total number of cases at a certain point of time. However, it is not possible to measure HIV prevalence in New Hampshire simply by counting the number of previously and newly diagnosed individuals in HARS for several reasons. The first reason is that not every individual who is living with HIV knows that they are infected with the virus. Also, prior to January 1, 2005, there was no defined reporting mechanism for HIV infection; cases could be reported confidentially by name or anonymously. However, cases that were reported anonymously who did not subsequently access medical care were not included in HARS. Therefore, if those individuals tested anonymously and had unmet need, they may be missing from the population estimate in HARS.

The Centers for Disease Control and Prevention (CDC) provided an extrapolation method using AIDS data to measure HIV prevalence.⁸ The method involves dividing the total number of individuals known to be living with AIDS in New Hampshire by the total number of individuals known to be living with AIDS in the entire United States. The result of this calculation is then multiplied by the upper and lower bounds of the estimated number of all individuals living with HIV in the United States. (See Table 14)

Table 14: Calculation of HIV/ AIDS prevalence in New Hampshire, 2003

Measure	Calculation	Result
Total number of individuals <u>known</u> to be living with AIDS in New Hampshire, as of December 31, 2003	N/A	500
Total number of individuals <u>known</u> to be living with AIDS in United States, as of December 31, 2003 ^{xvii}	N/A	405,926
Ratio of NH AIDS cases to US AIDS cases	500/ 405,926	0.0012
Lower bound of individuals <u>estimated</u> to be living with HIV in United States, as of December 31, 2003 ^{xviii}	N/A	1,039,000
Ratio of NH AIDS cases to US AIDS cases multiplied by the lower bound	0.0012*1,039,000	1,247
Upper bound of individuals <u>estimated</u> to be living with HIV in United States, as of December 31, 2003 ^{xix}	N/A	1,185,000
Ratio of NH AIDS cases to US AIDS cases multiplied by the upper bound	0.0012*1,185,000	1,422
Estimated HIV prevalence in New Hampshire, 2003	N/A	1,247/ 1,251,572 – 1,422/ 1,251,572

Source: New Hampshire HIV/AIDS Reporting System (HARS) database and Glynn, M., Rhodes, P., *Estimated HIV prevalence in the United States at the end of 2003*. National HIV Prevention Conference; June 2005; Atlanta, Abstract 595.

As of December 31, 2003, there were 1,004 individuals living with HIV/ AIDS in New Hampshire. According to the prevalence estimate, the estimated rate of HIV infection was between 100/100,000 and 114/100,000. Therefore, based upon the prevalence estimate and the known number of HIV and AIDS cases as of December 31, 2003, one can infer that anywhere between 24% and 42% of individuals with HIV/ AIDS and residing in New Hampshire are unaware of their HIV infection. Nationally, the CDC estimates that between 24 - 27% of individuals who are infected with HIV/ AIDS are unaware of their infection.^{xx} The prevalence estimate can be useful to provide health care planners and educators information on the burden of HIV disease.

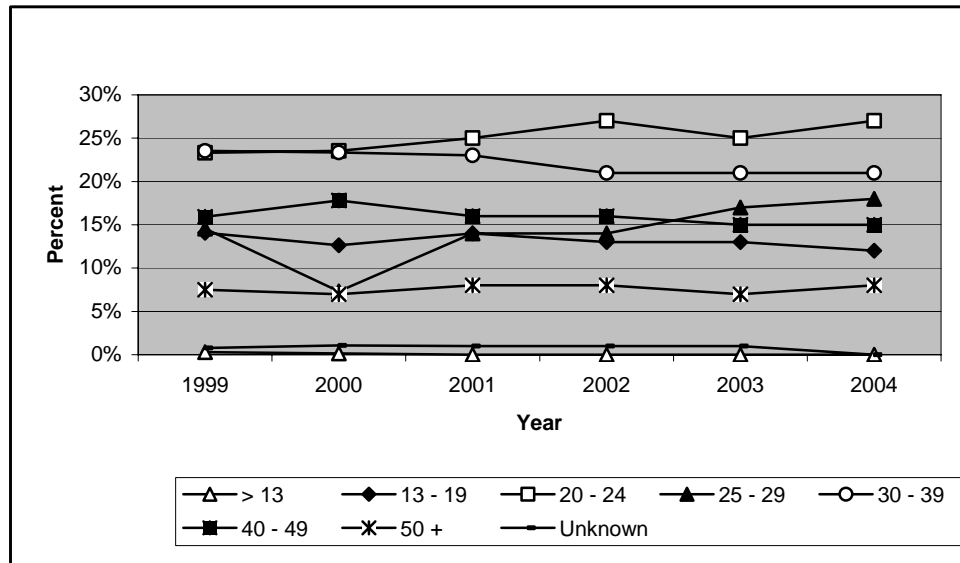
PUBLICLY FUNDED COUNSELING AND TESTING

The New Hampshire STD/ HIV Section funds 22 clinics and four AIDS Service Organizations (ASOs) across the state to provide free or reduced price HIV tests. Analysis of the data collected during HIV counseling, testing and referral (CTR) provides an overview of the demographic and behavioral characteristics of individuals being tested at publicly funded sites. Because data is collected each time an individual has an HIV test and duplicates cannot be removed during analysis, this data does not show the number of people tested. Therefore, the presence of repeat testers can skew the data. In 2004, 3,356 HIV tests were done publicly funded sites.

Between 2000 and 2004, a total of 16,240 HIV tests were performed. Of the 16,240 tests completed over the past five years, 1% of the tests have yielded a positive result. This could potentially include repeat testers.

Between 2000 and 2004, a greater proportion of tests were performed for males as compared to females. Furthermore, almost half of the tests were performed for individuals between the ages of 20 to 24 or the ages of 30 to 39. Over these five years, it appears that the proportion of tests performed for individuals age 20 to 24 has increased, while the number of tests performed for individuals age 30 to 39 decreased until 2002 and then remained stable. Additionally, the number of tests done for individuals age 25 to 29 has increased over the past five years, after reaching a five-year low in 2000. The proportion of tests performed for other age groups remained relatively stable. (See Figure 12)

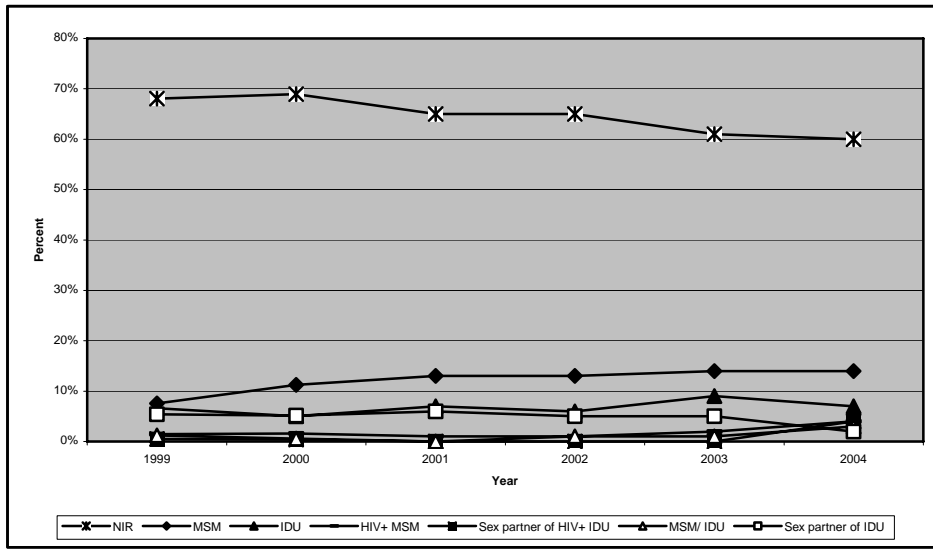
Figure 12: Trend in age group according to CTR sheets, New Hampshire, 2000 - 2004



Source: HIV Prevention Program

Over this five-year period, over 80% of the HIV tests performed were for individuals who were White. The proportion of tests completed for Hispanic individuals seemed to be increasing through 2003 and stabilized in 2004, with just fewer than 10% of the HIV tests being performed for individuals who were Hispanic. According to counseling and testing data, the proportion of HIV tests being performed for MSM, including MSM/ IDU, increased over the past five years from 12% of tests in 2000 to 17% of tests in 2004. The number of tests being completed for injection drug users (IDU) remained stable. Finally, 60% or more of the tests performed between 2000 and 2004 were for individuals who had no identified risk (NIR) for a potential mode of exposure for HIV. Since 2000, there has been a steady decline in the number of tests completed for individuals who tested with no identified risk. (See Figure 13) This was likely a result of continued emphasis on targeted testing.

Figure 13: Trend in risk according to CTR sheets, New Hampshire, 2000 - 2004



Source: HIV Prevention Program

**QUESTION 3: WHAT ARE THE INDICATORS OF RISK FOR HIV INFECTION AND AIDS IN
NEW HAMPSHIRE?**

RISK BEHAVIOR FOR THE GENERAL POPULATION

Direct Measures

The Behavioral Risk Factor Surveillance System (BRFSS) is a survey designed to ask adults 18 and older about their health behaviors. The BRFSS is done by telephone once per year in New Hampshire and nationally. Surveyers select participants randomly and administer the survey anonymously. The New Hampshire sample excludes individuals without phones and those who speak a language other than English.

In 2004, survey respondents between the ages of 18 and 64 responded to two questions related to their knowledge of HIV transmission and treatment. Approximately half of respondents stated that they believed it was true that a pregnant women infected with HIV could get treatment to reduce the chances she will pass HIV on to her baby. Female respondents and respondents that reported having graduated college or technical school were significantly more likely to respond that the statement was true. (See Table 15) The responses did not differ significantly by income or age group. Research has shown that perinatal transmission of HIV can be decreased to less than 2% with a combination of antiretroviral therapy and cesarean section.^{xxi}

Table 15: Knowledge that medical interventions exist to prevent perinatal HIV transmission, by selected demographic characteristics, New Hampshire adults age 18 - 64, 2004

Characteristics	Yes, Medical Intervention Exists			Total Respondents	
	Count	Percent, %	95% CI	Count	Percent, %
Adults aged 18 – 64 years	2131	54.5	52.6 – 56.3	3863	100
GENDER					
Male	812	50.3	47.4 – 53.1	1630	100
Female	1319	58.6	56.2 – 61.0	2233	100
EDUCATION					
Did not graduate high school	95	41.7	33.8 – 49.6	217	100
Graduated high school	495	47.9	44.3 – 51.5	1051	100
Attended college or technical school	547	54.4	50.6 – 58.1	998	100
Graduated college or technical school	994	61.4	58.6 – 64.1	1607	100

Source: NH BRFSS, 2004

92.1% of survey respondents stated that they believed it was true that there are medical treatments available that are intended to help a person who is infected with HIV infection to live longer. Respondents with an income of greater than \$50,000 were more significantly more likely to believe this statement was true than respondents who earned less than \$35,000. Respondents that had graduated college or technical school were also significantly more likely to agree with this statement as compared to respondents that did not graduate from high school or had a high school diploma. (See Table 16)

Table 16: Knowledge that medical interventions are available that are intended to help an HIV infected person live longer, by selected demographic characteristics, New Hampshire adults age 18 - 64, 2004

Characteristics	Yes, Medical Interventions Exist			Total Respondents	
	Count	Percent, %	95% CI	Count	Percent, %
Adults aged 18 – 64 years	3568	92.1	91.1 – 93.1	3868	100
INCOME					
Less than \$14,999	192	87.6	82.4 – 92.8	219	100
\$15,000 - \$24,999	323	87.1	83.4 – 90.8	376	100
\$25,000 – \$34,999	330	87.6	82.7 – 92.4	369	100
\$35,000 - \$49,999	571	92.3	89.7 – 95.0	611	100
\$50,000 or more	1843	95.2	94.1 – 96.3	1929	100
EDUCATION					
Did not graduate high school	171	81.4	75.6 – 87.1	218	100
Graduated high school	914	86.6	84.1 – 89.2	1053	100
Attended college or technical school	933	94.6	93.1 – 96.2	989	100
Graduated college or technical school	1549	96.2	95.0 – 97.3	1607	100

Source: NH BRFSS, 2004

Just over 40% of surveyed New Hampshire adults age 18 – 64 reported ever having been tested for HIV, excluding tests done in conjunction with blood donations. Significantly more 25 – 34 year olds reported and significantly fewer 55 – 65 year olds reported ever having an HIV test as compared to other age group. (See Table 17). Of the individuals who reported ever having had an HIV test, just over 70% reported that they did not have an HIV test during the previous 12 months. Half of the respondents reported that their last HIV test was more than 4 years ago. Significantly more respondents age 18 – 34 reported having 1 HIV test during the past 12 months. (See Table 18).

Table 17: Receipt of HIV test, excluding tests done as part of blood donation, by selected demographic characteristics, New Hampshire adults age 18 - 64, 2004

Characteristics	Yes, Tested for HIV			Total Respondents	
	Count	Percent, %	95% CI	Count	Percent, %
Adults aged 18 – 64 years	1564	41.3	39.5 – 43.2	3857	100
AGE GROUP					
18 – 24	100	41.1	34.2 – 48.0	231	100
25 – 34	390	61.9	57.6 – 66.2	608	100
35 – 44	503	48.5	45.1 – 51.9	1011	100
45 – 54	385	30.3	27.4 – 33.2	1147	100
55 – 64	186	21.6	18.5 – 24.7	860	100

Source: NH BRFSS, 2004

Table 18: Number of HIV tests in the past 12 months, excluding tests done as part of blood donation, by selected demographic characteristics, New Hampshire adults age 18 - 64, 2004

Characteristics	Yes, Tested 1 time for HIV			Yes, Tested 2 or more times for HIV		
	Count	Percent, %	95% CI	Count	Percent, %	95% CI
Adults aged 18 – 64 years	333	24.3	21.6 – 27.0	54	4.4	3.0 – 5.7
AGE GROUP						
18 – 34	166	37.7	32.5 – 42.8	24	5.7	3.3 – 8.2
35 – 44	79	14.4	11.2 – 17.7	14	3.8	1.4 – 6.1
45 – 54	62	15.8	11.7 – 19.9	11	2.7	1.0 – 4.5
55 – 64	26	11.9	7.1 – 16.7	5	3.2	0.2 – 6.2

Source: NH BRFSS, 2004

According to the respondents, the most common reasons for having their HIV test were that they were pregnant, they wanted to know whether they were infected with HIV, the test was required, or the test was done as part of a routine medical check-up. Respondent's main reason for their last HIV test differed by sex, with significantly more men reporting that they had an HIV test to find out whether they had HIV or that the test was done as part of a routine medical check-up. (See Table 19). Individuals that reported having received an HIV test reported that their last test was most commonly done at their private doctor's office or Health Management Office (HMO). Females were significantly more likely to report that their last test was done at their private doctor's office or HMO. (See Table 20).

Table 19: Main reason for last HIV test, excluding tests done as part of blood donation, by sex, New Hampshire adults age 18 - 64, 2004

Main Reason for Last HIV Test	Male			Female		
	Count	Percent, %	95% CI	Count	Percent, %	95% CI
It was required	159	25.0	21.2 – 28.8	157	16.4	13.7 – 19.0
Someone suggested you should be tested	19	3.1	1.4 – 4.8	29	3.6	2.1 – 5.2
You thought you may have gotten HIV through sex or drug use	21	3.0	1.4 – 4.5	25	2.2	1.3 – 3.2
You just wanted to find out whether you had HIV	125	23.9	19.5 – 28.2	137	13.9	11.3 – 16.4
You were worried that you could give HIV to someone	5	0.4	0.0 – 0.9	1	0.1	0.0 – 0.2
You were pregnant	N/A	N/A	N/A	235	28.7	25.3 – 32.1
It was done as part of a routine medical check-up	195	29.8	25.6 – 34.0	164	17.6	14.7 – 20.4
Some other reason	89	14.8	11.4 – 18.2	180	17.5	14.9 – 20.1

Source: NH BRFSS, 2004

Table 20: Site of last HIV test, excluding tests done as part of blood donation, by sex, New Hampshire adults age 18 - 64, 2004

Main Reason for Last HIV Test	Male			Female		
	Count	Percent, %	95% CI	Count	Percent, %	95% CI
Private doctor or HMO	255	39.8	35.3 – 44.4	455	50.6	46.9 – 54.3
Counseling and testing site	13	2.6	0.8 – 4.4	17	1.5	0.7 – 2.2
Hospital	131	20.8	17.1 – 24.5	165	17.6	14.8 – 20.4
Clinic	88	17.1	13.0 – 20.1	160	17.9	15.0 – 20.8
In a jail or prison	3	0.7	0.0 – 1.7	1	0.1	0.0 – 0.3
Drug treatment facility	2	0.7	0.0 – 1.6	3	0.2	0.0 – 0.4
At home	48	6.9	4.8 – 9.1	73	6.9	5.2 – 8.6
Somewhere else	68	11.4	8.5 – 14.2	49	5.2	3.5 – 6.9

Source: NH BRFSS, 2004

Overall, only 3% of the respondents stated that they one or more of the following risks for HIV transmission: used injection drugs, treated for a sexually transmitted disease, given or received money or drugs in exchange for sex, and/ or had anal sex without a condom in the past year. Individuals age 55 – 64 years reported significantly less risk. (See Table 21) Otherwise, risk did not differ by sex, education or age.

Table 21: Risk behavior related to HIV transmission in the past 12 months, by selected demographic characteristics, New Hampshire adults age 18 - 64, 2004

Characteristics	Yes, Risk for HIV transmission in last 12 months			Total Respondents	
	Count	Percent, %	95% CI	Count	Percent, %
Total	103	2.9	2.3 – 3.6	3845	100
AGE					
18 – 24	22	8.2	4.6 – 11.7	228	100
25 – 34	21	3.4	1.8 – 5.0	608	100
35 – 44	30	2.3	1.4 – 3.3	1008	100
45 – 54	25	1.9	1.1 – 2.6	1144	100
55 – 64	5	0.5	0.0 – 0.9	857	100

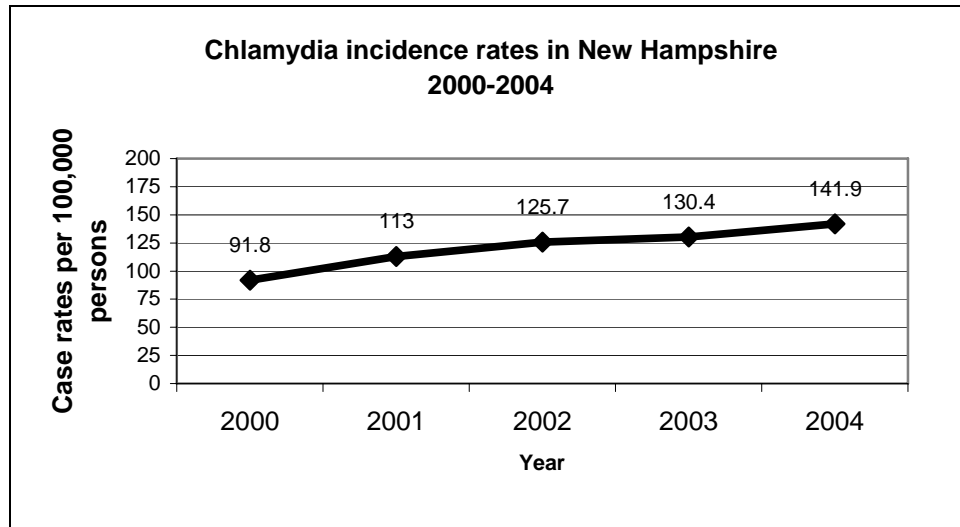
Source: NH BRFSS, 2004

Indirect Measures

Data from Communicable Disease Surveillance Section (CDSS) provide an indirect measure of risk behavior. The CDSS maintains a surveillance system for bacterial sexually transmitted diseases, specifically syphilis, chlamydia and gonorrhea. Although increases in STD incidence in specific populations do not directly indicate risk for HIV, these data may be helpful in describing risk behaviors that may put an individual at risk for acquiring or transmitting HIV. Sexually transmitted disease data are collected through reporting from laboratories that test for STDs and from local and out-of-state healthcare providers who diagnose and treat STDs in New Hampshire residents.

Chlamydia incidence has increased significantly in recent years. (See Figure 14) The overall crude incidence rate increased from 91.8/100,000 persons in 2000 to 141.9/100,000 persons in 2004. This increase is thought to be due, partially, to enhanced screening of adolescents and young adults, as well as improvements in testing technology and methodology.

Figure 14: Chlamydia incidence rates in New Hampshire, 2000-2004



Source: New Hampshire Sexually Transmitted Disease Management System (STD*MIS) database.

The incidence of gonorrhea in New Hampshire has remained relatively stable in recent years. Unlike chlamydia, the gonorrheal infection rates in males and females have been comparable. In 2004, the rate of gonorrheal infection was 13/100,00 for males and 9/100,000 for females. In 2000, 27% of cases were among persons 15 to 19 years and in 2004, 22% of cases were in this age group. Likewise, persons 20 to 24 years accounted for 48% of the total cases in 1999 and 26% of the cases in 2003.

RISK BEHAVIOR FOR MEN WHO HAVE SEX WITH MEN (MSM)

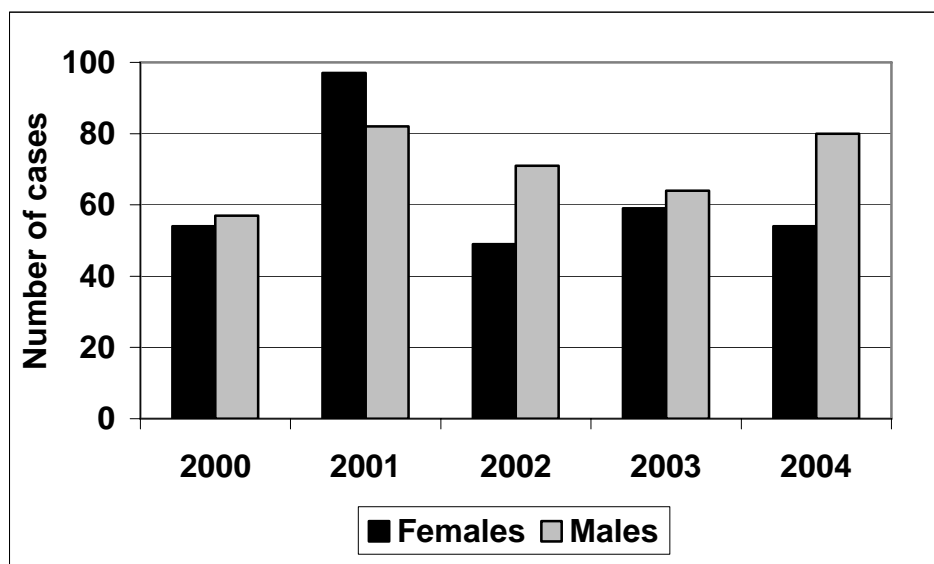
Direct Measures

Extensive data on risk behaviors for MSM is not available in New Hampshire. Currently, there are no populations based surveys that regularly collect data that would provide additional direct information of risk behavior in this population.

Indirect Measures

In New Hampshire, the overall incidence rate of gonorrhea infection has remained relatively stable in the past five years. An increase in the total gonorrhea cases was observed in 2001, which was due to a cluster of cases in that year. Historically, the distribution of gonorrhea by sex has been comparable in New Hampshire. However, in 2004 the proportion of male cases was slightly higher than those of females. (See Figure 15) Recent data showed that males accounted for slightly more than half of all cases, 52% in 2003 and 60% in 2004 as compared to 51% in 2000.

Figure 15: Gonorrhea cases, by sex and year of report, New Hampshire, 2000-2004



Source: New Hampshire Sexually Transmitted Disease Management System (STD*MIS) database

In 2004, the Communicable Disease Surveillance Section (CDSS) implemented collection of risk behavior with routine syphilis and gonorrhea case surveillance. This effort was in response to national data suggesting trends toward an increased incidence of gonorrhea and syphilis, particularly among men who have sex with men. Although these risk behavior data are most reliably determined through client interview, the collection of mode of exposure at report has enhanced the state's ability to monitor emerging patterns of STD transmission as well as raised awareness to healthcare providers about high-risk sexual behaviors in certain populations.

When comparing data by mode of exposure, the surveillance data reveal that of the 80 male cases of gonorrhea infection in 2004, 38% were MSM or bisexual males. And in 2003, of the 64 male cases of gonorrhea infection, 41% were MSM or bisexual males. A detailed summary of mode of exposure for male gonorrhea infection for 2003-2004 is included below. (See Table 22) Although these data are concerning and suggest a trend toward high-risk behavior among men, they should be interpreted with caution as not all cases have complete mode of exposure information. These cases may be incomplete due, in part, to healthcare provider not having this information or due to client interview activity that did not identify specific risk behaviors.

Table 22: Gonorrhea cases, by mode of exposure, New Hampshire, 2003-2004

Year	Number cases	Number males	Number MSM	Number of Bisexual	Number of Heterosexual	Number Unknown
2003	123	64	20	6	8	30
2004	134	80	51	5	24	9

Source: Communicable Disease Surveillance Section

The primary and secondary stages of syphilis are the most infectious. Between 1995 and 2001, seven cases of primary and secondary syphilis were reported to Communicable Disease Surveillance. In 2003, New Hampshire observed a large increase in primary and secondary syphilis when 19 cases were reported to the CDSS. In 2004, the reported cases decreased to five. During the most recent two years of data, the majority of cases have been among men who have sex with men (MSM) or bisexual males. Of the 24

cases reported between 2003 and 2004, 96%, or 23, were diagnosed in MSM and 21%, or five, were co-infected with HIV. (See Table 23) These data suggest unsafe sexual practices in high-risk males.

Table 23: Primary and secondary syphilis, by mode of exposure, New Hampshire, 2003-2004

Year	Number cases	Number males	Number MSM/Bisexual	Number HIV positive
2003	19	19	18	4
2004	5	5	5	1

Source: Communicable Disease Surveillance Section

RISK BEHAVIOR FOR INJECTION DRUG USERS (IDU)

Direct Measures

Extensive data on risk behaviors for IDU are not available in New Hampshire. However, the National Surveys of Drug Use and Health (NSDUH) provide an estimate of the percent of the population twelve years or older that have used illicit drugs other than marijuana. NSDUH estimates that 3.7% of people age 12 and older had past month used an illicit drug other than marijuana in the US between 2002 – 2003.^{xxii} In NH, the average of the 2002 – 2003 estimates was 4.05% (95% CI: 3.36 – 4.88). In NH, the age group with the highest estimated past month use of illicit drugs other than marijuana was individuals between the ages of 18 – 25, at 11.7%. (95% CI: 9.62 – 14.20). The next highest age group was individuals age 12 – 17, at 6.2% (95% CI: 4.84 – 7.93). For the population age 26 and older, the estimate was 2.57% (95% CI: 1.87 – 3.52).^{xxiii} Although injection drug use is expected to be only a percentage of this total number, it is the best estimate of IDU behavior available at this time.

Indirect Measures

At this time, there are no indirect measures of injection drug use to include in the IEP.

RISK BEHAVIOR FOR HIGH-RISK HETEROSEXUALS

Direct Measures

An individual who is high-risk for heterosexual HIV transmission is someone who is having or has had sexual intercourse with an HIV positive individual, a MSM, an IDU or a partner who has traded sex for drugs or money. Currently, New Hampshire does not have a direct measure of risk behavior among this population.

Indirect Measures

Currently, New Hampshire does not have an indirect measure of risk behavior among the high-risk heterosexual population.

RISK BEHAVIOR FOR YOUTH

Direct Measures

The Youth Risk Behavior Surveillance System (YRBSS) is an anonymous paper and pencil survey that is administered every other year to a sample of New Hampshire students enrolled in grades 9 through 12.¹ In New Hampshire, statistically representative samples were achieved in 1993, 1995, and 2003. Statistically representative samples were not achieved in New Hampshire in 1997 and 2001. Students who are not enrolled in school or students who are absent on the day of survey administration are not included in the sample. On the YRBSS, specific series of questions pertain to sexual behaviors and drug and alcohol use. Comparisons can be made between NH student responses in 1993 and 2003 and between NH student responses and a representative sample of students across the country in 2003.

When the responses of NH students in 2003 were compared to the responses of NH students in 1993, significantly fewer students reported ever having sexual intercourse². Also, significantly fewer students reported ever having sexual intercourse with four or more people during their life. Finally, significantly fewer students reported having sexual intercourse with one or more people during the past three months. This data indicates an increase in behaviors that can protect against HIV infection such as delayed onset of sexual intercourse and limiting the number of sexual partners.

However, the responses of the NH students in 2003 compared to the responses of NH students in 1993 also revealed significantly fewer NH students who reported ever being taught about HIV or AIDS in school. Moreover, similar proportions of students reported using alcohol or drugs before their last sexual intercourse during the past three months in both 1993 and 2003. Moreover, similar proportions of students reported using condoms during their last sexual intercourse during the past three months in both 1993 and 2003. This data indicates that there may be a need to increase education concerning HIV and AIDS in schools. Additionally the data indicates that there is an opportunity to increase protective behaviors related to the use of drugs and alcohol and condom use.

¹ Statistically representative samples were obtained in 1993, 1995 and 2003. In 1997, 1999, and 2001, data was collected but the sample was not considered statistically representative.

² Comparisons are considered significant if the p-value of the test statistic is less than or equal to 0.05.

Table 24: The proportion of students responding positively to behavioral measures related to HIV risk in New Hampshire on the YRBSS, 1993 and 2003.

Measure	Percent responding, 1993	95% CI	Percent responding, 2003	95% CI	Significant?
Percent of students who had sexual intercourse.	54.3	51.1 - 57.5	41.5	36.6 - 46.4	Yes, decreased
Percent of students who had sexual intercourse with four or more people during their life.	15.9	14.1 - 17.7	10.0	8.3 - 11.7	Yes, decreased
Percent of students who had sexual intercourse with one or more people during the past three months	37.2	34.5 - 39.9	31.1	26.6 - 35.6	Yes, decreased
Percent of students who had ever been taught about AIDS or HIV infection in school.	91.1	89.6 - 92.6	88.6	86.9 - 90.3	Yes, decreased
Of students who had sexual intercourse during the past three months, the percent who drank alcohol or used drugs before last sexual intercourse.	21.9	18.8 - 25.0	21.6	18.0 - 25.2	No
Of students who had sexual intercourse during the past three months, the percent who used a condom during last sexual intercourse.	51.1	47.4 - 54.8	56.4	50.4 - 62.4	No

Source: YRBSS: Youth Online Comprehensive Results. Centers for Disease Control and Prevention. <http://apps.nccd.cdc.gov/yrbss>

New Hampshire student responses to the YRBSS survey in 2003 are comparable to the nationally representative sample from 2003. Although absolute proportions of New Hampshire students responding to the measures were smaller than the national sample, no significant difference was found for most measures including percent who ever had sexual intercourse, percent that had had sexual intercourse with one or more people during the past three months and percent that used a condom during last sexual intercourse during the past three months. However, comparison of the data also shows that significantly fewer New Hampshire students responded that they had sexual intercourse with four or more people during their life as compared to the national sample. In 2003, a measure was included that asked students if they had ever used a needle to inject an illegal drug into their body. The proportion of students who reported ever using a needle to inject an illegal drug into their body was similar in the New Hampshire and national samples.

Table 25: The proportion of students responding positively to behavioral measures related to HIV risk in New Hampshire and the United States on the YRBSS, 2003.

Measure	Percent Responding, NH, 2003	95% CI	Percent Responding, US, 2003	95% CI	Significant?
Percent of students who had sexual intercourse.	41.5	36.6 - 46.4	46.7	44.1 - 49.3	No
Percent of students who had sexual intercourse with four or more people during their life.	10.0	8.3 - 11.7	14.4	12.8- 16.0	Yes, fewer
Percent of students who had sexual intercourse with one or more people during the past three months	31.1	26.6 - 35.6	34.3	32.2 - 36.4	No
Percent of students who had ever been taught about AIDS or HIV infection in school.	88.6	86.9 - 90.3	87.9	86.0 - 89.8	No
Of students who had sexual intercourse during the past three months, the percent that drank alcohol or used drugs before last sexual intercourse.	21.6	18.0 - 25.2	25.4	23.1 - 27.7	No
Of students who had sexual intercourse during the past three months, the percent who used a condom during last sexual intercourse.	56.4	50.4 - 62.4	63.0	60.5 - 64.5	No
Percent of students who used a needle to inject any illegal drug into their body one or more times during their life.	1.8	1.0 - 2.6	3.2	2.0 - 4.4	No

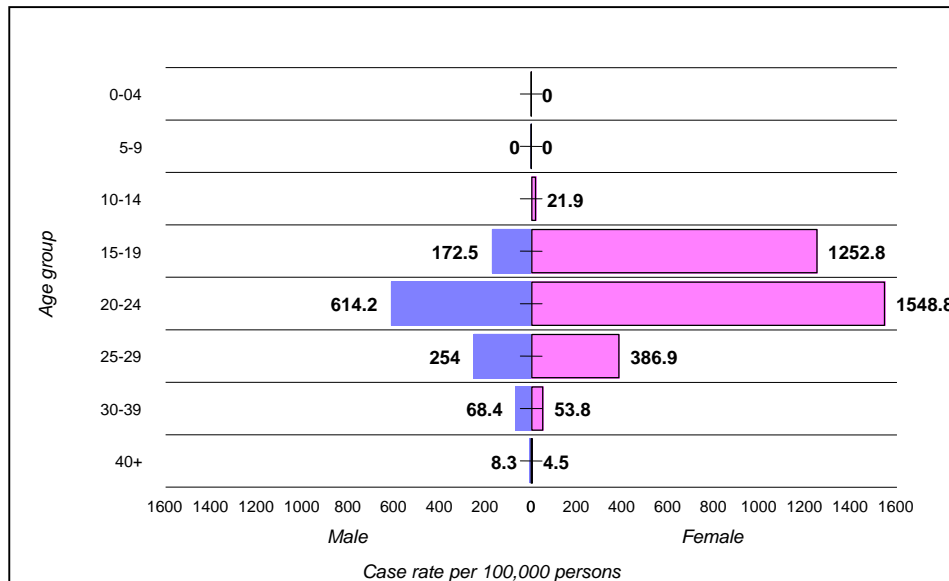
Source: YRBSS: Youth Online Comprehensive Results. Centers for Disease Control and Prevention.
<http://apps.nccd.cdc.gov.yrbss>

Indirect Measures

While the YRBSS is a direct, population based measure of risk behaviors related to HIV transmission among youth, sexually transmitted disease (STD) surveillance provides an indirect method of measuring risk behavior among youth. In the time period between 2000 and 2004, the proportion of chlamydia cases among persons 15 to 19 years of age decreased. In 2000, 40% of cases were among youth aged 15 to 19 as compared to 2004, when 35% of the cases were in this age group. These data may suggest that young persons may delay the onset of sexual activity until later or that they are using measures to protect themselves from STDs. The data show an increase among chlamydia infection for persons 20 to 24 years old in the same time period, accounting for 38% of the cases in 2000 and 42% in 2004.

In 2004, the reported rate of chlamydial infection among females was approximately three times higher than the rate among males. The increase in chlamydia cases reflects the large number of females screened for chlamydia in the state. It is likely that, as a result of increased screening of females, that the corresponding incidence rate is more accurate than the male incidence rate. However, both the female and male incidence rates are likely an underestimate of the true incidence of chlamydia infection as a result of non-reporting of diagnosed cases and a lack of universal screening for the disease. The male incidence rate likely underestimates the true incidence. The corresponding rates by gender, not shown, are 204/100,000 females as compared to 77/100,000 males. In 2004, the highest age-specific rate per 100,000 persons was observed among females aged 20 to 24 years at a rate of 1082/100,000 persons as compared to females aged 15 to 19 years at a rate of 704/100,000 persons. (See Figure 16) Collectively, these age groups have historically accounted for the majority of chlamydial infections.

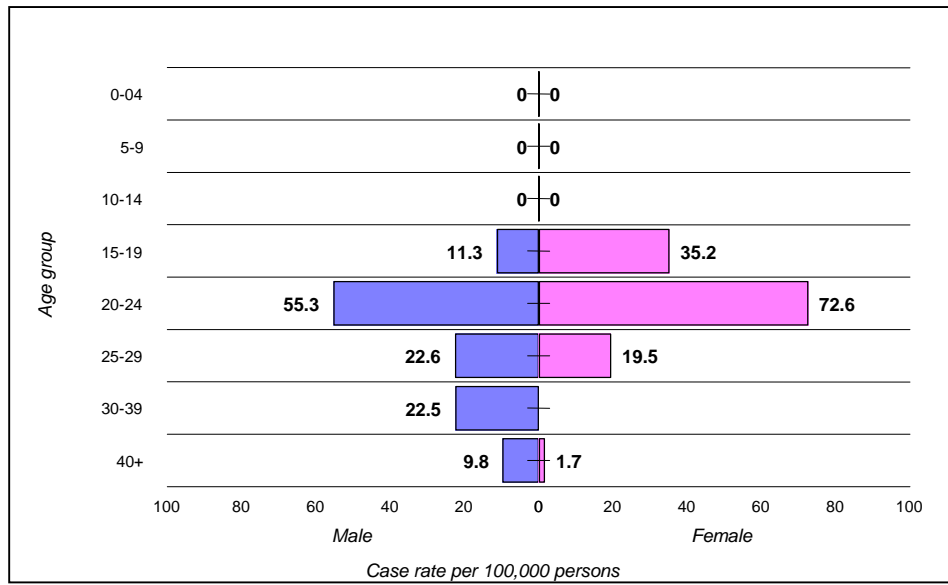
Figure 16: Chlamydia age-specific incidence rates, by gender, New Hampshire, 2004.



Source: Communicable Disease Surveillance Section.

For gonorrhea, the highest age-specific female incidence rate of 73/100,000 persons was observed among women 20 to 24 years of age. The highest age-specific male incidence rate of 55/100,000 persons was observed among the same 20 to 24 year age group. (See Figure 17) Gonorrhea incidence is higher among younger females, age 15 – 19, when compared to males of the same age groups. Gonorrhea incidence is higher among older males, age 25 and older, when compared to females of the same age groups. In general, the persons most affected by gonorrhea infection continue to be adolescents and young adults aged 15 to 24 years, although, a trend toward slightly older males has been observed in more recent data.

Figure 17: Gonorrhea age-specific incidence rates, by gender, New Hampshire, 2004



Source: Communicable Disease Surveillance Section

SECTION 2: RYAN WHITE CARE PROGRAM

QUESTION 1: WHAT ARE THE PATTERNS OF SERVICE UTILIZATION OF HIV-INFECTED PERSONS IN NEW HAMPSHIRE?

Congress authorized the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act in 1990 to provide medical care and medication to people living with HIV/ AIDS (PLWHA) who would not otherwise be able to afford them. In order to participate in the New Hampshire CARE Program during Calendar Year (CY) 2004, an individual had to be a resident of the state, have proof of HIV diagnosis or perinatal exposure, and an income less than 300% of the federal poverty level (FPL). As of October 2004, new clients enrolling to receive AIDS Drug Assistance Program (ADAP) benefits had to have a lowest documented CD4 count of 350 if they had not previously started on antiretroviral therapy (ART). Clients enrolled in ADAP prior to October 2004 were not impacted by this change.

The New Hampshire CARE Program is the “payer of last resort”; services are reserved for individuals who have no other way to finance their medical and other care related to HIV disease. People living with HIV/AIDS (PLWHA) in New Hampshire may also access their care through private insurance, Medicare, Medicaid, and the US Department of Veterans Affairs (VA).

Individuals enrolled in the New Hampshire CARE Program are a subset of individuals living with HIV/ AIDS in New Hampshire. Comparing demographic and other characteristics of CARE clients and PLWHA reported to the New Hampshire HIV/ AIDS Reporting System (HARS)³ allows for a comparison between CARE clients and the total reported New Hampshire HIV/ AIDS cases. However, it is important to note that some CARE clients may not be accounted for in HARS if they lived in another state when they were diagnosed with HIV or if their HIV test result was reported by code to HARS. On the other hand, some PLWHA reported to HARS may no longer live in NH and, therefore, are not eligible to participate in CARE. The comparison of the two data sets, although limited, is the best comparison available. (*See Table 26*)

As of December 31, 2004, the NH CARE Program had 410 clients and 965 cases of HIV and AIDS had been reported to HARS and were presumed to be living. Several conclusions can be made upon reviewing the comparison between these CARE clients and the cases reported to HARS. First, although the majority of CARE clients are males, a greater percent of females are enrolled in the CARE Program as compared to the percent of females reported to HARS as living with HIV/ AIDS. Also, CARE clients tend to be between the ages of 25 and 64. This corresponds with HARS, since most infection is reported among these age groups. A smaller percent of CARE clients are 24 years or younger and a larger percent are 45 to 65 years of age, than is reported in HARS. This may be related to the relationship between disease progression, the ability to work, and alternate means to pay for HIV medical care and treatment. Additionally, the majority of CARE clients are White. This corresponds with the fact that the majority of the population infected with HIV and reported to HARS is White, non-Hispanic. However, 12% of CARE clients are black and 11% are Hispanic/ Latino. Comparisons between CARE and HARS cannot be made because of differences in the way race and ethnicity data are collected in the two systems. Data

³ AIDS is name reportable in New Hampshire. HIV disease may be reported with or without a name or code. Data included in the comparison is all HIV cases reported by name and all AIDS cases. Cases reported by code were not included because they cannot be deduplicated.

on race and ethnicity is collected separately in the CARE database, while data on race and ethnicity is collected via a combined measure in HARS.

Finally, the majority of CARE clients report that their mode of exposure to HIV was either through heterosexual contact or male-to-male sex. The percent of CARE clients reporting heterosexual contact is much higher than the percent reported in HARS as having heterosexual contact as their mode of exposure. The percent of CARE clients who report no identified risk (NIR) or unknown mode of exposure is much less as compared to the percent of individuals reported in HARS as NIR/ unknown risk.

Table 26: Comparison of characteristics of CARE Act clients and those of persons with HIV/ AIDS reported to the HIV/ AIDS Surveillance System, New Hampshire, 2004

Characteristics	CARE Act clients, % (n=410)	Persons with HIV/ AIDS reported to NH HARS, % (n=965)
RACE⁴		
White	79	N/A
Black	12	N/A
Asian/ Pacific Islander	< 1	N/A
American Indian/ Alaska Native	1	N/A
More than one race	2	N/A
Unknown/ unreported	5	N/A
ETHNICITY		
Hispanic/ Latino	11	N/A
Not Hispanic/Latino	89	N/A
Unknown/ unreported	0	N/A
SEX		
Male	71	76
Female	28	24
Other/ Unknown/ Unreported	1	0
AGE GROUP		
≤ 24	3	9
25 – 44	63	77
45 – 64	33	13
≥ 65	1	1
Unknown/ Unreported	< 1	0

Source: The New Hampshire CARE Program and New Hampshire Communicable Disease Surveillance.

⁴ Data on race and ethnicity is collected separately in the CARE database. Data on race and ethnicity is collected via a combined measure in HARS.

Table 26: Comparison of characteristics of CARE Act clients and those of persons with HIV/ AIDS reported to the HIV/ AIDS Surveillance System, New Hampshire, 2004, continued

Characteristics	CARE Act clients, % (n=410)	Persons with HIV/ AIDS reported to NH HARS, % (n=965)
MODE OF EXPOSURE		
Men who have sex with men (MSM)	43	41
Intravenous drug use (IDU)	14	19
MSM/ IDU	4	5
Hemophilia/ Coagulation disorder	0	1
Heterosexual contact ⁵	34	13
Receipt of transfusion of blood, components, tissue	1	1
Mother with/ at risk for HIV infection	1	1
Other	3	0
NIR/ Unknown	0	19

Source: The New Hampshire CARE Program and New Hampshire Communicable Disease Surveillance.

The New Hampshire CARE Program receives funding from the United States Health Resources and Services Administration (HRSA) through Title I and Title II of the Ryan White CARE Act. Title I funds are allocated to the RWCA Title I Boston Eligible Metropolitan Area (EMA) and are administered by the Boston Public Health Commission (BPHC). As previously stated, the RWCA Title I Boston EMA includes New Hampshire's Hillsborough, Rockingham, and Strafford counties. The BPHC contracts with the New Hampshire STD/ HIV Section to pay for primary care medical visits and prescriptions for clients who reside within the EMA. Title II funds awarded directly to the New Hampshire STD/ HIV Section pay for prescriptions, primary care medical visits and case management services in the other seven New Hampshire counties, as well as for home/community based care and insurance continuation for the entire state.

The New Hampshire CARE Program is responsible for paying for primary care medical visits for CARE clients who reside within the EMA with Title I funds and primary care medical visits for CARE clients who reside outside the EMA with Title II funds. In 2004, 107 clients from the EMA had at least one primary care medical visit and the median number of primary care medical visits per CARE client residing in the EMA was 4.0. In 2004, 30 clients residing outside of the EMA had at least one primary care medical visit and the median number of visits was 2.5. Trend data is not available for this statistic.

Table 27: Units of primary medical care, Title I and Title II, 2004

	Title I	Title II
Average number of visits per client	5.3	3.9
Median number of visits per client	4.0	2.5
Range of visits per client	1 – 43	1 – 13

Source: New Hampshire CARE Program

New Hampshire CARE Program clients who reside in the Boston EMA can access case management services through AIDS Service Organizations (ASOs) that are funded directly by the BPHC. New

⁵ Heterosexual contact is defined as heterosexual contact with a MSM, IDU or an individual known to be infected with HIV. In the CARE data, it can also include heterosexual contact as a mode of exposure where no additional risk information is specified.

Hampshire CARE Program clients who reside outside of the EMA can have case management services paid for directly through the New Hampshire CARE Program. In 2004, 104 clients utilized this service and the median number of units for case management was 8.25. A unit is defined as 15 minutes of case management. Trend data is not available for this statistic.

Table 28: Units of case management, Title I and Title II, 2004

	Title I	Title II
Average number of visits per client	N/A	13.7
Median number of visits per client	N/A	8.3
Range of visits per client	N/A	0.25 – 182.3

Source: The New Hampshire CARE Program

New Hampshire CARE Program clients, regardless where they reside, can access a suite of services known as Home/ Community Based Care (HCBC). Services include skilled nursing, homemaker services, infusion therapy, methadone treatment, durable medical equipment and some nutrition and dental services. In 2004, 19 Title I clients utilized these services, with a median of 75 units. Thirteen Title II clients utilized home and community based care with a median of 2 units.

Table 29: Units of home/ community based care (HCBC), Title I and Title II, 2004

	Title I	Title II
Average number of visits per client	119.7	33.1
Median number of visits per client	75	2
Range of visits per client	1 - 320	1 - 309

Source: The New Hampshire CARE Program

The portion of the New Hampshire CARE Program that finances prescription drugs for clients is called the AIDS Drug Assistance Program (ADAP). As stated previously, funding for New Hampshire's ADAP program comes both from Title I and Title II of the CARE Act. 335 CARE clients participated in ADAP in 2004. Like the CARE Program clients overall, the majority of ADAP clients are male, White, non-Hispanic, and between the ages of 24 - 44.

Table 30: Characteristics of ADAP participants vs. persons with HIV/ AIDS reported to the HIV/ AIDS Surveillance System, New Hampshire, 2004

Characteristics	ADAP participants, % (n=335)	Persons with HIV/ AIDS reported to New Hampshire HIV/ AIDS surveillance system, % (n=965)
RACE		
White	78	N/A
Black	14	N/A
Asian/ Pacific Islander	0	N/A
American Indian/ Alaska Native	1	N/A
More than one race	2	N/A
Unknown/ unreported	5	N/A
ETHNICITY		
Hispanic/ Latino	12	N/A
Not Hispanic/Latino	88	N/A
Unknown/ unreported	0	N/A
SEX		
Male	71	76
Female	29	24
Other/ unknown/ unreported	0	
AGE GROUP		
≤ 24	2	9
25 – 44	63	77
45 – 64	34	13
≥ 65	1	1
Unknown/ Unreported	1	0

Data provided by New Hampshire CARE Program and New Hampshire Communicable Disease Surveillance.

Medicaid is a federal and state funded program that provides medical services to individuals who meet certain financial and eligibility criteria. According to the New Hampshire Medicaid Program, in 2004, the majority of individuals receiving HIV care through Medicaid were women (n = 78, 65%). The majority of individuals receiving HIV care through Medicaid were between the ages of 25 and 54, with 20%, or 44 individuals age 25 - 34, 30%, or 66 individuals age 35 – 44, and 17%, or 37 individuals age 45 – 54.

QUESTION 2: WHAT ARE THE NUMBER AND CHARACTERISTICS OF PERSONS IN NEW HAMPSHIRE WHO KNOW THEY ARE HIV-POSITIVE BUT WHO ARE NOT RECEIVING PRIMARY MEDICAL CARE?

The Health Resources and Services Administration (HRSA) defines unmet need for HIV primary medical care as the number of people living with HIV who are aware they are infected with HIV and for whom there is no evidence of HIV primary medical care during a defined 12-month period. HIV primary medical care is defined as a viral load test, CD4 lymphocyte count or provision of antiretroviral therapy.

This section provides the State of New Hampshire's updated unmet need estimate and an initial assessment of unmet need. Representatives from the NH STD/ HIV Section, the NH Communicable Disease Surveillance Section (CDSS), the NH Medicaid Program, and Dartmouth-Hitchcock Family HIV Program worked together to develop the updated estimate of unmet need, with the STD/ HIV Section assuming a leadership position.

The unmet need estimate for CY 2004 builds upon the methodology employed for the calendar year 2003 estimate. Additionally, it incorporates feedback and suggestions from the FY05 HRSA application and technical assistance documents developed by Mosaica. Mosaica is responsible for providing technical assistance on unmet need, through a subcontract with HRSA, through BETAH Associates.

POPULATION DATA

An initial population estimate of the number of individuals with HIV/ non-AIDS and AIDS was derived from surveillance data. Although New Hampshire did not have a defined HIV reporting system prior to January 1, 2005, HIV surveillance numbers were included in the estimate due to confidence in the accuracy of the HARS data and because CDC accepted data collected prior to NH's transition to confidential HIV reporting. Historically, individuals who tested positive at an anonymous test site and had not sought medical care are not included in the surveillance statistics. Therefore, the estimate for the number of HIV cases may be an underestimate of the actual number of HIV cases.

The population estimate derived from HARS was then increased during the deduplication process to account for in-migration; clients not represented in HARS but present in other data sources as recipients of HIV care services were added to the estimate. Removing individuals found to be deceased resulted in the removal of 30 records from the analysis. Moreover, any infant or child who had received care services due to perinatal exposure but were ultimately determined to not be infected with HIV was removed from the final estimate.

CARE PATTERNS DATA

Linked and unduplicated databases were used to estimate unmet need. In New Hampshire, laboratory reporting to CDSS is required for all CD4 lymphocyte counts and viral load tests. The data, upon report to the HIV Surveillance Coordinator, may then be entered into HARS. For the purpose of this analysis, it is assumed that laboratory reporting was complete during 2004, although a formal study of the completeness of CD4 lymphocyte counts and viral load reporting has not been completed. However, a recent survey of laboratories indicated high knowledge and awareness of what laboratory reports are reportable to CDSS. Reports of antiretroviral therapy to CDSS are currently voluntary and considered incomplete; therefore they were not included in the analysis.

The NH CARE Program collects data on the date of last CD4 lymphocyte count and viral load test through its enrollment process. The NH CARE Program also has documentation of the provision of any antiretroviral therapy that was paid for through ADAP. The Dartmouth-Hitchcock Family HIV Program, which receives funding from both Title III and Title IV, is the largest provider of HIV medical care in the state. NH Medicaid provided data on the date of last CD4 lymphocyte count, viral load test and provision of antiretroviral therapy where the primary diagnosis code was HIV/ AIDS on its enrollees. Individuals who were HIV positive but whose HIV diagnosis was a secondary or tertiary code were excluded from the analysis.

The analysis combined CD4 lymphocyte and viral load data from HARS with data from the CARE Program, Dartmouth-Hitchcock Family HIV Program and New Hampshire Medicaid. The data was then deduplicated to get a final estimate of care patterns.

FINDINGS

The methodology used indicated that 750 people, or 53% of PLWH/A in New Hampshire were out of care during calendar year 2004. (See Table 31) Unmet need was higher for PLWH/non- AIDS, with 54% of this population having unmet need, when compared to 49% unmet need among PLWA. Data on stage of disease, either HIV/ non-AIDS or AIDS, was unknown for 93 cases. These cases were classified as HIV/ non-AIDS.

Table 31: Unmet Need preliminary estimate, New Hampshire, September 2004

Population Sizes		Value		Data Source(s)
Row A.	Number of persons living with AIDS (PLWHA), for CY 2004	808		HARS; NH CARE Program; Dartmouth-Hitchcock; Medicaid
Row B.	Number of persons living with HIV (PLWH/ non-AIDS/ aware) for CY 2004	599		HARS; NH CARE Program; Dartmouth-Hitchcock; Medicaid
Care Patterns		Value		Data Source(s)
Row C.	Number of PLWA who received the specified HIV primary medical care services during CY 2004	409		HARS; NH CARE Program; Dartmouth-Hitchcock; Medicaid
Row D.	Number of PLWH/ non-AIDS/ aware who received the specified HIV primary medical care services during CY2004	248		HARS; NH CARE Program; Dartmouth-Hitchcock; Medicaid
Calculated Results		Value	Percent	Calculation
Row E.	Number of PLWA who did not receive primary medical services	399	49%	Value: Value A – Value C Percent: Value E/ Value A
Row F.	Number of PLWH/ non-AIDS/ aware who did not receive primary medical services	351	59%	Value: Value B – Value D Percent: Value F/ Value B
Row G.	Total HIV+/ aware not receiving specified primary medical care services (quantified estimate of unmet need)	750	53%	Value: Value E + Value F Percent: Value G/ (Value A + Value B)

LIMITATIONS

Currently, the only private care data represented in the estimate is from the Dartmouth Hitchcock Family HIV Program and HARS. Although it is likely that these data are representative of the majority of the population receiving private HIV medical care, it may result in an over estimate of unmet need, especially among PLWH/ non-AIDS who may not currently qualify for services that require an AIDS diagnosis or PLWHA who receive medical services outside of New Hampshire.

This estimate does not include data from the VA due to confidence that these cases are already documented in HARS and therefore represented in the population estimate. However, CD4 lymphocyte count, viral load test, and antiretroviral medication information may be missing from the care patterns estimate, resulting in a possible overestimate of unmet need.

We have not yet adjusted our population estimate to include the movement of cases out of state. This process will occur during Fall 2005. Currently, not having removed cases that may have moved out of state may have resulted in an artificially high population estimate, thereby resulting in an overestimate of unmet need. Finally, the estimate of unmet need among PLWH/ non-AIDS may be slightly overestimated due to the inclusion of 93 cases whose stage of disease, either HIV/ non-AIDS or AIDS, was unknown. The percent of unmet need among cases where stage of disease was unknown was 84%.

DEMOGRAPHIC ANALYSIS

During the process of estimating unmet need, the following demographic information was requested: sex, race, ethnicity, county of residence, age and mode of transmission. An analysis of unmet need including demographic variables is included below. (See Table 32) It is important to note that some records were missing data on sex and age. A demographic category was considered “over represented” if it contained at least 20 cases and the percent of unmet need cases in that category was at least 3% higher than the percent of HIV positive cases in that category. (See Table 32). Therefore Column #4 had to be at least 3% higher than Column #5. The data indicates that individuals that are living with HIV/ non-AIDS, individuals who live in the EMA and individuals whose mode of exposure was injection drug use are over represented among people not in care. Additionally, a demographic category where there were at least 20 cases and the percent of category with unmet need was greater than 60% was considered high. These categories included individuals whose stage of disease was unknown, individuals between the ages of 13 – 24, 50 – 54, and 60 and older, and individuals whose reported mode of exposure was injection drug use (IDU) or no indicated risk (NIR).

Table 32: Unmet Need estimate, by demographic characteristics, New Hampshire, 2004

Characteristics	#1: HIV+/ aware population	#2: Number with met need	#3: Number with unmet need	#4: % Of unmet need population	#5: % Of category with unmet need	#6: % Of total HIV+/ aware population
Total	1407	657	750	100%	53%	100%
DIAGNOSIS						
PLWA	808	409	399	53%	49%	57%
PLWH/ non- AIDS	599	248	351	47%	59%	43%
GENDER						
Male	1013	463	550	73%	54%	72%
Female	390	192	198	26%	51%	28%
RACE/ ETHNICITY						
White	1044	477	567	76%	54%	74%
Black	162	78	84	11%	52%	12%
Asian	9	6	3	< 1%	33%	1%
Hispanic	156	73	83	11%	53%	11%
American Indian	6	4	2	< 1%	33%	< 1%
Unknown	30	19	11	1%	37%	2%
RESIDENCE						
EMA	974	440	534	71%	55%	69%
Non-EMA	433	217	216	29%	50%	31%
AGE						
0 – 12	9	8	1	< 1%	11%	1%
13 – 24	52	17	35	5%	67%	4%
25 – 29	58	28	30	4%	52%	4%
30 – 34	153	72	81	11%	53%	11%
35 – 39	237	124	113	15%	48%	17%
40 – 44	348	165	183	24%	53%	25%
45 – 49	278	137	141	19%	51%	20%
50 – 54	147	56	91	12%	62%	10%
55 – 59	62	30	32	4%	52%	4%
60 – 64	32	9	23	3%	72%	2%
65+	28	9	19	3%	68%	2%
MODE OF TRANSMISSION						
MSM	541	276	265	35%	49%	38%
IDU	245	91	154	21%	63%	17%
Heterosexual contact with HIV positive partner	209	94	115	15%	55%	15%
NIR	145	58	87	12%	60%	10%
Heterosexual, no risk specified	120	74	46	6%	38%	9%
Heterosexual contact with IDU	59	27	32	4%	54%	4%
MSM/ IDU	57	25	32	4%	56%	4%
Transfusion	13	3	10	1%	77%	1%
Hemophiliac	7	1	6	1%	86%	< 1%
Perinatal	7	6	1	< 1%	14%	<1%
Heterosexual contact with transfusion recipient	4	2	2	< 1%	50%	<1%

ASSESSING AND ADDRESSING UNMET NEED

Between October and June 2004, the NH STD/ HIV Section contracted with Dr. Alison Paglia, Assistant Professor of Psychology at the University of New Hampshire – Manchester to conduct a needs assessment for PLWHA. As part of the needs assessment, Dr. Paglia was asked to conduct key informant interviews and/ or focus groups with individuals who had unmet need to determine what barriers prevented them from accessing medical care. Attempts to recruit individuals included the use of flyers at AIDS Services Organizations (ASOs) to advertise and “snowballing” where PLWHA participating in the needs assessment were asked to refer any individuals they knew who were also living with HIV but not receiving medical care. The referring individual would then receive a small stipend for their referral. Despite persistent attempts to recruit individuals who had unmet need, none were identified for participation in the qualitative portion of the needs assessment.

Due to difficulties associated with recruiting individuals with unmet need to participate in focus groups and/ or key informant interviews, questions related to unmet need were added to the anonymous survey that was distributed as part of the needs assessment. The NH Care Program, AIDS service organizations (ASOs), and local infectious disease medical providers distributed the survey. The resulting sample of responses was a convenience sample. Despite having a sample size of 125, only one survey respondent currently had unmet need. However, it was also determined that 21 respondents, or 17% of the sample, had gone 12 months or more without HIV specific medical care since they had been diagnosed with HIV. Moreover, 29 individuals, or 23% of the sample, had gone 12 months or more without HIV medications.

For individuals who had at some point since their HIV diagnosis had a 12 month or longer lapse in medical care for their HIV diagnosis, the major barriers related to this lapse were not having a doctor that spoke their language, not being able to keep appointments, and not having health insurance. There were no major differences when data was analyzed by county of residence. However, in our survey sample, women were more likely than men to have gone 12 months or more without HIV specific medical care (28% vs. 14%). Women were also more likely than men to report that they were afraid that someone might find out their HIV status. Hispanic and Black individuals were also more likely than White respondents to report going without medical care for 12 months or more, although there were no differences in their responses of barriers to accessing HIV specific medical care.

For individuals who had at some point since their HIV diagnosis gone 12 months or more without taking HIV medications, the major reasons included side effects and taking a drug holiday or break from medications. There were no major differences when the data was analyzed by county of residence. Women were again more likely than men to have gone 12 months or more without HIV medications (31% vs. 22%). As seen above, the major gender difference in barriers was that women were more likely than men to report that they were afraid that someone might find out their HIV status. Also, as seen above, Hispanic and Black respondents were more likely than White respondents to report going without medications for 12 months or longer, although there were no differences in their responses of barriers to access HIV medications.

In November 2005, the NH CPG Care Committee will receive an updated presentation on unmet need. The NH CPG Care Committee will also be reviewing the needs assessment data and results in greater detail in order to develop recommendations for addressing unmet need in NH. The committee has already received a presentation on some initiatives used to address unmet need from the *Connecting to Care* conferences held early in 2005.

APPENDICES

APPENDIX A: ACKNOWLEDGEMENTS

Planning, Guidance, Data Use

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New Hampshire HIV Community Planning Group, especially the Data, Assessment and Evaluation Workgroup

New Hampshire Medicaid Program

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Greg Moore, The New Hampshire Department of Health and Human Services, Public Information Office.

Denise Rondeau, Section Chief, The New Hampshire Department of Health and Human Services, Division of Public Health Services, Bureau of Community Health Services, STD/HIV Prevention Section.

Acquired Immunodeficiency Syndrome (AIDS)

The most severe manifestation of infection with HIV. The CDC lists numerous opportunistic infections and cancers that, in the presence of HIV infection, constitute an AIDS diagnosis. In 1993, the CDC expanded the criteria for an AIDS diagnosis in adults and adolescents to include CD4+ T cell count at or below 200 cells per microliter in the presence of HIV infection. In persons (age 5 and older) with normally functioning immune systems, CD4+ T cell counts usually range from 500 – 1500 cells per microliter. A physician diagnoses AIDS.

Antiretroviral therapy (ART)

Substances used to kill or inhibit the multiplication of retroviruses like HIV.

Average

The sum of individual scores in a data set divided by the total number of scores. Also known as the mean.

CARE Act

Congress authorized the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act in 1990 to provide medical care and medication to people living with HIV/ AIDS (PLWHA) who would not otherwise be able to afford them.

CD4 Lymphocyte count

A count of the T cells involved in protecting against viral, fungal and protozoal infections. These cells help control immune response.

Centers for Disease Control and Prevention (CDC)

The United States Department of Health and Human Services agency with the mission to promote health and quality of life by preventing and controlling disease, injury, and disability. One of the CDC's eleven Centers is the National Center for HIV, STD, and TB Prevention.

Community Planning Group (CPG)

Community Planning Groups are responsible for developing comprehensive HIV prevention plans that are directly responsive to the epidemic in their jurisdiction. The goal is to improve HIV prevention programs.

Concurrent Diagnosis

Occurs when an AIDS diagnosis is made within one year of an HIV diagnosis.

Confidence Interval (CI)

A range of values for a measure that is believed to contain the true value at a specified level of certainty (i.e. 90%).

Epidemic

A disease that spreads rapidly through a demographic segment of the human population.

Epidemiology

The branch of medical science that deals with the study of incidence and distribution and control of a disease in a population.

Federal Poverty Level (FPL)

The Federal Poverty Level (FPL) is calculated annually by the United States Department of Health and Human Services (US DHHS) to create a threshold by which residents qualify for certain federal programs. The FPL is dependant upon income and the number of dependents in a household.

Health Resources and Services Administration (HRSA)

A United States Department of Health and Human Services agency that directs national health programs which improve the health of the Nation by assuring quality health care to underserved, vulnerable, and special need population and by promoting appropriate health professions workforce capacity and practice, particularly primary care and public health. HRSA administers Ryan White CARE Act Titles I, II, III (Dental Part F), IV, SPNS and AETS.

Human Immunodeficiency Virus (HIV)

HIV is the virus that causes HIV disease and may ultimately case AIDS.

Incidence

The number of new cases in a defined population during a certain time period that can be used to measure disease frequency.

Incidence rate

The number of new cases in a specific area during a specific time period among those at risk in the same area and time period. It is calculated by dividing incidence in the specified period by the population in which cases occurred.

Mean

The sum of individual scores in a data set divided by the total number of scores. Also known as the average.

Median

The middle value in a data set.

Mode of exposure

The CDC classification for HIV transmission risk. Modes of exposure include: men who have sex with men (MSM); injecting drug use (IDU); men who have sex with men and inject drugs (MSM/IDU); hemophilia/ coagulation disorder; heterosexual contact; receipt of blood, components, or tissue; mother with/ at risk for HIV infection; exposed health care worker; other; risk not reported.

No identified risk

The mode of exposure assigned to a NRR HIV or AIDS case if no mode of exposure can be determined from epidemiologic follow-up.

No risk reported

The mode of exposure assigned to a HIV or AIDS case if the mode of exposure is not identified on the case report and if epidemiologic follow-up is not complete.

Percent

The proportion of the whole, where 100 represents the whole.

Prevalence

The total number of cases of a disease in persons not known to have died in a given population at a particular time.

Range

The values of the smallest and largest values in a data set.

Ratio

A measure of the frequency of an event or a disease compared to the number of persons at risk for the event or disease.

Unmet need

Unmet need for HIV primary medical care is the number of HIV positive individuals where there is no evidence of any HIV primary medical care during a defined twelve-month period. HIV primary medical care is defined as a viral load test, CD4 count or provision of antiretroviral therapy.

Viral load (VL)

A test that measures the quantity of HIV RNA in the blood.

APPENDIX C: LIST OF DATA SOURCES

Primary and Secondary Data Sources

The Dartmouth-Hitchcock Family HIV Program, 2004

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