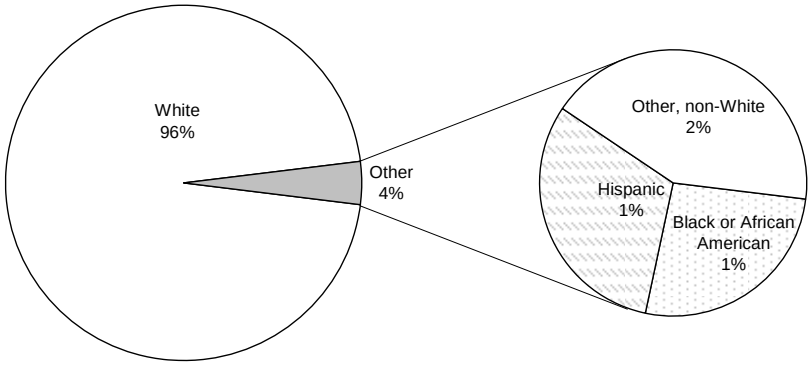
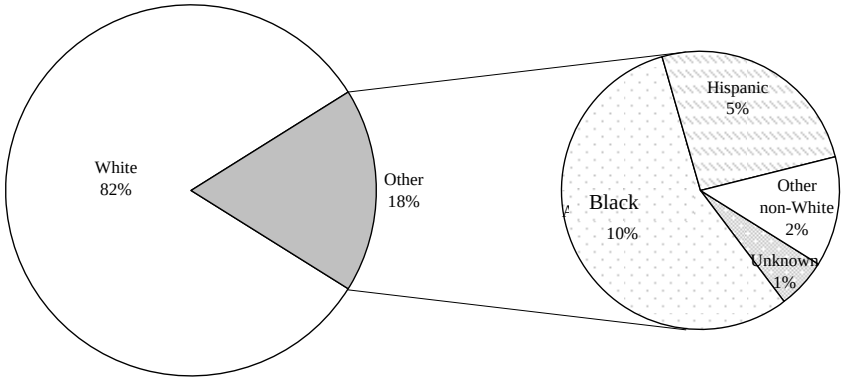
Integrated Epidemiologic Profile for HIV/AIDS Prevention and Care Planning in Vermont 2008



Population of Vermont by Race and Ethnicity: 2007



People Living with HIV/AIDS in Vermont by Race and Ethnicity: 2007

VERMONT
DEPARTMENT OF HEALTH

Division of Health Surveillance

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EXECUTIVE SUMMARY

Populations affected by HIV/AIDS

At the end of 2008 there were 227 Vermonters known to be living with AIDS and 131 Vermonters known living with HIV. Because of a new data system, 92 people with HIV previously known to be living in Vermont are not captured in the 131 count. . It is estimated that another 113 to 132 people in Vermont are living with the virus but are not aware that they have contracted HIV. Between 2007 and 2008, there were 17 new HIV diagnoses and 6 new AIDS diagnoses.

Chittenden County is the most populous county in Vermont (24% of the state's population), and 38% percent of all Vermonters living with HIV/AIDS reside in Chittenden County, and 45% of all new cases of HIV/AIDS diagnosed between 2007 and 2008 live in Chittenden County.

More men than women were living with HIV/AIDS at the end of 2008. Eighty-one percent of all people living with HIV/AIDS in Vermont were men. Although 82% of all people living with HIV and AIDS cases in Vermont are White, the virus disproportionately affects the non-white and the Hispanic populations of Vermont. Only 3.9 % of Vermont's total population is non-White, but 18% of people living with HIV/AIDS are non-white and/or Hispanic.

Nationally, the largest estimated number of new HIV/AIDS diagnoses in 2007were among 40-49 year olds (27% of all new diagnoses) and people ages 30-39 (26% of all new diagnoses). In Vermont, the largest numbers of new HIV and AIDS cases for the years 2004 through 2008 were in the 30-39 (25 cumulative cases, 29% of all new cases) and 40-49 (23 cumulative cases, 26% of all new cases) age groups. Older Vermonters (50+ years old) accounted for a greater proportion of new HIV/AIDS diagnoses in 2007-2008 (24% of all new diagnoses) compared to 2001-2002 (7% of new diagnoses).

Exposure, Risk, and Population Trends

For males, the largest proportion of all new HIV (67%) or AIDS (62%) diagnoses in Vermont cite MSM as the mode of transmission, similar to US White, non-Hispanic data. Heterosexual sex is cited as the mode of transmission by 55% of all new HIV diagnoses and 36% of all new AIDS diagnoses among Vermont women.

Among teens, young MSM continue to be at risk for contracting HIV by engaging in unprotected sex and sex with multiple partners. Among adults, only 3.6% of Vermonters said that they engaged in behavior(s) that put them at risk for contracting HIV. Yet 29% of Vermont men who only have sex with men reported having three or more partners in the past year. And, of the 14% of heterosexual women and 24% of heterosexual men who were having sex with casual partners in the past year, more reported not using a condom than using a condom during sex.

In 2008, 3,965 tests were conducted through Counseling, Testing, and Referral services (CTR) in Vermont. More tests were given to women (2,272) than to men (1,563). Eighty-four percent of women who gave birth in a Vermont hospital were screened for HIV. However, women who had

higher than a high school education reported discussing HIV testing during their most recent pregnancy, but did not have an HIV test during that pregnancy.

Ryan White Funding

Two types of organizations provided Part B funded services in Vermont: hospital and university clinics (e.g., Comprehensive Care Clinics) and Community Based AIDS Service Organizations (CBOs). Over 381 Vermonters received Part B funded services via these organizations in 2008. Like the majority of people living with HIV/AIDS in Vermont, the majority of persons seeking care through Part B funded services were male, white, and reported their primary mode of exposure to HIV as MSM. The Part B funded program that provides medication assistance (AMAP) has increased from 270 participants in 2004 to 270 participants in 2008. The use of the dental care assistance program (DCAP) has increased from 213 claims made to DCAP in 2004 to 244 claims made in 2008.

Who Is Not Receiving Medical Care for HIV/AIDS in VT?

Based on the number of clients living with HIV/AIDS seen by Comprehensive Care Clinics in the 2008, 15% of people living with HIV/AIDS in Vermont were not receiving care from the largest provider of HIV/AIDS specialty care. People living with HIV/AIDS and HIV/AIDS service providers have reported that access to care, quality of care, communication between care providers, and personal resources are barriers to receiving the best care possible. For example, 10% of Comprehensive Care Clinic clients in 2008 reported not having a permanent place to live.

INTRODUCTION

The data presented in this report serve to guide prevention and service efforts, to justify and obtain funding for the implementation of prevention and service programs, and to evaluate programs and policies throughout Vermont. Multiple data sources were used to create a thorough and comprehensive document, which addresses both core epidemiological questions and questions relating to the Ryan White Care Act including:

1. What are the sociodemographic characteristics of the general population in Vermont?
2. What is the scope of the HIV/AIDS epidemic in Vermont?
3. What are the indicators of risk for HIV/AIDS infection in Vermont?
4. What are the patterns of utilization of HIV services by persons in Vermont?
5. What are the number and characteristics of persons who know they are HIV-positive, but who are not receiving primary medical care?

Each section of the report includes relevant data and interpretation.

BACKGROUND

The 2008 Profile was developed with input from end-users. The 2008 Profile also followed the guidance of the 2005 Epidemiological Profile Advisory Committee and the recommendations of Irum Zaidi (from the CDC) who provided direction in preparing an epidemiologic profile for a rural, low incidence state. Additional sources of aggregate data were considered for the 2008 Profile. We anticipate that these additional data sources will help create a comprehensive and multi-perspective profile useful for both HIV prevention and care planning. The 2008 Profile was developed in conjunction with the *CDC's Integrated Guidelines for Developing Epidemiologic Profiles*.

PROFILE DATA SOURCES

Data were compiled from a variety of sources to provide the most complete picture of HIV incidence in Vermont as possible. When reading this document, please keep in mind that each of the data sources has strengths and limitations, and these should be considered when interpreting the data. Below is a brief description of each of the data sources used in the profile. It should be noted that not all data sources available to other states are available for Vermont. (For a more detailed description of these sources, please refer to Appendix A.)

Core HIV/AIDS Surveillance Data

In 1982 the Vermont Department of Health implemented AIDS case surveillance under its Communicable Disease Regulations. The Vermont legislature added HIV infection reporting by unique identifier code to the Communicable Disease Regulations in 1999,

and HIV reporting was implemented in March of 2000. Standardized case report forms are used to collect sociodemographic information, mode of exposure, laboratory and clinical information, vital status (i.e., living or dead), and referrals for treatment or services. In addition, death certificate data are used for active case finding and to update vital status on a quarterly basis. According to an evaluation conducted by the CDC in September of 2001, AIDS reporting was estimated to be more than 85% complete. HIV surveillance data may underestimate the number of recently infected persons because some infected persons either do not know they are infected or they have not sought testing. Persons who tested positive at an anonymous test site and have not sought medical care (where they would be confidentially tested) are not included in HIV surveillance statistics. Therefore, HIV infection data can provide only minimum estimates of the number of persons known to be HIV infected. In addition, newly diagnosed cases in Vermont reported to the health department may be at any point along the clinical spectrum of disease. Consequently, HIV infection data do not necessarily represent characteristics of persons who have been recently infected with HIV. Consistent with national standards for the conduct of HIV/AIDS surveillance, HIV and AIDS cases are counted only in the state in which they resided at the time of their HIV or AIDS diagnosis. Therefore, Vermont surveillance data include some individuals who no longer reside in Vermont, and do not include individuals who now live in Vermont but were diagnosed while living in other states. The completeness of HIV data is unknown; the code-based system is unevaluated. This will also pose a challenge as Vermont moves to name-based reporting.

Supplemental HIV/AIDS Surveillance Projects

Behavioral Surveys

Behavioral Risk Factor Surveillance System (BRFSS)

In 1984, the CDC established the BRFSS to collect state-level data yearly on personal health behaviors using a standard core questionnaire that would be comparable across states. The BRFSS is conducted via a random-digit-dialed telephone survey of adults. This data is used to monitor the state-level prevalence of the major behavioral risks associated with premature morbidity and mortality. Respondents are asked about their personal health behaviors and health experiences. The survey is population-based, meaning that the information gathered can be generalized to the adult population of the state and not just to those people at highest risk for contracting HIV.

National Survey on Drug Use and Health (NSDUH)

The NSDUH is an annual nationwide survey designed to collect data on substance abuse patterns and behaviors in the United States civilian population aged 12 or older. Youth are over-sampled to ensure precise estimates of substance abuse among younger persons. The information collected includes: use of cocaine, receipt of treatment for illicit drugs, and need of treatment for illicit drugs during the past year; use of alcohol, tobacco, or marijuana during the past month; and perceived risk for binge drinking, marijuana use, or smoking during the past month. To increase the level of valid reporting about substance abuse and other sensitive behaviors, computer-assisted interviewing methods have been

used since 1999 to provide respondents with a highly private and confidential means of responding to questions. National data is used in this report. However, the data collected through the NSDUH are self-reported and therefore subject to recall bias and potential underreporting. Furthermore, because the NSDUH estimates represent behaviors in the general population the survey may underestimate the level of substance use in the population at highest risk for contracting HIV.

Youth Risk Behavior Survey (YRBS)

The Vermont YRBS is part of the CDC's Youth Risk Behavior Surveillance System which collects information on health-risk behaviors among youth and young adults in each of the following categories: behaviors that contribute to unintentional injuries and violence; tobacco use; alcohol and other drug use; sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases, including HIV infection; unhealthy dietary behaviors; and physical inactivity. Since 1993, the Vermont Office of Alcohol and Drug Abuse Program (ADAP) has administered the YRBS surveys every two years to a representative sample of Vermont students in grades eight through twelve. Because the YRBS relies upon self-reports there may be some recall bias of the different behaviors. Also, because of the sensitive nature of the behaviors asked about in the survey, youths may have under or over reported certain behaviors. Because the YRBS questionnaire is administered in school, the data are representative only of adolescents who are enrolled in school and cannot be generalized to all adolescents. For example, students who are frequently absent from school or who drop out of school may be at a higher risk for engaging in these risk behaviors and would be underrepresented in this survey.

Person Environment Zone Project

This is an NIMH-funded study that was conducted between 2004 and 2006. This project tests a theoretical model of how the stigma associated with HIV affects the risk behaviors of people with HIV/AIDS in rural settings. Principal investigators on this project are three faculty members in the Psychology Department and the University of Vermont: Sondra Solomon, Carol Miller, and Rex Forehand. This study provides information on the experiences of being HIV-positive in Vermont and neighboring states. This is the only project focusing on the stigma and behavior of HIV-positive individuals in Vermont, and one of the few projects in the U.S. addressing HIV/AIDS in rural areas.

STD Surveillance

STD Case Reporting

Laboratories, hospitals, physicians, insurance companies, and other health care providers are required to report all cases of *Chlamydia trachomatis* infection, gonorrhea, and syphilis in Vermont to the Vermont Department of Health. STD reporting, demographic and risk history information are entered into the National Electronic Telecommunications System for Surveillance (NETSS) and transmitted to the CDC (without identifiers) on a weekly basis. STD surveillance data can serve as a surrogate marker for unsafe sexual practices and demonstrate the prevalence of changes in a specific behavior. Because of shorter incubation periods between exposure and infection, STDs can serve as a marker

of recent unsafe sexual behavior. In addition, certain STDs (e.g., ulcerative STDs) can facilitate the transmission or acquisition of HIV infection. Finally, changes in trends of STDs may indicate changes in community sexual norms, such as unprotected sex. Although STD risk behaviors result from unsafe sexual behavior, they do not necessarily correlate with HIV risk.

HIV Counseling and Testing Data

Counseling, Testing, and Referral System (CTR)

The HIV Counseling and Testing System (CTS) was originally developed in 1988 to assist CDC-funded HIV prevention project areas (including Vermont) in collecting data on the population receiving HIV counseling and testing services. Funding from the CDC supports the Vermont Counseling, Testing, and Referral (CTR) system, which consists of anonymous and confidential voluntary HIV counseling, testing, and referral services with emphasis on a client-centered risk-reduction counseling model. Demographic and behavioral data as well as HIV test results are reported to the Vermont Department of Health by each testing site. Data are transmitted to the CDC on a monthly basis. CTR collects information only from persons who seek counseling and testing services or agree to be tested after consultation at one of the publicly funded sites. The data are used to guide the development of HIV prevention programs and to estimate the need for early intervention service for persons with HIV infection. A limitation of the data is that it cannot distinguish multiple tests on the same individual. Because clients self-select for testing and because the data cannot be unduplicated, CTR data cannot be used to estimate statewide HIV seroprevalence.

Pregnancy Risk Assessment Monitoring System (PRAMS)

PRAMS is a risk monitoring system through the Centers for Disease Control and Prevention that assesses maternal attitudes and experiences before, during and shortly after pregnancy. Vermont PRAMS also includes questions about HIV testing and counseling in addition to data on prenatal care, alcohol and tobacco use, and maternal attitudes. Data was collected from all mothers of low birth weight babies and 4 of every 23 mothers of normal birth weight babies in Vermont. Results are weighted to represent the Vermont population.

Substance Abuse Data

Alcohol and Drug Abuse Program (ADAP)

ADAP is located within the Vermont Department of Health. ADAP collects substance abuse treatment admissions data from facilities that receive state funding. All facilities receiving state funds are mandated to report sociodemographic information on all substance abuse treatment admissions, including the substance being abused. These data are collected at a person's admission to treatment for substance abuse in Vermont. These data offer a way to indirectly measure the prevalence of drug use in Vermont. However, the admissions data may not represent unduplicated individuals, but rather they may represent multiple admissions within a calendar year for an individual.

Vermont Crime On-Line

Vermont Crime On-Line is a source of Vermont crime statistics maintained by the Division of Criminal Justice Services, Vermont Department of Public Safety. The Vermont Crime On-Line database includes the types of drug crimes charged in Vermont and changes observed in drug crime charges. This data is charge-based, not person-based, meaning that one person may be represented more than once because s/he received multiple drug charges.

Vital Statistics Data

Birth and Death Data

Statewide vital registration began in Vermont in 1857. The current vital statistics system in Vermont includes eight types of vital events: births, deaths, marriages, civil unions, divorces, fetal deaths, and abortions. All states use standard forms to collect birth and death data. The birth certificate form includes the demographic information of the newborn and the parents. Death certificates include demographics, underlying cause of death, and contributions of selected factors to the death (i.e., smoking, accident, or injury) of all deceased persons. Birth and death certificates must be filed with the town clerk and a certified copy is sent to the Department of Health. Physicians must complete the cause of death information on a death certificate and sign the certificate. Vital records data are coded and entered into a database, and data are sent to the National Center for Health Statistics. Deaths resulting from, or whose underlying cause was, HIV infection may be underreported on a death certificate because the physician completing the form may be unaware of the individual's HIV status.

Population Data

US Bureau of the Census (Census Bureau)

The Census Bureau collects data on demographic characteristics of the U.S. population, family structure, educational attainment, income level, housing status, and the percentage of persons who live at or below the federal poverty level. The most recent decennial census was completed in 2000. The American Community Survey (ACS) is a mandatory survey of 3 million households per year that is designed to replace the decennial survey. Information from both surveys have are accessible through the Census Bureau website (www.census.gov) Summaries of the most requested information for states and counties (including Vermont) are provided, as well as analytical reports on population changes, age, race, family structure, and apportionment.

Vermont Department of Health Population Estimates

The Vermont Department of Health uses population estimates that are a modification of the population estimates for the state that are produced by the US Bureau of the Census for the National Center for Health Statistics (NCHS). The Census/NCHS data provides us with town total population estimates and population by age/race/sex for Vermont Counties. These data do not accurately estimate the numbers of very young Vermonters (age < 5 years) when compared to the numbers of VT resident births. Thus, the VDH calculates population estimates for people the under the age of 5 by Vermont county, then makes adjustments to Census/NCHS data. Some minor adjustments are made to the town

population estimates to account for round off error in the production of the county age/race/sex estimates, and to account for instances where the Census Bureau has estimated populations for what are believed to be uninhabited places (Lewis, Avery's Gore and Warner's Grant).

Kaiser Family Foundation

The Kaiser Family Foundation is a private, non-profit organizations focusing on issues of health and health care. It provides independent analyses of health and healthcare issues. These data provide information about access to care for various populations and can be used to compare access across geographic areas.

Geographic Information System (GIS) Data

The GIS system provides access to visual depiction of HIV-related information for readers. The Vermont Department of Health utilizes ESRI ArcView/ArcGIS mapping software.

Ryan White CARE Act Data

Unmet Needs Project

The Unmet Needs Project identifies gaps in care for Vermonters living with HIV. It is based on analyses of two HIPAA compliant data sets which do not include unique person identifiers; Probabilistic Population Estimation is used to estimate the number of people with HIV who are not currently receiving care. This is one of the only sources of information regarding unmet need for people living with HIV in Vermont.

Vermont HIV Prevention and Care Needs Assessment

The State of Vermont Department of Health (VDH) HIV/AIDS/STD/Hepatitis C Program and the Vermont HIV/AIDS Community Planning Group (CAG) sponsored a needs assessment focusing on the prevention and care needs of people living with HIV/AIDS (PLWHA) residing in Vermont. Three forms of data collection were used in the needs assessment: focus groups, key informant interviews, and a survey. Participation was voluntary and confidential. Two providers and six PLWHA participated in the key informant interviews. Four focus groups were held throughout the state and a total of 19 PLWHA participated in the focus groups. In all cases the local AIDS Service Organizations (ASO) assisted in the recruitment of participants, therefore the majority of the participants were clients of the ASOs. The PLWHA that participated in the focus groups or the key informant interviews were given a $25 gift card for their time and assistance. Forty-six PLWHA completed the needs assessment survey before the deadline January 02, 2009.

Ryan White Comprehensive AIDS Resources Emergency (CARE) Act

The federal Ryan White CARE Act provides health care for people with HIV. Enacted in 1990, it fills gaps in care faced by those with low-incomes and little or no insurance. Vermont receives federal funding under Part B (CARE Grant Program) and C (Early Intervention Services) of the Ryan White CARE Act. Although Vermont does not receive Part D funds (Research, Demonstrations or Training) some Vermont residents do access Part D funds through services provided by the state of New Hampshire. Reports by the HIV/AIDS program's Part B Administrator are made to the federal Health

Resources and Services Administration (HRSA) on a yearly basis. These Annual Data Reports are provider-based reports with aggregate client, provider, and service data for all CARE Act programs. Reports include information on all clients who receive at least one service during the reporting period. The Annual Data Report includes information on the demographics of all clients (sex, age, and race/ethnicity), exposure category, and the number of clients receiving each type of service. In 2005 Vermont began instituting HRSA's mandate to give priority funding to six core services: primary medical care, substance use treatment, mental health therapy, oral health, HIV medications and case management. A limitation of this data is that it only includes people who know they are HIV positive and who are seeking treatment. It cannot be used to estimate the prevalence of HIV in Vermont, which may be higher due to people's unawareness that they are infected or who are aware that they are infected but who seek treatment through private physicians and other services.

HIV/AIDS Medication Assistance Program (AMAP)/ HIV Dental Care Assistance Program (DCAP)

Both AMAP and DCAP are funded by Ryan White CARE Act Part B funds (described above). The AMAP provides financial assistance for the purchase of prescription medications to Vermont residents living with HIV who meet certain income guidelines. DCAP provides financial assistance to meet the dental needs of underinsured and uninsured Vermonters living with HIV/AIDS. Data is collected on all people who receive services via AMAP/DCAP. This data represents people who know their HIV serostatus, who are currently seeking care and treatment services through Ryan White Part B-funded providers, and who are financially eligible to receive services. Data collected through the AMAP program represents individual clients seeking services. Data collected through the DCAP program represents the number of claims made to the program, and may be duplicated as one individual may make multiple claims to the program in the course of a year.

Assessing Barriers to Prevention and Care Services

This 2004 study, sponsored by the Office of Minority Health and the HIV/AIDS Program at the Vermont Department of Health and carried out by the HIV/AIDS Care and Services Community Planning Group of Vermont, focused on three groups of people 1) members of communities of color not already connected to HIV/AIDS service 2) persons incarcerated in Vermont institutions, and 3) providers of HIV/AIDS prevention, support or medical care. The study assessed barriers to HIV/AIDS prevention, support and medical services for Vermont communities of color. Data consisted of focus groups, individual interviews and surveys.

PROFILE STRENGTHS AND LIMITATIONS

When making planning decisions, it is important to consider the overall strengths and limitations of this document. Although the profile is comprehensive and draws from a number of data sources, there are many things that the profile cannot explain.

The HIV/AIDS surveillance system in Vermont is based on data on people who have been tested confidentially for HIV. Although this surveillance system has evolved since HIV reporting began in 2000, we suspect that HIV infections are under detected and underreported for four reasons. First, individuals who are tested anonymously are not reported to the VDH because no identifying patient information is collected. Second, people living in Vermont who do not receive care in Vermont or who are unaware of their HIV-positive status are not included in surveillance numbers. Third, individuals may be tested at different times along the continuum of their HIV infection, and some are not tested until HIV infection has progressed to AIDS which influences how people are classified once they are diagnosed. Fourth, information reported to VDH may be delayed (e.g. a report from December 2008 may not be entered until 2009), resulting in underreporting in a given year. Thus, it is important to remember that the data in this report do not necessarily represent the characteristics of persons who have been recently infected with HIV, nor do they provide a true measure of HIV incidence. Low incidence states such as Vermont do not currently have the resources to measure true incidence.

Analyses of many different data sets are presented to provide representations of particular subpopulations. However, demographic and geographic subpopulations are disproportionately sensitive to differences and changes in access to health care, HIV testing patterns, and specific prevention programs and services. All of these issues must be carefully considered when interpreting HIV data. Therefore, it is important to make appropriate comparisons across data sources to get the most complete picture of the impact of HIV/AIDS both nationally and in Vermont.

The most current analysis available is presented for each source of data; however, the most recent data collected varies from one source to another. One must also keep in mind that data sources are limited in Vermont, particularly with regard to additional/special HIV-related data sets due to a lack of funding for such projects.

PROFILE PREPARATION

This Epidemiologic Profile is an updated version of the original document prepared in 2007 by the Vermont Department of Health, Division of Health Surveillance, HIV/AIDS Program and with guidance from the Centers for Disease Control and Prevention and the Epidemiological Profile Advisory Committee.

The Vermont STD Program provided guidance on the use and interpretation of STD (non-HIV) data. BRFSS data were provided by the Vermont BRFSS Program. The Internet was also utilized to obtain data. Sociodemographic data, vital statistics, and substance abuse data were obtained from both the Internet and the appropriate programs within Vermont state government.

Several of the internet sources compile their data from other organizations and agencies, such as the Kaiser Family Foundation (for insurance information) and the Health

Resources and Services Administration (HRSA) (for the Ryan White HIV/AIDS Program Annual Data Report).

ORGANIZATION OF THE PROFILE

The epidemiologic profile is organized into two main sections, within which the five key questions are addressed:

Section 1: Core Epidemiologic Questions
This section of the report provides the reader with an understanding of the characteristics of the general population in Vermont, the distribution of HIV disease, and a detailed look at persons at risk for HIV infection. Section 1 is organized around three key questions:

> **Question 1: What Are the Sociodemographic Characteristics of the General Population in Vermont?** Orients the reader to the overall demographic and socioeconomic characteristics of the general population of Vermont.
>
> **Question 2: What Is the Scope of HIV Disease in Vermont?** Examines the impact of HIV disease among a number of population groups in Vermont, to help planners target prevention and care services.
>
> **Question 3: What Are the Indicators of HIV Disease Infection Risk in Vermont?** Provides a detailed look at high-risk populations to the extent possible. Both direct measures of risk behaviors associated with HIV transmission and indirect measures that may serve as indicators of high-risk behavior are examined in this segment.

Section 2: Ryan White HIV/AIDS CARE Act Special Questions and Considerations
This section focuses on questions that pertain to HRSA HIV/AIDS care planning groups. Section Two describes how people with HIV in Vermont use and access care, as well as evaluates the standard of care provided. Section Two is organized around 2 key questions:

> **Question 1: What Are the Patterns of HIV Service Utilization by Persons in Vermont?** Characterizes patterns in the use of services by a number of populations living with HIV/AIDS in Vermont. Information is provided from HRSA-funded programs.
>
> **Question 2: What Are the Number and Characteristics of Persons Who Know That They are HIV positive But Who Are Not Receiving Primary Medical Care?** Describes studies currently underway in Vermont to assist in assessing the unmet needs of persons who know they are HIV positive, but who are do not receive medical care.

VERMONT
DEPARTMENT OF HEALTH

Section One:

Core Epidemiologic Questions

Question 1 **What Are the Sociodemographic Characteristics of the General Population in Vermont?**

Question 2 **What is the Scope of the HIV/AIDS Epidemic in Vermont?**

Question 3 **What Are the Indicators of HIV/AIDS Infection Risk in Vermont?**

Question 1

What Are the Sociodemographic Characteristics of the General Population in Vermont?

This section provides information on the demographic, social and economic characteristics of Vermont residents. This information is important in understanding the contexts of the HIV epidemic in Vermont. Information on population characteristics, regional differences, employment, education, health and healthcare is included. The Vermont HIV/AIDS service network is also described here.

HIGHLIGHTS

- Vermont's population was estimated to be 621,254 people in 2007.
- Racial minorities made up 2.7% of Vermont's population, and 1.2% of Vermonters identified as Hispanic in 2007.
- Vermont's median household income was $49,907 in 2007, $833 below the U.S. median income.
- Vermont ranked 7th highest in the nation for the percent of residents (79.8%) aged 16 to 64 years old who were employed in 2007.
- In 2007 10.1% of Vermonters were living in poverty.
- Vermont was ranked the healthiest state in the U.S. in 2007 by the Centers for Disease Control and Prevention and by the United Health Foundation.
- 11.2% of Vermont residents lacked health insurance in 2007, compared to 14.3% nationally.
- HIV medical care in Vermont continues to be provided primarily through four hospital-based infectious disease clinics called Comprehensive Care Clinics.

Geography and Population

Geography: Vermont is the second largest state in New England (second to Maine), and covers an area of 9,614 square miles (Figure 1). Vermont is bordered by New York on the west, Massachusetts to the south, New Hampshire on the east, and by Canada to the north. The eastern boundary is formed mainly by the Connecticut River. On the west the Vermont boundary is defined by mainly by Lake Champlain, the sixth largest body of fresh water in the United States. The Green Mountains bisect the state from north to south and the land is divided into 14 counties.[1]

Figure 1. Map of Vermont

[1] Vermont Department of Tourism and Marketing. Information available at http://www.vermontvacation.com/about/factsindex.asp. Accessed on 1/09/08.

Population: In 2007 Vermont's population was estimated at 621,254 people.[2] Only the states of Wyoming and the District of Columbia have smaller populations than Vermont.[3] The population density for Vermont is approximately 67 people per square mile, compared to the national average of approximately 85 people per square mile.[4] The state's most populated county is Chittenden County, located on the eastern shoreline of Lake Champlain, with a population of 151,826 people. Burlington is the state's largest city (located in Chittenden County) with a population of 38,531 people. There is only one Metropolitan Statistical Area (MSA; an urbanized area with a high degree of economic and social integration that has a population of at least 50,000 people) in Vermont. This MSA includes Chittenden, Franklin, and Grand Isle Counties and includes 33% of Vermont's total population.[2,5] Comparing 2000 to 2007 the highest population growth rates occurred in Grand Isle (10.1%), Franklin (5.1%), and Lamoille (6.2%) counties, all located in northern Vermont. The four southernmost counties in Vermont showed decreases in population (See Table 1).[2]

Table 1. Population Change for Vermont State and Counties: 2000 and 2007 [2]

	Population 2000 Census	Population 2006 Estimate	Change in Population	Percent Change
Vermont	608827	621,254	12427	2.0
Addison	35974	36760	786	2.2
Bennington	36994	36452	-542	-1.5
Caledonia	29702	30655	953	3.2
Chittenden	146571	151826	5255	3.6
Essex	6459	6495	36	0.6
Franklin	45417	47934	2517	5.5
Grand Isle	6901	7601	700	10.1
Lamoille	23233	24676	1443	6.2
Orange	28226	29002	776	2.7
Orleans	26277	27302	1025	3.9
Rutland	63400	63270	-130	-0.2
Washington	58039	58926	887	1.5
Windham	44216	43480	-736	-1.7
Windsor	57418	56875	-543	-0.9

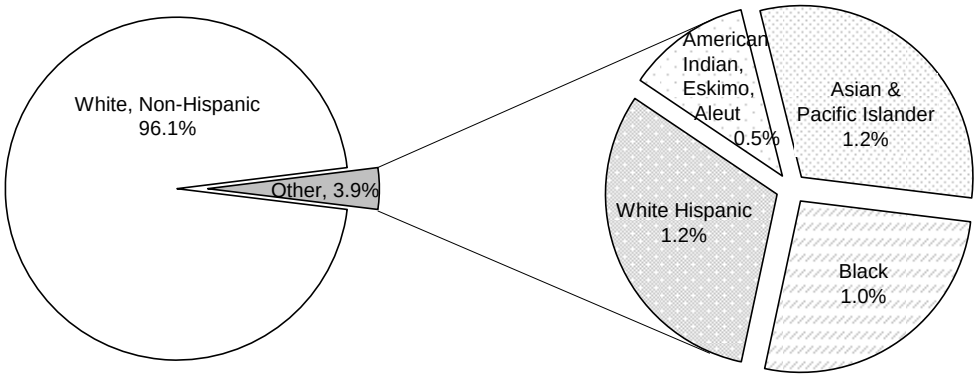
[2] Vermont Department of Health, Center for Public Health Statistics
[3] "United States—States; and Puerto Rico," Table GCT-T1-R. Population Estimates (geographies ranked by estimate). 2007 Population Estimates, U.S. Census Bureau. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=PEP&_submenuId=&_lang=en&_ts=. Accessed 10/21/08.
[4] Vermont population density is calculated by dividing the current population estimate by the land area of Vermont. "Population Size and Density for States and Puerto Rico: 2007," Population estimates, U.S. Census Bureau. Available at http://www.census.gov/popest/gallery/maps/. Accessed 11/20/08.
[5] "Vermont—Core Based Statistical Areas and Counties," U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau. Available at http://www.census.gov/geo/www/maps/stcbsa_pg/stBased_200411_nov.htm. Accessed 1/08/08.

Demographics

Demographic Composition: 96.1% of Vermont's population self-identified as White non-Hispanic (Figure 2). This is in contrast to the U.S. population where 66% of people identified as White non-Hispanic. [2, 6]

The racial and ethnic minority populations in Vermont are heavily concentrated in Chittenden County; 45.6% of Vermont's non-white population and 32.2% of the White Hispanic population live in Chittenden County. Again, American Indian, Alaskan and Aleut residents are the exception to this trend. The majority of people (23.3%) who self identified in these three racial categories live in Franklin County.[2]

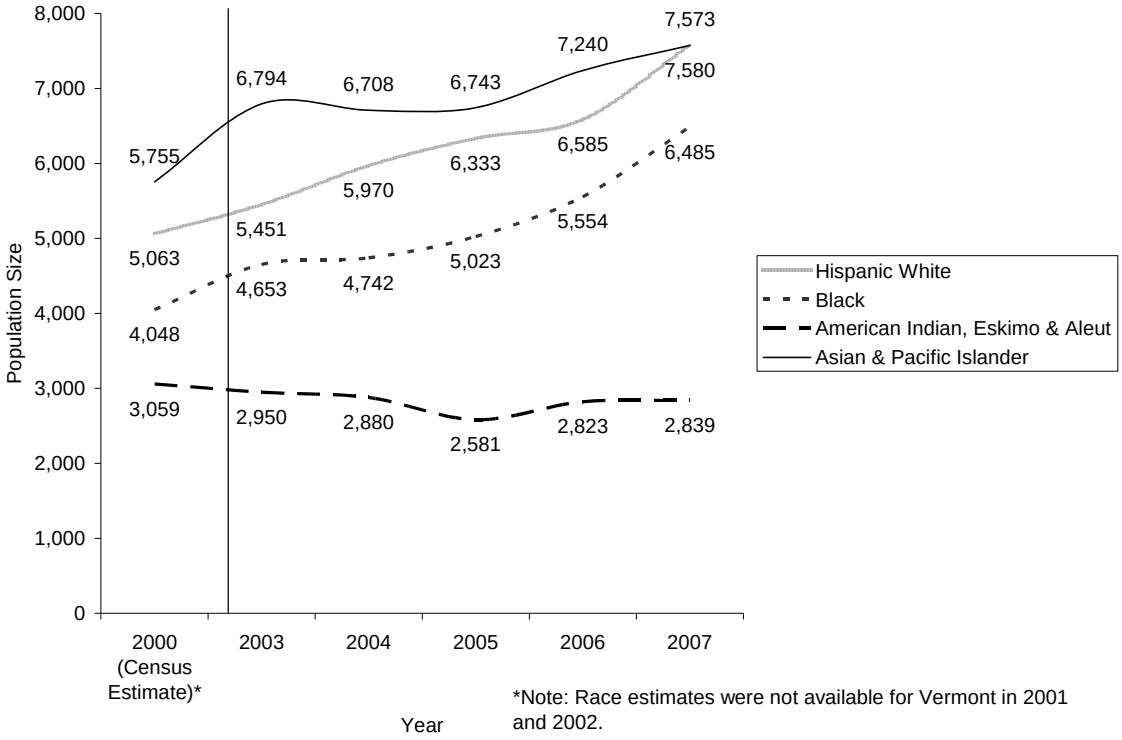
Figure 2. Distribution of Vermont Population by Race and Ethnicity: 2007 [2]



[6] "Hispanic or Latino by Race," Table T4-2007, 2007 Population Estimates, U.S. Census Bureau, American Community Survey. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=Accessed 10/21/08.

Although racial and ethnic minorities are only 3.9% of Vermont's population, these populations are growing at a much faster rate than the white, non-Hispanic population.[2] Racial and ethnic minority group populations grew at a rate of 36.6% between 2000 and 2007. The white, non-Hispanic population grew 0.8% between 2000 and 2007. Most minority and ethnic groups experienced population growth in the years between 2000 and 2007 (See Figure 3). The Black population increased by 60.2%, the Hispanic White population grew 46.6%, and the Asian/Pacific Islander population grew 31.6%. However, American Indian, Eskimo and Aleut populations have declined by 7.2%.[2]

Figure 3. Population Growth among Ethnic and Racial Minorities in Vermont: 2000, 2003-2007 [2]



*Note: Race estimates were not available for Vermont in 2001 and 2002.

Age and Sex: The median age of Vermont residents has been steadily rising. In 2007, the median age of Vermont residents was 40.6 years, an increase of 3 years from 2000. This is also somewhat higher than the median age for the entire U.S. population of 36.6 years in 2007.[7] The fastest growing segment of the Vermont population is 55-64 year olds.[2] Vermonters ages 45 to 49 represent the largest segment of the population.[8] There has been a decline in the number of Vermont residents younger than 44.[2] In 2007 Vermont's population was roughly split evenly between females (51%) and males (49%). Figure 4 shows the age and sex distribution of the Vermont population in 2007 as compared to the year 2000.

Figure 4. Age Distribution by Sex in Vermont: 2000 and 2007 [2]

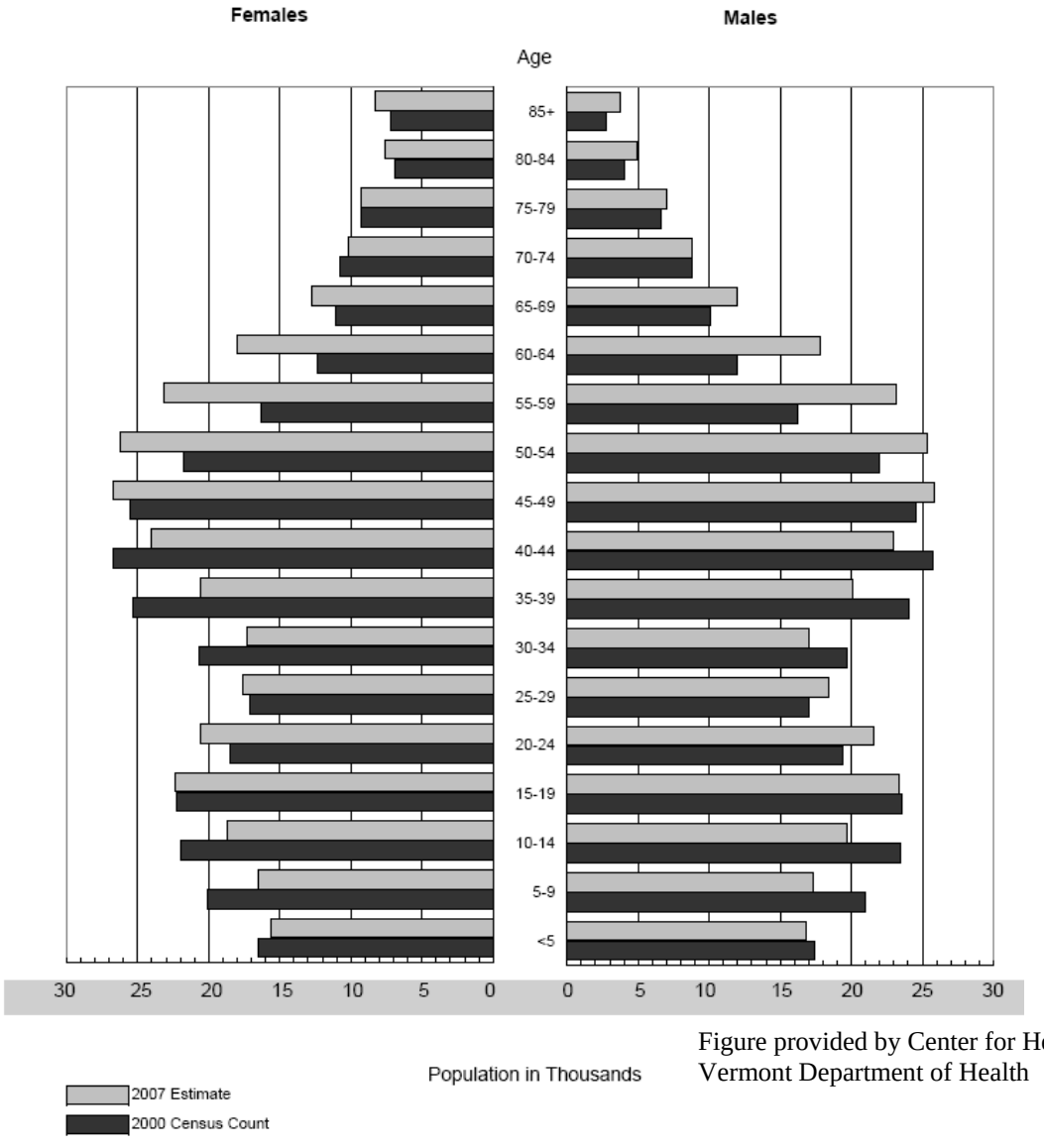


Figure provided by Center for Health Statistics, Vermont Department of Health

[7] "Median Age by Sex." Table T7-2007, 2007 Population Estimates, U.S. Census Bureau. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=. Accessed 10/21/08

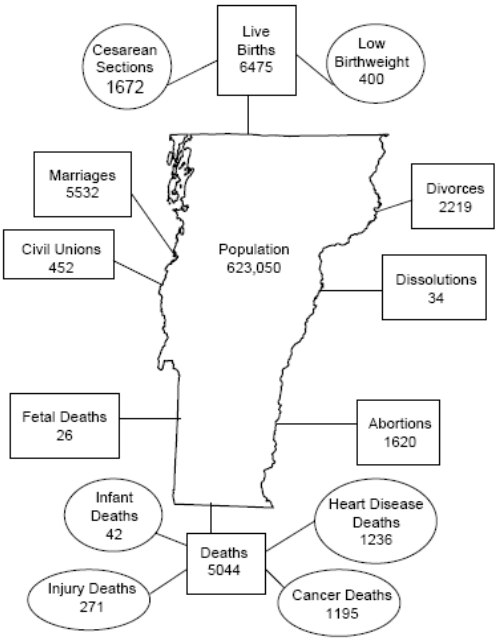
Vital Statistics

Figure 5 provides a snapshot of all vital events recorded in Vermont in 2005. The birth rate for Vermont residents was 10.4 per 1,000 residents in 2005, lower than the U.S. White birth rate of 13.4 per 1,000.[8] The Vermont marriage rate in 2005 was 8.9 per 1,000 residents, which is the lowest rate in more than 20 years. However, this rate is still higher than the U.S. rate of 7.7 per 1,000 population.[8] The divorce rate in Vermont in 2005 was 3.6 per 1,000 residents, compared to the U.S. rate of 3.7 per 1,000 population.[8]

In 2005, there were 452 civil unions performed in Vermont, down 37% from 2004. The majority of these civil unions (72%) occurred between two non-Vermont residents. There were 34 dissolutions of civil unions in Vermont in 2005. The total number of marriages, civil unions, divorces and dissolutions of civil unions in the figure below are tabulated by occurrence, meaning that the event total in the figure below includes all events of that type that took place in Vermont, regardless of whether the parties involved were Vermont residents.

In 2007, 50% of all households in Vermont were married-couple families, 15% were other families, 28% were people living alone and 7% were people living in the same household but of no relation to each other.[9] The average household size in Vermont was 2.4 people.[9]

Figure 5. Vermont Vital Events: 2005 [8]



[8]Vermont Department of Health, Vital Statistics. *State of Vermont 2005 Vital Statistics: 121th Report Relating to the Registry & Return of Births, Deaths, Marriages, Divorces, Civil Unions & Dissolutions.* Available at http://healthvermont.gov/research/stats/2005/2005vital.aspx. Accessed 10/21/08.

[9] "Household Type (Including Living Alone)-Universe: Households," Table B11001, 2007 ACS 1-Year estimates, American Community Survey. Available http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=. Accessed on 10/21/08.

Socioeconomic Status

Income and Employment: The median household income in Vermont in 2007 was $49,907, which was below the national median household income of $50,740.[10] The median family income in 2006 was $61,561, higher than the U.S. median family income of $61,173.[11]

In 2007, 16.5% of Vermont households were receiving retirement income, and 27.9% of Vermont households were receiving income from social security.[12] [13]In 2007, 117,296 Vermonters (18.9% of the total population) received Social Security Benefits (Figure 6). The majority of those receiving benefits (73,887 people) were retired workers.[14]

Figure 6. Vermont Beneficiaries of Social Security by Category: 2007 [14]

[10] "Median Household Income in the Past 12 Months (In 2007 Inflation-Adjusted Dollars)-Universe: Households," Table B19013, U.S. Census Bureau, American Community Survey. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=. Accessed 10/21/08.

[11] "Median Family Income in the Past 12 months (In 2007 Inflation-Adjusted Dollars)-Universe:Families," Table B19113, U.S. Census Bureau, American Community Survey. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=. Accessed 10/21/08.

[12] "Retirement Income in the Past 12 Months for Households-Universe: Households," Table B19059, U.S. Census, American Community Survey. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=. Accessed 10/21/08.

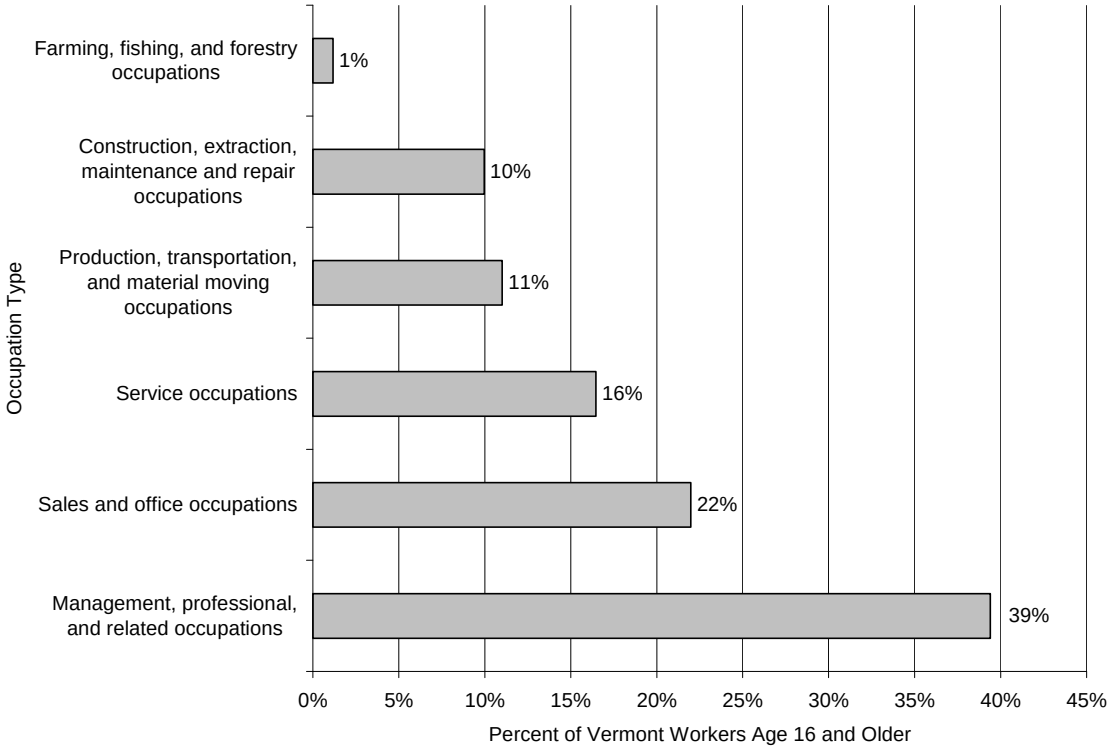
[13] "Social Security Income in the Past 12 Months for Households-Universe: Households," Table 19055, U.S. Census Bureau, American Community Survey. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=. Accessed 10/21/08.

[14] "Number of OASDI beneficiaries with benefits in current-payment status and total monthly benefits, by field office and ZIP code, December 2007," Social Security Administration. Available at http://www.ssa.gov/policy/docs/factsheets/cong_stats/. Accessed on 11/20/2008.

Vermont has 79.8% of residents age 16 to 64 years old in the labor force, ranking seventh in the country. The majority of Vermonters who are 16 and over and working are employed in management, professional, and related occupations (

Figure 7).[15] In 2008, 5.2% of Vermont's civilian labor force was unemployed.[16] This is lower than the national unemployment rate of 6.1% in 2008, but it represents a 33% increase in the unemployment rate in Vermont (3.9% in 2007).[17]

Figure 7. Vermont Employment by Occupation Type: 2007 [15]



[15] "Industry by Occupation for the Civilian Employed Population 16 Years and Older," Table B24050. U.S. Census Bureau, American Community Survey. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=. Accessed 10/23/08.

[16] "Unemployment Rates for States, Monthly Rankings, Seasonally Adjusted: September 2008," Bureau of Labor Statistics. Available at http://www.bls.gov/web/laumstrk.htm. Accessed on 10/21/08.

[17] U.S. Bureau of Labor Statistics, Statewide Data Tables. Available at http://www.bls.gov/lau/. Accessed on 10/21/08.

Poverty: In 2007 10.1% of Vermonters were living in poverty, slightly higher than percent of the U.S. White, non-Hispanic population living in poverty (9%).[18]

Caledonia, Essex, and Orleans Counties, all located in the Northeast Kingdom, have the highest percentage of their populations living in poverty in comparison to other Vermont counties (see Table 2).[19]

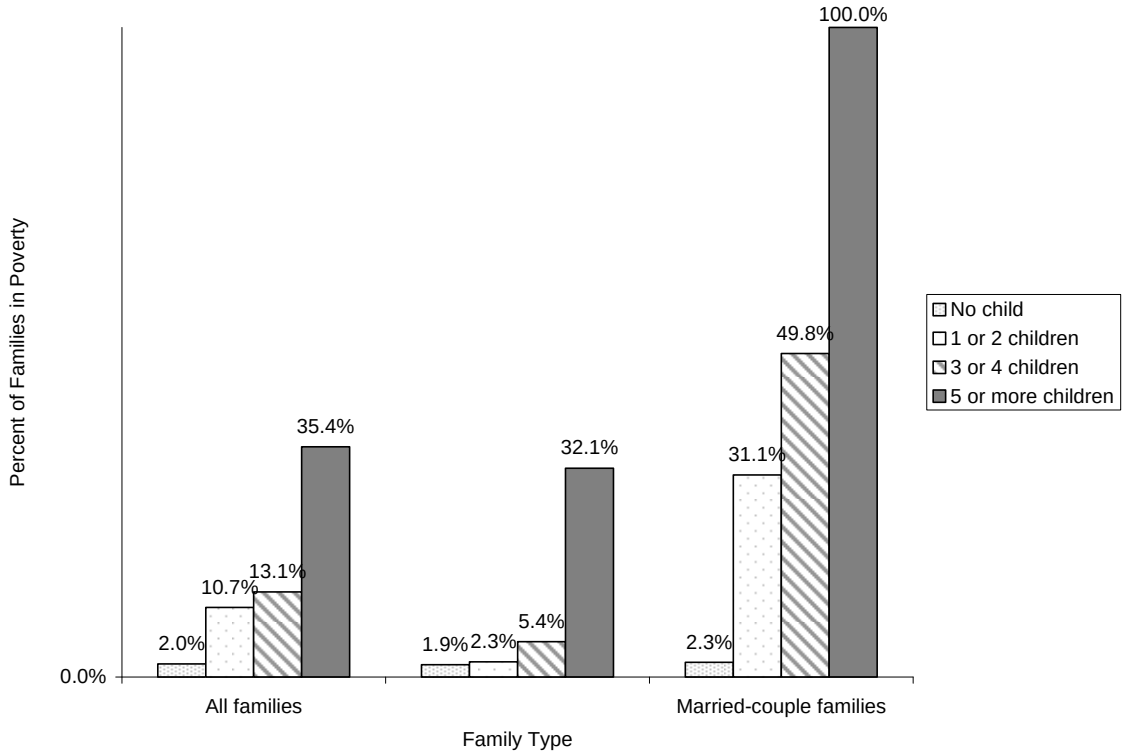
Table 2. Percent of Vermont Population Living Below the Poverty Level: 2007 [19]

County	Percent Under the Poverty Level
Addison	10%
Bennington	11%
Caledonia	14%
Chittenden	8%
Essex	14%
Franklin	10%
Grand Isle	9%
Lamoille	11%
Orange	10%
Orleans	16%
Rutland	11%
Washington	10%
Windham	11%
Windsor	9%

[18] U.S. Department of Commerce, Economics and Statistics Administration. *Income, Earnings and Poverty Data from the 2007 American Community Survey*. By A. Bishaw and J. Semega. Washington: Government Printing Office. Issued August 2008.
[19] U.S. Census Bureau, Small Area Income & Poverty Estimates. State and County data available at http://www.census.gov/hhes/www/saipe/county.html. Accessed on 12/15/08.

In 2007, 6.4% of Vermont families had incomes below the poverty level. [20] Almost sixty percent of those families had a female head of household with no male present. Adding children to these households influences this picture of poverty (Figure 8). In 2007, 2.3% of female head of household families with no children lived in poverty. Adding 1-2 children increased that number to 31.1% of female head of household families in poverty. Add 3-4 children, and almost half of those families (49.8%) lived in poverty. It was estimated that all families with a female head of household and five or more children lived in poverty.

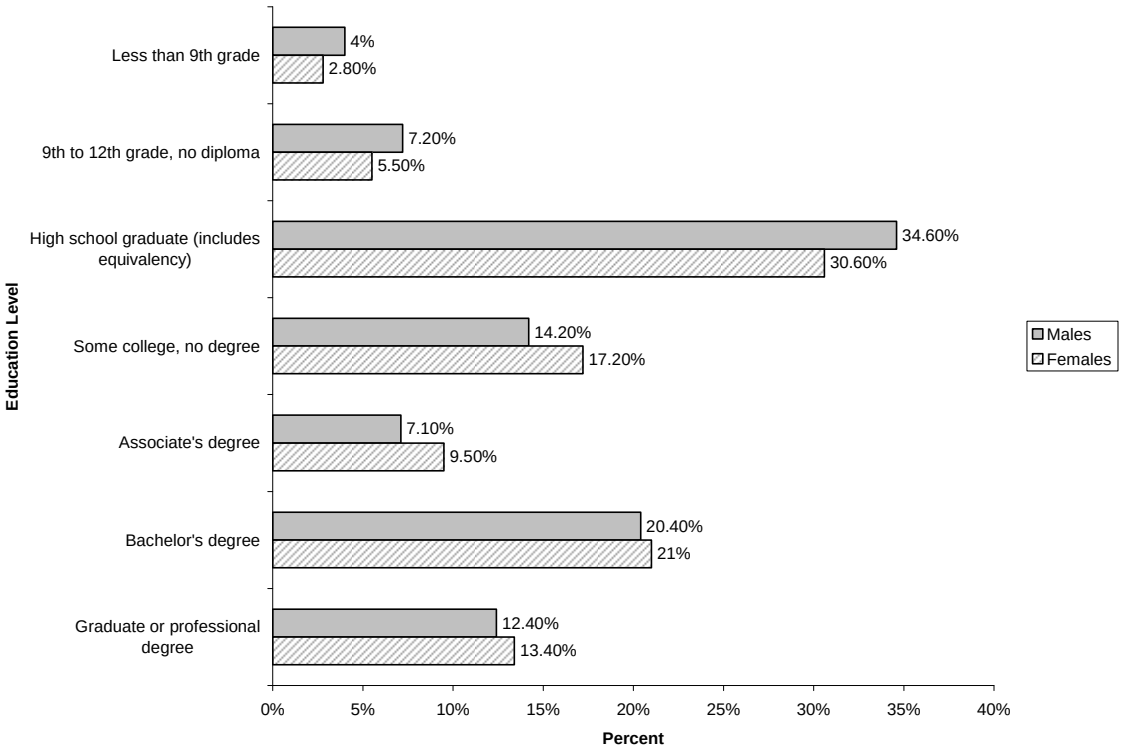
Figure 8. Percent of Vermont Families Living in Poverty by Family Type and Number of Children: 2007 [20]



[20] "Poverty Status in the Past 12 Months of Families by Household Type by Number of Related Children Under 18 Years-Universe: Families," Table B17012. U.S. Census Bureau, American Community Survey. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=. Accessed 10/23/08.

Education: In 2007 Vermont was ranked 5th in the nation for the percent of people who completed high school or equivalency.[21] Nationally 84.5% of people 25 years of age and older obtained a high school diploma or equivalent, compared to 90.3% of Vermonters 25 years of age and older.[21] Vermont also ranks highly for the percent of people 25 years of age and over completing a Bachelor's degree (tied with Virginia for 7th in the nation), and for the percent of people 25 years of age and older completing an advanced degree (7th in the nation).[22, 23] Figure 9 provides additional information about the education level of Vermonters.

Figure 9. Educational Attainment of Vermont Residents 25 Years of Age and Older, 2007[24]



[21] "Percent of People 25 years and Over Who Have Completed High School (Includes Equivalency):2007," Table R1501, U.S. Census Bureau, American Community Survey. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=. Accessed on 10/28/2008.

[22] "Percent of People 25 years and Over Who Have Completed a Batchelor's Degree:2007," Table R1502. U.S. Census Bureau, American Community Survey. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=. Accessed on 10/28/2008.

[23] "Percent of People 25 years and Over Who Have Completed an Advanced Degree:2007," Table R1503. U.S. Census Bureau, American Community Survey. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=. Accessed on 10/28/2008.

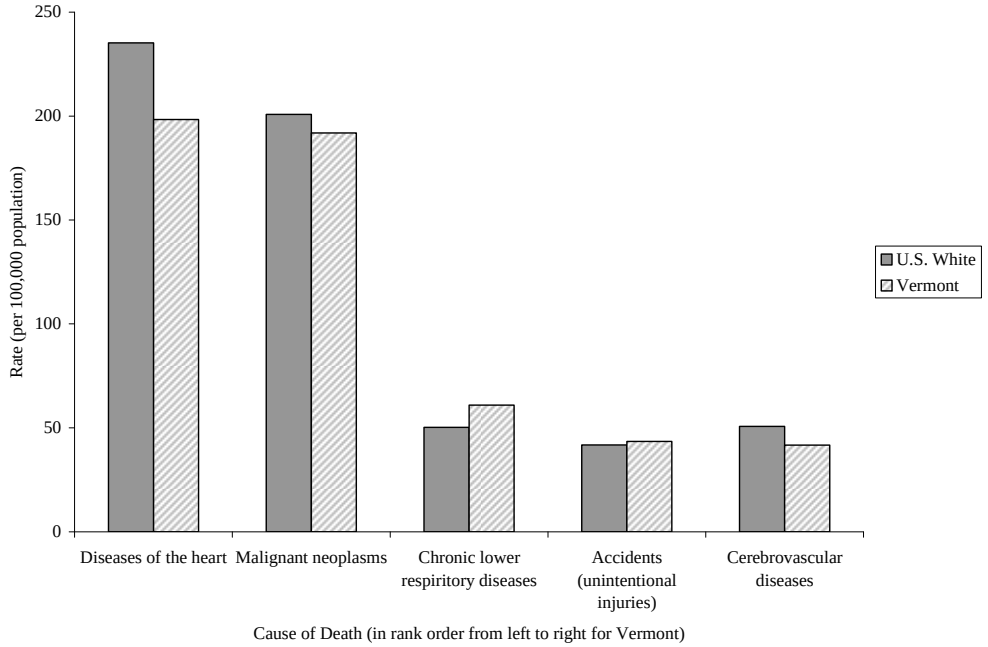
[24] "Sex by Educational Attainment for the Population 25 Years and Over-Universe: Population 25 Years and Over," Table C15002. U.S. Census Bureau, American Community Survey. Available at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts=. Accessed on 10/28/2008.

Health and Healthcare

Health Indicators: In 2008, Burlington, Vermont was named the healthiest city in the nation by the Centers for Disease Control and Prevention with 92% of its residents reporting that they are in good or great health. In 2008, Vermont was ranked as the healthiest state in the nation for the second year in a row by the United Health Foundation.[25] Between 1990 and 2008, Vermont made overall significant health improvements including reductions in smoking (declined from 30.7% of adults in 1990 to 17.6% of adults in 2008), deaths from cardiovascular disease including strokes (declined from 401.7 deaths per 100,000 population in 1990 to 255.7 deaths per 100,000 population in 2008) and infant mortality (declined from 9.2 infant deaths per 1,000 live births in 1990 to 5.8 deaths per 1,000 live births in 2008). The incidence of infectious diseases, including AIDS, tuberculosis and hepatitis, decreased from 20.3 cases per 100,000 population in 1990 to 5.7 cases per 100,000 population in 2008.

Leading Causes of Death: In 2005 the top five leading causes of death were the same for both Vermont and the U.S. White population, although the rank order of these causes differed (Figure 10). For the past 40 years, the top two leading causes of death in Vermont have been heart disease and cancer. In 2005 chronic lower respiratory diseases, and not stroke, was the third leading cause of death.[8] Although deaths attributed to heart disease and strokes are the leading cause of death in Vermont, the rates of these diseases have been declining since the 1960's.

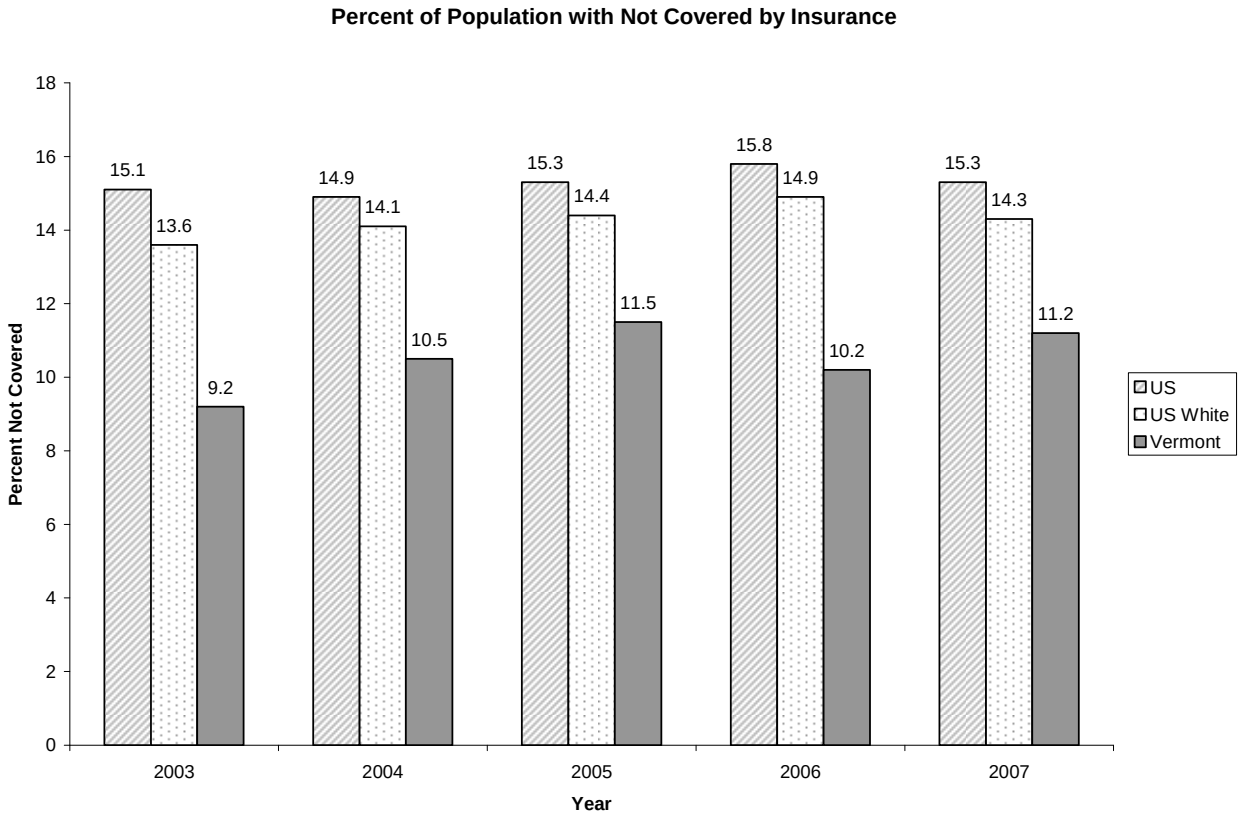
Figure 10. Five Leading Causes of Death for Vermont and the U.S. White Population: 2005 [8]



[25] United Health Foundation. American's Health Rankings: *A Call to Action for People & Their Communities*. 2008 Edition. A joint effort of the United Health Foundation, the American Public Health Association, and Partnership for Prevention.

Health Insurance: In 2007 11.2% of Vermonters were not covered by health insurance.[26] The percentage of the population of Vermont that is uninsured has historically been lower than the proportions of uninsured U.S. residents and of uninsured U.S. White residents (see Figure 11). The number of uninsured Vermonters has increased from 9.2% in 2003 to 11.2% in 2007.

Figure 11. *Percent of Vermont, U.S., and U.S. White Population Not Covered by Health Insurance: 2003-2007*[26]



[26] "Health Insurance Coverage Status and Type of Coverage by State All People: 1999-2007," Table HIA-4. U.S. Census Bureau, Current Population Survey, 2000-2007 Annual Social and Economic Supplements. Available at http://www.census.gov/hhes/www/hlthins/historic/index.html. Accessed on 10/28/2008.

Table 3. Insurance Coverage in Vermont, 2003 and 2007 [26]

		2003		2007	
Coverage Type		Number (in thousands)	Percent	Number (in thousands)	Percent
Not Covered		56	9.2	69	11.2
Private	Total	438	71.7	437	71.2
	Employment-based	383	62.7	388	63.2
	Direct Purchase	60	9.9	52	8.5
Government	Total	201	32.9	207	33.8
	Medicaid	113	18.4	113	18.5
	Medicare	94	15.4	99	16.1
	Military	20	3.3	23	3.8

Health insurance coverage is available in Vermont from a variety of publicly supported sources. Medicare covers individuals 65 years of age and older as well as people with certain disabilities, and Medicaid provides coverage for children, the disabled and the elderly. Vermont also passed landmark health care reforms in 2006, including Catamount Health, a comprehensive insurance plan in cooperation with the state, Blue Cross and Blue Shield of Vermont and MVP Health Care. Catamount Health is included in Green Mountain Care Programs, a collection of programs that also includes Employer-Sponsored Insurance (ESI) Pre-Assistance (to help uninsured Vermonters pay their employer premiums), Dr. Dynasaur (low cost or free coverage for children, teens and pregnant women), VHAP (insurance for low-income adults who have been uninsured for 12 months or more or who have recently lost their insurance), as well as several prescription assistance programs (VPharm, VHAP-Pharmacy, VScript, and Healthy Vermonters).[27]

Public Health and Health Care Infrastructure: Vermont has one academic medical center (in Burlington), 13 community hospitals, and one Veterans Administration Medical Center. Vermont residents also access New Hampshire's Dartmouth-Hitchcock Medical Center, which is located near White River Junction, Vermont and Albany Medical Center in Albany, NY. The Vermont Department of Health has a central office in Burlington and 12 district offices around the state. These offices are a part of the Division of Local Health and provide health promotion and disease prevention services. Each district office has a Public Health nurse who is funded to do HIV Prevention work 3 hours each week. Infectious Disease Epidemiology and the HIV/AIDS Program are located within the Division of Health Surveillance in the central office in Burlington.

Vermont's HIV and AIDS Service Network: The Ryan White CARE Act provides federal funding for health care and support services for people living with HIV. Government funded services for people living with HIV in Vermont are available through Community Based Organizations (CBOs) and Comprehensive Care Clinics (CCCs). Vermonters also receive services at Dartmouth-Hitchcock Medical Center in New Hampshire (DHMC). CBOs are independently operated and are staffed with both paid employees and volunteers. There are five CBOs in Vermont receiving federal funds to

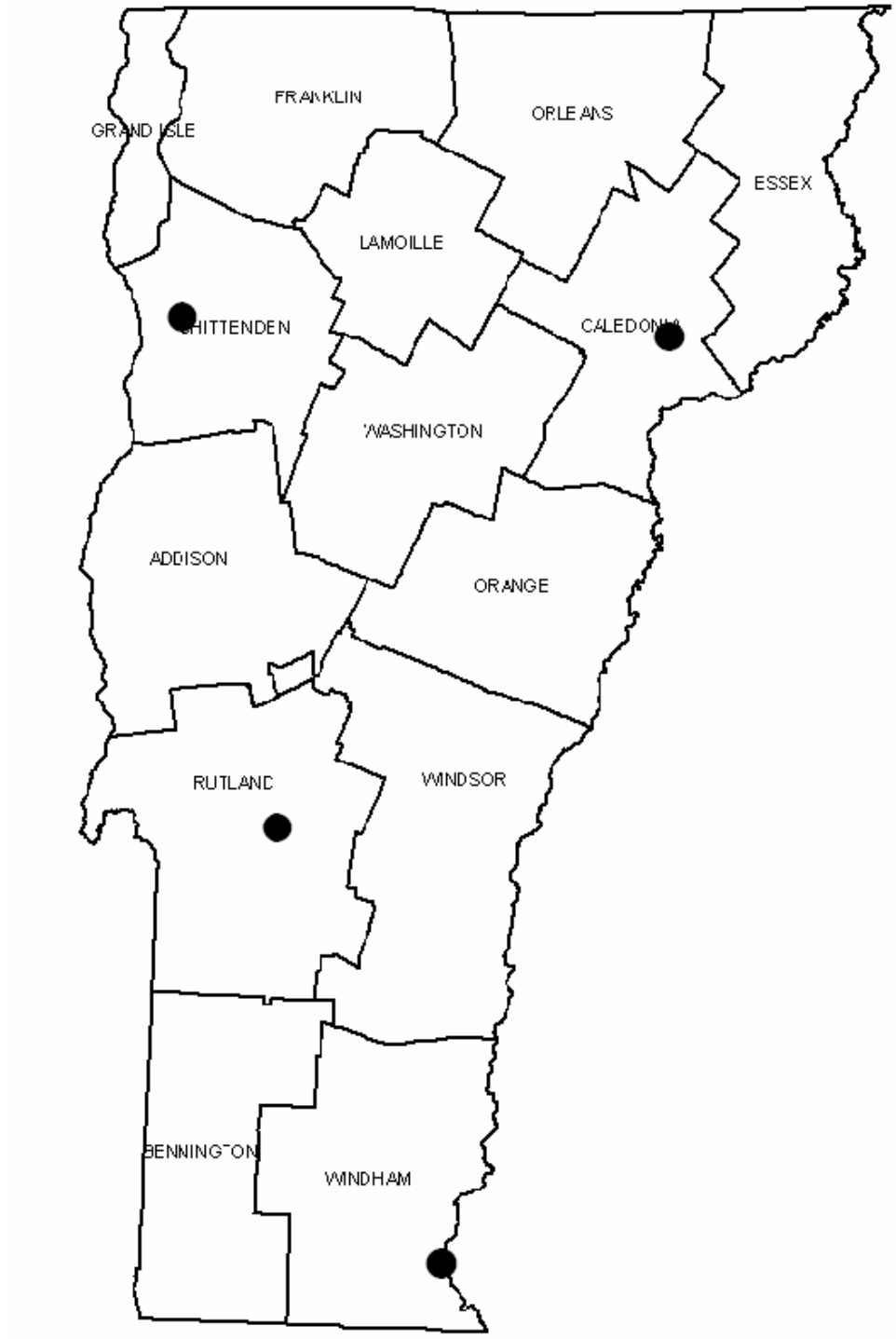
[27] Office of Vermont Health Access, Green Mountain Care Programs. Information available at http://ovha.vermont.gov/. Accessed on 1/22/08.

provide case-management and related services to people who are HIV-positive or are affected by HIV. CBOs also coordinate prevention programs for specific populations.

The rurality of Vermont provides unique challenges to providing HIV-related healthcare. Inexperienced rural physicians, long travel distances to receive expert care, Vermont's limited highway system and minimal public transportation, the lack of psychosocial support systems, concerns about confidentiality, and the complexity of the rapidly changing field of HIV specialty care can make access to quality health care difficult. In order to address the challenges of providing comprehensive HIV-related healthcare in a rural state, Vermont developed a model of HIV care that is centered on hospital-based HIV clinics called Comprehensive Care Clinics (CCCs).28 The CCCs are designed to overcome many of the barriers to health care delivery encountered by HIV positive individuals in Vermont. There are four CCCs located throughout the state (see Figure 12). Each CCC is staffed by a HIV trained nurse practitioner, a social worker, and a dietitian. Infectious disease specialist physicians visit the three CCCs outside of Chittenden County once a month. The CCC in Burlington has the most clients, and has additional infectious disease specialist physicians.

[28] Grace CJ, Soons KR, Kutzko D, Alston WK, Ramundo M. (1999) Service delivery for patients with HIV in a rural state: the Vermont model. *AIDS Patient Care and STDs*; 13(11):659-666

Figure 12. Location of CCCs



Question 2 What is the Scope of the HIV/AIDS Epidemic in Vermont?

The HIV/AIDS epidemic has affected persons in all sex, age and racial/ethnic groups in Vermont. This effect, however, has not been the same for all groups. In the beginning of the epidemic the number of cases of HIV infection increased most sharply among white MSM. Although white MSM are still disproportionately affected by the epidemic, recent national trends suggest a shift in the HIV/AIDS epidemic toward women, blacks, and high-risk heterosexual adults. It is important to identify the populations in Vermont that are most affected and are most at risk for HIV infection to better plan HIV prevention and care efforts, as well as to help effectively allocate limited resources.

A new name-based reporting system was deployed in Vermont this year. This change resulted in lower estimates of persons living with HIV/AIDS than published in previous reports.

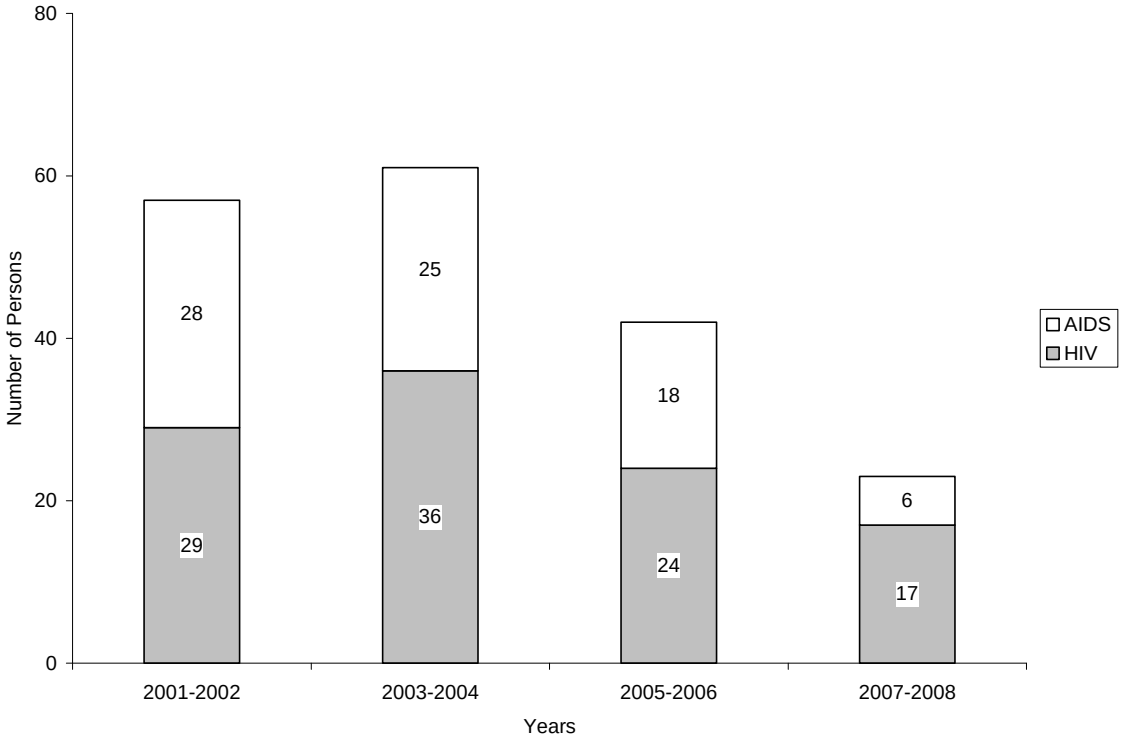
HIGHLIGHTS

- Changes in reporting and data collection methods result in some numbers (for example, people living with HIV/AIDS) appearing smaller compared to past reports.
- At the end of 2008 there were 358 known cases of HIV/AIDS in Vermont and an estimated 113 to 132 additional residents who were living with the virus but had not been diagnosed.
- 38% of all Vermont residents living with HIV/AIDS reside in Chittenden County.
- The non-white population in Vermont is disproportionately affected by HIV.
- More older Vermonters (50+ years old) were being diagnosed more with HIV/AIDS in 2007-2008 as compared to the number diagnosed in 2001-2002.
- MSM accounts for the largest proportion of new HIV/AIDS diagnoses among men in Vermont, and heterosexual sex accounts for the largest proportion of new HIV/AIDS diagnoses among women in Vermont.
- Few deaths occur each year in Vermont where HIV is listed as an underlying cause of death.

New HIV/AIDS Diagnoses

Overall HIV/AIDS Incidence: There were 17 HIV diagnoses among Vermont residents in 2007-2008, a 41% decrease in new diagnosis since 2001-2002 (see Figure 13).[29] The number of AIDS diagnoses continues to decrease in Vermont. In 2007-2008 there were 6 AIDS diagnoses reported in Vermont, down 79% from 28 cases in 2001-2002.[29] Nationally, the number of new HIV cases was estimated to be 56,300 and the number of new AIDS cases to be 37,041.[30,31] The rate of HIV/AIDS new diagnoses in Vermont in 2007-2008 was 3.7 per 100,000 population, compared to 31.1 per 100,000 in the U.S. in 2007.

Figure 13. Number of Persons Diagnosed With HIV and Number of Persons Diagnosed with AIDS for Vermont in Two-Year Intervals [29]



[29] Vermont Department of Health, HIV/AIDS Surveillance

[30] Centers for Disease Control and Prevention. *Estimates of New HIV Infections in the United States*. August 2008. Available at http://www.cdc.gov/hiv/topics/surveillance/resources/factsheets/pdf/incidence.pdf. Accessed on 11/17/08.

[31] Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report, 2007*. HIV/AIDS Surveillance, 2009, volume 19.

New HIV/AIDS Diagnoses Vermont Region: Between 2004 and 2008, 39 (45%) people with new HIV/AIDS diagnoses resided in Chittenden County.[29] Rates of new HIV/AIDS diagnoses (where County of residence was known) per 100,000 population for each Vermont County between 2004 and 2008 can be found in Table 1. The rate for Grand Isle County may appear high given the small size of this community (estimated population of 7,601 in 2007), but only 2.3 % of all new HIV/AIDS diagnoses over this five-year period were residents of Grand Isle. The rate of new diagnoses in Windham and Lamoile Counties are similar, although the population of Windham County is greater (estimated 43,480 people in 2007) than the population of Lamoile County (estimated 24,676 people in 2007).

Table 4. Incidence Rates of HIV/AIDS Diagnoses in Vermont per 100,000 population by County: 2004-2008 [29]

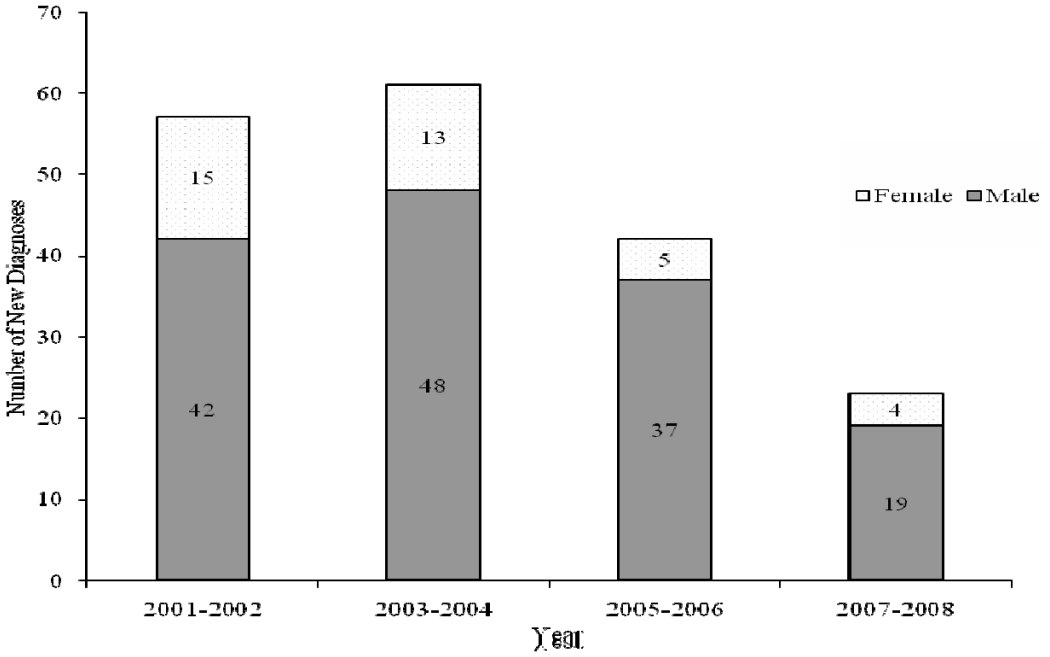
County	Rate[1]
Addison	10.9
Bennington	10.8
Caledonia	6.5
Chittenden	25.7
Essex	0.0
Franklin	10.4
Grand Isle	26.3
Lamoille	12.2
Orange	13.8
Orleans	0.0
Rutland	4.7
Washington	15.3
Windham	11.5
Windsor	1.8

1. Based on 2007 population estimates provided by the Vermont Department of Health Center for Public Health Statistics

New HIV/AIDS Diagnoses by Gender: Although it is estimated that 74% of all people newly diagnosed with HIV/AIDS in the United States in 2006 were men, more women are being diagnosed now compared to the beginning of the epidemic. [32]

In Vermont 20% (37 people) of the cumulative new HIV/AIDS cases between 2001 and 2008 were women.[29] Women tended to make for a small proportion of new cases of HIV/AIDS in any 2-year period as depicted in Figure 14.

Figure 14. New HIV/AIDS Diagnoses in Vermont by Gender in Two-Year Intervals [29]



New HIV/AIDS Diagnoses by Race: An estimated 56,300 people in the United States become infected with HIV each year.[33] African Americans have been disproportionately affected by HIV/AIDS since the epidemic began in the U.S., and continue to account for the majority of new AIDS cases and people living with AIDS.[33] Also disproportionately affected is the Hispanic/Latino population, representing an estimated 15% of the U.S. population, but 17% of new HIV infections.[34]

Only 2.7% of Vermont's total population is non-White, but 14% of new cases of HIV/AIDS diagnosed between 2001 and 2008 were non-White Vermonters.[29] Only 1.2% of Vermont's population identifies as White Hispanic. Between 2001 and 2008, however, 5% of all new HIV/AIDS diagnoses occurred among Hispanics of any race. Currently,

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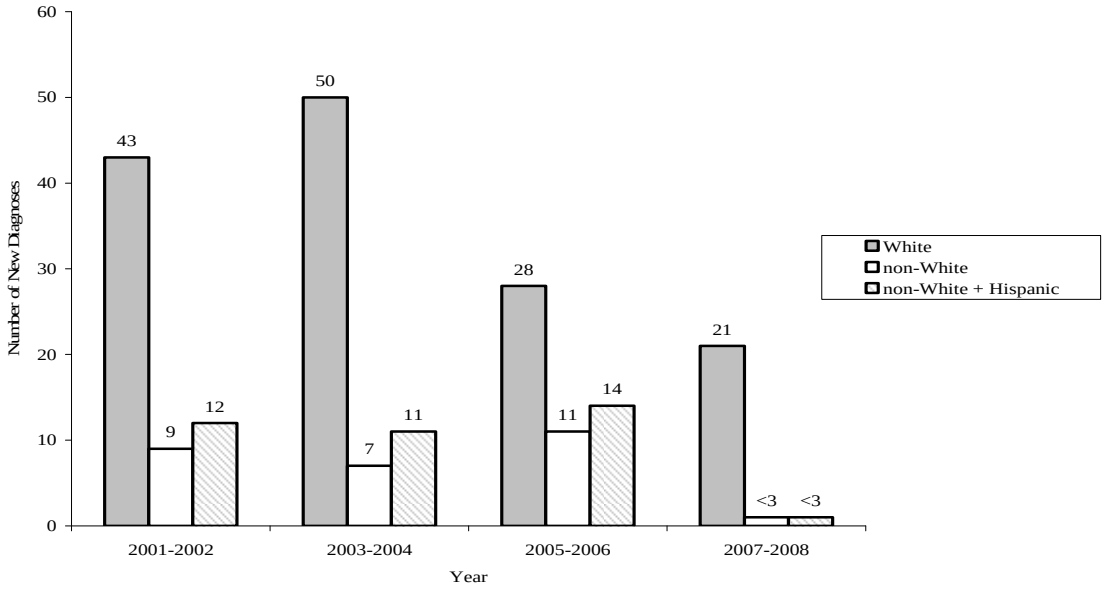
[32] Centers for Disease Control and Prevention. *HIV/AIDS among Women*. Revised August 28, 2008. Available at http://www.cdc.gov/hiv/topics/women/resources/factsheets/pdf/women.pdf. Accessed on 11/17/08.
[33] Centers for Disease Control and Prevention. *HIV/AIDS among African Americans*. Revised August 2008. Available at http://www.cdc.gov/hiv/topics/aa/resources/factsheets/pdf/aa.pdf. Accessed on 11/24/08.
[34] Centers for Disease Control and Prevention. *HIV/AIDS among Hispanics/Latinos*. October 2008. Available at http://www.cdc.gov/hiv/resources/factsheets/PDF/hispanic.pdf. Accessed on 11/24/08.

the category “Hispanic” acts as a race/ethnicity category along with African American, Asian, etc.

If we combine non-White cases and Hispanic cases of new HIV/AIDS diagnoses, we see a relative stability in new cases as compared to diagnoses among the White, non-Hispanic population of Vermont until 2007-2008 (see Figure 15).A decline appears in 2007-2008 because few of people who accounted for new diagnoses for HIV/AIDS in those years identified as non-White. However, as noted earlier, 2008 data may not be complete because of delayed reporting, and additional 2008 data received after the new year may reveal non-White cases. Therefore, this apparent decline should be viewed with caution.

Figure 15. New HIV/AIDS Diagnoses in Vermont by Race and Ethnicity in Two-Year Intervals [29]



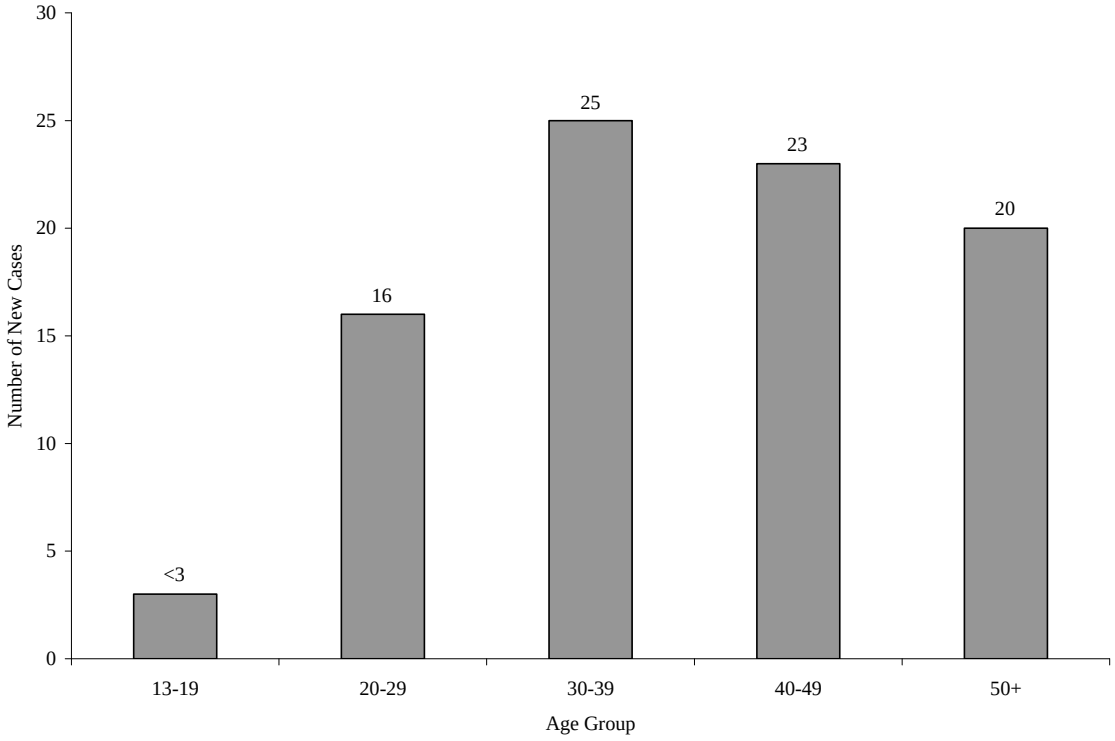
New HIV/AIDS Diagnoses by Age: Nationally, young adults and teens continue to be at increased risk for contracting HIV.[35] Although the progression from HIV to AIDS progressed more slowly among this age group compared to older Americans with HIV, In Vermont, few new diagnoses occur among youth. Between 2001 and 2008; only 3.3% of new HIV/AIDS diagnoses occurred among persons under 20 years of age.[29]

Nationally, the largest estimated number of new HIV/AIDS diagnoses in 2007 were among 40-49 year olds (27% of all new diagnoses) and people ages 30-39 (26% of all new diagnoses).[36] Because of the small numbers of new diagnoses per year, trends for age at diagnosis are examined over a larger span of time than one year. In Vermont, the

[35] Centers for Disease Control and Prevention. *HIV/AIDS among Youth.* August 2008. Available at http://www.cdc.gov/hiv/resources/factsheets/PDF/youth.pdf. Accessed on 11/24/08.
[36] “Estimated number of cases of HIV/AIDS, by year of diagnosis and selected characteristics, 2003-2007—34 states and US dependent areas with confidential name-based HIV infection reporting,” In *HIV/AIDS Surveillance Report, 2007*. Centers for Disease Control and Prevention.

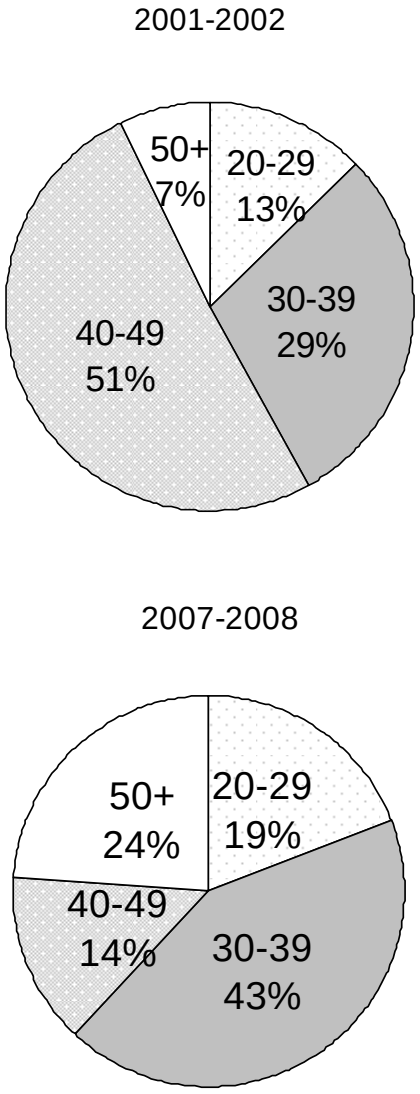
largest numbers of new HIV and AIDS cases for the years 2004 through 2008 are in the 30-39 (25 cumulative cases, 29% of all new cases 2004-2008) and 40-49 (23 cumulative cases, 26% of all new cases 2004-2008) age groups (see Figure 16).[29] People over the age of 50 in Vermont were not far behind, accounting for 23% of new diagnoses in this five-year period. Nationally, people over the age of 50 account for only 17% of new HIV/AIDS diagnoses.[36]

Figure 16. New HIV/AIDS Diagnoses in Vermont by Age Group: 2004-2008 [29]



More older Vermonters (50+ years old) were diagnosed with HIV/AIDS in 2007-2008 (23% of all new diagnoses) compared to the number of older Vermonters diagnosed in 2001-2002 (7% of new diagnoses) (see Figure 17). There were also increases in the proportion of new diagnoses among 20-29 year olds and 30-39 year olds in 2007-2008 as compared to 2001-2002. [29]

Figure 17. New HIV/AIDS Diagnoses in Vermont by Age: 2000-2001 and 2006-2007 [29]



New HIV/AIDS Diagnoses by Transmission Risk: HIV transmission patterns have shifted over time with heterosexual transmission accounting for a growing proportion of HIV/AIDS cases. An estimated 31% of new HIV/AIDS cases (both men and women) in the U.S. reported high-risk heterosexual contact as the mode of transmission for 2007. Among men in the U.S., MSM accounted for the 51% of all new diagnoses and for 71% of all new cases among men in 2007. Among women in the U.S. high-risk heterosexual contact accounted for 21% of all new diagnoses and 83% of new HIV/AIDS cases among women. Again, it should be remembered that the number of individuals diagnosed with HIV and AIDS each year in Vermont is relatively small. For that reason, observing yearly trends and changes in modes of transition is difficult. Table 5 shows the number and percent of HIV and AIDS diagnoses by transmission category between 2001 and 2008, shown with comparable national data. With such low numbers of people diagnosed each year in Vermont, small differences in the number of people in each category may appear as large differences in the percentage of people per category.

As shown in Table 5, for males the largest proportion of all new diagnoses cites MSM as the mode of transmission, similar to U.S. White, non-Hispanic data. Also similar to U.S. data, Vermont men diagnosed with HIV or AIDS infrequently report infection via hemophilia or blood transfusions. However, a larger proportion of Vermont men diagnosed with AIDS report exposure from heterosexual sex (10%) than what is reported by national data (4%). However, in Vermont this proportion represents a relatively small number of men (n = 6). A larger proportion of Vermont men diagnosed with HIV(11%) report MSM/IDU as their mode of transmission compared to national data (6% of new HIV diagnoses reported MSM/IDU).

Heterosexual sex is cited as the mode of transmission by more than half (56%) of HIV diagnoses and more than a third (36%) of all new AIDS diagnoses among Vermont women. For HIV diagnoses, this is somewhat higher than what is reported for women nationally (Table 5). However, it is important to keep in mind the comparatively fewer diagnoses made among women, resulting in a small increase in number but potentially large increase in proportion. A small proportion of Vermont women diagnosed with HIV between 2001 and 2008 reported injection drug use as a mode of transmission compared to national figures. Many women, including Vermont women, report other transmission category or do not report a mode of transmission (Table 5). Women may not report a mode of transmission because they are unaware of the risk behavior they have engaged in, such as having sex with a male partner who also (unknown to the woman) has sex wit with other men.[32]

Table 5. New HIV/AIDS Diagnoses 13 Years of Age and Older in Vermont (2001-2008) and in the U.S. White, non-Hispanic Population (2007) by Transmission Category [29, 30]

	Vermont 2001-2008[1]								U.S. White, not Hispanic 2007							
	Male				Female				Male				Female			
	HIV		AIDS		HIV		AIDS		HIV		AIDS		HIV		AIDS	
Transmission Category	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
MSM	56	67%	39	62%	—[2]	—	—	—	15345	74%	6490	66%	—	—	—	—
Injection Drug Use (IDU)	6	7%	4	6%	≤3	—	4	29%	978	5%	737	8%	733	25%	471	28%
MSM/IDU	9	11%	≤3	—	—	—	—	—	1307	6%	711	7%	—	—	—	—
Heterosexual Contact	≤3[3]	—	6	10%	11	55%	5	36%	571	3%	417	4%	1326	45%	756	45%
Hemophilia/coagulation disorder	≤3	—	'≤3	—	≤3	—	≤3	—	48	0.2%	23	0.2%	≤3	—	≤3	—
Receipt of blood transfusion, blood components, or tissue	≤3	—	≤3	—	≤3	—	≤3	—	19	0.1%	17	0.2%	17	1%	12	1%
Other/Not Reported	11	13%	10	16%	6	30%	4	29%	2393	12%	1410	14%	892	30%	452	27%
Totals	83		63		20		14		20661		9805		2971		1693	

1. Data includes only individuals who were residents of Vermont at the time of diagnosis.
2. Dash indicates no data collected for this category or that a percentage could not be calculated based on low cell counts
3. The Vermont Department of Health does not typically release numbers with values less than 3.

Estimation of People Living with HIV/AIDS in Vermont

Starting in 2008, Vermont made the transition to a name-based reporting system from a code-based system for HIV/AIDS cases. Part of this change involved translating older, code-based records to name-based records. While many cases in the code-based system were successfully translated, 92 records could not be converted. As a result, the number of people living with HIV/AIDS for 2008 looks lower than previous years. This decrease does not necessarily mean there are fewer people living with HIV/AIDS in Vermont, but rather that some of the people living with HIV/AIDS in Vermont that were recorded by the code-based system could not be converted to the name-based system. Whenever possible we present additional data analysis on the people living with HIV/AIDS who could not be converted to the name-based system to see if they systematically differ from those people in the name-based system.

As a result trend data on people living with HIV/AIDS should be interpreted with caution. Years prior to 2008 (using data from the code-based system) can be compared with each other, and data from 2008 on (using data from the name-based system) can be compared with each other. Comparisons of data from the two different systems (for example, comparing people living with HIV/AIDS in 2007 with people living with HIV/AIDS in 2008, or comparing this year's profile with last year's profile) may be misleading.

People Living with HIV/AIDS

Overall HIV/AIDS Prevalence: In 2008 there were 131 Vermont residents living with HIV.[29] The prevalence rate among Vermonters was 21.09 per 100,000 population, based on 2007 population estimates.[2] In 2007, the prevalence rate for the United States was 154.2 per 100,000 population as measured by the 39 states with name-based reporting (not including Vermont).[37] Table 6 shows selected characteristics of people living with HIV in Vermont in 2008. Most people living with HIV in Vermont in 2008 are White, male, and the primary mode of transmission was men who have sex with men (MSM). In 2008 most people living with HIV in Vermont were between the ages of 40 and 49 years old.[29]

There are five reasons why these numbers can be considered the *minimum* number of persons living in Vermont with HIV that have not developed AIDS. First, this estimate does not include persons who are infected with HIV but have not been tested. New HIV prevalence estimates released by the CDC this year indicate that approximately 1 in 5 people infected with HIV are unaware of their infection.[37] Second, it does not include those who were tested anonymously and who have not sought medical care. Third, it does not account for people who first tested positive for HIV outside of Vermont. Fourth, the estimates for the year 2008 may be incomplete because some data on 2008 diagnoses may not reach the Vermont Department of Health until after the new year.[29] Fifth, some

[37] Centers for Disease Control and Prevention. *New Estimates of U.S. HIV Prevalence, 2006*. October 2008. Available at http://www.cdc.gov/hiv/topics/surveillance/resources/factsheets/pdf/prevalence.pdf. Accessed on 11/17/08.

people living with HIV/AIDS in 2007 could not be counted as living with HIV/AIDS in 2008 because their information was not converted to the new name-based data collection system.

In 2008 there were 227 Vermont residents known to be living with AIDS (see Table 6. Persons Living with HIV and Persons Living with AIDS in Vermont: 2008).[29] The prevalence rate among Vermonters was 36.54 per 100,000 population, based on 2007 population estimates.[2] The prevalence rate for the United States in 2007 was 185.1 per 100,000 population.[37] The prevalence rate for the U.S. White, non-Hispanic population was 80.2 per 100,000 of the U.S. White, non-Hispanic population. Like people living with HIV, most Vermonters living with AIDS were White, male, between the ages of 40 and 49 years old, and their primary mode of transmission was MSM.

It is estimated that of all of the people living with HIV/AIDS in the U.S., 24-27% remain undiagnosed and unaware of their HIV infection.[38] If the 358 known cases of HIV/AIDS in Vermont represent only 73-76% of state residents infected with the virus, then an additional 113 to 132 people may be currently undiagnosed in Vermont. The total number of Vermont residents living with HIV/AIDS may be even higher due to people who resided outside of Vermont at the time of their first positive HIV test and those who had a positive HIV test but were tested anonymously and did not enter care. Conversely, the total number of Vermont residents with HIV/AIDS may be artificially increased by including people who were Vermont residents at the time of their first positive HIV test but who no longer live in Vermont.

[38] 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.

Table 6. Persons Living with HIV and Persons Living with AIDS in Vermont: 2008 [29]

	HIV[1]		AIDS	
	Number	%	Number	%
Total [2,3]	131	100%	227	100%
Sex				
Male	106	81%	192	85%
Female	25	19%	35	15%
Race/Ethnicity				
Hispanic-All Races	5	4%	9	4%
White	114	87%	194	85%
Black or African American	10	8%	21	9%
American Indian or Alaskan Native	≤3	—	≤3	—
Asian	≤3	—	≤3	—
Pacific Islander/Native Hawaiian	≤3	—	≤3	—
Multi Race	≤3	—	≤3	—
Unknown	≤3	—	≤3	—
Age Group				
< 13	≤3	—	≤3	—
13-19	≤3	—	≤3	—
20-29	14	11%	6	3%
30-39	28	21%	21	9%
40-49	50	38%	89	39%
50+	37	28%	109	48%
Transmission Category (Adult/Adolescent)				
Men who have sex with men (MSM)	82	63%	116	51%
Intravenous drug use (IDU)	13	10%	30	13%
MSM/IDU	5	4%	15	7%
Hemophilia	≤3	—	7	3%
Heterosexual	15	11%	29	13%
Receipt of Blood	≤3	—	≤3	—
Mother with HIV	≤3	—	≤3	—
Not Reported or Not Identified	16	12%	26	11%

1. Includes only persons reported with HIV infection who have not developed AIDS.

2. These counts do not include deceased individuals.

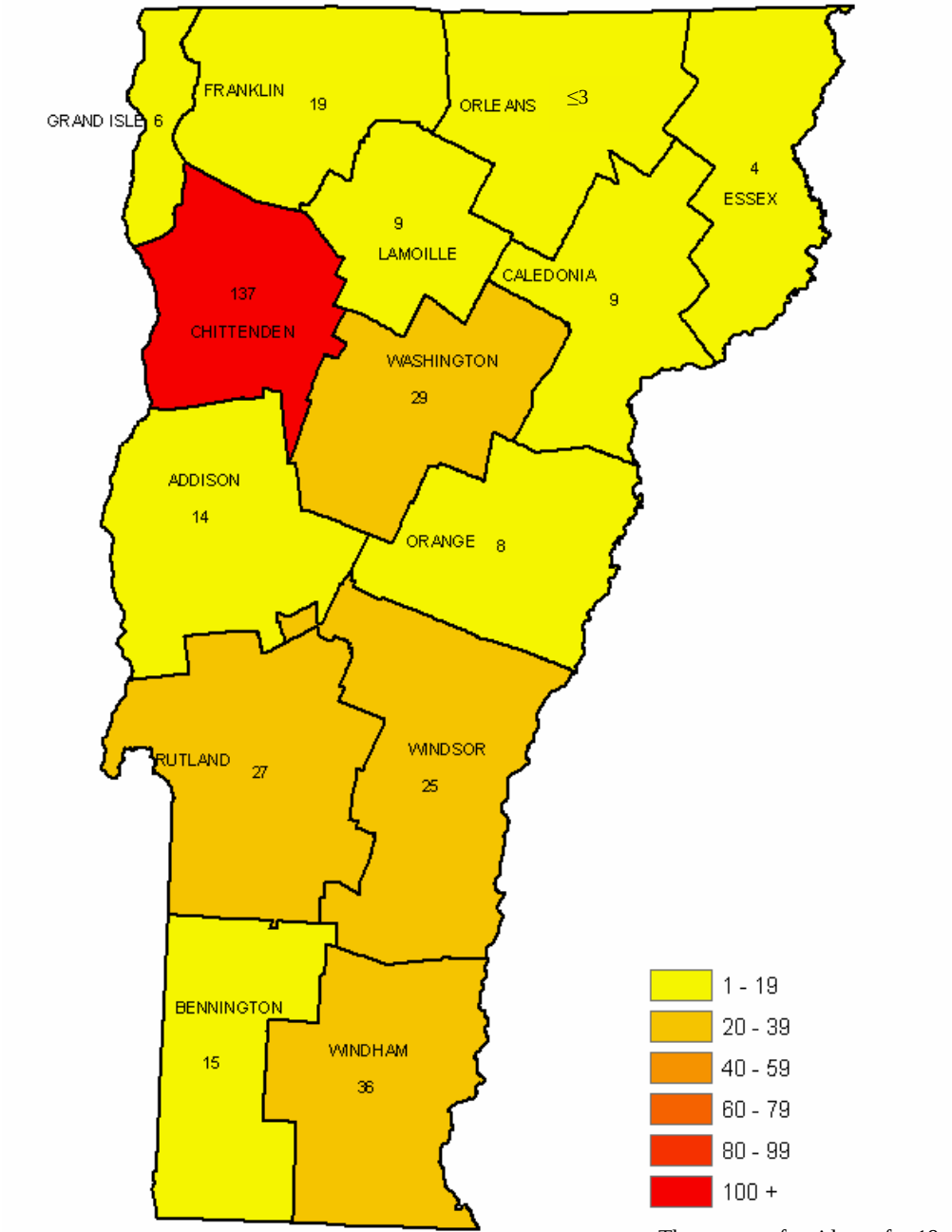
3. Data includes only individuals who were residents of Vermont at the time of diagnosis.

4. The Vermont Department of Health does not typically release numbers with values less than or equal to 3.

5. Value cannot be calculated because of small numbers.

Living with HIV/AIDS by Vermont Region: Twenty-four percent of the state's total population resides in Chittenden County, but 38% (137) of all people living with HIV/AIDS live in Chittenden County.[29] Almost half (45%, or 162 people) of all of the people living with HIV/AIDS in Vermont live in Vermont's only metropolitan statistical area, comprised of Chittenden, Franklin and Grand Isle Counties. Figure 18 shows the number of people living with HIV/AIDS in each Vermont County.

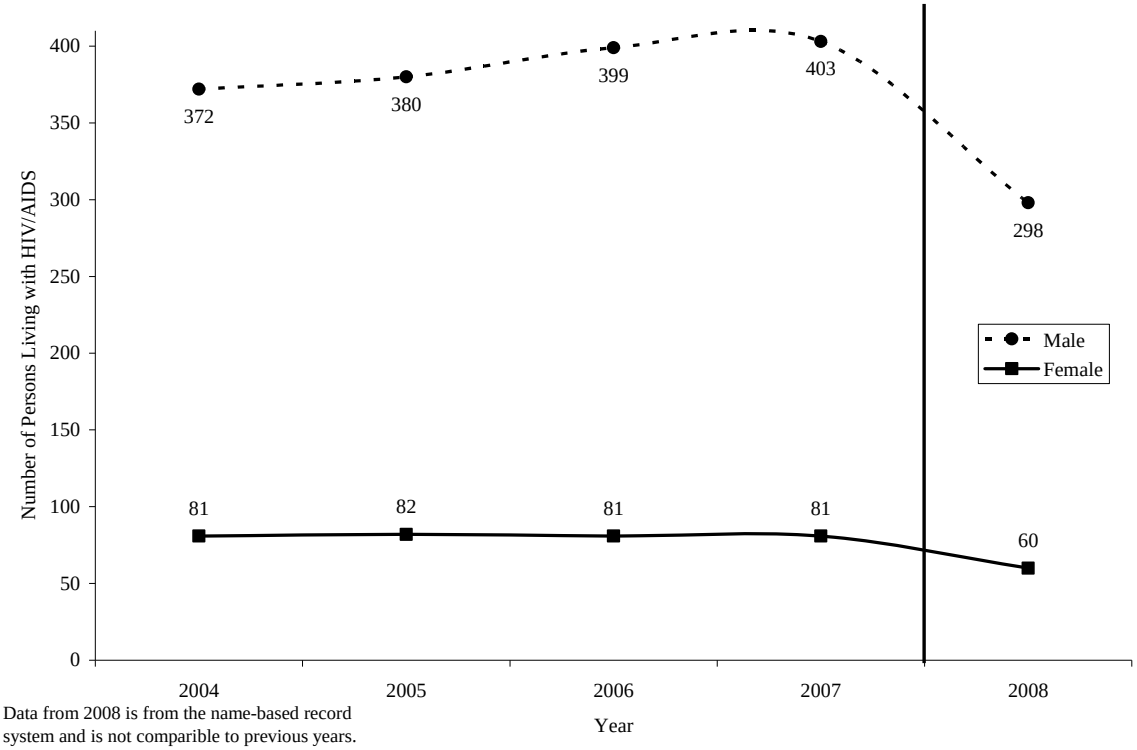
Figure 18. Number of People Living in Vermont with HIV/AIDS by County: 2008[29]



The county of residence for 19 people living with HIV/AIDS was unknown.

Living with HIV/AIDS by Gender: Between 2004 and 2007 the number of men living with HIV/AIDS showed a slight increase. [29] Over the same period the number of women living with HIV/AIDS remained steady. In 2008, 17% of all people living with HIV/AIDS in Vermont were women (Figure 17). The ratio of men living with HIV to women living with HIV who are not included in the new surveillance system (5 men for ever 1 woman living with HIV) is the same as the ratio of men living with HIV/AIDS to women living with HIV/AIDS in 2008.

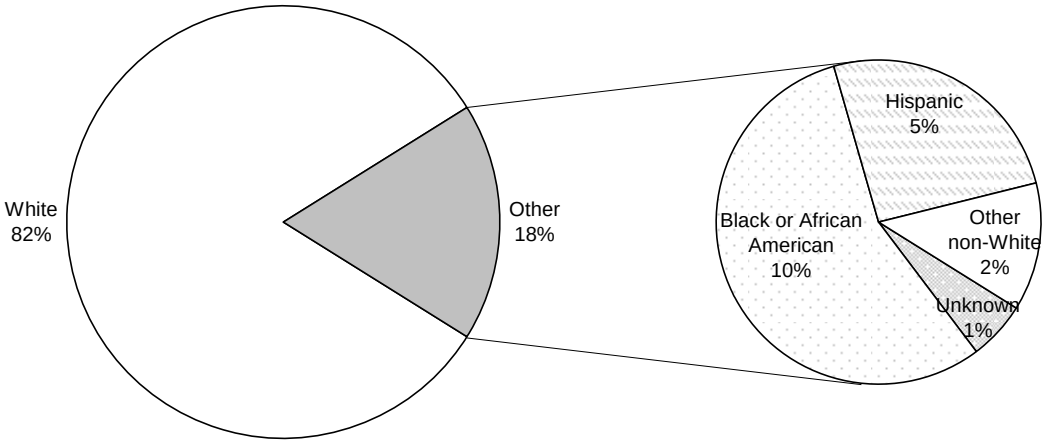
Figure 19. Number of People Living in Vermont with HIV/AIDS by Gender: 2000-2008 [29]



Living with HIV/AIDS by Race/Ethnicity: Non-Whites comprise a sizeable portion of people living with HIV/AIDS in Vermont, as compared to the proportion of the Vermont population that is non-White or Hispanic/Latino. Just 3.9% of Vermont's population identified as non-White or as Hispanic in 2007 (refer to Figure 2), but 18% of people living with HIV/AIDS identified as non-White or as Hispanic in 2007 (see Figure 19).[29]

The racial and ethnic break-down of the 92 people living with HIV that were present in the code-based surveillance system but were not transferred to the name-based surveillance system was similar (83% White, 17% people of color, Hispanics, or unknown) to what was observed for people living with HIV/AIDS in 2007 (see Figure 20) but higher than what was observed for people living with HIV/AIDS in 2008 (86% White, 14% people of color, Hispanics, or unknown).

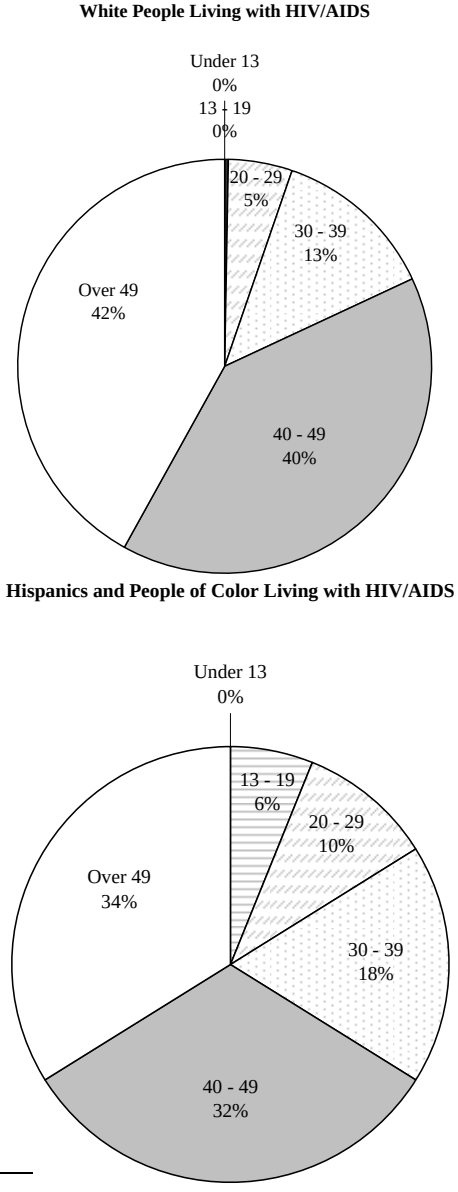
Figure 20. Persons Living with HIV/AIDS in Vermont by Race/Ethnicity: 2007 [29]



Living with HIV/AIDS by Age Group: Nationally, young adults and teens continue to be at increased risk for contracting HIV.[39] Although the progression from HIV to AIDS progressed more slowly among this age group compared to older Americans with HIV, the estimated number of young people living with AIDS in the U.S. decreased 22% from 2006 to 2007.[30, 39] In Vermont, most people living with HIV/AIDS are 40 years old or older (see Table 6; the majority (66%) of people living with HIV who were not captured in the name-based surveillance system are also 40 years old or older).

Hispanics and people of color living with HIV/AIDS in Vermont are younger (34% are 39 years old or younger) than White people living with HIV/AIDS in Vermont (18% are 39 years old or younger) (see Figure 21).[29]

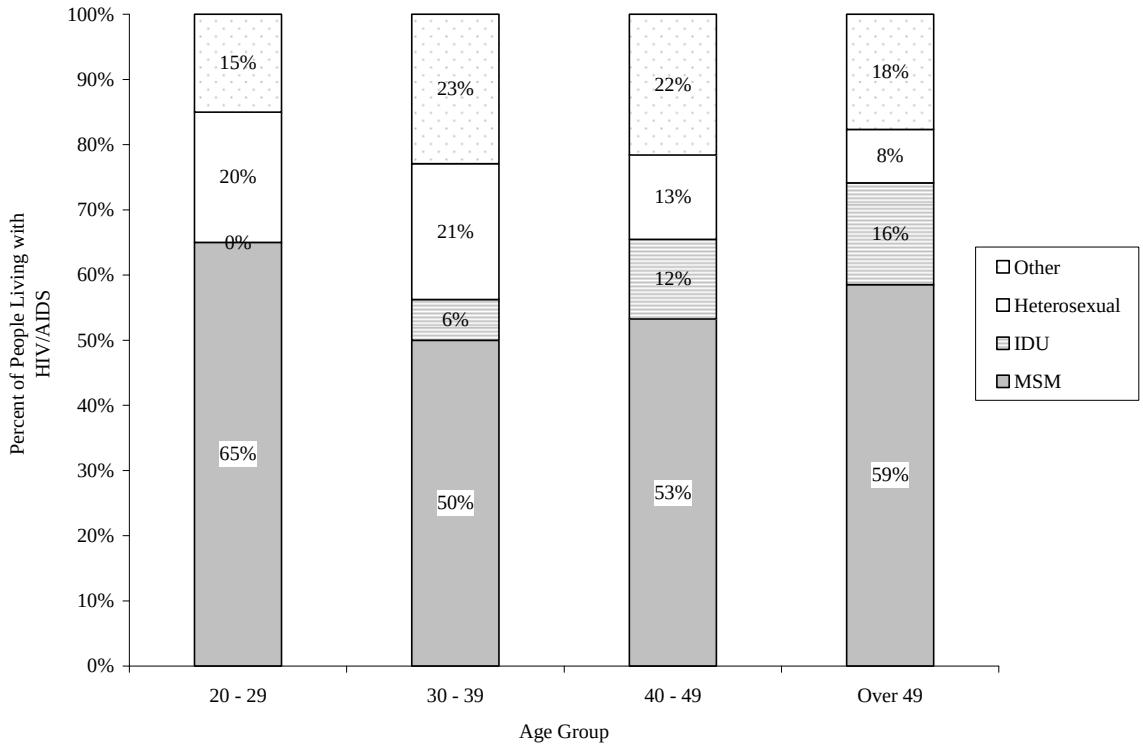
Figure 21. People Living with HIV/AIDS by Race/Ethnicity and Age Group: 2008 [29]



[39] Centers for Disease Control and Prevention. *HIV/AIDS among Youth.* August 2008. Available at http://www.cdc.gov/hiv/resources/factsheets/PDF/youth.pdf. Accessed on 11/24/08.

Living with HIV/AIDS by Transmission Category: MSM makes up the largest transmission category of people living with HIV/AIDS in Vermont, particularly among 20-29 year olds (also see Table 6). More younger Vermonters living with HIV/AIDS (20% of 20-29 year olds and 21% of 30-39 year olds) report heterosexual transmission compared to older Vermonters living with HIV/AIDS (13% of 40-49 year olds and 8% of people 50 years old or older). Conversely, more older Vermonters report IDU as a mode of transmission (12% of 40-49 year olds and 16% of people 50 years old and older) compared to younger Vermonters (0% of 20-29 year olds and 6% of 30-39 year olds).

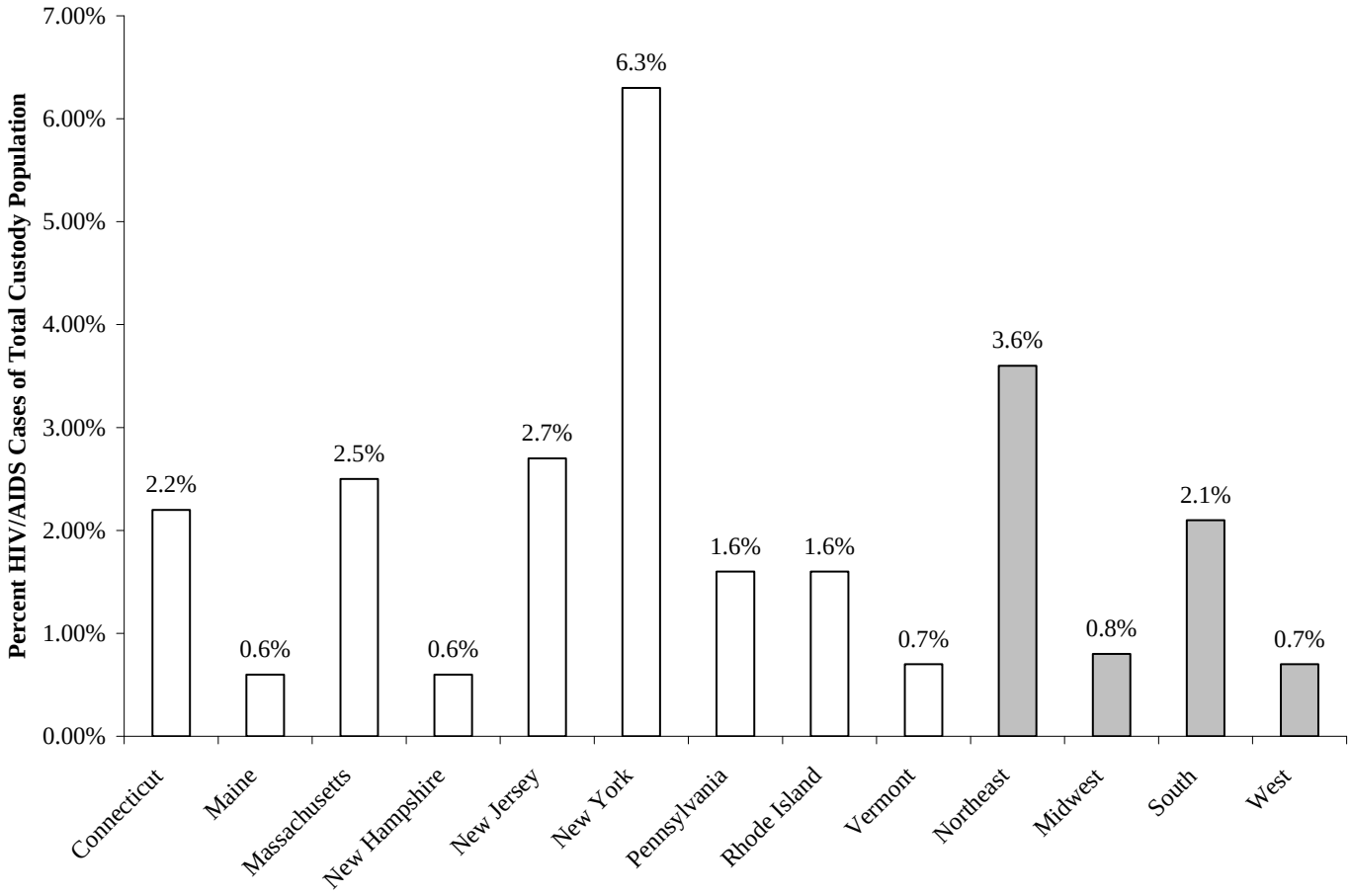
Figure 22. Percent of People Living With HIV/AIDS by Age Group and Transmission Category: 2008 [29]



HIV in Prisons

At the end of 2006, there were 20,450 inmates in state prisons and 1,530 inmates in federal prisons with HIV/AIDS.[40] There were 12 HIV/AIDS cases (all male) in Vermont prisons in 2006. This represents .7% of the total population in custody in Vermont, the second lowest in proportion of prisoners with HIV/AIDS in the northeast (Maine and New Hampshire were the lowest with .6% of all inmates in custody with HIV/AIDS). The northeast has the largest proportion of people in custody with HIV/AIDS (3.6%) among the four regions of the U.S. (Figure 23).

Figure 23. Percent of Total Custody Population with HIV/AIDS by Location: 2006 [40]



[40] Maruschak, L.M. *HIV in Prisons, 2006*. Bureau of Justice Statistics Bulletin, September 2007, U.S. Department of Justice.

Counseling, Testing, and Referral System

The State of Vermont's HIV Counseling, Testing, and Referral system (CTR) consists of 25 testing sites located throughout the state (see Table 7). In 2008, 3,965 HIV tests and results were obtained via CTR in Vermont. Since 1998, 25,464 complete tests have been conducted through CTR in Vermont.

Table 7. Vermont Counseling, Testing and Referral Sites: 2008 [41]

Site Name	Anonymous Oral Testing	Anonymous Blood Testing	Confidential Orasure and Blood	Anonymous Oral Rapid
ACORN	**X**			**X**
Act I / Bridge Program	**X**			**X**
AIDS Project of Southern VT-Bennington	**X**			**X**
AIDS Project of Southern VT-Brattleboro	**X**			**X**
Community Health Center of Burlington	**X**	**X**		**X**
Comprehensive Care Clinics [1]	**X**	**X**		
Dartmouth Hitchcock Clinic				
IMANI Health Institute	**X**			
Mt. Ascutney-Hitchcock Clinic	**X**	**X**		
Open Door Clinic	**X**	**X**		
Outright Vermont	**X**			
Planned Parenthood of New England [2]			**X**	
Putney Medical Office		**X**		
Richford Health Center	**X**	**X**		
R.U.1.2?	**X**			**X**
Safe Recovery	**X**			**X**
Spectrum One Stop	**X**			**X**
Twin States Network	**X**			
VDH District Office Bennington	**X**			
VDH District Office Burlington	**X**			**X**
VDH District Office Newport	**X**			
VDH District Office St. Albans	**X**			
Vermont CARES[2]				**X**
Vermont Harm Reduction Coalition	**X**	**X**		
Vermont People of Color/SISTA	**X**			

1. Comprehensive Care Clinics (CCCs) are located in Bennington, Burlington, Rutland and St. Johnsbury Vermont

2. Vermont CARES has locations in Burlington, Rutland, and St. Johnsbury that offer anonymous oral rapid testing.

2. Planned Parenthood of New England has offices in Barre, Bennington, Brattleboro, Burlington, Hyde Park, Middlebury, Newport, Rutland, Springfield, St. Albans, St. Johnsbury, Waterbury, and Williston Vermont.

Testing History and Results

Of the 3,965 tests with reported results conducted in 2008, 48% of people tested through Vermont CTR indicated that they had previously tested negative for HIV and 45% reported that they had never been tested before. The remaining 7% tested noted that they did not know their test results, had previously tested positive, had a previous inconclusive test, or a response was not specified.[41]Table 8 shows the total number of all HIV positive test results at CTR sites between 1998 and 2008. Most of the clients who tested positive were male, White, aged 30-39 years old.[41] This is similar to the profile of new diagnoses in Vermont presented earlier. Interestingly, 84% of positive test results came from anonymous tests between 1998 and 2008. Also, 41% of those who had tested negative in the past now tested positive for HIV.

Table 8. Positive Test Results Obtained Through Vermont CTR: 1998-2008 [41]

	Number of Positive Test Results	Percent
Sex		
Male	57	77%
Female	17	23%
Race/Ethnicity		
White	53	72%
Non-white	16	22%
Hispanic	5	7%
Age		
13-19	4	5%
20-29	22	30%
30-39	26	35%
40-49	12	16%
>=50	7	9%
unknown	≤3	—
Type of test		
Anonymous	62	84%
Confidential	12	16%
Test history		
No previous test	25	34%
Previously negative	30	41%
Previously positive	10	14%
Previously inconclusive	4	5%
Previously unknown	4	5%
not specified	≤3	—
Total Positive Tests	74	100%

[41] Vermont Department of Health, HIV/AIDS Counseling, Testing, and Referral Coordinator.

HIV/AIDS Stigma

Community Size and Community Attitudes: In 2004 - 2006 two hundred HIV positive individuals participated in a Person Environment Zone project based at the University of Vermont.[42] The majority of study participants (74%) with HIV/AIDS were Vermont residents (see Appendix A).

Perceptions of HIV stigma in the form of disclosure concerns, negative self-image, concern with public attitudes, and enacted stigma were examined among men and women from metropolitan, micropolitan and rural areas.[43] Results indicated that men and women reported different levels of perceived stigma depending on their community's size. Rural women reported more disclosure concerns than did metropolitan and micropolitan women. They also reported more disclosure concerns than rural men did. Men in micropolitan areas reported more disclosure concerns than men living in metropolitan and rural areas; however men in metropolitan and rural areas did not differ on reported disclosure concerns. Women, despite the size of their community, reported more concern with public attitudes than men did (see Figure 24).

Although some studies have shown that people living in rural areas do have more negative attitudes towards people with HIV/AIDS than do people living in more urbanized areas, more recent nationwide data suggests that negative attitudes towards people with HIV/AIDS are decreasing.[44, 45] One explanation for changes in expressed HIV/AIDS prejudice is that community members may be motivated to control their prejudice. A person may be internally motivated to control because it is personally important to him or her because of their own standards and values. A person may be externally motivated to control prejudice because they worry about how others will perceive them or because they are aware of politically correct standards not to be prejudiced. People who are highly identifiable in their community may be particularly sensitive to external motivations to control prejudice.[46]

Community members who said more people in their community knew who they were, personally, reported more external motivations to control prejudice against people with HIV/AIDS than did people who were not as personally well known. People who believed that others in their community knew who they were, but not personally, and who lived in rural areas were less internally motivated to control prejudice than people living in metropolitan or micropolitan areas who were similarly visible in their communities.[46]

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[42] Person Environment Zone Project is supported by Grant MH 066848 from the National Institute of Mental Health.

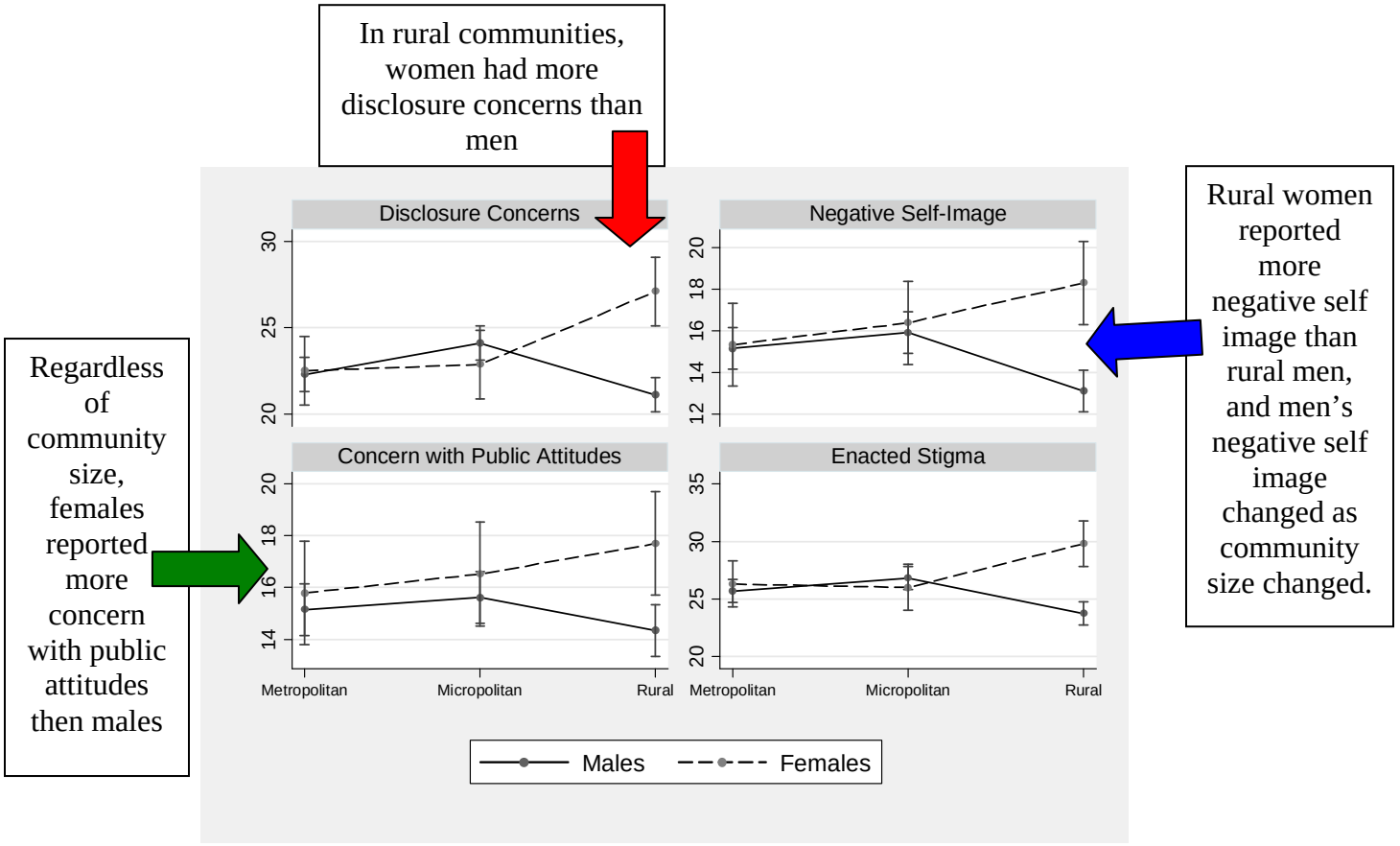
[43] Gonzalez, A., Miller, C.T., Solomon, S. E., Bunn, J.Y., & Cassidy, D.G. (under review). Size matters: Community size, HIV stigma, & gender differences. Figure from PEZ Dispenser Seasonal Newsletter.

[44] Mondragon D, Kirkman-Liff B, Schneller ES. "Hostility to People with AIDS: Risk Perception and Demographic Factors." Social Science and Medicine 10 (1991): 1137-1142.

[45] Herek GM, Capitanio JP, Widaman KF. "Stigma, Social Risk, and Health Policy: Public Attitudes Toward HIV Surveillance Policies and the Social Construction of Illness." Health Psychology 22 (2003): 533-540.

[46] Bunn, J.Y., Solomon, S.E., Varni, S.E., Miller, C.T., Forehand, R., & Ashikaga, T. (2008) Urban-Rural Differences in Motivation to Control Prejudice Toward People with HIV/AIDS: The Impact of Perceived Identifiability in the Community. Journal of Rural Health.

Figure 24. Perceptions of HIV/AIDS Stigma by Sex and Community Size [43]



HIV/AIDS Mortality

Since the introduction of Highly Active Anti-Retroviral Therapy (HAART) in 1996, the progression from HIV to AIDS, and from AIDS to death, has slowed considerably for many persons living with HIV in the United States.[47] There were also fewer new HIV infections in the 1990's as compared to new infections the 1980's in the U.S.[48]

Between 2003 and 2007 there were an estimated 562,793 deaths among people with AIDS in the U.S., including 14,110 in 2007 alone.[49] In Vermont, seven HIV related deaths were recorded in 2005.[8, 49] The number of deaths with HIV/AIDS as the underlying or contributing cause may be underreported in both Vermont and national statistics because the physician completing the certificate may be unaware of the deceased individual's HIV positive status. These numbers may be different than numbers of deaths provided by HIV/AIDS surveillance because surveillance data includes deaths only for people who were Vermont residents at the time of diagnosis. For example, a person who was diagnosed with HIV in another state and later moved to Vermont and became a Vermont resident would be included in vital statistics data but not in HIV/AIDS surveillance data. The data presented in this section is based on vital statistics data so that it may be comparable with rankings of leading causes of death in Vermont.

In Vermont, a decline in HIV-related deaths began in 1995, which is a bit earlier than the national decline in HIV-related deaths. The number of HIV-related deaths in Vermont peaked at 36 deaths in 1994 and declined to 7 deaths in 2005.[8] In 2005, 57% of these deaths occurred in people between the ages of 25 and 40, and 43% of these deaths occurred in people between the ages of 41 and 60.[8] The majority (86%) of those who died were White, non-Hispanic.

In 2005, HIV was ranked 24th (tied with anemia) as a leading cause of death, up from a ranking of 29th in 2004. Between 2000 and 2005, HIV was ranked 8th (tied with cerebrovascular diseases) among 25-44 year olds in Vermont, up from a ranking of 10th in 2004.[8] In 2005 in the United States, HIV was ranked as the 6th leading cause of death among both White 25-34 year olds and among White 35-44 year olds.[50] In Vermont between 2000 and 2005, HIV was ranked 17th among 45 to 64 year olds as a leading cause of death, up from a ranking of 20th in 2004 but still considerably lower than the U.S White ranking of 9th among 45-54 year olds in 2005 (see Table 9 and Table 10).[8, 50]

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[47] Centers for Disease Control and Prevention. *Deaths Among Persons with AIDS through December 2000*. HIV/AIDS Surveillance Supplemental Report, 2002, 8 (no. 1).

[48] The Henry J. Kaiser Family Foundation. *HIV/AIDS Policy Fact Sheet: The HIV/AIDS Epidemic in the United States*. July 2002. Available at http://www.kff.org/hivaids/upload/3029-071.pdf. Accessed on 2/7/08.

[49] "Estimated numbers of deaths of persons with AIDS, by year of death and selected characteristics, 2003-2007 and cumulative—United States and dependent areas." In *HIV/AIDS Surveillance Report, 2007*. Centers for Disease Control and Prevention

[50] "Deaths, percentage of total deaths, and death rates for the 15 leading causes of death in 10-year age groups, by race and sex: United States, 2005." Table LCWK2. Centers for Disease Control and Prevention, National Center for Health Statistics. Available at http://www.cdc.gov/nchs/datawh/statab/unpubd/mortabs/lcwk2_10.htm. Accessed on 11/03/08.

Table 9. Ranking of 10 Leading Underlying Causes of Death of Vermont Residents Aged 25-44 Years, 2000-2005 [8]

RANKABLE CAUSE	NUMBER OF DEATHS	PERCENTAGE OF RESIDENT DEATHS	RANK
ACCIDENTS	314	1.02715	1
MALIGNANT NEOPLASMS	214	0.70003	2
INTENTIONAL SELF-HARM	170	0.55610	3
DISEASES OF HEART	140	0.45797	4
CHRONIC LIVER DISEASE AND CIRRHOSIS	34	0.11122	5
ASSAULT (HOMICIDE)	27	0.08832	6
DIABETES MELITUS	23	0.07524	7
HUMAN IMMUNODEFICIENCY VIRUS (HIV)	**22**	**0.07197**	**8**
CEREBROVASCULAR DISEASES	22	0.07197	8
CONGENITAL MALFORMATIONS, DEFORMATIONS AND CHROMOSOMAL ABNORMALITIES	20	0.06542	9
IN SITU NEOPLASMS, BEIGN NEOPLASMS OF UNCERTAIN OR UNKNOWN BEHAVIOR	9	0.02944	10

Table 10. Ranking of 10 Leading Underlying Causes of Death of Vermont Residents Aged 45-64 Years, 2000-2005 [8]

RANKABLE CAUSE	NUMBER OF DEATHS	PERCENT OF RESIDENT DEATHS	RANK
MALIGNANT NEOPLASMS	1863	6.09421	1
DISEASES OF HEART	961	3.14360	2
ACCIDENTS	298	0.97481	3
CHRONIC LOWER RESPIRATORY DISEASES	188	0.61498	4
DIABETES MELITUS	180	0.58881	5
INTENTIONAL SELF-HARM	173	0.56591	6
CHRONIC LIVER DISEASE AND CIRRHOSIS	132	0.43180	7
CEREBROVASCULAR DISEASES	124	0.40563	8
INFLUENZA AND PNEUMONIA	32	0.10468	9
CONGENITAL MALFORMATIONS, DEFORMATIONS AND CHROMOSOMAL ABNORMALITIES	31	0.10141	10
HUMAN IMMUNODEFICIENCY VIRUS (HIV)	**13**	**0.04253**	**17**

Comparing the characteristics of persons living with HIV/AIDS to characteristics of people for whom HIV/AIDS was an underlying cause of death can provide information about the differences or disparities among population groups. For example, if the proportion of persons dying with HIV/AIDS in a particular group is higher than the proportion living with HIV/AIDS in the same group, then this may indicate a lack of access to health care or lack of effective treatment in that group.

There are some differences between those living with HIV/AIDS at the end of 2005 and those dying from HIV/AIDS between 1997 and 2005 (see Table 11). There was a small difference between the proportion of men dying from HIV/AIDS (85.9%) than men living with HIV/AIDS (82.3%). The opposite trend was observed for women. More people between the ages of 30 and 39 years old died from HIV/AIDS between 1997 and 2005 (29.6%) than were living with HIV/AIDS at the end of 2005 (20.6%). The opposite can be said for people with HIV/AIDS aged 20-29 years old. A greater proportion of people in this age group were living with HIV/AIDS (7.4%) than were dying from HIV/AIDS (2.8%).

Table 11. Deaths among Persons with HIV/AIDS in Vermont (1997-2005) and Persons Living with HIV/AIDS (2005). [8, 29]

	Deaths among persons with HIV/AIDS, 1997 – 2005 (N = 71)		Persons living with HIV/AIDS, 2005 (N = 462)	
	Number	%	Number	%
Sex				
Male	61	85.9%	380	82.3%
Female	10	14.1%	82	17.7%
Race/Ethnicity				
White, non-Hispanic	63	88.7%	380	82.3%
Non-White	6	8.5%	57	12.3%
Hispanic	—	—	20	4.3%
Unknown	—	—	5	1.1%
Age group				
<13	≤3	—	≤3	—
13-19	≤3	—	≤3	—
20-29	2	2.8%	34	7.4%
30-39	21	29.6%	95	20.6%
40-49	32	45.1%	209	45.2%
50+	16	22.5%	119	25.8%

Question 3 What are the Indicators of HIV/AIDS Infection Risk in Vermont?

This section examines direct and indirect measures of risk behavior in the groups most at risk of acquiring HIV infection. The persons most likely to become infected with HIV are those who engage in high-risk behaviors and who live in communities where HIV prevalence is high. In 2008 3.6% of Vermonters reported that they had engaged in at least one of the following risk behaviors: used intravenous drugs, been treated for a sexually transmitted or venereal disease, and/or given or received money or drugs in exchange for sex,.[51] To help community planning groups understand the differing risks for HIV infection in Vermont, this section examines the trends and characteristics of populations that practice high-risk behaviors as indicated by direct and indirect measures of risk. Direct measures of risk provide information about risk behavior that is directly associated with HIV transmission. Indirect measures do not directly describe HIV risk behaviors; rather, they are indicators of possible HIV risk that may need further investigation.

The primary focus of this section is 3 high-risk populations: MSM, IDUs, and heterosexuals identified as high risk.[52] For each group, trends among adults and youths will be considered when there is data available. Additional data is included on HIV testing in Vermont in the general public, among groups considered at high-risk for HIV infections, and among pregnant women.

HIGHLIGHTS

- 59% of young MSM in Vermont in 2007 had four or more sexual partners in their lifetime and 29% of Vermont men reported only having sex with men had 3 or more partners in the past year.
- 55% of Vermont men who reported having sex only with men did not use a condom with their main partner and were evenly split between using condoms and not using condoms with casual partners. 66% of young MSM in Vermont did not use a condom during their last sexual experience.
- Among heterosexuals, more Vermonters report not using condoms with casual partners than report using condoms with their casual partners.
- Two-thirds (66%) of women who recently gave birth reported having an HIV test during their most recent pregnancy.

[51] Vermont Department of Heath, Behavioral Risk Factor Surveillance System

[52] It should be noted that not all high-risk populations are represented in the following section because Vermont data are not available to address these populations.

Men Who Have Sex with Men (MSM)

Direct Measures of Risk Behaviors

The following measures of risk behavior are available in Vermont to provide important information on factors that may affect risk for acquiring or transmitting HIV infection among MSM:

- *Number of sex partners*
- *Frequency of condom use or unprotected sex*
- *Substance use*

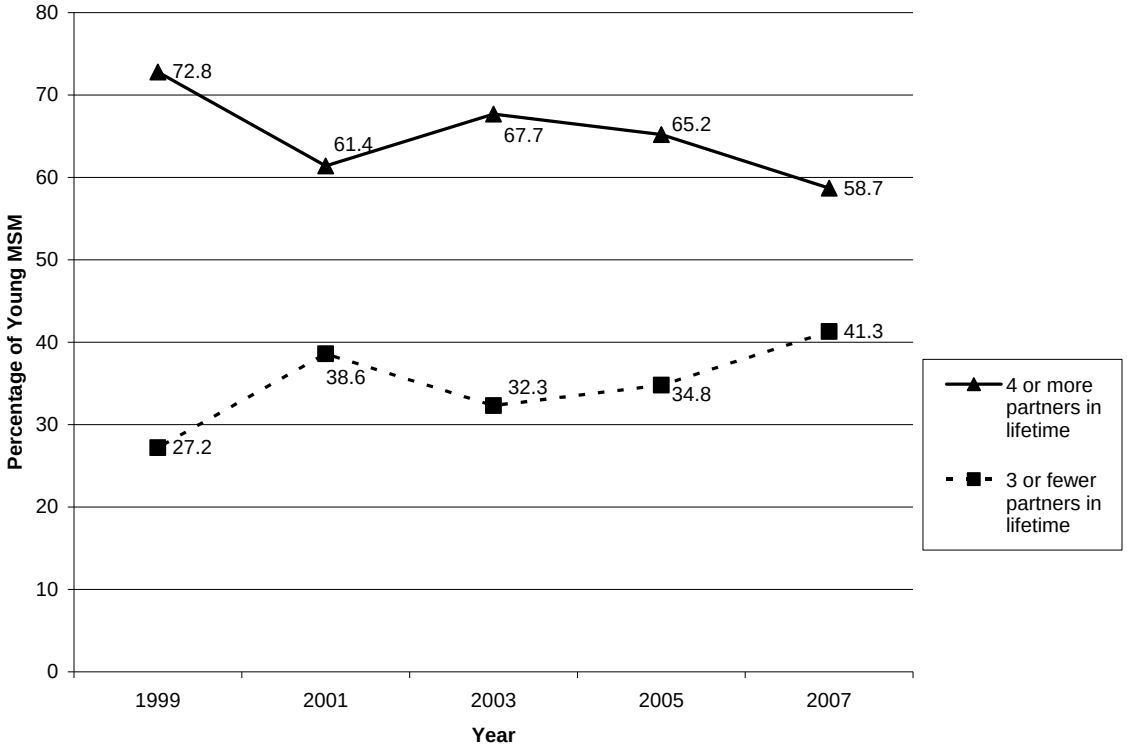
Direct measures of risk behavior for MSM are currently available for Vermont from two sources. The Youth Risk Behavior Survey (YRBS) provides information on the number of sex partners, frequency of condom use, and substance use for young MSM in Vermont who attended a school where the YRBS surveys were distributed and who chose to fill out the survey. "Young MSM" refers to males in 8th through 12th grade who responded to the YRBS and who reported ever having had sex with males (see Appendix A). The second source of information is from the Behavioral Risk Factor Surveillance System (BRFSS). In 2008, adult respondents (18 years old or older, see Appendix A) respondents were asked who they had sex with: only with males, only with females, or with both males and females. Thirty-two male respondents indicated that they had sex only with males. Weighted counts to population estimates were used (see Appendix A).

Number of Sex Partners

In 2008 the majority (65%) of men who reported having sex only with men reported having only one sexual partner in the past year. However, 29% of men who had sex only with men reported having 3 or more partners in the past year.[51]

Almost 60% (58.7%) percent of young MSM surveyed in 2007 reported having more than 4 sex partners over their lifetime.[53] Between 1999 and 2007, an average of 34.8% of young MSM reported having one to three sexual partners, while an average of 65.2% of young MSM reported having four or more sex partners over their lifetime (Figure 25).

Figure 25. Percentage of Young Men (8th-12th Graders) Who Have Sex with Men in Vermont by Number of Sexual Partners: 1999, 2001, 2003, 2005, 2007 [53]



[53] The Youth Risk Behavior Survey is a joint effort of the Vermont Department of Health, Alcohol and Drug Abuse Programs and the Department of Education, Coordinated School Health Programs.

Condom Use or Unprotected Sex

Condom use was fairly evenly split between using a condom and not using a condom with casual partners among adult men who only have sex with men surveyed by the BRFSS (see Figure 26.). The majority of men who only had sex with men and reported sex with a main partner also reported not using a condom with that partner (55%).The percentage of young MSM who reported using a condom at their last sexual experience has remained steady in the 30 to 37% range between 1999 and 2007, peaking in 2003, with an average of 34% of young MSM reporting using a condom (see

Figure 27). This means that between 1999 and 2007 the majority of young MSM are reporting that they have not used a condom during their last sexual encounter (an average of 66% of young MSM).[53]

Figure 26. Condom Use Among Men Who Only Had Sex With Men for Main and Causal Partners: 2008.

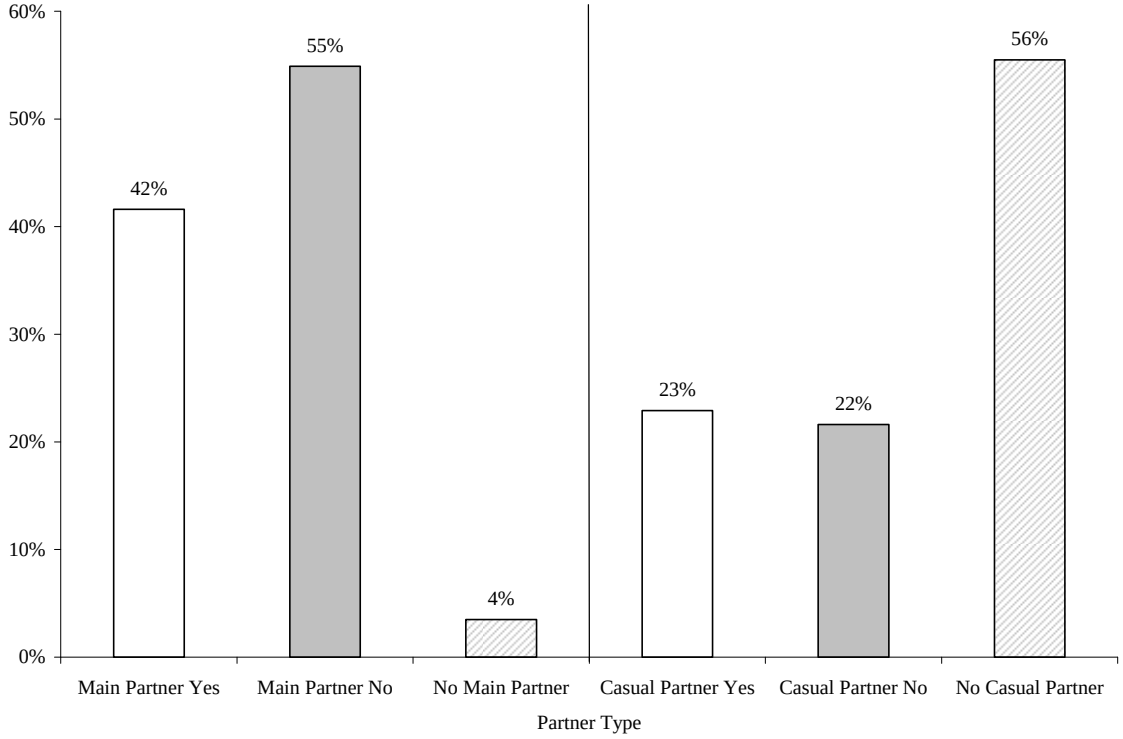
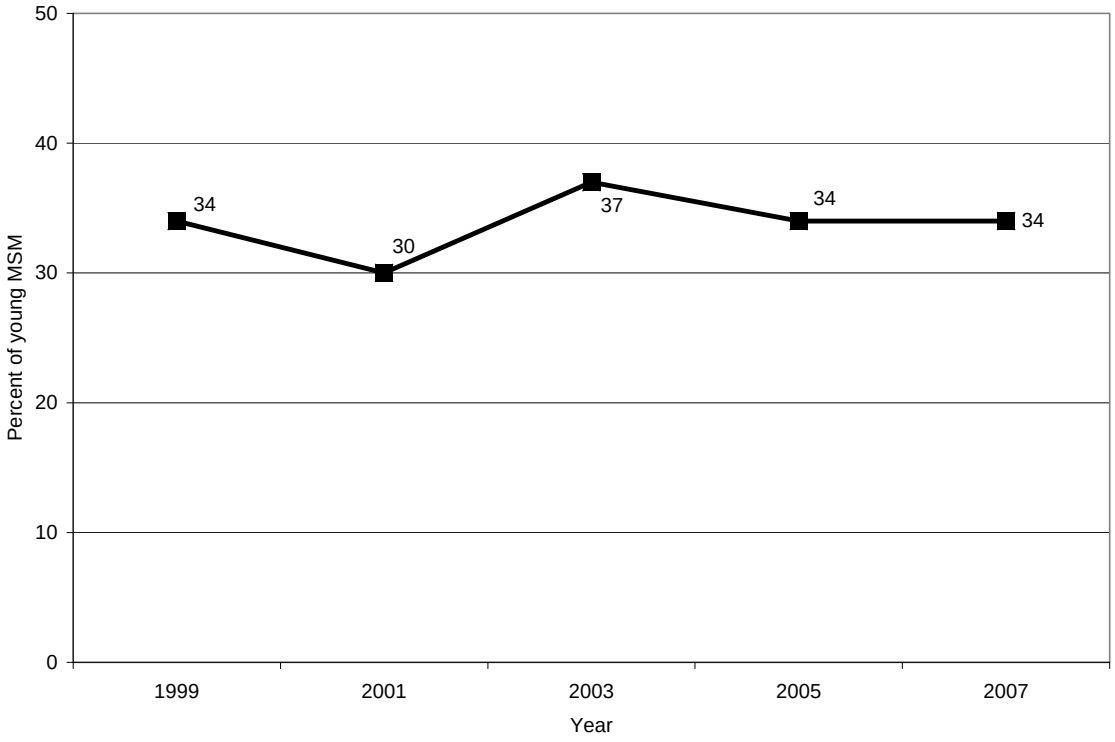


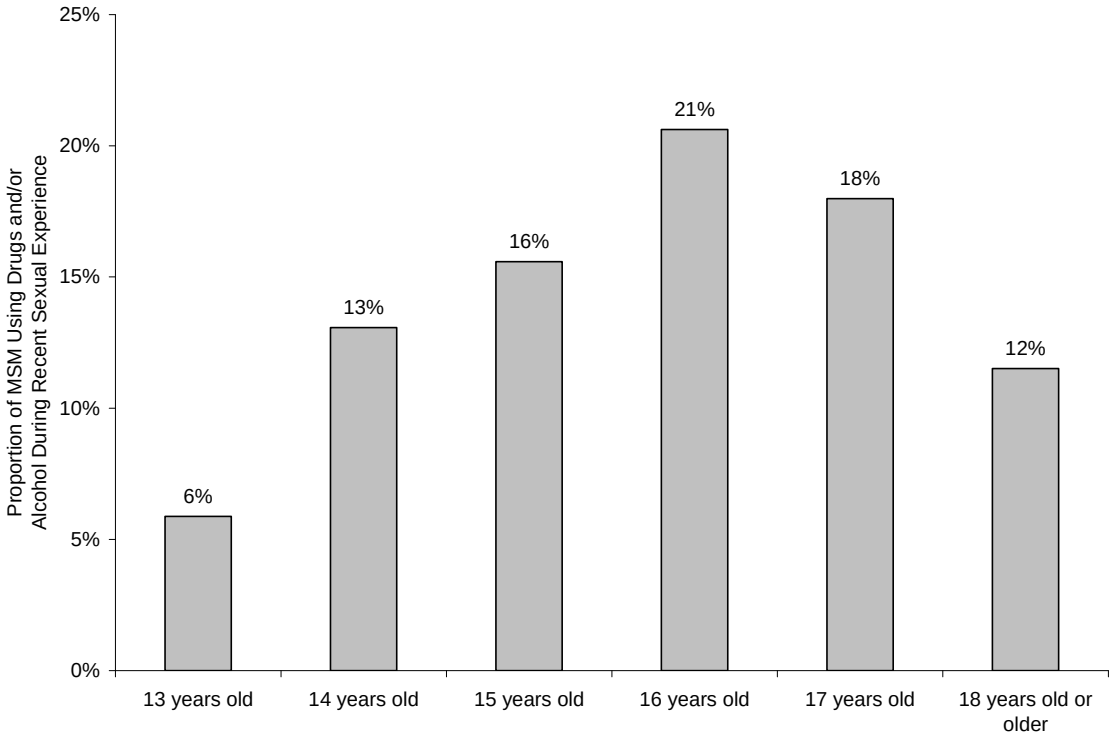
Figure 27. Percent of Young Men who Have Sex with Men in Vermont Who Reported Using a Condom at Last Sexual Experience: 1999, 2001, 2003, 2005, 2007 [53]



Substance Use

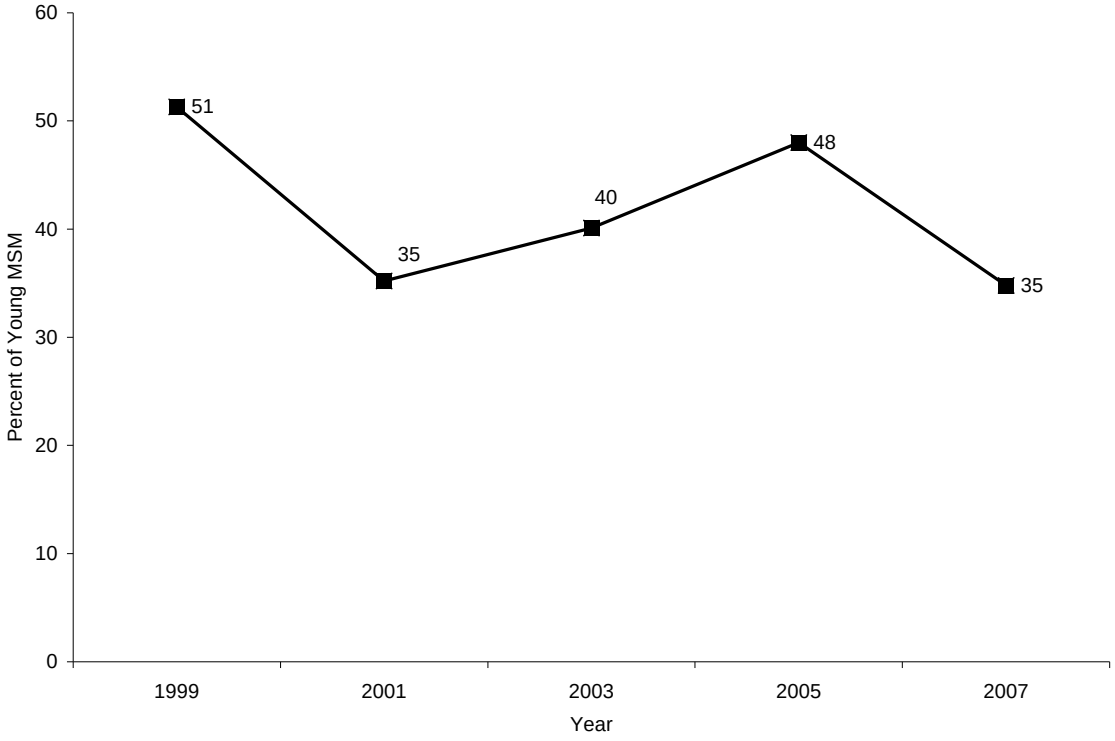
Substance use information for MSM is only available in Vermont for young MSM.[53] For the years of the survey between 1999 and 2007, an average of 59% of young MSM reported drinking and/or using drugs during their most recent sexual experience. This varied by age (Figure 28). Looking cumulatively across 1999 to 2007, 16 year old MSM reported the most drug and/or alcohol use during sex of all young MSM.

Figure 28. Percent of Young Men Who Have Sex with Men Using Drugs and/or Alcohol During Most Recent Sexual Experience by Age, (weighted N = 834 for years 1999, 2001, 2003, 2005, 2007) [53]



In 2007, 35% of the young MSM surveyed reported ever using heroin (Figure 29). Heroin use is a direct measure of HIV transmission risk because using heroin can involve injecting the drug, and possibly needle sharing. The reported use of heroin among young MSM in Vermont has fluctuated over the years. The proportion of young MSM reporting heroin use in 2007 is equal to the all-time low in 2001. The proportion of MSM who reported ever injecting a drug decreased from 43% in 2005 to 32% in 2007.

Figure 29. Percent of Young MSM in Vermont Reporting Ever Using Heroin: 1999, 2001, 2003, 2005, 2007 [53]



Indirect Measures of Risk Behaviors
The following indirect measures of risk behavior are available in Vermont to provide important information on factors that may affect risk for acquiring or transmitting HIV infection among MSM:

- *STD Surveillance Data for*
  - *Gonorrhea*
  - *Syphilis*
- Illegal Drug and Alcohol use
  - *Methamphetamines*
  - *Other Drugs and Alcohol*

The Vermont Department of Health's Sexually Transmitted Disease Program collects data on the incidence of STDs in Vermont. STD surveillance data may help identify the occurrence of high-risk behavior among MSM. People infected with an STD are at least 2 to 5 times more likely than uninfected individuals to acquire HIV if exposed through sexual contact.[54] The male/female ratio of gonorrhea or syphilis may indicate increasing rates among MSM if the ratio is greater than one (showing that men are disproportionately affected more than women). Information is available for young MSM illegal drug and alcohol use.

Gonorrhea
In 2007, 355,991 cases of gonorrhea were reported in the U.S., a rate of 118.9 cases per 100,000 population.[55] The number of cases in Vermont in 2008 was 37, a rate of 5.95 per 100,000 population. This is a decrease of almost half of the number of cases in 2007(63 cases, a rate of 10.1 per 100,000 population).[56] The male-to-female ratio of gonorrhea cases in Vermont in 2007 was .95-to-1, indicating that males were not disproportionately affected. This is also similar to national reports for 2007 (male-to-female ratio .9-to-1) and to rates in the Northeast (male-to-female ratio 1-to-1).[55]

Syphilis
In 2007, 11,466 cases of primary and secondary syphilis (3.8 per 100,000 population) were reported in the U.S.[55] In 2007 the number of Vermont's primary and secondary syphilis cases jumped from 5 cases in 2006 to 10 cases in 2007, ranking Vermont 29th in the nation in 2007.[55] The number of cases in 2008 was similar to the number in 2007, 11 cases or 1.8 per 100,000 population. This demonstrates that the increase observed in 2007 may not have been an anomaly, although future data will be necessary to determine whether this increase will remain stable over time.

Although the raw numbers of cases reported in Vermont are small compared to national numbers, large changes in a small state can be an important indicator of changes in the sexual behavior of its residents. Of particular interest is that all of these cases were

[54] Centers for Disease Control and Prevention. *The Role of STD Detection and Treatment in HIV Prevention*. 2007. Available at http://www.cdc.gov/std/hiv. Accessed on 1/15/09.
[55] Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance, 2007*. Available at http://www.cdc.gov/std. Accessed on 1/15/09.
[56] Vermont Department of Health, Sexually Transmitted Disease Program.

reported for men. Between 1996 and 2008, 89% of the cumulative early syphilis diagnoses reported in Vermont occur in men, 7.8 times the rate among women. This suggests that men may not be engaging in safer sex practices to prevent the transmission of syphilis. And, because women are not being infected at the same rate as men, this suggests that the transmission is occurring between men, and that MSM are disproportionately affected by syphilis.[56]Because there were no cases of primary and secondary syphilis reported in Vermont among women in 2008, calculating the ratio of male-to-female cases is not meaningful.[56]

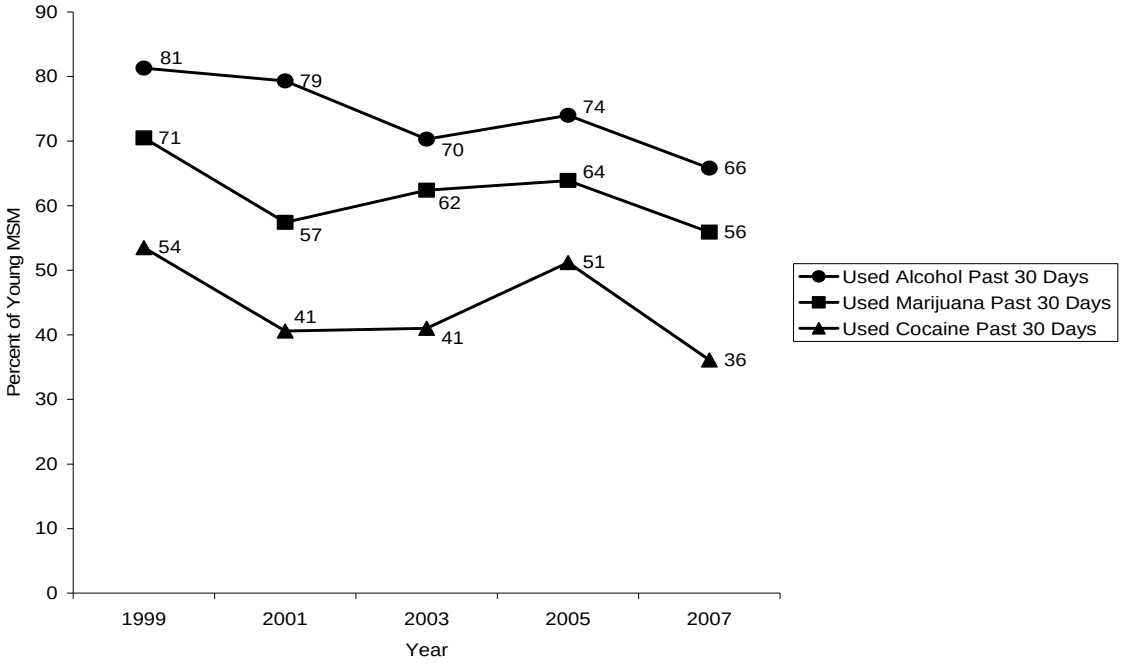
Methamphetamine Use

Methamphetamine use among MSM may contribute to other sexual risk factors (for example, engaging in unprotected sex or having more sexual partners).[57] The proportion of MSM who reported ever using methamphetamines also decreased in the U.S. between 2005 (46%) and 2007 (39%), a decrease of 15%.

Other Drugs and Alcohol Use

The proportion of young MSM who reported using marijuana in the past 30 days has decreased 21% since 1999 (56% in 2007 and 71% in 1999). Reported alcohol use in the past 30 days decreased 19% among young MSM since 1999 (66% in 2007 and 81% in 1999). There was a decrease in reported cocaine use from 1999 to 2003, a trend that reversed from 2003 to 2005, but retuned to a new low of 36% in 2007 (Figure 30).[53]

Figure 30. Percent of Young MSM in Vermont Reporting Illegal Drug and/or Alcohol Use in the Past 30 Days: 1999, 2001, 2003, 2005, 2007 [53]



[57] Centers for Disease Control and Prevention. *Methamphetamine Use and Risk for HIV/AIDS.* January 2007. Available at http://www.cdc.gov/hiv/resources/factsheets/PDF/meth.pdf. Accessed on 2/13/08.

Injection Drug Users (IDU)

Direct Measures of Risk Behaviors
The following direct measures of risk behavior are available in Vermont to provide important information on factors that may affect risk for acquiring or transmitting HIV infection among injection drug users in Vermont.

Sharing needles increases the risk of acquiring or transmitting HIV infection. Estimates of heroin use (which is usually, though not always, injected) provide the next best, currently available estimate of injection drug use in the state. The following measures of direct risk behavior are available in Vermont:

- *Needle Use and/or Sharing*
- *Heroin Use*

Data on needle sharing behavior in Vermont is available from the National Survey on Drug Use and Health. Data on needle exchange in Vermont is available from four needle exchange programs in Vermont: Vermont CARES, Safe Recovery, ACoRN, and the Vermont Harm Reduction Coalition. The YRBS survey of Vermont 8th through 12th graders in Vermont provides data on youth drug use. Data on heroin use in Vermont were obtained from the Alcohol and Drug Abuse Program (ADAP) within the Vermont Department of Health, and the Substance Abuse and Mental Health Administration's National Survey on Drug Use and Health. The Division of Criminal Justice Services in Vermont makes drug charges for heroin publicly available, providing another indication of the use and/or distribution of heroin in Vermont. For the strengths and limitations of these data sources see Appendix A.

Needle Use and/or Sharing

Between 2002 and 2007, less than one percent (.23%, 1,103 people) of Vermont adults ages 18 or older reported using a needle to inject cocaine, heroin, or stimulants in the last year.[58] Even fewer Vermont youths ages 12 to 17 (.09%, 49 people) reported using a needle to inject drugs in the last year between 2002 and 2007.[58]

Most Vermonters ages 12 and older who reported past year injection drug use between 2002 and 2007 reported buying their needles at a pharmacy (49% of those reporting drug use, .11% of Vermont's population; see Table 12). Many also reported getting their needles from a person. Because of the small numbers of injection drug users, many modes for obtaining needles (e.g., buying it on the street, getting it from a dealer) cannot be calculated. Also, these drug users represent a small proportion of Vermont's population.

Table 12. Estimated Numbers and percentages of Sources for Obtaining Needles among all Vermonters Ages 12 and Older [58]

	Past Year Injection Drug Users		
Sources of Needle	**Number (N=1,152)**	**Percent of Reporting Injection Drug Users**	**Percent of Vermont Population**
Bought from a pharmacy	566	49%	.11%
Given by, stolen from a Person [1]	405	35%	.08%
Bought it on the street	*	*	*
Needle exchange	147	13%	.03%
Given by, stolen from a Location [2]	*	*	*
From drug dealer/came with drugs	*	*	*
Shooting gallery	*	*	*
Other [3]	33	2.9%	.01%
Don't know/refused/no answer	*	*	*

1 Includes:

Given by, stolen from friend/acquaintance of a friend
Given by, stolen from a relative
Given by, stolen from someone, relation unspecified
Given by, stolen from athletic trainer
Given by, stolen from someone while in prison
Got it at a party

2 Includes:

Given by, stolen from a medical facility/ professional
Given by, stolen from work
Given by, stolen from a pharmacy or store
Bought, given, stolen from place/location unspecified
Given by, stolen from veterinarian facility/ veterinarian
Given by, stolen from a farm supply store
Given by, stolen from military supply store

3 Includes:

Needle in some other way
Found it/got from a waste can/trash
Shared needle with friends/other acquaintances
Bought it on the internet
Homemade/self made needle
Traded drugs for needle
Other

[58] SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002-2007.

Many Vermonters who used needles to inject drugs between the years 2002 and 2007 reported reusing their needles (66% of injection drug users, .14% of Vermont's population). Interestingly, more Vermonters who reported injection drug use reported sharing their used needle with others (29% of injection drug users, .06% of Vermont's population) than using a needle that they knew someone else had used before them (14% of injection drug users, .03% of Vermont's population).

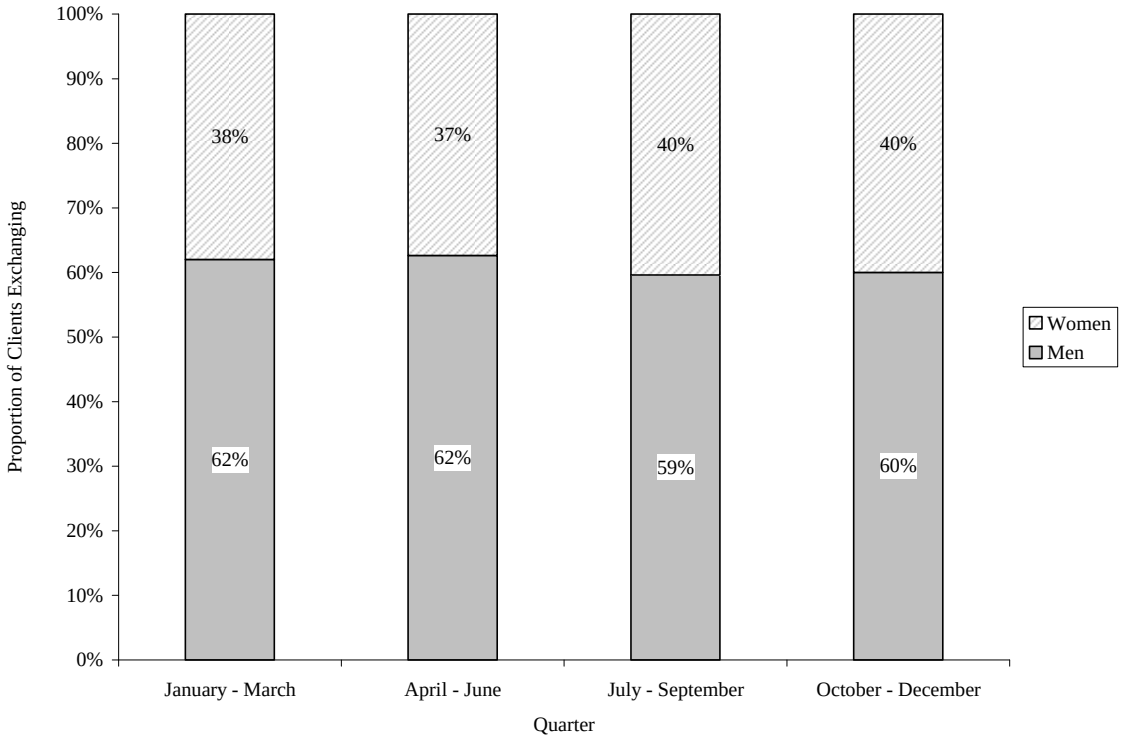
Table 13. Estimated Reuse and Sharing of Needles among all Vermonters Ages 12 and Older [58]

	Past Year Injection Drug Users		
Risk Behaviors	**Number (N=1,152)**	**Percent of Reporting Injection Drug Users**[1]	**Percent of Vermont Population**
Reused a needle they had used before	758	66%	.14 %
Used a needle that they knew someone else had used before	165	14%	.03%
Someone else used the needle after them	330	29%	.06%
Used bleach to clean the needle before last use	338	29%	.06%

1. Respondents could indicate more than one risk behavior. Thus percentages can total more than 100%

Needle exchange programs in Vermont served 831 clients in 2008.[59] Demographic data was not available for all clients exchanging needles in a given quarter (between 9% and 14% demographic information was available in a given quarter). For quarters with demographic data more men exchanged needles than women (see Figure 31).

Figure 31. Clients Exchanging Needles by Gender and Quarter: 2008 [59]

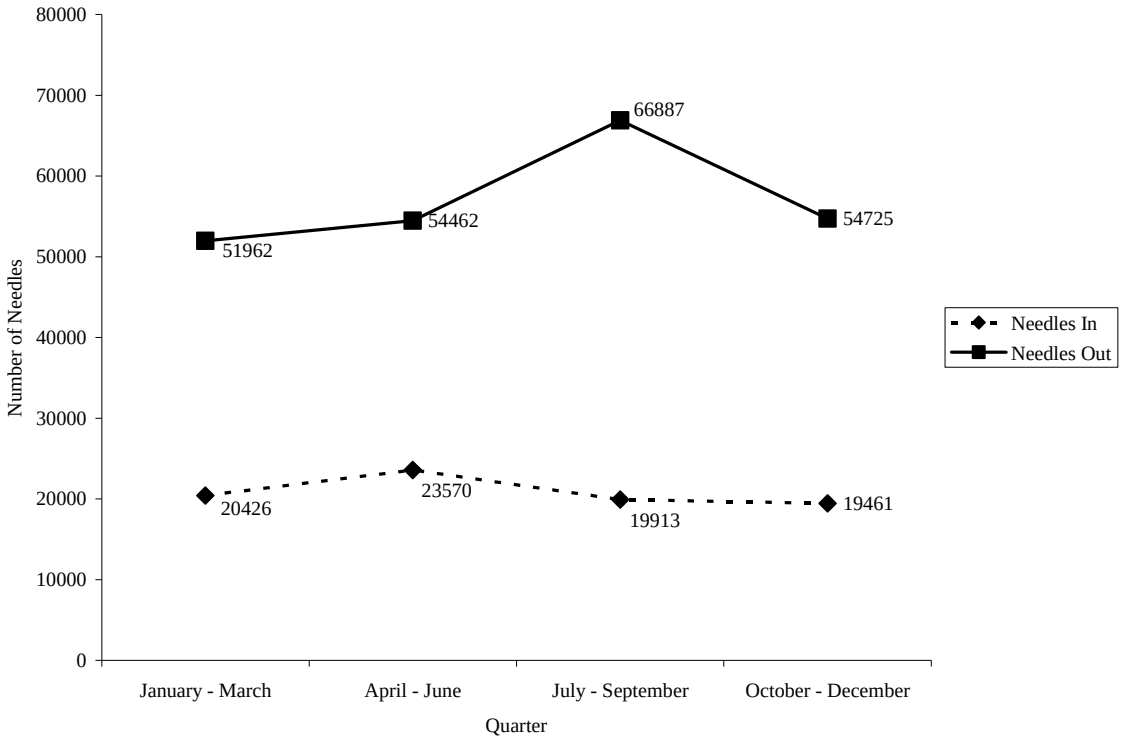


Almost all of the clients exchanging in 2008 for whom race were recorded identified as White (94% or greater), and almost all of the clients identified as non-Hispanic (98% or greater). Most clients (between 85% and 93%) lived in the county of the needle exchange they visited.[59]

[59] Vermont Department of Health, HIV/AIDS Prevention Program

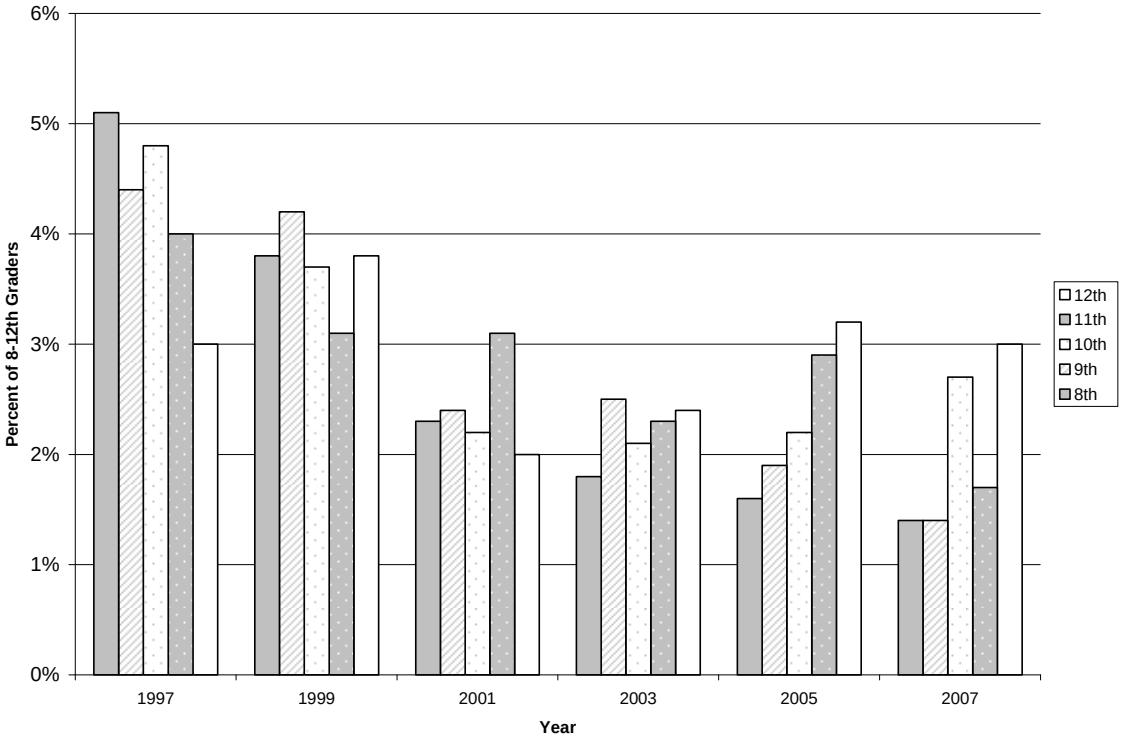
The lowest number of needles exchanged occurred during the first quarter of 2008 (51,962 needles given out, 20,426 needles taken in) (see Figure 32). Needles exchanges were highest during the warmest months (July-September). [59]

Figure 32. Number of Needles Exchanged in Vermont by Quarter: 2008 [59]



In 2007, 2.3% of Vermonters in grades 8-12 reported that they had used a needle to inject an illegal drug, down 48% since 1997.[53] Despite the overall decrease, there have been differences in reports of needle use to inject drugs among 8th, 10th, and 12th graders over time. Between 1997 and 2001, more 8th and 10th graders reported ever using a needle to inject illegal drugs than did 12th graders. Beginning in 2003, more 12th graders reported ever using a needle to inject illegal drugs than 10th or 8th graders (Figure 33).[53] However, it is important to note that students who reported ever using a needle to inject illegal drugs is 5.1% or less, and has been less than 4% of youths since 2001.

Figure 33. Percent of Vermont Youth Reporting Ever Using a Needle to Inject Illegal Drugs: 1997, 1999, 2001, 2003, 2005, 2007 [53]

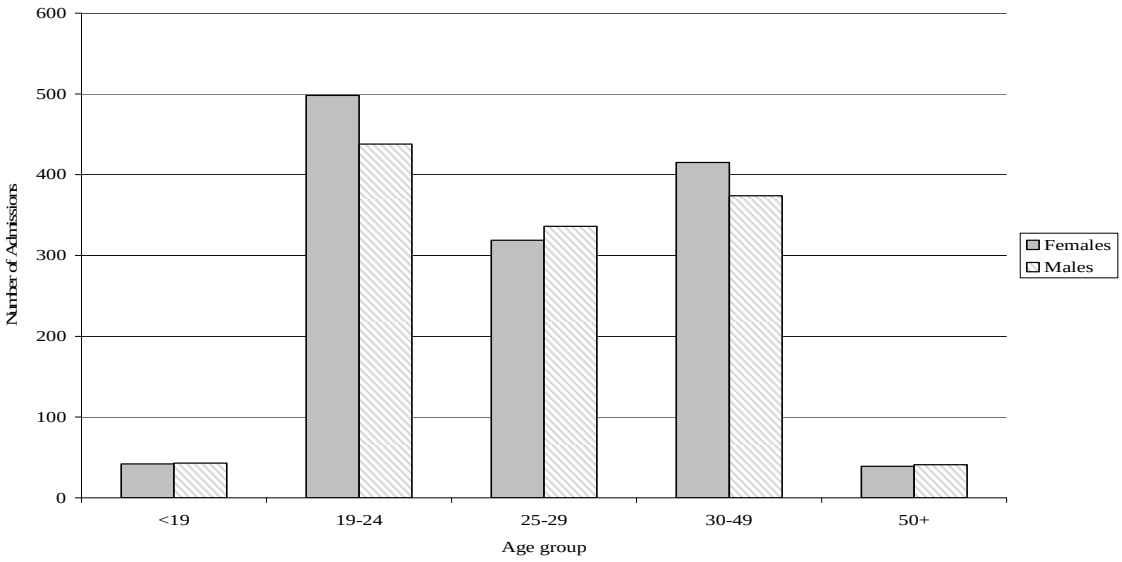


Heroin Use

The estimated percentage of U.S. residents ages 12 or older reporting heroin use at some point in their lives was 1.5% in 2007.[60] Between 2002 and 2004, 11,000 (or 2%) of Vermonters ages 12 and older reported ever using heroin at some point in their lives.[61] Three percent of Vermont youth in 8th – 12th grades reported heroin use at some point in their lives.[53]

Nationally, 335,000 people ages 12 and older sought treatment for heroin use in 2007.[62] In 2007, there were 2,545 admissions to state-funded treatment facilities for heroin/opiate use in Vermont, a 15% increase since 2005 (2,507 admissions for heroin/opiates). Heroin/opiate use accounted for 25% of all admissions in Vermont in 2007. Heroin/opiate admission data for Vermont is summarized in Figure 34. Admissions for heroin/opiates in 2007 in Vermont were almost evenly split between women (52%) and men (48%).[63] Most of Vermont's admissions for heroin/opiate use were for persons between the ages of 19 and 24 (37% of all heroin/opiate admissions and 9% of all admissions in Vermont.[63] Nationally, 22% of all heroin/opiate admissions were between the ages of 18 and 25.[62]

Figure 34. Number of Admissions for Heroin/Other Opiates in Vermont: 2007 [63]



[60] Substance Abuse and Mental Health Services Administration. *Results from the 2007 National Survey on Drug Use and Health: National Findings.* 2008. From the Office of Applied Studies, NSDUH Series H-34. Available at http://www.oas.samhsa.gov/nsduh/2k7nsduh/2k7Results.pdf. Accessed on 11/13/2008.

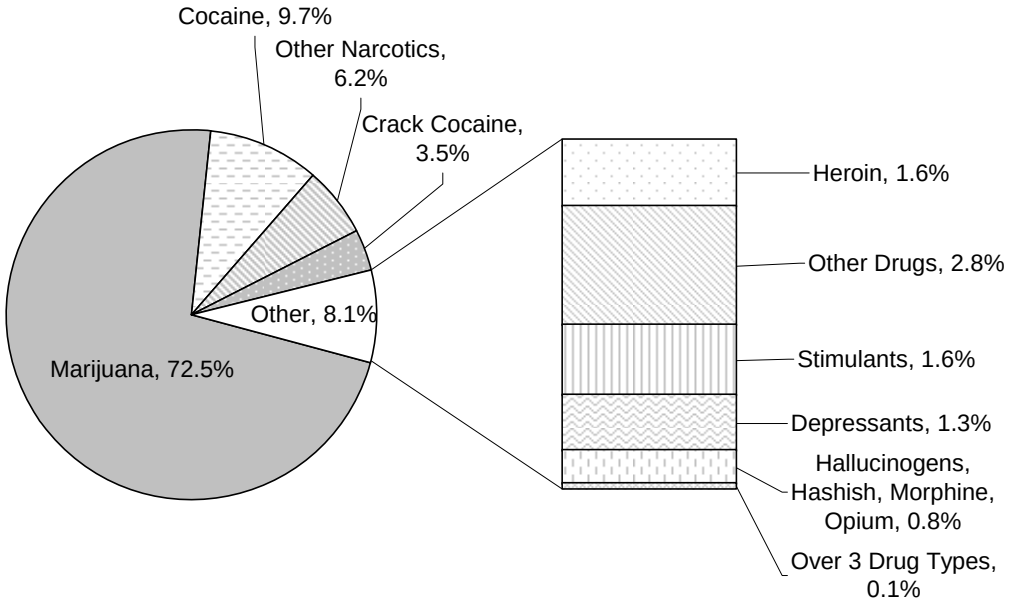
[61] "Types of Illicit Drug Use in Lifetime, Past Year, and Past Month Among Persons Aged 12 or Older in Vermont: Numbers in Thousands, Annual Averages Based on 2002-2004," in NSDUH 2002-2004 Sample Based Prevalence Estimates. Substance Abuse and Mental Health Services Administration. Available at http://www.oas.samhsa.gov/Heroin.htm. Accessed on 11/13/08.

[62] "Substances for Which last or Current Treatment was Received among Persons who Received Substance Use Treatment in the Past Year, by Age Group: Number in Thousands, 2006 and 2007," 2007, from the Treatment Episode Data Sets, Substance Abuse and Mental Health Services Administration, Office of Applied Statistics. Available at http://www.oas.samhsa.gov/NSDUH/2k7NSDUH/tabs/TOC.htm. Accessed on 12/9/08.

[63] Vermont Department of Health, Alcohol and Drug Use Division.

There was a decrease of 32% in heroin drug/narcotic offenses (e.g., distribution, use, sale, possession) between 2006 (57) and 2007 (39).[64] Heroin accounted for 1.6% of all drug crimes in 2007 (Figure 35).

Figure 35. Drug Charges in Vermont: 2007 [64]



[64] Vermont Department of Public Safety, Divisions of Criminal Justice Services. Data available through Vermont Crime On-Line http://205.207.175.84/vconpublic/VistaApp/browsetables.aspx?VistaLanguage=en. Accessed on 11/13/08.

Indirect Measures of Risk Behaviors

Drug use can augment the risk of HIV transmission by increasing the likelihood that people will engage in risky behaviors (e.g., unprotected sex, needle sharing). Methamphetamine has been associated with increased risk of HIV transmission because the drug can be injected (and thus needles may be shared) and because it has been associated with increased sexual drive and rougher sex. Methamphetamine is associated with rural areas (like Vermont) where one of the ingredients of the drug (a fertilizer) is readily available as are secluded buildings where the drug can be made.[57] Other drugs, such as cocaine or other stimulants, can also be injected.

The hepatitis C virus (HCV) poses a threat to IDUs who share injection equipment. The major risk factor for Hepatitis C infections in the U.S. is injection drug use.[65] Infection from HCV occurs when blood from an infected person enters the blood of an uninfected person.[66] It is estimated that one-quarter of people infected with HIV in the U.S. are also infected with HCV, and that 50%-90% of people with HIV who acquired the virus through injection drug use are co-infected with HCV.[65] Increases in HCV in Vermont may indicate an increase in risky needle sharing practices among IDUs, practices that could also risk the transmission of HIV.

The following measures of indirect risk behavior are available in Vermont:

- *Overall illegal drug use*
- *Methamphetamine use*
- *Hepatitis C Infection*

Data on illicit drugs (including methamphetamines) was gathered from the Substance Abuse and Mental Health Administration's National Survey on Drug Use and Health. The number of admissions for treatment for methamphetamine use in Vermont was obtained from the Alcohol and Drug Abuse Program (ADAP) within the Vermont Department of Health. Data on drug use among Vermont youths was gathered from the Youth Risk Behavior Survey. Hepatitis C data for Vermont is available from the Vermont Department of Health. For the strengths and limitations of these data sources see Appendix A.

[65] Centers for Disease Control and Prevention, HIV/AIDS. *Frequently Asked Questions and Answers about Coinfection with HIV and Hepatitis C Virus.* 2002. Available at http://www.cdc.gov/hiv/resources/qa/HIV-HCV_Coinfection.htm. Accessed on 2/27/08.

[66] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. *Viral Hepatitis and Injection Drug Users.* September 2002. Available at http://www.cdc.gov/idu/hepatitis/viral_hep_drug_use.pdf. Accessed on 2/27/08.

Overall illegal drug use

In 2005-2006 reports, Vermont was in the highest fifth in the nation of levels of illicit drug use in the past month, with 11.1% percent of Vermonters reporting using an illicit drug in the past month.[67] The proportion of Vermonters 12 and older reporting marijuana use was the highest in the nation at 9.7%, but the proportion of Vermonters reporting using other illegal drugs in 2005-2006 was on par with national estimates (see Table 14).

Table 14. Self-Reported Illegal Drug Use, Vermont and U.S : 2005-2006 [67]

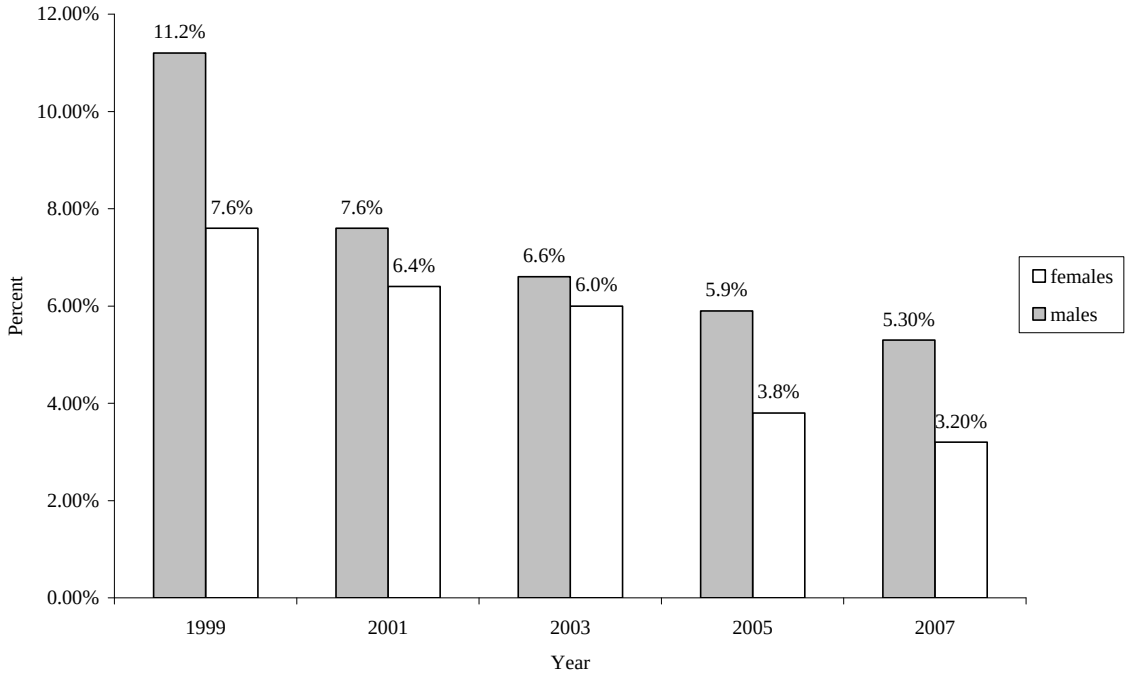
	Vermont	U.S.
Marijuana use in the past month	9.70	6.20
Marijuana use in the past year	15.48	10.37
Any illicit substance use except marijuana in the past month	3.95	3.80
Cocaine use in the past year	2.87	2.37
Non-medical pain relievers use in the past year	5.13	5.00
Alcohol use in the past month (ages 12-17 in parentheses)	60.42 (20.43)	51.37 (16.58)
Binge alcohol use in the past month (ages 12-17 in parentheses)	25.99 (12.87)	22.82 (10.10)

[67] Hughes, A., Sathe, N, & Spagnola, K. State Estimates of Substance Use from the 2005-2006 National Surveys on Drug Use and Health. 2008. Substance Abuse and Mental Health Services Administration, From the Office of Applied Studies, NSDUH Series H-33. Available at http://www.oas.samhsa.gov/2k6state/2k6state.pdf. Accessed on 11/13/2008.

Methamphetamine

Between 2002 and 2005, 0.6% of the U.S. population ages 12 and older reported using methamphetamines in the past year.[68] Vermont was one of nine states with the lowest estimates of methamphetamine use (0.2% of residents).[69] Young men (8th through 12th grade) continue to report more methamphetamine use than young women (8th through 12th grade), a trend also seen nationally, although reported methamphetamine continues to decrease (Figure 36).[53, 57]

Figure 36. Percent of Young Vermonters Reporting Methamphetamine Use by Sex: 1999, 2001, 2003, 2005, 2007 [53]

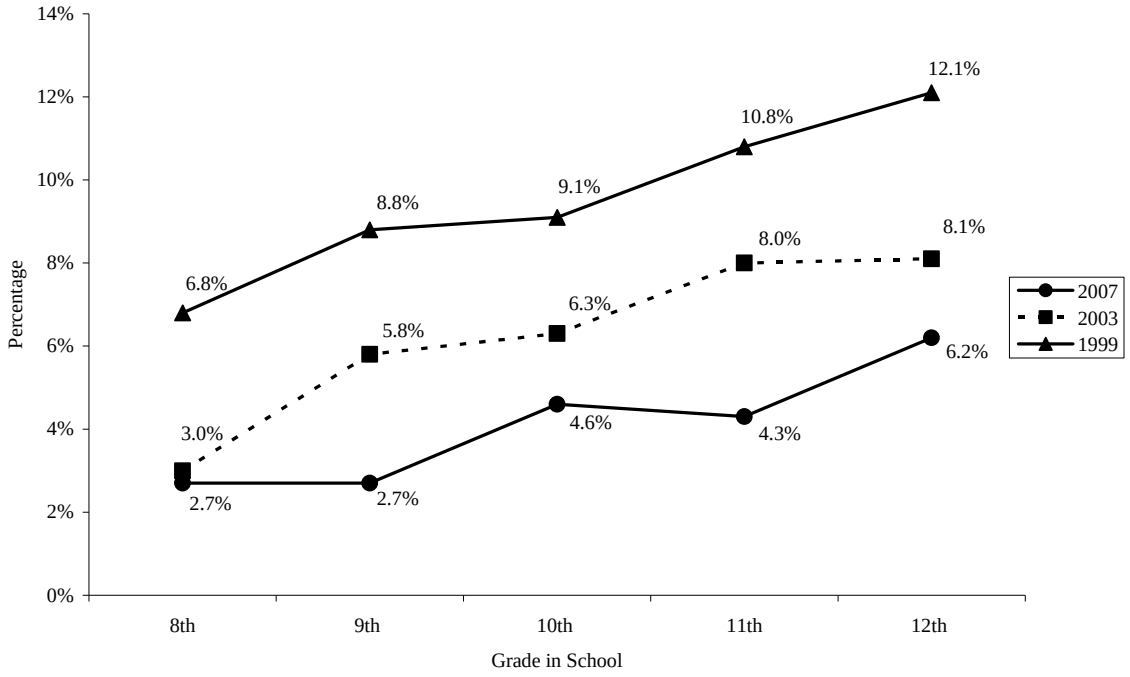


[68] Substance Abuse and Mental Health Services Administration. *State Estimates of Past Year Methamphetamine Use*. 2006. Available at http://oas.samhsa.gov/2k6/stateMeth/stateMeth.htm. Accessed on 2/14/08.

[69] Substance Abuse and Mental Health Services Administration. *Primary Methamphetamine/Amphetamine Admissions to Substance Abuse Treatment: 2005*. February 2, 2008, The DASIS Report, the Office of Applied Statistics.

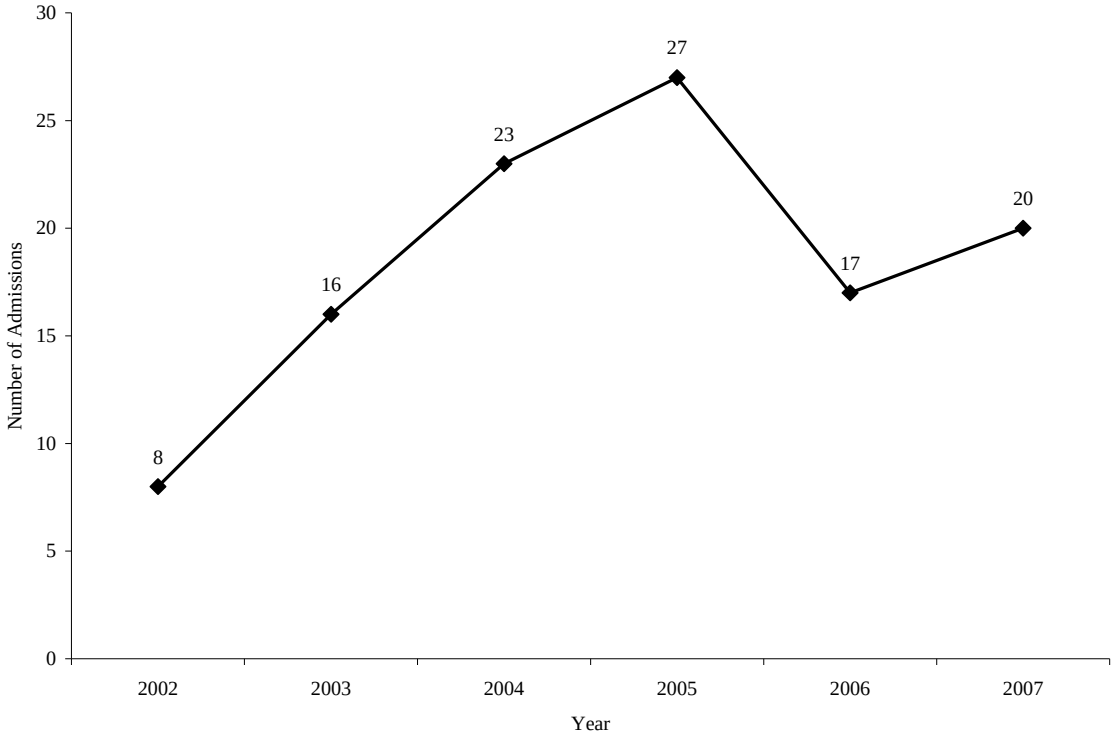
Reported methamphetamine use among younger Vermonters has decreased by more than half between 1999 and 2007. The most reported use continues to occur among 10th, 11th and 12th grade students (Figure 37).[53]

Figure 37. Percent of Young Vermonters Reporting Methamphetamine Use in the Past Year by Grade in School: 1999, 2003, 2007 [53]



Nationally, the number of admissions for treatment for primary methamphetamine/amphetamine abuse more than doubled between 1995 and 2005.[69] The number of admissions for treatment for methamphetamine use increased in Vermont between 2002 and 2005, but showed a decline in 2006. The number of admissions for methamphetamine treatment showed as small increase (18%) between 2006 and 2007 (Figure 38).[63]

Figure 38. Number of Admissions in Vermont for Methamphetamine Abuse: 2002-2007 [63]

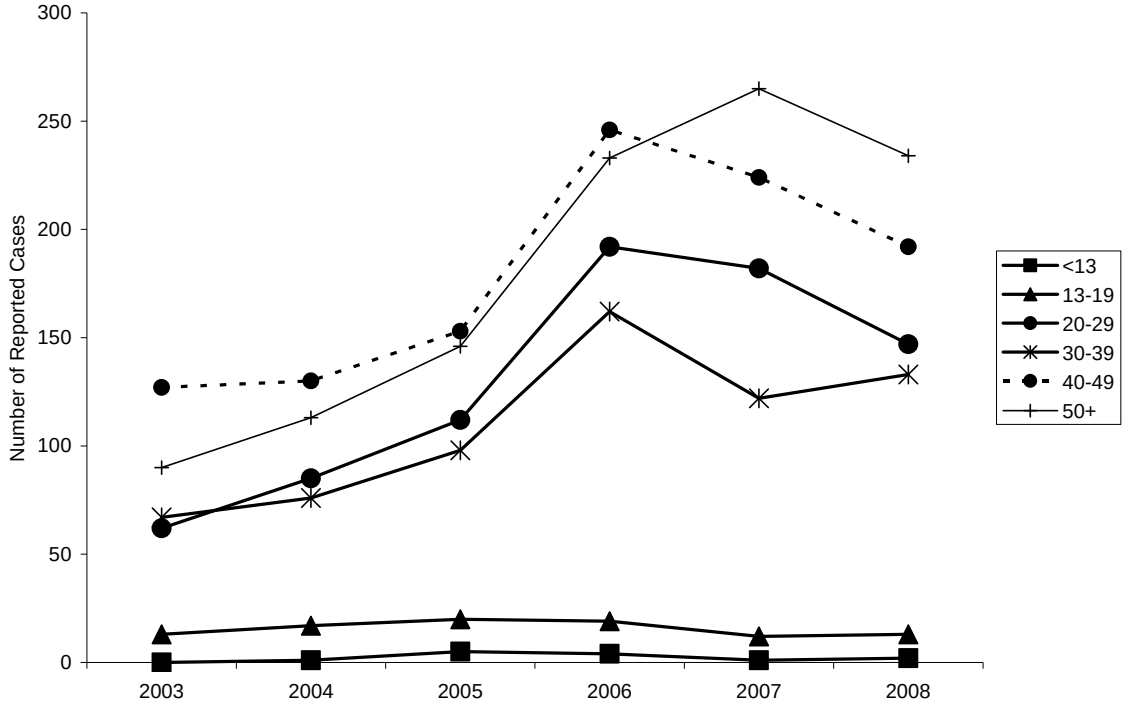


Hepatitis C Virus (HCV)

In Vermont in 2008, there were 722 cases of chronic/resolved HCV. This represents a 10.4% decrease since 2007 (806 chronic/resolved cases), and a 101.1% increase since chronic/resolved reporting began in Vermont in 2003. Although the increase in the number of chronic/resolved cases may be due to the improved reporting of cases to the department of health, it is still considered an underrepresentation of the actual number of cases in Vermont. As more data is collected on needle use and sharing practices in Vermont, the relationships between HCV infection, needle use/sharing, and HIV cases among those who identify as injection drug users.

Of cases where sex was known, 59.8% of all chronic/resolved cases were men in 2008. The majority (32.4%) of reported chronic/resolved cases occurred among adults ages fifty and older, and 59% of all reported cases occurred among adults ages 40 and older. Figure 39 shows the increases in reported chronic/resolved HCV infection in Vermont from 2003 to 2008.

Figure 39. Number of Chronic/Resolved Cases of HCV Infection in Vermont by Age: 2003-2008 [56]



Note: 2 cases in 2005 and 1 cases in 2008 did not have age data and are not included here.

Heterosexual Populations

Direct Measures of Risk Behaviors

Among heterosexuals, the following measures of risk behavior are available in Vermont to provide important information on factors that may affect risk for acquiring or transmitting HIV infection:

- *Number of sex partners*
- *Frequency of condom use or unprotected sex*
- *Substance Use*

Direct measures of risk behavior for heterosexual adults are currently available for Vermont from two sources. The Youth Risk Behavior Survey (YRBS) provides information on the number of sex partners, frequency of condom use, and substance use among youths in Vermont (see Appendix A). Data on the risk behaviors of Vermont adults is available from the Behavioral Risk Factor Surveillance System (BRFSS; see Appendix A). In Vermont, questions about risk were asked in 2006 and safer sex questions were most recently asked in 2005 (see Appendix A).

Data on drug use in Vermont (obtained from the Alcohol and Drug Abuse Program (ADAP) within the Vermont Department of Health, and the Substance Abuse and Mental Health Administration's National Survey on Drug Use and Health) are presented in the above section on injection drug use. Additional data is presented here from the YRBS on Vermont youths using alcohol or drugs during sex.

Number of Sex Partners

In 2008 the majority of heterosexual Vermonters (96% of women and 90% of men) reported having only one sexual partner in the past year. [51] However, more men (6% of men in 2008) than women (1% of women in 2008) reported three or more sexual partners in the past year.[51] These numbers are lower than national figures collected in 2002, when 10% of men but only 7% of women reported having three or more sexual partners in the last year.[70]

Among Vermont youth (8^{th}-12^{th} graders) in 2007, more males (6%) than females (3%) reported having three or more sex partners in the past three months. This trend of more young men reporting approximately twice as many sexual partners as young women in the past three months has been relatively stable since 1997.[53] Similarly, in 2007 more young men in Vermont (12%) than young women in Vermont (9%) reported having four or more sexual partners in their lifetime. In 2007, national reports estimated that 15% of 9^{th}-12^{th} graders had sexual intercourse with 4 or more people.[71]

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[70] Centers for Disease Control and Prevention, *Key Statistics from the National Survey of Family Growth (from A to Z), Data from Cycle 6 (2002).* Available at http://www.cdc.gov/nchs/about/major/nsfg/abclist.htm. Accessed on 2/26/08.

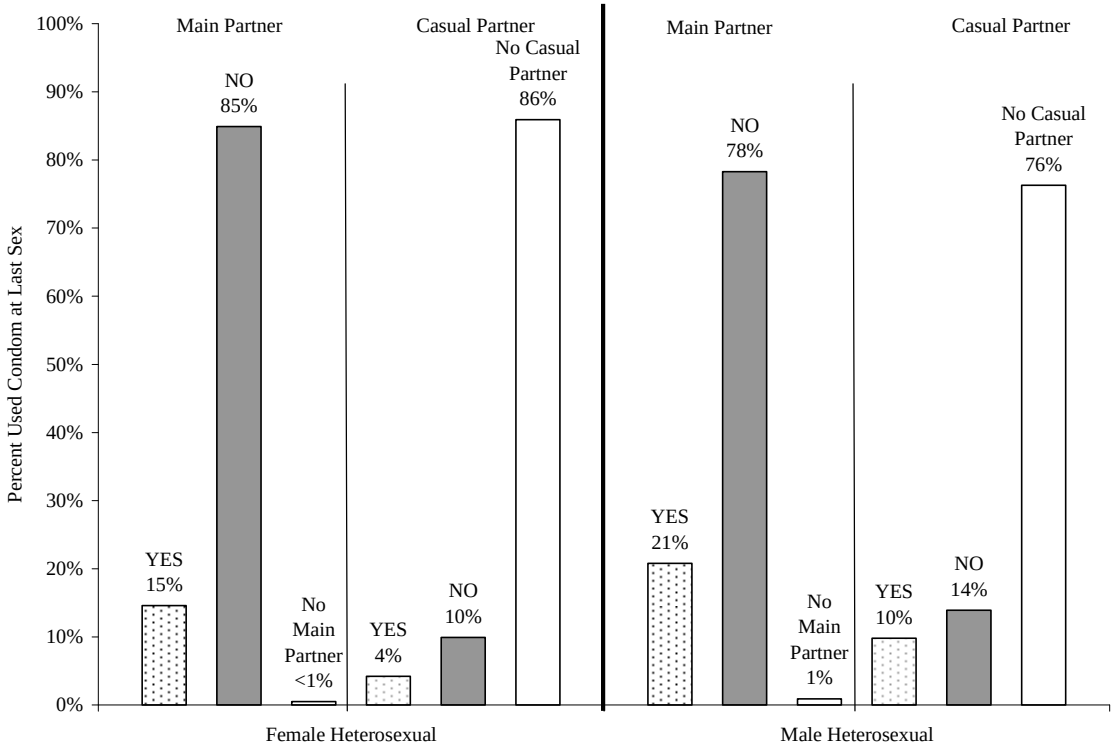
[71] Centers for Disease Control and Prevention, Department of Health and Human Services. *YRBSS National Youth Risk Behavior Survey: 1991-2007. Trends in the Prevalence of Sexual Behaviors.* Available at http://www.cdc.gov/healthyyouth/yrbs/pdf/yrbs07_us_sexual_behaviors_trend.pdf. Accessed on 2/26/09.

In 2007, more older students (an average of 5% of 11th and 12th graders) than younger students (an average of 3% of 8th, 9th and 10th graders) in Vermont reported having 3 or more sexual partners in the past 3 months.[53] Similarly, in 2007 more older students (an average of 16% of 11th and 12th graders) than younger students (an average of 7%) reported having four or more partners in their lifetime.[53]

Frequency of Condom Use

Among respondents who had sex with a main partner in 2008, an estimated 78% of Vermont men and 85% of Vermont women reported that they did not use a condom during their last sexual encounter with that main partner (Figure 40).[51] Although fewer heterosexual respondents reported having a casual partner (14.1% of women and 23.7% of men), a greater proportion of both women and men reported not using condoms with a casual partner than men and women who reported using condoms with their casual partner (see Figure 40)

Figure 40. Heterosexual Condom Use during Last Sex for Casual and Main Partners: 2008 [51]



Vermonters between the ages of 18 and 34 report more condom use with both main and casual partners than Vermonters 35 and older (see Figure 41 and Figure 42).[51] However, Figure 42 also highlights that older Vermonters are not using condoms with casual partners. Recall that an increasing number of Vermonters over 50 are being diagnosed with HIV/AIDS and that 30-49 year old Vermonters account for the most new HIV/AIDS diagnoses from 2000-2007.

Figure 41. Heterosexual Condom Use during Last Sex for Main Partners by Age: 2008 [51]

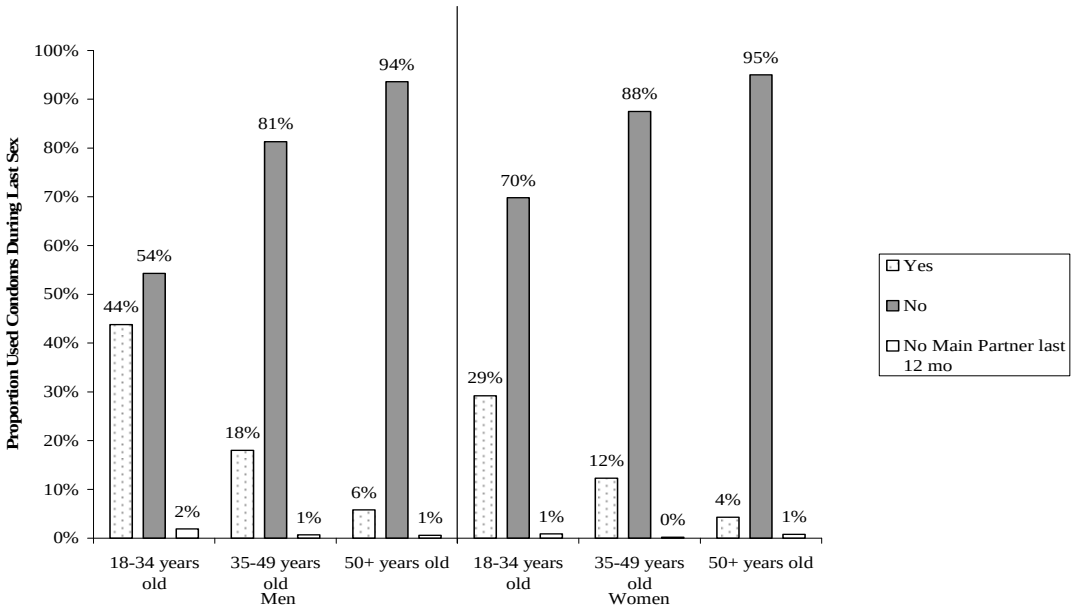
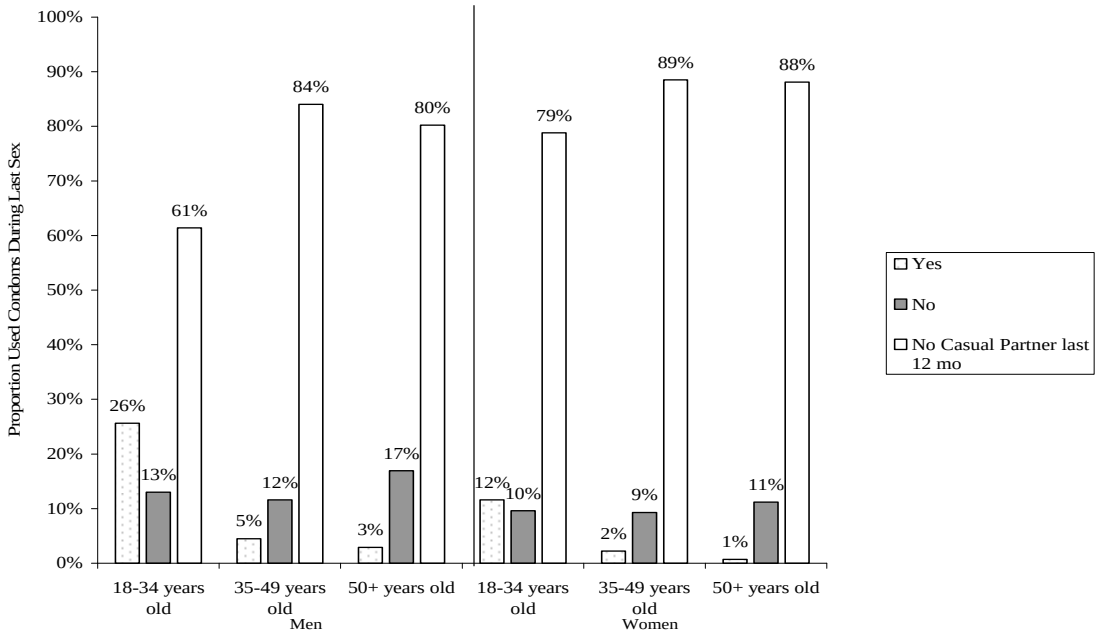
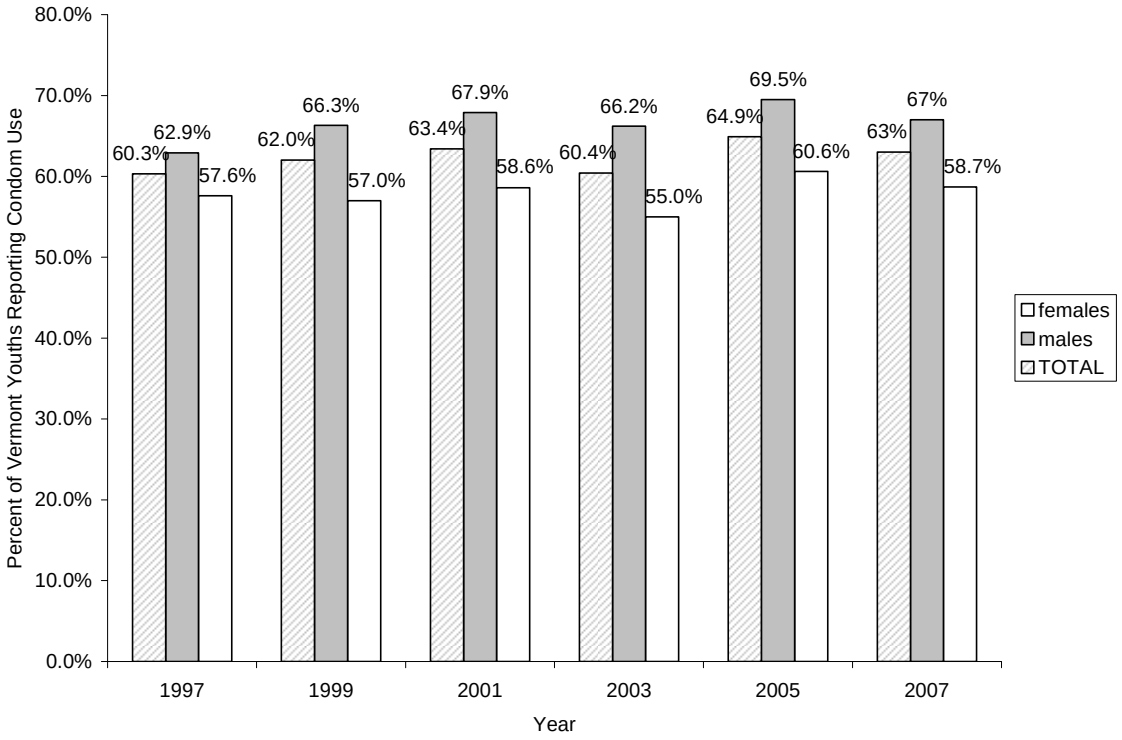


Figure 42. Heterosexual Condom Use during Last Sex for Casual Partner: 2008



Among Vermont youth who reported having had sex, almost two-thirds (63%) reported using a condom during their last sexual experience. This is similar to proportions reported since 1997 in Vermont and is similar to national data for youth condom use in 2007. [53, 71] Among those who reported being sexually active in 2007, 41% of Vermont girls reported not using condoms during their last sexual encounter compared to 33% of Vermont boys (Figure 43). More girls than boys nationwide also report not using condoms during their last sexual encounter (44% compared to 30%).[72]

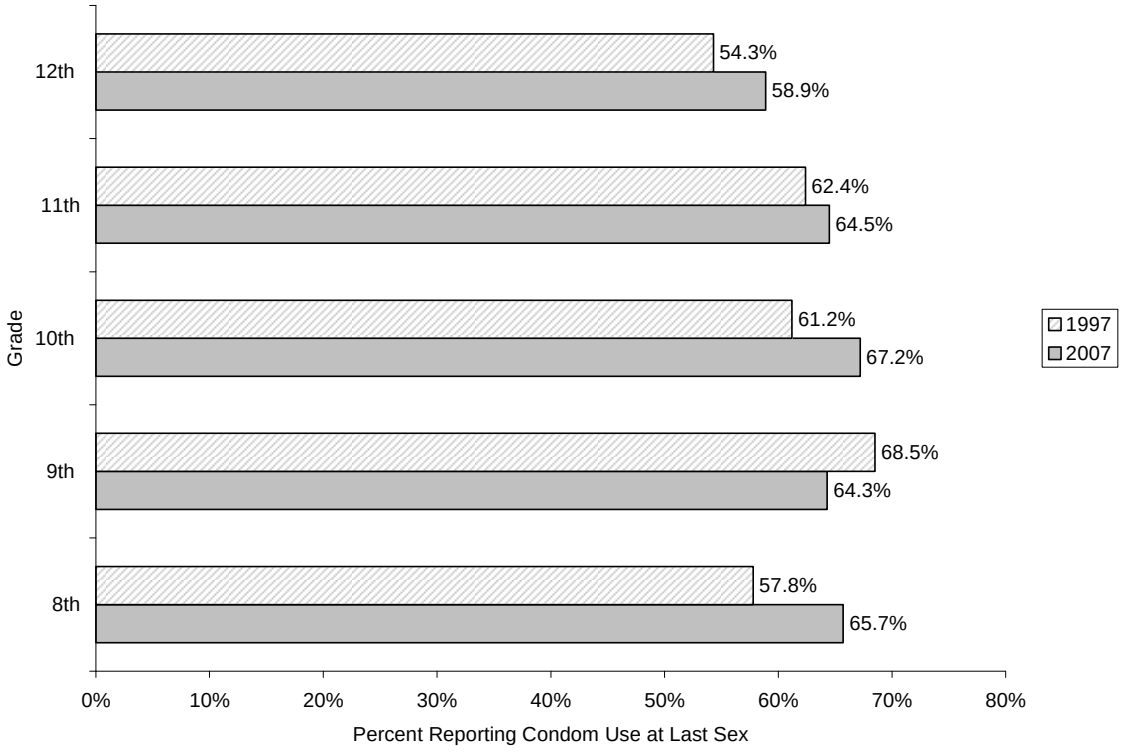
Figure 43. Percent of Sexually Active Vermont Youth who Reported Using a Condom at Last Sexual Experience by Sex: 1997, 1999, 2001, 2003, 2005, 2007 [53]



[72] Centers for Disease Control and Prevention, Department of Health and Human Services. *YRBSS National Youth Risk Behavior Survey: 2005. Health Risk Behaviors by Sex.* Available at http://www.cdc.gov/healthyyouth/yrbs/pdf/subgroup/2005YRBSSexSubgroup.pdf. Accessed on 2/26/08.

In 2007, more Vermont 10th graders reported using condoms during their last sexual experience (67% of sexually active 10th graders) than any other grade, and Vermont 12th graders reported the least condom use at last sexual experience (59% of sexually active 12th graders).[53] It should be noted that in 2007 across all grades between half to two-thirds of Vermont youth surveyed reported using condoms during their last sexual experience (Figure 44). This was also true of Vermont youth as far back as 1997. Ten years ago, more 9th grade (69%) Vermonters reported using condoms during their last sexual encounter compared to any other grade.

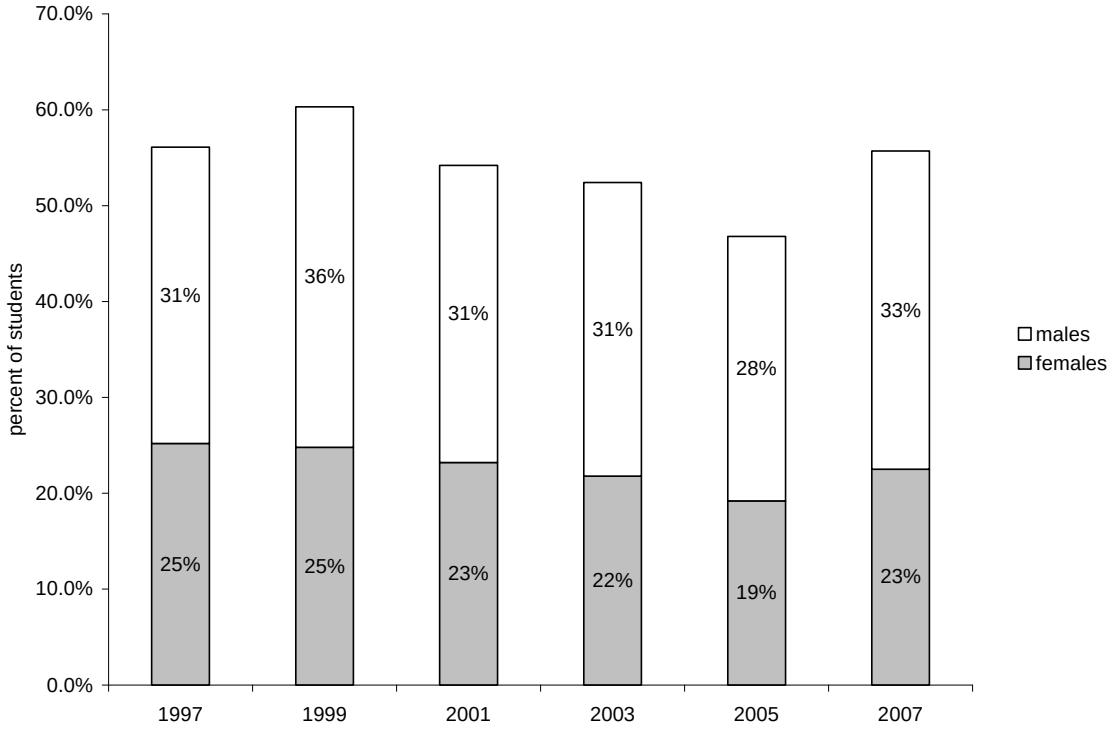
Figure 44. Percent of Sexually Active Vermont Youth who Reported Using a Condom at Last Sexual Experience by Grade: 1997, 2001, 2003, 2005, 2007 [53]



Substance Use

Among Vermont youths who reported having sex, more young males than young females reported using drugs or alcohol the last time they had sex (Figure 45). Approximately one-third of males reported using drugs or alcohol the last time they had sex, compared to approximately one-quarter of females. There appeared to be a slight decrease in drug or alcohol use during sex in both males and females from 1999 reports through 2005 reports. However, in 2007 the proportion of drug or alcohol use during sex increased for males (33%, up 18% from 2005) and females (23%, up 21% from 2005).[53] Additional information about drug use among youth can be found in section on Injection Drug Users (IDU).

Figure 45. Percent of Vermont Youth Reporting Using Drugs and/or Alcohol during Last Sexual Experience: 1997, 1999, 2001, 2003, 2005, 2007 [53]



Indirect Measures of Risk Behaviors

Sexually Transmitted Disease (STD) surveillance data and vital statistics data on teen pregnancy rates provide information that may help to identify the potential occurrence of high-risk heterosexual behavior. Although increases in STD or teen pregnancy rates do not directly indicate that HIV exposure is increasing, these measures may indicate an increase in unprotected sex. The following measures of indirect risk behavior are available in Vermont:

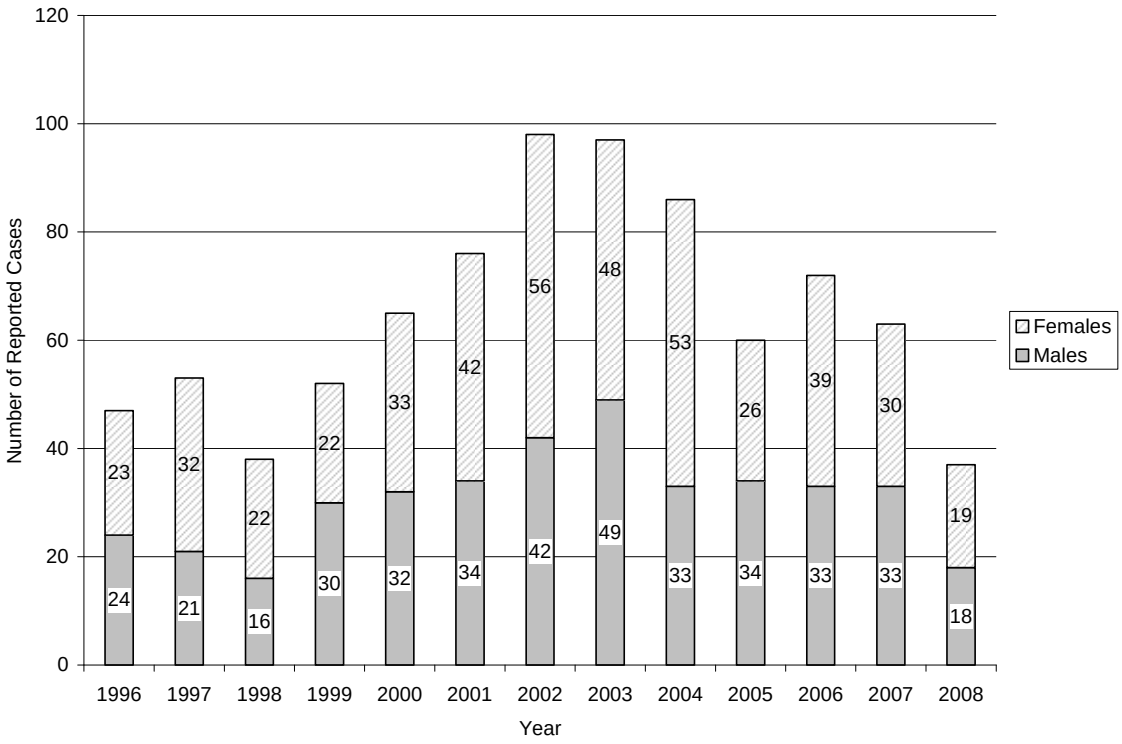
- *STD Surveillance Data for*
    - *Gonorrhea*
    - *Syphilis*
    - *Chlamydia*
- *Teen Pregnancy Rates*

The Vermont Department of Health's Sexually Transmitted Disease Program collects data on the incidence of STDs in Vermont. Teen pregnancy data is available from Vermont's Vital Statistics Program and from the National Vital Statistics Program. Detailed information on the strengths and weaknesses of these data can be found in Appendix A.

Gonorrhea

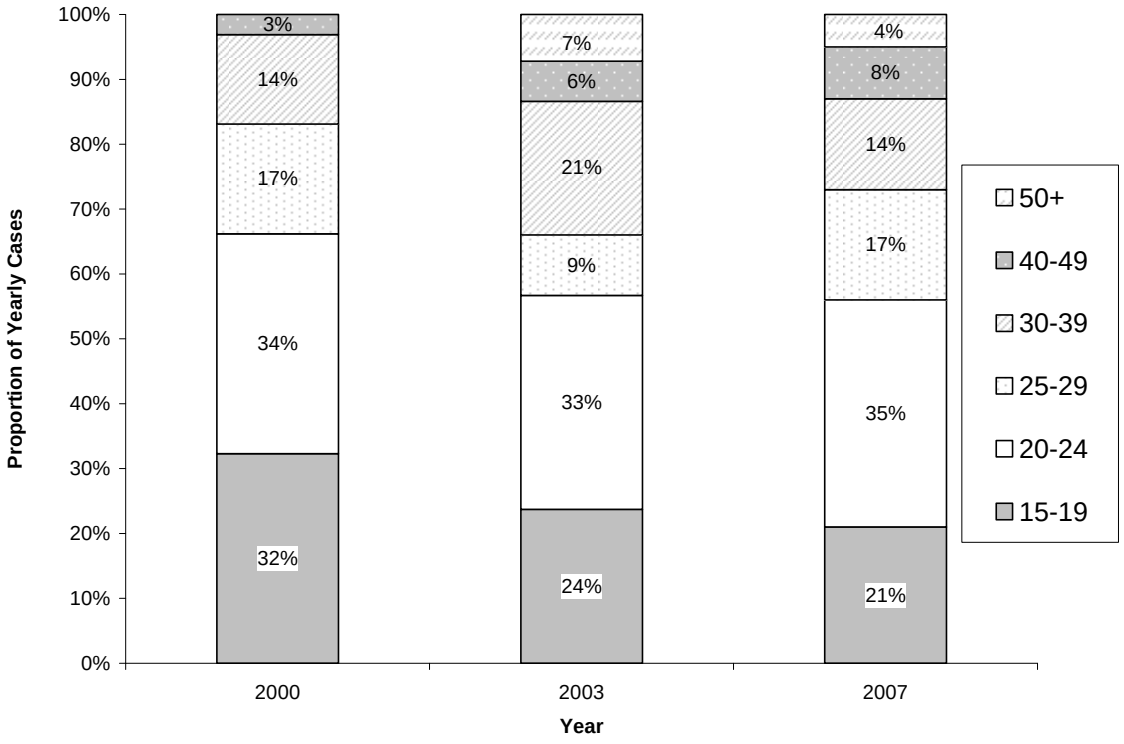
In 2007, 355,991 cases of gonorrhea were reported in the U.S., a rate of 118.9 cases per 100,000 population.[55] There were 37 cases of gonorrhea reported in Vermont in 2008, a rate of 5.95 per 100,000 population. This represents a decrease of almost half of what was reported in 2007 (63 cases, a rate of 10.1 per 100,000 population).[56] Cases were divided fairly evenly between men (49% of cases) and women (51% of cases). Since 2000, more reported cases in Vermont have been women with the exceptions of 2003, 2005 and 2007 (see Figure 46). Over this seven year period Vermont has for the most part mirrored the national trend of an increase in diagnoses among women.[56]

Figure 46. Number of Reported Gonorrhea Cases in Vermont by Sex: 1996-2007 [56]



Nationally, 20-24 year olds represent the largest number of gonorrhea cases, a trend that has been consistent from 2003 to 2006.[55] They are followed by adolescents ages 15-19. In Vermont, the proportion of reported cases that are 15-19 years old has decreased over time, with a slight increase recently in 2007-2008. The proportion of reported cases that are 20-24 years old continues to account for the largest number of cases in Vermont (Figure 47). The proportion of all cases of gonorrhea reported among older adult Vermonters has fluctuated. In 2001-2002 3% of all reported gonorrhea cases were 50 years old or older. This proportion increased to 7% in 2003-2004 and then decreased in 2005-2006 (4%) and 2007-2008 (4%). The proportion of reported cases among 40-49 years olds also shows an increase from 3% of all reported cases in 2001-2002 to 8% of all reported cases in 2007-2008. Recall that Vermonters in these two age groups also reported not using condoms frequently with main partners or with casual partners (see Figure 41).[51]

Figure 47. Proportion of Gonorrhea Cases by Age Group in Two-Year Intervals [56]



Syphilis

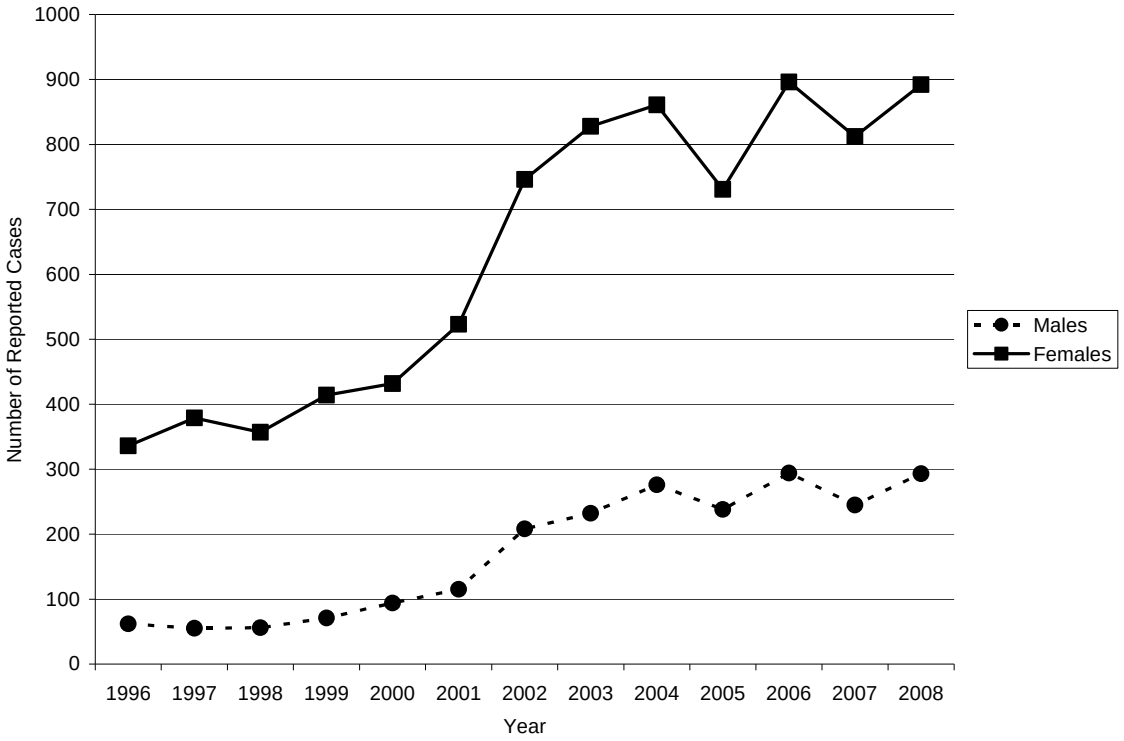
In 2007, 11,466 cases of primary and secondary syphilis were reported in the U.S, a rate of 3.8 per 100,000 population.[55] Vermont was ranked 29th in the nation in 2007 for reported cases of primary and secondary syphilis (10 cases, 1.6 per 100,000 population).[55] Because there are so few cases per year, further analyses of primary and secondary syphilis by age or sex are not meaningful.

Reports of early syphilis have increased in Vermont, up from 5 cases in 2006 to 11 cases in 2008.[56] Between 1996 and 2008, 89% of the cumulative early syphilis diagnoses reported in Vermont occurred in men.[56]

Chlamydia

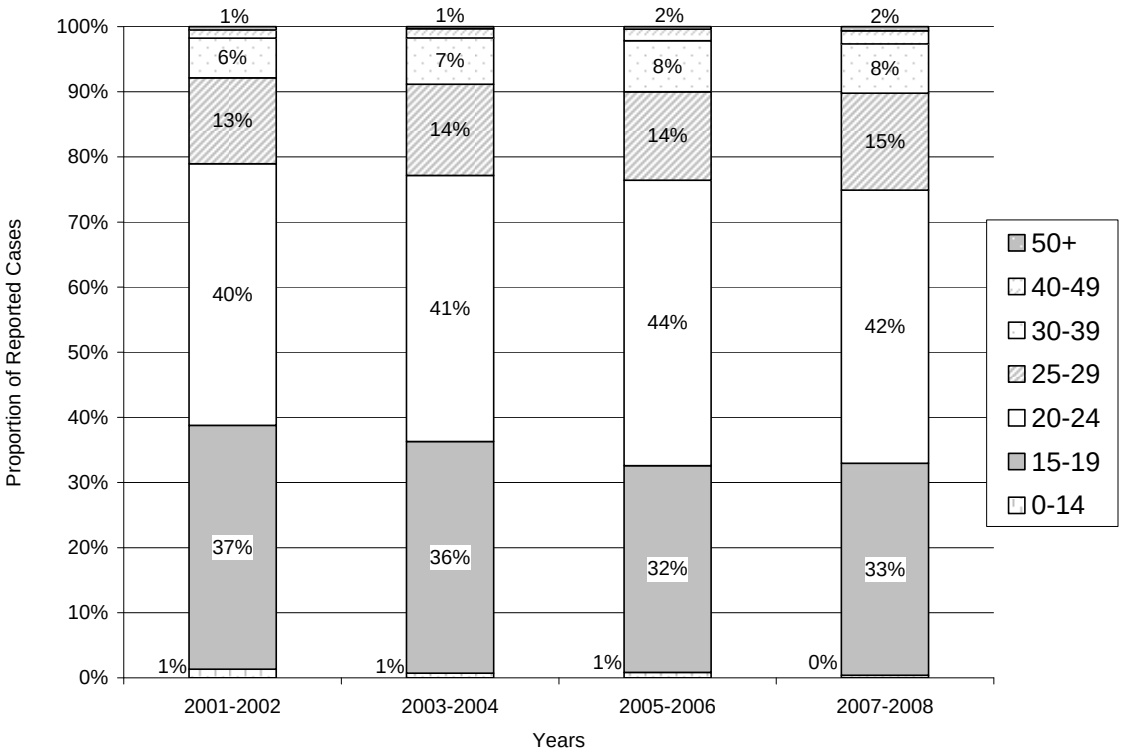
In 2007 more than one million Chlamydia cases were reported in the U.S., at a rate of 370.2 cases per 100,000 populations, and has been on the rise.[55] Vermont was ranked 49th in the nation for reported Chlamydia cases, at a rate of 169.4 per 100,000 population in 2007.[55] In 2008, there were 1,185 cases of Chlamydia in Vermont (cases of Chlamydia in Vermont (190.7 per 100,000 population). This represented a 12.11% increase in reported Chlamydia cases in Vermont in the last year (1,057 in 2007). From 1996 to 1999, the number of cases among women was just over 6 times the number of cases for men. From 2000 to 2008, the number of cases among women was 3.5 times the number of cases for men.[56] The number of cases for both men and women has continued to increase over the past decade, matching national trends (Figure 48).

Figure 48. Number of Chlamydia Cases by Sex: 1996-2008 [56]



Between 2003 and 2007 the largest number of new Chlamydia cases nationally occurred among 20-24 year olds, followed by 15-19 year olds.[55] New cases in these same two age groups also accounted for the largest proportion of new Chlamydia cases in Vermont in any given year between 2000 and 2008.[56] In 2007-2008 15-24 year olds accounted for 75% of all reported Chlamydia cases in Vermont. Vermonters 50 years old and older account for 2% of all reported cases. Vermonters ages 0-14 also account for a very small percentage of reported Chlamydia cases (Figure 49).[56]

Figure 49. Proportion of Chlamydia Cases by Age Group in Two-Year Intervals [56]



Teen Pregnancy Rates

The national teen pregnancy rate for 15 to 19 year olds had been in continuous decline since 1990. In 1990 the teen pregnancy rate was 116.8 per 1,000 women, which decreased to 72.2 per 1,000 women in 2004.[73] These rates were even lower among White, non-Hispanic women; 86.8 per 1,000 women in 1990 and 45.2 per 1,000 women in 2004.[73] In Vermont, the teen pregnancy rate was 32.8 per 1,000 women in 2006, a nonsignificant decrease from 33.0 per 1,000 women in 2005 but continuing an overall decrease observed in Vermont since 1991.[8] In 2006 Vermont teen pregnancy rates were highest in Bennington County (50.6 per 1,000 women) and lowest in Addison County (21.5 per 1,000 women).[8]

People Living with HIV/AIDS

Direct Measures of Risk Behavior

HIV prevention among people who are HIV positive can help to prevent further transmission of HIV. The CDC, the heath Resources and Services Administration, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America have developed recommendations for HIV/AIDS medical care providers that include screening people with HIV/AIDS for risk behaviors and STDs and working with patients (or referring patients to other agencies) to develop risk reduction plans.[74]

The following measures of direct risk behavior are available in Vermont:

- *Condom use among people living with HIV/AIDS*
- *Engaging in Other Sexual Risk Behaviors*

Between 2004 and 2006 the Person Environment Zone project at the University of Vermont gathered data from 200 people living with HIV/AIDS about their experiences with HIV/AIDS stigma, how they cope with HIV/AIDS stigma, and their sexual behavior. Almost three-quarters of all participants in the study (74%) reported that they lived in Vermont. The Vermont Department of Health conducted a needs assessment of people living with HIV/AIDS in Vermont in the winter of 2008. The assessment included a survey of 46 people living with HIV/AIDS about their service experiences and their risk behaviors in the past 12 months.[75] Detailed information on the strengths and weaknesses of these data can be found in Appendix A.

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[73] Ventura, S.J, Abma, J.C, Mosher, W.D., Henshaw, S.K. *Estimated Pregnancy Rates by Outcome in the United States, 1990-2004*. Centers for Disease Control and Prevention, National Center for Health Statistics. 2008. Available at http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_15.pdf. Accessed on 2/26/09.

[74] Jaffe, H.W., Janssen, R.S, NCHSTP, Division of HIV Prevention. *Incorporating HIV Prevention into the Medical Care of Persons Living with HIV*. Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report, 52(RR12), July 18, 2003.

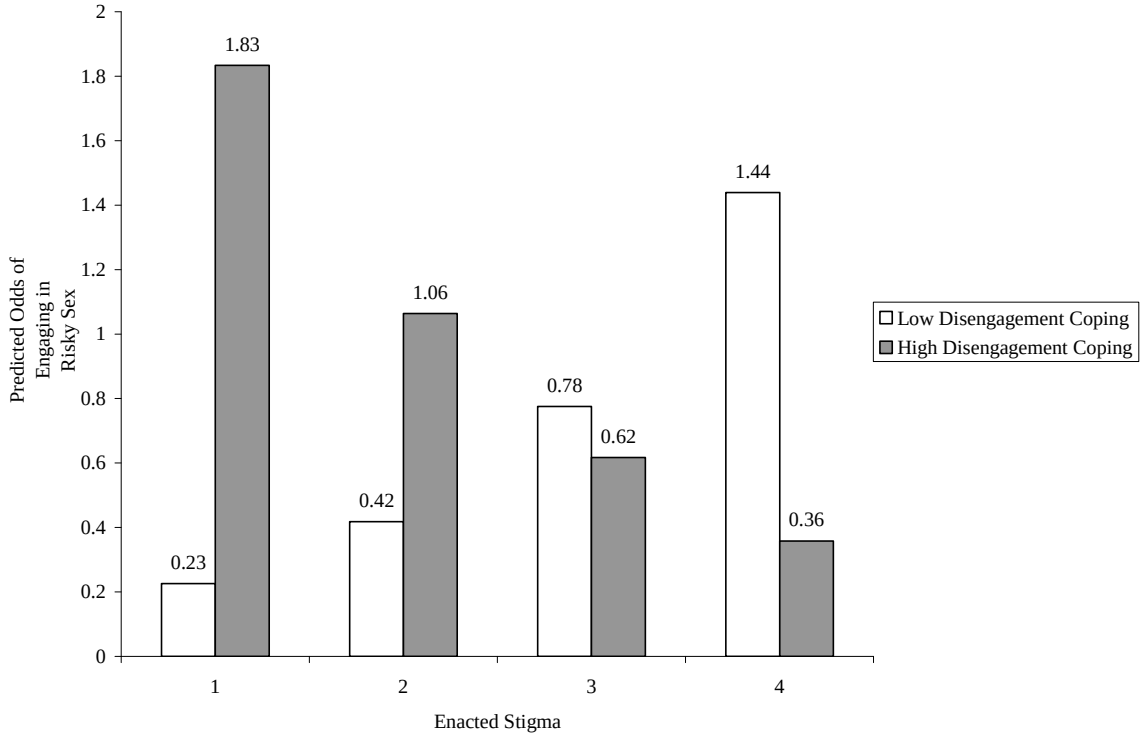
[75] Vermont HIV Prevention and Care Needs Assessment: People Living with HIV/AIDS (PLWHA), 2008-2009.

Condom Use among People Living with HIV/AIDS

The relationship between coping with HIV/AIDS stigma and engaging in risky sexual behavior was examined in 200 HIV-positive adults. Participants answered questions about HIV/AIDS stigma, how they coped with HIV/AIDS stigma, and their sexual activity during the past 90 days. Just over half (54%) of the 200 participants in the study reported not having vaginal or anal intercourse during the past 90 days, 27% reported that they had always used a condom during sex, and 19% reported inconsistent or no use of condoms.

The researchers hypothesized that using disengagement coping to deal with HIV/AIDS stigma would be related to risky sexual behavior (inconsistent condom use) and that using engagement coping would be related to engaging in safer sex practices (abstinence or consistent condom use). Unexpectedly, using more disengagement coping coupled with high levels of enacted stigma (actual experiences with HIV/AIDS stigma, for example losing friends because he/she has HIV/AIDS) was associated with *less* risky rather than more risky sexual behavior. Further examination revealed that as enacted stigma increased high disengagement copers were more likely to be abstinent than sexually active.[76]

Figure 50. Predicted Odds of Engaging in Risky Sex for High and Low Disengagement Coping by Enacted Stigma [76]

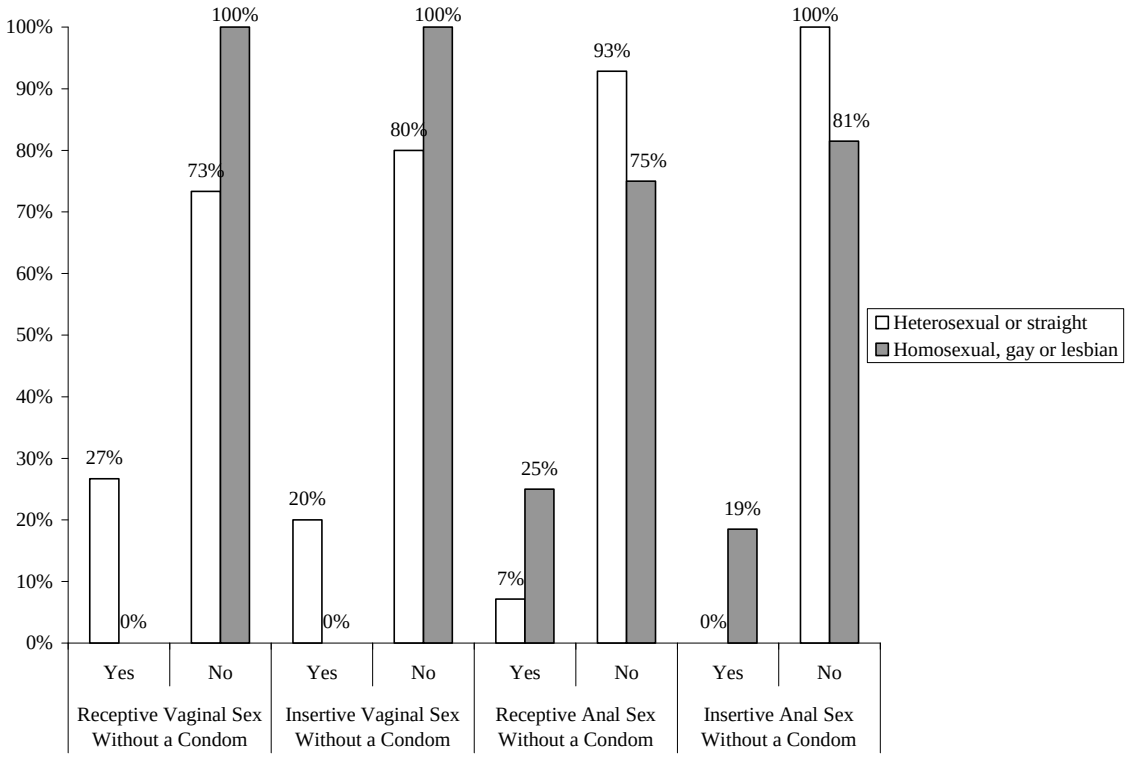


[76] Varni, S.E., Miller, C.T., & Solomon, S.E. (unpublished manuscript). Sexual behavior as a function of stigma and coping with stigma among people with HIV/AIDS.

Previous research on stress and coping has shown that using avoidance coping strategies may be beneficial in the short-term, but continual use of these strategies results negatively impacts the individual in the long-term. The findings from this UVM study also suggests that people with HIV/AIDS who are currently abstinent and who rely on disengagement coping to deal with stigma may not be adequately prepared to engage in safer sex practices if the opportunity to have sex arises. Although abstinence is encouraged as a way to prevent the transmission of HIV, abstinence may be difficult to maintain over time. Our research shows that focusing on these skills with only sexually active people who are HIV positive may miss an opportunity to provide valuable information about how to navigate healthy sexual relationships to those who are currently abstinent but may become sexually active in the future.

Of 46 people (15 heterosexual or straight respondents, 28 homosexual, gay or lesbian respondents) surveyed as part of the Vermont Needs Assessment, 27% of heterosexuals reported receiving vaginal sex without a condom and 20% reported engaging in insertive vaginal sex without a condom. One-quarter of respondents who self-identified as homosexual, gay or lesbian reported that they engaged in receptive anal sex without a condom and almost one-fifth reported engaging in insertive anal sex without a condom.

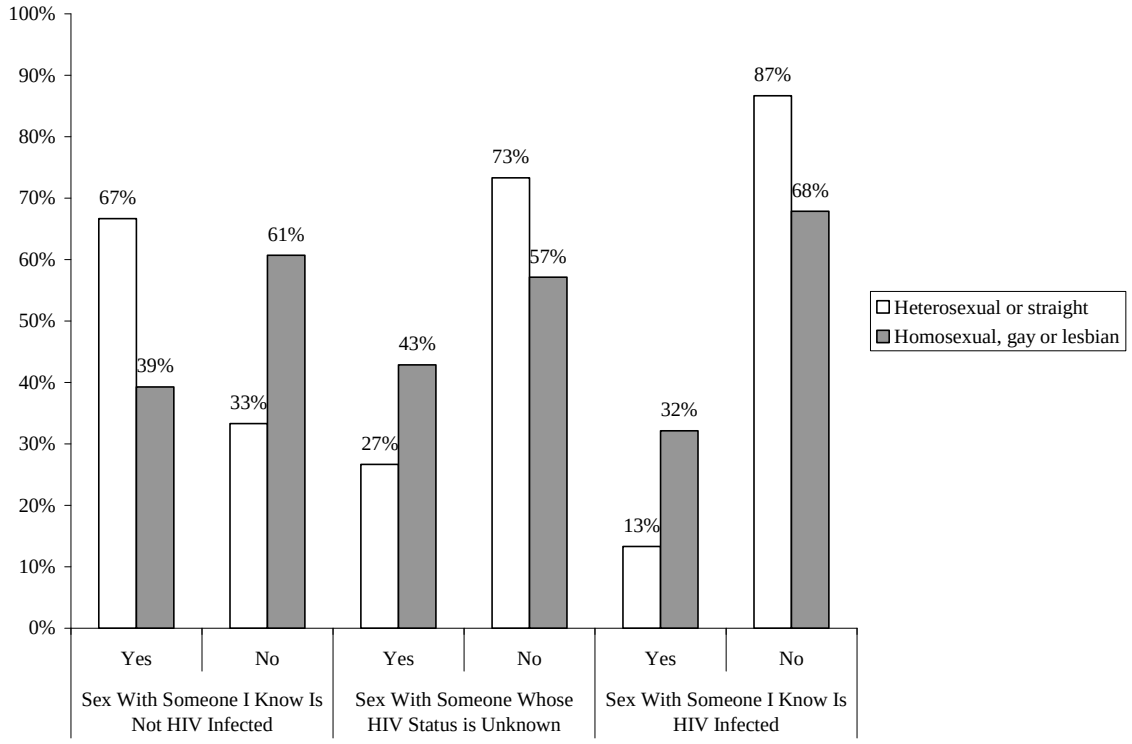
Figure 51. Proportion of Needs Assessment Survey Respondents Using Condoms for Vaginal and Anal Sex by Sexuality: 2008 [75]



Engaging in Other Sexual Risk Behaviors

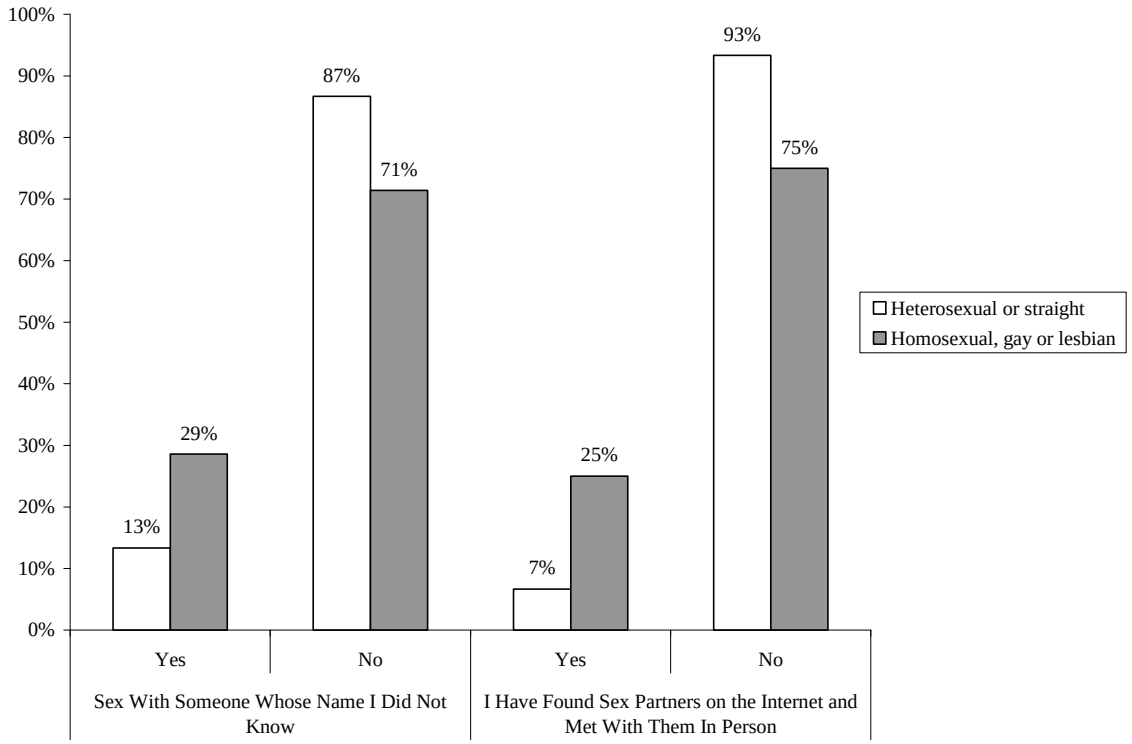
People living with HIV/AIDS surveyed through the Needs Based Assessment Survey also reported whether or not they had engaged in other risky sexual behaviors, including having sex with someone whose status is unknown, having anonymous sex, and meeting partners over the internet. Heterosexual or straight respondents reported having sex with someone who they knew was not HIV infected with more frequency than homosexual, gay or lesbian respondents (see Figure 52). More homosexual, gay or lesbian respondents reported having sex with someone whose HIV status was unknown and having sex with someone known to have HIV than heterosexual or straight respondents.

Figure 52. Proportion of Needs Based Assessment Respondents Who Had Sex within the Past Year by HIV Status of Sexual Partner and Sexuality: 2008 [75]



No respondents to the needs based assessment survey indicated sharing needles or drug works, or having sex with an injection drug user in the previous 12 months. Also, no respondents received or gave money, food, drugs, and/or shelter in exchange for sex. Some respondents (13% of heterosexual or straight respondents and 29% of homosexual, gay or lesbian respondents) reported having sex with someone whose name they do not know. One-quarter of homosexual, gay or lesbian respondents indicated that they had found sexual partners over the internet in the past year and met them in person (see Figure 53).

Figure 53. Proportion of Needs Based Assessment Respondents Partner Who have Had Anonymous Sex or Found Sex Partners on The Internet by Sexuality: 2008 [75]



Indirect Measures of Risk Behavior
Similar to indirect measures for MSM and heterosexuals, understanding the rates of STD infection among people living with HIV/AIDS may indicate risky sexual practices.

The following measure of indirect risk behavior is available in Vermont:

- *Syphilis infection in Vermont*

The Vermont Department of Health's Sexually Transmitted Disease Program collects data on the incidence of STDs in Vermont. Detailed information on the strengths and weaknesses of these data can be found in Appendix A.

Syphilis

Between 1984 and 2007, syphilis cases in Vermont averaged 2.4 per year. In 2007, Vermont saw a sharp increase in cases of infectious syphilis. Between 2007 and the beginning of 2008 Vermont had an average of 10 reported cases. Patients in this most recent outbreak were more likely to be HIV positive and men who have sex with men than patients in the past. Solicitation of sex partners through the internet was noted for five of 10 cases in 2007 and 3 of the 5 cases for 2008.[77]

Table 15. Characteristics of Reported Syphilis Cases Stratified by Outbreak Year vs. Previous 10-year Non-outbreak Period [77]

		2007-2008* Cases (n= 15)		1997-2006 Cases (n=18)	Risk Ratio (95% CI)	Fisher Exact P-value
Male		15 (100.0)		15 (83.3)	1.2 (0.98–1.5)	0.15
Age >40		8 (53.3)		5 (27.7)	1.9 (0.8–4.6)	0.13
White Race		15 (80.0)		13 (72.2)	1.4 (1.0–1.8)	0.04
MSM[A]		14 (93.3)		6/14 (42.9)	2.2 (1.2–4.0)	0.005
3 or more sexual contacts		6 (40.0)		13/17(76.5)	0.52 (0.3–1.0)	0.04
HIV infected		9 (60.0)		6 (33.3)	1.8 (0.8–3.9)	0.12
MSM[A] and HIV infected		9 (60.0)		4/18 (22.2)	2.7 (1.0–7.0)	0.03
History of Chlamydia or Gonorrhea		9 (60.0)		4 (22.2)	2.7 (1.0–7.0)	0.03
History of HIV, Chlamydia or Gonorrhea		9 (60.0)		7 (38.9)	1.5 (0.8–3.1)	0.20
Acquired in state		7 (46.6)		10/17 (58.8)	0.8 (0.4–1.6)	0.37

Data are no. (%). *2008 cases are through July 1; [A] Self-identified; MSM, men who have sex with men; CI, 95% Confidence Intervals P-values are Fisher's exact one-sided.

[77] Daltry, D.J & Laney, A.S. (unpublished manuscript). *Outbreak of Syphilis in Vermont: Evidence for Shifting Risk Factors in the Rural Environment.*

HIV Testing

Data on HIV testing patterns provide information that is helpful in focusing HIV counseling and testing programs. Understanding more about what the general population in Vermont thinks about HIV testing and their own testing behaviors inform efforts for increased testing in the state. Likewise, learning about the testing behaviors in high-risk populations informs efforts to reach people most at risk for contracting HIV. Increased efforts are being made nationally to reduce HIV transmission from mother to child. The U.S. Public Health Service and the American College of Obstetricians and Gynecologists both recommend HIV testing and counseling as a part of prenatal care.[78] The data may also be used to help identify potential gaps in HIV surveillance data, which represent only persons who have confidentially tested positive for HIV. Direct measures of HIV testing behavior in Vermont include:

- *Testing in the general population*
- *Testing in high risk populations*
- *Testing among pregnant women*

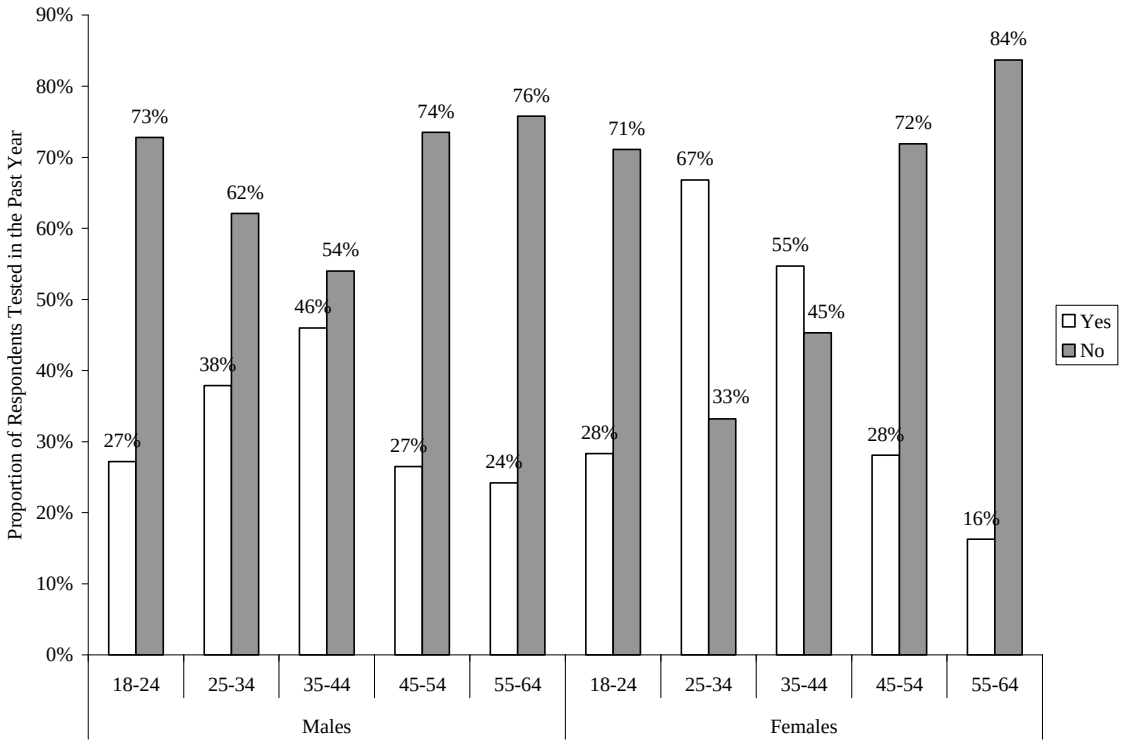
Data on HIV testing in the general public is available from self-report data collected through the BRFSS and from documentation by publicly funded HIV counseling and testing sites. Self-report data on HIV testing among high risk populations is available for MSM and IDU from the 2001 HITS survey. Data on HIV counseling and testing among pregnant women in Vermont is available from the Pregnancy Risk Assessment Monitoring System (PRAMS). For the strengths and limitations of each of these sources of data, see Appendix A.

[78] Williams, L., Morrow, B., Shulman, H., Stephens, R., D'Angelo, D., & Fowler, C.I. *PRAMS 2002 Surveillance Report*. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Reproductive Health. 2006.

Testing in the General Population

Between 2001 and 2003 Vermonters were asked about the importance of HIV testing through the BRFSS. An average estimate of 92% of Vermonters reported that they believed that it is important for people to know their status by getting tested.[51] In 2008, an estimated 34% of men and 38% of women reported ever having been tested for HIV.[51] This is similar to testing history reported in 2006. In Vermont, more women reported ever being tested than men with the exception of older women (between the ages of 55 and 64).[51]

Figure 54. Percent of Vermonters Reporting Ever Being Tested for HIV by Gender and Age Group: 2008 [51]



Reasons given by 2006 BRFSS respondents for ever having an HIV test varied by both age and sex (see Table 16). Women were most likely to be tested because they were pregnant. This was especially true for women between the ages of 18-34.[51] Men were most likely to be tested for requirements (particularly among men ages 18-34) or for knowledge of their HIV status (particularly among men ages 35-49). More older men (26% of men 50 years old and older) than younger men (18% of men ages 35-49 and 16% of men ages 18-34) reported being tested as part of a medical check up.[51]

The majority (41%) of 2008 Vermont BRFSS respondents said that they had their most recent HIV test at a private doctor's office or HMO.[51] The majority of male respondents (41%) reported having their last HIV test at a hospital or clinic, whereas the majority of women reported having their last test at a private doctor's office or HMO (50%).

Table 16. Vermonters Reasons for Being Tested by Sex and Age Group: 2006 [51]

	Reason For Testing							
	It was required	Someone suggested you should be tested	You thought you may have gotten HIV through sex or drug use	You just wanted to find out whether you had HIV	You were worried that you could give HIV to someone	You were pregnant	It was done as part of a routine medical check-up	You were tested for some other reason
Females								
18-34	8%	2%	3%	18%	0%	40%	18%	11%
35-49	18%	2%	4%	20%	1%	20%	15%	19%
50+	19%	3%	5%	18%	0%	4%	21%	31%
Total	**14%**	**2%**	**4%**	**19%**	**1%**	**27%**	**17%**	**17%**
Males								
18-34	23%	6%	3%	33%	1%	-	16%	18%
35-49	32%	3%	3%	22%	1%	-	18%	21%
50+	26%	6%	4%	21%	2%	-	26%	14%
Total	**27%**	**5%**	**3%**	**26%**	**1%**	**-**	**19%**	**18%**

Testing Patterns in the Vermont Counseling, Testing, and Referral System

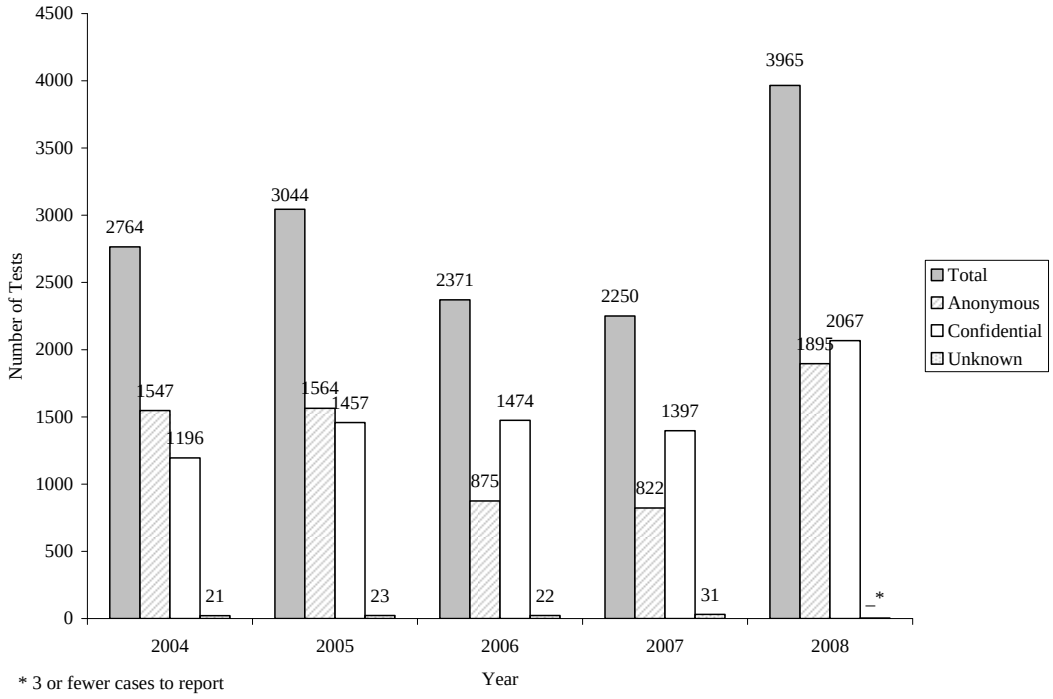
Overall CTR Testing

In 2008, 3,965 HIV test results were reported via CTR in Vermont, a 76% increase in total testing from 2007 (Figure 55). This large increase in the number of tests reported to the state may be due to the inclusion of VTCARES testing data in 2008. In the U.S. testing remained relatively stable between 1999 and 2004.[79]

Both anonymous and confidential HIV tests are available through the CTR system in Vermont. Anonymous testing links test results to a code number. The person who was tested then uses this code to obtain her/his test results. For confidential testing, the name of the person being tested remains in a secure location with the test counselor, but the lab performing the test and the Health Department are provided with a unique code based on the name and social security number of the person being tested. Both oral and blood tests for HIV are available in Vermont, and both kinds of tests are available though either anonymous or confidential testing. It is important to note that the clients tested through CTR are not unduplicated. That is, a person may have sought multiple tests in a given year.

In 2004 and 2005, the majority of tests conducted by CTR sites were anonymous tests. This increase was followed by a sharp drop in anonymous tests conducted by the CTR system in Vermont in 2006 and 2007. [41] (see Figure 55).

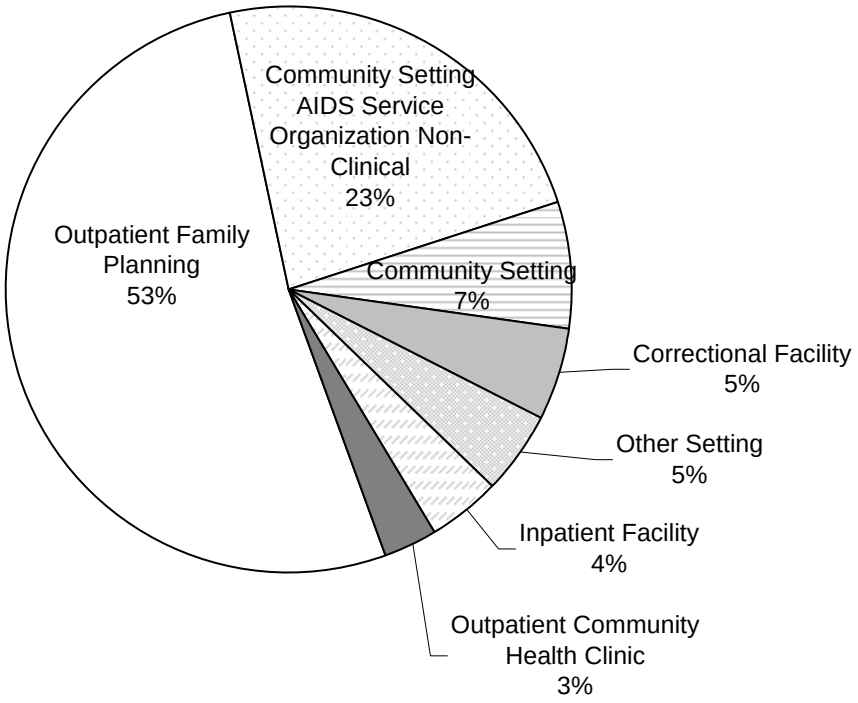
Figure 55. Number of Tests Administered by Vermont CTR by Type of Test: 2004-2008 [41]



[79] Centers for Disease Control and Prevention. *HIV counseling and testing at CDC-supported sites-United States 1999-2004* (2006). Available at http://www.cdc.gov/hiv/topics/testing/reportes.htm Accessed on 3/27/2008.

Figure 56 shows the proportion of all tests conducted in 2008 by site type. Family planning organizations conduct the largest percentage of HIV tests (53% of all tests in 2008). HIV centers administered the second largest percentage of tests (23% of tests).[41]

Figure 56. Percentage of HIV Tests Administered Through Vermont CTR by Site Type: 2008 [41]



CTR Testing by Race/Ethnicity

Of the clients who reported their race/ethnicity, people who identified as White continue to make up the largest proportion of tests in 2008 (88%).

Preference for different types of tests conducted through CTR varied by race. More White clients had confidential testing, whereas more non-White clients and Hispanic clients had anonymous tests (Figure 57). Also, more White clients had conventional tests whereas more non-White and Hispanic clients had rapid tests (Figure 58).

Figure 57. Proportions of Anonymous and Confidential HIV Tests Administered Through Vermont CTR by Race/Ethnicity: 2008 [41]

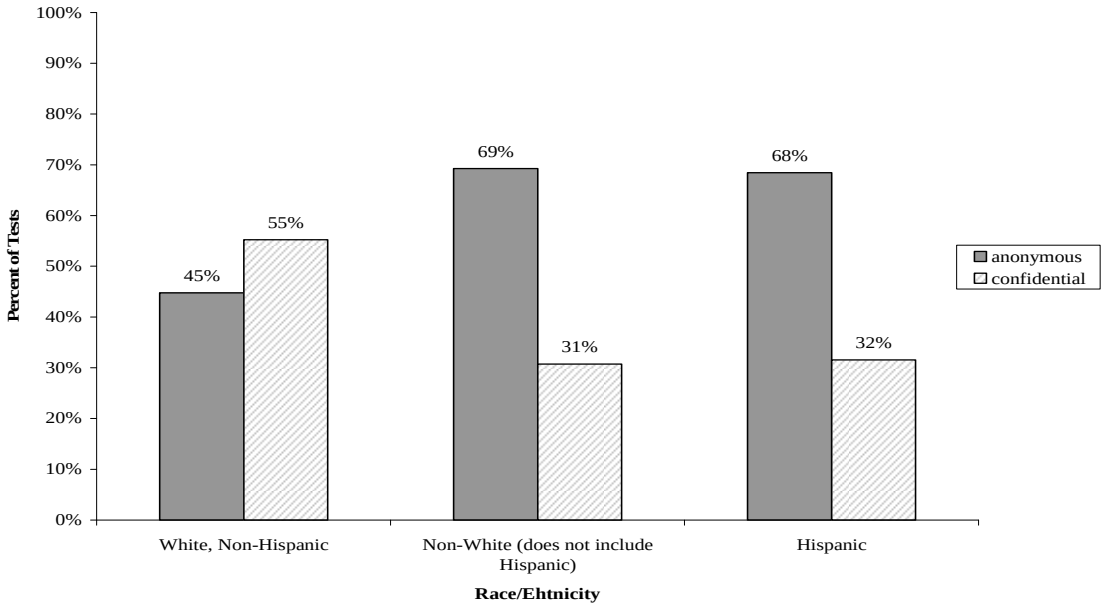
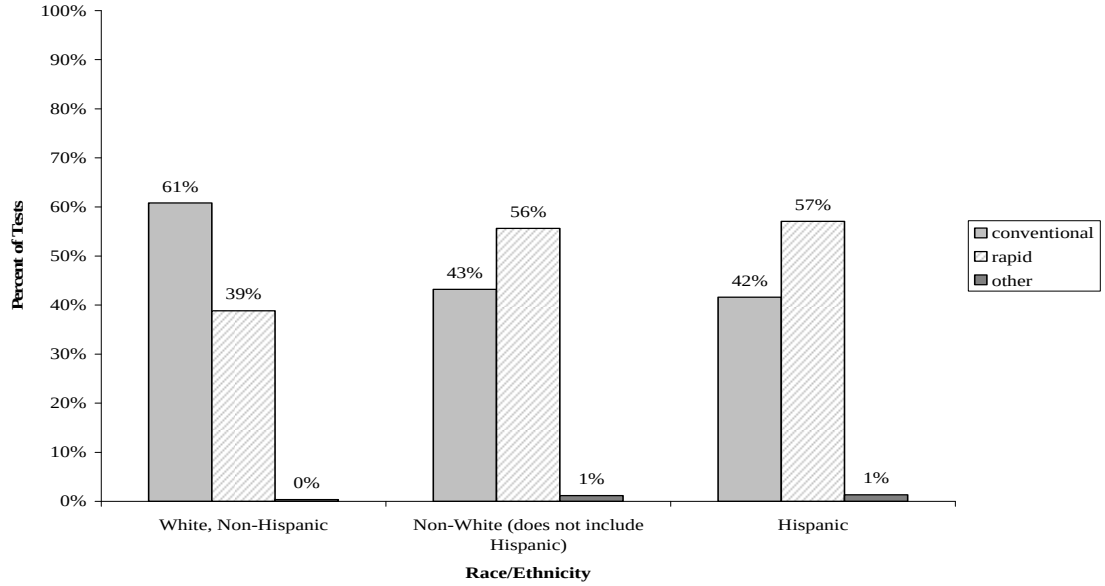


Figure 58. Proportions of Rapid, Conventional, and Other HIV Tests by Race/Ethnicity [41]



CTR Testing by Age

People ages 20-29 are the largest proportion of people tested through Vermont CTR (52% of all tested in 2008).[41] A comparison of 2008 with 2004 shows that although the numbers of tests conducted have increased for all age groups, the proportions of tests conducted per age group were similar (Figure 59). Younger Vermonters (ages 13-29) reported using more confidential testing, whereas older Vermonters (ages 40 and older) reported using more anonymous testing (see Figure 60). Vermonters ages 30-39 were evenly split between using confidential testing and anonymous testing.[41] Most Vermonters ages 13-39 were tested for HIV using conventional tests; Vermonters ages 40-49 were more evenly split between conventional and rapid tests, and Vermonters over 50 years old overwhelmingly had anonymous tests (see Figure 61).

Figure 59. Percentage of Tests Administered Through Vermont CTR by Age: 2004 and 2008 [41]

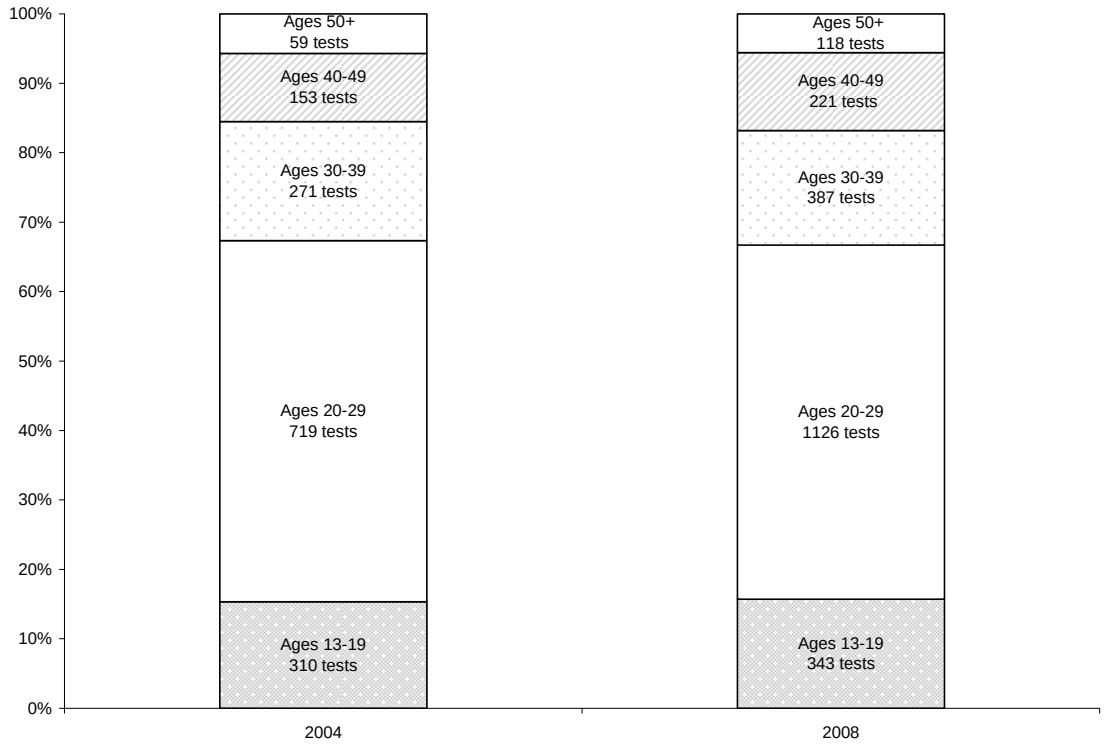


Figure 60. Proportion of Anonymous and Confidential HIV Tests Conducted Through Vermont CTR by Age Group: 2008 [41]

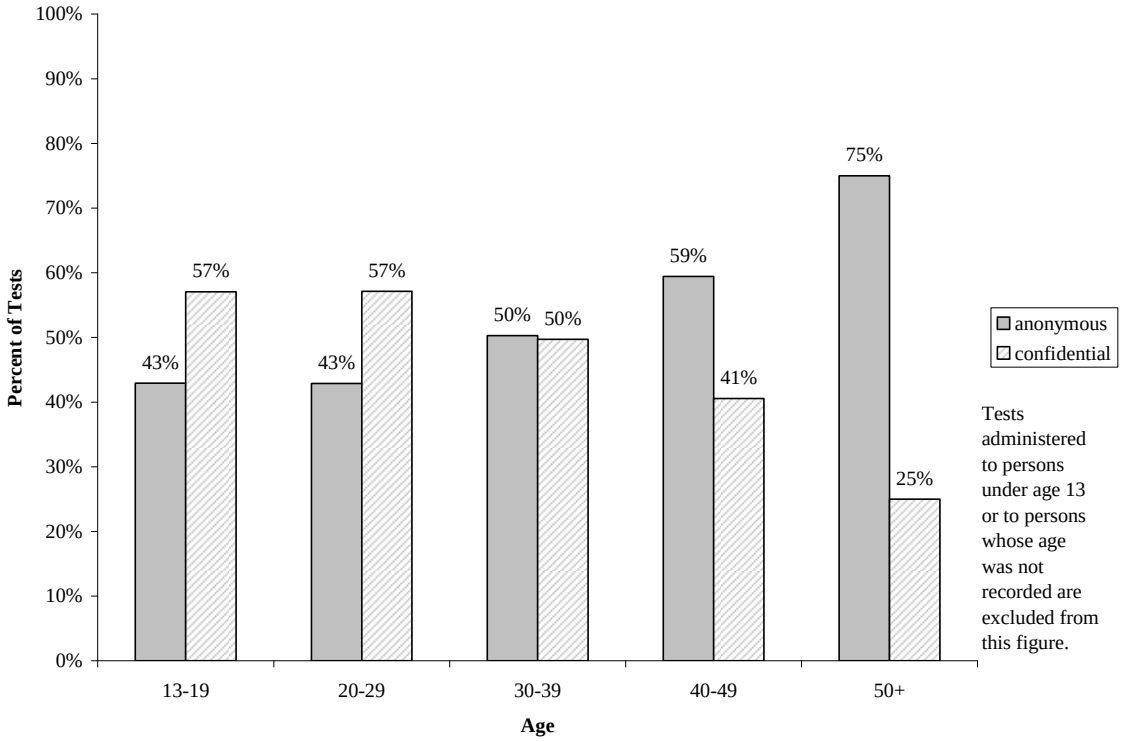
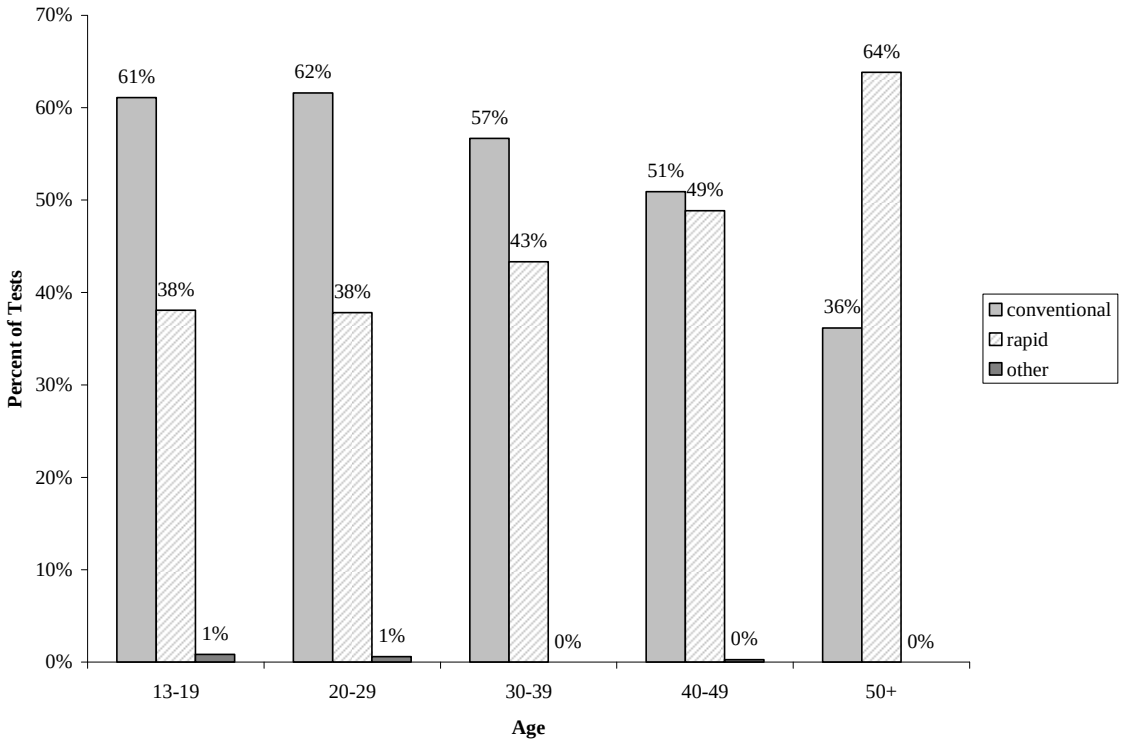


Figure 61. Proportions of Conventional, Rapid, and Other HIV Tests Conducted Through Vermont CTR by Age Group: 2008 [41]



CTR Testing by Gender

Of the clients who indicated their sex, more females were tested through CTR than males between 2004 and 2008, which matches national trends (see Figure 62 for Vermont data).[41, 79] The exception in Vermont was in 2005, when 50 more males than females were tested.[41] Women used confidential testing more often than anonymous testing; the opposite trend was observed for me. All transgendered people tested through CTR were tested anonymously. More women had conventional tests than rapid or other types of tests, whereas men had more rapid tests than confidential or other types of tests (Figure 64). Transgendered people (both M2F and F2M) had more rapid tests than conventional tests or other types of tests.

Figure 62. Number of Tests Administered Through Vermont CTR by Gender: 2004-2008[41]

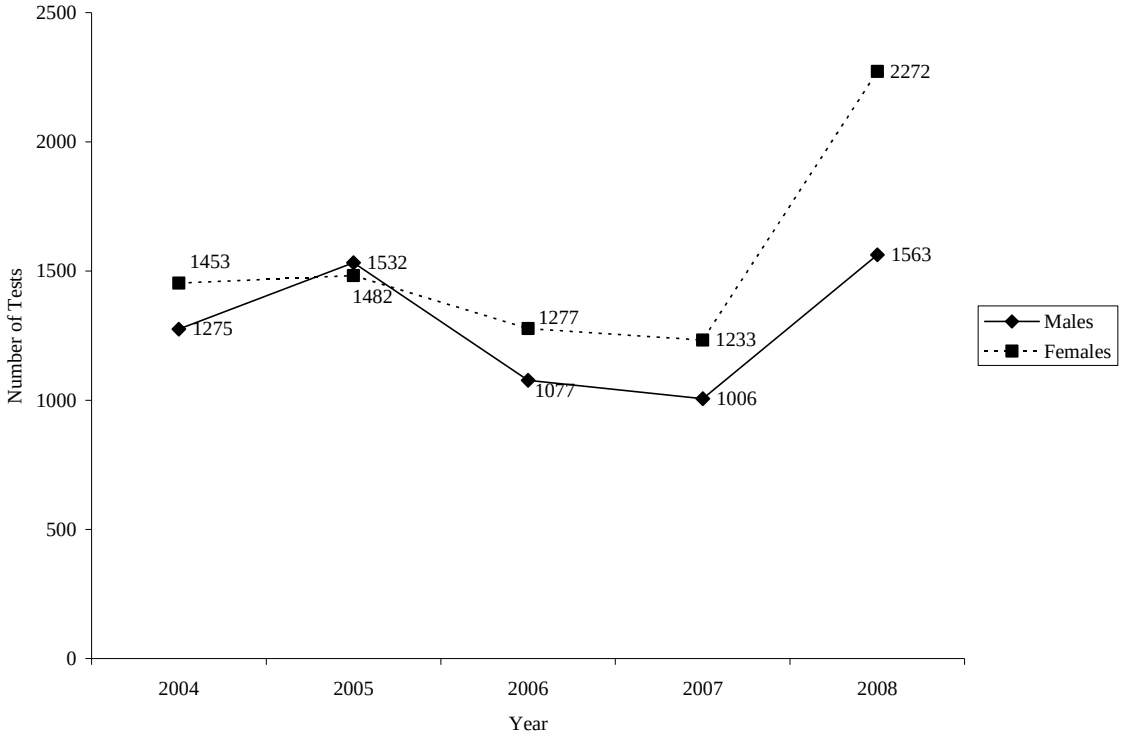


Figure 63. Proportions of Anonymous and Confidential HIV Tests Administered Through Vermont CTR by Gender: 2008 [41]

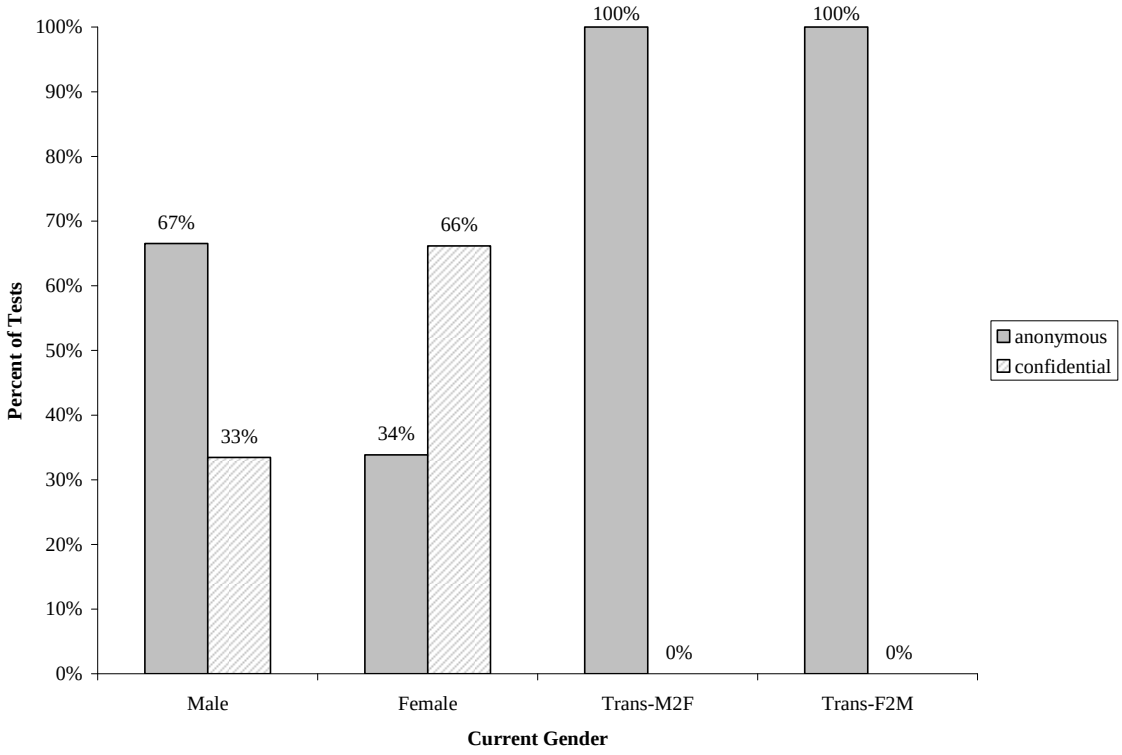
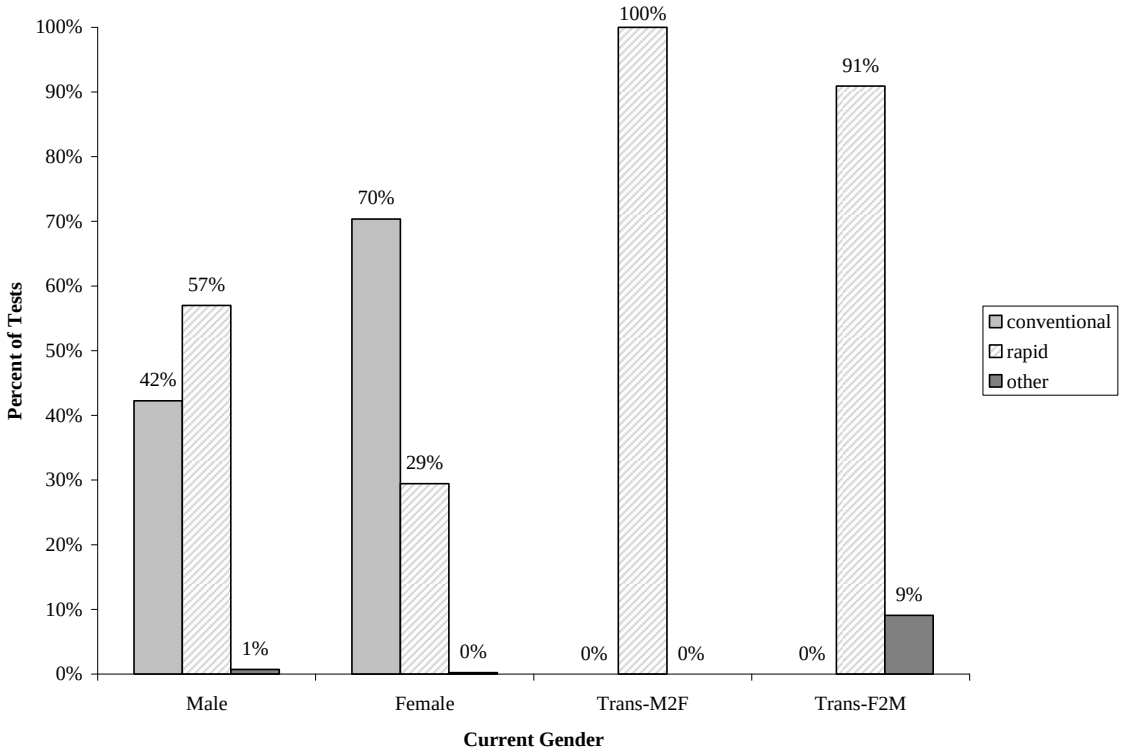


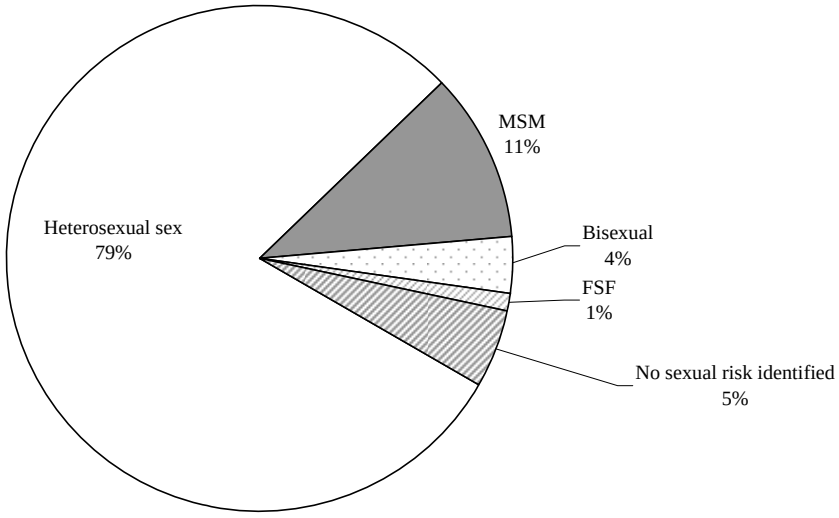
Figure 64. Proportions of Conventional, Rapid, and Other HIV Tests Conducted Through Vermont CTR by Gender: 2008 [41]



CTR Testing by Sexual Risk

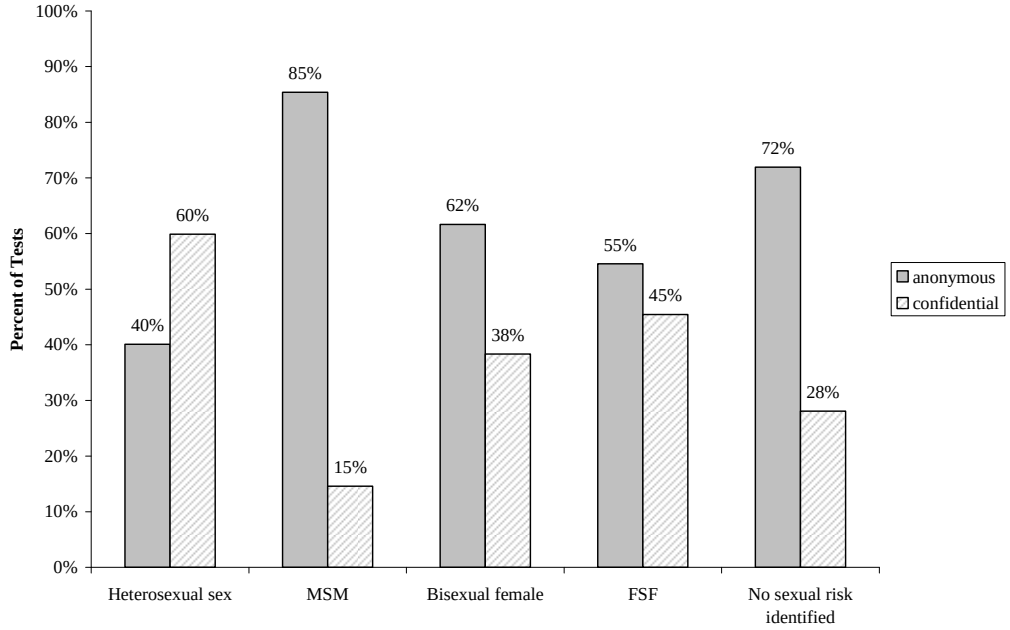
Most tests (79%) administered through Vermont CTR in 2008 were given to heterosexuals who did not identify any other risk factor (Figure 65). Heterosexuals also account for the largest number of HIV tests nationwide.[79] More clients who identified heterosexual sex as their sexual risk chose confidential testing over anonymous testing, whereas clients who identified any other sexual risk or no sexual risk chose anonymous testing over confidential testing (see Figure 66). The majority of clients who identified heterosexual sex as their sexual risk for HIV exposure chose conventional testing, whereas most other clients in chose rapid testing (particularly MSM and transgendered clients). An exception to this pattern was females who identified having sex with other females as their sexual risk; these women were evenly divided between conventional and rapid testing.

Figure 65. Number of Tests Administered Through Vermont CTR by Sexual Risk: 2008 [41]



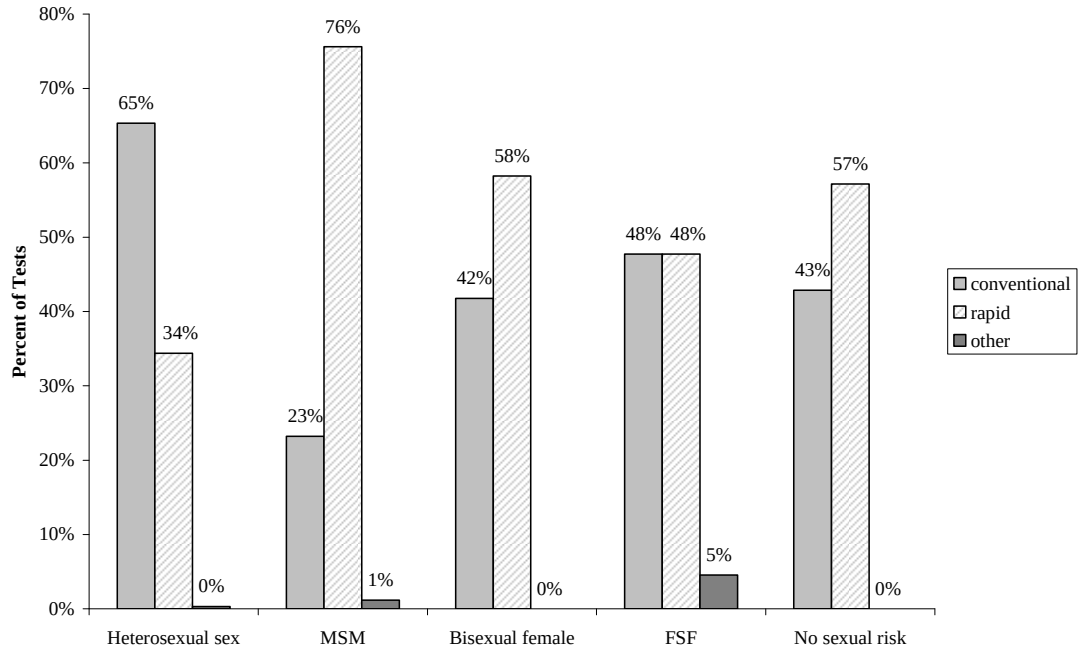
Note: 17 people tested identified themselves as transgendered and are not included in this figure

Figure 66. Proportion of Confidential and Anonymous Tests Conducted Through Vermont CTR by Sexual Risk Type: 2008 [41]



Note: 17 people tested identified themselves as transgendered. All 17 were tested anonymously.

Figure 67. Proportion of Conventional, Rapid, or Other HIV Tests Conducted Through Vermont CTR by Sexual Risk Type: 2008 [41]



Note: 17 people tested identified as transgendered. All but one were tested using rapid testing technology.

CTR Testing by Other Risk Behaviors

Clients tested through CTR may also tell the tester about specific behaviors that risk HIV exposure that he/she has engaged in. Over 4/5 of clients (86%) reported having sex without a condom. Other risk behaviors were reported with less frequency (at most, 8% of clients reported having sex with an IDU) (Figure 68).

High risk behaviors of clients were also recorded tested at sites other than family planning clinics. The most commonly reported high risk behavior (70% of clients) was having multiple sex partners (see Figure 69). This was followed by IDU who shared equipment or sex with IDU (19%) and by having been diagnosed with an STD or having sex with someone who was diagnosed with an STD (11%).

Figure 68. Proportion of Clients Tested Through Reporting Various Risk Behaviors: 2008 [41]

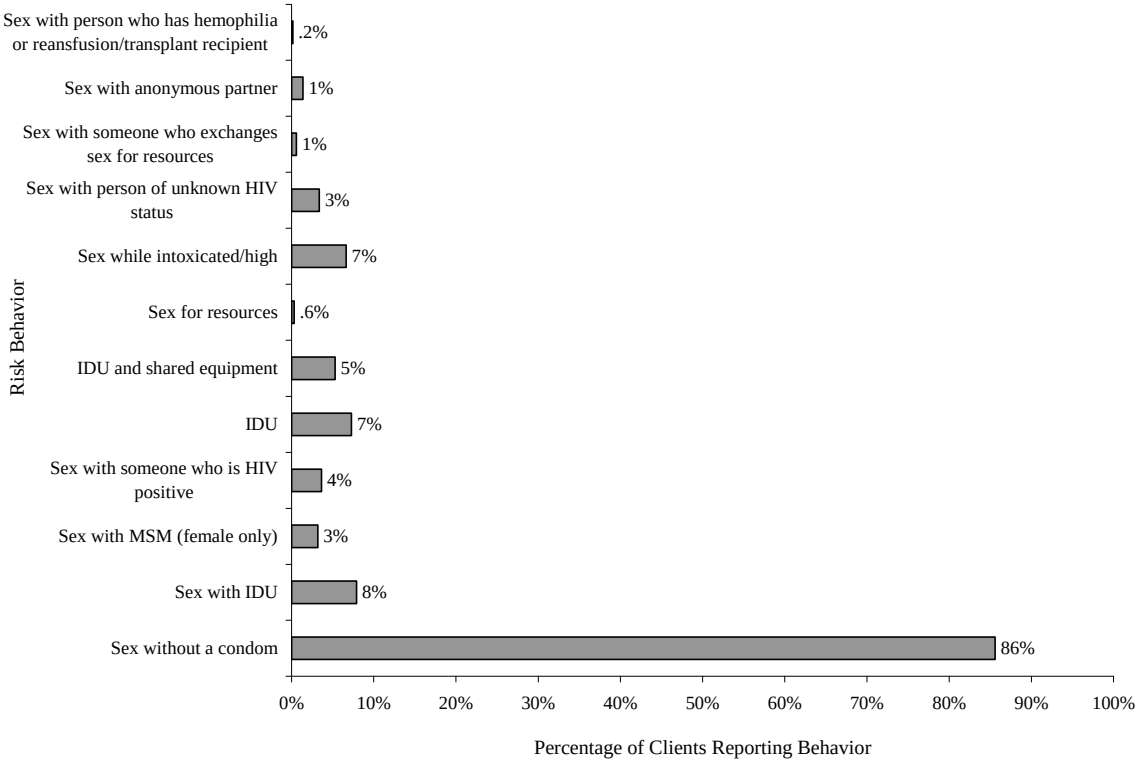
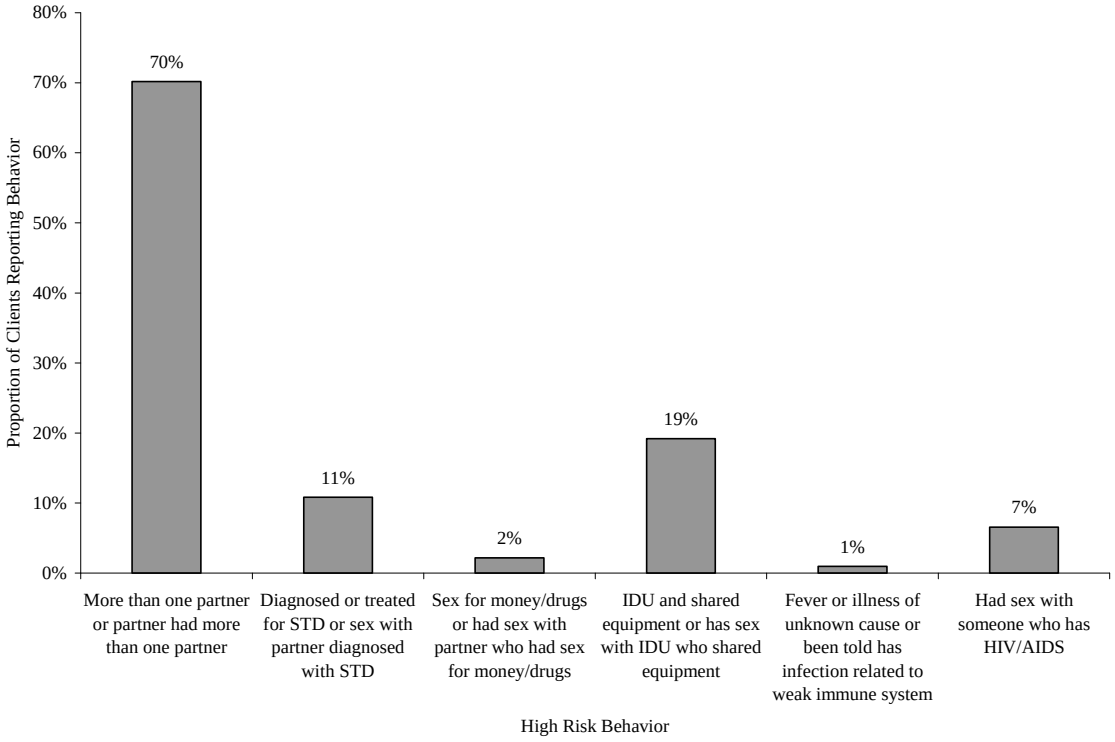


Figure 69. Proportion of Clients Tested Through Vermont CTR Who Reported Engaging in High Risk Behaviors: 2008 [41]

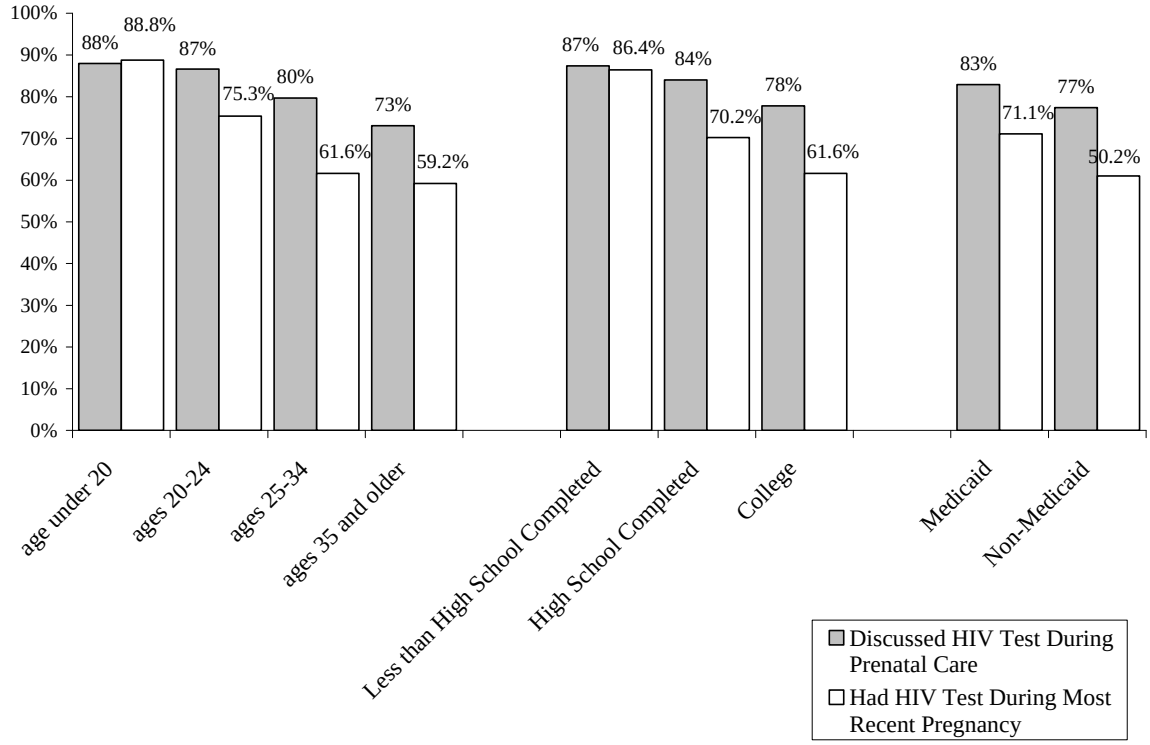


Testing among Pregnant Women

In 2008, 84%, of women who gave birth in one of the hospitals reporting to OBNet (including Fletcher Allen Health Care) were screened for HIV, up from 64% in 2007.[80] In 2007 an estimated 84% of Vermont women who had recently given birth said that they were offered an HIV test by a doctor, nurse, or other health care provider.[81] Approximately the same proportion of women under 20 years of age reported discussing HIV testing and being tested for HIV. However, for women over 20 there is a discernable discrepancy between discussing HIV testing and being tested for HIV (Figure 70. Percentage of Vermont Women Who Recently Gave Birth and Discussed HIV Testing or Had an HIV Test: 2007 [81]. Women who had not completed high school reported that they had discussed HIV testing during their prenatal care the most and also reported the highest rates of testing. Many women who had a high school education or higher reported that they discussed having an HIV test, but these women were less likely to report that they were tested. More women who received Medicaid before or during their pregnancy, or at delivery, reported discussing HIV testing and being tested for HIV than women who did not receive Medicaid (see Figure 70).

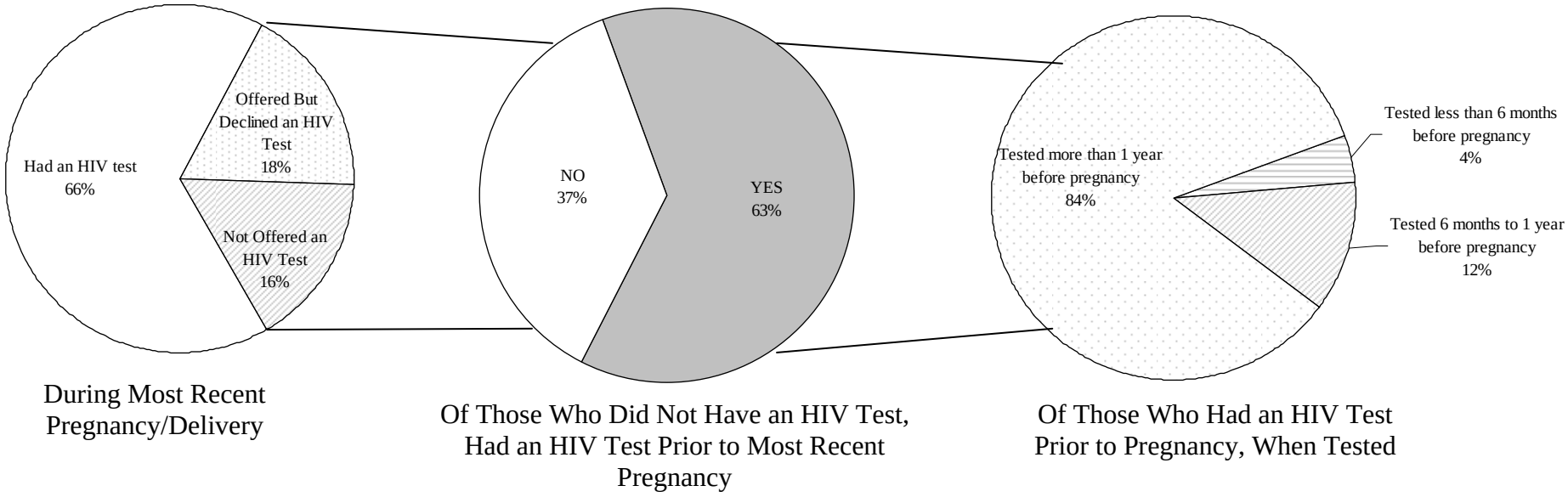
[80] Vermont Department of Health, Center for Public Health Statistics. Data collected through OBNet, in partnership with Fletcher Allen.
[81] Vermont Department of Health, Agency of Human Services.

Figure 70. Percentage of Vermont Women Who Recently Gave Birth and Discussed HIV Testing or Had an HIV Test: 2007 [81]



In 2006, 61% of women reported having an HIV test during their most recent pregnancy (see Figure 71). Of the women who were not offered the test or turned down the test, 63% reported having a test prior to their pregnancy, although most of these tests (80%) were conducted a year before the most recent pregnancy (Figure 71).[81]

Figure 71. Percentage of Vermont Women Who Recently Gave Birth Having or Declining an HIV Test: 2007 [81]



VERMONT
DEPARTMENT OF HEALTH

Section Two:

Ryan White HIV/AIDS Care Act Special Questions and Considerations

Question 1

What Are the Patterns of Utilization of HIV Services by Persons in Vermont?

Question 2

What Are the Number and Characteristics of Persons Who Know They Are HIV-positive, But Who Are Not Receiving Primary Medical Care?

Question 1 What Are the Patterns of Utilization of HIV Services by Persons in Vermont?

In 1990, Congress enacted the Ryan White CARE Act to provide funding for primary care and support services for individuals living with HIV who lack health insurance and financial resources for their care. Ryan White is the third largest provider of public financing for HIV/AIDS in the United States. In 2006, Congress reauthorized the Ryan White CARE Act with some changes. At least 75% of funds must now be spent on "core medical services" provided through Parts A, B, C, and D (formerly known as Titles I, II, III, and IV). These core medical services include, but are not limited to, outpatient and ambulatory health care, medication assistance, oral health, mental health services, substance abuse outpatient care, and medical case management.

Vermont does not receive Part A funding, which is designated for metropolitan and transitional areas. Vermont does receive Part B funding and Part C funding. Part B funding ($902,212 FY 2008) supports services for people with HIV/AIDS ($500,000) and Vermont's AIDS Medication Assistance Program (AMAP; $402,212). Part C funding ($502,024 FY 2008) supports early intervention services for those recently diagnosed with HIV, including testing and case management services. Part C also supports service planning efforts in Vermont. Although Vermont does not receive Part D dollars (which fund care services for women, children and youth affected by HIV) the state of New Hampshire does receive Part D funding. In 2008, 39 Vermont residents received care in New Hampshire through Dartmouth-Hitchcock (15% of those receiving services). These Vermonters received an estimated $61,694 in Part D services.[82]

For the purpose of this profile, service utilization patterns and demographic characteristics of persons who receive services funded by the State of Vermont's Ryan White Part B Program, as well as persons who have been reported to the State of Vermont's HIV/AIDS Surveillance Program, are described. It should be noted, however, that there are few resources to help track service utilization. Comprehensive data have been difficult to obtain.

HIGHLIGHTS

- Two types of organizations provide Part B services in Vermont.
- The number of participants in AMAP and DCAP continue to rise.
- In 2008, the demographic characteristics of Vermont residents receiving services were similar to the characteristics of people living with AIDS in Vermont.
- In 2006 there was an increase in the number of HIV patients discharged from Vermont hospitals, and an increase in the average length of stay for HIV patients compared to 2005.

[82] Dartmouth-Hitchcock Medical Center, Infectious Disease and International Health Section, Dartmouth-Hitchcock Family HIV Program.

Organizations providing Services to People Living with HIV/AIDS

In 2008, Ryan White Part B clients received services from two types of organizations: hospital/university based clinics (comprised of the Comprehensive Care Clinics, or CCCs, which are affiliated with Fletcher Allen Health Care) and community based AIDS service organizations (CBOs).[83] As can be seen in Table 16, most of the organizations receiving Part B funds are community based organizations. Table 17 describes the populations these groups target for their services. Only one organization reported that they specifically target women and children. Most organizations target multiple populations of people living with HIV/AIDS.

Table 17. Number of Organizations Serving HIV Positive Vermonters: 2008 [83]

Type of organization	Number of organizations	Percent of organizations
Other community-based service organization (CBO)	4	80%
Hospital or university-based clinic [1]	1	20%
Target Population	**Number of organizations**	**Percent of organizations**
Rural populations other than migrant or seasonal	4	80%
Women	3	60%
children	1	20%
Racial/ethnic minorities/communities of color	2	40%
Gay, lesbian and bisexual adults	2	40%
Incarcerated persons	2	40%
Injection drug users	3	60%
Parolee	2	40%
other target populations	2	40%

[1] Data for the hospital/university based clinic funded via Title II includes all four Comprehensive Care Clinics that are located throughout Vermont

[83] Vermont Department of Health, Ryan White Part B Coordinator for Vermont

Services Provided to People Living with HIV/AIDS in Vermont

Organizations receiving Part B funding use those funds to provide case management support (e.g., treatment adherence, nutrition counseling) and often also provide additional services to clients with HIV/AIDS. Organizations receiving Part B funds also provide a range of services, including some services than cannot be covered by Part B funds (e.g., emergency financial services). Table 18 shows the number of clients who accessed these services in Vermont. Only the information from the "hospital/university based clinic" (the CCCs) is free from duplicate counts. The hospital/university based clinic reaches a large number of Vermont's population living with HIV/AIDS for medical services and health education/risk reduction. They do not appear to provide as much support for mental health services.

The numbers reported for the CBOs are combined, which means that these numbers may contain duplicates. In other words, one individual may have obtained the same service at multiple agencies and was included in the count for both agencies. These numbers may include duplicates and should not be interpreted as a count of individuals who received services.[83]

Table 18. Number of Clients Served in Vermont through Organizations Receiving Part B Funding: 2008 [83]

Hospital/university based clinic [1]

Type of service	Number of HIV positive clients
Medical care	381
Health education/Risk reduction	381
Referral for health care/support services	141
Case management	197
Nutritional counseling	283
Treatment adherence	257
Mental health services	84

Services provided by CBOs[2]

Type of service	Number of organizations providing the service	Total number of HIV positive clients served [2]
Medical case management	4	276
Early intervention services	1	6

[1] Data for the hospital/university based clinic includes all four Comprehensive Care Clinics that are located throughout Vermont

[2] Unlike the numbers from the hospital/university based clinics, the number of clients receiving services via CBOs coalition may include individuals who received services from multiple organizations (including FAHC).Thus these total numbers may represent the same client multiple times for a given service.

AIDS Medication Assistance Program (AMAP)

The total number of AMAP participants has increased from 201 participants in 2004 to 270 participants in 2008. In 2008 the majority of AMAP clients were male (80%) and White (79%), although since 2004 there have been increases in the number of female clients (an increase of 112% compared to 2004), in the number of Hispanic clients (an increase of 113% compared to 2004), and in the number clients who identified as non-white (an increase of 73% compared to 2004). Similar to data collected in 2004, the majority of clients in 2008 were between 45 and 64 years old. However, there were more clients over the age of 65 in 2008 than there were in 2004. This may reflect the increasing age of people living with HIV/AIDS in Vermont.[84]

Table 19. Number of Vermonters Enrolled in the AIDS Medication Assistance Program by Demographics: 2004 and 2008 [84]

	2004		2008	
	Number Enrolled	Proportion of those Enrolled	Number Enrolled	Proportion of those Enrolled
Sex				
Male	176	88%	216	80%
Female	25	12%	53	20%
Transgender	≤ 3	—	≤ 3	—
Unknown/not reported	≤ 3	—	≤ 3	—
Race/Ethnicity				
Hispanic - All Races	8	4%	17	6%
American Indian or Alaska Native	≤ 3	—	9	3%
Asian	≤ 3	—	≤ 3	—
Black or African American	16	8%	27	10%
Native Hawaiian or Other Pacific Islander	≤ 3	—	≤ 3	—
White	164	82%	212	79%
More than one race	≤ 3	—	≤ 3	—
Unknown/not reported	15	7%	≤ 3	—
Age				
Less than 12 years	≤ 3	—	≤ 3	—
13-24 years	≤ 3	—	≤ 3	—
25-44 years	97	48%	99	37%
45-64 years	102	51%	155	57%
65 years or older	≤ 3	—	12	4%
unknown/not reported	≤ 3	—	≤ 3	—
Sum	201		270	

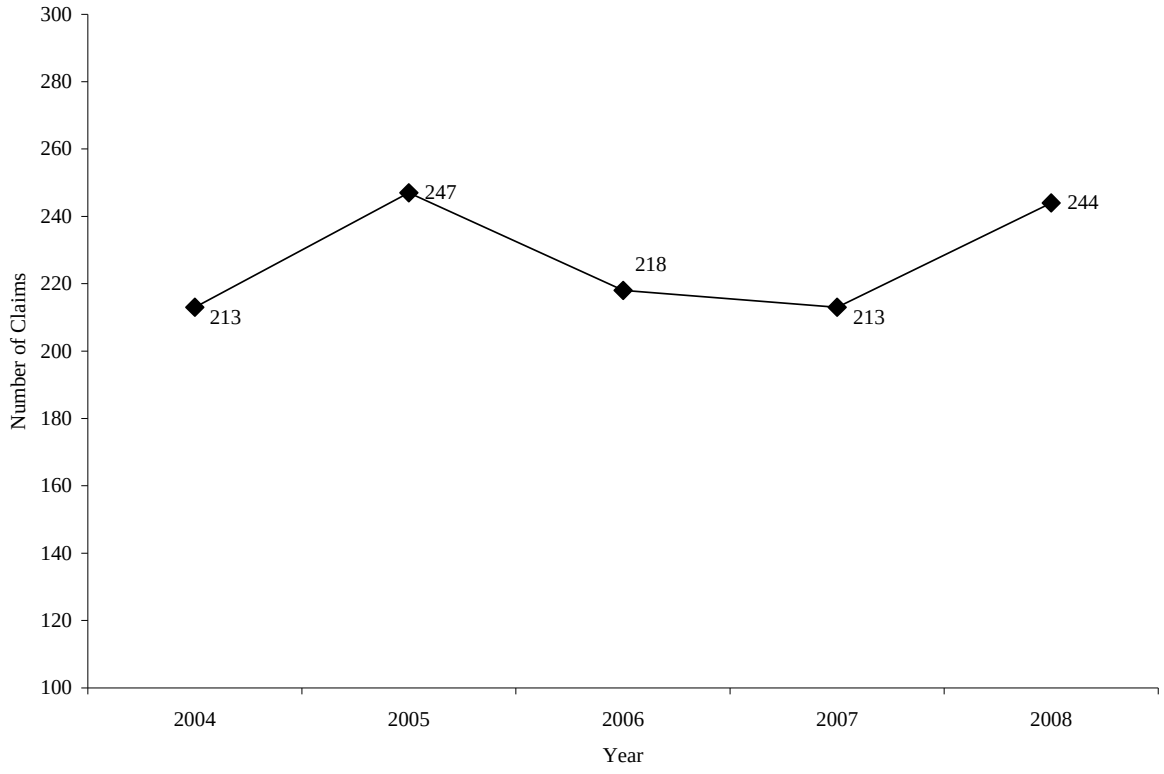
[84] Vermont Department of Health, AIDS Medication Assistance Program Coordinator

Dental Care Assistance Program (DCAP)

Part B funds also cover dental assessments and preventative dental care, including cleanings and basic restorative treatments such as fillings. Any licensed practitioner in Vermont can access DCAP funds on the behalf of HIV positive individuals who have met eligibility requirements. Maintaining good oral health after diagnosis is an important part of care for people who are HIV positive. A decline in oral health (oral lesions, tooth decay, gum disease) can impact the effectiveness of antiretroviral therapy and overall health.[85] Data on the use of the DCAP program is based on the number of claims made each month. Because the same participant in DCAP could have multiple claims filed on their behalf, this number does not represent the number of individuals who have used the program.

In 2004, a total of 213 claims were filed, an average of almost 18 claims per month. In 2008, 244 claims were filed for an average of 20 claims per month (Figure 72). This represents a 15% increase in claims filed comparing 2007 to 2008. At its peak in 2005, DCAP received 247 claims. The average number of claims between 2004 and 2007 is 227, showing that most years are within 15 claims of this average. [86]

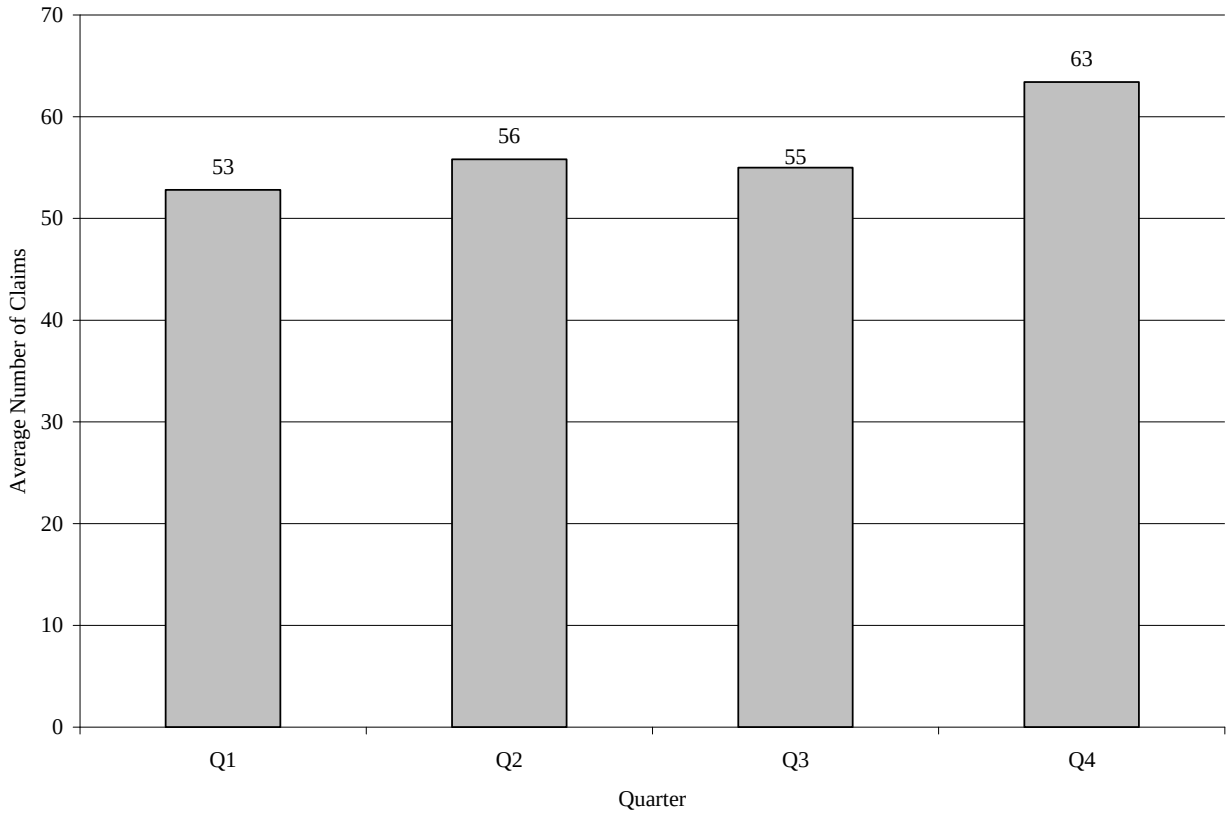
Figure 72. Number of Claims Filed to the Dental Care Assistance Program by Year: 2004-2008 [86]



[85] HIV/AIDS Bureau. Dental Partnerships: Ryan White HIV/AIDS Program Community Based Dental Partnership Program. Department of Health and Human Services, Health Resources and Services Administration.
[86] Vermont Department of Health, Dental Care Assistance Program Coordinator.

On average, between 2004 and 2008 the most DCAP claims were filed during the last quarter of the year (October, November, and December). The average number of claims for other times of the year are relatively stable (Figure 73).[86]

Figure 73. Average Number Claims Filed to the Dental Care Assistance Program by Quarter: 2004-2008 [86]



Characteristics of People Utilizing Services in Vermont

The characteristics of the group of people in Vermont receiving services from the CCCs, CBOs, and organizations providing services but not receiving Part B fund are shown in Table 20. A greater proportion of women utilize CBOs than use the CCCs; this proportion is also larger than the number of women known to be living with HIV/AIDS in Vermont.[83] A greater proportion of clients of the CCCs identified hetereosexual sex as how they acquired HIV compared to the number of people living in Vermont with HIV/AIDS who identified heterosexual sex as their mode of transmission. Notably the CCCs have fewer unidentified or other transmission risks than the Vermont population of people living with HIV/AIDS. A greater proportion of people using CBOs lived below the federal poverty line (83%) compared to people going to the CCCs (39%). Forty percent of clients of the CCCs had private insurance, whereas 40% clients of the CBOs had Medicaid.[83]

Table 20. Number of Clients Served in Vermont through Organizations Receiving Part B Funding by Organization Type and Demographics as compared to the Characteristics of People Living With HIV/AIDS in Vermont: 2007[29, 83]

	HIV positive Title II Clients - 2008					
	Hospital or university based clinic		CBOs[1]		People living with HIV/AIDS 2008	
Sex	n	%	n	%	n	%
Male	319	84%	206	75%	298	83%
Female	62	16%	70	25%	60	17%
Transgender	≤3[2]	—	≤3[2]	—	≤3[2]	—
Race/Ethnicity						
Hispanic - All Races	11	3%	11	4%	14	4%
Not Hispanic						
White	317	83%	219	79%	308	86%
Black or African American	37	10%	34	12%	31	9%
Other	5	1%	≤3[2]	—	≤3[2]	—
Multiple races	10	3%	7	3%	≤3[2]	—
Unknown/not reported	≤3[2]	—	≤3[2]	—	≤3[2]	—

	HIV positive Title II Clients - 2008					
	Hospital or university based clinic		CBOs[1]		People living with HIV/AIDS 2008	
Transmission Category	n	%	n	%	n	%
Men who have sex with men (MSM)	216	57%	*	*	198	55%
Injection drug use (IDU)	45	12%	*	*	33	9%
MSM/IDU	17	4%	*	*	20	6%
Heterosexual	72	19%	*	*	44	12%
Hemophilia/Coagulation disorder	6	2%	*	*	7	2%
Receipt of blood transfusion or tissue	≤3[2]	—	*	*	≤3[2]	—
Mother with/at risk for HIV infection	≤3[2]	—	*	*	≤3[2]	—
Other/risk not reported or identified	≤3[2]	—	*	*	42	12%
Number of clients						
HIV positive (not AIDS)	168	44%	127	46%	*	*
CDC-defined AIDS	213	56%	122	44%	*	*
Household income						
Equal to/below the Federal poverty line	156	41%	187	68%	*	*
101–200% of Federal poverty line	84	22%	51	18%	*	*
201–300% of Federal poverty line	45	12%	29	11%	*	*
> 300% of Federal poverty line	88	23%	≤3[2]	—	*	*
Unknown	8	2%	6	2%	*	*
Housing/living arrangements						
Permanently housed	343	90%	224	81%	*	*
Non-permanently housed	38	10%	22	8%	*	*
Institution	≤3[2]	—	8	3%	*	*
Other	≤3[2]	—	22	8%	*	*
Unknown	≤3[2]	—	≤3[2]	—	*	*
Medical Insurance						
Private	139	36%	43	16%	*	*
Medicare	108	28%	86	31%	*	*
Medicaid	90	24%	78	28%	*	*
Other public	11	3%	43	16%	*	*
No insurance	30	8%	17	6%	*	*
Other insurance	≤3[2]	—	≤3[2]	—	*	*
Unknown	≤3[2]	—	5	2%	*	*
Total	381		276		358	

1. CBOs data may represent the same client multiple times for a given service (including CCC visits).

2. The Vermont Health Department does not typically release data less than 3.

—Data cannot be calculated/is not available

Statewide Hospital Discharge Data

The Vermont Department of Health obtains records on hospital usage of Vermonters including hospital services related to HIV (see Appendix A). In 2006, there were 52 HIV-related discharges of Vermonters from Vermont hospitals and/or hospitals from adjoining states, an increase of 37% from 2005 (Figure 74).[87] There was a 183% increase in the number of patient days (staying in the hospital for all or part of the day) for Vermont patients with HIV between 2005 and 2006 (Figure 75). This increase could be due to more accurate record keeping in terms of the illness being reported as the reason for the hospital stay. Likewise, it could also be that a few individuals had a significant number of patient days in the hospital, causing a dramatic increase in the number of patient days in 2006. Vermont HIV patients stayed in the hospital an average of 13.2 days in 2006 (Figure 74).

Figure 74. Number of Discharges and Average Length of Stay in Hospital for Vermont Patients with HIV: 2001-2006.[87]

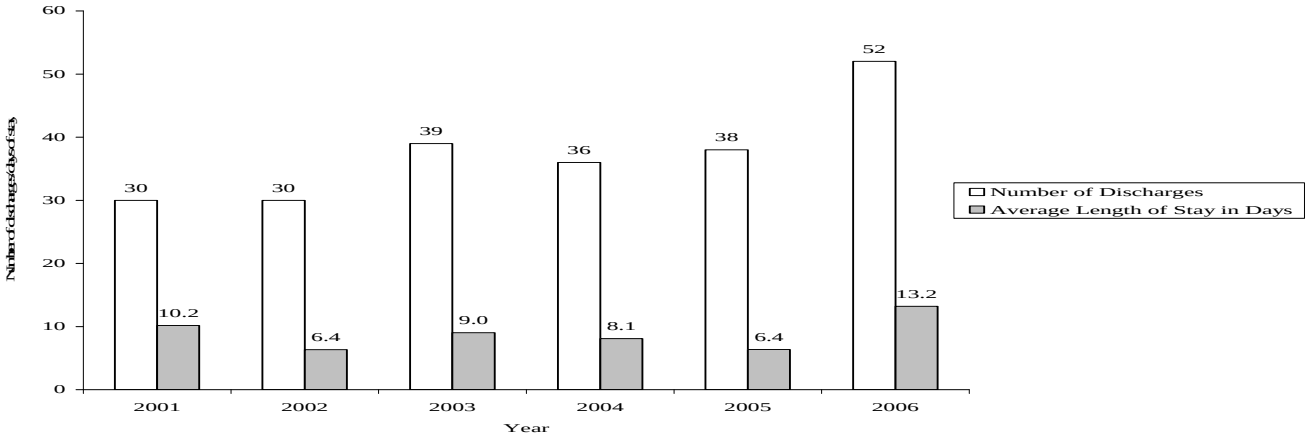
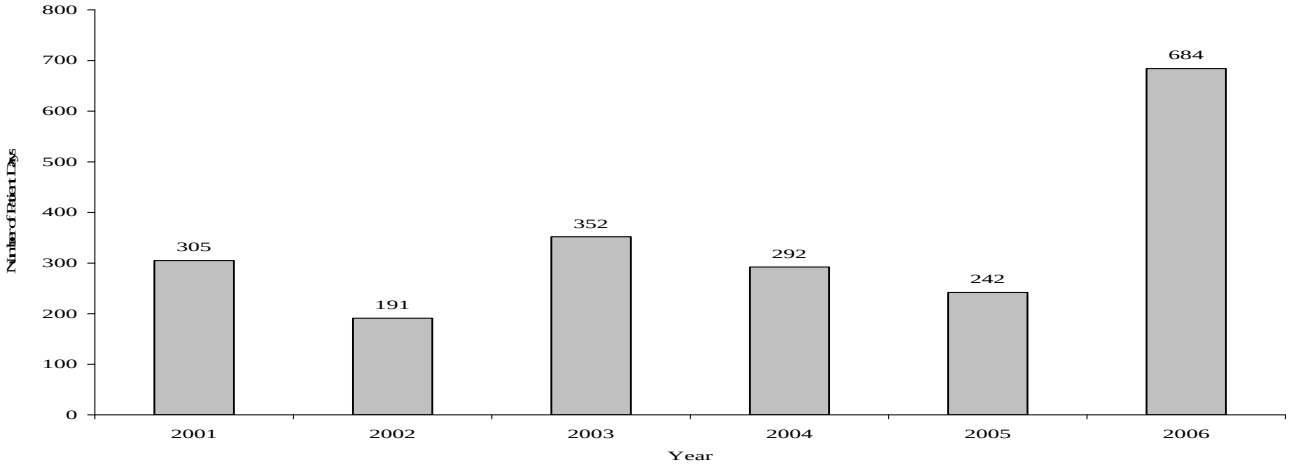


Figure 75. Total Number of Patient Days in the Hospital for Vermont Patients with HIV: 2001-2006.[87]



[87] Vermont Department of Banking, Insurance, Securities and Health Care Administration and the Vermont Department of Health. Vermont Inpatient Hospital Utilization Report, 2006. Available at http://www.bishca.state.vt.us/HcaDiv/Data_Reports/hospdata/vthospital_utilization_reports/index_vthospital_utlization_reports.htm. Accessed on 8/7/08.

Question 2

What Are the Number and Characteristics of Persons Who Know They Are HIV-positive, But Who Are Not Receiving Primary Medical Care?

Efforts to measure unmet need among persons with HIV in Vermont are currently under way. First, the Vermont Department of Health has begun estimating the number of HIV positive individuals who did not receive medical care at one of the CCCs, which see a large number of people living with HIV/AIDS in Vermont. Second, a survey-based needs assessment of people receiving HIV/AIDS care was conducted in 2008. Although only 46 surveys were returned, those who did respond provided information on barriers to care. Third, a 2004 study attempted to assess barriers to HIV/AIDS prevention, support and medical services for Vermont communities of color. Fourth, CCC data shows the number of clients who are not permanently housed. Fifth, a research project based at the University of Vermont is providing information on the experiences of HIV/AIDS barriers to care, depression and risky sexual behavior among HIV positive individuals in the state.

This information should help clarify the needs of Vermonters who are HIV positive but are not accessing medical care.

HIGHLIGHTS

- During 2008 an estimated 15% of Vermonters living with HIV/AIDS did not receive HIV-related medical care from a Comprehensive Care Clinic.
- Both HIV/AIDS service providers and people living with HIV/AIDS identify problems meeting basic needs (e.g., having enough food) which may compound difficulties accessing and maintaining adequate care.
- People living with HIV/AIDS are concerned with the their doctor's and providers knowledge about HIV/AIDS level of their doctors and providers.
- People living with HIV/AIDS reported problems receiving education about living with HIV/AIDS and about accessing support groups.
- There are unmet housing needs among people living with HIV/AIDS individuals in Vermont, most notably among people visiting the St. Johnsbury Comprehensive Care Clinic.
- People reporting more barriers to care (access to and quality of medical services, having enough personal resources, and perceive more community stigma) reported more depression than people who perceived less barriers to care.

Participation in HIV/AIDS Treatment

In 2008, there were an estimated 131 individuals living with HIV and an estimated 227 individuals living with AIDS in Vermont, with an additional 92 people living with HIV that could not be transferred from the old code-based surveillance system to the new name-based system.[29] The largest providers of HIV/AIDS care in Vermont are the Comprehensive Care Clinics (CCCs). The four CCCs served 381 clients during 2008 (168 who were HIV positive, 213 who met the criteria for a CDC-defined AIDS diagnosis), with all clients receiving outpatient/ambulatory care.[83] To examine care patterns, we can use the equation:

$$(a-c) + (b-d) = \text{unmet need}$$

where "a" is the number of people living with HIV in Vermont, "b" is the number of people living with AIDS in Vermont, "c" is the number of people with HIV who received care in the past 12 months from a CCC, and "d" is the number of people with AIDS who received care in the past 12 months from a CCC. The results is

$$(223-168) + (227-213) = 69$$

People living with HIV/AIDS who did not receive care through a CCC.

This number would indicate that only 15% of Vermonters living with HIV/AIDS did not receive care in 2007. However, it should be noted that not all Vermonters receive their medical care from a CCC. Some Vermonters may seek care through private physicians or through the Dartmouth-Hitchcock Medical Center in New Hampshire, or at other out-of-state medical facilities.

HIV/AIDS Service Needs

The Vermont Department of Health conducted a needs assessment of people living with HIV/AIDS in Vermont in the winter of 2008. The assessment included interviews with selected providers (6 interviewed) and consumers (six interviewed) of HIV/AIDS-related services, focus groups with people living with HIV/AIDS (19 participants) who used local CBOs, and surveys of people living with HIV/AIDS (46 respondents) about their service experiences.[75]

Results from the needs assessment are summarized in Table 21. Overall, both providers and consumers identified problems in meeting basic needs (having enough food, money for necessities), which hindered the ability to access care and services. Providers and consumers also both identified problems with coordinating multiple care services with each other (e.g., making sure physicians and HIV specialists share information). Managing medications and coordinating Medicare or other insurance policies were also mentioned by each group. Both providers and consumers also remarked on barriers related to transportations needs, including costs to travel, ability to travel, and the distance one has to travel for services. Some services were reported by both providers and consumers as particularly difficult to get, such as dental services and eye care services. Concerns about obtaining legal services were also shared by both providers and consumers.

Consumers (but not providers) mentioned problems with doctors and providers not being educated enough about HIV/AIDS. Consumers also mentioned problems with obtaining nutrition services or maintaining adequate nutrition, getting educated about living with HIV/AIDS, and accessing support groups. Providers mentioned language barriers as a problem when seeking services.

Table 21. Barriers to Care and Service Needs Identified by Providers and Consumers of HIV/AIDS Services in Vermont: 2008-2009[75]

	Interviews		Focus Groups	Survey Respondents
	Providers	Consumers	Consumers	Consumers
General Barriers/Needs				
Can't Meet Basic Needs	X	X	X	
Physical Barriers (incl. transportation, distance)	X	X	X	X
Nutrition			X	
Privacy/Confidentiality		X	X	X
Language Barriers	X			
Support Groups			X	X
Medical Barriers/Needs				
Uninformed doctors/case workers		X	X	
Coordination Between Providers	X		X	
Dental	X		X	X
Eye				X
Mental Health	X		X	X
Medicare/Insurance	X	X	X	
Access to Medicine			X	
Managing Medication	X		X	
Other Barriers/Needs				
Legal	X		X	X
Education for Consumers			X	
Health Promotion Services	X			

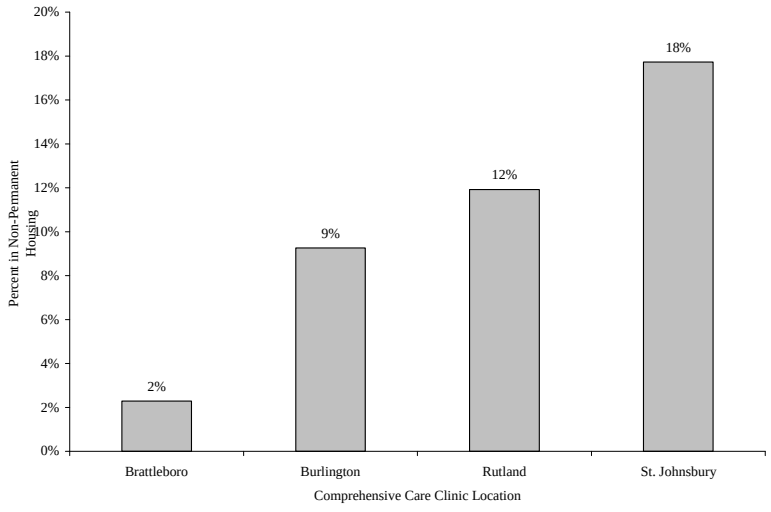
Assessing Barriers to Prevention, Support and Medical Services in Communities of Color in Vermont

In 2004, focus groups, individual interviews and surveys were used to gather information about the barriers to HIV/AIDS prevention, support and medical services for Vermont communities of color. Three specific groups were studied: members of communities of color not already connected to HIV/AIDS services, persons of color incarcerated in Vermont institutions, and providers of HIV/AIDS prevention, support or medical care. Results indicated that people in all of these groups needed to know that services exist, that treatment is effective, and identified a need for information on accessing treatment and supports. Service providers, incarcerated individuals, African refugees and Native Americans all identified the cost of care as a barrier to seeking or receiving HIV/AIDS related services. African and Asian refugees described language as a significant barrier to receiving services. For many of the participants, and especially for incarcerated respondents and Native Americans, trust that providers would keep their HIV status confidential was identified as a primary barrier to accessing services.

Housing Concerns

Approximately 10% of all CCC clients in 2008 reported not having a permanent place to live.[88] The number of clients who reported not having a permanent place to live varied by CCC location. On average between 2004 and 2008 the St. Johnsbury CCC reported the greatest percentage of clients without permanent housing (see Figure 76), although this number may appear larger because of the smaller numbers of persons being seen at this clinic. It should also be noted that in order to protect their confidentiality clients may travel beyond their area of residence to visit a CCC in another area. This means it should not be assumed that all clients visiting a CCC in a particular town also live in proximity of that town. However, this data does indicate that there is a need for permanent housing among CCC clients.

Figure 76. Average Proportion of Comprehensive Care Clinic Clients with Non-Permanent Housing by Location: 2000-2008 [88]



[88] Fletcher Allen Health Care, Comprehensive Care Clinics

Barriers to Care and Depression

The Person Environment Zone project at the University of Vermont measured perceived barriers to care, depression, and risky sexual behavior in 200 HIV-positive individuals. The four barriers to care that people in non-urban areas that were measured are geographical barriers and distance to services (such as long distances between home and care facilities), access to and quality of medical care (such as the competency of medical professionals to adequately help patients with HIV/AIDS), community stigma (community residents stigma towards people with HIV/AIDS), and personal resources (such as lack of employment opportunities for people living with HIV/AIDS). Barriers to care might be indirectly related to sexual behavior. People who face these challenges of receiving care may experience more depressive symptoms, and depressive symptoms have been linked to risky sexual behavior. Access to and quality of medical/psychological services, personal resources, and community stigma were positively correlated with depressive symptoms as measured by the Symptom Checklist-90-Revised (SCL-90-R). People who reported more problems with access to and quality of care, with having enough personal resources, and who perceived more community stigma reported also more depressive symptoms. None of the barriers to care subscales were directly related to sexual risk behavior. However, depressive symptoms were positively related to sexual risk behavior, such that more depressive symptoms predicted inconsistent condom use. These findings were the same regardless of whether subscales or total scale scores were used.[89]

Using regression models to predict depressive symptoms from reported barriers to care showed that barriers to care, overall, significantly predicted depression scores. Only one subscale, access to and quality of medical/psychological services, predicted depression scores. Depression scores also significantly predicted sexual risk, such that participants with HIV/AIDS were 2.53 times more likely to engage in risky sex than not for each one-point increase in depression.[89]

[89] Ryan, K., Forehand, R., Solomon, S., & Miller, C. (in press). Depressive symptoms as link between barriers to care and sexual risk behavior of HIV-infected individuals living in non-urban areas. *AIDS Care*.

Appendix A: Data Sources

Core HIV/AIDS Surveillance

AIDS Surveillance

Overview: AIDS is a reportable condition in all states and territories. Since 1993, all states and territories base their reporting practices on the 1993 CDC case definition for AIDS surveillance. The AIDS Surveillance system was established to monitor incidence of the disease and the demographic profile of AIDS cases; describe the modes of HIV exposure among persons with AIDS; guide the development and implementation of public health intervention and prevention programs; and to assist in the evaluation of the efficacy of public health interventions. The Vermont HIV/AIDS Reporting System (HARS) provides a data set that includes information on sociodemographic variables (sex, age, race/ethnicity, county of residence), date of diagnosis, mode of exposure, laboratory and clinical findings (including viral load), vital status, and referrals for treatments or services. In Vermont, name-based AIDS case surveillance began in 1982.

Population: All persons in Vermont who meet the 1993 CDC AIDS surveillance case definition.

Strengths: This is the only source of AIDS information that is available in all states. The data reflect the effect of AIDS on communities and trends of the epidemic in communities. AIDS surveillance has been determined to be >85% complete. In addition, at least 85% of the reported cases included risk information.

Limitations: Because of the prolonged and variable period from infection to the development of AIDS, trends in AIDS surveillance do not represent recent HIV infections. Thus AIDS surveillance data is limited by the fact that someone may have been infected with the virus for a quite a while prior to the development of AIDS, therefore AIDS cases do not represent recent HIV infections. Incomplete HIV or CD4+ T-cell testing may interfere with the completeness of AIDS reporting. Further, the widespread use of HAART complicates the interpretation of AIDS case surveillance data and the estimation of the HIV/AIDS epidemic in an area. Newly reported AIDS cases may reflect treatment failures or the failure of the health care system to halt the progression of HIV infection to AIDS. AIDS cases represent late-stage HIV infections. Consistent with national standards for the conduct of AIDS surveillance, AIDS cases are counted only in the state in which they resided at the time of their AIDS diagnosis. Therefore, Vermont surveillance data include some individuals who no longer reside in Vermont, and do not include individuals who now live in Vermont but were diagnosed while living in other states.

HIV Surveillance

Overview: Since the human immunodeficiency virus was identified and a test for HIV was licensed, CDC and other professional organizations have recommended the reporting of HIV infections to local health authorities as an integral part of AIDS surveillance activities. As part of ongoing, active HIV surveillance, state and local health departments educate providers on their reporting responsibilities, establish active surveillance sites, and

establish liaisons with laboratories that perform HIV testing of samples. The Vermont enhanced HIV/AIDS Reporting System (eHARS) provides a data set that includes information on sociodemographic variables (sex, age, race/ethnicity, county of residence), date of diagnosis, mode of exposure, laboratory and clinical findings (including viral load), vital status, and referrals for treatments or services. Code-based HIV reporting was implemented in Vermont in March of 2000; only individuals who receive confidential tests are included in eHARS. A name-based surveillance system began being implemented in 2008.

Population: All persons who test positive for the human immunodeficiency virus (HIV) by confidential testing (anonymous testers are not reported to the Vermont Department of Health).

Strengths: HIV surveillance data represent more recent infections, compared with AIDS surveillance data. HIV surveillance provides a minimum estimate of the number of persons known to be HIV infected and reported to the health department, identifies emerging patterns of transmission, and can be used to detect trends in HIV infections among populations of particular interest (e.g., children, adolescents, or women) that may not be evident from AIDS surveillance. Additionally, HIV surveillance provides a basis for establishing and evaluating linkages to the provision of prevention and early intervention services and can be used to anticipate unmet needs for HIV care. The completeness of HIV surveillance data is difficult to measure due to the code-based surveillance system in place from 2000-2007. Since 2008, HIV cases have been reported by name to the Vermont Department of Health.

Limitations: HIV surveillance data may underestimate the level of recently infected persons for three reasons. First, some infected persons either do not know they are infected or have not sought testing. Second, persons who have tested positive at an anonymous test site and have not sought medical care, where they would be confidentially tested, are not included in HIV surveillance statistics. Third, reporting may not be complete. Also, consistent with national standards for the conduct of HIV surveillance, HIV cases are counted only in the state in which they resided at the time of their HIV diagnosis. Therefore, Vermont surveillance data include some individuals who no longer reside in Vermont, and do not include individuals who now live in Vermont but were diagnosed while living in other states.

Supplemental HIV/AIDS Surveillance

Comprehensive Care Clinic (CCC) Questionnaires

Overview: CCC Patient Questionnaires are filled out by CCC patients at intake and during follow-up visits. These questionnaires address basic demographic information including insurance and employment information, participation in AMAP/DCAP, HIV exposure categories, and health status. During 2000 the Patient Questionnaire was updated to include housing status.

Population: All HIV or AIDS patients having at least one Comprehensive Care Clinic visit during a given year.

Strengths: Provides demographic, health, and housing information for all CCC patients. This represents a substantial number of the HIV positive individuals in Vermont.

Limitations: Data is limited to those receiving care at a CCC and is not generalizable to all HIV positive individuals in the state. The data does not differentiate homeless from non-permanently housed.

Behavioral Surveys

Behavior Risk Factor Surveillance System (BRFSS)
Overview: The BRFSS is a state-based random digit-dialed telephone survey of adults that monitors state-level prevalence of the major behavioral risks associated with premature morbidity and mortality. Each month, a sample of households is contacted and one person in the household who is 18 years or older is randomly selected for an interview. Multiple attempts are made to contact the sampled household. A Spanish translation of the interview is available. Respondents to the BRFSS questionnaire are asked a variety of questions about their personal health behaviors and health experiences. Questions concerning sexual behavior, HIV/AIDS knowledge, beliefs and testing and STD/IDU related questions have been included in the Vermont surveys.

Population: All noninstitutionalized adults, 18 years and older, who reside in a household with a telephone. HIV/AIDS questions were not asked of adults over the age of 65. In 2008, there were 4703 respondents who answered the HIV/AIDS questions, which translated to a weighted number of 392,310.

Strengths: Data from the BRFSS survey are population-based. This means that the information gathered via the BRFSS can be generalized to the noninstitutionalized adult population of a state. BRFSS data is from a random sample of several thousand adult Vermont residents. Information collected from the BRFSS survey may be useful for planning communitywide education programs.

Limitations: BRFSS data are self-reported; thus, the information may be subject to recall bias. Because BRFSS respondents are contacted by telephone, the data are not representative of households that do not have telephones. In addition, BRFSS data are representative of the general noninstitutionalized adult population in an area, not just persons at highest risk for HIV/AIDS. In Vermont, sexual behavior questions have been limited to certain age groups (those younger than 50), so the sexual behavior data may be applicable only to residents ages 18 to 49.

Youth Risk Behavior Survey (YRBS)
Overview: The YRBS is part of the CDC's Youth Risk Behavior Surveillance System that was established to monitor six high-risk behaviors that contribute to the leading causes of mortality, morbidity, and social problems among youth and young adults in the United

States. YRBS was developed to collect data that are comparable nationally, statewide, and locally. The YRBS is a self-administered questionnaire that is given to 8th through 12th grade students statewide. Every two years since 1985 the Department of Health's Division of Alcohol and Drug Abuse Programs and the Department of Education's Comprehensive School Health Program have sponsored this survey. A random selection of schools in Vermont is invited to participate, but participation by both schools and individual students is voluntary. Information is gathered on the following topics: 1) sexual behavior (percent of sexually active students, sexual orientation, number of partners, condom use, pregnancy, drug use concurrent with sex, amount of education provided in school re: HIV/STD transmission), 2) use of alcohol, tobacco and other drugs, 3) attitudes and perceptions about alcohol, tobacco and other drugs, 4) injuries, violence and safety, 5) body weight and nutrition, 6) physical activity, and 7) youth assets.

Population: Responses represent the population of Vermont students in 8th through 12th grade who were attending schools that disseminated the survey. The term "young MSM" is used in this document to refer to male YRBS respondents who reported ever having had sex with males. In 2007, 8,453 youths completed the survey.

Strengths: This survey can indicate what risk behaviors students are, or are not, engaging in, and the survey allows comparisons amongst groups of students in terms of each behavior or asset. The YRBS was developed to collect data that are comparable on the local, state, and national levels. The survey is anonymous to encourage honest responses by students, and over 100 consistency checks are run on the data to exclude careless, invalid, or logically inconsistent answers.

Limitations: The YRBS relies on self-reported information, thus under- or over-reporting of information may occur. Because the survey is administered in school the data are representative only of young people enrolled in school and cannot be generalized to all young people in Vermont. (For example, youth at highest risk may be more likely to be absent from school or to drop out of school, and thus they may be underrepresented in this survey). Also, participation in the survey is voluntary so schools and/or individual students may have declined to participate. The YRBS describes what behaviors youth are engaging in but the survey does not address why they are engaging in these behaviors.

Person Environment Zone Project

Overview: Principal investigators on this project are Sondra Solomon, Carol Miller, and Rex Forehand (all professors in the psychology department at UVM). This is an NIMH-funded study that began in 2004. This project tests a theoretical model of how the stigma associated with HIV affects the risk behaviors of people with HIV/AIDS in rural settings.

Population: Participants ranged in age from 18-65 years old (mean age was 43 years) and the majority of participants (80%) were white. Forty-two percent identified as exclusively homosexual, 42% as exclusively heterosexual, and 16% as neither exclusively homosexual nor heterosexual. For each individual participant in the study with HIV/AIDS, between 10 and 13 members of that person's community were telephoned and asked a variety of questions related to health behaviors and attitudes in a phone interview. 2,444 community

members completed their interviews. The majority of community members surveyed were female (64.5%), Caucasian (95%), were between 40 and 59 years of age (48%) and were high school graduates (95%).

Strengths: This study is NIMH approved and funded and has met the requirements of UVM's Institutional Review Board. This project recruited 203 people with HIV to participate from Vermont and neighboring states, the majority of whom were Vermont residents. This is an impressive number considering that there were 430 people in Vermont living with HIV or AIDS in 2004. This study provides a comprehensive profile of the experiences of being HIV positive rural areas, including Vermont. This is the only project focusing on the stigma and behavior of HIV positive individuals in Vermont, and one of the few projects in the U.S. addressing HIV/AIDS in rural areas.

Limitations: Participation in this study is voluntary and all participants are compensated for their time. This is not a random sample of all HIV positive Vermont residents and therefore the results are not generalizable to all HIV positive individuals in the state.

National Survey on Drug Use and Health (NSDUH)

Overview: Formerly called the NHSDA, the NSDUH is the primary source of statistical information on the use of illegal drugs by the U.S. population 12 years of age or older. This survey has been conducted by the Federal Government since 1971; data is collected data by administering questionnaires to a representative sample of the population through face-to-face computer assisted interviews at their places of residence. The survey is sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA) of the U.S. Department of Health and Human Services and is planned and managed by SAMHSA's Office of Applied Studies (OAS). Persons excluded from the survey include homeless persons who do not use shelters, military personnel on active duty, and residents of institutional group quarters, such as jails and hospitals. NSDUH employs a 50-State sample design with an independent, multistage area probability sample for each of the 50 States and the District of Columbia to facilitate state-level estimation. Youth and young adults were over-sampled so that each state's sample was approximately equally distributed among three major age groups: 12 to 17 years, 18 to 25 years, and 26 years or older. Information captured by the NSDUH questionnaire includes use of cocaine, receipt of treatment for illicit drugs, and need of treatment for illicit drugs during the past year; use of alcohol, tobacco, or marijuana during the past month; and perceived risk of binge drinking, marijuana use, or smoking.

Population: Noninstitutionalized, civilian population aged twelve years or older.

Strengths: NSDUH is national, standardized survey of drug use behaviors among the general population. Since 1999 information has been collected using a combination of computer-assisted interviewing methods in an effort to provide respondents with a more private and confidential means of answering questions about substance use and other sensitive behaviors. OAS upon request will calculate statistical estimates for different risk behaviors for specific states (including Vermont).

Limitations: Due to changes in the survey instrument and the survey methodology, comparisons cannot be made between years prior to 2002 and more recent years (2002 to the present). Direct state-level estimates are available only for 8 states; other states (including Vermont) must rely on statistical estimates. NHSDA estimates represent behaviors in the general population, thus the survey may underestimate the level of substance use in the population at highest risk for HIV. Data for the NHSDA are self-reported and are subject to recall bias, which may result in under-reporting drug use behaviors.

STD Surveillance

Sexually Transmitted Disease (STD) Surveillance

Overview: Chlamydia, gonorrhea and syphilis infections are reportable under Vermont's Communicable Disease Regulations. The Vermont Department of Health STD Program conducts statewide surveillance to determine sexually transmitted disease (STD) incidence and to monitor trends. It also conducts partner counseling and makes referrals for examination and treatment in order to reduce the spread of STDs. Laboratories, hospitals, physicians, insurance companies and other health care providers are required to report all cases of Chlamydia, gonorrhea and syphilis to the Vermont Department of Health. Basic demographic information (age, sex and race/ethnicity) is available for Chlamydia and gonorrhea cases, but historically there are extremely small numbers of syphilis cases.

Population: All persons who are diagnosed with an infection that meets the CDC case definition for the infection and are reported to the Vermont Department of Health.

Strengths: STD surveillance data can serve as the surrogate marker for unsafe sexual practices and demonstrate the prevalence of STDs in the state. Because of shorter incubation times between exposure and infection, STDs can serve as a marker of recent unsafe sexual behavior. In addition, certain STDs (i.e., ulcerative STDs) can facilitate transmission and/or acquisition of HIV infection. Finally, changes in trends of STDs may indicate changes in community sexual norms, such as unprotected sex.

Limitations: STDs are reportable in every state (indicating that cross-state and national comparisons can be made), but requirements vary across states. Reporting of STDs from the private sector providers may be less complete. Although STD risk behaviors result from unsafe sexual behavior, they do not necessarily correlate with HIV risk. Trends in Chlamydia infections may reflect changes in reporting and screening practices rather than disease trends.

HIV Counseling and Testing Data

Counseling Testing System (CTS)

Overview: Vermont's CTS was originally developed in 1988 to assist in collecting data on the population receiving counseling and testing services in the state. Funding from the

CDC supports the Vermont Counseling, Testing, and Referral (CTR) system, which consists of anonymous and confidential voluntary HIV counseling, testing, and referral services with emphasis on a client-centered risk-reduction counseling model. The Vermont Department of Health collects information on counseling and testing services delivered, as well as the characteristics of clients receiving the services. The characteristics include demographics, insurance, risk information, and testing information (data, testing history, test result). No personal identifying information is collected.

Population: All clients who received confidential or anonymous HIV testing services at a counseling and testing site funded through a CDC cooperative agreement.

Strengths: CTS data can be examined across years to evaluate trends in the type of tests conducted (anonymous or confidential, blood-based or saliva), the type of testing site, or the demographic characteristics of the people being tested (including the mode of exposure to HIV). Testing data may highlight the effect of prevention programs focused on specific populations.

Limitations: CTS collects test-based, rather than person-based data. Information is collected only from people who seek counseling and testing services or agree to be tested after consultation with a counselor at a testing site. Therefore, estimation of HIV statewide prevalence is not possible with CTS data because the clients self-select for testing. Because a person can repeatedly seek testing, it is not possible to distinguish individuals who have been tested multiple times. Since the CTS system gathers data on HIV testing, changes in testing patterns may reflect changing program priorities rather than testing patterns of individuals.

Pregnancy Risk Assessment Monitoring System (PRAMS)

Overview: PRAMS is a risk monitoring system through the Vermont Department of Health and the Centers for Disease Control and Prevention to improve the health of mothers and children by assessing maternal attitudes, behaviors and experiences before, during and shortly after pregnancy. In 2004 Vermont collected PRAMS data on HIV testing and counseling in addition to questions about prenatal care, alcohol and tobacco use, infant health, knowledge of pregnancy-related health issues, and maternal attitudes.

Population: All women who gave birth to low birth weight babies were sampled in Vermont. Four out of every 23 mothers of normal birth weight babies in Vermont were also sampled. In 2004 there was an 83% response rate.

Strengths: The sample is chosen from all women who have recently given birth, making it a representative sample of the state's population of women who have recently given birth.

Limitations: Although all women are sampled, there may be selection bias among those women who chose to respond to the survey participation request.

Substance Abuse Data

Alcohol and Drug Abuse Program (ADAP)

Overview: The ADAP is located within the Vermont Department of Health and the program collects substance abuse treatment admissions data from facilities that receive state funding. All facilities receiving state funding are mandated to report sociodemographic information on all substance abuse treatment admissions, including the substance being abused. This data provides information on the sex, race/ethnicity and age group of the people admitted to state-funded drug treatment programs for specific substances.

Population: People who receive drug treatment at facilities that receive state funding.

Strengths: ADAP data offer an indirect measure of the prevalence of injection drug abuse in Vermont. The data may also serve as indication of substance abuse trends in the state; for example, rises in the number of treatment admissions for crystal methamphetamine have been associated with increases in HIV transmission in other areas of the country.

Limitations: Admissions data is admissions-based rather than person-based, meaning that multiple treatment admissions for one individual may be included in the data. Data is only representative of individuals in drug treatment programs that receive state funding and does not include information for individuals seen only by private practitioners; therefore this data is not a complete snapshot of substance abuse treatment in Vermont.

Vermont Crime On-Line

Overview: This data provides information on the number of drug charges filed in Vermont district court. Ideally, this data provides a snapshot of the number of charges filed for certain types of drugs. Data is limited to the number of charges filed for specific substances in each region, and the sex and age of the person charged.

Population: Those who entered the district system with a drug charge.

Strengths: This data may provide an indication of drug use trends statewide and may indicate rises in the use and abuse of certain substances (such as crystal methamphetamine or heroin) that are associated with increases in HIV transmission. In the future, it may be possible to compare substance use in different geographic areas of Vermont, perhaps indicating a need for prevention and/or intervention efforts.

Limitations: This data is charge-based, not person-based, meaning that one person may be represented more than once because s/he received multiple drug charges.

Vital Statistics Data

Vital Statistics Data
Overview: Federal law mandates the collection and publication of births and other vital statistics data. (The National Vital Statistics System is the federal compilation of this data, in cooperation with each state and the National Center for Health Statistics). Vermont's registration of vital statistics began in 1857; the current system gathers data on seven types of vital events: births, deaths, marriages, civil unions, divorces, fetal deaths, and abortions. Physicians must complete the cause of death information on death certificates prior to the filing of these certificates with the Vermont Department of Health, this whether HIV was an underlying or contributing cause of death.

Population: All live births and all deaths occurring within Vermont.

Strengths: Vital records include births and deaths in the state as well as births and deaths occurring in other states to Vermont residents. Reporting within the state is required, using standardized procedures to collect the data. The data for Vermont residents is considered 100% complete**.** Data are available statewide and can be used to determine the number of HIV-related deaths in various service areas of the state. Comparing the characteristics of persons living with AIDS to deaths among persons with AIDS may provide some indication of service disparities among groups. The data can also be used to summarize group-specific trends in terms of HIV-related mortality.

Limitations: Birth certificate data may not be complete for data that is obtained from patient medical records (i.e., smoking history, morbidity; data that may be useful for focusing prevention efforts). HIV infection may be underreported in the death certificate data because the physician completing the certificate may be unaware of the deceased individual's HIV positive status.

Population Data

U.S. Bureau of the Census (Census Bureau)
Overview: The Census Bureau collects and provides information about the people and economy of the U.S. The Census Bureau's Web site (www.census.gov) includes data on demographic characteristics (e.g., age, race, Hispanic ethnicity, sex) of the population, family structure, educational attainment, income level, housing status, and the percentage of persons living at or below the poverty level. Tables and maps of census data are available for all geographic areas to the block level. Summaries of the most requested information for states and counties are provided, as well as analytical reports on population changes, race, age, family structure, and apportionment. The most recent decennial census was completed in 2000. The American Community Survey (ACS) is a mandatory survey of 3 million households per year that is designed to replace the decennial survey. The ACS will eventually survey both residences and group quarters (nursing homes, prisons, college

dorms, etc.) The ACS will be the largest household survey in the U.S. and will provide annual (or multi-year average) estimates of selected social, economic and housing characteristics of the population for geographic areas and subpopulations.

Population: U.S. population

Strengths: A wide range of online statistical data on the U.S. population is available in different formats (e.g., tables, maps). State- and county-specific data are easily accessible. Links to other census information Web sites are provided. Data on the number of non-white Vermont residents is important in gauging the impact of the HIV epidemic on these populations (which have traditionally shown higher rates of infection). Information is also available on in- and out-migration of specific populations.

Limitations: ACS population estimates are more up to date than decennial population estimates, but these numbers do not yet include individuals in group quarters (colleges, prisons, etc.); thus the people in these living situations in Vermont may be underrepresented in these population estimates.

Vermont Department of Health Population Estimates

Overview: The Vermont Department of Health uses estimates that are a modification of the estimates produced by the Bureau of the Census for the National Center for Health Statistics (NCHS). The Census/NCHS data provides us with town total population estimates and population by age/race/sex for Vermont Counties. These data however, do not accurately estimate the numbers of very young Vermonters (age < 5) when compared to the numbers of VT resident births. The VDH produces our own estimates for the under 5 population by county, then makes adjustments to Census/NCHS data so that the state and county totals match those sources. Some minor adjustments are made to the town estimates to account for round off error in the production of the county age/race/sex estimates, and to account for instances where the Census Bureau has estimated populations for what are believed to be uninhabited places (Lewis, Avery's Gore and Warner's Grant).

Strengths: The Census/NCHS utilize detailed administrative records data in producing their estimates, making them the most accurate available source for population estimates (particularly for the over 65 age group which are estimated using Medicare enrollment data). Use of locally available data (birth records) to enhance the Census/NCHS numbers ensures we are getting the most accurate possible estimates of the under 5 population. Since young children are the focus of many VDH programs, it is critical that we have a solid estimate of how many young children there are in Vermont.

Limitations: The major cost of using the more accurate VDH modification of the Census/NCHS estimates is that timeliness suffers. Less accurate estimates are available much sooner than these numbers are available to us. The Census/NCHS estimates as of July 1 for a given year are not available until August or September of the following year. Then VDH staff time is required to perform the calculations necessary for the in-house modifications.

Kaiser Family Foundation
Overview: The Kaiser Family Foundation is a private, non-profit organization focusing on issues of health and health care. The Kaiser Family Foundation contracts with outside organizations and provides independent analyses of health and healthcare issues.

Population: Depends on the specific project. See web pages cited in text for information regarding specific projects referenced in this document.

Strengths: Specific strengths depend on the data source, although generally speaking, this data provides an indication of access to care for various populations and can be used to compare access across geographic areas. This data is indicative of the overall state of health care.

Limitations: Depends on the specific project. See web pages cited in text for information regarding specific projects referenced in this document.

Geographic Information System (GIS) Data
Overview: The Vermont Department of Health utilizes ESRI ArcViewer/ArcGIS mapping software. The Vermont Center for Geographic Information is the state data warehouse and source for most of the base data used to produce the maps in this document.

Population: Depends on the data being mapped.

Strengths: The GIS system provides easy to access, visual depiction of HIV-related information for readers.

Limitations: Maps can become confusing if too much information is provided on a single map. Someone must be trained to use and access this system.

Ryan White CARE Act Data and Services Data

Unmet Needs Project
Overview: This project represents an effort to identify gaps in care for Vermonters living with HIV. The measure of unmet need used for this project is based on analysis of two HIPAA compliant data sets. One data set (HARS) includes basic demographic information regarding Vermont residents with HIV/AIDS. The other data set includes basic demographic information regarding individuals who receive HIV related medical services in Vermont. Because these data sets do not include unique person identifiers, the analysis uses the method of statistical Probabilistic Population Estimation. Probabilistic Population Estimation provides valid and reliable estimates of the number of unique individuals shared across data sets. These estimates are based on the distribution of date of birth and gender in the data sets.

Population: Data on individuals currently identified as HIV positive in the Vermont Department of Health surveillance system (HARS) and individuals receiving medical care for HIV in the state are utilized to estimate the number of people who are not currently receiving medical care for their HIV.

Strengths: Probabilistic Population Estimation has been used in multiple studies to measure the amount of overlap in populations that do not have a unique identifier. This is one of the only sources of information regarding unmet need for people living with HIV in Vermont.

Limitations: The data are based on estimates, not on an actual census of need.

Ryan White Comprehensive AIDS Resources Emergency (CARE) Act

Overview: The federal Ryan White CARE Act provides health care for people with HIV disease. Enacted in 1990, it fills gaps in care faced by those with low-incomes and little or no insurance. Vermont receives federal funding under Parts B and C of the Ryan White CARE Act. Part B provides money to states for primary health care and support services for people living with HIV and their families. Part C monies support early intervention and outpatient primary medical care services by directly funding private and non-profit organizations. Vermont does not receive Part A funds which provide emergency assistance to localities disproportionately affected by the HIV/AIDS epidemic. Although Vermont does not receive Part D funds for coordinated services and access to research for children, youths and women, Vermont residents do access Part D funds through services provided by the state of New Hampshire.

Reports by the HIV/AIDS program's Part B Administrator are made to the federal Health Resources and Services Administration (HRSA) on a yearly basis. These reports are provider-based reports with aggregate client, provider, and service data for all CARE Act programs. Reports include information on all clients who receive at least one service during the reporting period. Data includes information on the demographics of all clients (sex, age, and race/ethnicity), exposure category, and the number of clients receiving each type of service.

In 2005 Vermont began instituting HRSA's mandate to give priority funding to six core services: primary medical care, substance use treatment, mental health therapy, oral health, HIV medications and case management. Only if funding for these services is paid for through other sources can Part B dollars be used for "non-core services" such as food assistance, transportation, rent, etc.

Population: People who know their HIV serostatus, who are currently seeking care and treatment services through Ryan White Part B- funded providers, and who are financially eligible to receive AMAP or DCAP services are included in this data.

Strengths: The program database is a comprehensive database that includes information on all persons receiving Ryan White Part B services. The database is important for monitoring which Ryan White resources are being utilized, how often and by whom. In 2002 the Vermont Department of Health HIV/AIDS Program established a standardized unique identifier reporting system with the six state- and federally-funded AIDS Service Organizations and the Comprehensive Care Clinics in order to reduce duplication of services and to determine the number of persons receiving services from these organizations. This provides a more accurate picture of how many people are truly seeking care through services provided by Ryan White Part B.

Limitations: This data cannot be generalized to all HIV- infected persons living in this state, since the data is collected only on persons who know their HIV serostatus, who are currently seeking care and treatment services through Ryan White Part B-funded providers, and who are financially eligible to receive services.

HIV/AIDS Medication Assistance Program (AMAP)/ HIV Dental Care Assistance Program (DCAP)

Overview: Both AMAP and DCAP are funded by Ryan White CARE Act Part B funds (described above). Part B funds may be used to provide a variety of health care and support services. The AMAP provides financial assistance for the purchase of prescription medications to Vermonters living with HIV who meet certain income guidelines. AMAP allows uninsured and underinsured individuals to access anti-retroviral and related therapies. DCAP provides financial assistance to meet the dental needs of underinsured and uninsured Vermonters living with HIV/AIDS. The services in this program include: diagnostic procedures including x-rays and evaluations; preventive care including cleanings; restorative treatments including silver fillings, tooth colored fillings and root canals; removable prostheses including complete and partial dentures and necessary oral surgery including extractions.

Population: People who know their HIV serostatus, who are currently seeking care and treatment services through Ryan White Part B-funded providers, and who are financially eligible to receive AMAP or DCAP services are included in this data.

Strengths: Data is collected on 100% of the people who receive services via AMAP/DCAP.

Limitations: This data cannot be generalized to all HIV- infected persons living in this state, since data is collected only on persons who know their HIV serostatus, who are currently seeking care and treatment services through Ryan White Part B-funded providers, and who are financially eligible to receive services. Also, AMAP data represents individuals, while DCAP data represents claims made by individuals. Therefore, DCAP data may be duplicated.

Vermont Uniform Hospital Discharge Dataset

Overview: Records for discharges are obtained through the Vermont Department of Health. These data are used by the Vermont Department of Banking, Insurance, Securities and Health Care Administration to create the Vermont Hospital Monograph Series. Records are classified by diagnosis related groups and major diagnostic categories. For this profile, data from the utilization by diagnostic category and service area are utilized.

Population: Discharge data from inpatient services includes services sought by Vermonters in Vermont and adjacent states. Patient data is classified by Hospital Service Area (HSA). HSAs represent a geographically distinct population of Vermonters who seek medical care from a particular hospital or group of hospitals. There are 13 HSAs in Vermont.

Strengths: Data is collected from both hospitals in Vermont and in adjacent states, increasing the amount of information collected on Vermonters who utilize these services.

Limitations: Currently, data from some out of state hospitals on outpatient care and the emergency department are not comparable to data collected inside Vermont.

Assessing Barriers to Prevention and Care Services

Overview: This study was carried out in 2004 in an effort to assess barriers to HIV/AIDS prevention, support and medical services for Vermont communities of color. This study was sponsored by the Office of Minority Health and the HIV/AIDS Program and was carried out under the guidance of HASAC. Three groups were studied: 1) members of communities of color not already connected to HIV/AIDS service 2) persons incarcerated in Vermont institutions, and 3) providers of HIV/AIDS prevention, support or medical care. Data were gathered via focus groups, individual interviews and surveys.

Population: Members of certain communities of color (Native Americans, African Americans, Hispanic-Latino individuals, African Refugees and Vietnamese refugees) living in northwestern Vermont (Chittenden & Franklin Counties). Individuals incarcerated in Vermont during May and June of 2004 in one of the six participating institutions. Providers of HIV/AIDS prevention, support or medical care services at one of seven sites statewide.

Strengths: This study provides much-needed data on the barriers to prevention and care services that are experienced by minority populations in Vermont. Data were collected from four focus groups (all held in Chittenden County), 48 structured interviews with members of communities of color from Chittenden and Franklin Counties, 934 completed surveys from incarcerated individuals in Vermont (including 220 persons of color), and structured telephone interviews with seven providers of HIV/AIDS prevention, support or medical care services (providers located throughout the state). An effort was made to collect data in a culturally sensitive manner, meaning that members of communities of color were directly involved in data gathering.

Limitations: The study encountered multiple challenges, including difficulty in guaranteeing anonymity and confidentiality due to the fact that Vermont's communities of

color are relatively small so members know one another. The plan to recruit participants via CBOs was unsuccessful and the interviewers had to directly recruit participants. There were also issues with standardization of interview and focus group protocols for members of communities of color (this was not an issue with the provider interviews). Data gathered from these focus groups and individual structured interviews was limited to participants in the northwestern part of the state and should not be generalized beyond this area. The original study plan had to be modified due to difficulty accessing people who were not already known to the Vermont HIV community network.

Appendix B: Glossary

AIDS: AIDS stands for acquired immunodeficiency syndrome. An HIV-infected person receives a diagnosis of AIDS after developing one of the CDC-defined AIDS indicator illnesses (see *opportunistic infection*) or on the basis of certain blood tests (i.e., having a CD4 count of less than 200 or a CD4 percent of less than 14). A positive HIV test result does not mean that a person has AIDS.

Bias: Bias occurs when there is a systematic error in data that leads to results that do not represent the true findings. For example, if individuals feel uncomfortable about reporting that they have engaged in high-risk behaviors, then these behaviors will be systematically under-reported. Consequently, conclusions about the occurrence of such behaviors would be considered "biased."

CDC: The Centers for Disease Control and Prevention (CDC), within the U.S. Department of Health and Human Services, is the lead federal agency for protecting the health and safety of the people of the Untied States. CDC accomplishes its mission through developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve public health in the U.S. The CDC provides the majority of funding for HIV prevention, and all of the funding for HIV surveillance activities in Vermont.

Exposure Category: This term is used to summarize multiple risk factors that an individual may have had by including combination categories of the three most common ones (MSM, IDU, heterosexual contact); risk factors other than these three groups (e.g., receipt of a blood transfusion) appear only in single categories that are ranked lower than the combinations of MSM, IDU and heterosexual contact. This differs from transmission category which lists only the one risk factor through which HIV was most likely to have been transmitted.

HASAC: HIV/AIDS Services Advisory Council

HAART: Highly Active Antiretroviral Therapy (HAART) refers to aggressive anti- HIV treatments that usually include a combination of protease and reverse transcriptase inhibitors, which interrupt the HIV life cycle, and whose purpose is to reduce a person's viral load to undetectable levels.

HIPAA: The Health Insurance Portability and Accountability Act required the Department of Health and Human Services (HHS) to establish national standards for electronic health care transactions and national identifiers for providers, health plans, and employers. It also addressed the security and privacy of health data.

HIV: HIV is an acronym for "Human Immunodeficiency Virus," which is the virus that causes AIDS. A person who has contracted the virus is said to be HIV-positive or HIV-infected.

HIV Disease: HIV disease describes both individuals who have been diagnosed as HIV positive only and those diagnosed with AIDS. Individuals with either carry the HIV virus.

Incidence: Incidence refers to the number of new cases of disease that occur in a population during a specified time period, usually a year. Even though HIV data are often presented as "new cases of HIV," these data do not represent new infections (true HIV incidence), because a person may not be tested for HIV in the same time period that he or she became infected. On the other hand, incidence can be presented for diseases (e.g., some STDs). These diseases have clear symptoms that are detectable when a person becomes infected, and which cause a person to be tested or to seek treatment shortly after infection.

Median: The middle value in a data set. Usually, approximately half the values will be higher and half will lower.

N: total number of people in a sample

n: a subgroup within a sample

Opportunistic infection (OI): Infection with HIV can weaken a person's immune system to the point that is has difficulty fighting off certain infections. These types of infections are known as "opportunistic" infections because they take the opportunity a weakened immune system gives to cause illness. Some examples of opportunistic infections are *Pneumocystis carinii* pneumonia (PCP) and Kaposi's sarcoma (KS). Opportunistic infections (OIs) are considered to be CDC-defined AIDS indicator illnesses, which means that an HIV- infected person receives a diagnosis of AIDS after developing them.

Perinatal: The word "Perinatal" means "around birth" and is used to describe events that occur during labor and birth, and immediately following delivery. When "perinatal" is used to describe HIV transmission, however, this word applies more broadly and describes any time that a mother may pass HIV to her child – either while she is pregnant, during birth, or through breast- feeding.

Prevalence: Prevalence refers to the total number of persons with a specific disease or condition at any given time. HIV prevalence data are generally presented as "persons living with HIV." HIV prevalence data provided by HIV surveillance programs will underestimate the true HIV prevalence because HIV- infected persons who have not yet been tested or reported to the health department are not included. Persons who have died are excluded from prevalence data.

Proportion (percentage): A proportion is a type of ratio in which the numerator is included in the denominator. Because the numerator is a subset of the denominator, a proportion can be thought of as a ration of a "part" of the "whole." A proportion is usually expressed as a percentage.

Rate: A rate is a special type of ratio that includes a specification on time. In epidemiology, rates express the probability or risk of disease or other events in a defined

population over a specified period of time, often one year. For Vital Records, rates are not based on probabilities, but are calculations based on verified or repeatable counts.

Reporting Delay: The period of time between documentation of an infection or diagnosis of an illness, and the report of that infection or illness to authorities.

Risk Factor: Refers to the individual routes of exposure to HIV (before the person found out that s/he was HIV positive) for which data are routinely collected for surveillance of HIV/AIDS cases.

Ryan White CARE Act: The Ryan White Comprehensive AIDS Resources Emergency Act was created to provide federal assistance to increase the availability of primary health care and support services for persons living with HIV disease, to increase access to care for underserved populations, and to improve the quality of life for those affected by HIV. The CARE Act was first enacted by Congress in 1990 and was reauthorized in 1996 and 2000. HRSA implements the CARE Act and directs assistance through the following channels:

- Part A provides support to Eligible Metropolitan Areas (EMAs) with the largest numbers of reported AIDS cases, to meet emergency service needs of persons living with HIV;

- Part B provides support to all states and territories to improve the quality, availability, and organization of health care and support services for persons living with HIV and their families;

- Part C supports outpatient early intervention HIV services through funding to public and private nonprofit entities;

- Part D funds public and private nonprofit entities to conduct projects to coordinate services to children, youth, women, and families with HIV/AIDS;

- Part F provides support for Special Projects of National Significance (SPNS) to develop and evaluate innovative models of HIV/AIDS care, for AIDS Education and Training Centers (AETC) to conduct education and training for health care providers, and for the HIV/AIDS Dental Reimbursement Program to assist with providing oral health services to HIV- infected patients.

Sample: A group selected from a total population with the expectation that studying this group will provide relevant information about the total population.

Surveillance: In a public health context, surveillance refers to the collection and analysis of data concerning a certain disease that is monitored over time.

Testing (anonymous, confidential): In Vermont, an individual can choose to be tested anonymously or confidentially for HIV in a publicly funded testing site. Confidential HIV-positive test results are reported to the health department where information is maintained under the strictest security and confidentiality measures. Persons who are tested

anonymously do not provide their names when taking the HIV test. Persons who are tested confidentially do provide their names when taking the HIV test. Only persons who are tested confidentially are included in the HIV surveillance data.

Transmission category: In order to monitor trends in HIV transmission, HIV/AIDS cases are classified into one of several transmission categories developed by the CDC. The transmission category indicates the risk factor through which HIV was most likely to have been transmitted.

- *Men who have sex with men* (MSM) refers to men who report having had sexual contact with other men, i.e., homosexual or bisexual contact.

- *Injection drug user* (IDU) cases are those who report ever using drugs that require injection. While it may be valuable to know that a person has used illicit drugs through other routes, this information would not be enough to classify a case as IDU.

- *MSM/IDU* refers to men who report having sexual contact with other men and who also report ever using non-prescribed drugs intravenously.

- *High-risk heterosexual contact* (HRH) cases have reported heterosexual contact with a partner who is at increased risk for HIV infection, i.e., a homosexual or bisexual man or an IDU, or a partner with documented HIV infection.

- *Hemophilia/Transfusion/Transplant* cases are those who report having received a transfusion of blood or blood products prior to 1985.

- *Perinatal* cases are cases of HIV infection in children resulting in transmission from an HIV positive mother.

- *Unspecified or "no identified risk"* (NIR) cases are those cases who have no reported history of exposure at the time of publication. This category includes persons for whom the surveillance protocols to document risk information have not yet been completed, persons whose exposure history is incomplete because they have died, persons who have declined to disclose their risk behavior or who deny any risk behavior, and persons who do not know the HIV status or risk behaviors of their sexual partners.

Trend: A long-term change in frequency, usually an increase or a decrease.

Weighted N: A mathematical procedure has been used to make the data representative of the sample from which it was drawn.

Young MSM: For the purposes of this document, young MSM are defined as male youth in 8^{th} -12^{th} grades who ever reported on the YRBS that they had ever had sex with a male.

Appendix C: Abbreviations

ACS: American Community Survey (designed to replace the decennial census long form)

ADAP: AIDS Drug Assistance Program **(**this is known as **AMAP in Vermont –** HIV/AIDS Medication Assistance Program); within the Vermont Department of Health the division of Alcohol and Drug Abuse Programs is also referred to as ADAP

AMAP: HIV/AIDS Medication Assistance Program

ASO: AIDS Service Organization

BRFSS: Behavioral Risk Factor Surveillance System

Ryan White CARE Act: Ryan White Comprehensive AIDS Resources Emergency Act

CBO: Community Based Organization

CCC: Comprehensive Care Clinic

CDC/CDCP: Centers for Disease Control and Prevention

CPG: Community Planning Group

CPS: Current Population Survey

CTR: Counseling, Testing and Referral System

DCAP: Dental Care Assistance Program

FDA: Food and Drug Administration

GIS: Geographic Information Systems

HAART: Highly Active Anti-retroviral Therapies

HARS: HIV/AIDS Reporting System

HASAC: HIV/AIDS Services Advisory Council

HIPAA: Health Insurance Portability and Accountability Act

HMO: Health Maintenance Organization

HRSA: Health Resources and Services Administration

IDU: Injection Drug User

MSA: Metropolitan Statistical Area

MSM: Men who Have Sex with Men

N: total number of people in a sample

n: a subgroup within a sample

NCHS: National Center for Health Statistics

NSDUH: National Survey on Drug Use and Health (*Formerly known as the **NHSDA**, the National Household Survey of Drug Abuse*)

PEZ Projects: Person Environment Zone Projects

PLWHA: People Living with HIV or AIDS

PRAMS: Pregnancy Risk Assessment Monitoring System

SAMHSA: Substance Abuse and Mental health Services Administration

STD: Sexually Transmitted Disease

VCJR: Vermont Center for Justice Research

VDH: Vermont Department of Health

YRBS: Youth Risk Behavior Survey