

## Section Two:

# Ryan White HIV/AIDS Care Act Special Questions and Considerations

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**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, and C (formerly known as Titles I, II and III). 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 receives Part B and Part C funding. Part B funding (\$902,212 FY 2007) 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 2007) 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 2007, 37 Vermont residents received care in New Hampshire through Dartmouth-Hitchcock (16% of those receiving services). These Vermonters received an estimated \$55,637 in Part D services.<sup>78</sup>

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 2007, the demographic characteristics of Vermont residents receiving services were similar to the characteristics of people living with AIDS in Vermont.
- In 2005 there was an increase in the number of HIV patients discharged from Vermont hospitals, but a decrease in the average length of stay for HIV patients compared to 2004.

<sup>78</sup> 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 2007, 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).<sup>79</sup> Table 15 describes the populations these groups are likely to encounter.

*Table 15. Number of Organizations Serving HIV Positive Vermonters: 2007<sup>79</sup>*

<b><u>Type of organization</u></b>	<b><u>Number of organizations</u></b>	<b><u>Percent of organizations</u></b>
Community-based service organization (CBO)	4	80%
Hospital or university-based clinic <sup>1</sup>	1	20%
<b><u>Target Population</u></b>		
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%

<sup>1</sup> Data for the hospital/university based clinic funded via Title II includes all four Comprehensive Care Clinics that are located throughout 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 that cannot be covered by Part B funds (e.g., emergency financial services). Table 16 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 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.<sup>79</sup>

<sup>79</sup> Vermont Department of Health, Ryan White Part B Coordinator for Vermont

Table 16. Number of Clients Served in Vermont through Organizations Receiving Part B Funding <sup>79</sup>

<b>Hospital/university based clinic <sup>1</sup></b>		
<b><u>Type of service</u></b>	<b><u>Number of HIV positive clients</u></b>	
Medical care	351	
Health education/Risk reduction	351	
Referral for health care/support services	167	
Case management	253	
Nutritional counseling	273	
Treatment adherence	214	
Mental health services	30	
<b>Services provided by CBOs<sup>2</sup></b>		
<b><u>Type of service</u></b>	<b><u>Number of organizations providing the service</u></b>	<b><u>Total number of HIV positive clients served <sup>2</sup></u></b>
Medical case management	4	258
Early intervention services	1	6

<sup>1</sup> Data for the hospital/university based clinic includes all four Comprehensive Care Clinics that are located throughout Vermont.

<sup>2</sup> Unlike the numbers from the hospital/university based clinics, the number of clients receiving services via CBOs/PLWHA 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)**

Since 1987, Congress has appropriated funds to help states provide FDA-approved antiretroviral therapies to AIDS patients. These assistance funds for antiretroviral therapies were incorporated into Part B in 1990 and became known as AIDS Drug Assistance Programs (ADAP) and are used to provide HIV-related prescription drugs to under-insured and uninsured individuals living with HIV/AIDS. In Vermont this program is called the AIDS Medication Assistance Program (AMAP).

The total number of AMAP participants has increased from 124 participants in 2002 to 233 participants in 2007. In 2007 the majority of AMAP clients are male (86%) and White (82%). Since 2002, there has been a small increase in the number of women using ADAP and the number of Hispanic clients (see Table 17).<sup>80</sup>

<sup>80</sup> Vermont Department of Health, AIDS Drug Assistance Program Coordinator

Table 17. Number of Vermonters Enrolled in the AIDS Medication Assistance Program by Demographics: 2002 and 2007<sup>80</sup>

	2002		2007	
	Number Enrolled	Proportion of those Enrolled	Number Enrolled	Proportion of those Enrolled
<b>Sex</b>				
Male	111	90%	200	86%
Female	13	10%	33	14%
Transgender	≤3 <sup>1</sup>	— <sup>2</sup>	≤3	—
<b>Race/Ethnicity</b>				
Hispanic - All Races	6	5%	16	7%
American Indian or Alaska Native	≤3	—	4	2%
Asian	≤3	—	≤3	—
Black or African American	13	10%	18	8%
Native Hawaiian or Other Pacific Islander	≤3	—	≤3	—
White	97	78%	191	82%
More than one race	≤3	—	≤3	—
Unknown/not reported	6	5%	≤3	—
<b>Age</b>				
Less than 12 years	≤3	—	≤3	—
13-24 years	≤3	—	≤3	—
25-44 years	58	47%	85	36%
45-64 years	62	50%	136	58%
65 years or older	≤3	—	9	4%
unknown/not reported	≤3	—	≤3	—
<b>Total</b>	<b>124</b>		<b>233</b>	

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

2. Value cannot be calculated because of small numbers.

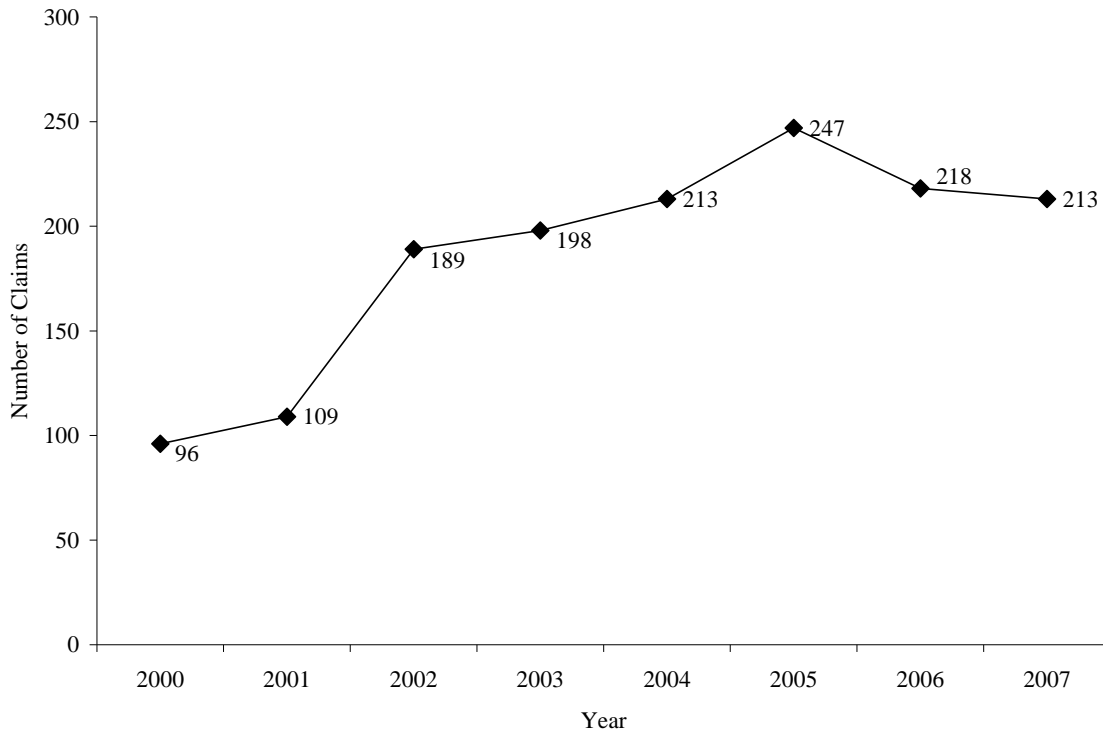
Between 2002 and 2007, most clients (53%) of AMAP were between the ages of 45 and 64 years old. Between 2002 and 2007, few clients (an average of 17%) identified as non-White.

#### **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. 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.

Use of DCAP has been increasing since 2000. In 2000, a total of 96 claims were filed, an average of eight claims per month. In 2007, 213 claims were filed for an average of 18 claims per month (Figure 55). This represents a 122% increase in claims filed comparing 2000 to 2007. At its peak in 2005, DCAP received 247 claims.<sup>81</sup>

*Figure 55. Number of Claims Filed to the Dental Care Assistance Program by Year: 2000-2007*<sup>81</sup>

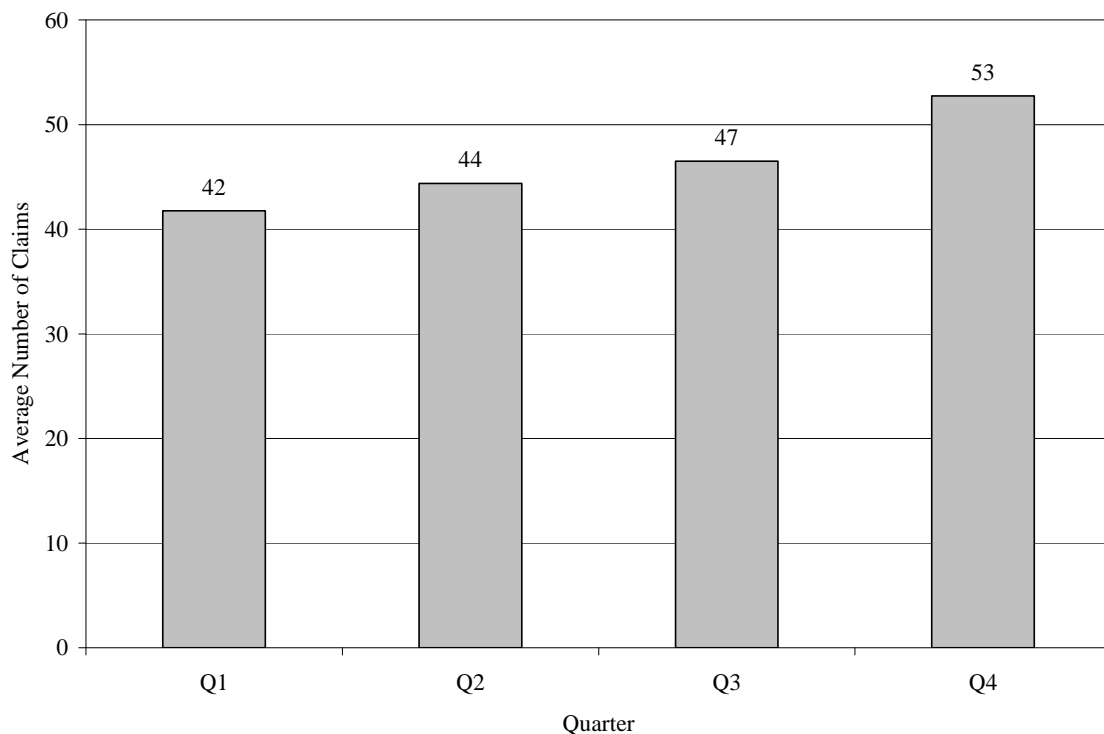


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<sup>81</sup> Vermont Department of Health, Dental Care Assistance Program Coordinator

On average, between 2000 and 2007 the most DCAP claims were filed during the last quarter of the year (October, November, and December). The number of claims filed increase at a steady rate between January and September, when there is a slight increase in the number of claims October through December (Figure 56).<sup>81</sup>

*Figure 56. Average Number Claims Filed to the Dental Care Assistance Program by Quarter: 2000-2007*<sup>81</sup>



### **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 18. A greater proportion of women utilize CBOs compared to the proportion of women who utilize the CCCs.<sup>79</sup> This proportion is also larger than the number of women estimated to be living with HIV/AIDS in Vermont.<sup>29</sup> This discrepancy may be because of non-Vermont residents using services. Other demographic data (race/ethnicity, transmission category) appear to be similar across locations as compared to people living with HIV/AIDS in Vermont.

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. Eight percent of clients using the CBOs reported not being permanently housed, compared to 4% of clients of the CCCs.<sup>79</sup>

Table 18. 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<sup>29, 79</sup>

	HIV Positive Part B Clients - 2007				People living with HIV/AIDS-2007	
	Hospital or university based clinic	% Hospital or university based clinic	CBOs <sup>1</sup>	% CBOs	n	%
<b>Sex</b>						
Male	295	84%	202	76%	402	83%
Female	56	16%	63	24%	80	17%
Transgender	≤3 <sup>2</sup>	— <sup>3</sup>	≤3	—	≤3	—
<b>Race/Ethnicity</b>						
Hispanic - All Races	7	2%	9	3%	22	5%
Not Hispanic						
White	295	84%	214	81%	397	82%
Black or African American	34	10%	32	12%	47	10%
Other	≤3	—	≤3	—	6	1%
Multiple races	11	3%	7	3%	5	1%
Unknown/not reported	≤3	—	≤3	—	5	1%
<b>Transmission Category</b>						
Men who have sex with men (MSM)	198	56%	—	—	262	54%
Injection drug use (IDU)	35	10%	—	—	55	11%
MSM/IDU	18	5%	—	—	35	7%
Heterosexual	70	20%	—	—	54	11%
Hemophilia/Coagulation disorder	6	2%	—	—	10	2%
Receipt of blood transfusion or tissue	≤3	—	—	—	7	1%
Mother with/at risk for HIV infection	≤3	—	—	—	≤3	—
Other/risk not reported or identified	≤3	—	—	—	58	12%
<b>Number of clients</b>						
HIV positive (not AIDS)	156	44%	164	62%	—	—
CDC-defined AIDS	195	56%	96	36%	—	—
<b>Household income</b>						
Equal to/below the Federal poverty line	136	39%	220	83%	—	—
101–200% of Federal poverty line	82	23%	36	14%	—	—
201–300% of Federal poverty line	49	14%	≤3	—	—	—
> 300% of Federal poverty line	79	23%	≤3	—	—	—
Unknown	5	1%	5	2%	—	—

Table 18. Continued

	HIV Positive Part B Clients - 2007				People living with HIV/AIDS-2007	
	Hospital or university based clinic	% Hospital or university based clinic	CBOs	% CBOs	n	%
<b>Housing/living arrangements</b>						
Permanently housed	319	91%	237	89%	—	—
Non-permanently housed	14	4%	21	8%	—	—
Institution	9	3%	4	2%	—	—
Other	≤3	—	≤3	—	—	—
Unknown	6	2%	≤3	—	—	—
<b>Medical Insurance</b>						
Private - HIV positive	139	40%	42	16%	—	—
Medicare - HIV positive	85	24%	68	26%	—	—
Medicaid - HIV positive	42	12%	106	40%	—	—
Other public - HIV positive	47	13%	32	12%	—	—
No insurance - HIV positive	34	10%	15	6%	—	—
Other insurance - HIV positive	≤3	—	≤3	—	—	—
Unknown	4	1%	≤3	—	—	—
<b>Total</b>						
	351		265		482	

1. 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.
2. The Vermont Health Department does not typically release data less than or equal to 3.
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 2005, there were 38 HIV-related discharges of Vermonters from Vermont hospitals and/or hospitals from adjoining states (Figure 57).<sup>82</sup> This is a 5% increase in discharges from 2004. There was a 17% decrease in the number of patient days (staying in the hospital for all or part of the day) for Vermont patients with HIV between 2004 and 2005 (Figure 58). Vermont HIV patients stayed in the hospital an average of 6.4 days in 2005 (Figure 57).

<sup>82</sup> Vermont Department of Banking, Insurance, Securities and Health Care Administration and the Vermont Department of Health. Vermont Hospital Monograph Series, 2005. Available at [http://www.bishca.state.vt.us/HcaDiv/Data\\_Reports/hospdata/hospital\\_monograph\\_series/index\\_hospital\\_monograph.htm](http://www.bishca.state.vt.us/HcaDiv/Data_Reports/hospdata/hospital_monograph_series/index_hospital_monograph.htm). Accessed on 4/22/08.

Figure 57. Number of Discharges and Average Length of Stay in Hospital for Vermont Patients with HIV: 2001-2005.<sup>82</sup>

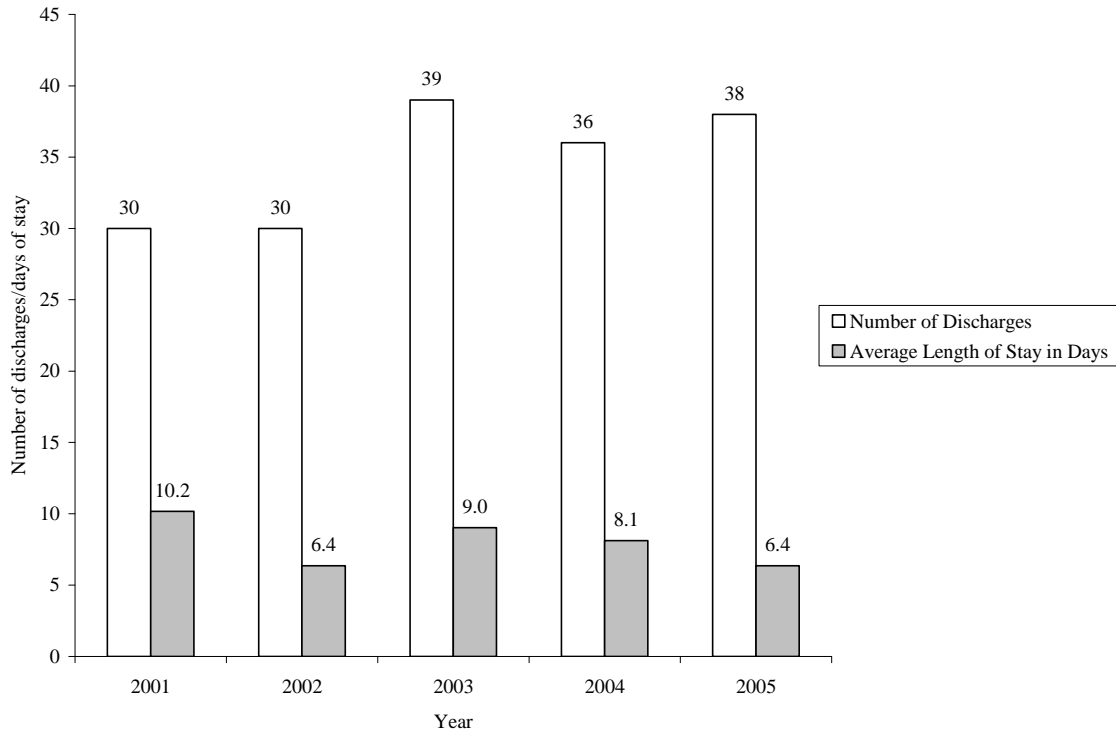
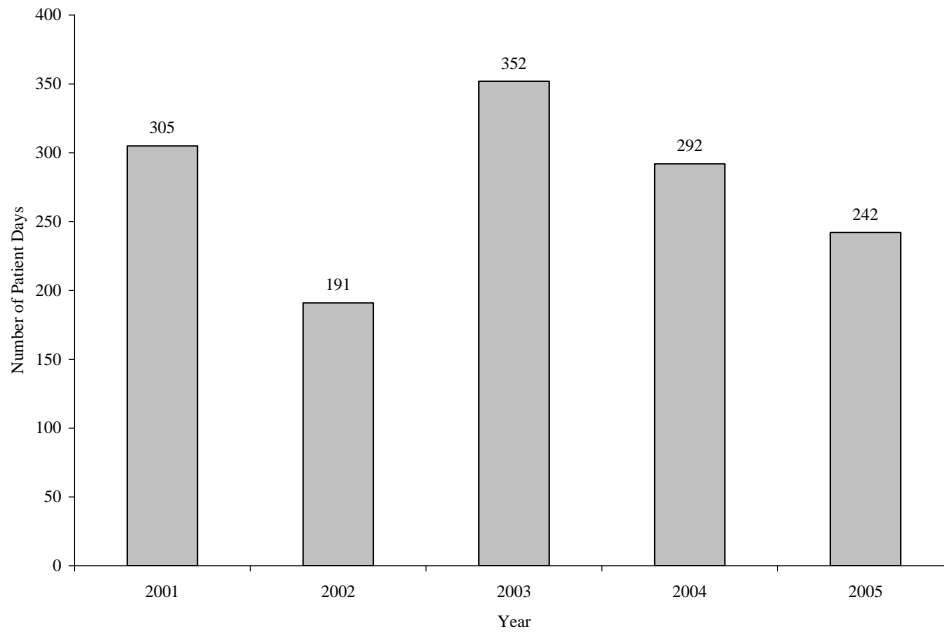


Figure 58. Total Number of Patient Days in the Hospital for Vermont Patients with HIV: 2001-2005.<sup>82</sup>



## 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 a viral load test, CD4 count, or antiretroviral therapy for a given year. Second, a survey-based needs assessment of people receiving HIV/AIDS care was completed in 2003. Although only one-third of the 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 2004 an estimated 40% of Vermonters living with HIV/AIDS did not receive HIV-related medical care.
- A greater percentage of men than women experienced this unmet need.
- A survey of people in care indicated that 86% of respondents had received some medical care within the preceding three months.
- There may be unmet housing needs among HIV positive individuals in Vermont.

## **Participation in HIV/AIDS Treatment**

In 2004 the Vermont Department of Health estimated the number of HIV positive individuals in the state that were not currently receiving HIV medical care. Estimates were produced using the following anonymous data sources: the Vermont HIV/AIDS Reporting System, called HARS, and HIV/AIDS treatment data obtained from payers and providers of these services including insurance companies and medical centers. It should be noted that the number of individuals with HIV/AIDS who are receiving treatment may be underreported because data are not available for all relevant payers and providers. Because these data were anonymous, a statistical method called Probabilistic Population Estimation was used to determine the number of people in the HARS database in 2004 who did not receive a viral load test, CD4 count or antiretroviral therapy during that year.<sup>83</sup> Analyses revealed that 40% (n = 169) of those living with HIV/AIDS in Vermont did not receive HIV-related medical care during calendar year 2004. Table 19 shows that a larger percentage of men (42%) than women (30%) experienced an unmet need in 2004, and young men (18-34) had the greatest percentage of unmet need (54%). An estimated 42% to 59% of people in the U.S. that are living with HIV/AIDS do not receive regular HIV care.<sup>84</sup>

In 2007, there were an estimated 241 individuals living with HIV and an estimated 241 individuals living with AIDS in Vermont.<sup>29</sup> The largest providers of HIV/AIDS care in Vermont are the Comprehensive Care Clinics (CCCs). The four CCCs served 351 clients during 2007 (156 who were HIV positive, 195 who met the criteria for a CDC-defined AIDS diagnosis), with all clients receiving outpatient/ambulatory care.<sup>79</sup> 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

$$(241-156) + (241-195) = 131$$

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

This number would indicate that only 27% 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.

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<sup>83</sup> Banks, S.M. & Pandiani, J.A. *Probabilistic population estimation of the size and overlap of data sets based on date of birth*. *Statistics in Medicine* (2001). Vol 20, 1421-1430.

<sup>84</sup> Kaiser Family Foundation. *HIV/AIDS Policy Fact Sheet: The HIV Epidemic in the United States*. July 2007. Available at <http://www.kff.org/hivaids/3029.cfm>. Accessed on 3/13/08.

Table 19. Participation in HIV/AIDS Treatment in Vermont: 2004

	Unduplicated number of people with HIV/AIDS	Unduplicated number with HIV/AIDS receiving treatment		Not in treatment
	n	n	%	%
Total	422 ± 5	253 ± 6	60% ± 2%	40%
Age				
0-17	4 ± 0	4 ± 0	100% ± 7%	0%
18-34	54 ± 1	27 ± 1	50% ± 2%	50%
35-49	255 ± 4	155 ± 5	61% ± 2%	39%
50-64	100 ± 2	61 ± 3	61% ± 3%	39%
65+	8 ± 0	6 ± 0	75% ± 6%	25%
Male				
0-17	0 ± 0	0 ± 0	n/a	n/a
18-34	37 ± 1	17 ± 1	46% ± 3%	54%
35-49	207 ± 4	119 ± 5	58% ± 3%	42%
50-64	89 ± 2	54 ± 2	61% ± 3%	39%
65+	8 ± 0	6 ± 0	75% ± 6%	25%
Total	341 ± 5	197 ± 6	58% ± 2%	42%
Female				
0-17	4 ± 0	4 ± 0	100% ± 7%	0%
18-34	17 ± 1	10 ± 1	59% ± 4%	41%
35-49	48 ± 1	35 ± 2	73% ± 4%	27%
50-64	11 ± 0	7 ± 1	63% ± 6%	37%
65+	0 ± 0	0 ± 0	n/a	n/a
Total	81 ± 1	56 ± 2	70% ± 2%	30%

\*HIV/AIDS related medical procedures include: viral load test, cd4 count and antiretroviral therapy. Anonymous data sets for these procedures were provided by Medicaid, CIGNA, Department of Corrections, Aetna, Dartmouth Hitchcock Medical Center and HIV/AIDS related medical procedures as indicated in the HARS database in CY2004.

The number of individuals with HIV/AIDS who are receiving treatment may be underreported in this analysis because data are not available for all relevant payors and providers. Blue Cross/Blue Shield and MVP are major payors not included in this analysis.

## **Survey of HIV Positive Individuals' Service Needs**

In the fall of 2003 the Vermont Department of Health distributed surveys intended to assess the service needs (as opposed to the prevention needs) of Vermonters who are HIV positive.<sup>85</sup> Six Part B grantee organizations distributed a total of 336 surveys statewide. Thirty-one percent (n=105) surveys were returned. Therefore, the data may not be representative of the experience of all Vermonters who are HIV positive. A majority of respondents (89%) lived in Vermont, a majority identified as white (86%), and a majority of respondents (71%) were male. Forty-seven percent of respondents identified themselves as heterosexual and 42% as gay men, with the remaining identifying as lesbian or bisexual. Nearly all respondents (89%) reported that they had been diagnosed with conditions other than HIV such as emotional problems (66%), neuropathy (42%),

<sup>85</sup> Vermont Department of Health, Ryan White Title II Coordinator. *Service Needs Assessment, 2003.*

memory or thought problems (31%), liver problems (29%), high blood pressure (28%), breathing or lung problems (27%), and/or high cholesterol (26%).

Sixty-one percent of all respondents indicated that they had been diagnosed with HIV outside of Vermont. Most respondents (86%) had received medical care within the preceding three months, and 8% had seen a doctor within the last four to six months. There were 12 people (11%) who reported that they had stopped care and had not seen a doctor in more than a year; of these respondents 67% said this was due to problems with their medications and 20% cited lack of health insurance.

When asked what would help them to get into medical care multiple barriers to care were identified. Thirty-six percent of respondents described stigma-related barriers to care that focused on fears of disclosure. The second most commonly mentioned barrier to care (by 28% of respondents) identified the prohibitive cost of medical care and limited access to insurance. Additional barriers to care included access to transportation, better trained doctors or nurses, more culturally competent providers and access to childcare services.

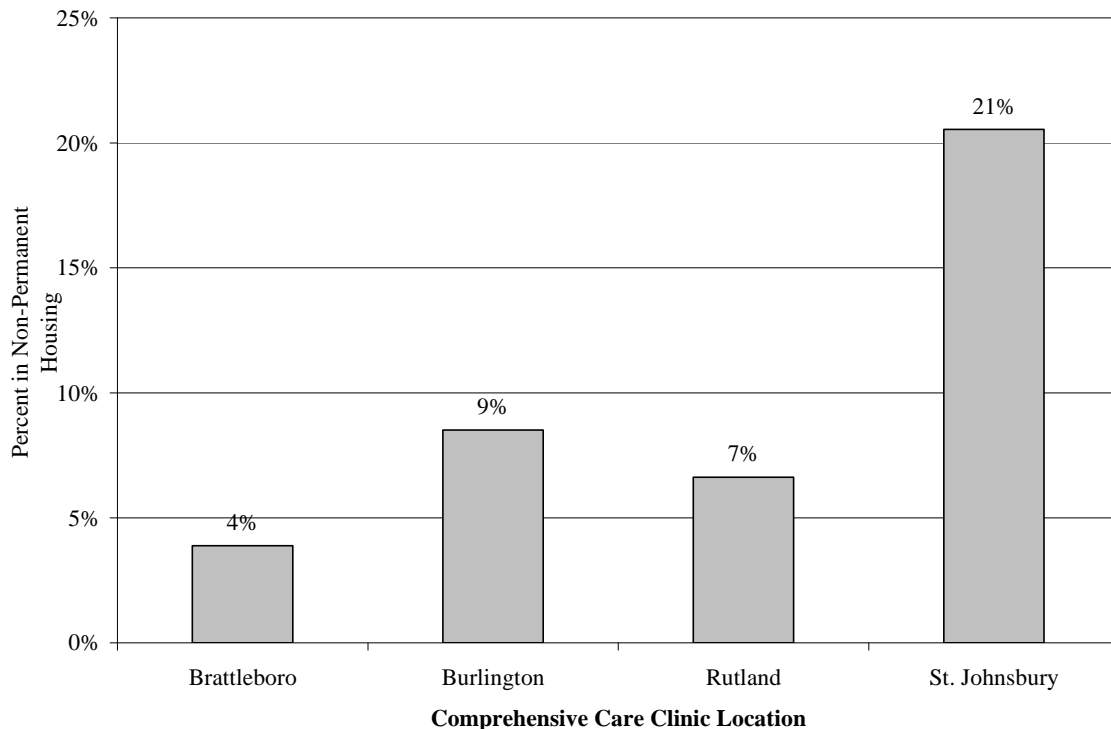
### **Assessing Barriers to Prevention, Support and Medical Services in Communities of Color in Vermont**

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 7.5% of all CCC clients in 2007 reported not having a permanent place to live.<sup>86</sup> The number of clients who reported not having a permanent place to live varied by CCC location. On average between 2000 and 2007 the St. Johnsbury CCC reported the greatest percentage of clients without permanent housing (Figure 59), 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 59. Average Proportion of Comprehensive Care Clinic Clients with Non-Permanent Housing by Location: 2000-2007<sup>86</sup>*



## **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

<sup>86</sup> Fletcher Allen Health Care, Comprehensive Care Clinics

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.<sup>87</sup>

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.<sup>87</sup>

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<sup>87</sup> 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*.