



JSI Research & Training Institute, Inc.

# Annual Outcomes Report FY 2008

## Outcomes Measurement Summary

A faint, light-colored map of Boston is visible in the background of the middle section of the cover.

**Mid-Year FY 2007—Year-End FY 2008**

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## **Ryan White HIV/AIDS Treatment Modernization Act Boston EMA Part A Programs**

**February 2010**

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This project is supported by funding provided by the Boston Public Health Commission through the Ryan White HIV/AIDS Treatment Modernization Act of 2006, Part A

## INTRODUCTION

This report summarizes outcome measurement data across all Boston Public Health Commission (BPHC) providers funded under Part A of the Ryan White HIV/AIDS Treatment Modernization Act of 2006. The data in this report come from the four most recent reporting periods: Mid-Year FY 2007 (March - August 2007), Year-End FY 2007 (September 2007 – February 2008), Mid-Year FY 2008 (March– August 2008), and Year-End 2008 (September 2008 – February 2009).

The data in this report include demographic, descriptive and outcomes data summaries for more than 7,500 clients served by Part A-funded providers. These data are also provided for “continuous clients” (a subset of clients who show at least one report during each reporting period included in this report). In past reports, a similar analysis was done on a group referred to as the “cohort”; however, this included clients who were seen at least once per fiscal year (versus once per reporting period).

Outcome measurement data are collected by providers using a standardized Outcome Measurement Report form (Appendix A). The current version of this report form was introduced at the beginning of FY 2007, so this is the first Annual Outcomes Report that includes two full years (all four reporting periods) of data collected using this new form. This is also the first Annual Outcomes Report prepared by JSI Research & Training Institute, and as such we would like to acknowledge the significant contributions of our predecessor, Suffolk University Center for Public Management, in preparing and transferring past and current outcomes data files to us for analysis and report development, and to the Boston Public Health Commission for their support and thoughtful input during this report development process.

The Outcome Measurement Report is completed by providers who receive funding by BPHC to deliver services in one or more of 11 service categories (Case Management, Client Advocacy, Dental, Drug Reimbursement, Food Services/Meals, Housing, Mental Health, Peer Support, Primary Medical Care, Substance Abuse, and Transportation). This report summarizes the results of 22,623 individual outcome measurement reports submitted by 52 funded providers during FY 2007 (11,160 reports) and FY 2008 (11,463 reports).

## METHODS

### Data Collection

The BPHC Outcome Measurement Form is completed by all Ryan White Part A providers for each of their active clients during each six-month reporting period. Providers are instructed, during annual training and in the BPHC Client Services Provider Manual, to complete the form for every client, using both a Client Code and a Unique Client Identifier. Providers are permitted to submit one report per client for each service category in which the client received a service, or to submit one report for the client summarizing all services received from that provider. Providers are instructed to indicate which service(s) the report applies to.

There are nine outcome categories on the report form, and providers are required to select a rating for the client in each of these categories, regardless of which service(s) were received by the client. Of the nine outcome categories, four are focused on health and five are focused on quality of life. The four health outcomes are: CD-4 Count; Viral Load; Maintenance of Primary Medical Care; and Adherence to Prescribed HIV Related Medical Therapies. The five quality of life outcomes include: Impact of Side Effects from HIV-related Medications; Mental Health Status; Access to Psychosocial Support; Level of Self Sufficiency; and Housing Status. These outcomes are defined in detail in the Provider Manual (<http://www.bphc.org/AIDS>).

Each outcome includes four response options for rating client status: Poor/In Crisis; Fair; Good; and Excellent. Each of these response options is defined further, for each individual outcome category, on the report form. For two of the outcome categories (Adherence to Prescribed HIV Related Medical Therapies and Impact of Side Effects from HIV-related Medications) an “N/A” option is available for clients who have not been prescribed HIV-related medical therapies.

### **Data Analysis**

Client-level demographic and descriptive data were prepared by BPHC staff from the Joint HIV/AIDS Client Information Form. These data were linked to Outcomes Report data, using a unique client code, to facilitate presentation of demographic data for clients served during the most recent reporting period.

These data, along with raw data from the Outcome Measurement Reports were exported from Microsoft Excel files and converted into a SAS data file (SAS Institute, Inc., Cary, NC), so that client-level analysis could be conducted across the breadth of available variables.

Demographics were reported for clients served during the most recent reporting period (i.e. at least one Outcome Measurement Report was completed for the client). When demographic or descriptive data were missing for a particular client for the current reporting period, we drew the information from the most recent previous reporting period. For example, if a client’s gender was missing from the Year-End 2008 data set, we looked to Mid-Year 2008 for this information, and if it was not reported there we looked back to Year-End 2007 and then to Mid-Year 2007. In this example, data were considered “missing” only if the client did not have gender reported in any of the past four reporting periods.

Univariate analyses were conducted and reported for demographic and descriptive data from the Joint Form as well as from the Outcome Measurement Report. Both paired t-tests and independent samples t-tests were used to evaluate significant changes in outcomes between reporting periods. For the purposes of this report, a p-value of < 0.05 is considered a significant difference. Past outcome data reports have used only the independent samples t-test to test for significance. In this report we also use the paired t-test. The main limitation of the independent samples t-test is that the samples are not truly independent (roughly two-thirds of clients are the same between reporting periods), while the main limitation of the paired t-test is that it only compares clients who show a visit in the two reporting periods that are being

compared. Future efforts will be focused on continuing to determine the most appropriate statistical methods to use in testing these data for significance.

### *Scoring of Outcome Data*

As discussed above, each outcome includes four response options for rating client status: Poor/In Crisis; Fair; Good; and Excellent. The scores assigned to each category are: Poor=9, Fair=6, Good=3 and Excellent=0. As a result of this system (one in which the value descended as the outcome improved) a formula was devised to turn these into scores that ascended as the client outcome improved. The initial value was subtracted from 9, with the result of the subtraction multiplied by 11.1, and that result was rounded to an integer.

Some examples:

Poor:  $(9-9) \times 11.1 = 0 \times 11.1 = 0$

Fair:  $(9-6) \times 11.1 = 3 \times 11.1 = 33.3$ , rounded to 33

Good:  $(9-3) \times 11.1 = 6 \times 11.1 = 66.6$ , rounded to 67

Excellent:  $(9-0) \times 11.1 = 9 \times 11.1 = 99.9$ , rounded to 100.

In previous reports, ascending numeric scores were assigned as follows: Poor=0-33, Fair=34-67, Good=68-99 and Excellent=100. Applying this scale to the above examples, a score of 33 (Fair) would be classified as Poor (0-33) and a score of 67 (Good) would be classified as Fair. Therefore, a reclassification of scores was made for this report, better representing the calculated scores for clients on the edges of categories. The new scores, presented in this report, are: Poor=0-32, Fair=33-66, Good=67-99 and Excellent=100. While this is a slight change, it could impact the way clients are distributed along this scale and it's important to keep in mind when comparing this Outcomes Report to previous reports.

### **Limitations**

#### *Number of Reports per Client*

Providers are permitted to submit one report per client for each service category in which the client received a service, or to submit one report for the client summarizing all services received from that provider. Providers are instructed to indicate which service(s) the report applies to. As such, the total number of reports does not line up with the number of clients served (as would be the case with one report per client, per provider), or with the number of independent service categories in which clients received services (as would be the case with one report per client, per provider, per service category).

Along these lines, it should also be noted that data do not necessarily reflect all services received by individual clients. Clients may be receiving services funded by other state, federal and private sources, and also at other agencies.

#### *New vs. On-going Clients*

Clients are categorized on the report form as "new" if it is the client's first time accessing a service at a particular provider agency. This category may include clients who dropped out of care (at the same provider, or at another provider) for more than one year and have returned

to care. Thus, clients may be new to a particular service but not new to the larger Part A system.

Clients are categorized as “on-going” if they are continuing to use services and have been seen once or more during the reporting period. If a client was not seen during the reporting period then a form is not completed. This means that a client may be reported as “new” at one provider and “on-going” at another, even during a single reporting period. However, this distinction may still be informative because it identifies clients who are newly accessing a service, likely indicating their increased need in that specific service category.

#### *Variations in Data Collection by Provider Agency*

There are some variations in data collection by program or agency due to specific service delivery models and the inability to collect accurate data for all outcomes/all clients. For example, Dental providers were not asked to report on **Impact of Side Effects from HIV-related Medications, Mental Health Status, Access to Psychosocial Support or Level of Self-Sufficiency**, and therefore the number of clients reported on for those three outcomes is lower. In another example, a Food Services/Meals provider only reports on a sample of their clients each period.

Sometimes there is confusion within agencies that are funded to provide multiple services, in terms of understanding the distinctions between service categories. This is a training issue and on-going efforts are being made to address these concerns.

## RESULTS

### Data Summary

**Figure 1** provides a summary of total outcome reports received, unduplicated clients represented, and number of providers submitting data during each reporting period.

**Figure 1. Totals for All Reporting Periods**

Reporting Period		Number Of Outcome Reports	Number Of Unduplicated Clients	Number Of Providers
Mid-Year FY 2007	March 2007-August 2007	5273	4079	51
Year-End FY 2007	September 2007-February 2008	5887	4306	49
Mid-Year FY 2008	March 2008-August 2008	5148	4183	44
Year-End FY 2008	September 2008-February 2009	6315	4522	45
Total (March 2007-February 2009)		22623	7583	52

**Figure 2** shows the number of outcome reports submitted, and the number of unduplicated clients represented, for each funded service category. As discussed under Methods, providers are permitted to submit one report per client for each service category in which the client received a service, or to submit one report for the client summarizing all services received from that provider.

Variations within service categories were minor, with the exception of an increase in Client Advocacy during the most recent reporting period, due primarily to a data reporting discrepancy that will be addressed in future reports.

**Figure 2. Number of Outcome Reports and Unduplicated Clients by Service Category**

Service Category		Mid-Year FY 2007	Year-End FY 2007	Mid-Year FY 2008	Year-End FY 2008
Case Management	Outcome Reports	1168	1201	1274	1248
	Unduplicated Clients	1145	1180	1249	1230
Client Advocacy	Outcome Reports	736	640	809	1441
	Unduplicated Clients	695	614	775	1390
Dental	Outcome Reports	530	404	608	712
	Unduplicated Clients	526	400	605	709
Drug Reimbursement	Outcome Reports	162	139	73	52
	Unduplicated Clients	162	135	73	50
Food Services/Meals	Outcome Reports	1150	1697	1252	1510
	Unduplicated Clients	1058	1386	1159	1142
Housing	Outcome Reports	482	937	531	961
	Unduplicated Clients	442	878	483	894
Mental Health	Outcome Reports	362	377	300	386
	Unduplicated Clients	356	371	294	379
Peer Support	Outcome Reports	904	1251	1137	1117
	Unduplicated Clients	824	1020	1014	926
Primary Medical Care	Outcome Reports	479	440	340	375
	Unduplicated Clients	479	437	340	371
Substance Abuse	Outcome Reports	161	128	189	209
	Unduplicated Clients	148	116	179	194
Transportation	Outcome Reports	848	947	696	792
	Unduplicated Clients	808	881	690	783

**Figure 3** shows the number of providers submitting outcome reports during each reporting period, by funded service category. The greatest number of providers that submitted reports were funded to provide case management services, followed by housing and peer support services. The total number of providers is not likely to change between reporting periods, and preliminary exploration indicates that any variation in Figure 3 is largely due to lack of standardization in data reporting that can be corrected in the future.

**Figure 3. Number of Providers by Service Category**

Service Category	Mid-Year FY 2007	Year-End FY 2007	Mid-Year FY 2008	Year-End FY 2008
Case Management	18	18	20	18
Client Advocacy	6	5	6	6
Dental	1	1	1	1
Drug Reimbursement	2	1	1	1
Food Services/Meals	9	9	9	9
Housing	12	12	10	10
Mental Health	9	9	6	6
Peer Support	11	11	11	11
Primary Medical Care	8	8	7	7
Substance Abuse	5	5	6	6
Transportation	10	9	7	7

**Figure 4** shows the number of outcome reports submitted, and the number of unduplicated clients represented, by Outcome Category. Providers are required to report on all nine outcomes for all of their clients, so variations in reports submitted or clients served are likely due to missing data on individual Outcome Measurement Report forms. Variation in the **Adherence** and **Impact of Side Effects** outcome categories in Mid-Year FY 2007 is likely related to introduction of new data collection forms where additional training was needed to inform providers that a “not applicable” category was available for clients not currently prescribed any HIV related medical therapies. Also, Dental providers were not asked to report on **Impact of Side Effects, Mental Health Status, Access to Psychosocial Support** or **Level of Self-Sufficiency**, and therefore the number of clients included in those four categories is lower. Please note that **Impact of Side Effects** is affected by both of the above conditions.

**Figure 4. Number of Outcome Reports and Unduplicated Clients by Outcome Category**

Outcomes Category		Mid-Year FY 2007	Year-End FY 2007	Mid-Year FY 2008	Year-End FY 2008
CD-4 Count	Outcome Reports	5143	5805	5064	6261
	Unduplicated Clients	3995	4247	4118	4487
Viral Load	Outcome Reports	5009	5797	5044	6238
	Unduplicated Clients	3917	4246	4110	4475
Maintenance Of Primary Medical Care	Outcome Reports	5064	5803	5117	6305
	Unduplicated Clients	3960	4257	4164	4516
Adherence To Prescribed HIV Related Medical Therapies	Outcome Reports	4779	5714	5123	6281
	Unduplicated Clients	3769	4228	4169	4497
Impact Of Side-Effects From HIV-Related Medications	Outcome Reports	3805	5286	4507	5564
	Unduplicated Clients	3052	3941	3740	4047
Mental Health Status	Outcome Reports	4180	5423	4467	5563
	Unduplicated Clients	3339	4000	3703	4044
Access To Psychosocial Support	Outcome Reports	4315	5423	4472	5558
	Unduplicated Clients	3413	3997	3702	4042
Level Of Self-Sufficiency	Outcome Reports	4322	5427	4520	5593
	Unduplicated Clients	3426	4006	3746	4071
Ability To Maintain Housing	Outcome Reports	5087	5836	5122	6300
	Unduplicated Clients	3968	4278	4166	4512

**Figure 5** shows the number of outcome reports where clients were listed as “New Intakes” and the number of reports where clients were listed as “On-going.” The “New Intake” category shows the total number of reports submitted on clients who were seen for the first time by the provider agency completing the form. This category may include clients who dropped out of care (at the same provider, or at another provider) for more than one year and have returned to care. “On-going” clients are those that had been seen by the provider before, and were seen at least once during the reporting period. The number of reports where these data were missing dropped substantially between Mid-Year FY 2007 and Year-End FY 2008. There are two reasonable explanations for this – first, providers probably became accustomed over time to the new report form (introduced in FY 2007), and second, data quality improvement efforts by BPHC Quality Management staff have increased.

**Figure 5. Status of Outcome Reports**

Status	Outcome Reports							
	Mid-Year FY 2007		Year-End FY 2007		Mid-Year FY 2008		Year-End FY 2008	
	Number of Reports	Percent	Number of Reports	Percent	Number of Reports	Percent	Number of Reports	Percent
New Intake	887	17%	1091	19%	922	18%	941	15%
On-going	4318	82%	4777	81%	4213	82%	5370	85%
Missing Data	68	1%	19	0%	13	0%	4	0%

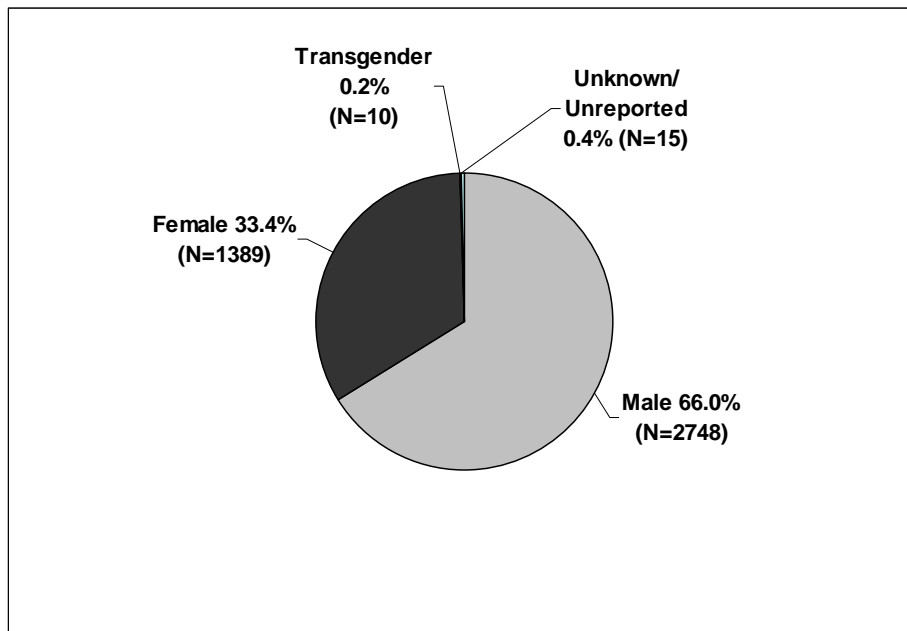
## **Demographic and Descriptive Characteristics of Clients with Outcomes Reports**

This section summarizes the demographic and descriptive characteristics of unduplicated clients with one or more outcomes reports. Demographic data were drawn from data reported by BPHC providers using the *Joint HIV/AIDS Client Information Form*. Data for the year-end FY 2008 reporting period (September 1, 2008 – February 28, 2009) are presented below. Detailed data tables for the last four reporting periods (Mid-Year FY 2007, Year-End FY 2007, Mid-Year FY 2008 and Year-End FY 2008) are included in Appendix B. There were no significant changes between reporting periods in any of these categories (gender, age, ethnicity, race, diagnostic information, exposure category, income level, housing status or referral source).

### **Gender and Age**

About two-thirds (66.0%) of clients with outcome reports during the Year-End FY 2008 reporting period were male, and one-third (33.4%) were female. Transgender clients represented 0.2% of total clients served. This is fairly consistent with the data for the Boston EMA, where 71% of people living with HIV/AIDS are male and 29% are female (state surveillance data does not capture individuals who identify as transgender).<sup>1</sup> The average age of clients was 44.8 years, with a range of 4-92 years.

**Figure 6. Gender Profile (Year-End FY 2008)**



<sup>1</sup> Massachusetts Department of Public Health: HIV/AIDS Surveillance Program. Data as of 7/1/2008.

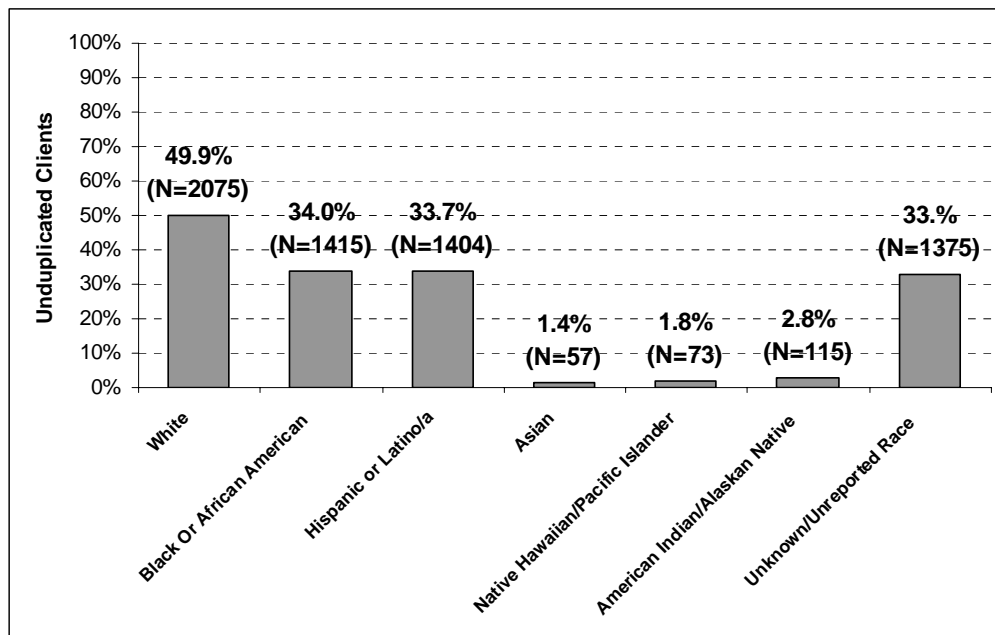
## Ethnicity and Race

About one-third (33.7%) of clients identified their ethnicity as Hispanic or Latino during the Year-End FY 2008 reporting period, as compared to 21% in the EMA. It should be noted that Hispanic/Latino ethnicity is asked separately from questions about race, due to federal data collection requirements. For all clients, providers are required to document first whether the client is of Hispanic/Latino ethnicity, and then document one or more race categories for the client.

Just under half of clients (49.9%) were reported as White, and just over one-third (34.0%) were reported as Black or African American). A small percentage of clients were reported as Asian (1.4%, N=57), Native Hawaiian/Pacific Islander (1.8%, N=73) and American Indian/Alaskan Native (2.8%, N=115). Again, this is consistent with the Boston EMA where 47.7% are White and 29.6% are Black. The surveillance data groups the remaining races in a slightly different way: 1.5% Asian/Pacific Islander and .2% American Indian.

Unknown/Unreported Race was reported for about one-third of clients (33.0%). The large proportion of clients in this category is primarily explained by the fact that about 80% of Hispanic/Latino clients were reported as “Unknown/Unreported” race.

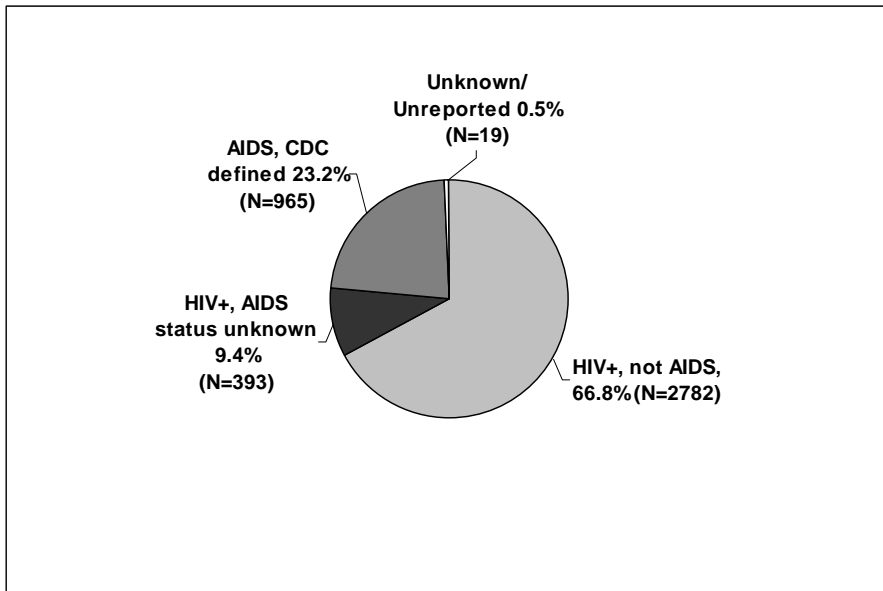
Figure 7. Race and Ethnicity (Year-End FY 2008)



### Diagnostic Information

Diagnostic information summarizes the HIV/AIDS status of clients reporting outcomes during the year-end FY 2008 reporting period. About two-thirds of clients (66.8%) were categorized as HIV positive, not AIDS. Just under one-quarter (23.2%) were categorized as AIDS, CDC defined. About a tenth (9.4%) of clients were categorized as HIV positive, AIDS status unknown and 0.5% had unknown/unreported status.

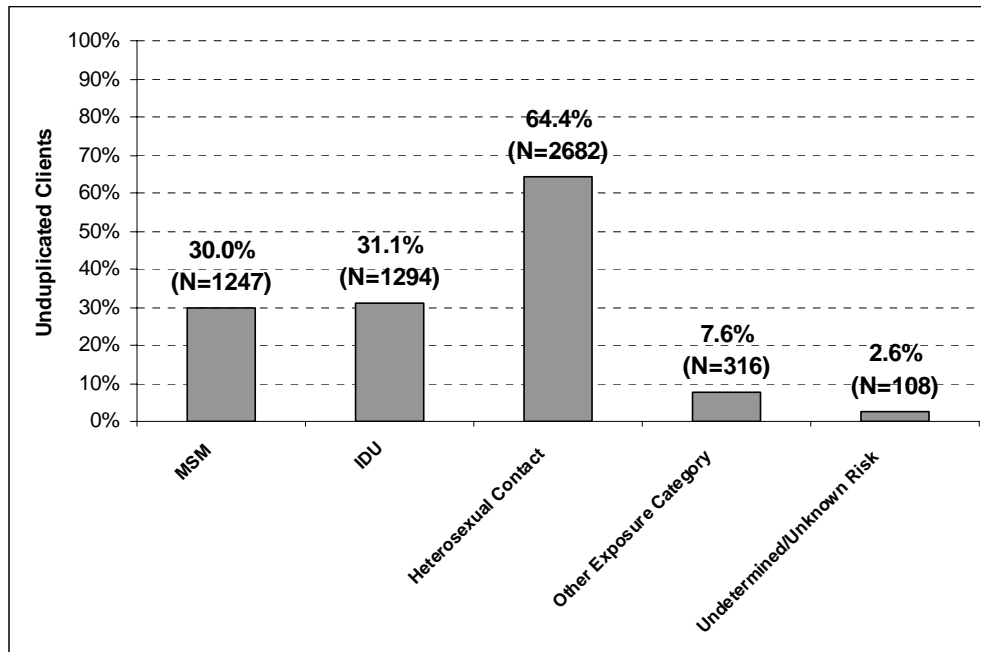
Figure 8. Diagnostic Information (Year-End FY 2008)



## Exposure Category

Clients were categorized according to one or more HIV exposure categories (self-reported). Nearly two-thirds of clients (64.4%) were reported as having heterosexual exposure, while just under one-third were reported as injection drug users (31.1%) and MSM (30.0%), respectively. Other exposure categories (including perinatal transmission, hemophilia/coagulation disorder, blood/blood products/tissue, and other risk) were identified for 7.6% of clients, and 2.6% were categorized as undetermined/unknown risk. While there are slight differences in the way exposure is categorized in the state surveillance data, the breakdown for the Boston EMA is as follows: 41.8% MSM, 17.9% IDU, 2.9% MSM/IDU, 29.3% heterosexual (including presumed heterosexual), 0.4% other risk, and 7.7% undetermined/unknown risk.

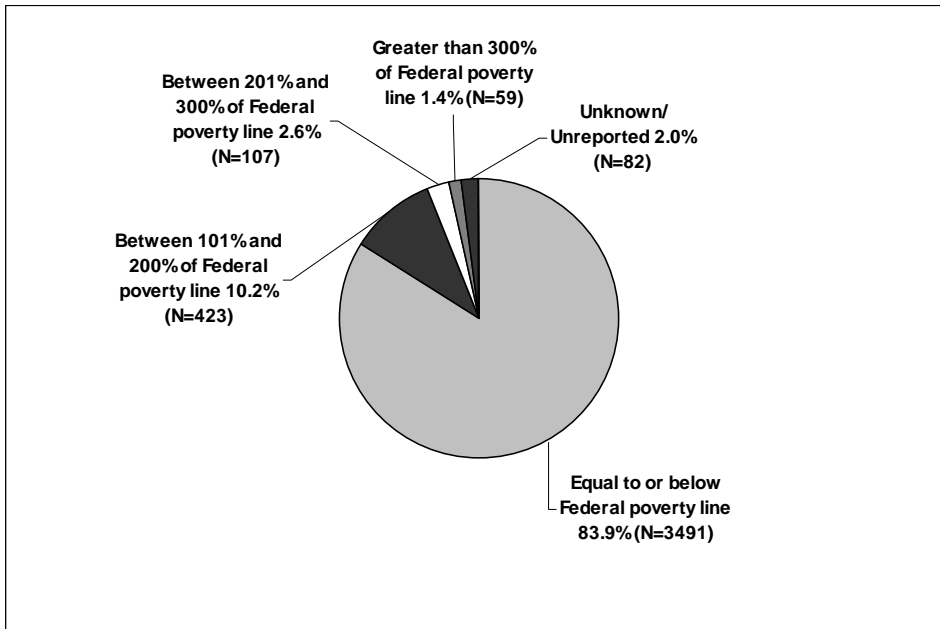
Figure 9. Exposure Category (Year-End FY 2008)



## Income

The income level of most clients (83.9%) was equal to or below the Federal Poverty Line. Just over ten percent (10.2%) had incomes between 101% and 200% of the Federal poverty line. A few clients (2.6%) had incomes between 201% and 300% of the Federal poverty line or greater (1.4%).

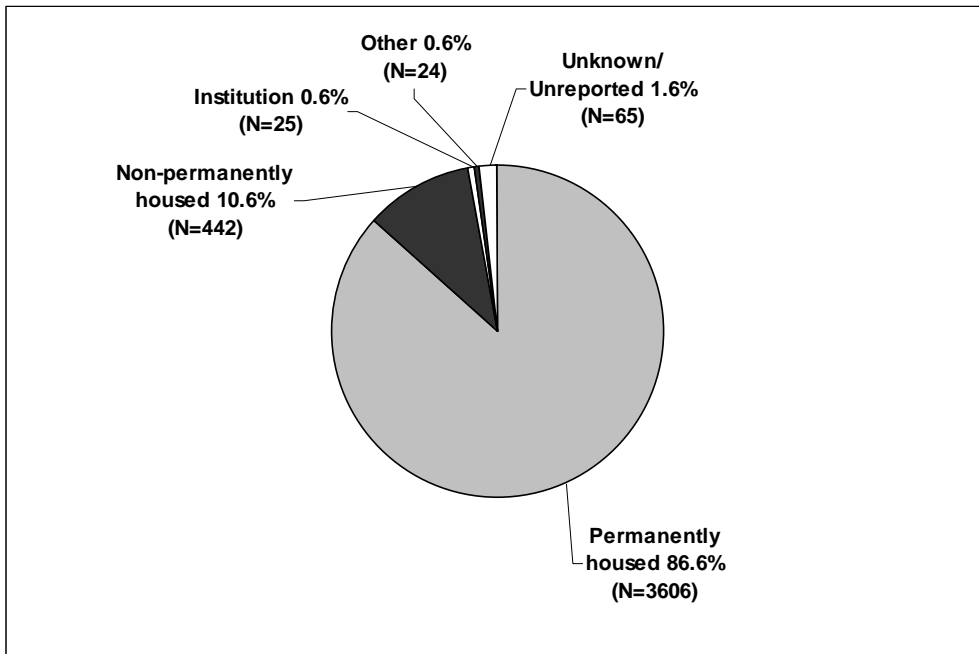
**Figure 10. Income (Year-End FY 2008)**



## Housing Status

Most clients (86.6%) were in permanent housing during this reporting period. Another 10.6% reported non-permanent housing (this category includes homeless as well as transient or transitional housing). A small portion of clients (0.6%) were in institutional settings (residential, health care and correctional facilities) or other settings (0.6%). Housing status was unknown/unreported for 1.6% of clients.

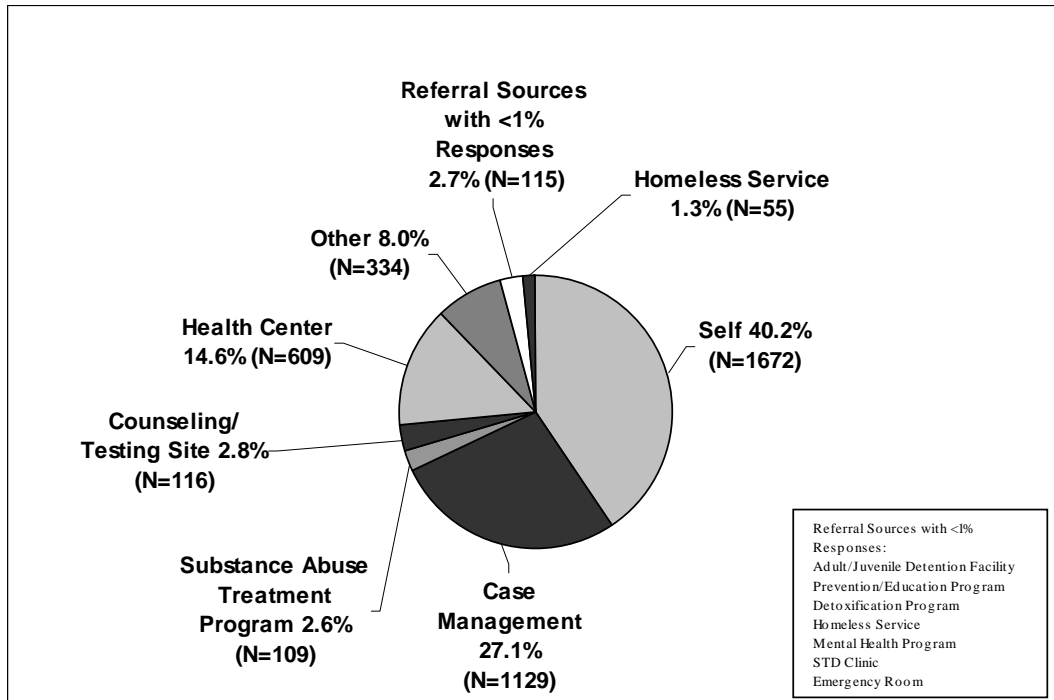
Figure 11. Housing Status (Year-End FY 2008)



## Referral Source

Most clients were either self-referred to the reporting provider (40.2%) or referred by case management (27.1%) or a health center (14.6%). A smaller percentage of clients were referred from other (not-specified) programs (8%), or from specific services such as counseling and testing (2.8%), substance abuse treatment (2.6%), or homeless services (1.3%). Note: the current data show only the most recent referral for each client.

**Figure 12. Referral Source (Year-End FY 2008)**



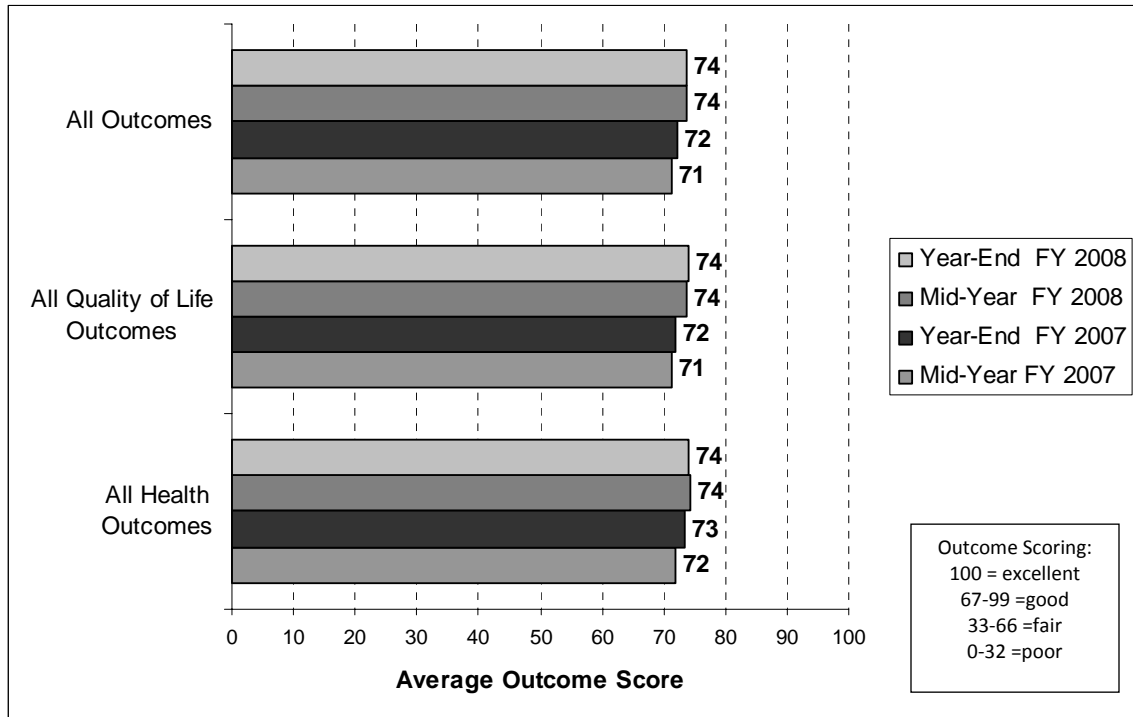
### **Outcome Scores: All Clients**

The following tables show average outcome scores, by outcome category, for unduplicated clients across the four reporting periods. Individual outcome scores are categorized as: excellent (scores of 100 only); good (67-99), fair (33-66) and poor (0-32).

### **All Outcomes**

Overall outcomes for health and quality of life were stable across reporting periods, with the average scores for both remaining solidly in the “good” category.

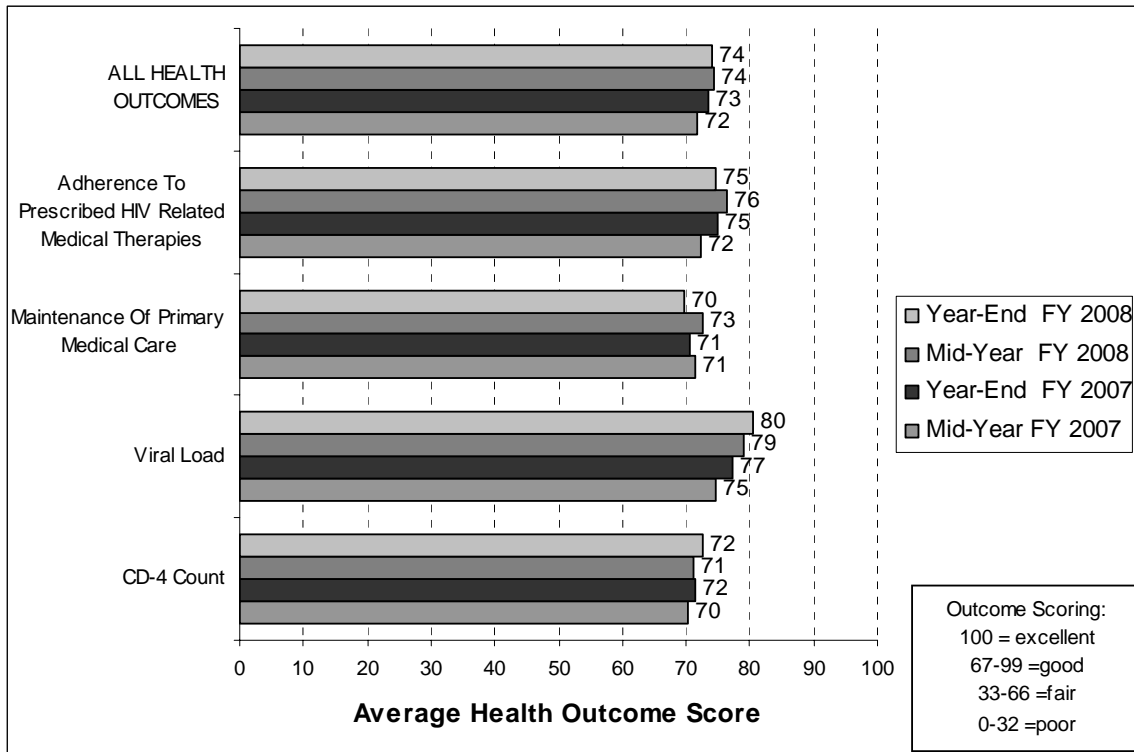
**Figure 13. Average Health and Quality of Life Outcome Scores for All Clients**



**All Health Outcomes**

**Figure 14** shows a comparison of average health outcome scores for unduplicated clients across reporting periods. Scores were categorized as “good” across all reporting periods. Note that the data presented for each reporting period include only clients with one or more Outcome Measurement Reports submitted during that period, and therefore individual clients may not be included in every period.

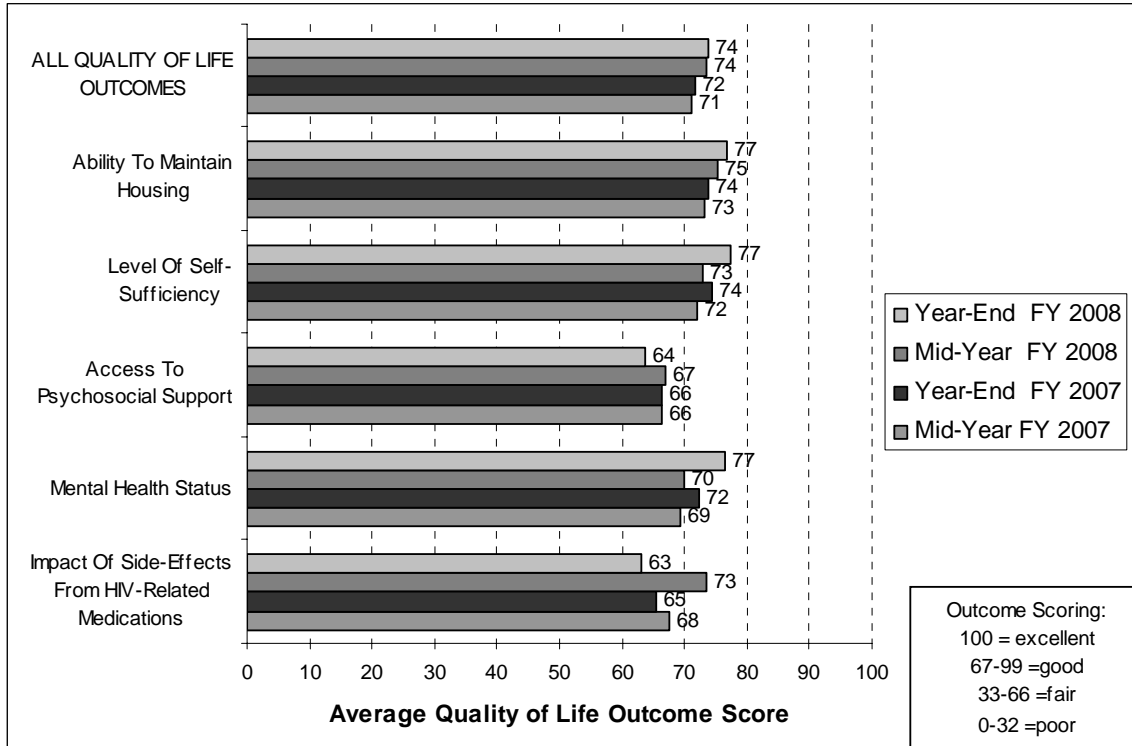
**Figure 14. Average Health Outcome Scores**



### All Quality of Life Outcomes

Figure 15 shows a comparison of average quality of life outcome scores for unduplicated clients across reporting periods. While average scores across most quality of life outcomes remained in the “good” range, average scores within one of the individual outcome categories - **Access to Psychosocial Support** – remained in the “fair” range, and another category - **Impact of Side Effects** – fell into the “fair” category during some reporting periods.

Figure 15. Average Quality of Life Outcome Scores

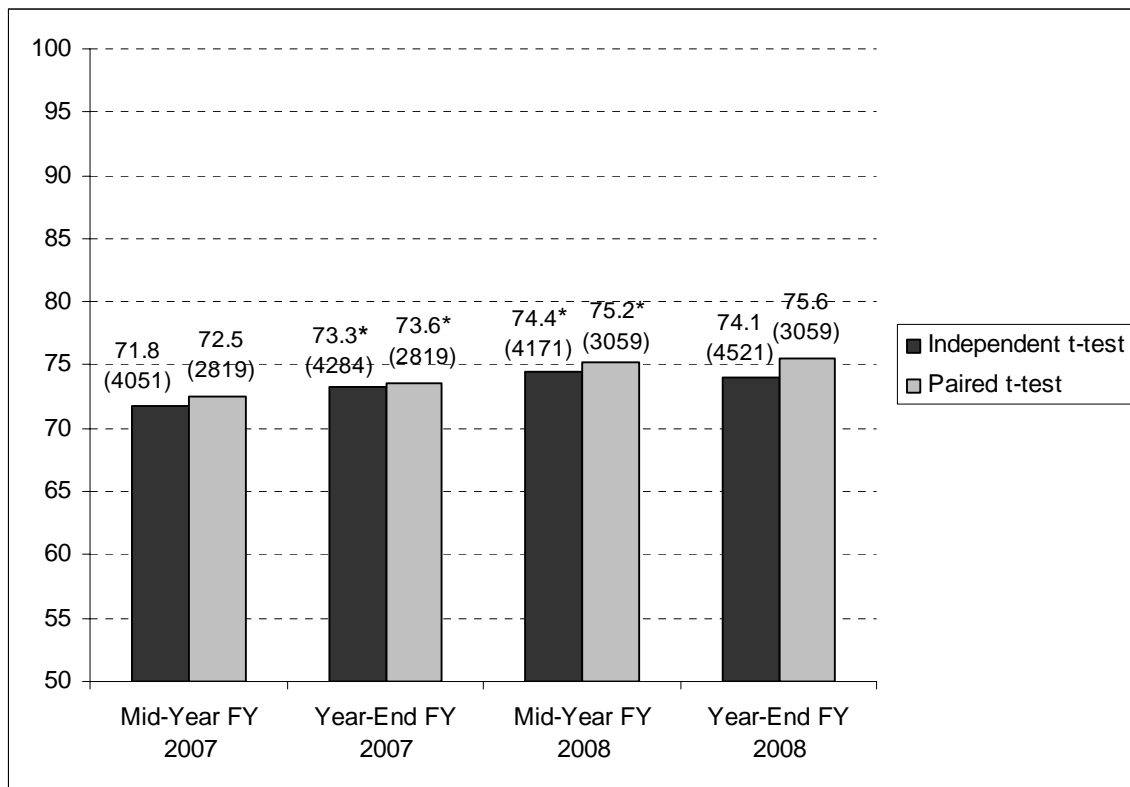


### Average Health Outcomes: Tests of Significance

Figure 16 shows where statistically significant changes were measured across average health outcomes. Significant improvements ( $p < .05$ ) were seen from Mid-Year FY 2007 to Year-End FY 2007, and again from Year-End FY 2007 to Mid-Year FY 2008, when analyzed using the independent samples t-test and when analyzed using the paired t-test. Note that we did not test for statistical significance between Year-End FY 2006 and Mid-Year FY 2007, because this report only includes data from the four most recent reporting periods. Therefore significance will not be indicated at Mid-Year FY 2007 in any of the following tables.

Two different statistical tests were used to compare outcome scores between reporting periods, and are presented in the chart below as two possible ways of viewing the data. Each test has its strengths and limitations as outlined in the Methods section of this report. Used together, the results create a more complete picture of differences between reporting periods.

Figure 16. Average Health Outcomes for All Clients (Independent and Paired t-tests)

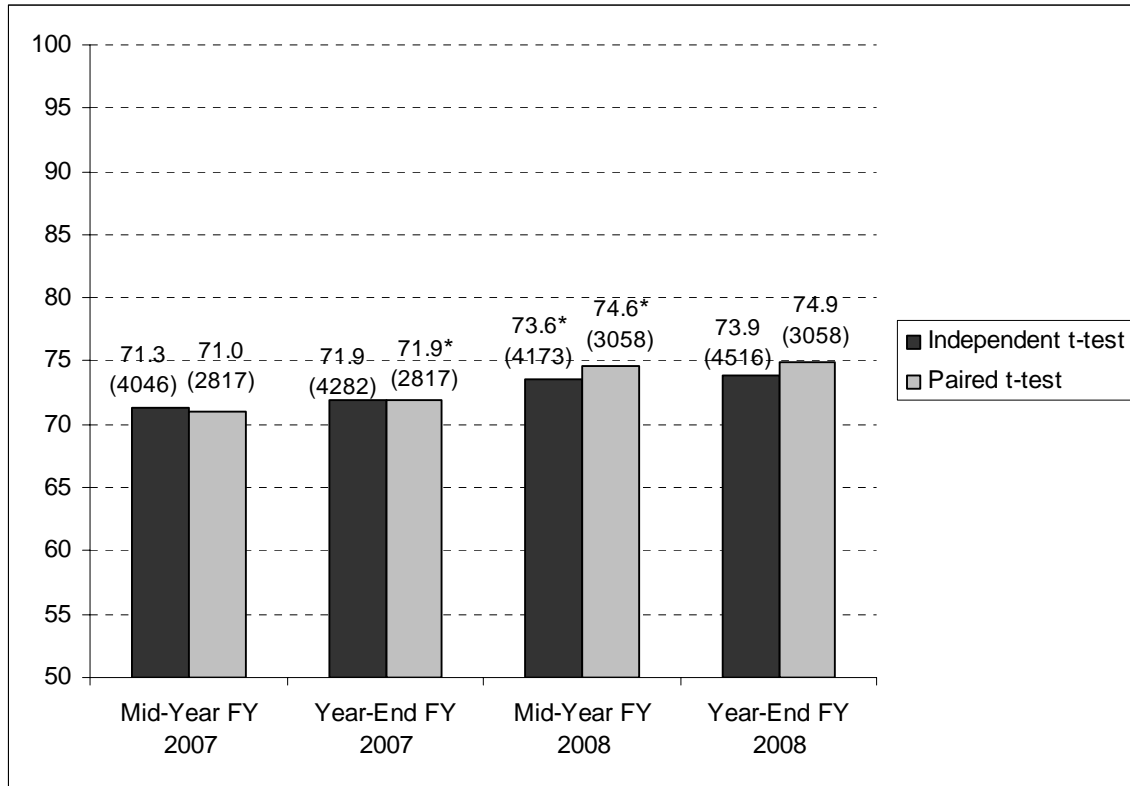


\*Level of significance:  $p < .05$

### Average Quality of Life Outcomes: Tests of Significance

Figure 17 shows where statistically significant changes were measured across average quality of life outcomes. Significant improvements ( $p < .05$ ) were seen from Mid-Year FY 2007 to Year-End FY 2007 when using the paired samples t-test, and from Year-End FY 2007 to Mid-Year FY 2008 using each of the significance tests.

Figure 17. Average Quality of Life Outcome Scores for All Clients (Independent and Paired t-tests)



\*Level of significance:  $p < .05$

### Tests of Significance: Individual Health Outcomes

**Figure 18** shows additional detail on the outcome scores presented in Figure 14. Further detail (including number of clients and average scores) can be found in Appendix B. Tests of significance were run using both independent samples t-tests and paired t-tests. Statistically significant improvements ( $p < .05$ ) were seen in **CD-4 count** at Year-End FY 2007 using the independent samples t-test, and at Year-End FY 2008 using each of the significance tests. Notably, statistically significant improvements were seen across all reporting periods for **Viral Load** using each test. A statistically significant increase was seen in **Maintenance of Primary Medical Care** at Mid-Year FY 2008 using the independent samples t-test, while a significant decrease was seen in this category between Mid-Year FY 2008 and Year-End FY 2008 using each test. Note that this category provides a measure of missed appointments, but does not necessarily indicate a lack of medical care (i.e. a client that missed half of his/her scheduled appointments may still be seeing a primary care physician every four months). **Adherence to Prescribed HIV Related Medical Therapies** increased at Year-End FY 2007 using each of the significance tests, and increased again at Mid-Year FY 2008 using the independent samples test, followed by a significant decrease at Year-End FY 2008 using the independent samples test.

**Figure 18.\*\* Change in Average Health Outcome Scores for All Clients (Independent and Paired t-tests)**

	Year-End FY 2007						Mid-Year FY 2008						Year-End FY 2008					
	Independent			Paired			Independent			Paired			Independent			Paired		
	Change	Sig*		Change	Sig*		Change	Sig*		Change	Sig*		Change	Sig*		Change	Sig*	
CD-4 Count	↑	1.2	<b>0.038</b>	↑	0.7	ns	↓	-0.6	ns	↑	0.8	ns	↑	1.5	<b>0.0085</b>	↑	1.4	<b>0.0002</b>
Viral Load	↑	2.7	<b>&lt;.0001</b>	↑	2.6	<b>0.0001</b>	↑	1.8	<b>0.004</b>	↑	2.4	<b>0.0001</b>	↑	1.2	<b>0.0331</b>	↑	1.6	<b>0.0002</b>
Maintenance Of Primary Medical Care	↓	-0.7	ns	↓	-0.89	ns	↑	2.1	<b>0.001</b>	↑	0.88	ns	↓	-2.9	<b>&lt;.0001</b>	↓	-1.6	<b>0.0017</b>
Adherence To Prescribed HIV Related Medical Therapies	↑	2.6	<b>&lt;.0001</b>	↑	1.6	<b>0.001</b>	↑	1.5	<b>0.012</b>	↑	0.9	ns	↓	-1.8	<b>0.0022</b>	↑	0.2	ns
All Health Outcomes	↑	1.5	<b>0.0003</b>	↑	1.1	<b>0.0009</b>	↑	1.1	<b>0.013</b>	↑	1.3	<b>0.0004</b>	↓	-0.3	ns	↑	0.3	NS

\*Level of significance =  $p < .05$

\*\*This figure was condensed for formatting purposes. Values for Mid-Year FY 2007 are not shown.

### Individual Quality of Life Outcomes: Tests of Significance

Figure 19 shows additional detail on the outcome scores presented in Figure 15. Further detail (including number of clients and average scores) can be found in Appendix B. **The Impact Of Side-Effects From HIV-Related Medications** fluctuated between reporting periods, increasing significantly ( $p < .05$ ), at Year-End FY 2007 when tested with the independent samples t-test, and at Mid-Year FY 2008 using each of the significance tests. These increases were followed by significant decreases at Year-End FY 2008 using each test. This may be explained by on-going changes for clients related to medication adjustments. **Mental Health Status** improved significantly between Mid-Year and Year-End FY 2007 using each test, and then showed a significant decrease at Mid-Year FY 2008 when using the independent samples t-test. Significant improvements using each test were again seen at Year-End FY 2008. **Access to Psychosocial Support** improved significantly at both Year-End FY 2007 and Mid-Year FY 2008 using the paired t-test, and then showed a significant decrease from Mid-Year FY 2008 to Year-End FY 2008 using the independent samples t-test. **Level of Self-Sufficiency** increased significantly between Mid-Year and Year-End 2007 using each test, followed by a significant decrease at Mid-Year FY 2008 using the independent samples test and a significant improvement at Year-End FY 2008 using each of the tests. **Ability to Maintain Housing** showed statistically significant increases between Year-End 2007 and Mid-Year 2008, and again between Mid-Year FY 2008 and Year-End FY 2008 using each type of tests.

Figure 19\*\*. Change in Average Quality of Life Outcome Scores for All Clients (Independent and Paired t-tests)

	Year-End FY 2007						Mid-Year FY 2008						Year-End FY 2008					
	Independent			Paired			Independent			Paired			Independent			Paired		
	Change	Sig*		Change	Sig*		Change	Sig*		Change	Sig*		Change	Sig*		Change	Sig*	
Impact Of Side-Effects From HIV-Related Medications	↓	-2.2	0.0011	↓	-0.2	ns	↑	8.0	<.0001	↑	6.1	0.0001	↓	-10.3	<.0001	↓	-8.2	0.0001
Mental Health Status	↑	3.1	<.0001	↑	1.5	0.001	↓	-2.6	<.0001	↓	-0.9	ns	↑	6.8	<.0001	↑	4.9	0.0001
Access To Psychosocial Support	↓	-0.1	ns	↑	2.5	0.0001	↑	0.7	ns	↑	1.7	0.005	↓	-3.4	<.0001	↑	0.6	ns
Level Of Self-Sufficiency	↑	2.6	<.0001	↑	1.2	0.02	↓	-1.6	0.0064	↓	-0.04	ns	↑	4.7	<.0001	↑	2.6	0.0001
Ability To Maintain Housing	↑	0.4	ns	↑	0.6	ns	↑	1.5	0.0277	↑	2.2	0.0001	↑	1.6	0.013	↑	1.4	0.002
All Quality of Life Outcomes	↑	0.6	ns	↑	0.89	0.0156	↑	1.8	<.0001	↑	2.0	0.0001	↑	0.3	ns	↑	0.2	NS

\*\*This figure was condensed for formatting purposes. Values for Mid-Year FY 2007 are not shown.

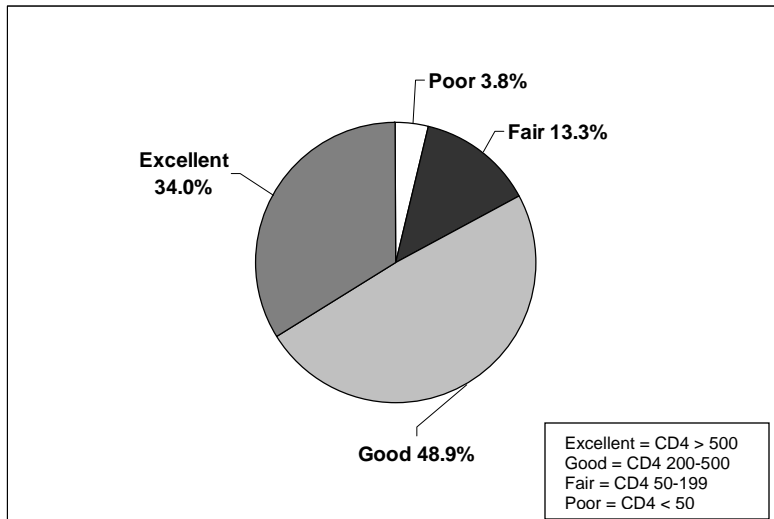
\*Level of significance =  $p < .05$

### Health Outcome Distribution for All Clients

Figures 20-23 show the distribution of scores for unduplicated clients, for each of the four health outcomes at Year End FY 2008: **CD-4 count**, **Viral Load**, **Maintenance of Primary Medical Care**, and **Adherence to Prescribed HIV Related Medical Therapies**.

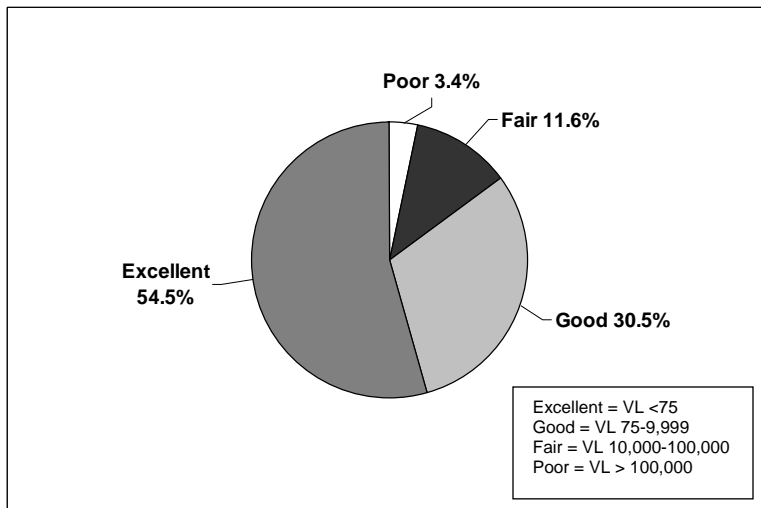
**Figure 20** shows that about one-third of clients (34%) were categorized as Excellent and nearly half (48.9%) were categorized as Good in the outcome category of **CD-4 count** at the end of the most recent reporting period. A smaller percentage of clients were categorized as Fair (13.3%) or Poor (3.8%).

**Figure 20. Outcome Score Distribution Year-End FY 2008: CD-4 Count**



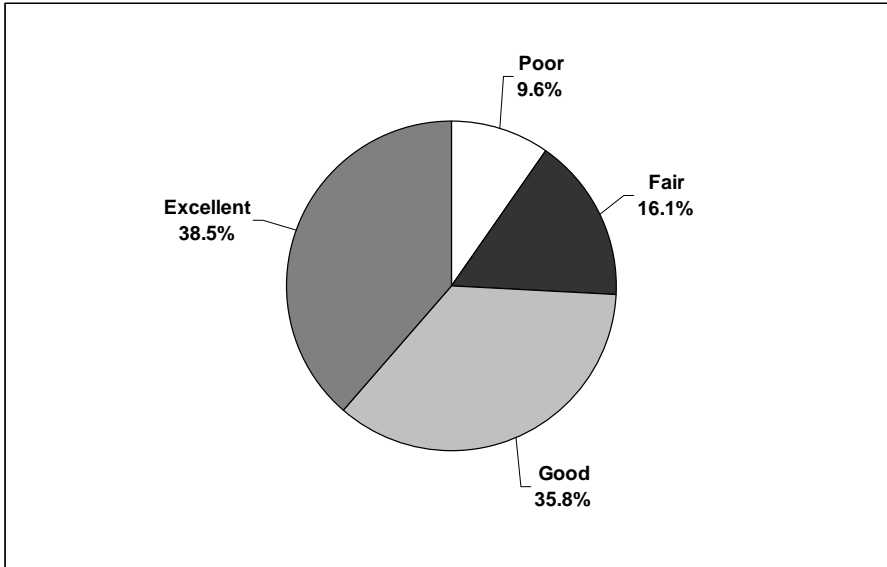
**Figure 21** shows that more than half of clients (54.5%) were categorized as Excellent and just under one-third (30.5%) were categorized as Good in the outcome category of **Viral Load**, while a very small percentage of clients were categorized as Fair (11.6%) or Poor (3.4%).

**Figure 21. Outcome Score Distribution Year-End FY 2008: Viral Load**



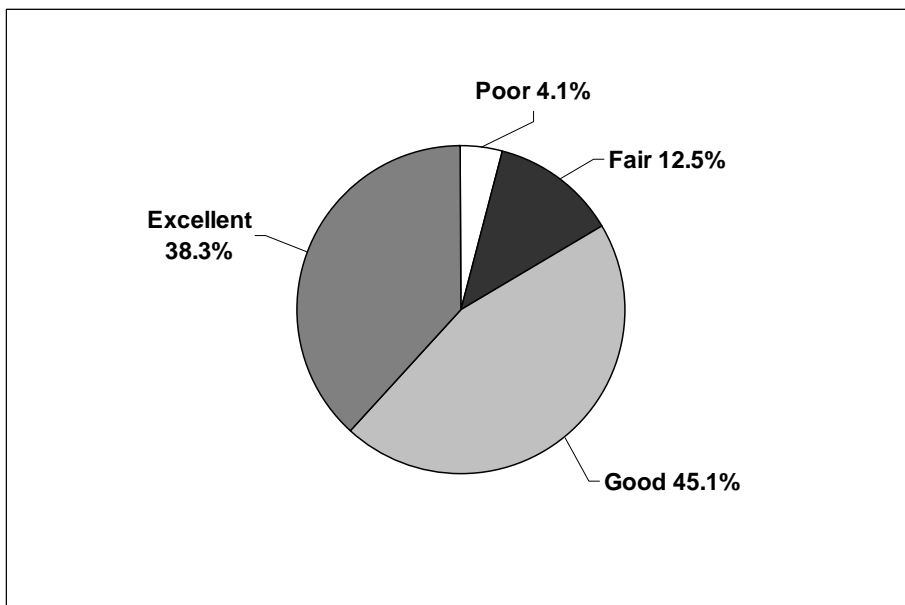
**Figure 22** shows 38.5% of clients in the Excellent category, and 35.8% of clients in the Good Category, for **Maintenance of Primary Medical Care**. A slightly larger percentage of clients were categorized as Fair (16.1%) or Poor (9.6%) than in the **CD-4 count** or **Viral Load** categories, above.

**Figure 22. Outcome Score Distribution Year-End FY 2008: Maintenance of Primary Medical Care**



**Figure 23** shows 38.3% of clients in the Excellent category for **Adherence to Prescribed HIV Related Medical Therapies**, and 45.1% of clients in the Good Category. A small percentage of clients were categorized as Fair (12.5%) or Poor (4.1%).

**Figure 23. Outcome Score Distribution Year-End FY 2008: Adherence to Prescribed HIV Related Medical Therapies**

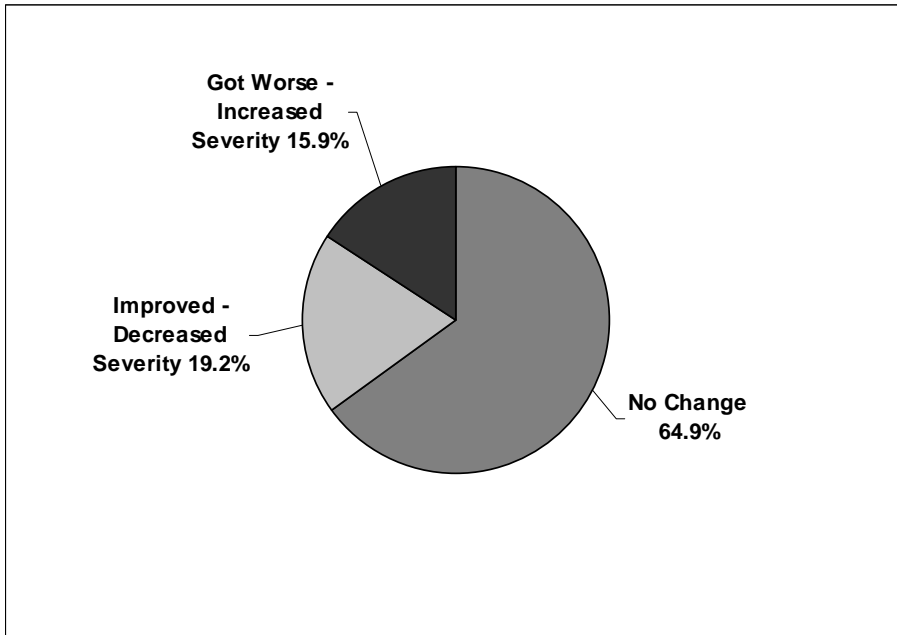


### Change in Severity: Mid-Year FY 2008 to Year-End FY 2008

Figures 24-27 show changes in severity for individual health outcomes from Mid-Year FY 2008 to Year-End FY 2008, using average outcome scores (**CD-4 count, Viral Load, Maintenance of Primary Medical Care, and Adherence to Prescribed HIV Related Medical Therapies**). In order to make accurate comparisons between reporting periods, clients were only included in these comparisons if they had outcomes reports in both reporting periods (Mid-Year FY 2008 and Year-End FY 2008). Increased severity ranged from 15.9% for **CD-4 count** to 26.6% for **Maintenance of Primary Medical Care**. Changes in **Viral Load** were similar to changes in **CD-4 count**, while changes for **Adherence to Prescribed HIV Related Medical Therapies** fell in-between these other outcomes.

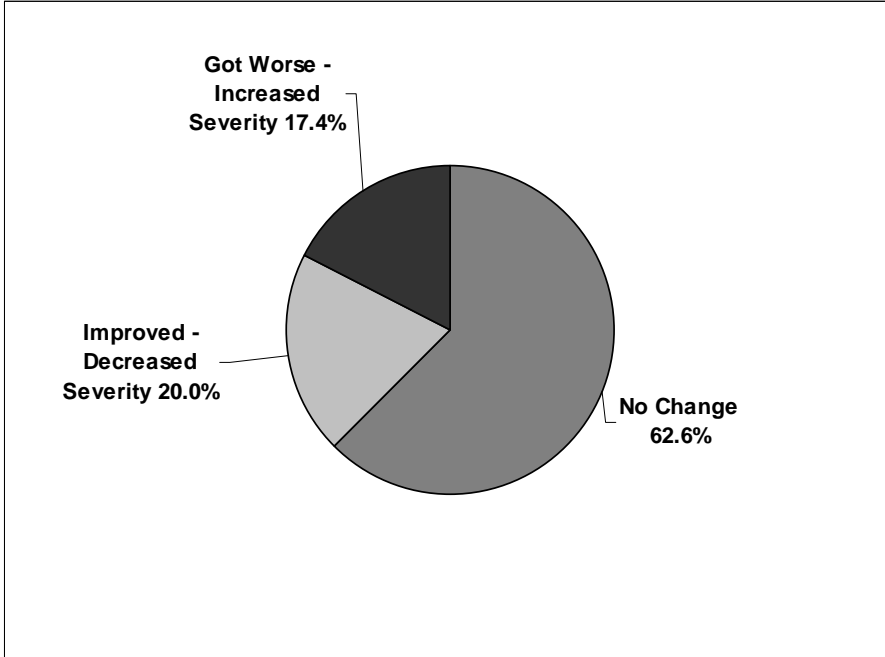
**Figure 24** shows changes in severity for **CD-4 count**. Between Mid-Year FY 2008 and Year-End FY 2008 about two-thirds of clients (64.9%) showed no change. About one-fifth of clients (19.2%) improved, and 15.9% got worse.

**Figure 24. Change in Severity Using Average Outcome Scores: CD4 Count**



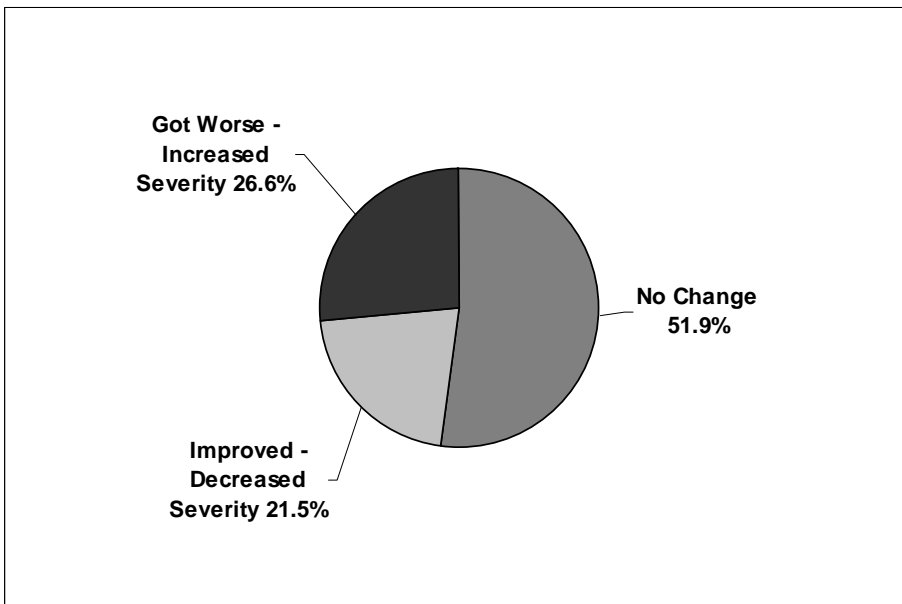
**Figure 25** shows changes in severity for **Viral Load**. Between Mid-Year FY 2008 and Year-End FY 2008 62.6% of clients showed no change. Twenty percent (20.0%) improved, and 17.4% got worse.

**Figure 25. Change in Severity Using Average Outcome Scores: Viral Load**



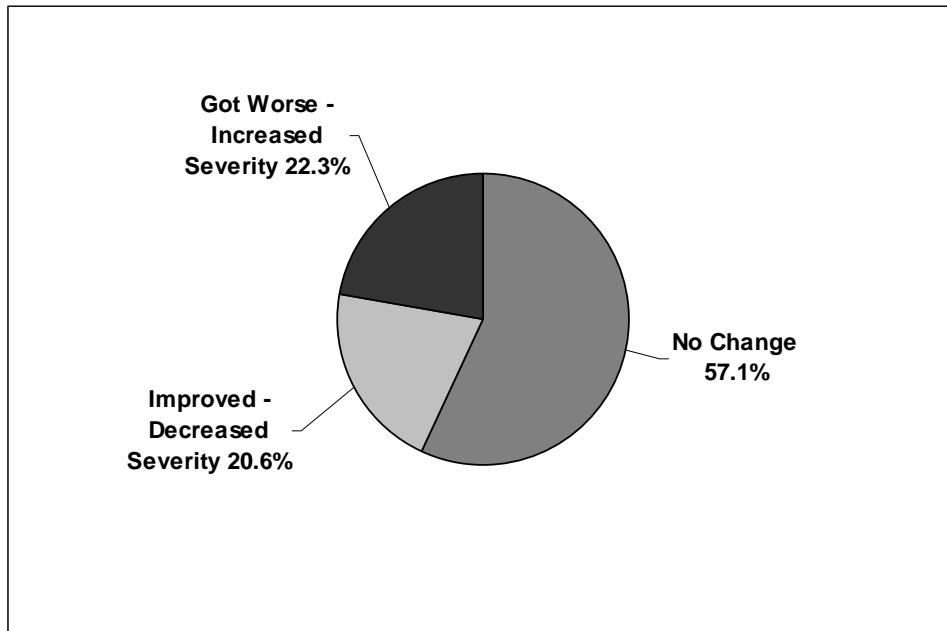
In **Maintenance of Primary Medical Care** just over half of clients (51.9%) remained stable. Increased severity was seen in 26.6% of clients, while 21.5% of clients showed improvement.

**Figure 26. Change in Severity Using Average Outcome Scores: Maintenance of Primary Medical Care**



**Figure 27** shows changes in severity in **Adherence to Prescribed HIV Related Medical Therapies**. Between Mid-Year FY 2008 and Year-End FY 2008 there was no change for 57.1% of clients. Twenty percent (20.6%) showed improvement, and 22.3% showed increased severity.

**Figure 27. Change in Severity Using Average Outcome Scores: Adherence to Prescribed HIV Related Medical Therapies**



### **Outcome Scores: Continuous Clients**

Continuous clients (n=1762) are those clients who had at least one outcomes report during each of the four most recent reporting periods. In past reports a similar group of clients was referred to as a “cohort” and was required to have one outcomes report per fiscal year. We will use the term “continuous” clients in this and future reports, because although we are using the same criteria to select clients for these analyses, we are not drawing exactly the same population of clients from one report to the next. For example, clients who didn’t meet these criteria in the past may be added for this or future reports.

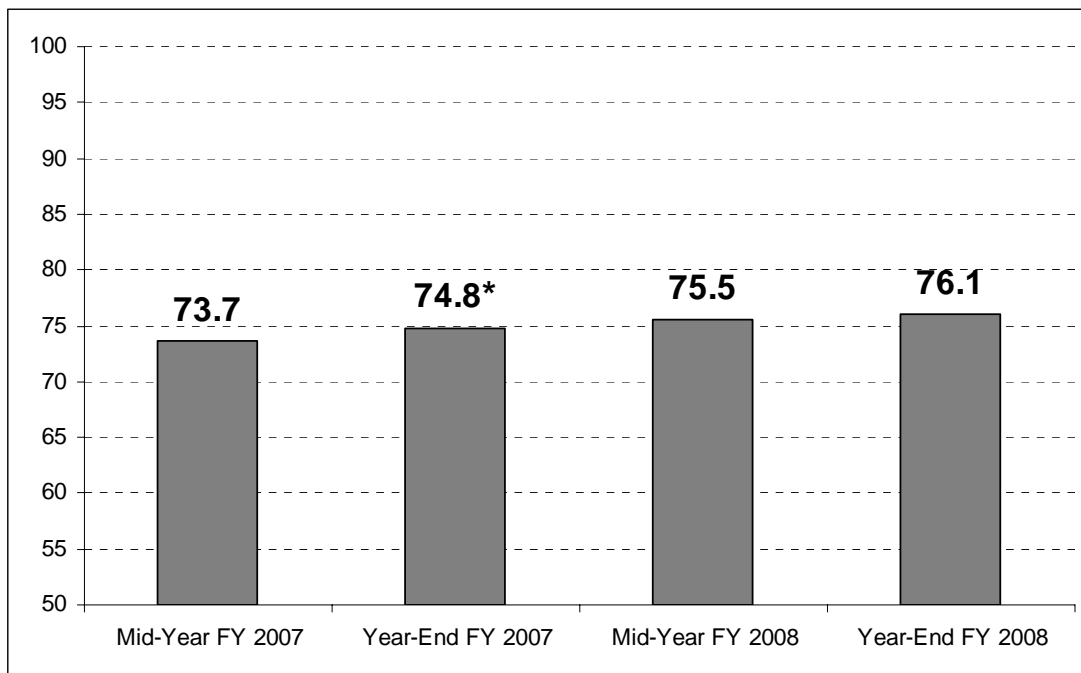
The demographic characteristics of the continuous clients differ significantly from the non-continuous group on most parameters. The continuous group contains more females (35.9% vs. 30.6%), Hispanics (36.8% vs. 30.8%), Blacks/African Americans (37.6% vs. 32.1%) and more clients who were HIV-positive, not AIDS (68.9% vs. 62.7%). With respect to HIV exposure categories, the continuous group was made up of more IDU (33.4% vs. 29.1%) and heterosexual contacts (70.9% vs. 59.6%) and fewer MSM (25.9% vs. 33.2%). Other differences were also noted related to housing, economic and referral factors. It is possible that continuous clients may be more representative of the subgroup with most complex needs for the range of services provided in the Ryan

White-supported system, as evidenced by their consistent, ongoing use of Ryan White Part A services. As such, this group may be an appropriate barometer of the impact of comprehensive care on client outcomes over time. Detailed demographic data for continuous and non-continuous clients are shown in Appendix B.

### All Health Outcomes (Continuous Clients)

Figure 28 shows where statistically significant changes were measured across average health outcomes for Continuous Clients. Significant improvements ( $p < .05$ ) were seen from Mid-Year FY 2007 to Year-End FY 2007. Only paired t-tests were used to measure significance for continuous clients because by definition continuous clients have records in all comparison periods.

Figure 28. Continuous Clients: All Health Outcomes (Paired t-test)



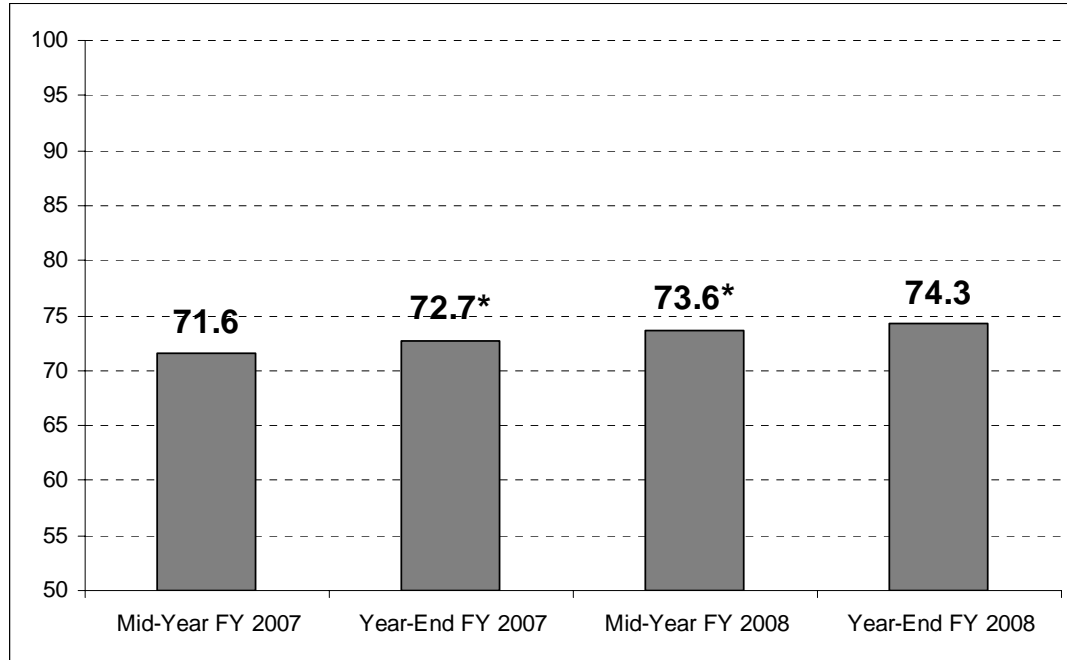
N=1762

\*Level of significance:  $p < .05$

### All Quality of Life Outcomes (Continuous Clients)

Figure 29 shows where statistically significant changes were measured, using the paired t-test, across average Quality of Life outcomes for Continuous Clients. Significant improvements ( $p < .05$ ) were seen from Mid-Year FY 2007 to Year-End FY 2007, and again from Year-End FY 2007 to Mid-Year FY 2008.

Figure 29. Continuous Clients: All Quality of Life Outcomes (Paired t-test)



N=1762

\*Level of significance:  $p < .05$

### Individual Health Outcomes: Tests of Significance (Continuous Clients)

As shown in **Figure 30**, Continuous clients showed statistically significant improvement ( $p < .05$ ) in **CD-4 Counts** between Mid-Year 2008 and Year-End 2008. Significant improvements in **Viral Load** are shown across all reporting periods (Mid-Year 2007 to Year-End 2007, Year-End 2007 to Mid-Year 2008, and Mid-Year 2008 to Year-End 2008). No significant changes were seen in **Maintenance of Primary Medical Care**, but there was a significant increase in **Adherence to Prescribed HIV Related Medical Therapies** from Mid-Year to Year-End 2007. Scores for **All Health Outcomes** showed significant improvement between Mid-Year 2007 and Year-End 2007. All significant changes in health outcome scores across reporting periods reflective positive change.

**Figure 30. Continuous Clients Average Health Outcome Scores**

Health Outcome	Mid-Year 2007		Year-End 2007		Change	Sig*	Mid-Year 2008		Change	Sig*	Year-End 2008		Change	Sig*
	Clients	Ave. Score	Clients	Ave. Score			Clients	Ave. Score			Clients	Ave. Score		
CD-4 Counts	1745	72.1	1745	72.8	↑ 0.7	ns	1739	71.9	↓ -0.8	ns	1738	73.4	↑ 1.5	0.0031
Viral Load	1723	77.4	1723	80.0	↑ 2.6	<.0001	1731	81.3	↑ 1.2	0.0361	1730	82.8	↑ 1.4	0.0107
Maintenance Of Primary Medical Care	1744	73.0	1744	72.4	↓ -0.5	ns	1751	73.3	↑ 1.0	ns	1755	72.4	↓ -1.0	ns
Adherence To RX'd HIV Related Medical Therapies	1543	74.4	1543	75.9	↑ 1.4	0.0143	1567	76.9	↑ 0.7	ns	1579	77.8	↑ 0.8	ns
All Health Outcomes	1762	73.7	1762	74.8	↑ 1.1	0.0029	1761	75.5	↑ 0.7	ns	1760	76.1	↑ 0.6	ns

\*Level of significance  $p < .05$

### Individual Quality of Life Outcomes: Tests of Significance (Continuous Clients)

As shown in **Figure 31**, below, the Quality of Life Outcome Scores for Continuous clients showed significant changes ( $p < .05$ ) at least once for each of the outcomes. Statistically significant improvement in **Impact Of Side-Effects From HIV-Related Medications** was seen between Year-End 2007 and Mid-Year 2008, but scores then decreased significantly between Mid-Year and Year-End 2008. Significant increases in **Mental Health Status** were seen between Mid-Year and Year-End 2007 and between Mid-Year and Year-End 2008, but a significant decrease was shown between Year-End 2007 and Mid-Year 2008. A statistically significant increase was seen between Mid-Year and Year-End 2007 in **Access To Psychosocial Support**, while significant improvements were seen in **Level Of Self-Sufficiency** between Mid-Year and Year-End 2007 as well as between Mid-Year and Year-End 2008. Significant improvements were also seen in **Ability To Maintain Housing** between Mid-Year and Year-End 2007, and between Mid-Year and Year-End 2008.

**Figure 31. Continuous Clients Average Quality of Life Outcome Scores**

Quality of Life Outcome	Mid-Year 2007		Year-End 2007		Change		Sig*	Mid-Year 2008		Change		Sig*	Year-End 2008		Change		Sig*
	Clients	Ave. Score	Clients	Ave. Score				Clients	Ave. Score				Clients	Ave. Score			
Impact Of Side-Effects From HIV-Related Medications	1330	69.1	1330	69.1	↑	0.1	ns	1431	73.9	↑	4.8	<.0001	1444	68.3	↓	-6.0	<.0001
Mental Health Status	1603	69.0	1603	70.9	↑	1.8	0.0013	1624	68.4	↓	-1.8	0.0102	1619	73.0	↑	4.5	<.0001
Access To Psychosocial Support	1616	67.1	1616	70.1	↑	3.0	<.0001	1625	69.8	↑	0.2	ns	1619	68.9	↓	-0.8	ns
Level Of Self-Sufficiency	1619	71.5	1619	73.2	↑	1.7	0.0026	1653	72.0	↓	-0.8	ns	1647	75.7	↑	3.6	<.0001
Ability To Maintain Housing	1741	75.4	1741	76.7	↑	1.3	0.0325	1759	77.6	↑	0.9	ns	1758	79.1	↑	1.5	0.0200
All Quality of Life Outcomes	1759	71.6	1759	72.7	↑	1.1	0.0098	1762	73.6	↑	1.0	0.0423	1760	74.3	↑	0.7	ns

\*Level of significance  $p < .05$

## CONCLUSIONS

### Health Outcomes

Average health outcome scores (**CD-4 counts**, **Viral Load**, **Adherence to Prescribed HIV Related Medical Therapies**, and **Maintenance of Primary Medical Care**) were categorized as “good” across all reporting periods.

For all average health outcome scores, significant improvements ( $p < .05$ ) were seen from Mid-Year FY 2007 to Year-End FY 2007, and again from Year-End FY 2007 to Mid-Year FY 2008, when analyzed using the independent samples t-test and when analyzed using the paired t-test.

For individual outcomes, statistically significant improvements ( $p < .05$ ) were seen in **CD-4 counts** at Year-End FY 2007 using the independent samples t-test, and at Year-End FY 2008 using each test. Notably, statistically significant improvements were seen across all reporting periods for **Viral Load** using each type of test. A statistically significant increase was seen in **Maintenance of Primary Medical Care** at Mid-Year FY 2008 using the independent samples t-test, while a significant decrease was seen in this category between Mid-Year FY 2008 and Year-End FY 2008 using each of the significance tests. **Adherence to Prescribed HIV Related Medical Therapies** increased at Year-End FY 2007 using each type of test, and increased again at Mid-Year FY 2008 using the independent samples test, followed by a significant decrease at Year-End FY 2008 using the independent samples test.

### Quality of Life Outcomes

For all quality of life outcomes, significant improvements were seen from Mid-Year FY 2007 to Year-End FY 2007 when using the independent samples t-test, and from Year-End FY 2007 to Year-End FY 2008 using each type of tests. While average scores across most quality of life outcomes remained in the “good” range, average scores within one of the individual outcome categories - **Access to Psychosocial Support** – remained in the “fair” range, and another category - **Impact of Side Effects** –fell into the “fair” category during some reporting periods.

**The Impact Of Side-Effects From HIV-Related Medications** fluctuated between reporting periods, increasing significantly ( $p < .05$ ), at Year-End FY 2007 when tested with the independent samples t-test, and at Mid-Year FY 2008 using each type of test. These increases were followed by significant decreases at Year-End FY 2008 using each of the tests. This may be explained by on-going changes for clients related to medication adjustments.

**Mental Health Status** improved significantly between Mid-Year and Year-End FY 2007 using both types of significance tests, and then showed a significant decrease at Mid-Year FY 2008 when using the independent samples t-test. Significant improvements using both types of tests were again seen at Year-End FY 2008. **Access to Psychosocial**

**Support** improved significantly at both Year-End FY 2007 and Mid-Year FY 2008 using the paired t-test, and then showed a significant decrease from Mid-Year FY 2008 to Year-End FY 2008 using the independent samples t-test. **Level of Self-Sufficiency** increased significantly between Mid-Year and Year-End 2007 using each of the tests, followed by a significant decrease at Mid-Year FY 2008 using the independent samples test and a significant improvement at Year-End FY 2008 using each test. **Ability to Maintain Housing** showed statistically significant increases between Year-End 2007 and Mid-Year 2008, and again between Mid-Year FY 2008 and Year-End FY 2008 using each type of tests.

### **Health Outcome Score Distribution**

Outcome score distributions were calculated for all unduplicated clients, for each of the four health outcomes at Year End FY 2008: **CD-4 counts**, **Viral Loads**, **Maintenance of Primary Medical Care**, and **Adherence to Prescribed HIV Related Medical Therapies**.

About one-third of clients were categorized as Excellent and nearly half were categorized as Good in the outcome category of **CD-4 counts** at the end of the most recent reporting period. The remaining clients were categorized as Fair or Poor. More than half of clients were categorized as Excellent and just under one-third were categorized as Good in the outcome category of **Viral Loads**. Nearly two-fifths of clients were in the Excellent category, and over one-third were in the Good category, for **Maintenance of Primary Medical Care**. A slightly larger percentage of clients were categorized as Fair (16.1%) or Poor (9.6%) in this category than in the **CD-4 counts** or **Viral Load** categories, above. However, note that this category provides a measure of missed appointments, but does not necessarily indicate a lack of medical care (i.e. a client that missed half of his/her scheduled appointments may still be seeing a primary care physician every four months). Nearly two-fifths of clients were in the Excellent category for **Adherence to Prescribed HIV Related Medical Therapies**, and nearly half were in the Good Category.

### **Changes in Severity**

Changes in severity varied across health outcomes. **CD-4 counts** showed the most stability (64.9%) and the smallest percentage of clients with increased severity (15.9%). **Maintenance of Primary Medical Care** showed the smallest percentage of clients with no change in severity (51%) and the largest percentage of clients with increased severity (26.6%). The percentage of clients showing improvement had a much smaller range, from 19.2% for **CD-4 counts** to 21.5% for **Maintenance of Primary Medical Care**. Changes in **Viral Load** were similar to changes in **CD-4 counts**, while changes for **Adherence to Prescribed HIV Related Medical Therapies** fell in-between these other outcomes.

## **Continuous Clients**

### *Continuous vs. Non-Continuous clients*

The demographic characteristics of the continuous clients differ significantly from the non-continuous group on most parameters. The continuous group contains more females (35.9% vs. 30.6%), Hispanics (36.8% vs. 30.8%), Blacks/African Americans (37.6% vs. 32.1%) and more clients who were HIV-positive, not AIDS (68.9% vs. 62.7%). With respect to HIV exposure categories, the continuous group was made up of more IDU (33.4% vs. 29.1%) and heterosexual contacts (70.9% vs. 59.6%) and fewer MSM (25.9% vs. 33.2%). Other differences were also noted related to housing, economic and referral factors. Taken together, these comparisons suggest that the continuous group may be more representative of the population with most complex needs for the range of services provided in the Ryan White-supported system. As such, this group may be an appropriate barometer of the impact of comprehensive care on client outcomes over time.

### *Outcomes: Continuous clients*

Continuous clients showed statistically significant improvement in **CD-4 Counts** between Mid-Year 2008 and Year-End 2008. Significant improvements in **Viral Load** are shown across all reporting periods (Mid-Year 2007 to Year-End 2007, Year-End 2007 to Mid-Year 2008, and Mid-Year 2008 to Year-End 2008). No significant changes were seen in **Maintenance of Primary Medical Care**, but there was a significant increase in **Adherence to Prescribed HIV Related Medical Therapies** from Mid-Year to Year-End 2007. Scores for **All Health Outcomes** showed significant improvement between Mid-Year 2007 and Year-End 2007, as well as between Year-End 2007 and Mid-Year 2008, but then decreased significantly from Mid-Year to Year-End 2008.

Quality of Life Outcome Scores for Continuous clients showed significant changes at least once for each of the outcomes. Statistically significant improvement in **Impact Of Side-Effects From HIV-Related Medications** was seen between Year-End 2007 and Mid-Year 2008, but scores then decreased significantly between Mid-Year and Year-End 2008. Significant increases in **Mental Health Status** were seen between Mid-Year and Year-End 2007 and between Mid-Year and Year-End 2008, but a significant decrease was shown between Year-End 2007 and Mid-Year 2008. A statistically significant decrease was seen between Mid-Year and Year-End 2007 in **Access To Psychosocial Support**, while significant improvements were seen in **Level Of Self-Sufficiency** between Mid-Year and Year-End 2007 as well as between Mid-Year and Year-End 2008. Significant improvements were also seen in **Ability To Maintain Housing** between Mid-Year and Year-End 2007, and between Mid-Year and Year-End 2008.

## **RECOMMENDATIONS AND NEXT STEPS**

This is JSI's first Outcome Measurement Summary report, and our first time working with BPHC clients' outcome report data. Further analysis in a number of areas will support ongoing attention to the completeness and accuracy of data across the Part A program - as well as for individual providers - and will inform methods, results and conclusions in future reports.

Individual providers' data will be further analyzed to identify specific opportunities for data quality improvement, explore the relationships between statistical and practical significance across providers, and explore significance at the provider level.

Demographic and descriptive data will be analyzed at the raw data level in order to identify whether we can improve methods for analysis of these data for future reports. Data from the "Other Racial or Ethnic Groups" category on the Joint Form will also be analyzed to determine whether it should be included in future reports.

The initial use of new criteria for defining continuous clients (i.e., having one or more outcome reports during each of 4 most recent 6-month reporting periods) identified 27% of the total client population during FY 07 and FY 08 in this group (n=1729). By demographic, exposure and economic comparison to the non-continuous group, this population has the potential to illustrate the most complex needs across the range of services and providers but more assessment of this approach is needed. Data from continuous clients will be further examined to determine whether this is the way we want to follow clients over time, or whether we will want to consider drawing a more formalized cohort reflective of the larger client population, priority populations, or other characteristics.

Data collection methodologies also require further exploration. For example, we recommend further exploration of the impact of the current option for providers to submit one report per client, or one report per client for each service category, during each reporting period.

**Appendix A**  
**Outcome Measurement Tool**

## Instructions for Outcome Measurement Report

The Outcome Measurement Report is used to quantify the impact that Part A funded services have on clients. The form was developed and revised based on input from providers in the Boston EMA. It is not meant as a comprehensive assessment; rather it is a tool to evaluate the impact of services on particular client outcomes.

### Outcomes Instructions

- All agencies must answer every outcome for every client who receives services under Part A funding.
- Check only one status level for an individual outcome (i.e., do not select both “fair” and “excellent”).
- Complete all information in the top portion of each Outcome Measurement Report you submit.
- Check the appropriate reporting period.
- Fill in agency information.
- Fill in the COMPLETE client code and unique client identifier. Check codes for accuracy.
- Indicate client status. If a client is new to the agency during the 6-month reporting period, check the “new intake” box and fill in the date of intake. If a client is an ongoing client at your agency, and has been seen during the 6-month reporting period, check off the “ongoing client” box. This includes clients who were seen during the 6-month reporting period and who then became inactive, discharged, case closed, etc. Finally, if the client was not active (e.g., inactive, discharged, case closed, etc.) at all during the 6-month reporting period, do not complete the form.
- Check the Part A funded service(s) for which this form applies.
- Submit either one survey per client for each service received (e.g., one for Case Management and another for Food) OR one survey for the client per agency (e.g., one for Case Management **and** Food).
- Remember, only check off the Part A funded service(s) that the client receives.

### Outcomes Submission Process

- **Hard Copy Submission:** Complete forms for all clients receiving Part A services and send the originals plus one set of copies to BPHC.
- **Electronic Submission:** Complete electronic tool supplied by JSI in either Microsoft Access or Excel according to the instructions provided at the agency’s electronic submission training. Save copy of the tool for the agency’s records and e-mail the electronic tool to the agency’s BPHC Program Coordinator. Please contact BPHC Quality Management staff at 617-534-4559 with any additional questions.
- **Reminder:** Each agency should send their quarterly report directly to BPHC when submitting outcomes, independent of whether the agency selects hard copy or electronic copy submission.

### Outcomes Descriptions and Definitions

Providers should use their professional assessment skills when completing the outcomes reporting forms. While each level for each outcome is defined, please keep in mind the broader status level categories (i.e., poor, fair, good, and excellent).

- **CD-4 Count:** Choose the level for the most recent test result in the reporting period that you have seen or that the client has reported.
- **Viral Load:** Choose the level for the most recent test result in the reporting period that you have seen or that the client reported.
- **Maintenance of Primary Care:** Primary care includes routine, non-emergency professional diagnostic and therapeutic services rendered by a physician, physician assistant, clinical nurse specialist, or nurse practitioner in an outpatient, community-based, and/or office-based setting.
- **Adherence to Prescribed HIV-related Medical Therapies:** Select whether the client always, frequently, sometimes or rarely adheres to prescribed HIV-related medical therapies. Providers can use the criteria that they use in practice to measure adherence. The “N/A” box is only to be checked off if the client has not been prescribed HIV-related medical therapies.
- **Impact of Side Effects from HIV-related Medications:** This outcome measure aims to assess the impact of side effects on a client’s daily life. The term “activities of daily living,” or ADLs, refers to the basic tasks of everyday life, such as eating, bathing, dressing, toileting, and transferring (i.e., simple movements like moving in and out of bed). The “N/A” box is only to be checked off if the client has not been prescribed HIV-related medical therapies.
- **Mental Health Status:** Use information gathered from clients during intakes, assessments and regular interactions to evaluate client’s mental health status. This measure is not to be used as a mental health diagnosis.
- **Access to Psychosocial Support:** Psychosocial support helps a person to cope in their own context and to achieve personal and social well-being. Support can come from a variety of sources, including friends, family, peers, support groups, AA meetings, church, co-workers, etc. Note that this question refers to access to support when needed.
- **Level of Self Sufficiency:** Consider the client’s level of self sufficiency in day to day activities when answering this question, rather than focusing on a client’s emotional support needs. Day to day activities include money management, scheduling appointments, keeping appointments, completing household tasks, etc.
- **Housing Status:** This outcome aims to understand a client’s stability in housing, regardless of type of housing.



# **Appendix B**

## **Supplementary Data Tables**

## B.1 Demographic Data for All Clients

Response	All Clients By Reporting Period (Unduplicated)							
	Mid-Year 2007		Year-End 2007		Mid-Year 2008		Year-End 2008	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>ALL UNDUPLICATED CLIENTS</b>	<b>4079</b>		<b>4306</b>		<b>4183</b>		<b>4522</b>	
Clients With No Demographic Data	357	9%	291	7%	536	13%	360	8.0%
Clients With Demographic Data	3722	91%	4015	93%	3647	87%	4162	92.0%
	<b>Age</b>							
Number Of Clients And Mean Age	3722	43.2	4015	43.8	3647	44.0	4162	44.8
	<b>Gender</b>							
Male	2479	67%	2647	66%	2418	66%	2748	66%
Female	1225	33%	1347	34%	1210	33%	1389	33%
Transgender	10	0%	12	0%	11	0%	10	0%
Unknown/Unreported	8	0%	9	0%	8	0%	15	0%
	<b>Ethnicity</b>							
Hispanic or Latino/a	1259	34%	1339	33%	1234	34%	1404	34%
	<b>Federal Race/Ethnicity</b>							
White	1797	48%	1967	49%	1802	49%	2075	50%
Black Or African American	1348	36%	1408	35%	1251	34%	1415	34%
Asian	61	2%	74	2%	57	2%	57	1%
Native Hawaiian/Pacific Islander	114	3%	102	3%	66	2%	73	2%
American Indian/Alaskan Native	159	4%	144	4%	97	3%	115	3%
Unknown/Unreported Race	1262	34%	1349	34%	1215	33%	1375	33%
	<b>Additional Race/Ethnicity Categories</b>							
African	331	9%	333	8%	301	8%	328	8%
Cape Verdean	169	5%	159	4%	114	3%	135	3%
Haitian	313	8%	311	8%	227	6%	261	6%
Brazilian	156	4%	138	3%	108	3%	124	3%
Portuguese	153	4%	145	4%	102	3%	130	3%
	<b>Diagnostic Information</b>							
HIV+, not AIDS	2458	66%	2606	65%	2420	66%	2782	67%
HIV+, AIDS status unknown	346	9%	393	10%	342	9%	393	9%
AIDS, CDC defined	882	24%	978	24%	863	24%	965	23%
HIV negative (affected clients)	0	0%	3	0%	3	0%	3	0%
HIV indeterminate (under age 2 only)	19	1%	17	0%	0	0%	0	0%
Unknown/Unreported	17	1%	18	0%	19	1%	19	1%
	<b>Income</b>							
Equal to or below Federal poverty line	3160	85%	3377	84%	3061	84%	3491	84%
Between 101% and 200% of Federal poverty line	317	9%	385	10%	358	10%	423	10%
Between 201% and 300% of Federal poverty line	90	2%	91	2%	96	3%	107	3%
Greater than 300% of Federal poverty line	51	1%	64	2%	50	1%	59	1%
Unknown/Unreported	104	3%	97	2%	80	2%	82	2%
Missing Data	0	0%	1	0%	2	0%	0	0%

## B.2 Demographic Data for All Clients (continued)

	Unduplicated Clients							
	Mid-Year 2007		Year-End 2007		Mid-Year 2008		Year-End 2008	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	<b>Housing Status</b>							
Permanently housed	3201	86%	3479	87%	3176	87%	3606	87%
Non-permanently housed	410	11%	408	10%	382	11%	442	11%
Institution	29	1%	26	1%	28	1%	25	1%
Other	24	1%	27	1%	18	1%	24	1%
Unknown/Unreported	58	2%	73	2%	43	1%	65	2%
Missing Data	0	0%	2	0%	0	0%	0	0%
	<b>Referral Source</b>							
Self	1475	40%	1582	39%	1413	39%	1672	40%
Case Management	984	26%	1057	26%	960	26%	1129	27%
Substance Abuse Treatment Program	84	2%	94	2%	104	3%	109	3%
Adult/Juvenile Detention Facility	34	1%	46	1%	35	1%	35	1%
Prevention/Education Program	17	1%	22	1%	19	1%	22	1%
Detoxification Program	26	1%	27	1%	27	1%	27	1%
Homeless Service	67	2%	70	2%	50	1%	55	1%
Counseling/Testing Site	113	3%	126	3%	120	3%	116	3%
Mental Health Program	6	0%	13	0%	7	0%	11	0%
Health Center	526	14%	578	14%	574	16%	609	15%
STD Clinic	10	0%	10	0%	8	0%	9	0%
Emergency Room	14	0%	14	0%	8	0%	11	0%
Other	339	9%	366	9%	303	8%	334	8%
Missing Data	27	1%	10	0%	19	1%	23	1%
	<b>Exposure Category</b>							
MSM	1074	29%	1158	29%	1060	29%	1247	30%
IDU	1199	32%	1291	32%	1164	32%	1294	31%
Heterosexual Contact	2481	67%	2655	66%	2354	65%	2682	64%
Other Exposure Category	334	9%	351	9%	298	8%	316	8%
Undetermined/Unknown Risk	125	3%	117	3%	96	3%	108	3%

### B.3 Demographics of Continuous Clients vs. Non-Continuous Clients\*

Continuous Care vs Non-Continuous Care Clients Year-End FY 2008	Total N	Continuous		Total	Non-Continuous		Significance p = <.05
		Number	Percent		Number	Percent	
		Total			Total		
		1729	100.00%		4608	100.00%	
	Total N	<b>Gender</b>					
Male	1729	1102	63.74%	4608	3164	68.66%	0.0002
Female	1729	621	35.92%	4608	1408	30.56%	0.0002
Transgender	1729	3	0.17%	4608	16	0.35%	0.0002
Unknown/Unreported	1729	3	0.17%	4608	20	0.43%	0.0002
	Total N	<b>Hispanic or Latino/a</b>					
Hispanic or Latino/a	1729	636	36.78%	4608	1419	30.79%	<.0001
Not Hispanic/or Latino/a	1729	1073	62.06%	4608	3072	66.67%	<.0001
Unknown/Unreported	1729	20	1.16%	4608	117	2.54%	<.0001
	Total N	<b>Federal Race/Ethnicity Categories</b>					
White	1728	834	48.26%	4590	2284	49.76%	ns
Black Or African American	1725	648	37.57%	4599	1475	32.07%	<.0001
Asian	1729	25	1.45%	4605	82	1.78%	0.3571
Native Hawaiian/Pacific Islander	1729	45	2.60%	4605	74	1.61%	0.0093
American Indian/Alaskan Native	1729	3.64	0.21%	4605	128	2.78%	ns
Unknown/Unreported Race	1725	626	36.29%	4595	1426	31.03%	<.0001
	Total N	<b>Additional Federal Race/Ethnicity Categories</b>					
African	1728	164	9.49%	4603	326	7.08%	0.0014
Cape Verdean	1728	62	3.59%	4605	153	3.32%	ns
Haitian	1728	151	8.74%	4601	256	5.56%	<.0001
Brazilian	1729	55	3.18%	4605	150	3.26%	ns
Portuguese	1729	50	2.89%	4605	162	3.52%	ns
	Total N	<b>Diagnostic Information</b>					
HIV+, not AIDS	1729	1192	68.94%	4608	2890	62.72%	<.0001
HIV+, AIDS status unknown	1729	148	8.56%	4608	478	10.37%	<.0001
AIDS, CDC defined	1729	385	22.27%	4608	1174	25.48%	<.0001
HIV indeterminate (under age 2 only)	1729	0	0.00%	4608	31	0.67%	<.0001
Unknown/Unreported	1729	4	0.23%	4608	32	0.69%	<.0001
	Total N	<b>Income</b>					
Equal to or below FPL	1729	1520	87.91%	4605	3665	79.59%	<.0001
Between 101% and 200% of FPL	1729	135	7.81%	4605	524	11.38%	<.0001
Between 201% and 300% of FPL	1729	29	1.68%	4605	162	3.52%	<.0001
Greater than 300% of FPL	1729	18	1.04%	4605	96	2.08%	<.0001
Unknown/Unreported	1729	27	1.56%	4605	158	3.43%	<.0001

\*Continuous Clients = Clients with at least one report during each of the four most recent reporting periods

#### B.4 Demographics of Continuous Clients vs. Non-Continuous Clients (continued)

	Total N	Continuous			Non-Continuous		Significance p = <.05	
		Number	Percent		Number	Percent		
	<b>Total N</b>	<b>Housing Status</b>						
Permanently housed	1729	1590	91.96%	4606	3735	81.09%	<.0001	
Non-permanently housed	1729	115	6.65%	4606	651	14.13%	<.0001	
Institution	1729	9	0.52%	4606	47	1.02%	<.0001	
Other	1729	6	0.35%	4606	38	0.83%	<.0001	
Unknown/Unreported	1729	9	0.52%	4606	135	2.93%	<.0001	
	<b>Total N</b>	<b>Referral Source</b>						
Self	1723	748	43.41%	4571	1610	35.22%	<.0001	
Case Management	1723	443	25.71%	4571	1260	27.57%	<.0001	
Substance Abuse Treatment Program	1723	42	2.44%	4571	124	2.71%	<.0001	
Adult/Juvenile Detention Facility	1723	12	0.70%	4571	61	1.33%	<.0001	
Prevention/Education Program	1723	9	0.52%	4571	23	0.50%	<.0001	
Detoxification Program	1723	13	0.75%	4571	33	0.72%	<.0001	
Homeless Service	1723	24	1.39%	4571	70	1.53%	<.0001	
Counseling/Testing Site	1723	68	3.95%	4571	109	2.38%	<.0001	
Mental Health Program	1723	3	0.17%	4571	16	0.35%	<.0001	
Health Center	1723	229	13.29%	4571	758	16.58%	<.0001	
STD Clinic	1723	6	0.35%	4571	7	0.15%	<.0001	
Emergency Room	1723	2	0.12%	4571	21	0.46%	<.0001	
Other	1723	124	7.20%	4571	479	10.48%	<.0001	
	<b>Total N</b>	<b>Exposure Category</b>						
MSM	1728	447	25.87%	4592	1525	33.21%	<.0001	
IDU	1728	577	33.39%	4592	1339	29.16%	0.0009	
Heterosexual Contact	1723	1221	70.86%	4592	2733	59.52%	<.0001	
Other Exposure Category	1729	170	9.83%	4592	332	7.23%	0.0006	
Undetermined/Unknown Risk	1716	36	2.10%	4592	163	3.55%	0.0034	

\*Continuous Clients = Clients with at least one report during each of the four most recent reporting periods

## B.5 Health Outcome Score Distribution for Continuous Clients

Outcome Level	Continuous Clients*							
	Mid-Year 2007		Year-End 2007		Mid-Year 2008		Year-End 2008	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	<b>CD-4 Counts</b>							
Poor	48	3%	47	3%	79	5%	56	3%
Fair	284	16%	275	16%	241	14%	246	14%
Good	876	50%	879	50%	841	48%	857	49%
Excellent	544	31%	552	32%	585	34%	592	34%
<b>Total</b>	<b>1752</b>	<b>100%</b>	<b>1753</b>	<b>100%</b>	<b>1746</b>	<b>100%</b>	<b>1751</b>	<b>100%</b>
	<b>Viral Load</b>							
Poor	61	4%	43	3%	62	4%	42	2%
Fair	243	14%	262	15%	200	12%	193	11%
Good	617	36%	543	31%	479	28%	520	30%
Excellent	811	47%	903	52%	999	57%	986	57%
<b>Total</b>	<b>1732</b>	<b>100%</b>	<b>1751</b>	<b>100%</b>	<b>1740</b>	<b>100%</b>	<b>1741</b>	<b>100%</b>
	<b>Maintenance Of Primary Medical Care</b>							
Poor	71	4%	60	3%	104	6%	78	4%
Fair	273	16%	323	18%	252	14%	327	19%
Good	803	46%	812	46%	697	40%	749	43%
Excellent	604	35%	561	32%	704	40%	607	35%
<b>Total</b>	<b>1751</b>	<b>100%</b>	<b>1756</b>	<b>100%</b>	<b>1757</b>	<b>100%</b>	<b>1761</b>	<b>100%</b>
	<b>Adherence To Prescribed HIV Related Medical Therapies</b>							
Poor	48	3%	34	2%	56	3%	41	3%
Fair	253	16%	227	14%	206	13%	208	13%
Good	724	45%	779	48%	660	41%	719	44%
Excellent	568	36%	581	36%	705	43%	667	41%
<b>Total</b>	<b>1593</b>	<b>100%</b>	<b>1621</b>	<b>100%</b>	<b>1627</b>	<b>100%</b>	<b>1635</b>	<b>100%</b>

\*Continuous Clients = Clients with at least one report during each of the four most recent reporting periods

### B.6 All Clients: Average Health Outcomes (Independent Samples t-test)\*

Health Outcomes	Mid-Year 2007		Year-End 2007		Change		Sig*	Mid-Year 2008		Change		Sig*	Year-End 2008		Change		Sig*
	Clients	Ave. Score	Clients	Ave. Score				Clients	Ave. Score				Clients	Ave. Score			
CD-4 Counts	3995	70.4	4247	71.6	↑	1.2	<b>0.0382</b>	4118	71.0	↓	-0.6	ns	4487	72.5	↑	1.5	<b>0.0085</b>
Viral Load	3917	74.6	4246	77.3	↑	2.7	<b>&lt;.0001</b>	4110	79.1	↑	1.8	<b>0.0039</b>	4475	80.3	↑	1.2	<b>0.0331</b>
Maintenance Of Primary Medical Care	3960	71.4	4257	70.6	↓	-0.7	ns	4164	72.7	↑	2.1	<b>0.0012</b>	4516	69.8	↓	-2.9	<b>&lt;.0001</b>
Adherence To Prescribed HIV Related Medical Therapies	3562	72.3	3887	75.0	↑	2.6	<b>&lt;.0001</b>	3815	76.5	↑	1.5	<b>0.0117</b>	4231	74.7	↓	-1.8	<b>0.0022</b>
All Health Outcomes	4051	71.8	4284	73.3	↑	1.5	<b>0.0003</b>	4171	74.4	↑	1.1	<b>0.0133</b>	4521	74.1	↓	-0.3	ns

p=<.05

\*Mean scores shown for time points vary slightly due to occasional missing data

**B.7 All Clients: Average Quality of Life Outcomes (Independent Samples t-test)\***

Quality of Life Outcomes	Mid-Year 2007		Year-End 2007		Change		Sig*	Mid-Year 2008		Change		Sig*	Year-End 2008		Change		Sig*
	Clients	Ave. Score	Clients	Ave. Score				Clients	Ave. Score				Clients	Ave. Score			
Impact Of Side-Effects From HIV-Related Medications	2822	67.6	3568	65.4	↓	-2.2	<b>0.001</b>	3339	73.4	↑	8.0	<.0001	3746	63.1	↓	-10.3	<.0001
Mental Health Status	3339	69.3	4000	72.4	↑	3.1	<.0001	3703	69.8	↓	-2.6	<.0001	4044	76.6	↑	6.8	<.0001
Access To Psychosocial Support	3413	66.4	3997	66.3	↓	-0.1	ns	3702	67.1	↑	0.7	ns	4042	63.6	↓	-3.4	<.0001
Level Of Self-Sufficiency	3426	71.9	4006	74.4	↑	2.6	<.0001	3746	72.8	↓	-1.6	0.006	4071	77.5	↑	4.7	<.0001
Ability To Maintain Housing	3968	73.4	4278	73.7	↑	0.4	ns	4166	75.2	↑	1.5	0.028	4512	76.9	↑	1.6	0.013
All Quality of Life Outcomes	4046	71.3	4282	71.9	↑	0.6	ns	4173	73.6	↑	1.8	<b>&lt;.0001</b>	4516	73.9	↑	0.3	ns

p=<.05

\*Mean scores shown for time points vary slightly due to occasional missing data

### B.8 All Clients Paired Samples t-test\* \*\*

All Clients	Mid-Year FY 2007 to Year-End FY 2007						Year-End FY 2007 to Mid-Year FY 2008			
	N	t1	N	t2	dif	p	t2	t3	dif	p
CD-4 Counts	2777	70.9	2777	71.6	0.7	ns	71.4	72.2	0.8	ns
Viral Load	2731	<b>75.4</b>	2731	<b>78.0</b>	<b>2.6</b>	<b>0.0001</b>	<b>78.2</b>	<b>80.6</b>	<b>2.4</b>	<b>0.0001</b>
Maintenance Of Primary Medical Care	2773	<b>72.3</b>	<b>2773</b>	<b>71.4</b>	<b>-0.89</b>	<b>ns</b>	<b>71.9</b>	<b>72.7</b>	<b>0.88</b>	<b>ns</b>
Adherence To Prescribed HIV Related Medical Therapies	2404	<b>73.5</b>	<b>2404</b>	<b>75.1</b>	<b>1.6</b>	<b>0.001</b>	75.6	76.5	0.9	ns
Impact Of Side-Effects From HIV-Related Medications	2038	69.0	2038	68.8	-0.2	ns	<b>67.3</b>	<b>73.5</b>	<b>6.1</b>	<b>0.0001</b>
Mental Health Status	2495	<b>69.4</b>	<b>2495</b>	<b>70.9</b>	<b>1.5</b>	<b>0.001</b>	69.9	69.0	-0.9	ns
Access To Psychosocial Support	2531	<b>67.1</b>	<b>2531</b>	<b>69.6</b>	<b>2.5</b>	<b>0.0001</b>	<b>67.1</b>	<b>68.7</b>	<b>1.7</b>	<b>0.005</b>
Level Of Self-Sufficiency	2547	<b>72.0</b>	<b>2547</b>	<b>73.2</b>	<b>1.2</b>	<b>0.02</b>	72.1	71.7	-0.04	ns
Ability To Maintain Housing	2764	73.4	2764	74.0	0.6	ns	<b>74.7</b>	<b>76.9</b>	<b>2.2</b>	<b>0.0001</b>
All health outcomes	2819	72.5	2819	73.6	<b>1.1</b>	<b>0.0009</b>	73.8	75.0	1.3	0.0004
All QOL outcomes	2817	71.0	2817	71.9	<b>0.89</b>	<b>0.0156</b>	71.9	73.9	<b>2.0</b>	<b>0.0001</b>

\* t1=Mid-Year FY 2007, t2 = Year-End FY 2007, t3 = Mid-Year FY 2008, t4 = Year-End FY 2008

\*\*Mean scores shown for time points vary slightly due to occasional missing data

**B.9 All Clients Paired Samples t-test (continued)\* \*\***

All Clients	Mid-Year FY 2008 to Year-End FY 2008						Mid-Year FY 2007 to Year-End FY 2008			
	N	t3	N	t4	diff	p	t1	t4	diff	p
CD-4 Counts	3017	71.7	3017	73.1	1.4	0.0002	72.0	73.3	1.3	0.009
Viral Load	3005	80.2	3005	81.7	1.6	0.0002	77.0	82.2	5.2	0.0001
Maintenance Of Primary Medical Care	3050	73.4	3050	71.9	-1.6	0.0017	72.4	70.7	-1.7	0.015
Adherence To Prescribed HIV Related Medical Therapies	2777	77.3	2777	77.5	0.2	ns	73.3	76.2	2.9	0.0001
Impact Of Side-Effects From HIV-Related Medications	2329	73.9	2329	65.7	-8.2	0.0001	68.1	66.7	-1.4	0.04
Mental Health Status	2616	69.9	2616	74.8	4.9	0.0001	69.9	74.2	4.3	0.0001
Access To Psychosocial Support	2618	66.9	2618	66.3	0.6	ns	66.6	67.5	0.9	ns
Level Of Self-Sufficiency	2648	72.9	2648	75.5	2.6	0.0001	72.0	76.2	4.2	0.0001
Ability To Maintain Housing	3051	77.2	3051	78.6	1.4	0.002	74.3	77.8	3.4	0.0001
All health outcomes	3059	75.2	3059	75.6	0.34	ns	73.2	75.1	1.8	0.0001
All QOL outcomes	3058	74.6	3058	74.9	0.21	ns	71.4	73.7	2.2	0.0001

\* t1=Mid-Year FY 2007, t2 = Year-End FY 2007, t3 = Mid-Year FY 2008, t4 = Year-End FY 2008

\*\*Mean scores shown for time points vary slightly due to occasional missing data

### B.10 Continuous Clients Paired Samples t-test\*\* \*\*

	Mid-Year FY 2007 to Year-End FY 2007					Year-End FY 2007 to Mid-Year FY 2008				
	N	t1	t2	dif	p	N	t2	t3	dif	p
CD-4 Counts	1745	72.1	72.8	0.7	ns	1739	72.7	71.9	-0.8	ns
Viral Load	1723	<b>77.4</b>	<b>80.0</b>	2.6	<b>&lt;.0001</b>	<b>1731</b>	<b>80.1</b>	<b>81.3</b>	<b>1.2</b>	<b>0.0361</b>
Maintenance Of Primary Medical Care	1744	<b>73.0</b>	<b>72.4</b>	-0.5	ns	<b>1751</b>	<b>72.3</b>	<b>73.3</b>	<b>1.0</b>	ns
Adherence To Prescribed HIV Related Medical Therapies	1543	<b>74.4</b>	<b>75.9</b>	1.4	<b>0.0143</b>	<b>1567</b>	76.1	76.9	<b>0.7</b>	ns
Impact Of Side-Effects From HIV-Related Medications	1330	69.1	69.1	0.1	ns	<b>1431</b>	<b>69.0</b>	<b>73.9</b>	<b>4.8</b>	<b>&lt;.0001</b>
Mental Health Status	1603	<b>69.0</b>	<b>70.9</b>	1.8	<b>0.0013</b>	<b>1624</b>	70.2	68.4	-1.8	<b>0.0102</b>
Access To Psychosocial Support	1616	<b>67.1</b>	<b>70.1</b>	3.0	<b>&lt;.0001</b>	<b>1625</b>	<b>69.6</b>	<b>69.8</b>	<b>0.2</b>	ns
Level Of Self-Sufficiency	1619	<b>71.5</b>	<b>73.2</b>	1.7	<b>0.0026</b>	<b>1653</b>	72.7	72.0	-0.8	ns
Ability To Maintain Housing	1741	75.4	76.7	1.3	<b>0.0325</b>	<b>1759</b>	<b>76.7</b>	<b>77.6</b>	<b>0.9</b>	ns
All health outcomes	1762	73.7	74.8	1.1	<b>0.0029</b>	<b>1761</b>	74.8	75.5	<b>0.7</b>	ns
All QOL outcomes	1759	71.6	72.7	1.1	<b>0.0098</b>	<b>1762</b>	<b>72.6</b>	73.6	<b>1.0</b>	<b>0.0423</b>

\* t1=Mid-Year FY 2007, t2 = Year-End FY 2007, t3 = Mid-Year FY 2008, t4 = Year-End FY 2008

\*\*Mean scores shown for time points vary slightly due to occasional missing data

**B.11 Continuous Clients Paired Samples t-test (continued)\* \*\***

	Mid-Year FY 2008 to Year-End FY 2008					Mid-Year FY 2007 to Year-End FY 2008				
	N	t3	t4	diff	p	N	t1	t4	diff	p
CD-4 Counts	1738	71.9	73.4	1.5	0.0031	1742	72.1	73.5	1.4	0.0089
Viral Load	1730	81.4	82.8	1.4	0.0107	1713	77.5	83.0	5.5	0.0001
Maintenance Of Primary Medical Care	1755	73.4	72.4	-1.0	ns	1749	73.0	72.3	-0.7	ns
Adherence To Prescribed HIV Related Medical Therapies	1579	76.9	77.8	0.8	ns	1528	74.2	77.8	3.6	0.0001
Impact Of Side-Effects From HIV-Related Medications	1444	74.3	68.3	-6.0	<.0001	1312	69.0	68.0	-1.0	ns
Mental Health Status	1619	68.5	73.0	4.5	<.0001	1569	69.0	73.4	4.4	0.0001
Access To Psychosocial Support	1619	69.7	68.9	-0.8	ns	1582	67.0	69.0	2.0	0.007
Level Of Self-Sufficiency	1647	72.1	75.7	3.6	<.0001	1605	71.4	75.9	4.5	0.0001
Ability To Maintain Housing	1758	77.6	79.1	1.5	0.0200	1739	75.4	79.0	3.6	0.0001
All health outcomes	1760	75.5	76.1	0.6	ns	1761	73.7	76.1	2.4	0.0001
All QOL outcomes	1760	73.6	74.3	0.7	ns	1756	71.6	74.3	2.7	0.0001

\* t1=Mid-Year FY 2007, t2 = Year-End FY 2007, t3 = Mid-Year FY 2008, t4 = Year-End FY 2008

\*\*Mean scores shown for time points vary slightly due to occasional missing data

