



SUFFOLK UNIVERSITY
CENTER FOR PUBLIC MANAGEMENT

RYAN WHITE CARE ACT
BOSTON EMA TITLE I PROGRAMS

COHORT ANALYSIS
FY04

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INTRODUCTION

In January 2005, the Boston Public Health Commission (BPHC) asked Suffolk University to conduct a demographic analysis of a Cohort of 2,925 Ryan White Title I clients included in the *FY03 Annual Outcomes Measurement Report*. This Cohort included clients who had received an outcomes measurement report (at least once in each fiscal year) over a three-year period—March 2001 – February 2004.

STUDY GOALS

This report answers two questions:

- How can outcomes data for those receiving Ryan White services be used to understand potential service needs of people living with HIV/AIDS in the Boston EMA, but who have not received Ryan White services?
- What demographic characteristics distinguish those people who received Ryan White services and had good health and quality of life outcomes from those who received services but had poorer outcomes?

REPORT ORGANIZATION

Analysts divided this report into two sections in an effort to address multiple audiences. **Part I** lays out study findings and system implications intended for a more general audience of service providers, clients and general public. **Part II** presents a more detailed overview of the study methodology, along with a summary of findings and recommendations for future study, intended for technical audiences.

PART I. SYSTEM IMPLICATIONS

Ryan White Title I Services Impact

There are about 15,000 people living with HIV/AIDS (PLWA) in the Boston EMA, of whom about 7,500 receive Ryan White Title I services. Of these, about 3,000 have been regularly tracked as part of a Cohort (sample) over the past three years, using biennial outcomes data as reported by service providers. A demographic comparison of those in the Cohort and those receiving only services for FY03 suggested that both groups were statistically similar.

Implication: Findings suggest that the Title I Cohort is demographically representative of both the Title I EMA Service Profile and the Title I Epidemiological Profile. Thus, the Cohort can be used to better understand service needs and outcomes of the larger population of people with HIV/AIDS.

Health Outcomes and Client Demographics

Analysts separated clients into those with “excellent” and those with “poor” health outcome scores, then looked at demographic and service utilization differences.

Demographics

No statistically significant differences on gender were observed between clients with “excellent” and clients with “poor” health outcome scores.

Analysts observed several un-patterned, yet statistically significant differences on age, race/ethnicity, exposure category and housing status as follows:

Clients with “poor” health outcomes were more likely to be:

- 20 to 44 years of age;
- Hispanic;
- Exposed to HIV/AIDS through IDU; and
- Temporarily housed.

Clients with “excellent” health outcomes were more likely to be:

- Permanently housed.

Aside from the statistically significant comparisons immediately above, all other age, race/ethnicity, exposure means or housing status were not statistically significantly different.

Service utilization

No statistically significant differences were observed between clients with “excellent” and those with “poor” outcome scores with respect to case management and peer support services.

Analysts did find statistically significant differences on other services—housing, food, client advocacy and primary care—as follows:

Clients with “poor” health outcomes were more likely to use the following services than clients with “excellent” health outcomes:

- Housing;
- Food;
- Client advocacy; and
- Primary Care.

Quality of Life Outcomes and Client Demographics

Next, analysts compared clients with “excellent” and clients with “poor” quality of life outcomes on demographics and service utilization.

Demographics

No statistically significant differences on gender were observed between clients with “excellent” and clients with “poor” outcome scores.

As above in the health outcomes analysis, analysts observed several unpatterned, yet statistically significant differences on age, race/ethnicity, exposure category and housing status as follows:

Clients with “poor” quality of life outcomes were more likely to be:

- White Non Hispanic;
- Exposed to HIV/AIDS through IDU or MSM/IDU; and
- Temporarily housed.

Clients with “excellent” quality of life outcomes were more likely to be:

- Black Non Hispanic;
- Exposed to HIV/AIDS through Heterosexual contact; and
- Permanently housed.

Aside from the statistically significant comparisons immediately above, all other age, race/ethnicity, exposure means or housing status were not statistically significantly different.

Service utilization

No statistically significant differences were observed between clients with “excellent” and clients with “poor” quality of life outcomes with respect to peer support services.

Analysts observed major statistically significant differences on housing, case management, food, client advocacy and primary care as follows:

Clients with poor quality of life outcomes were much more likely to use these services:

- Housing;
- Case management;
- Food; and
- Client advocacy.

Clients with “excellent” quality of life outcomes were more likely to use:

- Primary medical care.

Implications

For all groupings of clients, it appears that permanent housing plays a critical role in producing better health and/or quality of life outcomes.

As outcomes improve, service usage declines, suggesting that services appear to be appropriately targeted.

Substance abuse is a common factor associated with poor outcomes, suggesting need for closer integration of Ryan White and substance abuse treatment.

PART II. METHODS, FINDINGS & RECOMMENDATIONS

Part II offers a detailed methodology section, along with a recap of findings and additional recommendations.

METHODOLOGY

Data Collection

Researchers measured health and quality of life outcomes every six months using a two-page standard survey tool. Researchers completed the outcomes measurement report for **new clients** (clients who have started using a Ryan White Title I services during the current reporting period) and **on-going clients** (clients who are continuing to use a Title I service and have had a case review during the current reporting period).

Researchers instructed Title I providers—case managers, client advocates, peer counselors—to select five identical outcomes for each individual client within the agency, three of which had to be health measures and one had to be either CD-4 counts or Viral Loads. Each provider selected additional measures most appropriate for their program. Reports were completed in accordance with the Universal Standards of Care, which was established in collaboration between the Boston Public Health Commission and the Massachusetts Department of Public Health, and the service-specific standards of care established by the Boston Public Health Commission. Reports were then forwarded to Suffolk for analysis.

To ensure confidentiality, clients were identified on the Outcomes Measurement Report using a unique identifier, consisting of a 13-digit code: which consists of the first three letters of the client's mother's first name, the 6-digit date of birth and the last 4 digits of the client's social security number. By utilizing unique client identifiers, an individual client's health and quality of life status, along with their service utilization, can be tracked over time.

In addition to unique client identifiers and outcome scores, providers also include on the reports:

- Report date
- Agency name
- Agency contact name and phone number
- Client status (new intake, six month review, inactive-but not closed, closed)
- Intake date for new clients

Providers participate in yearly training, including verbal and written instructions (available in the Provider Manual) on completing and submitting outcomes forms. Boston Public Health Commission assists in coordination of technical assistance for agencies related to outcomes submission and Suffolk staff provides individualized training on electronic submission and paper report completion.

Data Quality

Several methods guarantee the highest data quality. Upon receipt, Suffolk reviewed each outcome measurement report for missing or inconsistent information. After data entry, the project supervisor randomly selected surveys, and cross-referenced them with the database for data input errors. Further, reports detailing clients entered into the database were distributed to providers submitting paper outcome measurement reports. Providers checked lists to ensure that Suffolk entered unique identifiers for their clients correctly. This report is helpful for larger providers or for agencies with high staff turnover. Providers also use this report as a reference to ensure that the same clients received reports in the next reporting period. In addition, upon request, client history reports can be generated showing not only unique client identifiers, but also client outcomes.

Survey Reliability

Analysts performed statistical tests to determine reliability of the outcomes measurement survey tool: how much of the variability in outcome scores is due to measurement error and how much is due to variability in true scores? Results indicate a high degree of internal consistency. Split half computations yielded a Guttman Split half=.8883, and an unequal-length Spearman-Brown=.9640. To confirm split-halves reliability, Cronbach's alpha yielded a standardized alpha of .8655 for 10 items. (Note: A result closer to 1.00 indicates greater survey tool reliability.)

Data Sets

Using the unique client code identifiers reported on the outcomes measurement instrument; Cohort demographics were matched and exported from the BPHC Database, and merged into the Outcomes Database (n=2,925).

Figures 2A-2C show FY03 demographic data provided by the Boston Public Health Commission for the Title I EMA Epidemiological Profile (n=15,828) and the Boston Title I EMA Service Profile (n=7,672).

Calculating Outcomes

Step 1: Each of the four measurement levels is assigned a descending numeric score (9=crisis, 0=no need)(see example below):

Outcomes: To improve and/or stabilize...	Client's Level of Need			
	Crisis Score=9	High Need Score=6	Moderate/Low Need Score=3	No Need Score=0
1. CD-4 counts	<input type="checkbox"/> Less than 50	<input type="checkbox"/> 50 - 199	<input type="checkbox"/> 200 – 500	<input type="checkbox"/> >500

Step 2: Numeric scores ranging from 0-9 are entered.

Step 3: Mean scores are generated.

Step 4: Mean scores are adjusted to a 100-point ascending scale (0=crisis, 100=no need/achieved outcome) by subtracting the mean from 9.00 and then multiplying the result by 11.1.

Calculating Health Status

Analysts calculated Health Status by averaging Outcomes 1 to 6 and then proceeding with step 4 above.

Outcome 1: CD-4 Counts
Outcome 2: HIV Progression-Viral Load

- Outcome 3: Knowledge about HIV/AIDS & Other Support Services
- Outcome 4: Ability to Access Medical Care & Other Support Services
- Outcome 5: Ability to Maintain Medical Care
- Outcome 6: Ability to Adhere to Medical Therapies

Calculating Quality Of Life Status

Analysts calculated Quality of Life Status by averaging Outcomes 7 & 9-15 and then proceeding with step 4 above.¹

- Outcome 7: Ability to Advocate
- Outcome 9: Ability to Maintain Housing
- Outcome 10: Network of Support
- Outcome 11: Coping Skills and Level of Stress
- Outcome 12: Level of Depression
- Outcome 13: Level of Crisis Intervention Services
- Outcome 14: Level of Side Effects
- Outcome 15: Level of Criminal Behavior

Interpreting Outcome Scores

A score of 100 indicates that a client has reached the optimal goal (i.e. CD-4 count >500). Outcomes scores less than 100 are categorized as good (score: 68-99), fair (score: 34-67), and poor (score 0-33) (i.e. CD-4 count < 50).

Reported Outcome Score	Health/Quality of Life
100	EXCELLENT ...Achieved outcome goal. May need continued services to maintain goal achievement.
68-99	GOOD ...Making significant progress towards outcome goal. Needs some additional services to reach the goal.
34-67	FAIR ...Making some progress toward reaching the outcome goal. There is a significant need for additional services.
0-33	POOR ...In crisis and in need of substantial additional services

¹ Outcome 8 (Medical Treatments – assuring that they are consistent with US Public Health Service Guidelines) is not included in the analysis since it is measured on a 2 point rather than 4 point scale.

Statistical Notes

Researchers analyzed statistically significant differences within demographic groups using the column proportions test (z-test). Bonferroni's adjustment was used in the Post Hoc analysis to account for differences in sample size between demographic groups.

Statistical significance indicates that there is a high probability that a result is not likely to be due to chance alone. A difference between two groups is usually considered statistically significant if chance could explain it only 5% of the time or less (the p value is less than .05) or 1% of the time or less (the p value is less than .01).

In this report, researchers marked statistically significant relationships with a single asterisk (*) for $p < .05$, indicating there is only a 5% chance that findings fall outside the data presented. Statistically significant relationships with a $p < .01$ are marked with a double asterisk (**), indicating 99% certainty.

SUMMARY FINDINGS

DEMOGRAPHIC PROFILE COMPARISON

Demographic descriptors of the Cohort, Title I Service Profile and the Epidemiological Profile are similar: all three profiles have a higher percent of male clients, white non-Hispanic clients and clients falling into the age range of 20-44 years.

The Cohort differs from the Title I Service Profile in that the Cohort has a higher percent of the population over age 45, a higher percent of females, a higher percent of the population with an income equal to or below the Federal Poverty Line and a higher percent of persons permanently housed.

The Cohort differs from the Epidemiological Profile in that the Cohort has a lower percent of the population between ages of 20-44, a higher percent of females, and has a higher percentage of Hispanics.

HEALTH STATUS & QUALITY OF LIFE FINDINGS

HEALTH STATUS FINDINGS

In FY03, clients in the Cohort with outcomes scores equal to or less than 50—“poor health” were statistically significantly more likely to be ...

- 20-44 years old, rather than another age cohort;
- Hispanic, rather than White or African American;
- Infected by IDU exposure, rather than through another mode;
- In temporary housing; and
- Users of housing, food services, client advocacy and primary care.²

There were no other statistically significant differences in the profile of clients with poor health outcomes for racial groups, exposure categories, housing status or service usage. In addition, there were no differences for client age or gender.

In FY03, clients in the Cohort with outcome scores of 100—“excellent health” were statistically significantly more likely than people in poor health to be permanently housed.

QUALITY OF LIFE FINDINGS

In FY03, clients in the Cohort with outcomes scores equal to or less than 50—“poor quality of life” were statistically significantly more likely than clients in excellent health to ...

- Identify as White, rather than African American or Hispanic;
- Have been infected by transfer through MSM/IDU or IDU, rather than some other mechanism;
- Have temporary housing;
- Use housing, case management, food services, and client advocacy.³

²The intensity of the service, as measured by “units” of service received is *not* included in this analysis.

³ The intensity of the service, as measured by “units” of service received is *not* included in this analysis.

In FY03, clients with outcome scores of 100—“excellent quality of life” were statistically significantly more likely than clients with poor quality of life to...

- Identify as African American, rather than White or Hispanic;
- Have been exposed by heterosexual contact or through pediatric transmission, rather than by some other means;
- Be permanently housed; and
- Use more primary care.

There were no statistically significant differences in the profile of clients with poor quality of life outcomes for racial groups, exposure categories, housing status or service usage. In addition, there were no differences in age or gender.

IMPLICATIONS

For all groupings of clients, it appears that permanent housing plays a critical role in producing better health and/or quality of life outcomes.

As outcomes improve, service usage declines, suggesting that services appear to be appropriately targeted.

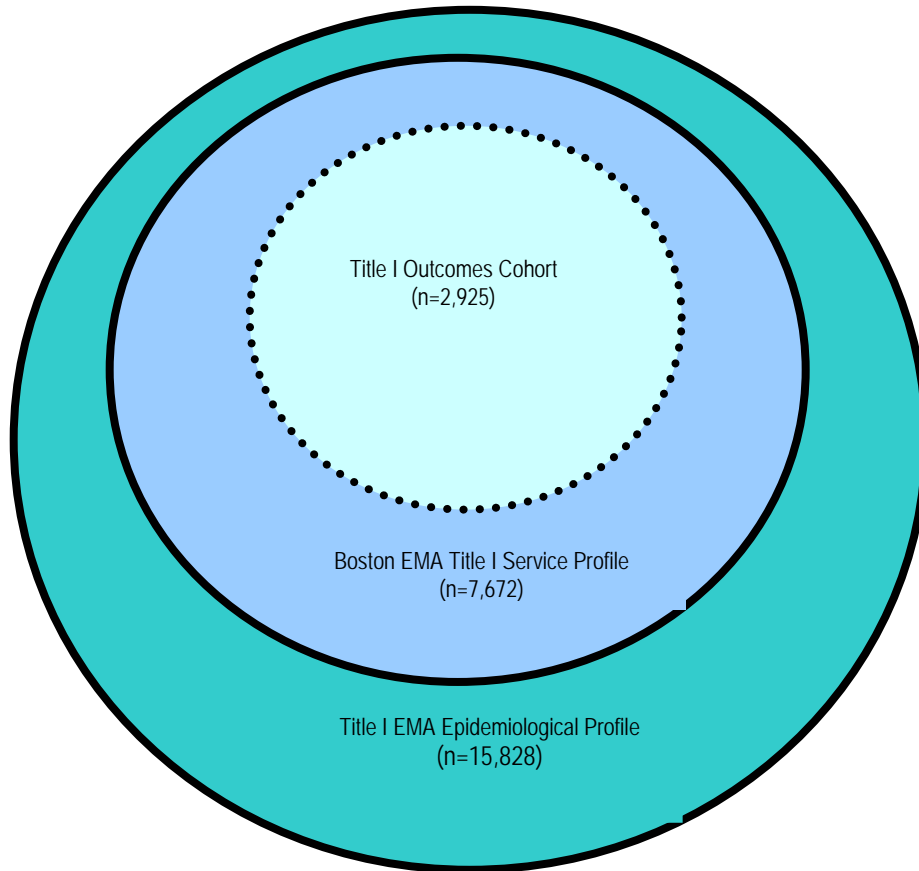
Substance abuse is a common factor associated with poor outcomes, suggesting need for closer integration of Ryan White and substance abuse treatment.

RECOMMENDATIONS

Analysts recommend that:

- Additional research be conducted using actual units of service to verify whether there is a relationship between poor/excellent outcomes and the type and quantity of service utilization.
- A qualitative and quantitative evaluation be conducted to further understand impact of permanent housing on the health and quality of life of PLWH.
- The Boston Public Health Commission encourage providers to report consistently on the same health and quality of life outcomes for a given client in order to ensure the most reliable measure of outcomes over time.

FIGURE 1. FY03 Profile Counts



- Figure 1 above details the number of clients included in the Cohort as compared to the Boston Title I EMA Service Profile and the Title I EMA Epidemiological Profile.

FIGURE 2A. FY03- Age, Gender & Race: Cohort vs. Title I Service Profile vs. Title I EMA Epidemiological Profile⁴

	Title I Outcomes Cohort (n=2,925) ⁵	Boston EMA Title I Service Profile (n=7,672)	Title I EMA Epidemiological Profile (n=15,828)	Difference (Title I Cohort versus Boston EMA Title I Service Profile)	Difference (Title I Outcomes Cohort versus Title I EMA Epidemiological Profile)
Age	(n=2,880)				
% <13	.3%	2.6%	<1%	-2.3%	<1%
% 13-19	1.9%	1.5%	1.1%	+0.4%	+0.08%
% 20-44	51.6%	63.1%	71.9%	-11.5%	-20.3%
% 45+	43.9%	32.7%	26.7%	+11.2%	+17.2%
Gender	(n=2,872)				
% Male	60.0%	66.0%	70.9%	-6%	-10.9%
% Female	39.6%	33.2%	29.1%	+6.4%	+10.5%
% Transgender	.4%	.8%	N/A	-0.4%	N/A
Race/Ethnicity	(n=2,545)				
% White Non Hispanic	34.3%	41.9%	48.1%	-7.6%	-13.8%
% Black Non Hispanic	30.3%	27.4%	31.1%	+2.9%	-0.8%
% Hispanic	32.6%	29.2%	19.1%	+3.4%	+13.5%
% Asian/ Pacific Islander	1.3%	.8%	1.1%	+0.5%	+0.2%
% American Indian	1.5%	.1%	.1%	+1.4%	+1.4%

- The Cohort is similar to Service Profile and Epidemiological Profile in that it has a higher percentage of persons between the ages of 20-44, a higher percentage of males, and a higher percentage of White non-Hispanics.
- The Cohort differs from the Service Profile in that it has a higher percentage of persons over the age of 45 and a higher percentage of females.
- The Cohort differs from the Epidemiological Profile in that it has a lower percentage of the population between the ages of 20-44 and a higher percentage of females and Hispanics.

⁴ Statistically significant differences between data sets could not be determined because only aggregate data was available for the Title I Service Profile and the Title I EMA Epidemiological profile.

⁵ Demographic data was not available for all clients in the cohort group.

FIGURE 2B. FY03- Income & Source of medical insurance: Cohort vs. Title I Service Profile vs. Title I EMA Epidemiological Profile⁶

	Title I Outcomes Cohort (n=2,925) ⁷	Boston EMA Title I Service Profile (n=7,672)	Title I EMA Epidemiological Profile (n=15,828)	Difference (Title I Cohort versus Boston EMA Title I Service Profile)	Difference (Title I Outcomes Cohort versus Title I EMA Epidemiological Profile)
Income	(n=2,636)		N/A		N/A
% Equal to or below Federal Poverty Line	76%	64%		+12%	
% 101-200% of Federal Poverty Line	12%	19%		-7%	
% 201-300% of Federal Poverty Line	3%	6%		-3%	
% Greater than 300% of Federal Poverty Line	2%	4%		-2%	
% Unknown/Unreported	7%	7%		0	
Source of Medical Insurance	(n=2,655)		N/A		N/A
%Private	10%	8%		+2%	
%Medicare	24%	17%		+7%	
%Medicaid	42%	37%		+5%	
%Other Public Insurance	6%	9%		-3%	
%No Insurance	6%	11%		-5%	
%Other	2%	3%		-1%	
%Unreported	12%	15%		-3%	

- The Cohort has a higher percentage of the population with an income equal to or below the federal poverty level than the Service Profile.
- The Cohort and the Service Profile are similar in their sources of medical insurance.

⁶ Statistically significant differences between data sets could not be determined because only aggregate data was available for the Title I Service Profile and the Title I EMA Epidemiological profile.

⁷ Demographic data was not available for all clients in the cohort group.

FIGURE 2C. FY03- Exposure Category & Housing: Cohort vs. Title I Service Profile vs. Title I EMA Epidemiological Profile⁸

	Title I Outcomes Cohort (n=2,925) ⁹	Boston EMA Title I Service Profile (n=7,672)	Title I EMA Epidemiological Profile (n=15,828)	Difference (Title I Cohort versus Boston EMA Title I Service Profile)	Difference (Title I Outcomes Cohort versus Title I EMA Epidemiological Profile)
Exposure Category					
MSM	23.7%	29.9%	34.4%	-6.2%	-10.7%
IDU	31.3%	30.6%	36.9%	+0.7%	-5.6%
MSM/IDU	3.6%	2.0%	3.7%	+1.6%	-0.1%
Heterosexual Contact	37.2%	31.5%	22.8%	+5.7%	+14.4%
Pediatric	4.1%	3%	<1%	+1.1%	<3%
Housing	(n=2,660)		N/A		N/A
Permanently Housed	82%	65%		+17%	
Non-permanently Housed	13%	24%		-11%	
Institution	2%	5%		-3%	
Other	.4%	4%		-3.6%	
Unknown/Unreported	4%	2%		+2%	

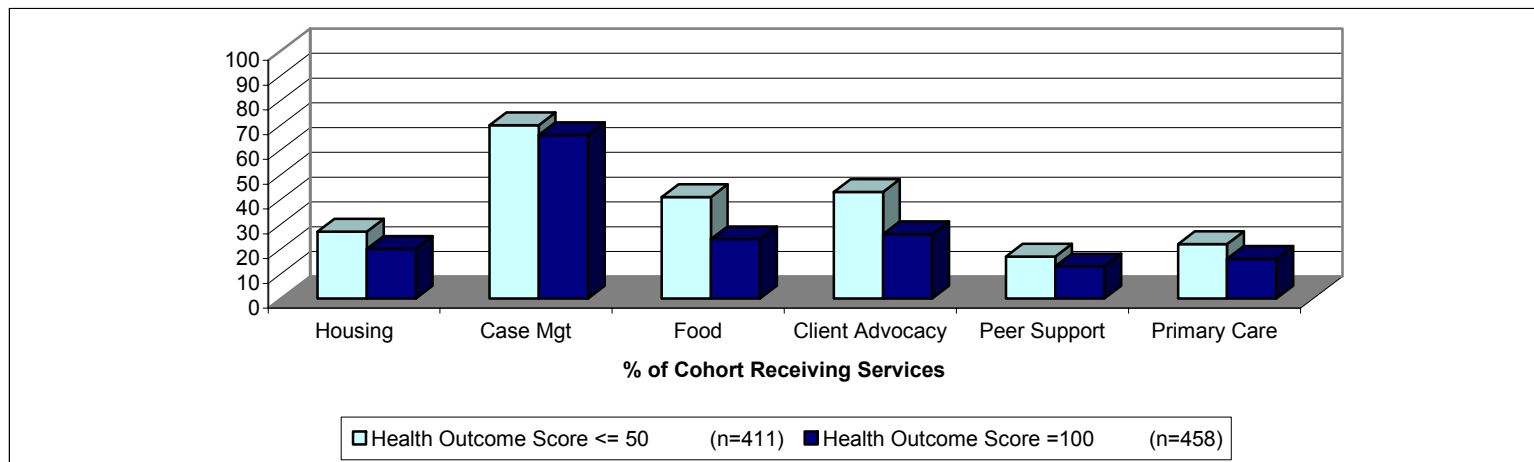
- The Cohort has a higher percentage of persons exposed by heterosexual contact than the Service and Epidemiological Profile.
- The Cohort has a higher percentage of persons permanently housed than the Service Profile.

⁸ Statistically significant differences between data sets could not be determined because only aggregate data was available for the Title I Service Profile and the Title I EMA Epidemiological profile.

⁹ Note: Demographic data not available for all clients in the cohort group.

FIGURE 3A. Percentage of Services Received by the Cohort with Poor Health Outcome Scores (≤ 50) vs. Excellent Health Outcome Scores ($=100$)

Reported Outcome Score	Health/Quality of Life
100	EXCELLENT ...Achieved outcome goal.
68-99	GOOD ...Making significant progress towards outcome goal. Needs some additional services to reach the goal.
34-67	FAIR ...Making some progress toward reaching the outcome goal. There is a significant need for additional services.
0-33	POOR ...In crisis and in need of substantial additional services



	Housing	Case Mgt	Food	Client Advocacy	Peer Support	Primary Care
Health Outcome Score ≤ 50 (n=411)	27%*	70%	41%**	43%**	17%	22%**
Health Outcome Score =100 (n=458)	20%	66%	24%	26%	13%	16%

Significantly Higher =

- Clients in the Cohort with poor health outcome scores (≤ 50) are utilizing a statistically higher percentage of housing, food, client advocacy and primary care than clients that have excellent outcomes ($=100$).

*Statistically significant, $p < .05$ - 95 % level of certainty in the findings.

** Statistically significant $p < .01$ - 99% level of certainty in the findings.

FIGURE 3B. Age, Gender, and Race/Ethnicity Profile of Cohort With Poor Health Outcome Scores (≤ 50) vs. Excellent Health Outcome Scores (=100)

	Health Outcome Score ≤ 50 (n=411)	Health Outcome Score=100 (n=458)
Age	(n=404)	(n=445)
% <13	1.5%	9.4%**
% 13-19	1.2%	2.0%
% 20-44	56.0%**	44.0%
% 45+	41.0%	44.5%
Gender	(n=403)	(n=442)
% Male	64.0%	57.8%
% Female	36.0%	42.0%
% Transgender	0	0
Race/Ethnicity	(n=343)	(n=390)
% White Non Hispanic	33.5%	36.4%
% Black Non Hispanic	29.2%	35.1%
% Hispanic	35.6%**	27.0%
% Asian/ Pacific Islander	<1%	<1%
% American Indian	<1%	<1%

- Clients in the Cohort with poor health outcome scores (≤ 50) are typically between the ages of 20-44 and Hispanic.
- There were no differences for clients in the Cohort with poor outcomes scores based on gender.

*Statistically significant, $p < .05$ - 95 % level of certainty in the findings.

** Statistically significant $p < .01$ - 99% level of certainty in the findings.

FIGURE 3C. Exposure category & Housing Profile of Cohort With Poor Health Outcome Scores (≤ 50) vs. Excellent Health Outcome Scores ($=100$)

	Health Outcome Score ≤ 50 (n=411)	Health Outcome Score=100 (n=458)
Exposure Category	(n=411)	(n=458)
% MSM	21.4%	23.0%
% MSM/IDU	4.9%	2.6%
% IDU	35.8%**	25.4%
% Heterosexual Contact	35.0%	40.0%
% Pediatric	2.8%	8.9%
Housing	(n=377)	(n=414)
% Permanently Housed	75.1%	86.7%**
% Non-permanently Housed	17.8%**	8.9%
% Institution	2.1%	1.0%
% Other	.5%	0%
% Unknown/Unreported	4.5%	3.4%

- Clients in the Cohort with poor health outcomes (≤ 50) are more likely to have contracted the virus through IDU exposure.
- Clients in the Cohort with optimal health outcomes ($=100$) are permanently housed.

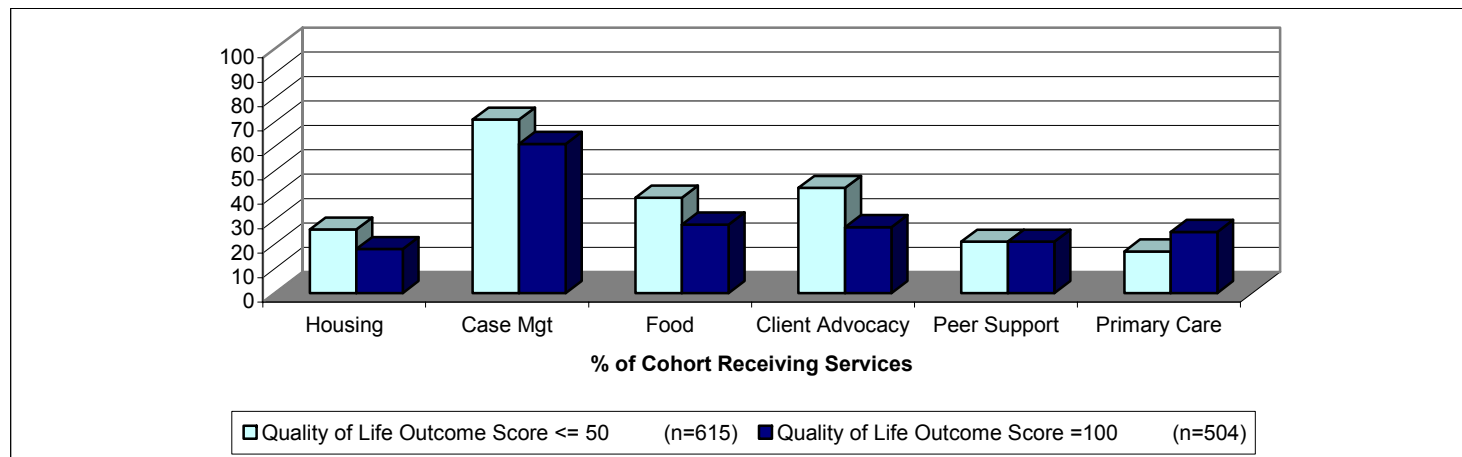
Significantly
Higher =

*Statistically significant, $p < .05$ - 95 % level of certainty in the findings.

** Statistically significant $p < .01$ - 99% level of certainty in the findings.

FIGURE 4A. Percentage of Services Received by the Cohort with Poor Quality of Life Outcome Scores (≤ 50) vs. Excellent Quality of Life Outcome Scores ($=100$)

Reported Outcome Score	Health/Quality of Life
100	EXCELLENT ...Achieved outcome goal.
68-99	GOOD ...Making significant progress towards outcome goal. Needs some additional services to reach the goal.
34-67	FAIR ...Making some progress toward reaching the outcome goal. There is a significant need for additional services.
0-33	POOR ...In crisis and in need of substantial additional services



	Housing	Case Mgt	Food	Client Advocacy	Peer Support	Primary Care
Quality of Life Outcome Score ≤ 50 (n=615)	26%**	71%**	39%**	43%**	21%	17%
Quality of Life Outcome Score =100 (n=504)	18%	61%	28%	27%	21%	25%**

Significantly Higher =

- Clients in the Cohort with poor quality of life outcome scores (≤ 50) are utilizing a statistically higher percentage of housing, case management, food, client advocacy and primary care than clients that have excellent outcomes ($=100$).

*Statistically significant, $p < .05$ - 95 % level of certainty in the findings.

** Statistically significant $p < .01$ - 99% level of certainty in the findings.

FIGURE 4B. Age, gender & Race/Ethnicity Profile of Cohort With Poor Quality of Life Outcome Scores (≤ 50) vs. Excellent Quality of Life Outcome Scores (=100)

	Quality of Life Outcome Score ≤ 50 (n=615)	Quality of Life Outcome Score=100 (n=504)
Age	(n=603)	(n=497)
% <13	1.2%	4.6%*
% 13-19	1.0%	4.4%*
% 20-44	53.2%	49.5%
% 45+	44.6%	41.4%
Gender	(n=602)	(n=493)
% Male	63.3%	57.8%
% Female	36.3%	41.9%
% Transgender	<1%	<1%
Race/Ethnicity	(n=533)	(n=452)
% White Non Hispanic	36.2%*	30.5%
% Black Non Hispanic	28.5%	36.7%*
% Hispanic	32.6%	31.2%
% Asian/ Pacific Islander	1.1%	<1%
% American Indian	1.5%	<1%


- Clients in the Cohort with optimal quality of life outcome scores (=100) are typically 19 of years of age or younger and identify as Black Non Hispanic.

*Statistically significant, $p < .05$ - 95 % level of certainty in the findings.

** Statistically significant $p < .01$ - 99% level of certainty in the findings.

FIGURE 4C. Exposure Category & Housing Profile of Cohort With Poor Quality of Life Outcome Scores (≤ 50) vs. Excellent Quality of Life Outcome Scores (=100)

	Quality of Life Outcome Score ≤ 50 (n=615)	Quality of Life Outcome Score=100 (n=504)
Exposure Category	(n=699)	(n=531)
% MSM	23.4%	21.6%
% MSM/IDU	4.7%**	1.5%
% IDU	36.5%**	21.4%
% Heterosexual Contact	32.9%	46.7%**
% Pediatric	2.4%	8.7%**
Housing	(n=567)	(n=461)
% Permanently Housed	75.3%	86.6%**
% Non-Permanently Housed	18.3%**	8.2%
% Institution	2.6%	1.5%
% Other	.5%	.2%
% Unknown/Unreported	3.2%	3.5%

Significantly
Higher = 

- Clients in the Cohort with poor quality of life outcomes (≤ 50) are more likely to have contracted the disease through MSM/IDU or IDU exposure than clients with excellent quality of life outcomes (=100).
- Clients in the Cohort with optimal quality of life outcomes (=100) are more likely to be permanently housed than clients with poor quality of life outcomes (≤ 50).

*Statistically significant, $p < .05$ - 95 % level of certainty in the findings.

** Statistically significant $p < .01$ - 99% level of certainty in the findings.