

**HIV Care Quality and Clinical Outcomes
in Boston EMA Sites
Providing Primary Medical Care**

Findings from Phase 3 (2003-2004)



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March 2006

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1. INTRODUCTION

1.1 Background

Like many Ryan White CARE Act (RWCA) grantees nationwide, the Boston Public Health Commission has established a Quality Management program focused on assuring the quality of HIV medical care and other services for clients of their funded agencies. Since 2000, JSI Research and Training Institute Inc. has provided medical record abstraction, data analysis and technical assistance to the 10 clinics in the Boston EMA. The first two rounds of data collection involved events and information from the calendar years 2000, 2001 and 2002. Quality improvement activities subsequent to the chart reviews have focused on immunization practices, risk reduction counseling, STD screening and treatment adherence support. During 2005, round 3 of record reviews was completed and data from 2003-2004 were abstracted. This report summarizes the trends across 5 years of data collection (2000-2004).

During round 3 of chart review, we have extended the longitudinal follow-up on the original cohort from 2000 and focused on the same core set of clinical indicators and HIV treatment processes/guidelines. New elements were added to assess laboratory testing for cholesterol and blood glucose. Other age-appropriate routine health maintenance procedures (mammography and colon cancer screening) were also assessed. As in round 2, we reviewed each clinic's newly diagnosed patients. However, we selected the group who were new to care in 2003 so that a longer view of the care process (through 2004) would be available for analysis.

Like earlier reports, the framework for the analysis begins by comparing the baseline performance of the clinical sites on the primary clinical indicators to their 2002 and 2004 levels. These comparisons use an ongoing cohort of "continuing" patients. However, because certain indicators represent one-time interventions, trends in the continuing cohort are influenced by the fact that the chart reviewers point out the needed actions and draw the staff's attention to missing elements. Therefore, to get a more true reflection of the routine performance level for these

one-time processes, we look at the performance in “newly diagnosed” patients for the years 2002 and 2003. Aggregate rates provided in the Appendix are clinical network averages based on mean values of the individual sites.

1.2 Protocol

The details of the process have been provided in earlier reports [1-2]. In summary, trained abstractors use a range of available clinic records to complete a detailed form with information from 2 years at each wave of review. Client level data collected includes demographics, clinical events (hospitalizations, pregnancies, comorbidities, incident STDs and OIs), laboratory measures, prevention education and counseling, screening, immunizations, prophylaxis, medications (for HIV and mental health problems) and adherence.

1.3 Benchmarks for Quality HIV Care

Guidelines and recommendations from a number of established and nationally recognized sources (based on data from clinical studies or expert opinion) were used to establish benchmarks for standards of care. The United States Public Health Service (USPHS) and the Infectious Diseases Society of America (IDSA) have collaborated for many years on guidelines for the prevention of OIs among PLWH. These include recommendations for prevention of PCP, mycobacterial infections, and potentially vaccine-preventable diseases such as invasive pneumococcal diseases and viral hepatitis (types A and B).[3-5] The guidelines define populations at risk based on CD4 cell count and exposure risk, and provide recommendations for initiation (and discontinuation) of preventive measures. Routine clinical interventions include universal administration of vaccine for hepatitis B virus (HBV) and pneumococcal disease, Pap smears for cervical cancer screening at least annually for HIV-positive women, and prophylaxis for PCP and MAI for individuals at risk (based on low CD4 counts). The version of the guidelines that was in effect at the time of the treatment was utilized as the benchmark and supplemented by other nationally recognized sources for primary care HIV management.[6-8]

Recommendations for screening and vaccination for HIV-HCV coinfecting individuals were based on the CDC recommendations.[4,6] Standards for initiation of antiretroviral therapy, monitoring of viral loads, CD4 cell count and adherence were derived from the national guidelines in effect for the timeframe. These guidelines recommended initiation of antiretroviral therapy (ART) for asymptomatic individuals with CD4 cell counts $<350/\text{mm}^3$ or plasma viral loads $\geq 55,000$ copies/ml (from 2001-2003) or $>100,000$ copies/ml (in 2004).[4, 9] Recommendations for risk reduction counseling and management of mental illness and substance abuse were based on formal recommendations and current standards of general clinical practice.[10-11]

2. POPULATION

2.1 Participating Sites

Record abstraction for HIV care information was carried out for all 3 waves in ten clinical programs funded by the Ryan White CARE Act Title I:

- Boston Medical Center Infectious Disease Clinic
- East Boston NHC
- Fenway Community Health
- Great Brook Valley HC
- Greater Lawrence Family HC
- Lowell CHC
- Lynn CHC
- Martha Eliot HC
- Whittier Street HC
- Zinberg Clinic (Cambridge Hospital)

Patients were included in the full review if they received at least two medical visits for primary HIV care during the year in review. A medical visit was defined as a visit with a physician, physician's assistant, or nurse practitioner; a visit with only nursing input (i.e., RN or LPN) did not qualify as a medical visit for the purposes of this review. Individuals who died during the year were excluded from the primary analysis because ascertainment of death information varied substantially between sites, which may bias the results. After exclusion of patients who died, the continuing cohort included 523 in 2000, 403 in 2001, 402 in 2002, 378 in 2003 and 451 in 2004. The

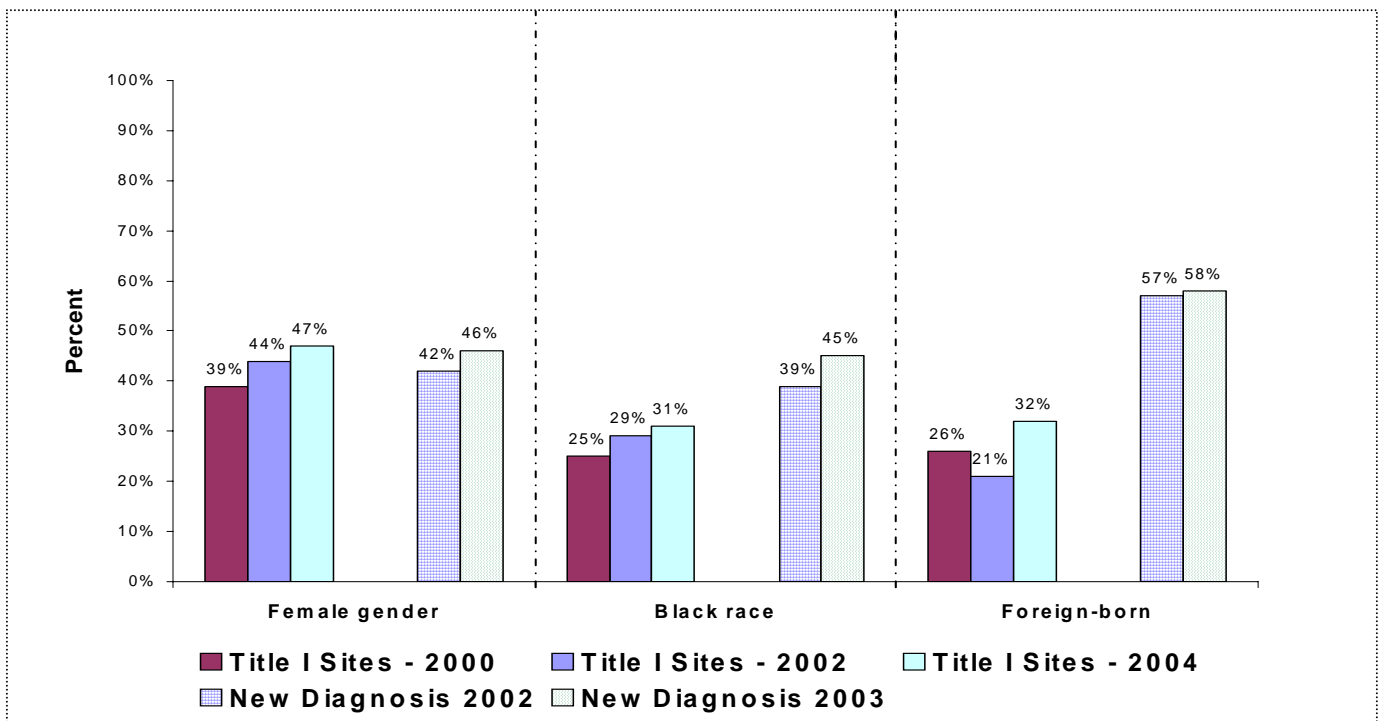
new to care/newly diagnosed group for 2002 was 77 patients and for 2003 included 108 patients.

3.0 CHANGING PATIENT CHARACTERISTICS

3.1 Demographic Shifts

Comparison of the “continuing” patients, who represent a cross-section of the population receiving care, to the “new diagnosis” group (2002-03) provides a barometer of changes in the epidemiology of HIV infection in the EMA. This comparison provides evidence that some of the demographic characteristics of “new diagnosis” patients are distinct from those of the “continuing cohort,” which are labeled “Title I sites.” The following two figures illustrate the most notable trends.

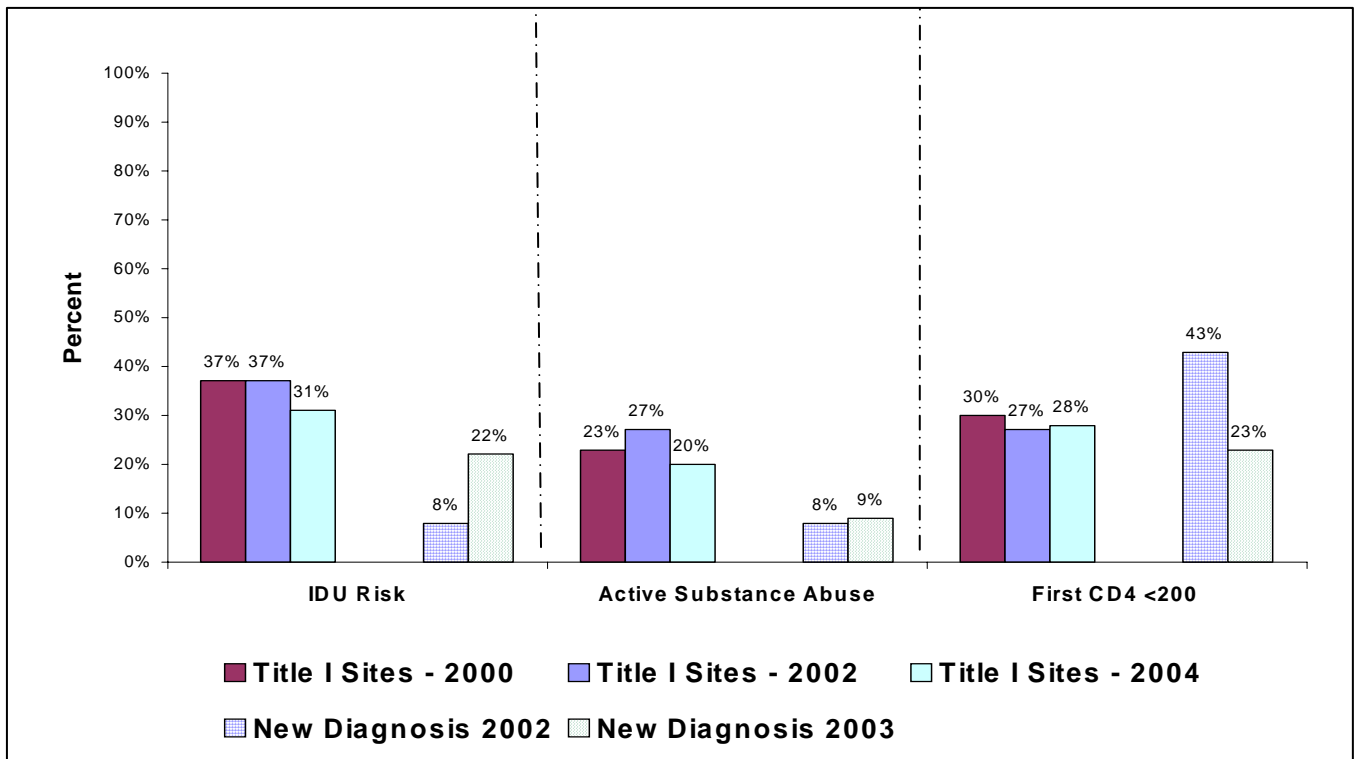
**Figure 1: Comparison of Demographics:
Continuing and New Diagnosis Patients 2000-2004**



From the baseline in 2000, the continuing cohort has had a gradual increase in the proportion who are female (39% to 47%). The gender distribution of the new

diagnosis patients for 2003-04 (42-46% female) is consistent with that of the continuing group. However, the new patients are more likely to be Black (39 % in 2002, 45% in 2003) and foreign-born (57% in 2002, 58% in 2003) than the continuing group. Twelve newly diagnosed patients were born in Puerto Rico, which is considered part of the United States in our analysis. The largest foreign-born subgroups are from Caribbean island nations (25) and African countries such as Kenya (11), Zimbabwe (7), Uganda (6), and Cameroon (4); Brazil (8) and Cape Verde (5) are also notable as countries of birth. All other countries had less than 4 individuals.

**Figure 2: Comparison of Risk and Clinical Status:
Continuing and New Diagnosis Patients (2000-2004)**



3.2 Changing Risk Profile, Comorbidity and Clinical Status

Other changes related to the evolving epidemic include a decreasing proportion of patients with injection drug use risk and active substance abuse. While roughly one third of continuing patients had prior IDU risk behavior and 20-27% (in 2000-2004) had ongoing issues with substance abuse of all types, these problems were infrequent among the new patients.

Using the first CD4 count at the clinic as a measure of clinical severity at the point of care initiation, no specific trends are indicated. Coming into care with serious immunodeficiency (as denoted by CD4 below 200) was similar in 2002-2004 for the continuing (27-30%) and new (23-43%) patients. The observed decline in this factor in the new patients for 2003 compared to 2002 bears watching, although these subgroups are relatively small (108 and 77, respectively). When newly diagnosed patients for the 2 years are grouped together, foreign-born patients are significantly more likely to enter care with low CD4 counts than those born in the US (36% vs. 15%, $p < 0.01$). Other patient demographic and clinical characteristics are shown in the Appendix.

4.0 PREVENTIVE MEASURES

Improvement over time has been seen for a range of screening and immunization measures. In the following figure, we present aggregate performance rates of selected measures across 3 years --- baseline (2000) prior to formal EMA-level QM, 2002 (round 2) and 2004 (round 3). To emphasize the most recent data, we have placed the performance rate above the bar. Data from interim years is available in the Appendix but not shown in the figures. Additional process and outcome measures are also displayed in the Appendix.

Figure 3: Trends in Performance of Selected Preventive Measures, Continuing Patients (2000-2004)

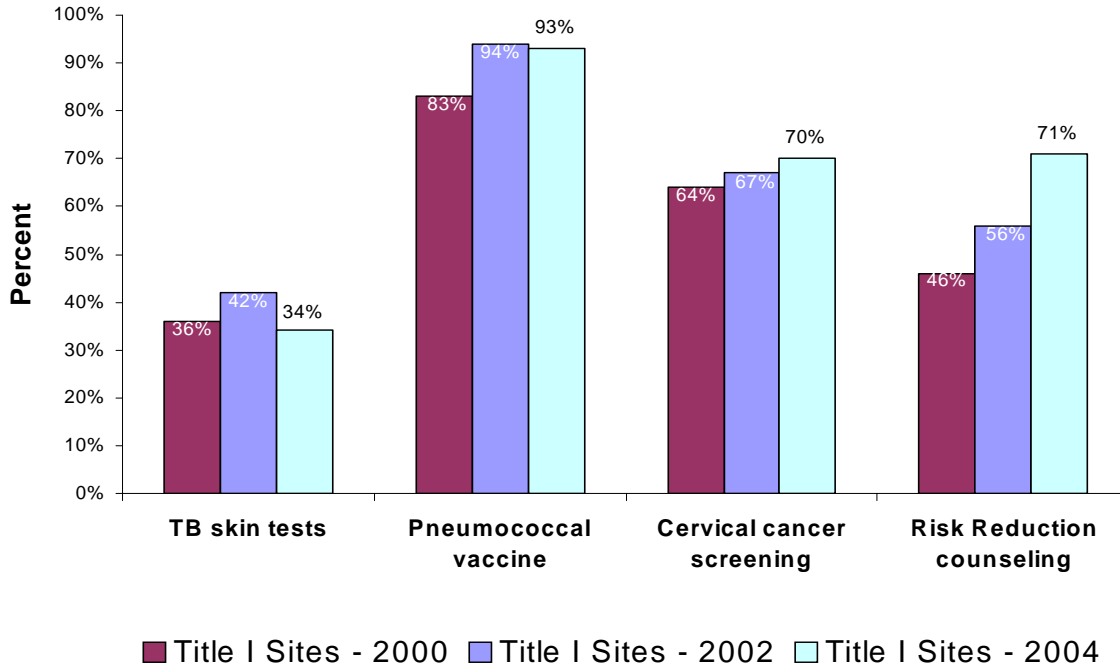
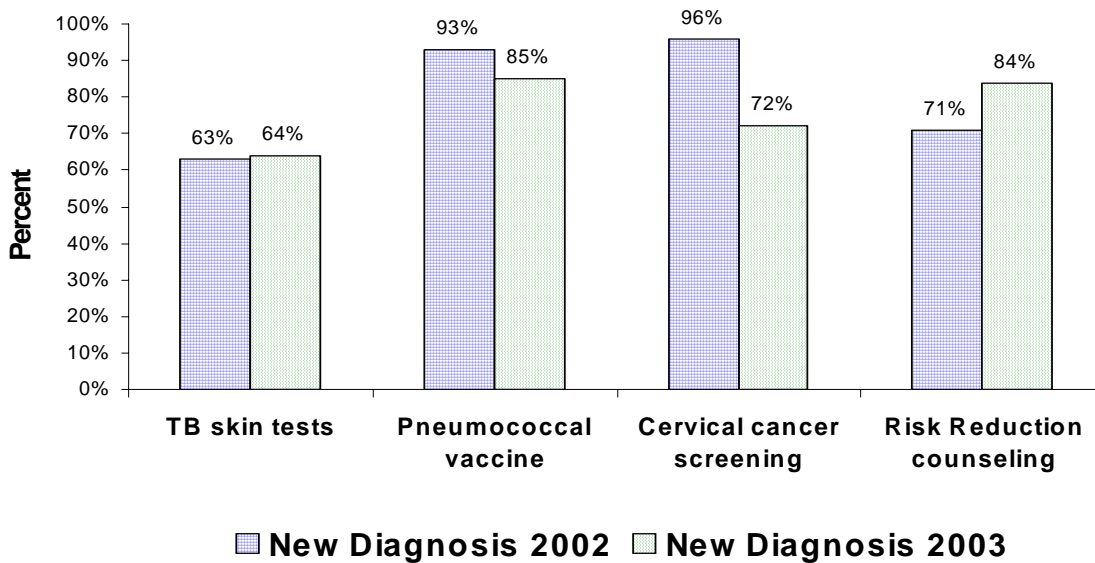


Figure 4: Trends in Performance of Selected Preventive Measures, New Diagnosis Patients (2003-2004)



4.1 Tuberculosis Skin Testing

The lowest performance rate of all the preventive measures is seen for annual TB screening with a skin test (PPD). This is a 2-step process that requires the provider to administer the test and the patient to return to the clinic 48 hours later for a reading of the reaction. As such, it represents an added challenge to the clinics. The performance rate shown represents patients with no prior history of TB or a positive PPD who had a completed skin test with results in the chart.

From the baseline rate of 36%, overall performance each year increased slightly to 42% in 2002 and then declined again to 34% in 2004 for the continuing cohort. (Figure 3) Allowing a 2-year timeframe to complete the initial TB skin tests, which is more reasonable for newly diagnosed patients, they appear more likely to receive and complete the TB skin test with rates of 63% and 64% in 2002 and 2003. (Figure 4) Only 7 positive PPDs occurred over the 4 years, 5 in continuing patients and 2 in the new diagnosis group; positivity rates were 1.2-1.5%.

Although other programs (such as the New York State HIVQual) have recommended annual TB skin test screening, the CDC guidelines call for screening those who are at increased risk of exposure to TB on an annual basis. Therefore, providers are making their own determinations about risk of TB when performing PPDs. Given the low rates of positive results, the minimal low improvement in this performance measure does not appear to warrant intensive intervention, particularly since rates are reasonable in the newly diagnosed patients. In this group, nearly 70% had PPDs placed; however, 6-8% of patients did not return for the reading.

4.2 Pneumococcal Vaccine

The chart review captured whether patients had ever received the pneumococcal vaccine; when patients were found to be lacking the vaccine, the clinic was specifically notified. Consequently, rates in the continuing patients improved from baseline (83%) to 94%. (Figure 3) There was consistent use of the vaccine in the newly diagnosed patients, with 93% and 85% receiving it for the 2002 and 2003 groups, respectively. (Figure 4) Administration of this vaccine is a simple preventive

intervention that has been routinely adopted. The small proportion who have not received it may have refused or have other contraindications.

4.3 Cervical Cancer Screening

Women with HIV/AIDS are at increased risk of cervical cancer and annual Pap smears have been recommended. Compliance with this guideline has always been a challenge, given that patients and providers may tend to postpone having a pelvic examination. However, incremental improvement from baseline (64%) to 70% in 2004 was noted in the continuing group. (Figure 3) Giving a 2-year time window for assessment of newly diagnosed women, Pap smear/colposcopy rates were 96% in 2002 and 72% in 2003. (Figure 4)

In the continuing patients, approximately one fourth of the Pap smears performed yielded abnormal results, and referral rates to gynecologic followup were 80-90%. (Appendix) For newly diagnosed patients, nearly one half of Pap smears were abnormal, and referral rates were approximately 75%.

4.4 Risk Reduction Counseling

Throughout this Quality Management project, the importance of “prevention for positives” in the clinical setting has been emphasized, consistent with the CDC’s recent recommendations. Chart reviewers gave credit for risk reduction counseling when the record mentioned (in progress notes or flow sheets) sexual or drug use behavior assessments and/or plans. We recorded whether this counseling happened at entry to care and at least annually. Over time, the focused attention may have led sites to put routine charting tools in place, such as checklists that simplify the documentation process.

Performance of risk reduction during the year improved from a low of 46% to 71% in the continuing patients while 71-84% of newly diagnosed patients in 2002-03 were counseled at least annually. (Figure 3 &4) Routine provision of counseling at entry to care has improved from historical levels of 55% to approximately 65%. (Appendix) In 2004, only 11% of the newly diagnosed patients had no documented risk reduction counseling in their clinic record.

Figure 5: Trends in Performance of Viral Hepatitis Screening and Immunization, Continuing Patients (2000-2004)

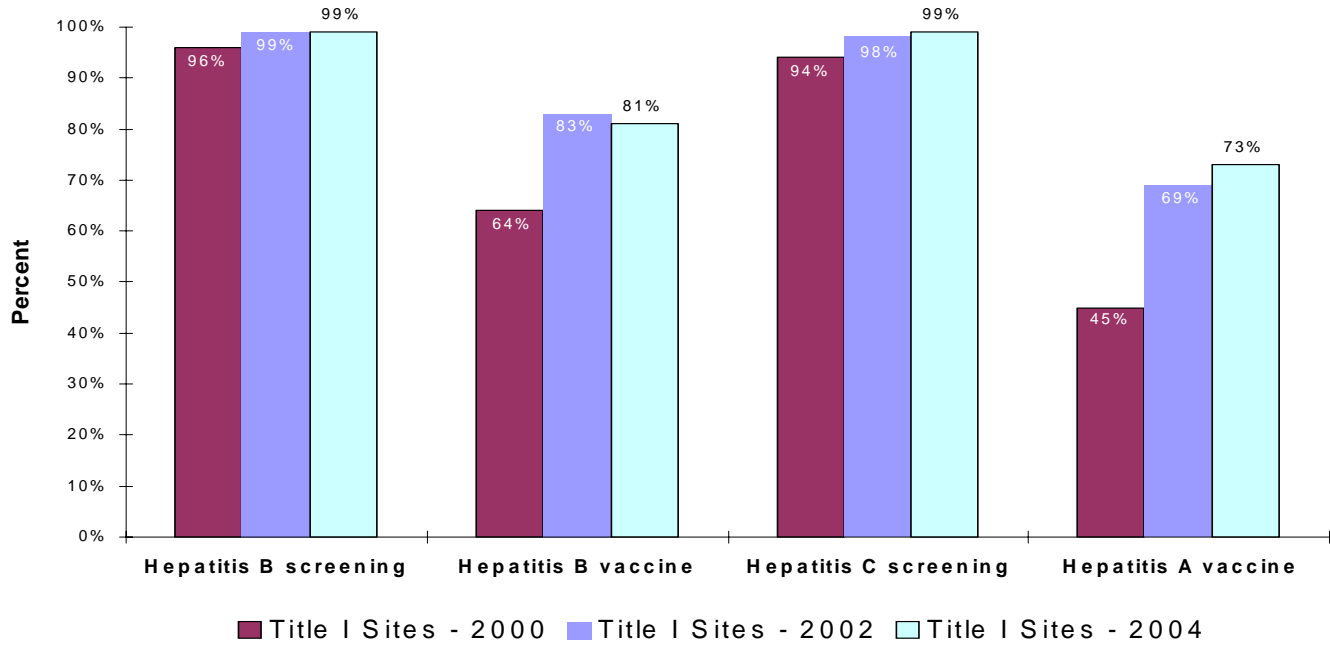
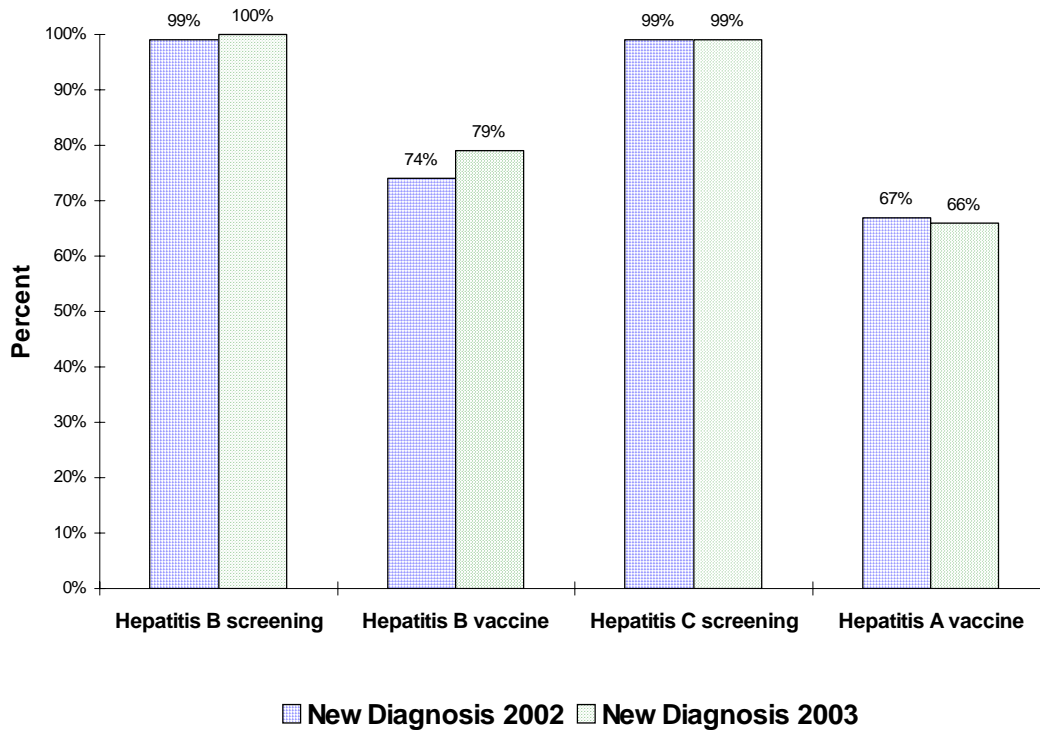


Figure 6: Trends in Performance of Viral Hepatitis Screening and Immunization, New Diagnosis Patients (2003-2004)



4.5 Viral Hepatitis Screening and Vaccination

Screening for hepatitis B virus (HBV) and hepatitis C virus (HCV) is another of the “one time” or “ever” quality measures; vaccines are available against Hepatitis A and B, and the populations at risk for these infections overlap significantly with HIV infection (injection drug users, men who have sex with men).

As shown in Figures 5 & 6, nearly universal screening for HBV and HCV has occurred for continuing patients, and newly diagnosed patients are consistently screened, as well. Positivity rates for any HBV marker range from 40-50% and are comparable between continuing and new patients (Appendix). HCV positivity is much higher for the continuing group (30-40%) than the newly diagnosed group (9-14%), reflecting the decrease in IDU as a risk factor for HIV.

Chart reviewers credited sites for providing HBV vaccine if the series of 3 doses was started, not on a requirement for the full series. Immunization rates were high in the continuing group (81-83%) after technical assistance focused on vaccines was provided in 2001-02. (Figure 5) By the second year in care, newly diagnosed patients also had high HBV vaccination rates (74-79%). (Figure 6)

Finally, Hepatitis A vaccine rates overall were low in 2000 (45%), but have shown incremental improvement for both continuing and new patients.

Figure 7: Trends in HIV Treatment Related Measures, Continuing Patients (2000-2004)

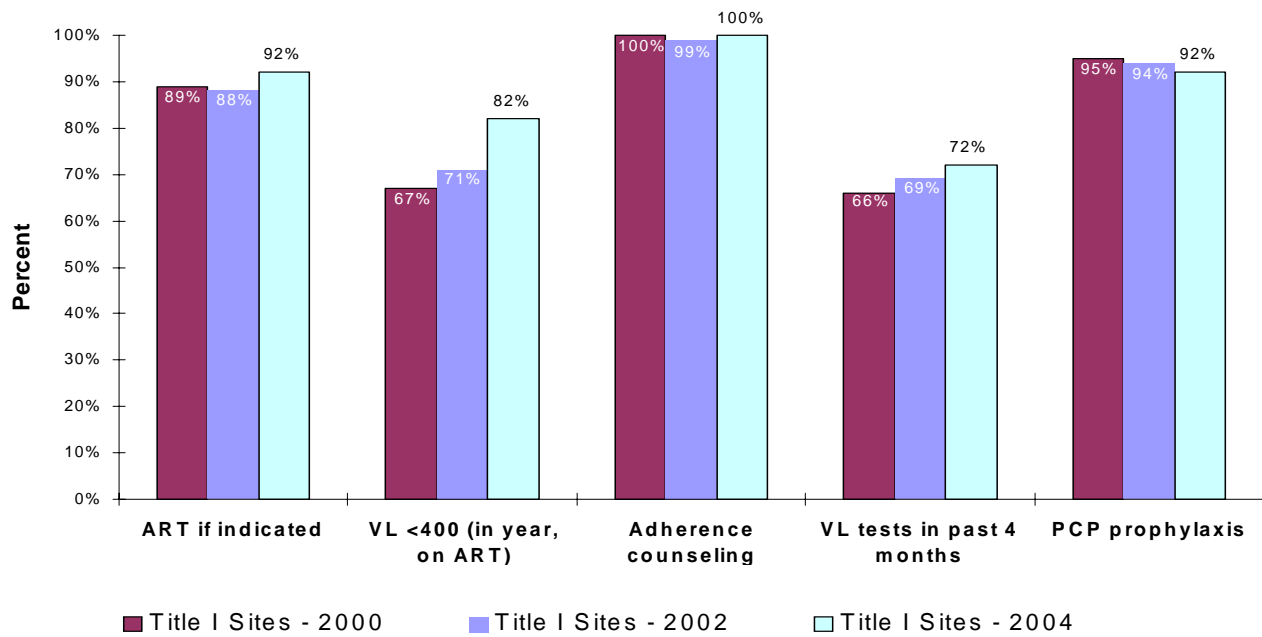
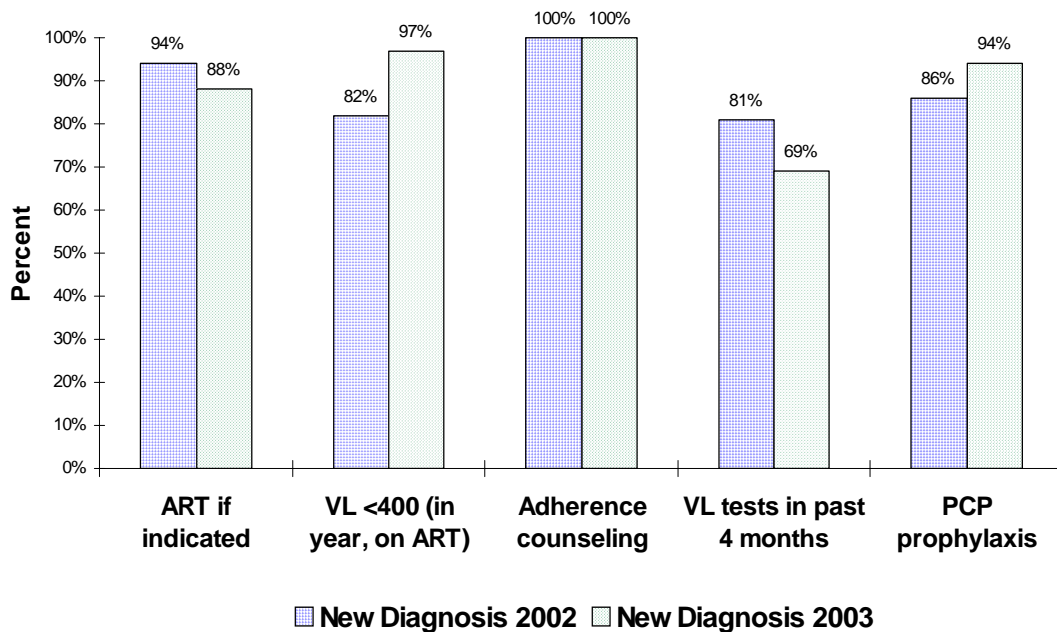


Figure 8: Trends in HIV Treatment Related Measures, New Diagnosis Patients (2003-2004)



5.0 TREATMENT PERFORMANCE MEASURES

5.1 Use and Outcomes of Antiretroviral Therapy

Figures 7 and 8 illustrate trends related to HIV treatment. Criteria for starting antiretroviral therapy (ART) have been applied as appropriate to the timeframe. No more than 12% of the treatment-eligible continuing patients were NOT on ART during any review year. For newly diagnosed patients, 63-78% met criteria for ART. (Appendix) Similar treatment rates (88-94%) were seen by year 2 in care for this group, as well. In general, when eligible patients were not receiving ART, it was due to patient refusal or a temporary delay and not to lack of medication access or awareness by the providers.

Regimens prescribed to newly diagnosed patients tended to include non-nucleoside RT inhibitors such as Efavirenz (58-67%) rather than protease inhibitors (24-30%); 90% of patients received 3 drugs. (Appendix)

The cutoff for viral suppression used in previous years has been 400 copies/ml. Despite the improved test sensitivity, we are maintaining this criteria for consistency with earlier data. Response to treatment for patients on ART was found to increase over time in the continuing patients, from 67% having at least one viral load less than 400 copies/ml to 82% in 2004 (Figure 7). Newly diagnosed patients also had exceptional rates of viral suppression (82-97%) on at least one occasion. (Figure 8)

Consistent attention to treatment adherence has been ongoing and predates this quality management program. Many clinics in Massachusetts have received supplemental funding for adherence support since ART was made available in 1997. Both new and continuing patients had universal assessment of adherence. In the continuing group, rates of adherence problems were 35-40% during the review period. (Appendix) However, lower rates of adherence problems were noted for the newly diagnosed patients (12-32%), possibly reflecting the improvements to ART regimens.

Others have proposed using frequency of laboratory monitoring (viral load and CD4 counts) as a measure for engagement in care. It is generally accepted that

most HIV/AIDS patients would have lab tests every 3-4 months. Viral loads had been checked during the last 4 months on 66-72% of continuing patients and 69-81% of the newly diagnosed. For comparison, New York HIVQual performance data in 2003-04 found a 92% rate in their high performing sites (top 25% of their clinic system). Overall data are not publicly available.

Data on CD4 count monitoring was slightly better than viral load testing. Rates as high as 77% were seen in continuing patients. (Appendix) Seventy-three to 92% of newly diagnosed patients had CD4 tests in the last 4 months. (Appendix)

5.2 Pneumocystis Prophylaxis

Although the proportion of patients who require prophylaxis for Pneumocystis pneumonia is declining as antiretroviral therapy has become more effective, it is still an essential preventive intervention for patients with CD4 counts below 200. Rates of prophylaxis coverage have been consistently high (over 90%) in continuing patients. (Figure 7) In the small numbers of newly diagnosed patients eligible for prophylaxis, 86-94% were receiving it; only one patient was not taking it in each year. (Figure 8)

Figure 9: Trends in Other Selected Measures, Continuing Patients (2000-2004)

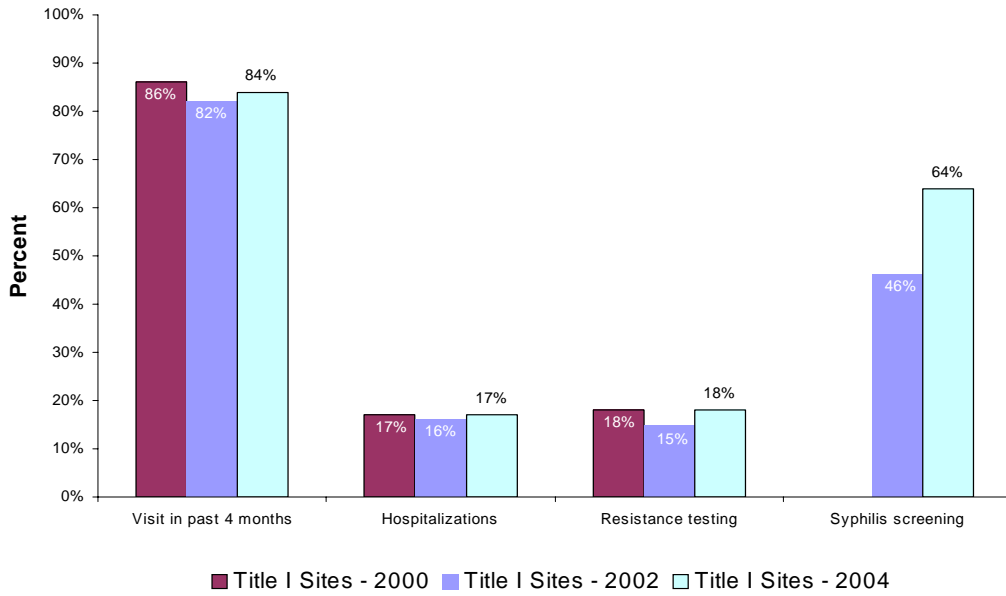
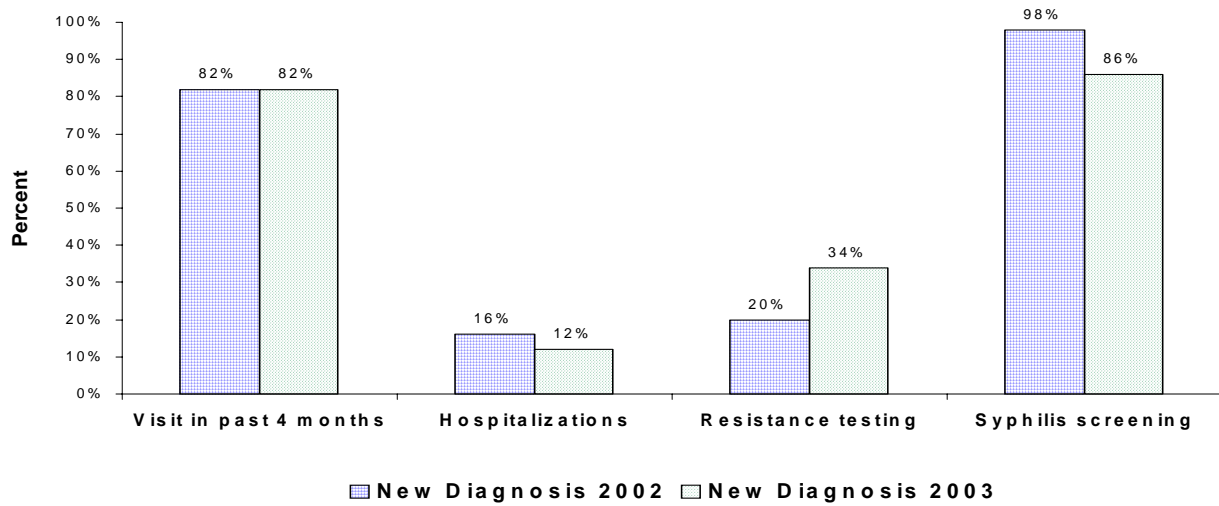


Figure 10: Trends in Other Selected Measures, New Diagnosis Patients (2003-2004)



6.0 OTHER CARE PROCESS AND OUTCOME MEASURES

6.1 Regular Medical Visits

Consistency with medical followup is measured by the proportion of patients who had a visit in the past 4 months each year. Performance on this measure has been consistently around 85% for both continuing and new patients. (Figure 9 & 10) This surpasses the rate for HIVQual's top 25% sites (77%).

6.2 Hospitalizations

The proportion of patients who have been hospitalized in any review year has remained remarkably consistent through the project at approximately 16%. (Figures 9 & 10) Medical hospitalizations have accounted for 13%, and 3% were patients with only psychiatric or substance abuse admissions. Rates of AIDS-related hospitalization have ranged from 2-4% across the years of observation.

6.3 Resistance Testing

Overall rates of testing for HIV resistance have also remained relatively stable during the period, with 15-18% of continuing patients and 20-34% of newly diagnosed patients being tested each year. (Figure 9 & 10) Individual clinic rates vary widely, due to clinic policies and research focused on newly diagnosed patients.

Due to the complexity of tracking all ART regimen changes, we have simplified our data abstraction and are only recording the last regimen during the calendar year. This limits our ability to stratify the resistance testing rates by ART treatment history which would be necessary to determine rates of adherence to resistance testing guidelines. However, a subsequent report will provide more information on the circumstances and results of resistance testing.

6.4 Syphilis and other STD screening

Beginning in 2001, we recorded whether STD screenings --- syphilis, gonorrhea and Chlamydia --- were being done annually. Sites had often not realized

that the recommendation was to screen all HIV-positive men and women who are sexually active for these infections each year. However, we cannot stratify by the sexual activity variable due to limits of our data collection.

With attention focused on the guidelines and a concern about increasing syphilis among gay men, the rate of syphilis screening rose dramatically from 46% to 63% in the continuing patients. (Figure 9) Higher rates were seen in the new diagnosis group by the second year in care (86-98%). (Figure 10) Syphilis screening rates did not differ significantly by gender. However, approximately one half of women were tested for gonorrhea and Chlamydia, compared to only one third of men (Appendix). Because swabs are needed for these tests in many clinics, women are more likely to have testing when their Pap smear and pelvic examination take place. More recently, some sites have begun using urine tests for STD screening, which will simplify the screening process.

Rates of syphilis screening in the New York HIVQual were 90% for their high performing clinic sites.

7.0 SUMMARY

This clinical quality management project has provided a 5-year overview of demographics, treatment outcomes and care patterns in traditionally underserved patient populations. The sampling approach allows a comparison of newly diagnosed individuals with HIV/AIDS to the original cross-section of patients. In 2002-03, the newly diagnosed group is increasingly foreign-born, Black and without prior IDU or other substance abuse problems. The foreign-born group was significantly more likely to have an initial CD4 count below 200, representing more advanced immunosuppression at the point of connecting with medical treatment for HIV.

Even though baseline performance rates on many care process measures were relatively high, there has been incremental improvement in many. The problem areas remain those that require 2-steps or special examinations to complete (i.e., TB

skin testing and cervical cancer screening). Once attention has been drawn to guidelines such as those for annual STD screening, rates of performance generally improve substantially. There is consistent carry-over in routine practices to newly diagnosed patients, confirming that clinic procedures have incorporated the guidelines uniformly.

Use of antiretroviral therapy is extremely consistent and the viral suppression rates have been steadily climbing. Adherence problems appear to be decreasing with the simplification of the medication regimens. Hospitalization rates are stable and only 2-3% of patients have AIDS-related admissions each year.

There are few published rates of these performance measures with which to compare these findings. The New York HIVQual program has released limited data and not the overall mean performance of their clinics, only the highlighted upper 25% group. This lack of context with other systems limits our interpretation. However, by applying consistent methods to our chart abstraction over time, we are able to demonstrate a consistent improvement in both the process and outcomes of HIV medical care in the Boston EMA.

ACKNOWLEDGEMENTS

The authors thank the clinic staff at our participating sites for their continued assistance and support. We are also indebted to Rich Stevens and Michael Goldrosen of the Boston Public Health Commission, and Kevin Cranston and Eric Rubinstein of the Massachusetts Department of Public Health for continued guidance and funding.

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Appendix

Combined Data from Title I sites

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2001-2004**

4/10/2006

CONTINUING PATIENTS

**(ORIGINAL COHORT AND NEW PATIENTS WITH MORE THAN 6 MONTHS CARE AT
START OF YEAR)**

ALL SITES									
		2001 (N=403)		2002 (N=402)		2003 (N=378)		2004 (N=451)	
		No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
BASELINE DATA									
<u>Gender</u>									
Male		242	58%	232	56%	218	54%	255	52%
Female		161	42%	169	44%	156	45%	191	47%
Transgender		0	0%	1	0%	4	1%	5	1%
<u>Age At Year End</u>									
< 19		0	0%	0	0%	0	0%	0	0%
20-29		26	8%	19	6%	19	7%	26	7%
30-39		133	32%	128	31%	108	29%	137	29%
40-49		175	45%	174	44%	167	43%	187	41%
50-59		61	14%	72	17%	70	18%	84	20%
60-69		7	1%	8	2%	12	3%	14	3%
70+		1	0%	1	0%	2	0%	3	1%
Unknown		0	0%	0	0%	0	0%	0	0%
<u>Race/Ethnicity</u>									
Hispanic		152	41%	148	40%	136	44%	156	42%
White non-Hispanic		135	29%	136	29%	137	27%	146	24%
Black non-Hispanic		108	29%	109	29%	95	26%	134	31%
Asian/PI non-Hispanic		7	1%	8	2%	8	2%	10	2%
Other non-Hispanic		1	0%	1	0%	2	0%	5	1%
Missing		0	0%	0	0%	0	0%	0	0%
Minority		268	71%	266	71%	241	73%	305	76%
Born outside US		101	24%	98	21%	103	27%	148	32%
<u>HIV Risk Behavior*</u>									
MSM		89	20%	86	19%	97	19%	115	19%
Heterosexual		252	64%	251	63%	231	67%	279	66%
IDU		144	37%	145	37%	119	33%	129	31%
Blood product		11	3%	11	3%	11	4%	10	3%
Occupational		1	0%	1	0%	1	0%	2	1%
Other/unknown/not documented		6	1%	6	1%	7	1%	9	1%
<u>Year In Which Care Was Entered At Site</u>									
Prior to 1996		150	36%	138	33%	122	31%	114	24%
1996 and later		251	63%	261	66%	254	68%	335	75%
Unknown		2	1%	3	1%	2	1%	2	1%
<u>Initial CD4 count @ site</u>									
<= 50		33	8%	34	8%	34	9%	46	9%
51-200		79	19%	78	19%	73	20%	85	18%
201-500		162	41%	158	40%	148	40%	169	38%
> 500		119	29%	120	30%	113	29%	140	31%
Not available		10	3%	12	4%	10	3%	11	3%

* HIV Risk Behaviors are not mutually exclusive categories.

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2001-2004**

4/10/2006

CONTINUING PATIENTS

**(ORIGINAL COHORT AND NEW PATIENTS WITH MORE THAN 6 MONTHS CARE AT
START OF YEAR)**

ALL SITES									
		2001 (N=403)		2002 (N=402)		2003 (N=378)		2004 (N=451)	
		No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
REVIEW PERIOD DATA									
<u>HIV Stage</u>									
	AIDS	228	56%	240	60%	214	56%	257	56%
	HIV	175	44%	162	40%	164	44%	194	44%
<u>Substance Abuse</u>									
	Active	109	29%	109	28%	84	23%	78	20%
	Inactive (hx only)	128	31%	134	34%	137	38%	170	38%
	No history	163	39%	155	37%	156	39%	202	42%
	No documentation	3	1%	4	1%	1	0%	1	0%
<u>Mental Illness</u>									
	Active	177	43%	175	42%	185	48%	211	49%
	Inactive (hx only)	79	20%	92	23%	74	20%	82	17%
	No history	141	36%	132	34%	112	30%	147	32%
	No documentation	6	1%	3	1%	7	2%	11	2%
<u>IDU Risk/Active Substance Abuse</u>									
	IDU risk with active substance abuse	76	20%	79	20%	48	14%	46	12%
	IDU risk with no active substance abuse	68	16%	66	17%	71	19%	83	19%
	Active substance abuse with no IDU risk	33	9%	30	8%	36	9%	32	7%
	No active substance abuse with no IDU risk	226	55%	227	56%	223	58%	290	61%
	Incarcerated in Review Period	15	4%	14	4%	13	4%	11	3%
<u>HBV Screening</u>									
		398	99%	397	99%	371	99%	443	99%
	<i>HBV positive (any marker)</i>	217	57%	209	54%	195	51%	229	52%
	<i>HBV negative</i>	181	43%	188	46%	176	49%	214	48%
	No HBV Screen	5	1%	5	1%	7	1%	8	1%
	<i>Total w/HBV vaccine (of HBV neg or unscreened)</i>	149	83%	157	83%	146	82%	172	81%
<u>HBV Negative</u>									
		181	43%	188	46%	176	49%	214	48%
	<i>HBV vaccine</i>	148	84%	156	85%	145	84%	171	82%
<u>HCV Screening</u>									
		396	99%	394	98%	370	98%	442	99%
	<i>HCV positive</i>	154	40%	153	39%	128	36%	129	31%
<u>HCV Positive</u>									
		154	39%	153	38%	128	35%	129	30%
	<i>Screened for HAV</i>	127	82%	130	83%	109	79%	111	83%
	<i>HAV+ or vaccinated</i>	119	80%	118	79%	102	81%	102	80%
	<i>HCV VL BDL</i>	5	4%	7	4%	13	6%	12	8%
	<i>Potential candidates for HCV treatment</i>	149	96%	146	96%	115	94%	117	92%
	<i>HCV treatment (Ever)</i>	8	4%	15	12%	16	19%	23	23%
<u>HAV Screening</u>									
		331	78%	334	80%	318	79%	383	80%
	<i>HAV positive</i>	156	51%	155	47%	149	49%	180	48%
	<i>HAV negative</i>	175	49%	179	53%	169	51%	203	52%
	Of HAV neg, vaccine	113	68%	119	65%	117	61%	142	68%
	No screen, vaccine given	18	5%	16	4%	16	5%	18	5%

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2001-2004**

4/10/2006

CONTINUING PATIENTS

**(ORIGINAL COHORT AND NEW PATIENTS WITH MORE THAN 6 MONTHS CARE AT
START OF YEAR)**

ALL SITES	2001 (N=403)		2002 (N=402)		2003 (N=378)		2004 (N=451)	
	No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
	<u>H/O TB or positive PPD</u>	77	19%	78	19%	69	18%	80
<i>Screened in review period</i>	7	8%	7	11%	4	6%	1	1%
<u>No H/O TB or positive PPD</u>	326	81%	324	81%	309	82%	371	82%
<i>PPD completed at site or outside</i>	96	29%	126	43%	110	38%	110	34%
<i>PPD placed but not read</i>	12	3%	12	3%	26	9%	42	10%
<i>Missed PPD screening</i>	218	68%	186	54%	173	53%	219	55%
<i>PPD completed at site or outside - results in chart</i>	95	29%	125	42%	106	37%	108	34%
Positive	0	0%	2	2%	0	0%	3	3%
<i>CD4 > 200 at any time during review year</i>	273	83%	282	86%	271	88%	325	86%
PPD completed at site or outside (of CD4 > 200)	83	27%	114	44%	100	38%	101	36%
<u>Risk Reduction Discussion</u>								
On Entry Or In Last Year	309	77%	306	76%	311	83%	389	87%
On Entry To Care	220	55%	218	54%	213	59%	274	62%
In Last Year	214	54%	224	56%	237	66%	304	71%
None Documented	94	23%	96	24%	67	17%	62	13%
<u>STD Screening</u>								
GC	69	19%	76	20%	76	23%	108	25%
Syphilis	139	38%	170	46%	216	63%	270	63%
Chlamydia	64	18%	71	19%	69	22%	99	24%
<u>Routine Health Maintenance</u>								
Cholesterol Screening					271	73%	322	73%
Glucose Screening					326	84%	404	88%
Flu vaccine	249	60%	219	52%	252	69%	287	65%
Pneumovax (Ever)	379	95%	376	94%	348	94%	409	93%
Resistance Testing	62	14%	56	15%	70	23%	69	18%
<u>PCP Prophylaxis</u>								
On PCP prophylaxis	131	34%	116	29%	99	28%	115	26%
Not eligible by guidelines	266	65%	279	69%	277	71%	327	72%
Eligible, but not taking	6	1%	7	2%	2	1%	9	2%
Missing	0	0%	0	0%	0	0%	0	0%
<i>Eligible for PCP prophylaxis</i>	137	35%	123	31%	101	29%	124	28%
On PCP prophylaxis (of Eligible)	131	95%	116	94%	99	97%	115	92%
<u>MAI Prophylaxis</u>								
On MAI prophylaxis	41	9%	31	8%	22	6%	34	7%
Not eligible by guidelines	356	90%	364	90%	355	94%	416	92%
Eligible, but not taking	5	1%	6	1%	1	0%	1	0%
Missing	1	0%	1	0%	0	0%	0	0%

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2001-2004**

4/10/2006

CONTINUING PATIENTS

**(ORIGINAL COHORT AND NEW PATIENTS WITH MORE THAN 6 MONTHS CARE AT
START OF YEAR)**

ALL SITES		2001 (N=403)		2002 (N=402)		2003 (N=378)		2004 (N=451)	
		No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
<u>Number Of 4-Month Periods Seen By HIV Provider</u>									
One		21	5%	27	7%	22	5%	26	6%
Two		109	27%	114	31%	113	35%	116	28%
Three		273	68%	261	62%	243	60%	309	66%
None		0	0%	0	0%	0	0%	0	0%
<u>Last Trimester (4-Months)</u>									
Seen By Medical Provider in Sep-Dec		337	83%	332	84%	312	83%	382	84%
Had a CD4 test		283	67%	271	69%	286	76%	353	77%
Had a viral load measured		284	68%	275	69%	285	76%	339	72%
Male Patients		242	58%	232	56%	218	54%	255	52%
<u>STD Screening - Male Patients Only</u>									
GC		12	4%	15	5%	17	5%	33	11%
Syphilis		89	39%	102	47%	130	66%	154	65%
Chlamydia		7	2%	9	3%	10	3%	23	9%
Female Patients		161	42%	169	44%	156	45%	191	47%
<i>Pregnant in review period</i>		5	3%	4	2%	6	5%	12	6%
<i>Pregnant & on ART</i>		5	100%	4	100%	6	100%	10	79%
Pap smear in review period *		106	67%	109	66%	101	66%	124	68%
Colposcopy in review period *		20	14%	20	11%	9	6%	8	3%
No Pap or Colpo in review period		53	32%	59	33%	48	30%	62	30%
<u>Abnormal Pap (If Done)</u>									
<i>Referred</i>		25	87%	26	77%	22	92%	24	79%
<i>No referral</i>		4	13%	7	23%	5	8%	5	21%
<i>Missing</i>		0	0%	0	0%	0	0%	0	0%
<u>STD Screening - Female Patients Only</u>									
GC		57	34%	61	35%	58	38%	73	36%
Syphilis		50	34%	68	43%	82	61%	113	64%
Chlamydia		57	34%	62	35%	58	38%	75	37%
<u>ART Indicated In Review Period - All Patients</u>									
ART indicated (on ART or meeting PHS guidelines)		359	89%	364	91%	335	89%	388	88%
ART not indicated		44	11%	38	9%	43	11%	63	12%
On ART during review period (of ART indicated)		331	90%	335	88%	306	88%	363	92%
Not on ART But Meets PHS Guidelines		28	10%	29	12%	29	12%	25	8%
<i>Discussed/no action documented</i>		0	0%	0	0%	0	0%	0	0%
<i>Patient refused</i>		13	49%	11	41%	15	45%	12	36%
<i>Not discussed or offered</i>		2	4%	6	19%	2	4%	2	7%
<i>Other/unknown</i>		13	47%	12	40%	12	52%	11	58%

* Women may have both a Pap smear and colposcopy during the review period.

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2001-2004**

4/10/2006

CONTINUING PATIENTS

**(ORIGINAL COHORT AND NEW PATIENTS WITH MORE THAN 6 MONTHS CARE AT
START OF YEAR)**

ALL SITES		2001 (N=331)		2002 (N=335)		2003 (N=306)		2004 (N=363)	
(N=# on ART)		No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
<u>PATIENTS ON ART</u>									
<u>Drug Regimen</u>									
On PI		191	55%	184	52%	173	57%	207	57%
On NNRTI (no PI)		104	34%	102	34%	99	32%	135	38%
On NRTI only		36	11%	49	15%	34	11%	21	5%
<u>Number of Meds</u>									
One drug		2	1%	0	0%	1	0%	0	0%
Two drugs		19	6%	15	4%	12	3%	15	4%
Three drugs		257	78%	264	80%	228	74%	258	70%
Four or more drugs		53	16%	56	16%	65	23%	90	26%
Drug information not available		0	0%	0	0%	0	0%	0	0%
<u>Average Number of Meds</u>									
Mean		3.118		3.149		3.209		3.259	
Median		3		3		3		3	
<u>Frequency Of Viral Load <= 400 - On ART Only</u>									
Always <= 400		163	49%	157	43%	152	45%	216	59%
Sometimes <= 400		80	24%	84	28%	91	33%	81	23%
Never <= 400		86	26%	88	27%	57	21%	60	16%
No viral loads measured		2	0%	6	2%	6	1%	6	2%
<u>Last Viral Load <= 400 - On ART Only</u>									
<= 400		210	63%	193	53%	216	70%	267	72%
401-4,999		53	16%	59	22%	34	11%	37	11%
5,000-30,000		27	7%	31	9%	21	8%	22	6%
> 30,000		39	14%	46	14%	29	9%	31	8%
Missing		2	0%	6	2%	6	1%	6	2%
<u>Routine Health Maintenance - On ART Only</u>									
Cholesterol Screening						237	79%	268	76%
Glucose Screening						272	89%	330	92%
ART interrupted during review pd		68	22%	71	21%	59	17%	59	14%
Adherence assessed		329	100%	331	99%	305	100%	361	100%
<i>Problem identified</i>		126	39%	148	44%	97	33%	115	32%
<i>Problem / Intervention</i>		124	99%	148	100%	97	100%	114	99%
On ART at last visit		314	94%	314	93%	274	90%	337	94%
<u>Last Viral Load <= 400 - On ART At Last Visit</u>									
<= 400		203	64%	190	56%	207	75%	258	75%
401-4,999		52	17%	53	22%	27	10%	35	12%
5,000-30,000		25	6%	26	7%	16	8%	17	5%
> 30,000		33	12%	41	14%	18	5%	21	7%
Missing		1	0%	4	1%	6	2%	6	2%

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2001-2004**

4/10/2006

**CONTINUING PATIENTS
(ORIGINAL COHORT AND NEW PATIENTS WITH MORE THAN 6 MONTHS CARE AT
START OF YEAR)**

ALL SITES		2001 (N=331)		2002 (N=335)		2003 (N=306)		2004 (N=363)	
Drugs in Last ART Regimen in Review Period (N=# on ART)	Drugs	No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
		3TC	229	68%	227	67%	221	74%	255
ddC	2	0%	2	0%	1	0%	1	0%	
AZT	147	44%	151	45%	131	43%	154	40%	
ddl	62	19%	62	18%	49	15%	57	17%	
d4T	140	42%	118	35%	77	25%	56	14%	
Abacavir	79	27%	89	28%	82	29%	77	21%	
Tenofovir	8	2%	48	13%	92	31%	138	39%	
Preveon	1	0%	0	0%	0	0%	0	0%	
FTC	0	0%	0	0%	0	0%	17	5%	
Delavirdine	0	0%	0	0%	1	0%	2	0%	
Efavirenz	73	21%	78	24%	80	25%	109	28%	
Nevirapine	61	21%	53	19%	40	14%	45	15%	
Amprenavir	16	4%	15	4%	10	3%	14	4%	
Saquinavir	21	7%	20	6%	11	3%	6	1%	
Indinavir	38	11%	32	9%	18	5%	9	2%	
Ritonavir	34	10%	30	9%	27	9%	57	16%	
Nelfinavir	76	22%	67	18%	48	17%	40	9%	
Lopinavir/Ritonavir	45	14%	62	18%	78	25%	82	23%	
Atazanavir	0	0%	0	0%	13	3%	58	17%	
Tipranavir	0	0%	0	0%	1	0%	2	0%	
T20	0	0%	1	0%	2	0%	4	1%	

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2001-2004**

4/10/2006

CONTINUING PATIENTS

**(ORIGINAL COHORT AND NEW PATIENTS WITH MORE THAN 6 MONTHS CARE AT
START OF YEAR)**

ALL SITES		2001 (N=403)		2002 (N=402)		2003 (N=378)		2004 (N=451)	
		No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
<u>OUTCOMES</u>									
Hospitalized in Review Period		56	14%	65	17%	68	17%	74	16%
New STDs		4	1%	5	1%	3	1%	6	1%
New TB		0	0%	2	1%	1	0%	1	0%
New IDU-related endocarditis		0	0%	1	0%	1	1%	0	0%
New OIs		6	1%	9	2%	6	2%	13	2%
<u>First CD4 Count</u>									
CD4 <= 200		77	20%	75	20%	69	19%	72	16%
CD4 > 200		321	78%	319	78%	303	80%	374	82%
Missing		5	2%	8	3%	6	1%	5	2%
<u>Last CD4 Count</u>									
CD4 <= 200		71	18%	63	17%	50	14%	68	16%
CD4 > 200		327	80%	331	81%	322	85%	378	83%
Missing		5	2%	8	3%	6	1%	5	2%
<u>Drop In CD4 Count From First To Last</u>									
CD4 drop > 50 (first CD4 <= 500)		37	9%	32	9%	33	9%	57	14%
CD4 drop <= 50 (first CD4 <= 500)		155	39%	150	35%	161	46%	178	40%
Fewer than two CD4 counts		56	15%	71	19%	38	9%	39	9%
Two or more CD4 counts with first CD4 > 500		155	36%	149	37%	146	36%	177	37%
<u>Frequency Of Viral Load <= 400 - All Cases</u>									
Always <= 400		172	41%	167	38%	161	39%	223	49%
Sometimes <= 400		86	21%	88	23%	99	27%	91	20%
Never <= 400		139	37%	138	36%	112	32%	126	27%
No viral loads measured		6	1%	9	3%	6	1%	11	4%
<u>Last Viral Load <= 400 - All Cases</u>									
<= 400		223	53%	204	47%	228	60%	280	61%
401-4,999		72	18%	81	21%	49	13%	57	14%
5,000-30,000		46	11%	48	12%	50	14%	49	11%
> 30,000		56	17%	60	16%	45	12%	54	11%
Missing		6	1%	9	3%	6	1%	11	4%
TOTAL CASES REVIEWED INCL DEATHS		598	68%	545	74%	631	60%	744	61%

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2002-2004**

4/10/2006

PATIENTS NEW TO CARE AND NEWLY DIAGNOSED IN 2002 AND 2003

ALL SITES	New To Care/Newly Diagnosed 2002				New To Care/Newly Diagnosed 2003			
	2002 (N=77)		2003 (N=61)		2003 (N=108)		2004 (N=94)	
	No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
BASELINE DATA								
<u>Gender</u>								
Male	53	58%	39	60%	65	54%	51	52%
Female	23	42%	21	39%	42	46%	42	48%
Transgender	1	0%	1	1%	1	0%	1	0%
<u>Age At Year End</u>								
< 19	0	0%	0	0%	0	0%	0	0%
20-29	13	9%	11	10%	20	17%	11	15%
30-39	39	53%	26	31%	48	48%	45	46%
40-49	18	27%	18	44%	30	20%	27	21%
50-59	5	8%	5	14%	9	12%	10	18%
60-69	1	1%	1	1%	1	2%	0	0%
70+	1	1%	0	0%	0	0%	1	0%
Unknown	0	0%	0	0%	0	0%	0	0%
<u>Race/Ethnicity</u>								
Hispanic	24	38%	19	30%	14	24%	14	34%
White non-Hispanic	26	19%	19	17%	43	28%	33	24%
Black non-Hispanic	21	39%	18	48%	48	45%	44	39%
Asian/PI non-Hispanic	1	1%	1	1%	1	0%	1	0%
Other non-Hispanic	5	3%	4	3%	2	3%	2	3%
Missing	0	0%	0	0%	0	0%	0	0%
Minority	51	81%	42	83%	65	72%	61	76%
Born outside US	39	57%	34	51%	55	58%	52	67%
<u>HIV Risk Behavior*</u>								
MSM	35	21%	26	20%	45	26%	35	22%
Heterosexual	39	69%	34	71%	64	69%	58	75%
IDU	4	8%	3	12%	9	17%	7	13%
Blood product	0	0%	0	0%	3	8%	4	14%
Occupational	1	3%	0	0%	1	0%	1	0%
Other/unknown/not documented	5	8%	3	2%	4	2%	4	2%
<u>Year In Which Care Was Entered At Site</u>								
Prior to 1996	0	0%	0	0%	0	0%	0	0%
1996 and later	77	100%	61	100%	108	100%	94	100%
Unknown	0	0%	0	0%	0	0%	0	0%
<u>Initial CD4 count @ site</u>								
<= 50	9	20%	7	12%	13	12%	10	10%
51-200	11	25%	8	18%	16	14%	15	20%
201-500	36	29%	28	35%	44	40%	40	45%
> 500	20	27%	16	33%	35	34%	29	25%
Not available	1	1%	2	2%	0	0%	0	0%

* HIV Risk Behaviors are not mutually exclusive categories.

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2002-2004**

4/10/2006

PATIENTS NEW TO CARE AND NEWLY DIAGNOSED IN 2002 AND 2003

ALL SITES	New To Care/Newly Diagnosed 2002				New To Care/Newly Diagnosed 2003			
	2002 (N=77)		2003 (N=61)		2003 (N=108)		2004 (N=94)	
	No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
REVIEW PERIOD DATA								
<u>HIV Stage</u>								
AIDS	24	47%	21	43%	41	32%	41	44%
HIV	53	53%	40	57%	67	68%	53	56%
<u>Substance Abuse</u>								
Active	12	8%	8	7%	12	8%	15	19%
Inactive (hx only)	10	15%	12	19%	15	27%	11	22%
No history	53	71%	41	74%	80	64%	68	59%
No documentation	2	5%	0	0%	1	0%	0	0%
<u>Mental Illness</u>								
Active	32	35%	31	40%	42	43%	38	49%
Inactive (hx only)	0	0%	2	2%	3	4%	7	9%
No history	42	58%	26	56%	61	50%	49	42%
No documentation	3	6%	2	2%	2	3%	0	0%
<u>IDU Risk/Active Substance Abuse</u>								
IDU risk with active substance abuse	1	1%	0	0%	5	6%	4	8%
IDU risk with no active substance abuse	3	7%	3	12%	4	11%	3	5%
Active substance abuse with no IDU risk	11	8%	8	7%	7	2%	11	11%
No active substance abuse with no IDU risk	62	84%	50	81%	92	80%	76	76%
Incarcerated in Review Period	1	1%	0	0%	3	5%	0	0%
<u>HBV Screening</u>								
HBV positive (any marker)	37	46%	28	39%	57	47%	55	45%
HBV negative	37	54%	32	61%	48	53%	39	55%
No HBV Screen	3	2%	1	1%	3	6%	0	0%
Total w/HBV vaccine (of HBV neg or unscreened)	26	67%	23	74%	39	80%	29	79%
<u>HBV Negative</u>								
HBV vaccine	26	71%	23	75%	37	78%	29	79%
<u>HCV Screening</u>								
HCV positive	5	9%	4	13%	8	14%	6	9%
<u>HCV Positive</u>								
Screened for HAV	5	100%	4	100%	8	100%	6	100%
HAV+ or vaccinated	4	83%	3	83%	5	70%	4	67%
HCV VL BDL	0	0%	0	0%	1	10%	1	25%
Potential candidates for HCV treatment	5	100%	4	100%	7	90%	5	75%
HCV treatment (Ever)	0	0%	0	0%	0	0%	0	0%
<u>HAV Screening</u>								
HAV positive	34	60%	25	50%	63	64%	59	67%
HAV negative	31	40%	26	50%	37	36%	32	33%
Of HAV neg, vaccine	21	55%	18	65%	27	71%	22	66%
No screen, vaccine given	2	2%	2	2%	2	6%	0	0%

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2002-2004**

4/10/2006

PATIENTS NEW TO CARE AND NEWLY DIAGNOSED IN 2002 AND 2003

ALL SITES	New To Care/Newly Diagnosed 2002				New To Care/Newly Diagnosed 2003			
	2002 (N=77)		2003 (N=61)		2003 (N=108)		2004 (N=94)	
	No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
<u>H/O TB or positive PPD</u>	12	13%	9	11%	9	13%	8	19%
<i>Screened in review period</i>	3	25%	0	0%	1	10%	0	0%
<u>No H/O TB or positive PPD</u>	65	87%	52	89%	99	87%	86	81%
<i>PPD completed at site or outside</i>	36	51%	17	41%	56	58%	23	38%
<i>PPD placed but not read</i>	4	9%	4	5%	5	4%	5	12%
<i>Missed PPD screening</i>	25	40%	31	54%	38	39%	58	51%
<i>PPD completed at site or outside - results in chart</i>	36	51%	17	41%	55	57%	22	37%
Positive	0	0%	0	0%	2	1%	0	0%
<i>CD4 > 200 at any time during review year</i>	52	73%	48	94%	82	83%	76	86%
PPD completed at site or outside (of CD4 > 200)	31	55%	17	44%	49	64%	21	37%
<u>Risk Reduction Discussion</u>								
On Entry Or In Last Year	57	64%	55	86%	88	78%	86	89%
On Entry To Care	54	62%	46	64%	75	63%	65	61%
In Last Year	55	58%	42	71%	88	78%	72	84%
None Documented	20	36%	6	14%	20	22%	8	11%
<u>STD Screening</u>								
GC	22	27%	15	26%	54	35%	37	35%
Syphilis	65	81%	33	71%	96	84%	45	58%
Chlamydia	12	24%	12	25%	44	32%	32	33%
<u>Routine Health Maintenance</u>								
Cholesterol Screening			34	67%	87	70%	56	66%
Glucose Screening			51	91%	96	84%	84	78%
Flu vaccine	44	63%	47	88%	67	62%	55	59%
Pneumovax (Ever)	63	89%	53	93%	72	70%	69	85%
Resistance Testing	20	14%	7	16%	58	35%	8	5%
<u>PCP Prophylaxis</u>								
On PCP prophylaxis	25	43%	15	30%	36	31%	27	34%
Not eligible by guidelines	51	52%	45	60%	72	69%	66	62%
Eligible, but not taking	1	5%	1	10%	0	0%	1	4%
Missing	0	0%	0	0%	0	0%	0	0%
<i>Eligible for PCP prophylaxis</i>	26	48%	16	40%	36	31%	28	38%
On PCP prophylaxis (of Eligible)	25	89%	15	86%	36	100%	27	94%
<u>MAI Prophylaxis</u>								
On MAI prophylaxis	8	11%	4	9%	13	12%	8	7%
Not eligible by guidelines	67	83%	57	91%	94	88%	86	93%
Eligible, but not taking	2	5%	0	0%	1	0%	0	0%
Missing	0	0%	0	0%	0	0%	0	0%

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2002-2004**

4/10/2006

PATIENTS NEW TO CARE AND NEWLY DIAGNOSED IN 2002 AND 2003

ALL SITES	New To Care/Newly Diagnosed 2002				New To Care/Newly Diagnosed 2003			
	2002 (N=77)		2003 (N=61)		2003 (N=108)		2004 (N=94)	
	No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
<u>Number Of 4-Month Periods Seen By HIV Provider</u>								
One	33	54%	5	13%	42	41%	9	14%
Two	28	27%	11	27%	51	35%	15	15%
Three	16	20%	45	60%	15	23%	70	71%
None	0	0%	0	0%	0	0%	0	0%
<u>Last Trimester (4-Months)</u>								
Seen By Medical Provider in Sep-Dec	63	89%	54	82%	99	92%	80	82%
Had a CD4 test	60	80%	53	92%	93	83%	71	73%
Had a viral load measured	60	80%	51	81%	90	79%	69	69%
Male Patients	53	58%	39	60%	65	54%	51	52%
<u>STD Screening - Male Patients Only</u>								
GC	13	7%	3	2%	25	13%	15	18%
Syphilis	44	74%	20	70%	58	85%	31	64%
Chlamydia	1	2%			15	11%	10	16%
Female Patients	23	42%	21	39%	42	46%	42	48%
<i>Pregnant in review period</i>	1	2%	3	8%	8	21%	4	10%
Pregnant & on ART	1	100%	2	75%	5	58%	3	67%
Pap smear in review period *	16	75%	14	71%	26	62%	24	65%
Colposcopy in review period *	4	11%	2	29%	2	5%	3	2%
No Pap or Colpo in review period	7	25%	6	15%	15	37%	15	34%
<u>Abnormal Pap (If Done)</u>	6	37%	2	28%	18	52%	11	47%
<i>Referred</i>	5	75%	2	78%	15	78%	10	60%
<i>No referral</i>	1	25%	0	22%	3	22%	1	40%
<i>Missing</i>	0	0%	0	0%	0	0%	0	0%
<u>STD Screening - Female Patients Only</u>								
GC	9	49%	12	53%	29	50%	22	49%
Syphilis	20	90%	12	54%	37	94%	14	51%
Chlamydia	11	52%	12	66%	29	50%	22	49%
<u>ART Indicated In Review Period - All Patients</u>								
ART indicated (on ART or meeting PHS guidelines)	52	70%	47	78%	68	63%	64	72%
ART not indicated	25	30%	14	22%	40	37%	30	28%
On ART during review period (of ART indicated)	39	81%	42	94%	56	82%	56	88%
Not on ART But Meets PHS Guidelines	13	19%	5	6%	12	18%	8	12%
<i>Discussed/no action documented</i>	0	0%	0	0%	0	0%	0	0%
<i>Patient refused</i>	1	3%	3	58%	5	42%	4	38%
<i>Not discussed or offered</i>	5	58%	0	0%	0	0%	0	0%
<i>Other/unknown</i>	7	39%	2	42%	7	58%	4	63%

* Women may have both a Pap smear and colposcopy during the review period.

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2002-2004**

4/10/2006

PATIENTS NEW TO CARE AND NEWLY DIAGNOSED IN 2002 AND 2003

ALL SITES (N=# on ART)	New To Care/Newly Diagnosed 2002				New To Care/Newly Diagnosed 2003			
	2002 (N=39)		2003 (N=42)		2003 (N=56)		2004 (N=56)	
	No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
<u>PATIENTS ON ART</u>								
<u>Drug Regimen</u>								
On PI	12	24%	12	29%	18	33%	20	30%
On NNRTI (no PI)	21	58%	26	63%	37	66%	34	67%
On NRTI only	6	18%	4	8%	1	1%	2	3%
<u>Number of Meds</u>								
One drug	0	0%	0	0%	0	0%	0	0%
Two drugs	0	0%	0	0%	1	3%	1	2%
Three drugs	36	86%	36	68%	52	91%	49	90%
Four or more drugs	3	14%	6	32%	3	6%	6	8%
Drug information not available	0	0%	0	0%	0	0%	0	0%
<u>Average Number of Meds</u>								
Mean	3.077		3.143		3.036		3.125	
Median	3		3		3		3	
<u>Frequency Of Viral Load <= 400 - On ART Only</u>								
Always <= 400	2	14%	19	51%	1	3%	34	63%
Sometimes <= 400	22	52%	18	31%	32	39%	17	34%
Never <= 400	14	33%	5	18%	23	58%	5	4%
No viral loads measured	1	1%	0	0%	0	0%	0	0%
<u>Last Viral Load <= 400 - On ART Only</u>								
<= 400	21	56%	32	72%	28	35%	45	88%
401-4,999	6	15%	5	9%	12	41%	4	3%
5,000-30,000	5	12%	2	4%	6	9%	3	6%
> 30,000	6	16%	3	15%	10	15%	4	3%
Missing	1	1%	0	0%	0	0%	0	0%
<u>Routine Health Maintenance - On ART Only</u>								
Cholesterol Screening			30	74%	50	71%	41	76%
Glucose Screening			38	94%	51	91%	53	87%
ART interrupted during review pd								
Adherence assessed	2	4%	11	33%	10	18%	12	15%
<i>Problem identified</i>	36	96%	42	100%	52	94%	56	100%
<i>Problem / Intervention</i>	7	17%	11	32%	14	27%	11	12%
	7	100%	11	100%	14	100%	11	100%
On ART at last visit	37	98%	39	94%	53	94%	53	94%
<u>Last Viral Load <= 400 - On ART At Last Visit</u>								
<= 400	21	58%	31	73%	27	34%	44	92%
401-4,999	6	15%	5	11%	11	42%	4	4%
5,000-30,000	5	12%	1	3%	5	8%	2	3%
> 30,000	5	15%	2	13%	10	15%	3	2%
Missing	0	0%	0	0%	0	0%	0	0%

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2002-2004**

4/10/2006

PATIENTS NEW TO CARE AND NEWLY DIAGNOSED IN 2002 AND 2003

ALL SITES		New To Care/Newly Diagnosed 2002				New To Care/Newly Diagnosed 2003			
Drugs in Last ART Regimen in Review Period (N=# on ART)		2002 (N=39)		2003 (N=42)		2003 (N=56)		2004 (N=56)	
		No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
Drugs									
3TC		37	96%	37	92%	51	92%	48	91%
ddC		0	0%	0	0%	0	0%	0	0%
AZT		32	87%	29	81%	29	43%	29	43%
ddl		2	3%	3	5%	5	8%	5	16%
d4T		2	3%	2	2%	3	4%	2	1%
Abacavir		10	34%	10	31%	4	5%	6	7%
Tenofovir		4	7%	12	28%	18	43%	20	40%
Preveon		0	0%	0	0%	0	0%	0	0%
FTC		0	0%	1	1%	2	4%	6	8%
Delavirdine		0	0%	0	0%	0	0%	0	0%
Efavirenz		18	53%	23	59%	32	54%	31	64%
Nevirapine		3	5%	3	5%	5	12%	3	3%
Amprenavir		0	0%	0	0%	0	0%	1	0%
Saquinavir		0	0%	0	0%	0	0%	0	0%
Indinavir		0	0%	0	0%	1	1%	1	0%
Ritonavir		0	0%	1	11%	2	4%	4	4%
Nelfinavir		3	8%	4	7%	4	5%	3	2%
Lopinavir/Ritonavir		9	16%	7	10%	11	24%	12	24%
Atazanavir		0	0%	0	0%	3	7%	4	5%
Tipranavir		0	0%	0	0%	0	0%	0	0%
T20		0	0%	0	0%	0	0%	0	0%

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2002-2004**

4/10/2006

PATIENTS NEW TO CARE AND NEWLY DIAGNOSED IN 2002 AND 2003

ALL SITES	New To Care/Newly Diagnosed 2002				New To Care/Newly Diagnosed 2003			
	2002 (N=77)		2003 (N=61)		2003 (N=108)		2004 (N=94)	
	No.	Mean %	No.	Mean %	No.	Mean %	No.	Mean %
OUTCOMES								
Hospitalized in Review Period	12	12%	8	16%	18	21%	13	12%
New STDs	4	8%	2	2%	9	5%	6	9%
New TB	2	2%	0	0%	0	0%	0	0%
New IDU-related endocarditis	0	0%	0	0%	0	0%	0	0%
New OIs	4	5%	1	5%	8	12%	2	4%
<u>First CD4 Count</u>								
CD4 <= 200	19	43%	8	24%	29	26%	13	14%
CD4 > 200	56	55%	53	76%	79	74%	80	82%
Missing	2	2%	0	0%	0	0%	1	4%
<u>Last CD4 Count</u>								
CD4 <= 200	16	32%	5	15%	18	15%	12	13%
CD4 > 200	59	67%	56	85%	90	85%	81	83%
Missing	2	2%	0	0%	0	0%	1	4%
<u>Drop In CD4 Count From First To Last</u>								
CD4 drop > 50 (first CD4 <= 500)	5	3%	3	3%	7	7%	12	11%
CD4 drop <= 50 (first CD4 <= 500)	41	48%	35	67%	54	47%	44	56%
Fewer than two CD4 counts	14	28%	4	3%	23	19%	8	10%
Two or more CD4 counts with first CD4 > 500	17	20%	19	26%	24	27%	30	23%
<u>Frequency Of Viral Load <= 400 - All Cases</u>								
Always <= 400	5	14%	20	39%	7	8%	35	43%
Sometimes <= 400	23	32%	20	23%	40	25%	23	21%
Never <= 400	48	52%	21	38%	61	67%	33	28%
No viral loads measured	1	1%	0	0%	0	0%	3	8%
<u>Last Viral Load <= 400 - All Cases</u>								
<= 400	24	38%	33	54%	35	26%	49	58%
401-4,999	16	20%	9	19%	28	41%	17	20%
5,000-30,000	17	21%	12	12%	22	15%	15	10%
> 30,000	19	19%	7	16%	23	18%	10	4%
Missing	1	1%	0	0%	0	0%	3	8%
TOTAL CASES REVIEWED INCL DEATHS	84	91%	82	72%	122	85%	119	74%

**TITLE I/EMMS CLINICAL CQI CHART REVIEW DATA
2002-2004**

4/10/2006

PATIENTS NEW TO CARE AND NEWLY DIAGNOSED IN 2002 AND 2003

ALL SITES	New To Care And Newly Diagnosed In 2002		New To Care And Newly Diagnosed In 2003	
	Calendar Years 2002 And 2003 (N=80)		Calendar Years 2003 And 2004 (N=117)	
	No.	Mean %	No.	Mean %
<u>EITHER YEAR</u>				
<u>Gender</u>				
Male	53	58%	68	53%
Female	26	42%	48	47%
Transgender	1	0%	1	0%
<u>No H/O TB or positive PPD</u>	68	89%	108	87%
<i>PPD completed at site or outside</i>	47	63%	68	64%
<i>PPD placed but not read</i>	2	6%	8	8%
<i>Missed PPD screening</i>	19	30%	32	28%
<i>PPD completed at site or outside - results in chart</i>	47	63%	67	64%
Positive	0	0%	2	1%
<i>CD4 > 200 at any time during either year</i>	60	84%	93	88%
PPD completed at site or outside (of CD4 > 200)	43	62%	60	64%
<u>STD Screening</u>				
GC	32	36%	70	47%
Syphilis	76	98%	102	86%
Chlamydia	21	33%	61	45%
<u>Routine Health Maintenance</u>				
Cholesterol Screening	34	46%	99	78%
Glucose Screening	51	67%	110	88%
<u>Resistance Testing</u>	25	20%	64	34%
<u>Male Patients</u>	53	58%	68	53%
<u>STD Screening - Male Patients Only</u>				
GC	15	13%	33	20%
Syphilis	49	96%	61	88%
Chlamydia	2	8%	23	18%
<u>Female Patients</u>	26	42%	48	47%
Pap smear in either year *	23	83%	34	71%
Colposcopy in either year *	6	34%	5	6%
No Pap or Colpo in either year	2	4%	12	28%
<u>Abnormal Pap (If Done)</u>	6	33%	21	54%
<i>Referred</i>	5	75%	17	88%
<i>No referral</i>	1	25%	4	12%
<i>Missing</i>	0	0%	0	0%
<u>STD Screening - Female Patients Only</u>				
GC	17	61%	37	62%
Syphilis	26	100%	40	92%
Chlamydia	19	64%	38	62%