Ryan White Part A Clinical Performance 2011

Atlanta Eligible Metropolitan Area

A summary of clinical chart review results designed to monitor the quality of care provided by Ryan White Part A funded primary care sites as part of the Atlanta EMA's quality management plan.

Prepared for Fulton County Government's Ryan White Part A Program

By the Center for Applied Research and Evaluation Studies

Southeast AIDS Training and Education Center

Emory University School of Medicine

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Acknowledgements

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Study Team

This quality improvement study was made possible by a grant from Fulton County Government's Ryan White Part A Program. The study team included Tiffany Burgess, MPH; Rebecca Culyba, PhD; Sridevi Wilmore, MPH; Barbara Blake, RN, PhD; Gloria Ann Jones Taylor, DSN, RNc; Alecia McFarlane, MPH; Susan Richardson, MN,MPH, CFNP; Blake Tyler McGee, MPH.

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INTRODUCTION

Background

The 2010 Atlanta Eligible Metropolitan Area (EMA) Ryan White Part A primary care chart review was conducted by the Center for Applied Research and Evaluation Studies (CARES) at the Southeast AIDS Training and Education Center (SEATEC), Department of Family and Preventive Medicine at the Emory University School of Medicine. Consulting services were provided by Barbara J. Blake, RN, PhD and Gloria Ann Jones Taylor, DSN, RNc. This study was conducted on behalf of the Fulton County Government Ryan White Part A Program and the Metropolitan Atlanta HIV Health Services Planning Council (Planning Council).

The chart review is based on methods of quality improvement that focus on the processes and systems of care delivery rather than the performance of individual practitioners. Performance measurement data provide the foundation upon which systems can be analyzed and decisions to improve care can be made.[1]

> *"Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."*
>
> *-Institute of Medicine, 2001*

Methodology

The purpose of the chart review was to examine the extent to which Ryan White Part A funded primary care sites were providing care that meets quality of care indicators approved by the Planning Council and Health Resources and Services Administration's (HRSA), HIV/AIDS Bureau (HAB) HIV Core Clinical Performance Measures for Adult/Adolescent Clients, Groups 1-3. Since 2005, the Planning Council's Quality Management Committee has been charged with developing and updating these indicators based on standards developed by the Planning Council's Quality Management Committee and task forces and HRSA's HAB HIV Performance Measures. The 2003-2004 Chart Review, the first in the Atlanta EMA and conducted by CARES, provided baseline quality of care measures for use in the development of primary care quality management standards and indicators in the EMA, based on Public Health Service Guidelines and acceptable clinical practices. The 2007 chart review focused on EMA standards and indicators, as well as select draft HAB Clinical Performance Measures. Results from the current study are not intended for comparison to previous chart reviews because EMA indicators and HAB measures are adapted to stay consistent with frequently changing HIV/AIDS treatments guidelines. This quality study is intended to provide an ongoing performance assessment of

[1] New York State Department of Health, AIDS Institute. Clinical Management of HIV Infection: Quality of Care Performance in New York State 1999-2001. October 2003.

clinical measures that will assist in identifying areas for quality improvement in HIV primary care in the Atlanta EMA rather than trend analysis.

All 8 primary care sites funded by Part A in 2009 participated in this quality study. A total of 739 individual patient charts were reviewed across these sites for documentation of quality care during the study time period and back to initial diagnosis. The final sample was intended to be representative, by gender, of the client population served at each individual clinic. Demographic information such as race, ethnicity, and age were also collected because these factors could potentially impact the care and subsequently the health of the client.

Data Collection Tool

An extensive review of existing HAB HIV Clinical Core Performance Measures, Atlanta EMA indicators, and chart review tools used by other jurisdictions was conducted. After careful consideration, the study team chose to design an electronic data collection instrument to improve the quality of the data and to expedite data analysis. The data collection form was developed to meet the study scope using Access 2001. Security of the electronic data was ensured in three ways: 1) each Access database deployed was password protected; 2) laptops were password protected; and 3) laptops had PGP Whole Disk Encryption installed. The data collection tool was piloted in a Ryan White clinical setting; modifications were made as needed and the tool was finalized in July 2010. A visual depiction of the tool can be found in the Appendices. Data collection was conducted from August through November 2010.

Chart Review Process

All charts were reviewed by registered nurse consultants that have a quality management background. The nurse consultants were trained by SEATEC staff on the protocol for chart selection and use of the chart review tool, including data security.

The HIVQUAL sampling methodology[2] was used and charts were selected using a non-probability systematic sampling technique with a random start. Sample selection was stratified based on the gender composition of active clients at each clinic. While not a probability sample, this methodology was chosen to ensure that, to the extent possible given the structure of the clinics, the resulting data were representative of the clinic population. The study sample size was chosen based on determination of adequate size for a 90% degree of confidence that can be generalized to the study population.

[2] The 2007 HIVQUAL Project Sampling Method (Instructions for Facilities outside New York State. April 23, 2008.

For each chart pulled, reviewers determined whether the client met the study **selection criteria**:

- At least 18 years old
- Alive
- Has had at least one medical visit within the review period
- Has had at least one medical visit in the last 6 months of the review period
- The entire chart (if multiple volumes) was accessible

Reviews were conducted August through November 2010. Once it was determined that the chart met the selection criteria, data for each chart were recorded directly into the tool, which was returned to the SEATEC office weekly. The data were then cleaned in preparation for analysis. Data analysis was conducted using Statistical Analysis Software (SAS) Version 9.2. Preliminary results were presented to the Planning Council's Quality Management committee in October 2010, with final results presented March 3, 2011. Results were also presented to the Planning Council on May 19, 2011.

Data Considerations

The chart review conducted by CARES on behalf of the Fulton County Government Ryan White Part A Program and the Planning Council provides a snapshot of clinic practices. The data collected were not intended to capture the historical clinic-patient relationship, but to provide information on the clinic's documentation of current primary care practices for a representative sample of clients. The current chart review cannot be compared to the 2007 Chart Review to determine if an expected level of performance was met because newly established performance measures are being examined in this study and similar measures were reviewed using an updated tool and sampling method. These data may provide guidance to explore potential areas for improvements as the Atlanta EMA continues to assess performance measures for primary medical care. More detailed discussion on each indicator can be found in the separate sections of the report.

Documentation may not reflect all clinical care provided to the clients. In addition, systematic factors such as the provision of services off-site and/or documented at a separate location may impact the documentation of services under review and therefore should be considered prior to making changes to the provision of clinical care at any site.

Charts were reviewed primarily for the study period of January 1 to December 31, 2009; however, for some indicators review goes back to the time of initial HIV diagnosis. Numerator and denominator criteria for the study indicators are defined in the Measures and Results section. Clients at the individual clinics must have met the study selection criteria outlined above as well as specific denominator criteria for an indicator to be included in the population for that indicator. HRSA performance measures are based on the *HAB HIV Core Clinical Performance Measures: Adults and Adolescent Clients*. These measures are categorized into three groups: Group 1 measures, finalized July 2008, can serve as a foundation on which to build, especially if a clinical program has no performance measures; Group 2, finalized August

2008, measures are important measures for a robust clinical management program and should be seriously considered; and Group 3, finalized April 2009, measures represent areas of care that are considered "best practice," but may lack written clinical guidelines or rely on data that are difficult to collect.[3] The EMA indicators are based on the final *Quality of Service Indicators - Ambulatory Outpatient Care* document approved by the Planning Council on January 2010.

Specific exclusion criteria for each indicator are discussed in the separate sections of the report. It is important to note that if no clients at an individual clinic met the denominator criteria for a specific indicator, the indicator is not applicable to that site. In these cases, the clinic will not be represented in the charts presenting the results. In addition, the line indicating the overall EMA average on each bar chart may not exactly match the overall averages in the text or in the results table in the Appendices because SAS calculates an average of the percentages of the clinics in creating the average bars in the charts as opposed to an average of the total individual numerator and denominator counts of the clinics.

Importantly, the results of cervical cancer screenings and viral load are not presented in this report. Across all sites, the EMA and HRSA performance measures average for the Papanicolau (pap) test could not be determined. After reviewing the data collected for this chart review, the study team determined that as a result of various anomalies in chart documentation and data collection for the Papanicolau (pap) test, the results are inconclusive. The measure for cervical cancer screen continues to be monitored across the EMA using CAREWare. In regards to the viral load, the data collected to measure this EMA indicator in this chart review was not considered an accurate representation of the current quality of care standards. As a result, the EMA quality indicator for viral load has been revised by the Quality Management Committee of the Planning Council.

Finally, please make note of the following for indicators that specify date criteria. For indicators that refer to a primary care service received in the “last 12 months,” this includes services on December 31, 2009, the last day of the study period, and the previous 12 months. Similarly, for an indicator that refers to “enrolled in care >3 months,” the client’s initial visit had to be prior to October 1, 2009, which is 3 months prior to the last day of the study period.

[3] From EMA indicators approved January 2010 and HAB HIV Core Clinical Performance Measures for Adult/Adolescent Clients available at http://hab.hrsa.gov/special/coreclinical.htm.

Key Findings

Tables A reflects the overall results of the three groups of HRSA's *HAB HIV Core Clinical Performance Measures* examined in this chart review, while Table D reflects additional quality indicators measured by the Atlanta EMA.

Overall, the Part A funded primary care sites in the Atlanta EMA are providing high quality HIV primary care. Six out of 19 EMA measures are ≥90 percent compliant, 10 are ≥80 percent compliant and 11 are ≥70 percent compliant. Eight out of 25 HRSA measures ≥90 percent compliant, 16 are ≥80 percent compliant and 17 are ≥70 percent compliant.

- 40 % received an Oral Exam
- 95 % received 2 or more medical visits
- 100% screened for Hepatitis C
- 93% had HIV risk counseling
- 95% of new patients screened for mental health
- 97% of new patients screened for substance abuse

Table A. Percent Compliance for Clinical Performance Measures.

	Result	*Benchmarks*[4]
HAB HIV Core Clinical Performance Measures for Adult/Adolescent Clients: HRSA Group 1		
ARV Therapy for Pregnant Women*	58% (N=9)	None available
CD4 T-Cell Count*	89%	EMA goal: 90%, IHI: 90%, 2006 HQ Median: 62.5%
HAART*	86%	EMA goal: 90%, IHI Goal: 90%, 2006 HQ Median: 100%
Medical visits*	95%	EMA goal: 85%
PCP prophylaxis*	92%	EMA goal: 95%, IHI Goal: 95%, 2006 HQ Median: 94.4%
HAB HIV Core Clinical Performance Measures for Adult/Adolescent Clients: HRSA Group 2		
Adherence Assessment & Counseling*	*88%*	EMA goal: 90%, IHI Goal: 90%, 2006 HQ Median: 55.7%
Hepatitis B vaccination	80%	HOPS 17%, CDC 45%
Hepatitis C screening	100%	EMA goal: 95%, IHI Goal: 95%, 2006 HQ Median: 90.9%
HIV Risk Counseling*	93%	EMA goal: 85%
Lipid Screening	84%	2006 HQ Median: 84.7%
Oral exam*	40%	EMA goal: 50%, IHI Goal: 75%, 2006 HQ Median: 39.4%
Syphilis screening*	81%	EMA goal: 90%, IHI Goal: 90%, 2006 HQ Median: 80%
TB screening*	97%	EMA goal: 100%, 2006 HQ Median: 56.2%
HAB HIV Core Clinical Performance Measures for Adult/Adolescent Clients: HRSA Group 3		
Chlamydia screening	68%	None available
Gonorrhea screening	69%	None available
Hepatitis B screening	99%	None available
Hepatitis/HIV Alcohol Counseling	47%	None available
Influenza vaccination	63%	None available
MAC prophylaxis	77%	2007 HQ Median: 84.6%
Mental health screening	95%	2007 HQ Median: 42%
Pneumococcal vaccination	84%	2007 HQ Median: 90.9%
Substance use screening	97%	IHI Goal: 90% 2007 HQ Median: 80.6%
Tobacco cessation counseling	57%	2007 HQ Median: 80.6%
Toxoplasma screening	80%	2007 HQ Median: 83.8%
Atlanta EMA Indicators		
Problem list	98%	None available
Allergy documentation	100%	None available
Chlamydia Baseline Screening	32%	EMA goal: 100%
Gonorrhea Baseline Screening	32%	EMA goal: 100%
Nutrition Screening	68%	None available
HIV Confirmatory Test	78%	None available

*indicates EMA measure

[4] From EMA indicators approved 1/10 and HAB HIV Core Clinical Performance Measures for Adult/Adolescent Clients available at http://hab.hrsa.gov/special/coreclinical.htm

Reviewer Observations

There were site-specific issues impacting documentation that the reviewers noted during their examination of the site charts. These observations may assist in focusing efforts to enhance quality of care in needed areas. In some cases at the various sites:

- Charts had inconsistent documentation
- Charts had unclear documentation
- Some sites have a hybrid paper and electronic charting system and/or have a new or pending electronic medical record (EMR)
- Some services were provided close to, but outside of, the study period

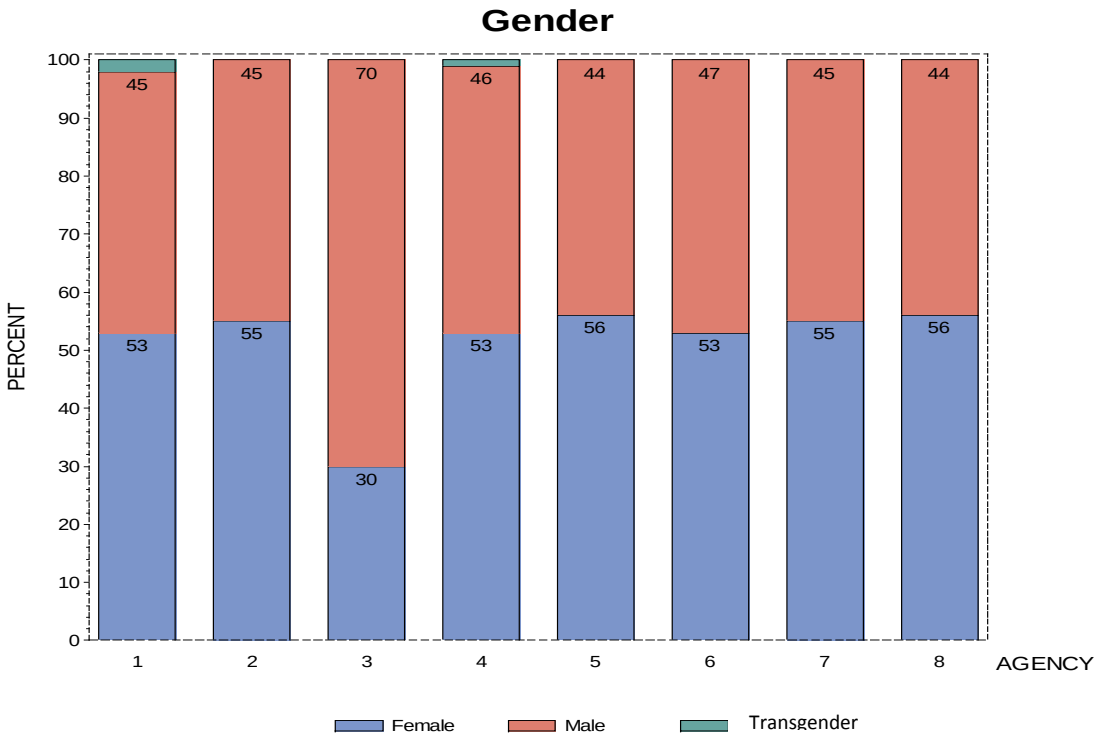
Report Format

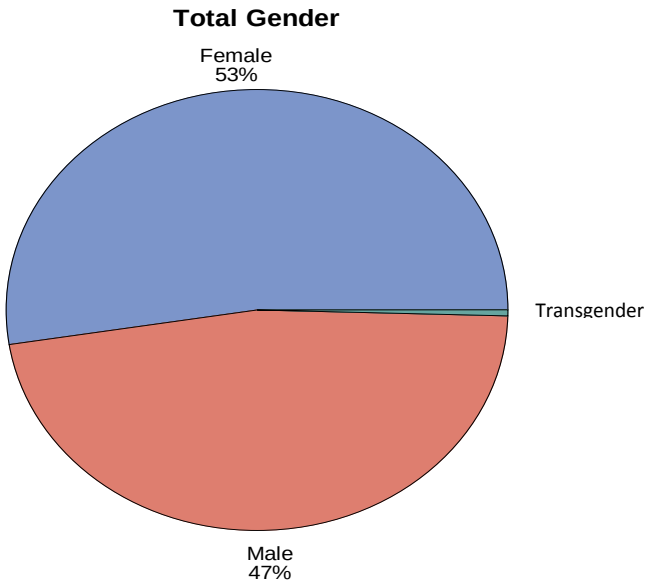
The chart review results are presented in 14 sections by topic. Each section contains a background summary, discussion, specific numerator and denominator criteria, and results for both EMA and HRSA quality of care indicators, including the results for the system as a whole compared to individual clinics. If there is an EMA indicator goal for the measure, this will be indicated in the results. Each clinic is identified by a randomly assigned number. Appendices include the results by site and the system as a whole, as well as a copy of the chart review tool. Questions regarding this study should be directed to the Senior Research Project Coordinator, Alecia McFarlane, MPH at 404-727-2931 or ajmcfar@emory.edu.

Demographic Information

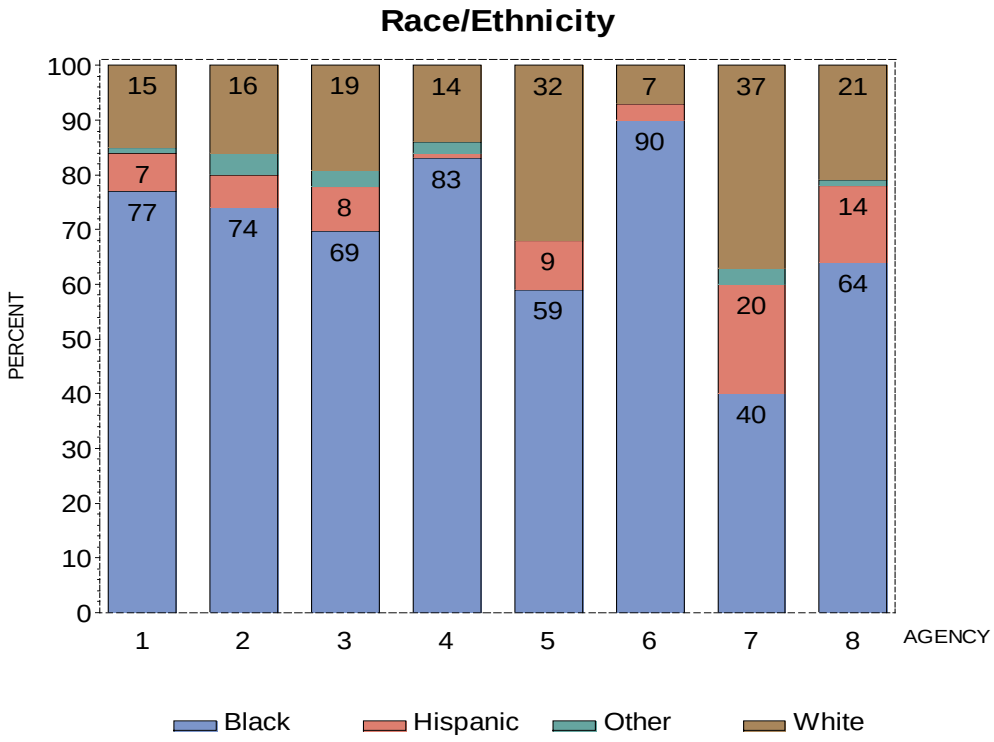
The study team collected the sex and race/ethnicity from each client chart reviewed. Shown below is the breakdown of sex and race/ethnicity of clinical charts reviewed at each clinic as well as the total.

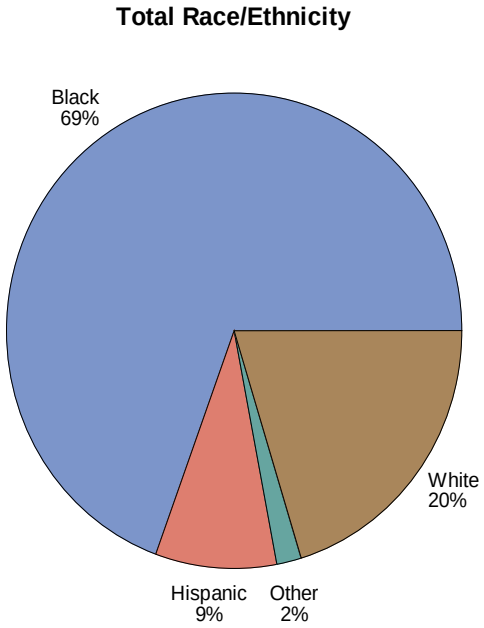
Of the 739 charts reviewed, 52.5% were of male clients, 47.1% were of female clients, and 0.4% were charts of transgendered clients.





The majority (69.4%) of the clients whose charts were reviewed were Black; 20.3% were White; 8.6% were Hispanic, and less than 2% were of Asian, Pacific-Islander, Native American, or Other ethnic descent. At two of the sites reviewed, the percentage of White client charts reviewed was greater than 30%. There were also two sites with reviewed charts of Hispanic clients exceeding 10%.





ANTIRETROVIRAL THERAPY

Background

Antiretroviral (ARV) combination therapy, since its advent in 1996, has significantly improved suppression of HIV and reduced replication of the virus. Appropriate ARV management incorporating highly active antiretroviral therapy (HAART) improves patient quality of life, restores and/or preserves immune functions, limits the likelihood of viral resistance, reduces the incidence of opportunistic infections, and decreases HIV-related morbidity and mortality.[5] The effectiveness of ARV therapy is measured by changes in viral load and CD4 t-cell laboratory tests.

US Public Health Services Guidelines recommend ARV therapy for "all patients with a history of an AIDS-defining illness or severe symptoms of HIV infection regardless of CD4 t-cell count."[6] Randomized controlled trials provide evidence supporting the benefit of ART in patients with CD4 counts <350 cells/mm^3.[6]

In pregnant women, ARV therapy can reduce perinatal HIV-1 transmission by nearly 70%.[7] US Public Health Service Guidelines state that pregnant HIV-infected women should be counseled regarding the known benefits versus potential risks of ARV use during pregnancy to the mother, fetus, and newborn.[7] Their evaluation should also include an assessment of their HIV-1 disease status and recommendations regarding antiretroviral treatment or alteration of her current antiretroviral regimen.[7]

"Antiretroviral adherence is a key determinant in the degree and duration of virologic suppression. Among studies reporting on the association between suboptimal adherence and virologic failure, nonadherence among patients on HAART was the strongest predictor for failure to achieve viral suppression below the level of detection."[8] Due to the adverse side effects reported with all ARVs, medication nonadherence is common among patients. According to US Public Health Service Guidelines, adherence counseling and assessment should be completed at each clinical encounter.[9]

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[5] Percent of Patients with Appropriate ARV Therapy Management (http://www.ihi.org/IHI/Topics/HIVAIDS/HIVDiseaseGeneral/Measures/PercentofPatientswithAppropriateARVTherapyManagement.htm)

[6] HAB HIV Core Clinical Performance Measures: Adult/Adolescent Clients Group 2 (ftp://ftp.hrsa.gov/hab/habGrp2PMs08.pdf)

[7] Recommendations for Use of Antiretroviral Drugs in Pregnant HIV-1-Infected Women for Maternal Health and Interventions to Reduce Perinatal HIV-1 Transmission in the United States (http://aidsinfo.nih.gov/ContentFiles/PerinatalGL.pdf)

[8] Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents [January 10, 2011] (http://aidsinfo.nih.gov/contentfiles/AdultandAdolescentGL.pdf)

[9] Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents [January 29, 2008] (http://aidsinfo.nih.gov/contentfiles/AdultandAdolescentGL.pdf)

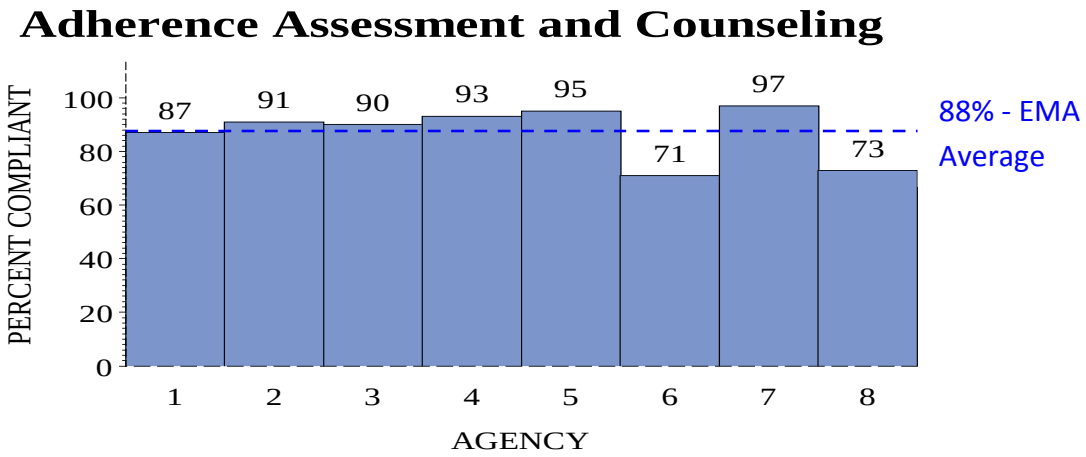
Measures and Results

Three separate clinical practices were examined in this section: antiretroviral medication (ARV) adherence counseling, highly active antiretroviral therapy (HAART), and ARV therapy for pregnant women. ARV adherence counseling is a Group 2 HRSA measure, while HAART and ARV therapy for pregnant women are Group 1 measures. All three measures are EMA indicators. Only 4 clinics had clients that met denominator criteria for ARV therapy for pregnant women for the EMA and HRSA performance measures. Of those, only three agencies had patient compliance significantly greater than zero. In order for a clinic to receive credit for appropriate treatment, each clinical practice had to have been documented as completed within the recommended time frame. Across all sites, the EMA and HRSA measure average for: adherence assessment and counseling was 88%, HAART was 86%, and ARV therapy for pregnant women was 58%.

ADHERENCE ASSESSMENT AND COUNSELING

HRSA MEASURE (n=480): Percentage of clients with HIV infection on ARVs who receive adherence counseling at least every 6 months; EMA INDICATOR GOAL: 90%

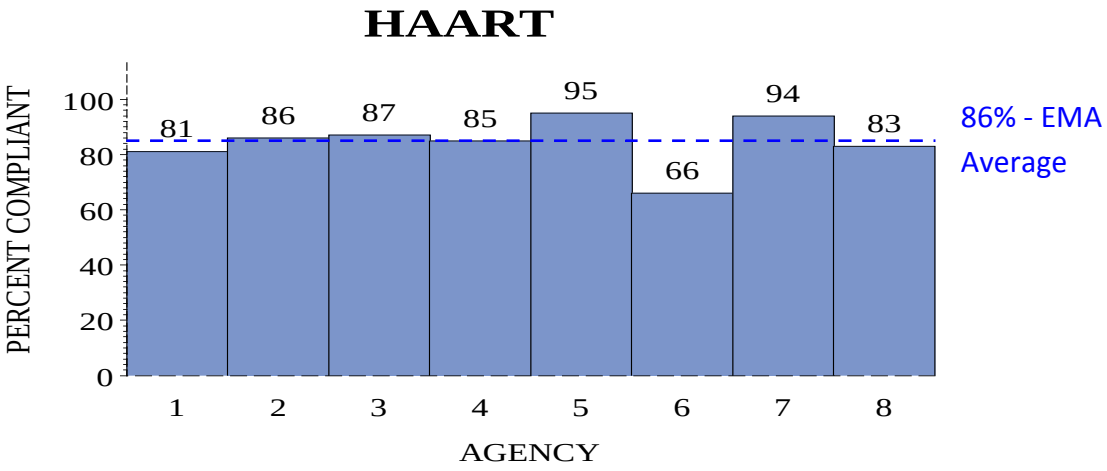
- Numerator: Number of clients who received adherence counseling during appointments 6 months (or less) apart
- Denominator: Number of clients with HIV infection on ARV therapy who: received care for 6 months or more, were prescribed ARV, and were seen within the measurement year (excludes newly enrolled patients and/or patients who have initiated ARV therapy during the last six months of measurement year)



HAART

HRSA MEASURE (n=273): Percentage of adolescent and adult clients with AIDS who are prescribed HAART; EMA INDICATOR GOAL: 90%

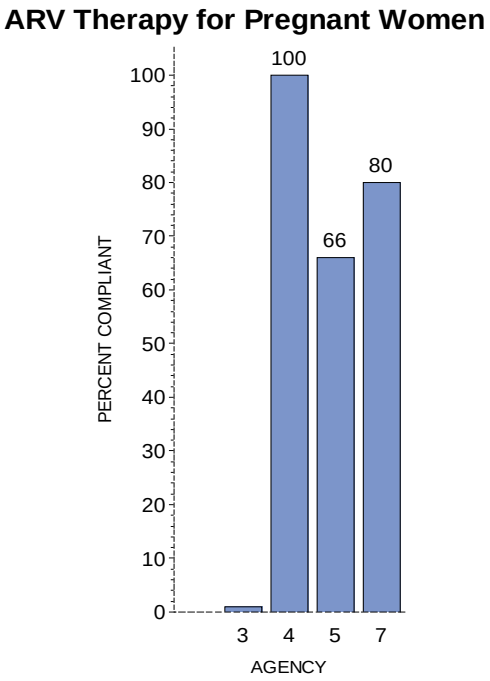
- Numerator: Number of clients who were prescribed a HAART regimen within the measurement year
- Denominator: Number of clients who: have a diagnosis of AIDS (history of a CD4 count below 200/μL or other AIDS defining condition), and were seen within the measurement year (excludes patients newly enrolled in care during the last three months of measurement year)



ARV THERAPY FOR PREGNANT WOMEN

HRSA MEASURE (n=6): Percentage of pregnant women with HIV infection who are on antiretroviral therapy

- Numerator: Number of pregnant clients who were placed on an appropriate antiretroviral therapy regimen during the antepartum period
- Denominator: Number of pregnant clients with HIV infection who were seen within the measurement year (excludes patients whose pregnancy is terminated and patients who are in their first trimester and newly enrolled in care during the last three months of the measurement year)



ASSESSMENTS

Background

Documentation of the client's clinical background including identified problems and known allergies is critical to HIV treatment. Problem oriented charts add a new dimension to HIV care. A problem list should be created at the patient's initial HIV care visit as a part of initial assessment. Problem areas that need to be documented in the problem list include: nutrition barriers, lifestyle, weight or body composition, physical problems, laboratory findings, gastrointestinal, poor diet, co-morbid conditions, medications, and supplements.[10]

When assessing patients, an ongoing evaluation of their problems is important to their continuity of care. Memory and organization problems, lack of social support systems and transportation, as well as mental health and substance abuse problems can often contribute to medication adherence issues and must be known in order to be addressed.[11] Adequate and accurate documentation of problems and allergies is essential in making patient care decisions and in developing appropriate treatment plans. Unknown problems and/or allergies may hinder clinical progress and interfere with ARV therapy.

Measures and Results

Two separate clinical practices were examined in this section: presence of a problem list and consistent allergy documentation. Although not HRSA measures, both are indicators of the Atlanta EMA. In order for a clinic to receive credit for appropriate treatment, each practice had to have been documented as completed within the recommended time frame. Across all sites, the EMA indicator average for problem list was 98% and documentation of allergies or no known allergies was 100%.

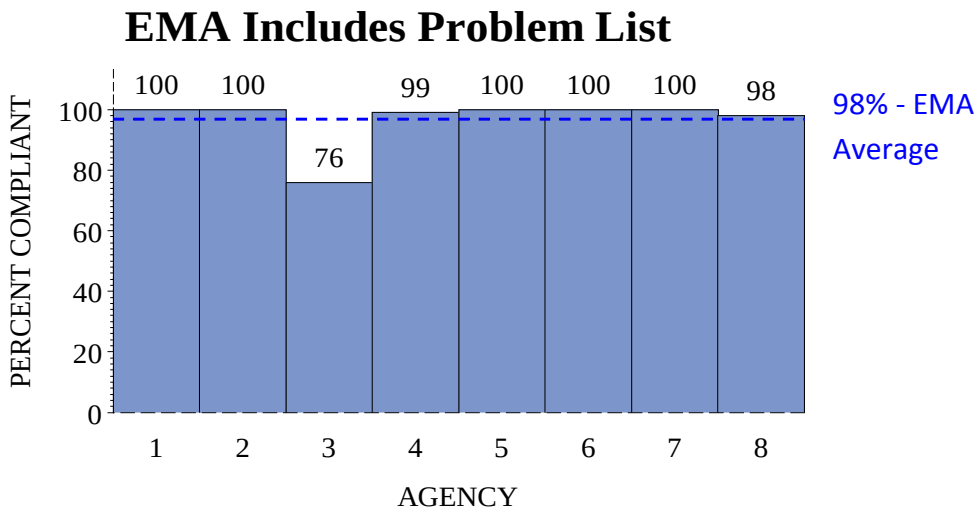
[10] Clinical Manual for Management of the HIV Infected Adult [2006] (http://www.aidsetc.org/pdf/AETC-CM_071007.pdf)

[11] Tennenberg, Alan M. (1999). Medication Adherence in the HIV/AIDS Patient: Evaluation and Intervention. *Jacksonville Medicine Journal,* Vol. 50, No. 8

PROBLEM LIST

EMA INDICATOR (n=724): 98% of HIV-infected clients' medical records will include a problem list

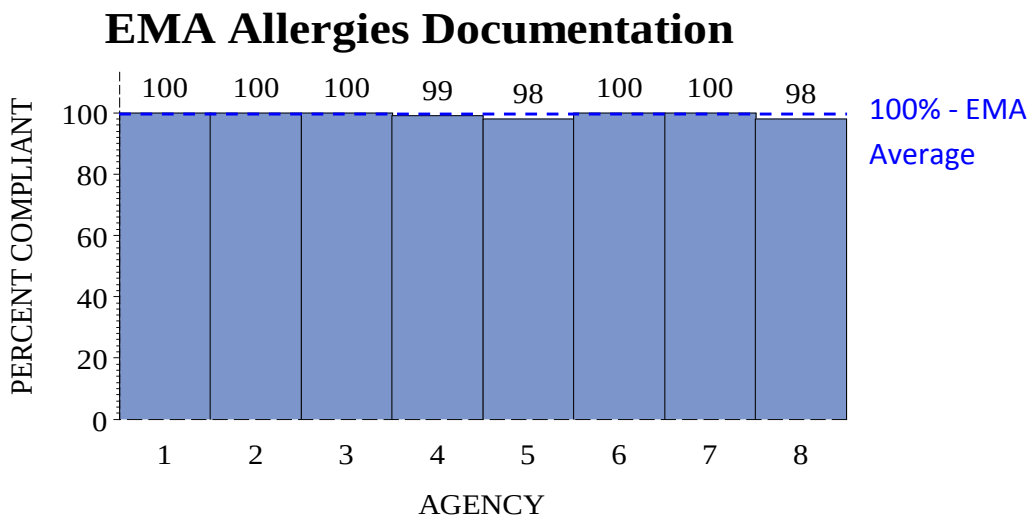
- Numerator: Number of HIV-infected clients with a problem list documented
- Denominator: Number of HIV-infected clients who meet chart review selection criteria



ALLERGIES OR NO KNOWN ALLERGIES

EMA INDICATOR (n=736): 100% of HIV infected clients' records will include documentation of known allergies

- Numerator: Number of HIV infected clients with consistent documentation of known allergies
- Denominator: Number of HIV infected clients meeting chart review selection criteria



Oral Examination

Background

Oral manifestations of HIV, which can affect patient quality of life and disease progression, have decreased with the use of HAART, but oral health care remains critical. Although the prevalence of HIV related oral health conditions has decreased, "life-threatening lesions are still present."[12] HIV infected patients are at higher risk of typical and atypical oral health problems; yet oral health utilization among this population remains low. Barriers to oral health care include: lack of willingness to treat HIV infected persons, lack of insurance, lack of transportation, stigma, provider availability, and geography.[12]

Annual dental exams provide opportunities for early detection and prevention of oral health problems and are integral to managing the oral health of HIV infected patient. [13] Painful oral health conditions can impact eating and medication consumption leading to poor nutrition and higher viral loads. "Inadequate oral health care can undermine the success of HAART by exacerbating existing medical conditions, compromising adherence to an antiretroviral treatment regimen, and diminishing quality of life."[13]

Primary care providers should exam the oral cavity at initial and routine medical visits.[14] Signs of oral lesions or other visible oral manifestations of HIV indicate the need for a dental referral. US Public Health Service Guidelines recommend that primary health care providers should make an initial dental referral for HIV/AIDS patients; and that oral health care providers should examine all patients on a semiannual basis for dental prophylaxis and other appropriate preventive care.[15]

Measures and Results

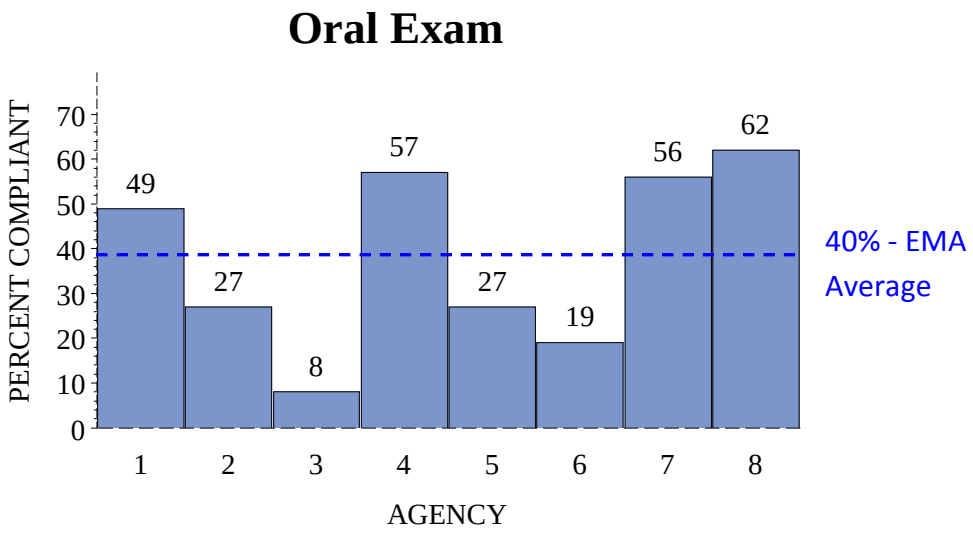
One clinical practice was examined in this section: oral health exam. This is an EMA adopted, Group 2 HRSA measure. In order for a clinic to receive credit for appropriate treatment, the practice had to have been documented as completed within the recommended time frame. Across all sites, the average for oral health exam was 40%.

[12] Providing HIV/AIDS Care in a Changing Environment (http://hab.hrsa.gov/publications/april2002.htm)
[13] HAB HIV Core Clinical Performance Measures: Adult/Adolescent Clients Group 2 (ftp://ftp.hrsa.gov/hab/habGrp2PMs08.pdf)
[14] Clinical Manual for Management of the HIV Infected Adult [2006] (http://www.aidsetc.org/pdf/AETC-CM_071007.pdf)
[15] New York State Dept of Health AIDS Institute *Oral Health Care for People With HIV Infection* [December 2001] (http://www.hivguidelines.org/Content.aspx?pageID=263)

ORAL EXAM

HRSA MEASURE (n=298): Percent of clients with HIV infection who received an oral health exam at least once during the measurement year; EMA INDICATOR GOAL: 50%

- Numerator: Number of clients who had a dental exam during the measurement year, based on patient self-report or other documentation
- Denominator: Number of clients with HIV infection who were seen for a medical visit within the measurement year



Hepatitis Screening

Background

"Viral Hepatitis, which can cause long-term liver problems, liver failure, and liver cancer, is considered to be a leading cause of death among HIV-positive people."[16] HIV and Hepatitis co-infection complicates HIV treatment. Antiretroviral agents can predispose co-infected patients to liver toxicity and Hepatitis treatment can "exacerbate the side effects of some ARV medications".[17] Hepatitis screenings are critical to providing prophylaxis treatment to negative patients, identifying co-infected patients, and developing appropriate treatment plans.

Hepatitis B virus (HBV) is the leading cause of chronic liver disease worldwide.[18] HIV infected patients are at higher risk of developing chronic HBV after exposure. HBV is transmitted primarily through sexual contact and injection-drug use. Although up to 90% of HIV infected persons have previous exposure to HBV, only approximately 10% develop chronic Hepatitis B.[18] Hepatitis B screenings are critical for HIV infected patients. According to US Public Health Service Guidelines, "several liver-associated complications that are ascribed to flares in HBV activity or toxicity of antiretroviral agents can affect the treatment of HIV in patients with HBV co-infection. Therefore, providers should know the HBV status of all patients with HIV. For patients who are HBV negative, prophylaxis is recommended."[19]

"Prevalence of the Hepatitis C virus (HCV) may be as high as 30 percent among people living with HIV/AIDS (PLWHA) and as high as 90 percent among PLWHA who contracted HIV infection through injection drug use (IDU)."[20] Injection drug use is the leading cause of Hepatitis C virus (HCV) infection. Fifty to ninety percent of HIV infected injection drug users are also infected with HCV.[21] Chronic HCV infection is treatable in persons co-infected with HIV; however, it is unknown if "HCV adversely affects the rate of HIV progression."[22] Since many people infected

[16] Hepatitis and HIV [November 2003] (http://www.aidsmeds.com/articles/HepAndHIV_4899.shtml)
[17] HAB HIV Core Clinical Performance Measures: Adult/Adolescent Clients Group 2 [2008] (ftp://ftp.hrsa.gov/hab/habGrp2PMs08.pdf)
[18] Clinical Manual for Management of the HIV Infected Adult [2006; updated 2007] (http://www.aidsetc.org/pdf/AETC-CM_071007.pdf)
[19] Centers for Disease Control and Prevention. Treating opportunistic infections among HIV-infected adults and adolescents: recommendations from CDC, the National Institutes of Health, and the HIV Medicine Association/Infectious Diseases Society of America. MMWR 2004;53(No. RR-15)
[20] Hepatitis C and HIV Coinfection [April 2006] (http://hab.hrsa.gov/tools/coinfection/index.html)
[21] Coinfection with HIV and Hepatitis C Virus [November 2005] (http://www.cdc.gov/hiv/resources/factsheets/coinfection.htm)
[22] Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents [January 29, 2008] (http://aidsinfo.nih.gov/contentfiles/AdultandAdolescentGL.pdf)

with HCV show no signs or symptoms, US Public Health Service Guidelines recommend that "all HIV-infected patients should be screened for HCV infection."[23]

Measures and Results

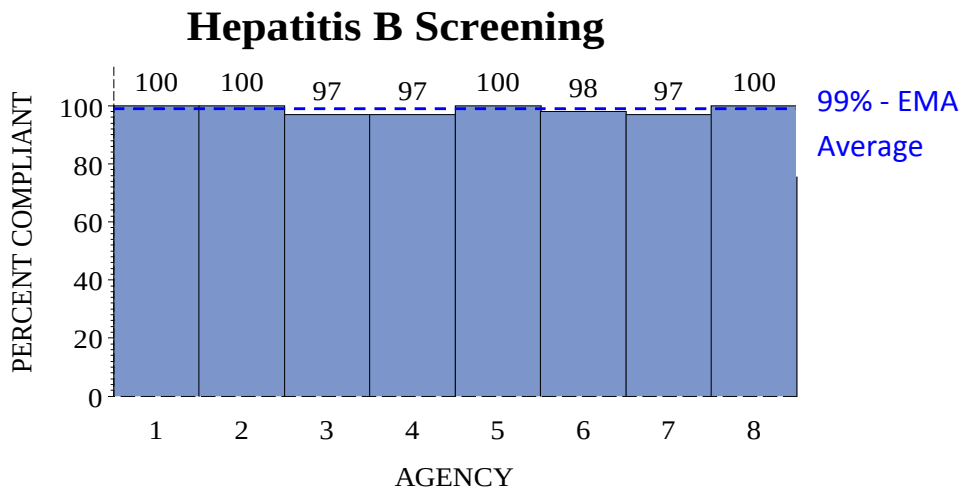
Two separate clinical practices were examined in this section: Hepatitis B screening and Hepatitis C screening. Hepatitis B and Hepatitis C screenings are EMA adopted, Group 3 and Group 2 HRSA performance measures, respectively. In order for a clinic to receive credit for appropriate treatment, each practice had to have been documented as completed within the recommended time frame. Across all sites, the EMA and HRSA measure averages for: Hepatitis B screening was 99% and Hepatitis C screening was 100%.

[23] Centers for Disease Control and Prevention. Guidelines for Preventing Opportunistic Infections Among HIV-Infected Persons - 2002 Recommendations of the U.S. Public Health Service and the Infectious Diseases Society of America . MMWR 2002;51(No. RR-8) (http://www.cdc.gov/mmwr/PDF/rr/rr5108.pdf or http://aidsinfo.nih.gov/ContentFiles/OIpreventionGL.pdf)

HEPATITIS B SCREENING

HRSA MEASURE (n=476): Percentage of clients with HIV infection who have been screened for Hepatitis B virus infection status

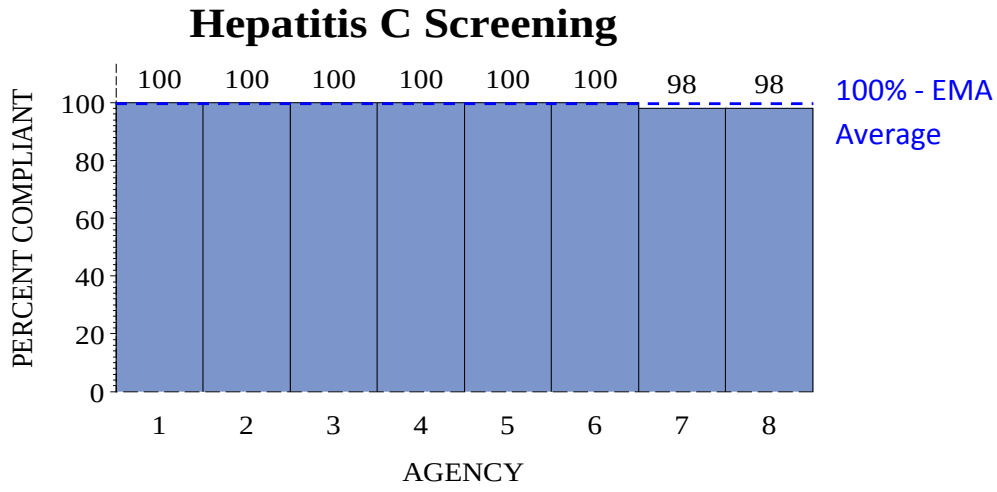
- Numerator: Number of clients who have documented Hepatitis B infection status in the chart
- Denominator: Number of clients with HIV infection who were seen for medical visits within a measurement year (excludes patients with documentation of complete Hepatitis B vaccination)



HEPATITIS C SCREENING

HRSA MEASURE (n=737): Percentage of clients with HIV infection who have been screened for Hepatitis C virus infection; EMA INDICATOR GOAL: 95%

- Numerator: Number of clients who have documented HCV status in chart
- Denominator: Number of clients with HIV infection who were seen within the measurement year



Immunological and Virological Measures

Background

Quantitative HIV Plasma RNA, or viral load measurement, and CD4 t-cell count are two critical laboratory tests performed to monitor the status of HIV infection. Viral Load tests estimate the level of HIV replication, monitor the effectiveness of HAART, and are used to diagnosis HIV.[24] CD4 counts are critical in HIV staging and prognosis, initiation and adjustment of HAART, monitoring immune reconstitution, and guiding the initiation of opportunistic infection prophylaxis.[23]

The most recent CD4 count is the strongest predictor of disease progression and survival.[25] US Public Health Service Guidelines recommend that HIV infected patients should have a CD4 t-cell count every 3 to 6 months to determine ARV initiation, assess immunologic response to ARV therapy, and assess the need for initiation of opportunistic infection prophylaxis.[23] More frequent medical visits are recommended when the patient's CD4 t-cell count is <200 cells/mm^3.

"In untreated HIV infection, replication usually produces billions of new viral copies daily."[23] Viral load tests, when used in conjunction with CD4 t-cell count, provide prognostic information for HIV infected clients who are naive to ART.[23] Higher viral loads are indicative of the risk of progression to AIDS. Viral loads can also be important in the decision to initiate or alter HAART. US Public Health Service Guidelines recommend that patients in early stages of HIV are seen every 3 months to monitor viral load.

Measures and Results

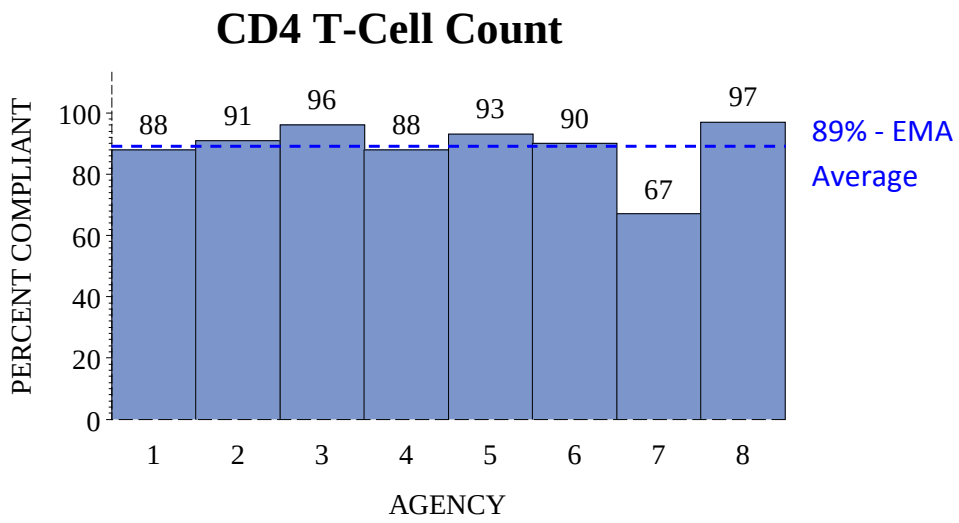
Two separate clinical practices were examined in this section: CD4 t-cell count measurements and viral load measurements. CD4 t-cell count measurements are a Group 1 HRSA performance measure and an EMA indicator, while viral load is an EMA indicator only. In order for a clinic to receive credit for appropriate treatment, each practice had to have been documented as completed within the recommended time frame. Across all sites, the measure averages for CD4 t-cell count was 89%. As a result of the methods employed by the collection tool used in this chart review, across all sites, the EMA indicator average recorded for viral load was not considered an accurate representation and will not be included in this report.

[24] Clinical Manual for Management of the HIV Infected Adult [2006] (http://www.aidsetc.org/pdf/AETC-CM_071007.pdf)
[25] HAB HIV Core Clinical Performance Measures: Adult/Adolescent Clients Group 1 (ftp://ftp.hrsa.gov/hab/habGrp1PMs08.pdf)

CD4 T-CELL COUNT

HRSA MEASURE (n=604): Percentage of clients with HIV infection who have a CD4 test done at least every 6 months; EMA INDICATOR GOAL: 90%

- Numerator: Number of clients who had CD4 counts measured at least twice in the measurement year, <6 months apart
- Denominator: Number of clients with HIV infection who were seen within the measurement year (excluding patients enrolled within the last 6 months)



Initial Encounter and Monitoring

Background

Frequent medical visits are crucial in HIV patient management. An HIV infected client's initial visit is the best opportunity for a care provider to get a complete picture of the patient's HIV disease status and physical and emotional condition.[26] Documentation of a confirmed HIV serologic test should be included in the chart. It is also important for a care provider to establish a strong basis for an ongoing relationship with the patient at the initial visit.[25] Conducting a thorough initial assessment allows the care provider to implement preventive measures and develop an appropriate treatment plan.

The frequency of medical visits significantly impacts HIV mortality and is increasingly used as a measure of "retention in care". Following the initial visit, clinically stable patients should be monitored with a medical visit every four months.[27] Unstable patients require more frequent medical visits. According to US Public Health Service Guidelines, patients with early stage HIV disease should be "seen at 3-month intervals to undergo routine medical evaluation and monitoring of CD4 t-cell count, viral load and CBC."[26] More frequent medical visits are required for patients on initial therapy and for patients with CD4 t-cell counts <200 cells/mm^3.[26]

Measures and Results

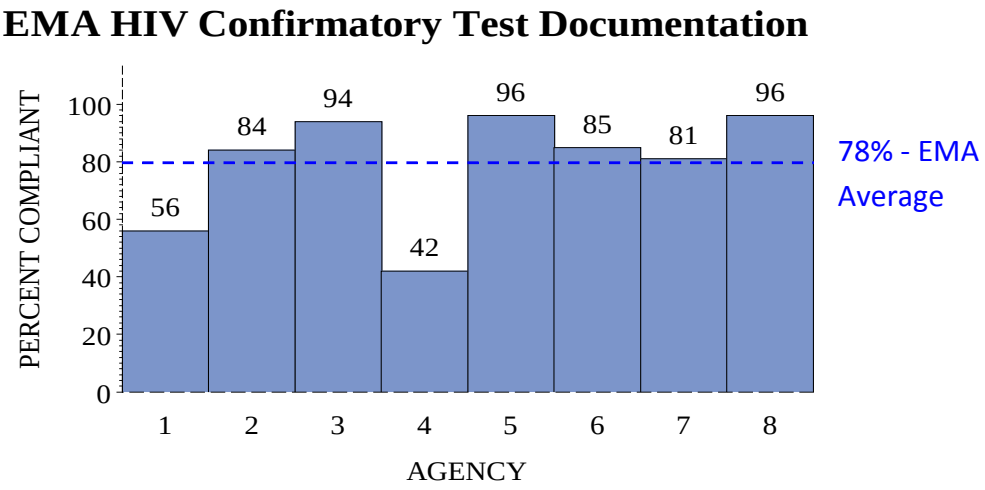
Two separate clinical practices were examined in this section: an HIV confirmatory test and medical visits. An HIV confirmatory test is not an EMA indicator or HRSA performance measure, but was measured at the request of the Part A grantee. Medical visits are a Group 1 HRSA performance measure that was adopted as an EMA indicator. In order for a clinic to receive credit for appropriate treatment, each practice had to have been documented as completed within the recommended time frame. Across all sites, the average for the EMA indicator HIV confirmatory test, was 78%. Across all sites, the EMA and HRSA measure averages for medical visits was 95%.

[26] Clinical Manual for Management of the HIV Infected Adult [2006] (http://www.aidsetc.org/pdf/AETC-CM_071007.pdf)
[27] HAB HIV Core Clinical Performance Measures: Adult/Adolescent Clients Group 1 (ftp://ftp.hrsa.gov/hab/habGrp1PMs08.pdf)

HIV CONFIRMATORY TEST

EMA INDICATOR (n=574): Documentation of a confirmed serologic test

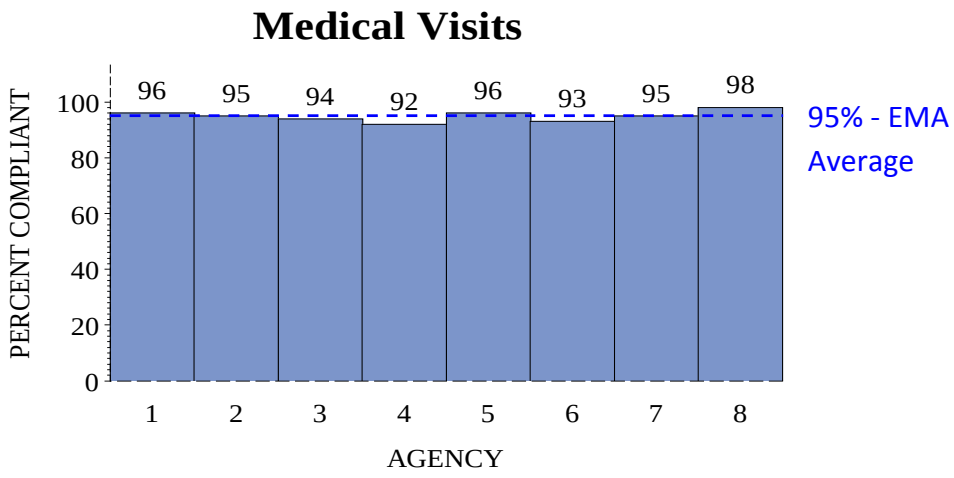
- Numerator: Number of HIV infected clients who have documentation of a Western Blot HIV confirmatory test
- Denominator: Number of HIV infected clients meeting chart review selection criteria



MEDICAL VISITS

HRSA MEASURE (n=649): Percentage of clients with HIV infection who have a medical visit in an HIV care setting at least every 6 months; EMA INDICATOR GOAL: 85%

- Numerator: Number of clients who were seen by an MD, PA or advanced practice nurse in an HIV care setting at least twice in the measurement year, <6 months apart
- Denominator: Number of clients with HIV infection who were seen within the measurement year (excludes patients who were newly enrolled within the last six months of the measurement year)



Nutritional Education

Background

Adequate nutrition is essential in maintaining immune function in HIV infected clients. "Many HIV related conditions affect and are affected by the body's nutritional status."[28] Antiretroviral therapy also affects nutritional status in HIV infected patients as a result of adverse side effects. Factors that cause inadequate nutrition in patients include nausea, vomiting, anorexia, diarrheal infections, systemic illnesses (including HIV), and psychological conditions.[27]

Comprehensive HIV care incorporates nutritional screenings to "identify and treat nutritional problems" as a part of an overall assessment.[27] Once problems are identified counseling and education are essential in assisting patients in improving their dietary condition. Patients should be educated on how to modify their dietary habits and develop strategies to prevent weight loss.[27] Any recommendations should consider the patient's financial resources and lifestyle and promote the use of available resources.[27] Counselors should also assist clients in developing a nutrition plan to maximize immune status, nutritional status, and treatment.[27]

Care providers should make routine referrals for nutrition assessment and screenings. Nutritional services are ideally administered by registered dietitians with HIV/AIDS experience. An adequate nutritional assessment will include screenings such as a physical examination, body composition testing, and laboratory testing.[27] Nutritional assessments should be conducted annually in order to update the patient's nutrition plan based on evolving health status and needs.

Measures and Results

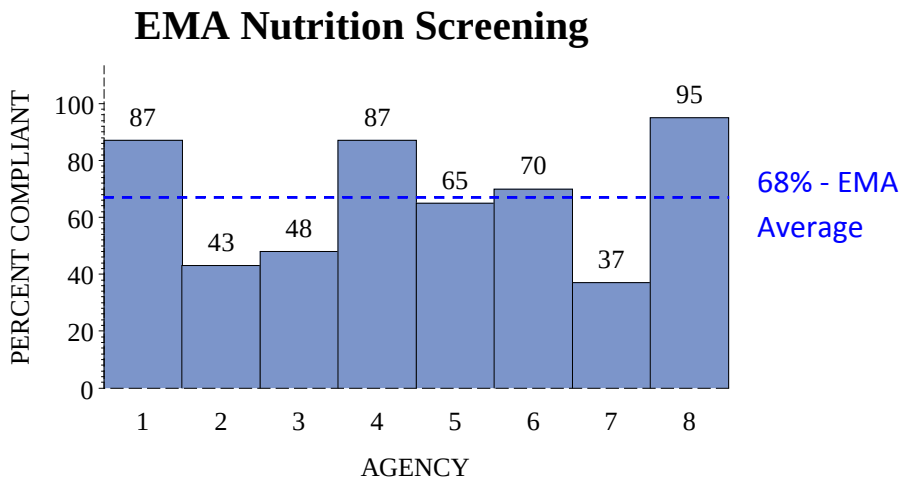
One clinical practice was examined in this section: nutrition screening. Nutrition screening is an Atlanta EMA indicator, but not a HRSA measure. In accordance with EMA standards, this screening is necessary as a determinant for the client's need for nutritional services that include food bank, home delivered meals and nutritional counseling, in order to improve access and adherence to HIV medical services. In order for a clinic to receive credit for appropriate treatment, the practice had to be documented as completed within the recommended time frame. Across all sites, the EMA indicator average for nutrition screening was 68%.

[28] Clinical Manual for Management of the HIV Infected Adult [2006] (http://www.aidsetc.org/pdf/AETC-CM_071007.pdf)

NUTRITION SCREENING

EMA INDICATOR (n=506): Documentation of a nutrition screening by a licensed/registered dietitian

- Numerator: Number of HIV infected clients who were screened for nutrition education within the last 12 months
- Denominator: Number of HIV infected clients meeting chart review selection criteria (referred for nutrition education and counseling and/or assessment)



Coronary Heart Disease Prevention

Background

As a result of the progress made in HIV treatment, clients have a longer life expectancy and are encountering illness, such as coronary heart disease (CHD) associated with older age. "Thus, identification and reduction of modifiable risk factors for CHD are important aspects of primary care for HIV-infected patients."[29] Over time, ARV treatment can result in causing dyslipidemia, an abnormal amount of lipids in the blood, and may cause or compound diabetes, which are both risk factors for CHD. Other traditional risk factors, such as smoking, hypertension, and inactivity play a significant role in further increasing the risk for CHD among HIV infected clients.[28]

"Before the widespread use of ARV medications, increases in triglyceride (TG) levels and decreases in total cholesterol (TC), high-density lipoprotein (HDL) cholesterol, and low-density lipoprotein (LDL) cholesterol were reported in individuals with HIV disease."[28] Although all 3 major classes of ARVs have been associated with dyslipidemia, protease inhibitors (PIs) have been found to significantly contribute to elevations in TG and LDL levels. "Studies have found the rate of prevalence for metabolic syndrome to be almost 25% in a population of patients taking HAART."[30] For this reason, prior to beginning ART, care providers should take a baseline lipid profile followed by repeat screenings every three to six months during the clients' ARV use.[31]

Smoking-related diseases pose unique health risk to HIV infected individuals and result in higher incidences of AIDS-defining and non-AIDS-defining malignincies.[30] Smoking is among the leading risk factors for CHD and should be assessed routinely. Primary care providers can be instrumental in assisting the reduction of the patients' rick for CHD by encouraging and identifying resources in the community for smoking cessation.[28]

[29] Clinical Manual for Management of the HIV Infected Adult [2006] (http://www.aidsetc.org/pdf/AETC-CM_071007.pdf)
[30] HAB HIV Core Clinical Performance Measures: Adult/Adolescent Clients Group 1 (ftp://ftp.hrsa.gov/hab/habGrp1PMs08.pdf)
[30] Smoking Cessation in HIV-Infected Patients[2008] (http://www.hivguidelines.org/wp-content/uploads/2009/05/s-smoking.pdf)

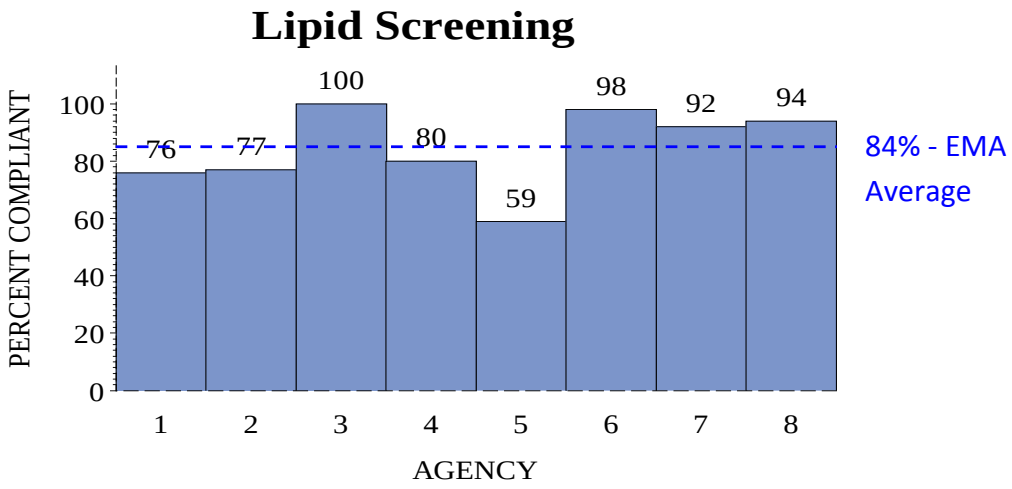
Measures and Results

Two clinical practices were examined in this section: lipid screening in patients on HAART and tobacco cessation counseling. Both practices are EMA adopted HRSA performance measures, categorized into group 2 and 3, respectively. In order for a clinic to receive credit for appropriate treatment, the practice had to be documented as completed within the recommended time frame. Across all sites, the HRSA measure average for lipid screening was 84%; tobacco cessation counseling was 57%.

LIPID SCREENING

HRSA MEASURE (n=463): Percent of clients with HIV infection that are on HAART and had a fasting lipid panel

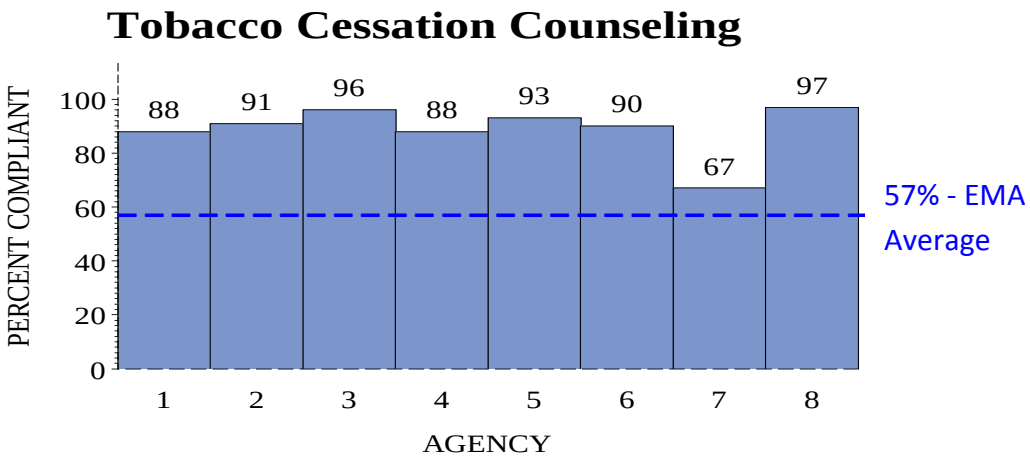
- Numerator: Number of clients who were prescribed HAART and had a fasting lipid panel within the measurement year
- Denominator: Number of clients with HIV infection who are on HAART and were seen for a medical visit within the measurement year



TOBACCO CESSATION COUNSELING

HRSA MEASURE (n=127): Percent of clients with HIV infection who received tobacco cessation counseling

- Numerator: Number of clients who received tobacco cessation counseling
- Denominator: Number of clients with HIV infection who used tobacco products and were seen for a medical visit within the measurement year (excludes patients who deny tobacco use throughout the measurement year)



Opportunistic Infections

Background

Individuals who are infected with HIV are more susceptible to specific infections caused by opportunistic pathogens. Awareness and prophylactic treatment are significant in reducing the incidence of opportunistic infections (OIs). Patients should be educated on the potential dangers associated with opportunistic infections.[32] CD4 t-cell counts and viral loads require routine monitoring to assess the need for prophylactic treatment for opportunistic infections. HIV infected people with CD4 t-cell counts <200 cells/mm^3 are at greatest risk for opportunistic infections.

"Pneumocystis pneumonia (PCP) is the most common opportunistic infection in people with HIV. Without treatment, over 85% of people with HIV would eventually develop PCP. It is a major cause of mortality among persons with HIV infection, yet is almost entirely preventable and treatable."[31] US Public Health Service Guidelines recommend that HIV infected people, including patients on HAART and pregnant women, with a CD4 count of <200 cells/mm^3 or a CD4 count percentage of <14% to receive PCP prophylaxis.[31]

Mycobacterium avium complex (MAC) is a common OI amongst HIV infected people. A CD4 count of <50 cells/mm^3 is indicative of the need for MAC prophylaxis, but active MAC infection must be ruled out first.[31] HIV infected patients with latent MAC are candidates for tuberculosis (TB) prophylactic treatment. Immune Reconstitution Syndrome, an inflammatory disease, is another potential consequence that could occur in response to MAC or TB.

"Toxoplasma gondii is a common intracellular protozoan that preferentially infects the central nervous system (CNS) of immunodeficient patients, causing severe neurologic disease."[33] Although there is no transmission from person-to-person, *Toxoplasma* has an infectious reservoir in most animals that can be transmitted through undercooked meat, contaminated vegetables, or through exposure to cat feces. The US Public Health Service Guidelines recommend that all HIV infected people be screened for *Toxoplasmosis* after initial diagnosis. Those with advanced HIV disease or have a CD4 count of <100 cells/mm^3 are at increased risk for developing CNS toxoplasmosis and should receive prophylactic treatment is seropositive for *Toxoplasma*.[32]

[32] Clinical Manual for Management of the HIV Infected Adult [2006] (http://www.aidsetc.org/pdf/AETC-CM_071007.pdf)
[33] Clinical Manual for Management of the HIV Infected Adult [February 2010] (http://www.aids-ed.org/aidsetc?page=cm-532_toxo)

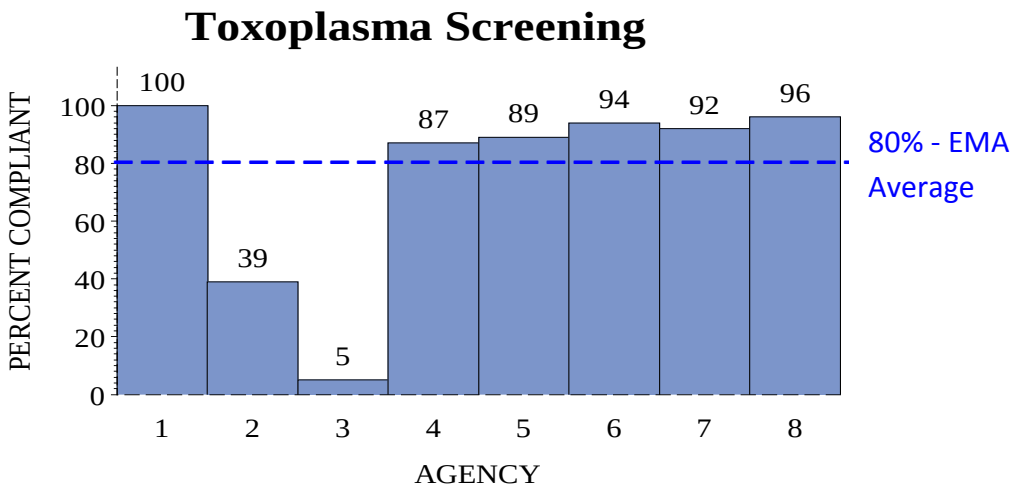
Measures and Results

Three separate clinical practices were examined in this section: Toxoplasma screening, MAC prophylaxis, and PCP prophylaxis. Toxoplasma screening and MAC prophylaxis are Group 3 HRSA performance measures. Only 6 clinics had clients that met the denominator criteria for MAC prophylaxis, which excluded patients with a CD4 t-cell count greater than or equal to 50 cells/mm^3. PCP prophylaxis is an EMA adopted Group 1 HRSA measure. For the PCP measure, only 6 clinics had clients that met the denominator criteria, which excludes patients with a CD4 t-cell count greater than or equal to 200 cells/mm^3. In order for a clinic to receive credit for appropriate treatment, each practice had to have been documented as completed within the recommended time frame or not medically indicated. Across all sites, the HRSA measure average for: Toxoplasma screening was 80% and MAC prophylaxis was 77%. Across all sites, the HRSA measure average for PCP prophylaxis was 92%.

TOXOPLASMA SCREENING

HRSA Measure (n=577): Percentage of clients for whom a Toxoplasma screening was performed

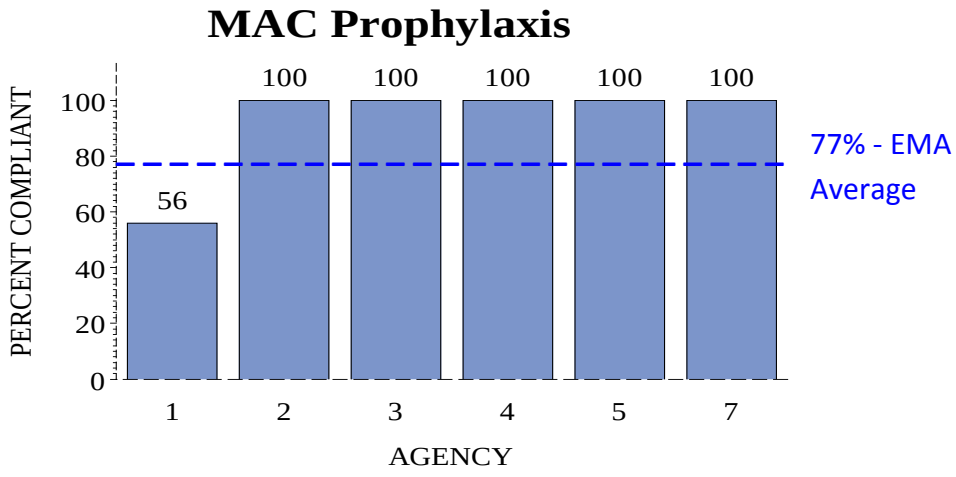
- Numerator: Number of clients with a documented Toxoplasma status in health record
- Denominator: Number of clients with an HIV infection that were seen in the measurement year (excludes patients with known toxoplasmic disease)



MAC PROPHYLAXIS

HRSA MEASURE (n=23): Percent of clients with HIV infection with CD4 count < 50 cells/mm^3 who received MAC prophylaxis within measurement year

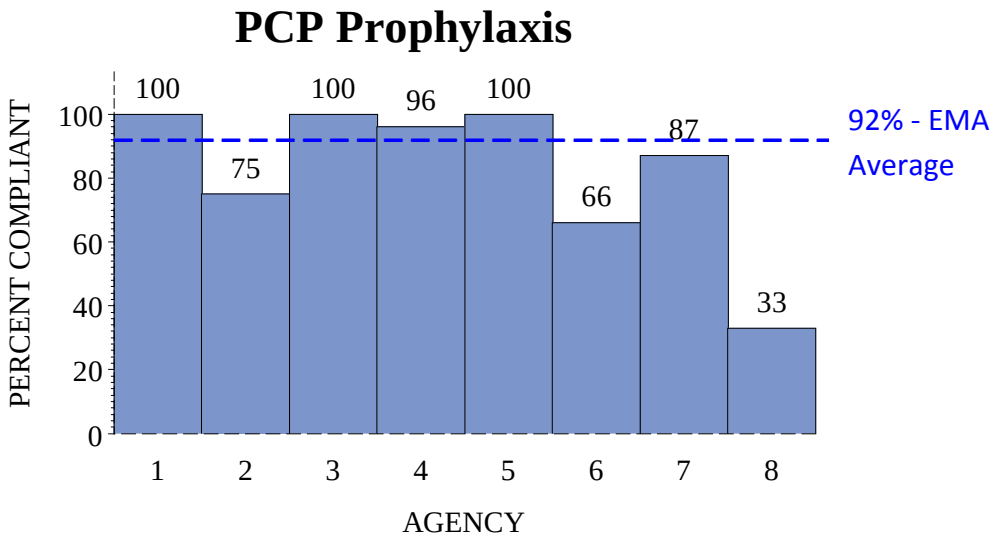
- Numerator: Number of clients who were prescribed MAC prophylaxis (rifabutin, clarithromycin, azithromycin or other) at the time of the CD4 count below 50 cells/mm^3
- Denominator: Number of clients with HIV infection who: were seen for a medical visit within the measurement year; and had a CD4 count < 50 cells/mm^3 (excludes patients with disseminated MAC)



PCP PROPHYLAXIS

HRSA MEASURE (n=92): Percentage of clients with HIV infection and a CD4 count below 200/*µL* who were prescribed PCP prophylaxis; EMA INDICATOR GOAL: 95%

- Numerator: Number of clients who were prescribed PCP prophylaxis at the time when the CD4 count was below 200/µL
- Denominator: Number of clients with HIV infection who: were seen within the measurement year, and had a CD4 count below 200/µL (excludes patients with CD4 t-cell counts <200 cells /mm^3 and/or are newly enrolled in care during the last three months of the measurement year)



Tuberculosis Screening

Background

Tuberculosis and HIV cause the largest number of deaths than any other infectious diseases worldwide.[33] *Mycobacterium tuberculosis* organisms cause tuberculosis (TB) infection in humans. Tuberculosis, a respiratory pathogen, is transmitted in the air by persons infected with active TB.[34] While immunologically healthy individuals typically become infected with latent/inactive TB infection (LTBI), HIV infected individuals are at higher risk of becoming infected with active TB. "Persons with HIV infection have much higher rates of active TB and develop active disease at a rate approximating 10% per year."[33] HIV and TB are biologically collaborative. "HIV induced immunosuppression increases susceptibility to TB infection, and active TB infection enhances HIV replication through immunologic stimulation."[33]

Treatment is required for TB and LTBI in HIV infected persons. Purified protein derivative (PPD) screening can identify TB. A persistent cough is the most common symptom of TB infection. HIV infected persons should have initial and routine PPD screenings. "Early identification and treatment of TB disease improves outcomes and reduces the risk of transmission."[35] HIV infected patients with LTBI should be treated to prevent progression to active TB. LTBI treatment reduces risk of progression to active TB disease by 70 to 90 percent.[34] Both US Public Health Service Guidelines and CDC recommend a PPD screening at initial diagnosis of HIV infection, annual PPD screening for HIV infected persons who are PPD negative but at high risk for TB exposure, chest radiographs for patients who are PPD positive or PPD negative and symptomatic, and treatment for HIV infected persons with LTBI or who have been exposed to active TB.[34]

Measures and Results

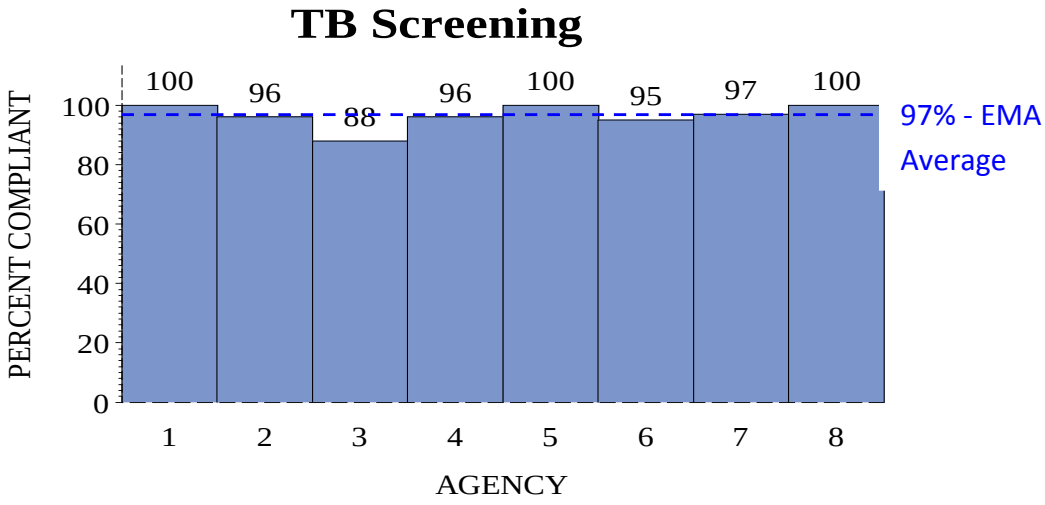
One clinical practice was examined in this section: TB screening. This is a Group 2 HRSA performance measure. The Atlanta EMA and HRSA measures have different criteria, in that the HRSA measure excludes those who do not have a history of active tuberculosis or a positive PPD. In order for a clinic to receive credit for appropriate treatment, the practice had to have been documented as completed within the recommended time frame. Across all sites, the HRSA measure average for TB screening was 97%.

[34] Clinical Manual for Management of the HIV Infected Adult [2006] (http://www.aidsetc.org/pdf/AETC-CM_071007.pdf)
[35] HAB HIV Core Clinical Performance Measures: Adult/Adolescent Clients Group 2 (ftp://ftp.hrsa.gov/hab/habGrp2PMs08.pdf)

TB SCREENING

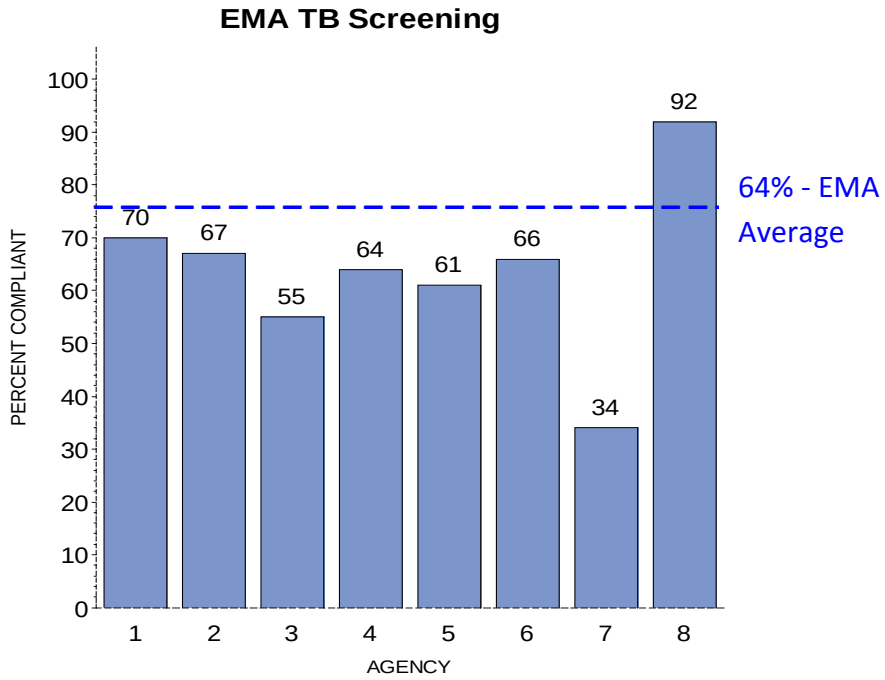
HRSA MEASURE (n=621): Percent of clients with HIV infection without previous treatment for TB or a previous positive PPD screen, who have been screened for TB since HIV diagnosis; EMA INDICATOR GOAL: 100%

- Numerator: Number of clients who received documented screening for latent TB with any approved test since HIV diagnosis
- Denominator: Number of clients with HIV infection who: have a history of active tuberculosis or positive PPD; and were seen for a medical visit within the measurement year



EMA INDICATOR (n=476): 100% HIV infected clients will have TB screening documentation in the past 12 months

- Numerator: Number of HIV infected clients with documented placement of PPD test within the last 12 months
- Denominator: Number of HIV infected clients meeting chart review selection criteria



Vaccinations

Background

"Immunocompromised individuals are at higher risk for many types of infections compared with immunocompetent people." [36] HIV-infected persons can greatly benefit from immunizations against preventable diseases. "In general, vaccines have better efficacy in HIV-infected patients when immune function is relatively well preserved, notably when the CD4 count is >200 cells/µL."[35] For this reason, routine vaccinations for influenza and the pneumonia are recommended for HIV-infected clients.

Rates of serious illness and death as a result of an influenza virus infection are highest amongst those who are ≥ 65 years of age, under the age of two and any person with a medical condition that places them at an increased risk for complications of influenza, including HIV. Influenza vaccination is the most effective method for preventing the flu and its complications. [37] For HIV-infected clients, this vaccination is recommended yearly and is most effective among persons with CD4 count >100 cells/µL and HIV RNA <30,000 copies/mL. [35]

Bacterial pneumonia is a common cause of HIV-associated morbidity and has an increased incidence in HIV-infected persons than in the non-infected population. CD4 count, injection drug use and smoking are risk factors that increase the risk for development of bacterial pneumonia.[35] the pneumococcal vaccination is recommended for HIV-infected persons, with a revaccination every 5 years.[35] As previously mentioned, this vaccination has better efficacy in patients with relatively well preserved immune function.

Measures and Results

Three clinical practices were examined in this section: Influenza vaccination, pneumococcal vaccination, and HBV vaccination. All three clinical practices are Atlanta EMA adopted HRSA measures. Both influenza and pneumococcal vaccinations are Group 3 measures while HBV vaccination is a Group 2 HRSA measure. In order for a clinic to receive credit for appropriate treatment, the practice had to have been documented as completed within the recommended time frame. Across all sites, the HRSA measure average for influenza vaccination was 63%; pneumococcal vaccination was 84%; and HBV vaccination was 80%.

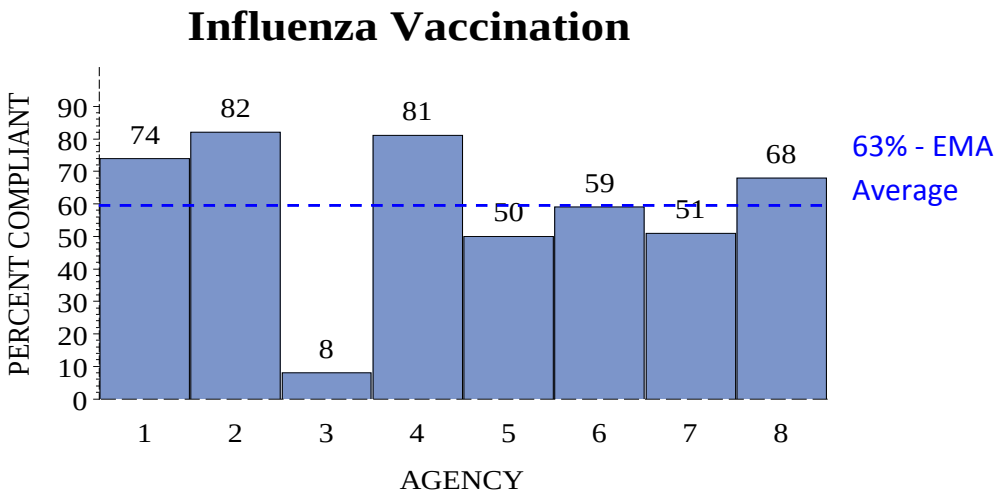
[36] Clinical Manual for Management of the HIV Infected Adult [2006] (http://www.aidsetc.org/pdf/AETC-CM_071007.pdf)

[37] HAB HIV Core Clinical Performance Measures: Adult/Adolescent Clients Group 2 (ftp://ftp.hrsa.gov/hab/habGrp2PMs08.pdf)

INFLUENZA VACCINATION

HRSA MEASURE (n=462): Percent of clients with HIV infection who have received an influenza vaccination

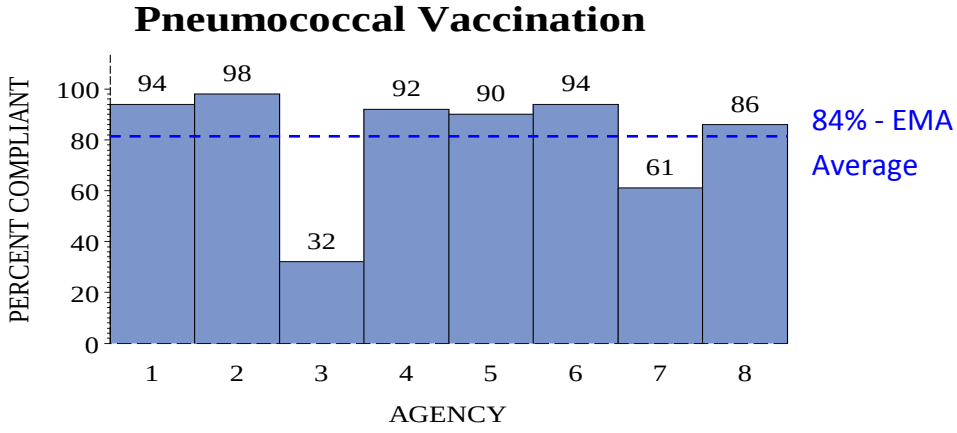
- Numerator: Number of clients who received an influenza vaccination
- Denominator: Number of HIV infected clients who were seen for a medical visit within the measurement year (excludes patients with an allergy to the vaccine components)



PNEUMOCOCCAL VACCINATION

HRSA MEASURE (n=519): Percent of clients with HIV infection who have ever received a pneumococcal vaccination

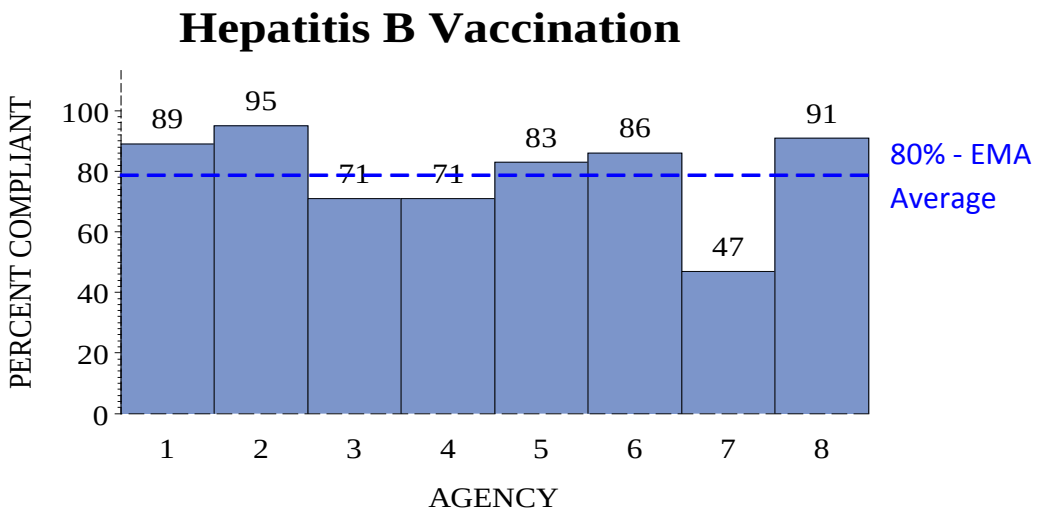
- Numerator: Number of clients who have ever received a pneumococcal vaccine
- Denominator: Number of HIV infected clients who were seen for a medical visit within the measurement year (excludes patients with CD4 counts <200 cells/mm^3 within the measurement year)



HEPATITIS B VACCINATION

HRSA Measure (n=257): Percentage of clients with HIV infection who completed the vaccination series for Hepatitis B virus infection

- Numerator: Number of clients with documentation of having ever completed the vaccination series for HCV
- Denominator: Number of clients with HIV infection who were seen within the measurement year (excludes newly enrolled patients, those with evidence of current HBV infection, and those with evidence of past HBY infection with immunity)



Risk Reduction Counseling

Background

In 2006, there were an estimated 56,300 new cases of HIV infection in the United States alone.[38] Reducing transmission of HIV infection can be achieved by implementing prevention strategies focused on HIV infected persons. Prevention strategies including counseling and education focused specifically on HIV infected persons engaging in risky sexual behaviors and needle sharing can reduce the incidence of new HIV infections. "Medical care providers can substantially affect HIV transmission by screening their HIV-infected patients for risk behaviors; communicating prevention messages; discussing sexual and drug-use behavior; positively reinforcing changes to safer behavior; referring patients for services such as substance abuse treatment; facilitating partner notification, counseling, and testing; and identifying and treating other sexually transmitted diseases."[39]

US Public Health Service Guidelines recommend that "HIV-infected patients should be screened for behaviors associated with HIV transmission by using a straightforward, nonjudgmental approach. This should be done at the initial visit and subsequent routine visits or periodically, as the clinician feels necessary, but at a minimum of yearly. Any indication of risky behavior should prompt a more thorough assessment of HIV transmission risks."[40]

Alcohol consumption significantly impacts HIV/HCV co-infected patient outcomes and care providers should counsel and educate these patients on associated risks. Counseling also provides the clinician the opportunity to make referrals to substance and alcohol treatment centers. A study of HIV positive veterans showed that hazardous drinking and alcohol diagnoses were associated with HIV disease progression and/or Hepatic co-morbidity and anemia.[41] Studies indicate that approximately 33% of individuals with HCV infection progress to cirrhosis in less than 20 years.[42] Care providers should counsel patients that alcohol use in conjunction with co-morbid HIV/HCV infection significantly increases the rate of progression to

[38] HIV Incidence (http://www.cdc.gov/hiv/topics/surveillance/incidence.htm)
[39] HAB HIV Core Clinical Performance Measures: Adult/Adolescent Clients Group 2 (ftp://ftp.hrsa.gov/hab/habGrp2PMs08.pdf)
[40] Centers for Disease Control and Prevention. Incorporating HIV prevention into the medical care of persons living with HIV: recommendations of CDC, the Health Resources and Services Administration, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. MMWR 2003;52 (No. RR-12) (http://www.cdc.gov/mmwr/PDF/rr/rr5212.pdf or http://aidsinfo.nih.gov/ContentFiles/HIVPreventionInMedCare_TB.pdf)
[41] Joseph Conigliaro, Adam J. Gordon, Kathleen A. McGinnis, Linda Rabeneck, and Amy C.; How Harmful Is Hazardous Alcohol Use and Abuse in HIV Infection: Do Health Care Providers Know Who Is at Risk?; JAIDS Journal of Acquired Immune Deficiency Syndromes 33:521–525.
[42] Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents [January 29, 2008] (http://aidsinfo.nih.gov/contentfiles/AdultandAdolescentGL.pdf)

cirrhosis of the liver. US Public Health Service Guidelines recommend that "patients with HCV/HIV co-infection should be advised to avoid or limit alcohol consumption."[43]

Measures and Results

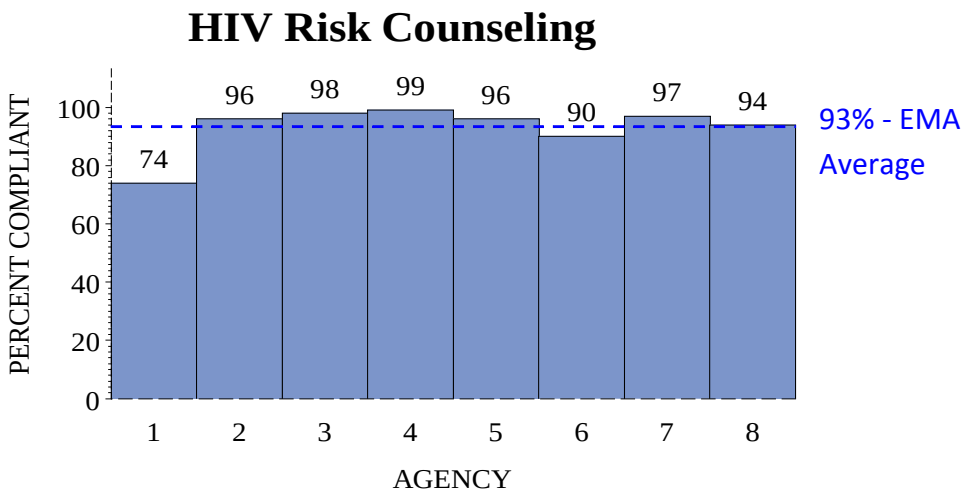
Two clinical practices were examined in this section: HIV risk reduction counseling and alcohol counseling for HIV/HCV co-infected. Risk reduction is an EMA adopted Group 2 HRSA performance measures, while alcohol counseling is a Group 3 HRSA measure only. In order for a clinic to receive credit for appropriate treatment, each practice had to have been documented as completed within the recommended time frame. Across all sites, the HRSA measure average for: risk reduction counseling was 93% and alcohol counseling for HIV/HCV co-infected was 47%.

[43] Joseph Conigliaro, Adam J. Gordon, Kathleen A. McGinnis, Linda Rabeneck, and Amy C.; How Harmful Is Hazardous Alcohol Use and Abuse in HIV Infection: Do Health Care Providers Know Who Is at Risk?; JAIDS Journal of Acquired Immune Deficiency Syndromes 33:521–525.

RISK REDUCTION COUNSELING

HRSA MEASURE (n=687): Percentage of clients with HIV infection who received risk reduction counseling within the measurement year; EMA INDICATOR GOAL: 85%

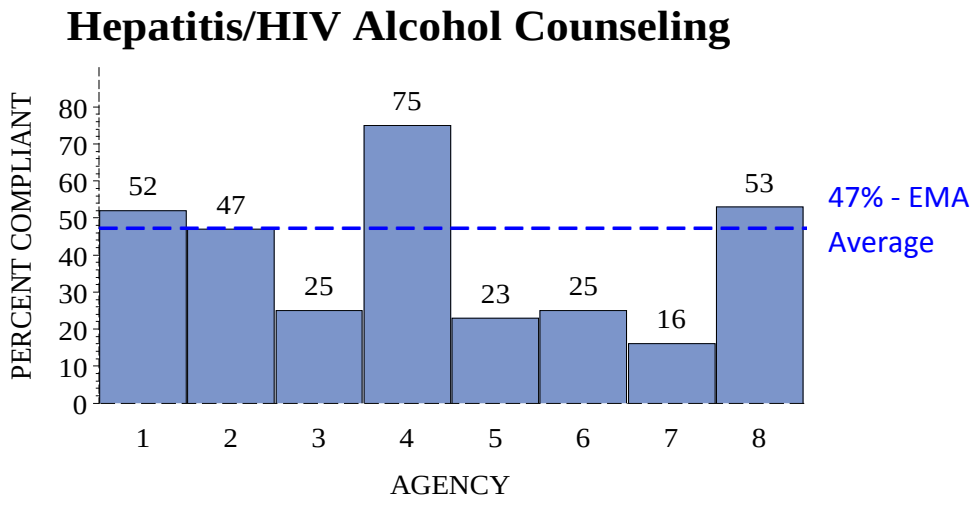
- Numerator: Number of clients who received risk reduction counseling during appointments
- Denominator: Number of clients with HIV infection who were seen for a medical visit in the measurement year



ALCOHOL COUNSELING FOR HIV/HCV CO-INFECTED CLIENTS

HRSA MEASURE (n=52): Percentage of clients with HIV and HCV infection who received alcohol counseling within the measurement year

- Numerator: Number of clients who received alcohol counseling
- Denominator: Number of clients who: were co-infected with HIV and HCV; and were seen for a medical visit within the measurement year



Mental Health and Substance Use Screening

Background

"A solid working knowledge of mental health and substance abuse issues is essential for understanding how to help people protect themselves from HIV infection, how to help those who are already infected from transmitting the virus to others, and how to reduce adverse health consequences among those living with HIV".[44] The findings from the HIV Cost and Services Utilization Study (HCSUS), that mental health and substance use disorders have been consistently associated with increased HIV risk behavior and poor adherence to ART. These disorders are highly treatable, but must be identified and the individuals must be referred to the appropriate services.[43]

"Epidemiological studies have shown that persons with severe mental illness (SMI) are more likely to be victims of sexual coercion and intimate partner violence, to live in risky environments, to have unstable partnerships in high-risk sexual networks, to use substances that impair decision making, and to lack emotional stability, judgment, and interpersonal skills needed to avoid risk".[43] For this reason it is imperative that HIV providers identify mental illness and connect clients to resources where their needs can be met. If possible, HIV providers should work alongside mental health providers in the care of clients with SMI to reduce their risk of transmission and to increase adherence to treatment.

According to the International AIDS society, "substance abuse facilitates the spread of HIV infection and complicates its management."[45] This demonstrates the importance of treating substance users who are HIV positive and necessitates that providers assess substance use with their clients to ensure that clients are provided with the proper resources to facilitate their care. The US Public Health Guidelines specify that "the initial evaluation should include assessment of substance abuse, economic factors, social support, mental illness, co-morbidities, and other factors that are known to impair the ability to adhere to treatment and to alter outcomes".[46]

[44] John Anderson; HIV and Mental Health: The Challenges of Dual Diagnosis: What Does Mental Health Have To Do With HIV Prevention; NASTAD National Alliance of State and Territorial AIDS Directors Mental Health Issue Brief [July 2005] (http://www.nastad.org/Docs/Public/InFocus/200632_NASTAD_Mental_Health_final.pdf)
[45] Perspectives: Substance Abuse and HIV Infection; International AIDS Society – USA: Topics in HIV Medicine; Volume 11:1 [2003] (http://www.iasusa.org/pub/topics/2003/issue1/20.pdf)
[46] HAB HIV Core Clinical Performance Measures: Adult/Adolescent Clients Group 3 [2009] (ftp://ftp.hrsa.gov/hab/PMgroup3.pdf)

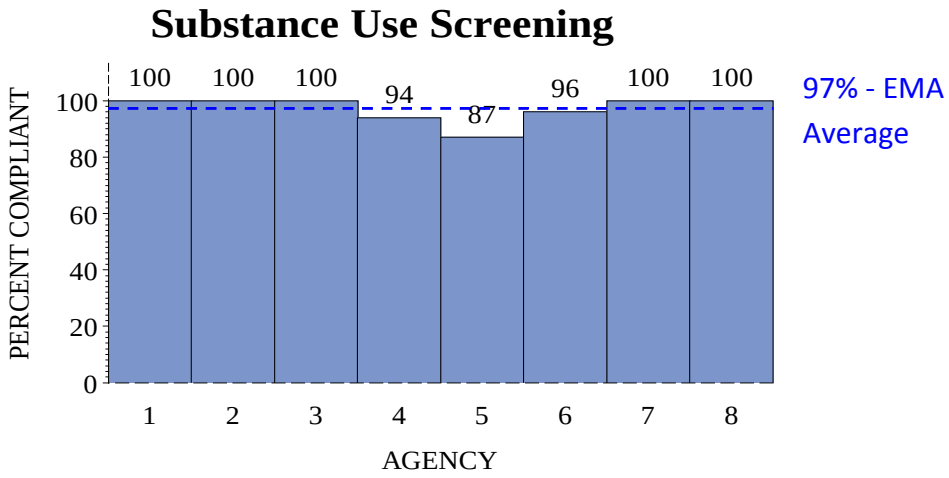
Measures and Results

Two clinical practices were examined in this section: substance use screening and mental health screening. These are Group 3 HRSA performance measures, but not EMA indicators. In order for a clinic to receive credit for appropriate treatment, each practice had to have been documented as completed within the recommended time frame. Across all sites, the HRSA measure average for: substance use screening was 97% and mental health screening was 95%.

SUBSTANCE USE SCREENING

HRSA MEASURE (n=131): Percent of new HIV infected clients who have been screened for substance use (alcohol & drugs)

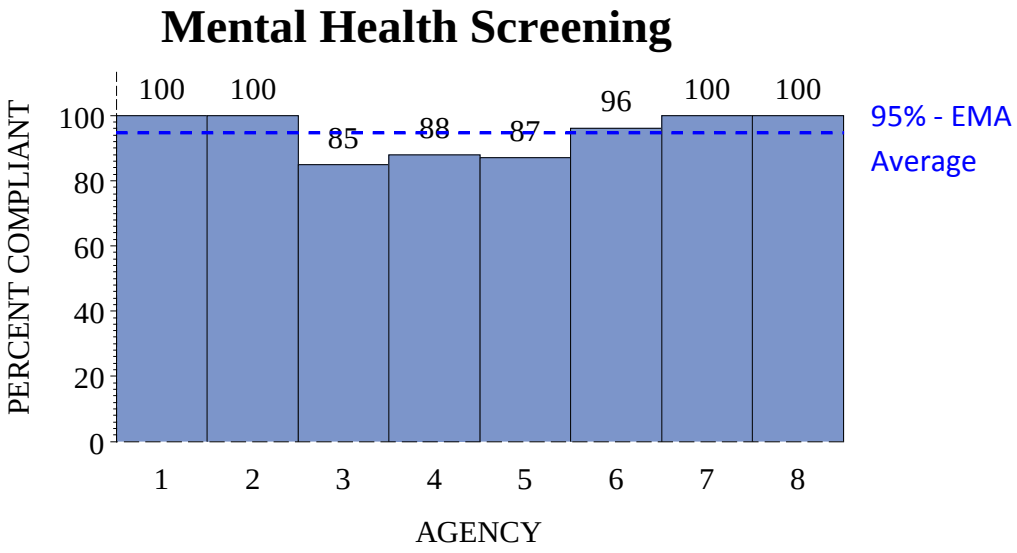
- Numerator: Number of new clients who were screened for substance abuse
- Denominator: Number of new HIV infected clients who were newly diagnosed and were seen for a medical visit within the measurement year



MENTAL HEALTH SCREENING

HRSA MEASURE (n=128): Percent of new HIV infected clients who have had a mental health screening

- Numerator: Number of new clients who received a mental health screening
- Denominator: Number of new HIV infected clients who were seen for a medical visit within the measurement year



Sexually Transmitted Diseases

Background

The Centers for Disease Control estimates there are 19 million new infections of STDs that occur in the United States every year.[47] "Individuals who are infected with STDs are at least two to five times more likely than uninfected individuals to acquire HIV infection if they are exposed to the virus through sexual contact. In addition, if an HIV-infected individual is also infected with another STD, that person is more likely to transmit HIV through sexual contact than other HIV-infected persons" (Wasserheit, 1992).[48] HIV infection and other STDs frequently occur concurrently or in tandem. In 2006, there were 170 HIV/Primary and Secondary Syphilis co-infected cases in Georgia.[49] HIV infected persons are more likely to produce and shed the virus when co-infected with another STD leading to a higher transmission risk. [50]

Chlamydia, Gonorrhea, and Syphilis are frequently occurring STDs that can be transmitted during oral, vaginal, or anal sex. In many cases, patients infected with Chlamydia, Gonorrhea, or Syphilis are asymptomatic. As a part of routine care, HIV infected persons that are sexually active should have routine screenings for all STDs. HIV infection can complicate the natural occurrence of other STDs. Specifically, "HIV infection may alter the natural history and management of syphilis, causing a more rapid course of illness, higher risk of neurologic complications, and greater risk of treatment failure with standard regimens."[51]

US Public Health Service Guidelines recommend that "HIV-infected patients should be screened for behaviors associated with HIV transmission by using a straightforward, nonjudgmental approach. This should be done at the initial visit and subsequent routine visits or periodically, as the clinician feels necessary, but at a minimum of yearly. Any indication of risky behavior should prompt a more thorough assessment of HIV transmission risks. Screening for STDs should be repeated periodically (i.e., at least annually) if the patient is sexually active or if earlier screening revealed STDs. Screening should be done more frequently (e.g., at 3-6-month intervals) for asymptomatic persons at higher risk."[46]

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[47] Centers for Disease Control and Prevention. Incorporating HIV prevention into the medical care of persons living with HIV: recommendations of CDC, the Health Resources and Services Administration, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. MMWR 2003;52 (No. RR-12) (http://aidsinfo.nih.gov/ContentFiles/HIVPreventionInMedCare_TB.pdf or http://aidsinfo.nih.gov/ContentFiles/HIVPreventionInMedCare_TB.pdf)

[48] STD Facts (http://www.cdc.gov/STD/hiv/STDFact-STD&HIV.htm)

[49] Georgia STD 2006 Annual Report (http://health.state.ga.us/pdfs/epi/hivstd/2006%20STD%20Annual%20Report.pdf)

[50] Cohen, MS. Sexually Transmitted Diseases Enhance HIV Transmission: no Longer a Hypothesis. Lancet 1998;351(3S):5SIII-7SIII.

[51] Clinical Manual for Management of the HIV Infected Adult [2006] (http://www.aidsetc.org/pdf/AETC-CM_071007.pdf)

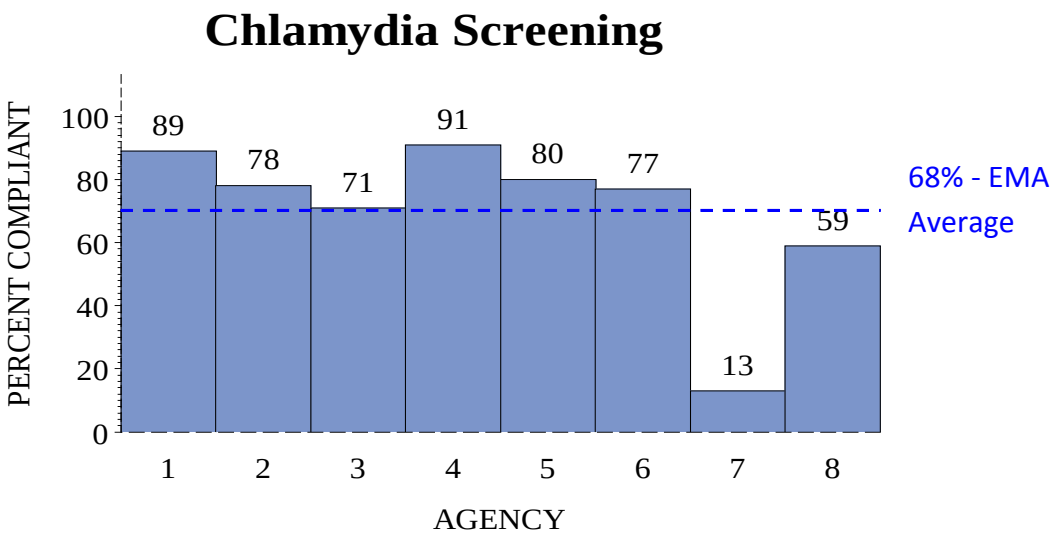
Measures and Results

Three separate clinical practices were examined in this section: Chlamydia screening, Gonorrhea screening, and Syphilis screening. Chlamydia and Gonorrhea screening are Group 3 HRSA performance measures as well as EMA indicators at baseline. Syphilis screening, on the other hand, is a Group 2 HRSA performance measure only. For the Chlamydia and Gonorrhea indicators, the Atlanta EMA and HRSA criteria are different. In order for a clinic to receive credit for appropriate treatment, each practice had to have been documented as completed within the recommended time. Across all sites, the EMA indicator average for: Chlamydia screening was 32% and Gonorrhea screening was 32%. Across all sites, the HRSA measure average for: Chlamydia screening was 68%, Gonorrhea screening was 69%, and Syphilis screening was 81%

CHLAMYDIA SCREENING

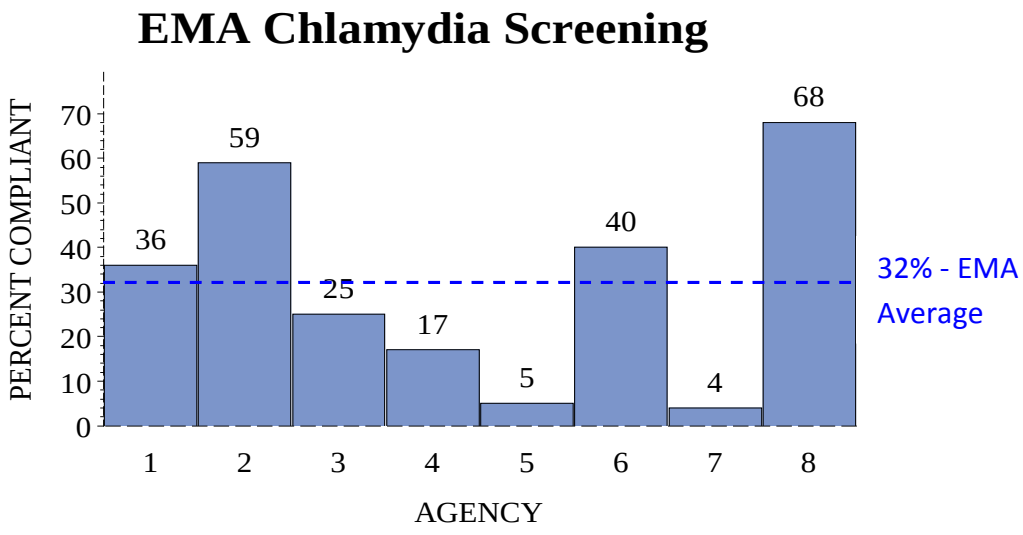
HRSA MEASURE (n=382): Percent of adult clients with HIV infection who had a test for Chlamydia within the measurement year

- Numerator: Number of adult clients who received a test for Chlamydia
- Denominator: Number of clients with HIV infection who were: >18 years old in the measurement year, and seen for a medical visit within the measurement year (excluding patients under 18 and those who denied a history of sexual activity)



EMA INDICATOR (n=239): 100% of HIV infected clients will be screened for Gonorrhea and Chlamydia at enrollment

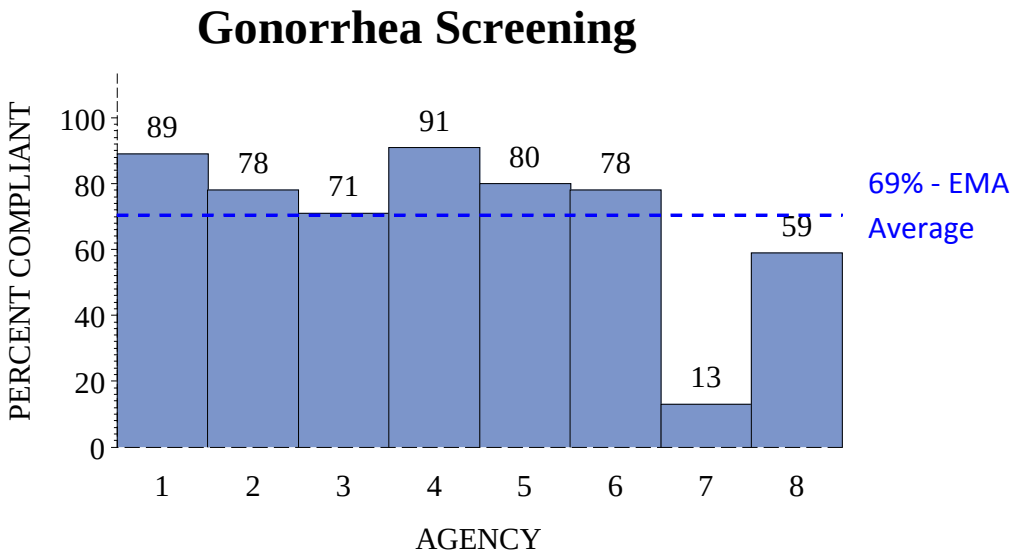
- Numerator: Number of HIV infected clients who received documented screening for Chlamydia since HIV diagnosis
- Denominator: Number of HIV infected clients meeting chart review selection criteria



GONORRHEA SCREENING

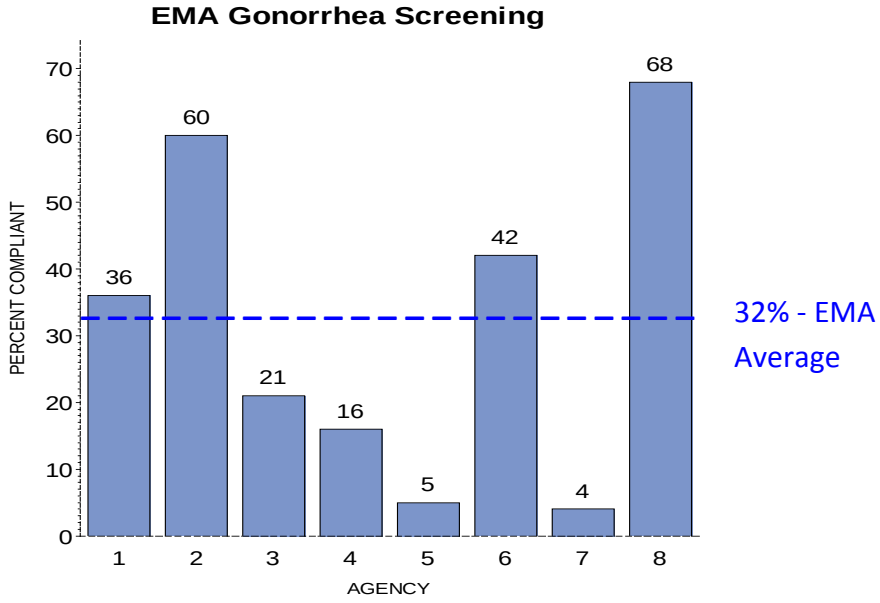
HRSA MEASURE (n=383): Percent of adult clients with HIV infection who had a test for Gonorrhea within the measurement year

- Numerator: Number of adult clients who received a test for Gonorrhea
- Denominator: Number of clients with HIV infection who were: >18 years old in the measurement year; and seen for a medical visit within the measurement year (excluding patients under 18 and those who denied a history of sexual activity)



EMA INDICATOR (n=239): 100% of HIV infected clients will be screened for Gonorrhea and Chlamydia at enrollment

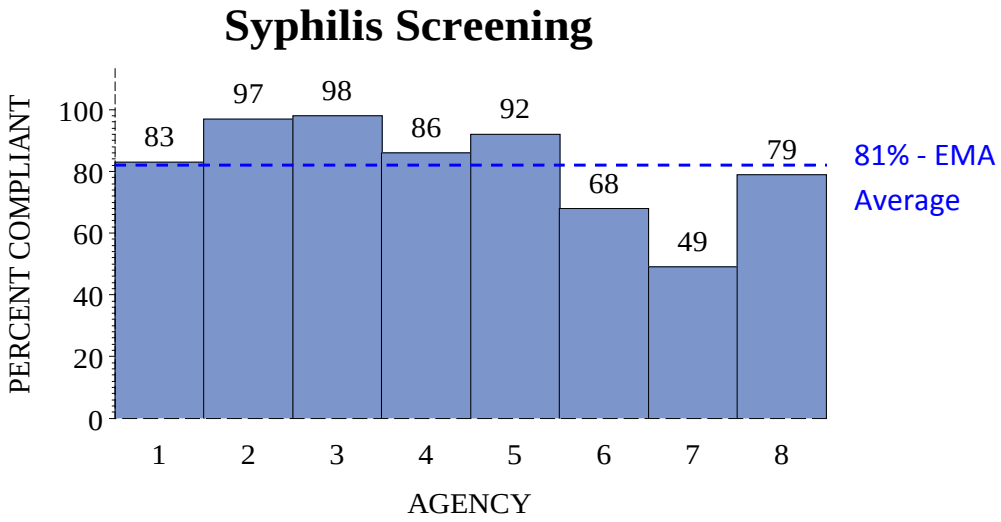
- Numerator: Number of HIV infected clients who received documented screening for Gonorrhea since HIV diagnosis at baseline or ≤ 3 months post diagnosis
- Denominator: Number of HIV infected clients meeting chart review selection criteria



SYPHILIS SCREENING

HRSA MEASURE (n=598): Percentage adult clients with HIV infection who had a test for Syphilis within the measurement year; EMA INDICATOR GOAL: 90%

- Numerator: Number of clients who had a serologic test for Syphilis at least once in the measurement year
- Denominator: Number of clients with HIV infection who were: >18 years old in the measurement year; and seen for a medical visit within the measurement year (excluding patients under 18 and those who denied a history of sexual activity)



Appendices

ATLANTA EMA CHART REVIE

ID: Agency: Reviewer:

☐ Client meets eligibility criteria Date of initial visit:

☐ Client was new to the clinic during the study period

☐ Client has ever been diagnosed with AIDS

Client's date of birth: Client's Age:

Client's gender:

Client's race:

☐ Black/African-American ☐ American Indian/Alaska Native
☐ White/Caucasian ☐ Native Hawaiian/Pacific Islander
☐ Asian ☐ Other

Client's Ethnicity: ☐ Client is Hispanic or Latino

☐ Client had two medical visits (at least 3 months apart) during the study period and one in last 6 months of study

Clients chart contains: ☐ Problem list ☐ Allergies documented ☐ No known allergies (NKA/NKDA)

☐ Client was sexually active during the study period
☐ Client was diagnosed with an STI during the study period
☐ Client used tobacco during the study period
☐ Client had culture positive TB or positive TST or IGRA in the past

Client is co-infected with:
☐ Hep B ☐ Hep C
Client had past infection with immunity:
☐ Hep B

Client received the following DURING THE STUDY PERIOD:		
☐ Syphilis Screen	☐ Western Blot	☐ Chlamydia Screen
☐ TB Screen	☐ HIV Risk Counseling	☐ Gonorrhea Screen
☐ Lipid Screen	☐ Influenza Vaccine	☐ Mental Health Screen
☐ Oral Exam		☐ Substance Abuse Screen
☐ Nutrition Screen/Assessment		

Client received the following AT ANY POINT IN TIME:	SINCE HIV DIAGNOSIS, client received the following:
☐ Pneumococcal Vaccination	☐ Toxoplasma Screen
☐ Hep B Screen	☐ Hep C Screen
☐ Hep B Vaccination Series	☐ LTBI Test (TST or IGRA)

☐ Client had at least two CD4 cell count tests during the study period (at least 3 months apart)?

☐ Client had CD4 cell count below 200 during study the period

☐ Client had at least three HIV viral load tests during the study period (at least 4 months apart)

☐ Client was prescribed ARV therapy during the study period

A:2

Indicator	Data Collection Sites								
	All	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8
HAB HIV Core Clinical Performance Measures for Adult/Adolescent Clients: HRSA Group 1									
ARV Therapy for Pregnant Women*	58	n/a	n/a	0	100	100	n/a	80	n/a
CD4 T-Cell Count*	89	88	92	96	88	94	90	68	98
HAART*	86	82	86	88	85	95	67	94	83
Medical Visits*	95	96	95	94	92	96	93	96	99
PCP Prophylaxis*	92	100	75	100	96	100	67	88	33
HAB HIV Core Clinical Performance Measures for Adult/Adolescent Clients: HRSA Group 2									
Adherence Assessment & Counseling*	88	88	92	90	93	96	71	98	73
Cervical Cancer Screening*	4	0	0	0	0	0	31	0	0
Hepatitis B Vaccination	80	89	96	71	72	83	86	47	92
Hepatitis C Screening*	100	100	100	100	100	100	100	99	99
HIV Risk Counseling	93	74	97	98	99	97	90	98	94
Lipid Screening	84	76	78	100	81	60	99	93	95
Oral Exam	40	50	28	9	57	27	19	57	63
Syphilis Screening*	81	84	98	98	86	92	69	49	80
TB Screening	97	100	96	89	97	100	95	98	100
HAB HIV Core Clinical Performance Measures for Adult/Adolescent Clients: HRSA Group 3									
Chlamydia Screening	68	90	79	71	91	80	78	14	59
Gonorrhea Screening	69	90	79	71	91	80	79	14	59
Hepatitis B Screening	99	100	100	98	98	100	99	97	100
Hepatitis/HIV Alcohol Counseling	47	52	47	25	75	23	25	17	54
Influenza Vaccination	63	74	83	9	81	50	59	52	68
MAC Prophylaxis	77	56	100	100	100	100	n/a	100	n/a
Mental Health Screening	95	100	100	86	89	88	96	100	100
Pneumococcal Vaccination	84	95	99	33	93	91	94	61	86
Substance Use Screening	97	100	100	100	94	88	96	100	100
Tobacco Cessation Counseling	57	52	51	67	75	61	68	18	43
Toxoplasma Screening	80	100	39	5	88	89	94	92	97
Atlanta EMA Performance Measures									
Problem List	98	100	100	77	99	100	100	100	99
Allergies	100	100	100	100	99	99	100	100	99
Viral Load	11	10	13	20	4	15	10	6	15
Chlamydia Baseline Screening	32	36	60	25	18	6	41	4	68
Gonorrhea Baseline Screening	32	36	61	21	17	6	43	4	68
Nutrition Screening	68	88	44	48	87	66	70	38	95
Confirmatory Test	78	56	84	95	43	97	86	81	97

A:3

*These HRSA performance measures are also Atlanta EMA performance measures.

Note: The percentages for the individual agencies in this table are rounded up so they will not match what's in the bar charts because SAS does not round up in creating the charts.