

**HIV MOP Clinical Performance Measures  
For Adult /Adolescent Patients:  
Core Measures**

<b>Performance Measure 1.1:</b> Antiretroviral Therapy (ART) for Pregnant Women (HAB Group 1)	<b>OPR-Related Measure:</b> Yes <a href="http://www.hrsa.gov/performance/measure/1.htm">www.hrsa.gov/performance/measure/1.htm</a>
Percentage of pregnant women with Human Immunodeficiency Virus (HIV) infection who are prescribed ART.	
<b>Numerator:</b>	Number of HIV-infected pregnant women who were prescribed ART during the second and third trimester
<b>Denominator:</b>	Number of HIV-infected pregnant women who had a medical visit with a provider with prescribing privileges, <sup>1</sup> at least twice in the measurement year
<b>Patient Exclusions:</b>	<ol style="list-style-type: none"> <li>1. Patients<sup>2</sup> whose pregnancy is terminated by spontaneous or induced abortion</li> <li>2. Pregnant patients who are in the first trimester and newly enrolled in care during last three months of the measurement year</li> <li>3. Patients with documented referral to another perinatal HIV care program</li> <li>4. Patients with documented refusal of ART offered by provider</li> </ol>
<b>Data Element:</b>	<ol style="list-style-type: none"> <li>1. Is the patient HIV-infected? (Y/N) <ol style="list-style-type: none"> <li>a. If yes, is the patient female? (Y/N) <ol style="list-style-type: none"> <li>1. If yes, was she on ART during this reporting period? (Y/N)</li> </ol> </li> </ol> </li> </ol>
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>• Ryan White Program Data Report, Section 5, Item 53 may provide data useful in establishing a baseline for this performance measure</li> <li>• Electronic Medical Record/Electronic Health Record</li> <li>• CAREWare, Lab Tracker, or other electronic data base</li> <li>• Medical record data abstraction by grantee of a sample of records</li> </ul>
<b>National Goals, Targets, or Benchmarks for Comparison:</b>	No national benchmarks available at this time. Office of AIDS Programs and Policy (OAPP) Threshold for Compliance (TFC) = 100%
<b>Outcome Measures for Consideration:</b>	<ul style="list-style-type: none"> <li>○ Rate of perinatal transmission in the measurement year</li> <li>○ Number of events of perinatal transmission in the measurement year</li> </ul>
<b>Basis for Selection and Placement in HAB Group 1:</b>	
<p>Treatment recommendations for pregnant women infected with HIV-1 have been based on the belief that therapies of known benefit to women should not be withheld during pregnancy unless there are known adverse effects on the mother, fetus, or infant and unless these adverse effects outweigh the benefit to the woman. ART can reduce perinatal HIV-1 transmission by nearly 70%.<sup>3</sup></p> <p>Measure reflects important aspect of care that significantly impacts survival, mortality, and hinders transmission. Data collection is currently feasible and measure has a strong evidence base supporting the use.</p>	
<b>US Public Health Service Guidelines:</b>	
<p>Health care providers considering the use of antiretroviral agents for HIV-1 infected women during pregnancy must take into account two separate but related issues:</p> <ul style="list-style-type: none"> <li>• Antiretroviral treatment of maternal HIV-1 infection, and</li> <li>• Antiretroviral chemoprophylaxis to reduce the risk for perinatal HIV-1 transmission</li> </ul> <p>The benefits of ART for a pregnant woman must be weighed against the risk of adverse events to the woman, fetus, and newborn. Although ZDV chemoprophylaxis alone has substantially reduced the risk</p>	

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for perinatal transmission, antiretroviral monotherapy is now considered suboptimal for treatment of HIV-1 infection, and combination drug regimens are considered the standard of care for therapy. Initial evaluation of an infected pregnant woman should include an assessment of HIV-1 disease status and recommendations regarding antiretroviral treatment or alteration of her current antiretroviral regimen.<sup>3</sup>

**References/Notes:**

<sup>1</sup>A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP.

<sup>2</sup>“Patients” include all patients aged 13 years or older.

<sup>3</sup> Recommendations for Use of Antiretroviral Drugs in Pregnant HIV-1-Infected Women for Maternal Health and Interventions to Reduce Perinatal HIV Transmission in the United States. July 8, 2008.

<http://aidsinfo.nih.gov/ContentFiles/PerinatalGL.pdf>.

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<b>Performance Measure 1.2:</b> CD4 T-Cell Count (HAB Group 1)		<b>OPR-Related Measure:</b> Yes <a href="http://www.hrsa.gov/performance/measure/1.2.htm">www.hrsa.gov/performance/measure/1.2.htm</a>																					
Percentage of patients <sup>1</sup> with HIV-infection who had two or more CD4 T-cell counts performed in the measurement year.																							
<b>Numerator:</b>	Number of HIV-infected patients who had two or more CD4 T-cell counts performed at least three months apart during the measurement year																						
<b>Denominator:</b>	Number of HIV-infected patients who had two or more medical visits with a provider with prescribing privileges, <sup>2</sup> at least three months apart in the measurement year																						
<b>Patient Exclusions:</b>	<ol style="list-style-type: none"> <li>1. Patients newly enrolled in care during last six months of the measurement year</li> <li>2. Patient refusal of test</li> </ol>																						
<b>Data Element:</b>	<ol style="list-style-type: none"> <li>1. Is the patient HIV-infected? (Y/N) <ol style="list-style-type: none"> <li>a. If yes, did the patient have a CD4 count test conducted during the reporting period? (Y/N) <ol style="list-style-type: none"> <li>i. If yes, list the dates of these tests</li> </ol> </li> </ol> </li> </ol>																						
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>• Electronic Medical Record/Electronic Health Record</li> <li>• CAREWare, Lab Tracker, or other electronic data base</li> <li>• HIVQUAL reports on this measure for grantee under review</li> <li>• Medical record data abstraction by grantee of a sample of records</li> </ul>																						
<b>National Goals, Targets, or Benchmarks for Comparison</b>	<p>OAPP TFC: 90% IHI Goal: 90%<sup>3</sup> National HIVQUAL Data: <sup>4</sup></p> <table border="1"> <thead> <tr> <th></th> <th>2003</th> <th>2004</th> <th>2005</th> <th>2006</th> </tr> </thead> <tbody> <tr> <td>Top 10%</td> <td>87.2%</td> <td>87.7%</td> <td>90.3%</td> <td>87.5%</td> </tr> <tr> <td>Top 25%</td> <td>74.2%</td> <td>78.0%</td> <td>76.6%</td> <td>78.8%</td> </tr> <tr> <td>Median*</td> <td>61.0%</td> <td>62.7%</td> <td>63.9%</td> <td>62.5%</td> </tr> </tbody> </table> <p>*from HAB data base</p>				2003	2004	2005	2006	Top 10%	87.2%	87.7%	90.3%	87.5%	Top 25%	74.2%	78.0%	76.6%	78.8%	Median*	61.0%	62.7%	63.9%	62.5%
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<b>Outcome Measures for Consideration</b>	<ul style="list-style-type: none"> <li>○ Rate of opportunistic infections in the measurement year</li> <li>○ Rate of patients with progression to AIDS in the measurement year</li> <li>○ Mortality rates</li> </ul>																						
<b>Basis for Selection and Placement in HAB Group 1:</b>																							
<p>The CD4 T-cell count plays a vital role in determining the staging of HIV disease and indicating the need for prophylaxis against opportunistic infections. It continues to be used in decisions regarding initiation or adjustment of antiretroviral treatment.</p> <p>The most recent CD4 T-cell count is the strongest predictor of subsequent disease progression and survival, according to clinical trials and cohort studies data on patients receiving ART.<sup>4</sup></p> <p>Measure reflects important aspects of care that significantly impacts survival and mortality. Data collection is currently feasible and measure has a strong evidence base supporting the use.</p>																							
<b>US Public Health Service Guidelines:</b>																							
<p>"In general, CD4 counts should be determined every 3–4 months to (1) determine when to start antiretroviral therapy in patients not being treated; (2) assess immunologic response to antiretroviral therapy; and (3) assess the need for initiation or discontinuation of prophylaxis for opportunistic infections (AI). For those patients who are adherent to therapy with sustained viral suppression and stable clinical status for more than 2–3 years, the frequency of CD4 count monitoring may be extended</p>																							

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to every 6 months (BIII).”<sup>5</sup>

**References/Notes:**

Guidelines state that CD4 T-cell counts should be measured at least every three to four months depending on the stage of the disease. The timeframe of six months was determined by clinical expert consensus for the purpose of this measure, but can and should be measured at more frequent intervals if needed.

<sup>1</sup>“Patients” include all patients aged 13 years or older.

<sup>2</sup>A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP.

<sup>3</sup> IHI Measure reads, “Percent of Patients/Patients with a CD4 Count Test in the Past 4 Months.”

<http://www.ihl.org/IHI/Topics/HIVAIDS/HIVDiseaseGeneral/Measures/Percentof+patientswithaCD4counttestinthepast4months.htm>.

<sup>4</sup> National HIVQUAL data looks at the percent of patients who have a CD4 T-cell count done every four months, not every six months.

<http://www.hivguidelines.org/admin/files/qoc/hivqual/proj%20info/HQNatlAggScrs3Yrs.pdf>.

<sup>5</sup> Panel on Antiretroviral Guidelines for Adult and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. November 3, 2008. Available at <http://aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>.

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<b>Performance Measure 1.3: Viral Load</b>		<b>OPR-Related Measure:</b> Yes <a href="http://www.hrsa.gov/performance/measure/1.3.htm">www.hrsa.gov/performance/measure/1.3.htm</a>																	
Percentage of patients <sup>1</sup> with HIV-infection who had two or more viral load tests performed in the measurement year.																			
<b>Numerator:</b>	Number of HIV-infected patients who had two or more viral load tests performed at least three months apart during the measurement year																		
<b>Denominator:</b>	Number of HIV-infected patients who had two or more medical visits with a provider with prescribing privileges, <sup>2</sup> at least three months apart in the measurement year																		
<b>Patient Exclusions:</b>	<ol style="list-style-type: none"> <li>1. Patients newly enrolled in care during last six months of the year</li> <li>2. Patient refusal of test</li> </ol>																		
<b>Data Element:</b>	<ol style="list-style-type: none"> <li>1. Is the patient HIV-infected? (Y/N)               <ol style="list-style-type: none"> <li>a. If yes, did the patient have a viral load test conducted during the reporting period? (Y/N)                   <ol style="list-style-type: none"> <li>i. If yes, list the dates of these tests</li> </ol> </li> </ol> </li> </ol>																		
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>• Electronic Medical Record/Electronic Health Record</li> <li>• CAREWare, Lab Tracker, or other electronic data base</li> <li>• HIVQUAL reports on this measure for grantee under review</li> <li>• Medical record data abstraction by grantee of a sample of records</li> </ul>																		
<b>National Goals, Targets, or Benchmarks for Comparison</b>	OAPP TFC: 90% IHI Goal: 90% <sup>3</sup> National HIVQUAL Data: <sup>4</sup> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th></th> <th>2003</th> <th>2004</th> <th>2005</th> </tr> </thead> <tbody> <tr> <td>Top 10%</td> <td>86.0%</td> <td>88.9%</td> <td>87.6%</td> </tr> <tr> <td>Top 25%</td> <td>75.3%</td> <td>77.8%</td> <td>78.2%</td> </tr> <tr> <td>Median*</td> <td>61.0%</td> <td>62.7%</td> <td>63.9%</td> </tr> </tbody> </table> *from HAB data base				2003	2004	2005	Top 10%	86.0%	88.9%	87.6%	Top 25%	75.3%	77.8%	78.2%	Median*	61.0%	62.7%	63.9%
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<b>Outcome Measures for Consideration</b>	<ul style="list-style-type: none"> <li>○ Rate of opportunistic infections in the measurement year</li> <li>○ Rate of patients with progression to AIDS in the measurement year</li> <li>○ Mortality rates</li> </ul>																		
<b>Basis for Selection:</b>																			
<p>The plasma HIV RNA (viral load) should be measured in all patients at baseline and on a regular basis thereafter, especially in patients who are on treatment as viral load is the most important indicator of response to ART. Viral load testing serves as a surrogate marker for treatment response and can be useful in predicting clinical progression. One key goal of treatment is suppression of viral load to below the limits of detection (below 40-75 copies/mL by most commercially available assays). For most individuals who are adherent to their antiretroviral regimens and who do not harbor resistant mutations to the prescribed drugs, viral suppression is generally achieved in 16-24 weeks.<sup>5</sup> Measure reflects important aspects of care that significantly impacts survival and mortality. Data collection is currently feasible and measure has a strong evidence base supporting the use.</p>																			
<b>Guidelines for the Use of Antiretroviral Agents in HIV-1 Infected Adults and Adolescents:</b>																			
<p><b>At Initiation or Change in Therapy.</b> Plasma viral load should be measured before initiation of therapy and preferably within two to four weeks, and not more than eight weeks, after treatment initiation or after treatment modification. Repeat viral load measurement should be performed at four to eight week intervals until the level falls below the assay's limit of detection.</p>																			
<p><b>In Patients Who Have Viral Suppression but Therapy Was Modified Due to Drug Toxicity or</b></p>																			

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**Regimen Simplification.** Viral load measurement should be performed within two to eight weeks after changing therapy. The purpose of viral load monitoring at this point is to confirm potency of the new regimen.

**In Patients on a Stable Antiretroviral Regimen.** Viral load should be repeated every three to four months or as clinically indicated. In adherent patients who have suppressed viral loads for more than two to three years and who are at stable clinical and immunological status, some clinicians may extend the interval to every six months.

**Monitoring in Patients with Suboptimal Response.** In addition to viral load monitoring, a number of additional factors should be assessed, such as nonadherence, altered pharmacology, or drug interactions. Patients who fail to achieve viral suppression should undergo resistance testing to aid in the selection of an alternative regimen.<sup>5</sup>

**References/Notes:**

Guidelines state that viral load should be measured at least every three to four months depending on the stage of the disease. The timeframe of six months was determined by clinical expert consensus for the purpose of this measure, but can and should be measured at more frequent intervals if needed.

<sup>1</sup>“Patients” include all patients aged 13 years or older.

<sup>2</sup>A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP.

<sup>3</sup>IHI Measure reads, “Percent of Patients/Patients with a Viral Load Test in the Past 4 Months.”

<http://www.ihl.org/IHI/Topics/HIVAIDS/HIVDiseaseGeneral/Measures/Percentofpatientswithvirallloadt estinthepast4months.htm>.

<sup>4</sup>National HIVQUAL data looks at the percent of patients who have a viral load done every four months, not every six months.

<http://www.hivguidelines.org/admin/files/qoc/hivqual/proj%20info/HQNatlAggScrs3Yrs.pdf>.

<sup>5</sup> Panel on Antiretroviral Guidelines for Adult and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. November 3, 2008. Available at <http://aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>.

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<b>Performance Measure 1.4:</b> ART (HAB Group 1)		<b>OPR-Related Measure:</b> Yes <a href="http://www.hrsa.gov/performance/measure/1.4.htm">www.hrsa.gov/performance/measure/1.4.htm</a>																					
Percentage of patients <sup>1</sup> with HIV-infection and CD4 T-cell counts <350 cells/mm <sup>3</sup> who are prescribed ART.																							
<b>Numerator:</b>	Number of HIV-infected patients with CD4 T-cell counts <350 cells/mm <sup>3</sup> or and AIDS-defining condition who were prescribed an ART regimen <sup>2</sup> within the measurement year																						
<b>Denominator:</b>	Number of HIV-infected patients who have: <ul style="list-style-type: none"> <li>• A CD4 T-cell count &lt; 350 cells/mm<sup>3</sup> or an AIDS-defining condition,<sup>2</sup> and</li> <li>• At least two medical visits with a provider with prescribing privileges,<sup>3</sup> in the measurement year</li> </ul>																						
<b>Patient Exclusions:</b>	<ol style="list-style-type: none"> <li>1. Patients newly enrolled in care during last three months of the measurement year</li> <li>2. Patients with documented refusal to take ART in medical record</li> </ol>																						
<b>Data Element:</b>	<ol style="list-style-type: none"> <li>1. Is the patient HIV-infected (Y/N) <ol style="list-style-type: none"> <li>a. If yes, is the patient diagnosed with CDC-defined AIDS? (Y/N) <ol style="list-style-type: none"> <li>i. If yes, was the patient prescribed ART during the reporting period? (Y/N) <ol style="list-style-type: none"> <li>1. If yes, does the patient have two or more CD4 counts &lt; 350 cells/mm<sup>3</sup>? (Y/N) <ol style="list-style-type: none"> <li>A. If yes, was the patient prescribed ART during the reporting period? (Y/N)</li> </ol> </li> </ol> </li> </ol> </li> </ol> </li> </ol>																						
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>• Ryan White Program Data Report, Section 2, Items 26 and 31 may provide data useful in establishing a baseline for this performance measure</li> <li>• Electronic Medical Record/Electronic Health Record</li> <li>• CAREWare, Lab Tracker, or other electronic data base</li> <li>• HIVQUAL reports on this measure for grantee under review</li> <li>• Medical record data abstraction by grantee of a sample of records</li> </ul>																						
<b>National Goals, Targets, or Benchmarks for Comparison</b>	<p>OAPP TFC: 95% IHI Goal: 90%<sup>4</sup> CDC and HIVRN data consistent that 80% of those in care “eligible for ART’s”<sup>4,5,6</sup> National HIVQUAL Data:<sup>7,8</sup></p> <table border="1"> <thead> <tr> <th></th> <th>2003</th> <th>2004</th> <th>2005</th> <th>2006</th> </tr> </thead> <tbody> <tr> <td>Top 10%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>Top 25%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>Median*</td> <td>100%</td> <td>88.9%</td> <td>95.7%</td> <td>100%</td> </tr> </tbody> </table> <p>*from HAB data base</p>				2003	2004	2005	2006	Top 10%	100%	100%	100%	100%	Top 25%	100%	100%	100%	100%	Median*	100%	88.9%	95.7%	100%
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Median*	100%	88.9%	95.7%	100%																			
<b>Outcome Measures for Consideration:</b>	<ul style="list-style-type: none"> <li>○ Rate of opportunistic infections in the measurement year</li> <li>○ Rate of HIV-related hospitalizations in the measurement year</li> <li>○ Mortality rates</li> </ul>																						
<b>Basis for Selection and Placement in HAB Group 1:</b>																							
Randomized clinical trials provide strong evidence of improved survival and reduced disease progression by treating patients with AIDS-defining conditions and patients with CD4 T-cells <350 cells/mm <sup>3</sup> . <sup>2</sup> Measure reflects important aspect of care that significantly impacts survival, mortality, and																							

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transmission. Data collection is currently feasible and measure has a strong evidence base supporting the use.

**US Public Health Service Guidelines:**

“Antiretroviral therapy should be initiated in patients with a history of an AIDS-defining illness or with a CD4 T-cell count  $<350$  cells/mm<sup>3</sup>.”<sup>2</sup>

**References/Notes:**

<sup>1</sup>“Patients” include all patients aged 13 years or older.

<sup>2</sup>“The most extensively studied combination antiretroviral regimens for treatment-naïve patients generally consist of two NRTIs plus either one NNRTI or a PI (with or without ritonavir boosting). A list of Panel-recommended components for initial therapy in treatment-naïve patients can be found in **Table 6**. Potential advantages and disadvantages of the components recommended as initial therapy for treatment-naïve patients are listed in **Table 7** to guide prescribers in choosing the regimen best suited for an individual patient. A list of agents or components not recommended for initial treatment can be found in **Table 8**. Some agents or components that are not recommended for use because of lack of potency or potential serious safety concerns are listed in **Table 9**.”

ART should be initiated in patients with a history of an AIDS-defining illness or with a CD4 T-cell count  $<350$  cells/mm<sup>3</sup>. The data supporting this recommendation are stronger for those with a CD4 T-cell count  $<200$  cells/mm<sup>3</sup> and with a history of AIDS, than for those with CD4 T-cell counts between 200 and 350 cells/mm<sup>3</sup>. ART should also be initiated in the following groups of patients regardless of CD4 T-cell count:

- a. Pregnant women (AI evidence);
- b. Patients with HIV-associated nephropathy (AI evidence);
- c. Patients co-infected with HBV when treatment is indicated (BIII evidence).

The optimal time to initiate therapy in asymptomatic patients with CD4 count  $>350$  cells/mm<sup>3</sup> is not well defined. Patient scenarios and comorbidities should be taken into consideration.

Panel on Antiretroviral Guidelines for Adult and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. November 3, 2008. Available at <http://aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>.

<sup>3</sup>A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP.

<sup>4</sup>IHI Measure reads, “Percent of Patients with Appropriate ARV Therapy Management” <http://www.ihi.org/IHI/Topics/HIVAIDS/HIVDiseaseGeneral/Measures/PercentofPatientswithAppropriateARVTherapyManagement.htm>.

<sup>5</sup>Gebo, JAIDS January 2005, vol. 38, pp. 96-103.

<sup>6</sup>Teshale Abstract #167, CROI 2005.

<sup>7</sup>The National HIVQUAL data may not be directly comparable due to varying exclusions. Indicator definitions can be accessed at <http://www.hivguidelines.org/Content.aspx?PageID=53>.

<sup>8</sup><http://www.hivguidelines.org/admin/files/qoc/hivqual/proj%20info/HQNatlAggScrs3Yrs.pdf>.

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<b>Performance Measure 1.5:</b> Pneumocystis pneumonia (PCP) Prophylaxis (HAB Group 1)		<b>OPR-Related Measure:</b> Yes <a href="http://www.hrsa.gov/performance/measure/1.5.htm">www.hrsa.gov/performance/measure/1.5.htm</a>																					
Percentage of patients <sup>1</sup> with HIV-infection and a CD4 T-cell count < 200 cells/mm <sup>3</sup> who were prescribed PCP prophylaxis.																							
<b>Numerator:</b>	Number of HIV-infected patients with CD4 T-cell count < 200 cells/mm <sup>3</sup> who were prescribed PCP prophylaxis <sup>2,3</sup>																						
<b>Denominator:</b>	Number of HIV-infected patients who: <ul style="list-style-type: none"> <li>had a medical visit with a provider with prescribing privileges,<sup>4</sup> at least twice in the measurement year, and</li> <li>had a CD4 T-cell count &lt; 200 cells/mm<sup>3</sup></li> </ul>																						
<b>Patient Exclusions:</b>	<ol style="list-style-type: none"> <li>Patients with CD4 T-cell count &lt; 200 cells/mm<sup>3</sup> repeated within three months rose above 200 cells/mm<sup>3</sup></li> <li>Patients newly enrolled in care during last three months of the measurement year</li> <li>Patients with documented refusal to take PCP prophylaxis in medical record</li> </ol>																						
<b>Data Element:</b>	<ol style="list-style-type: none"> <li>Is the patient HIV-infected? (Y/N) <ol style="list-style-type: none"> <li>If yes, was the CD4 T-cell count &lt;200 cells/mm<sup>3</sup>? (Y/N) <ol style="list-style-type: none"> <li>If yes, was PCP prophylaxis prescribed? (Y/N) <ol style="list-style-type: none"> <li>If no, was the CD4 count repeated within three months? (Y/N) <ol style="list-style-type: none"> <li>If yes, did it remain &lt; 200 cells/mm<sup>3</sup>? (Y/N) <ol style="list-style-type: none"> <li>If yes, was PCP prophylaxis prescribed? (Y/N)</li> </ol> </li> </ol> </li> </ol> </li> </ol> </li> </ol> </li> </ol>																						
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>Electronic Medical Record/Electronic Health Record</li> <li>CAREWare, Lab Tracker, or other electronic data base</li> <li>HIVQUAL reports on this measure for grantee under review</li> <li>Medical record data abstraction by grantee of a sample of records</li> </ul>																						
<b>National Goals, Targets, or Benchmarks for Comparison:</b>	OAPP TFC: 95% IHI Goal: 95% <sup>5</sup> National HIVQUAL Data: <sup>6</sup> <table border="1" data-bbox="381 1312 1079 1459"> <thead> <tr> <th></th> <th>2003</th> <th>2004</th> <th>2005</th> <th>2006</th> </tr> </thead> <tbody> <tr> <td>Top 10%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>Top 25%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>Median*</td> <td>93.3%</td> <td>90.9%</td> <td>92.3%</td> <td>94.4%</td> </tr> </tbody> </table> *from HAB data base				2003	2004	2005	2006	Top 10%	100%	100%	100%	100%	Top 25%	100%	100%	100%	100%	Median*	93.3%	90.9%	92.3%	94.4%
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Median*	93.3%	90.9%	92.3%	94.4%																			
<b>Outcome Measures for Consideration:</b>	<ul style="list-style-type: none"> <li>Rate of PCP in the measurement year</li> <li>Mortality rates</li> <li>Cost effectiveness</li> </ul>																						
<b>Basis for Selection and Placement in HAB Group 1:</b>																							
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. Pneumocystis almost always affects the lungs, causing a form of pneumonia. People with CD4 T-cell counts < 200 cells/mm <sup>3</sup> are at greatest risk of developing PCP. <sup>2</sup> Before the widespread use of primary PCP prophylaxis and effective ART, PCP occurred in 70%-80% of patients with AIDS. <sup>7</sup> The course of treated PCP was associated with a mortality rate of between 20% and 40% in persons with profound immunosuppression. Approximately 90% of cases occurred among																							

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patients with CD4 T-cell counts  $<200$  cells/mm<sup>3</sup>.<sup>8,9</sup> Measure reflects important aspect of care that significantly impacts survival and mortality. Data collection is currently feasible and measure has a strong evidence base supporting the use.

**US Public Health Service Guidelines:**

HIV-infected adults and adolescents, including pregnant women and those on ART, should receive chemoprophylaxis against PCP if they have a CD4 T-cell count  $<200$  cells/mm<sup>3</sup>.<sup>2</sup>

**References/Notes:**

<sup>1</sup>“Patients” include all patients aged 13 years or older.

<sup>2</sup> Centers for Disease Control and Prevention. Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents —Recommendations from CDC, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. MMWR. March 24, 2009. Volume 58.

<http://www.aidsinfo.nih.gov/Guidelines/GuidelineDetail.aspx?MenuItem=Guidelines&Search=Off&GuidelineID=211&ClassID=4>.

<sup>3</sup> PCP prophylactic recommended in US PHS guidelines: TMP-SMX (preferred regimen at 1 DS QD, however tolerability may improve with 1 SS QD, 1 DS 3x a week), alternative regimens (in case of TMP-SMX intolerance) include: 1) dapson + pyrimethamine + leukovorin; 2) atovaquone; 3) aerosolized pentamidine; 4) oral pyrimethamine + sulfadoxine (if sulfonamide hypersensitivity).

<sup>4</sup> A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP..

<sup>5</sup> IHI Measure reads, “Percent of Patients with a CD4 Cell Count Below 200 cells/mm<sup>3</sup> receiving Pneumocystis Carinii Pneumonia (PCP) Prophylaxis”

<sup>6</sup> <http://www.hivguidelines.org/admin/files/qoc/hivqual/proj%20info/HQNatlAggScrs3Yrs.pdf>.

<sup>7</sup> Phair J, Munoz A, Detels R, et al. The risk of Pneumocystis carinii pneumonia among men infected with human immunodeficiency virus type 1. Multicenter AIDS Cohort Study Group. N Engl J Med 1990;322:161–5.

<sup>8</sup> Kaplan JE, Hanson DL, Navin TR, Jones JL. Risk factors for primary Pneumocystis carinii pneumonia in human immunodeficiency virus- infected adolescents and adults in the United States: reassessment of indications for chemoprophylaxis. J Infect Dis 1998;178:1126–32.

<sup>9</sup> Kaplan JE, Hanson DL, Jones JL, Dworkin MS. Viral load as an independent risk factor for opportunistic infections in HIV-infected adults and adolescents. AIDS 2001;15:1831–6.

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<b>Performance Measure 1.6:</b> Adherence Assessment and Counseling (HAB Group 2)		<b>OPR-Related Measure:</b> Yes <a href="http://www.hrsa.gov/performance/measure/1.6.htm">www.hrsa.gov/performance/measure/1.6.htm</a>																					
Percentage of patients <sup>1</sup> with HIV-infection on ART who were assessed for adherence (and counseled if suboptimal adherence) two or more times in the measurement year.																							
<b>Numerator:</b>	Number of HIV-infected patients, as part of their primary care, who were assessed for adherence and counseled (if suboptimal adherence) <sup>2,3</sup> two or more times in the measurement year																						
<b>Denominator:</b>	Number of HIV-infected patients on ART who had a medical visit with a provider with prescribing privileges <sup>4</sup> at least twice in the measurement year																						
<b>Patient Exclusions:</b>	<ol style="list-style-type: none"> <li>1. Patients newly enrolled in care during the last six months of the measurement year</li> <li>2. Patients who initiated ART during the last six months of the measurement year</li> </ol>																						
<b>Data Element:</b>	<ol style="list-style-type: none"> <li>1. Is the patient HIV-infected? (Y/N)               <ol style="list-style-type: none"> <li>a. If yes, was the patient on ART? (Y/N)                   <ol style="list-style-type: none"> <li>i. If the patient was on ART, did he/she receive adherence counseling during the measurement year? (Y/N)                       <ol style="list-style-type: none"> <li>1. If yes, list the dates of these visits</li> </ol> </li> </ol> </li> </ol> </li> </ol>																						
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>• Electronic Medical Record/Electronic Health Record</li> <li>• CAREWare, Lab Tracker, or other electronic data base</li> <li>• HIVQUAL reports on this measure for grantee under review</li> <li>• Medical record data abstraction by grantee of a sample of records</li> </ul>																						
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Median*	57.5%	39.7%	46.8%	55.7%																			
<b>Outcome Measures for Consideration:</b>	<ul style="list-style-type: none"> <li>○ Percent of undetectable viral loads among patients on ART in the measurement year</li> <li>○ Percent of patients with ART-resistance developed during therapy in the measurement year</li> <li>○ Mortality rates</li> <li>○ Incidence of HIV-related hospitalizations in the clinic population</li> <li>○ Incidence of patients with progression to AIDS in the clinic population</li> </ul>																						
<b>Basis for Selection and Placement in HAB Group 2:</b>																							
<p>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 ART was the strongest predictor for failure to achieve viral suppression below the level of detection. HIV viral suppression, reduced rates of resistance, and improved survival have been correlated with high rates of adherence to ART.<sup>7</sup></p> <p>Prior to writing the first prescriptions, clinicians need to assess the patient’s readiness to take medication. Patients need to understand that the first regimen is the best chance for long-term success.</p>																							

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Resources need to be identified to assist in success. Interventions can also assist with identifying adherence education needs and strategies for each patient.”<sup>7</sup>  
 Measure reflects important aspect of care that impacts HIV-related morbidity and focuses on treatment decisions that affect a sizable population. Although discussions of the importance of adherence to ART are important to begin prior to initiation of treatment, there is no standard of care for discussions to occur every six months for patients who may be years away from antiretroviral treatment.

**US Public Health Guidelines:**

“...adherence counseling and assessment should be done at each clinical encounter”<sup>7</sup>

**References/Notes:**

- <sup>1</sup>“Patients” include all patients aged 13 years or older.
- <sup>2</sup> Assessment of adherence includes: 1) patient reports of adherence by: a) quantifiable scales, e.g. missed three out of ten doses; b) qualitative scale, e.g. Likert scale; or 2) quantification such as pharmacy dispensing records, pill counts, or direct observation therapy.
- <sup>3</sup> Adherence assessment should be provided by the provider with prescribing privileges. Adherence counseling should be performed for patients who report suboptimal adherence (less than 100% no missed doses). Counseling can be provided by any member of the multidisciplinary primary care team.
- <sup>4</sup> A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP..
- <sup>5</sup> IHI Measure reads, “Percent of Patients/Patients Assessed for Adherence to Antiretroviral (ARV) Therapy in the Past 4 Months.”  
<http://www.ihl.org/IHI/Topics/HIVAIDS/HIVDiseaseGeneral/Measures/PercentofPatientsPatientsAssessedforAdherencetoAntiretroviralARVTherapyinthePast4Months.htm>.
- <sup>6</sup> <http://www.hivguidelines.org/admin/files/qoc/hivqual/proj%20info/HQNatlAggScrs3Yrs.pdf>.
- <sup>7</sup> Panel on Antiretroviral Guidelines for Adult and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. November 3, 2008. Available at <http://aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>.

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<b>Performance Measure 1.7:</b> Cervical Cancer Screening (HAB Group 2)		<b>OPR-Related Measure:</b> Yes <a href="http://www.hrsa.gov/performance/measure/1.7.htm">www.hrsa.gov/performance/measure/1.7.htm</a>																					
Percentage of women with HIV-infection who have a PAP screening in the measurement year.																							
<b>Numerator:</b>	Number of HIV-infected female patients <sup>1</sup> who had PAP screen results documented in the measurement year																						
<b>Denominator:</b>	Number of HIV-infected female patients who: <ul style="list-style-type: none"> <li>were <math>\geq 18</math> years old<sup>2</sup> in the measurement year or reported having a history of sexual activity, and</li> <li>had a medical visit with a provider with prescribing privileges<sup>3</sup> at least twice in the measurement year</li> </ul>																						
<b>Patient Exclusions:</b>	<ol style="list-style-type: none"> <li>Patients who were <math>&lt; 18</math> years old and denied history of sexual activity</li> <li>Patients who have had a hysterectomy for non-dysplasia/non-malignant indications</li> <li>Patients with documented refusal of PAP in medical record</li> </ol>																						
<b>Data Element:</b>	<ol style="list-style-type: none"> <li>Is the patient HIV-infected? (Y/N) <ol style="list-style-type: none"> <li>If yes, is the patient female? (Y/N) <ol style="list-style-type: none"> <li>If yes, is she <math>\geq 18</math> years or reports having a history of sexual activity? (Y/N)</li> <li>If yes, was the PAP screening completed during the measurement year?</li> </ol> </li> </ol> </li> </ol>																						
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>Ryan White Program Data Report, Section 5, Items 42 and 52 may provide data useful in establishing a baseline for this performance measure</li> <li>Electronic Medical Record/Electronic Health Record</li> <li>CAREWare, Lab Tracker, or other electronic data base</li> <li>HIVQUAL reports on this measure for grantee under review</li> <li>Medical record data abstraction by grantee of a sample of records</li> </ul>																						
<b>National Goals, Targets, or Benchmarks for Comparison</b>	<p>OAPP TFC: 90% IHI Goal: 90%<sup>4</sup> National HIVQUAL Data:<sup>5</sup></p> <table border="1"> <thead> <tr> <th></th> <th>2003</th> <th>2004</th> <th>2005</th> <th>2006</th> </tr> </thead> <tbody> <tr> <td>Top 10%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>Top 25%</td> <td>84.3%</td> <td>86.7%</td> <td>87.0%</td> <td>89.2%</td> </tr> <tr> <td>Median*</td> <td>70.5%</td> <td>67.7%</td> <td>71.8%</td> <td>70.8%</td> </tr> </tbody> </table> <p>*from HAB data base</p>				2003	2004	2005	2006	Top 10%	100%	100%	100%	100%	Top 25%	84.3%	86.7%	87.0%	89.2%	Median*	70.5%	67.7%	71.8%	70.8%
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<b>Outcome Measures for Consideration</b>	<ul style="list-style-type: none"> <li>Incidence of cervical cancer in HIV-positive women in clinic population</li> </ul>																						
<b>Basis for Selection and Placement in HAB Group 2:</b>																							
<p>Human Papillomavirus (HPV) is a common infection in the general population. Current evidence suggests that over 50% of sexually active adults have been infected with one or more HPV types. According to population-based prospective studies, HPV precedes the development of cervical cancer.<sup>6</sup></p> <p>Cervical cancer may be the most common AIDS-related malignancy in women. Although not a common diagnosis in women in the general population, according to New York City AIDS Surveillance data</p>																							

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from 1990 to 1995, the observed cervical cancer cases in HIV-positive women were two to three times higher than the expected number of cases.<sup>7,8</sup> Findings such as these resulted in the inclusion of cervical cancer in the Centers for Disease Control and Prevention (CDC) expanded definition of AIDS.<sup>9</sup>

When compared with HIV-negative women, HIV-positive women with invasive cervical cancer present at more advanced stages and with cancer metastasizing to unusual locations. HIV- positive women have poorer responses to standard therapy and have higher recurrences and death rates, as well as shorter intervals to recurrence or death.<sup>10,11</sup>

The CDC currently recommends that HIV-positive women have a complete gynecologic evaluation, including a PAP smear, as part of their initial HIV evaluations, or upon entry to prenatal care, and another PAP smear six months later. If both PAP smears are negative, annual screening is recommended thereafter in asymptomatic women. The CDC further recommends more frequent screenings (every six months) for women with symptomatic HIV-infection, prior abnormal PAP smears, or signs of HPV infection.<sup>12,13</sup>

Cervical cancer can often be prevented or detected in its earliest stages through effective screening with a PAP smear and avoidance of known risk factors. This accentuates the importance of routine gynecological care, which includes PAP smears for HIV-infected women.<sup>14</sup>

Measure reflects important aspect of care that impacts HIV-related morbidity and focuses on treatment decisions that affect a sizable population. Measure has a strong evidence base supporting the use.

**US Public Health Guidelines:**

“The Pap test should be obtained twice during the first year after diagnosis of HIV-infection and, if the results are normal, annually thereafter (AII). If the results of the Pap test are abnormal, care should be provided according to the Guidelines for Management of Women with Abnormal Cervical Cancer Screening Tests by ASCCP.”<sup>15</sup>

**References/Notes:**

- <sup>1</sup>“Patients” include all patients aged 13 years or older.
- <sup>2</sup> Onset of sexual activity is not reliably reported or recorded. The age bracket of 18 years is selected for performance measurement purposes only and should not be interpreted as a recommendation about the age at which screening should begin to occur.
- <sup>3</sup> A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP.
- <sup>4</sup> IHI Measure reads, “Percent of Female Patients/Patients with an Annual Papanicolaou (Pap) Test” (<http://www.ihl.org/IHI/Topics/HIVAIDS/HIVDiseaseGeneral/Measures/PercentofPatientswithPAPSmearinLastSixMonths.htm>)
- <sup>5</sup> National HIVQUAL data looks at the percent of patients who have an annual pelvic exam. (<http://www.hivguidelines.org/admin/files/qoc/hivqual/proj%20info/HQNatlAggScrs3Yrs.pdf>) (<http://www.hivguidelines.org/admin/files/qoc/hivqual/proj%20info/HQNatlAggScrs3Yrs.pdf>)
- <sup>6</sup> Davis, AT. Cervical dysplasia in women infected with the human immunodeficiency virus (HIV): A correlation with HIV viral load and CD4 count. *Gynecologic Oncology*. 2001; 80(3):350–354.
- <sup>7</sup> Approximately 16,000 new cases of cervical cancer are diagnosed each year, and about 4,800 women die from this disease annually. *Clinical Guide to Clinical Preventive Services: Report of the U.S. Preventive Services Task Force*. Chapter 9.

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<sup>8</sup> Chiasson, MA. Declining AIDS mortality in New York City. New York City Department of Health. Bull NY Acad. Med. 1997; 74:151–152.

<sup>9</sup> Centers for Disease Control and Prevention (CDC). 1993. Revised classification system for HIV-infection and expanded surveillance case definition for AIDS among adolescents and adults. MMWR. 1992; 41(RR-17). <http://www.cdc.gov/mmwr/preview/mmwrhtml/00018871.htm>.

<sup>10</sup> Ibid.

<sup>11</sup> U.S. Department of Health and Human Services. Anderson, JA, editor. Guide to the Clinical Care of Women with HIV; 2005.

<sup>12</sup> <http://www.niaid.nih.gov/factsheets/womenhiv.htm>.

<sup>13</sup> The interval for each patient should be recommended by the physician based on risk factors, i.e., early onset of sexual history, a history of multiple sex partners, low socioeconomic status, and, for women infected with HIV, more frequent screening, according to the established guidelines.

<sup>14</sup> Kjaer, S. Type specific persistence of high risk human papillomavirus (HPV) as indicator of high grade cervical squamous intraepithelial lesions in young women: population based prospective follow-up study, Brit Med J. 2002; 325: 572–578.

<sup>15</sup> Centers for Disease Control and Prevention. Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents —Recommendations from CDC, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. MMWR. March 24, 2009. Volume 58.

<http://www.aidsinfo.nih.gov/Guidelines/GuidelineDetail.aspx?MenuItem=Guidelines&Search=Off&GuidelineID=211&ClassID=4>.

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<b>Performance Measure 1.8:</b> Hepatitis C (HCV) Screening (HAB Group 2)		<b>OPR-Related Measure:</b> Yes <a href="http://www.hrsa.gov/performance/measure/1.8.htm">www.hrsa.gov/performance/measure/1.8.htm</a>			
Percentage of patients <sup>1</sup> for whom HCV screening was performed at least once since the diagnosis of HIV-infection.					
<b>Numerator:</b>	Number of HIV-infected patients who have HCV status documented in chart since HIV diagnosis or initiation of care with provider <sup>2</sup>				
<b>Denominator:</b>	Number of HIV-infected patients who had a medical visit with a provider with prescribing privileges <sup>3</sup> at least twice in the measurement year				
<b>Patient Exclusions:</b>	1. Patient refusal of test				
<b>Data Element:</b>	1. Is the patient HIV-infected? (Y/N) a. If yes, is there documentation of the patient’s Hepatitis C status (Hepatitis C Antibody positive or negative) in the medical record? (Y/N)				
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>• Ryan White Program Data Report, Section 5, Items 42 and 48 may provide data useful in establishing a baseline for this performance measure</li> <li>• Electronic Medical Record/Electronic Health Record</li> <li>• CAREWare, Lab Tracker, or other electronic data base</li> <li>• HIVQUAL reports on this measure for grantee under review</li> <li>• Medical record data abstraction by grantee of a sample of records</li> </ul>				
<b>National Goals, Targets, or Benchmarks for Comparison</b>	OAPP TFC: 90%				
	IHI Goal: 95% <sup>4</sup>				
	National HIVQUAL Performance Data: <sup>5</sup>				
		2003	2004	2005	2006
	Top 10%	100%	100%	100%	100%
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	Median*	86.2%	88.8%	90.5%	90.9%
	*from HAB data base				
<b>Outcome Measures for Consideration:</b>	<ul style="list-style-type: none"> <li>○ Hepatitis C- related mortality rates in the clinic population</li> </ul>				
<b>Basis for Selection and Placement in HAB Group 2:</b>					
Chronic hepatitis C infection is common in persons with HIV-infection, and although it is a source of substantial morbidity and mortality, it may be amenable to treatment. HIV/ hepatitis C co-infection may predispose HIV-infected patients to liver toxicity from ART <sup>6</sup> and HCV treatment may exacerbate the side effects of some antiretroviral medications. <sup>7</sup>					
Measure reflects important aspect of care that impacts HIV-related morbidity and focuses on treatment decisions that affect a sizable population. Measure has a strong evidence base supporting the use.					
<b>US Public Health Guidelines:</b>					
“HIV-infected patients should be tested routinely for evidence of chronic HCV infection” <sup>8</sup> (3/29/09)					
<b>References/Notes:</b>					
<sup>1</sup> “Patients” include all patients aged 13 years or older.					
<sup>2</sup> Unless there is concern about ongoing exposure (e.g., via active injection drug use or sexual exposure), guidelines do not consistently recommend annual re-screening.					

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<sup>3</sup> A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP.

<sup>4</sup> IHI Measure reads, “Percent of Patients/Patients with Known Hepatitis C Status”

<http://www.ihl.org/IHI/Topics/HIVAIDS/HIVDiseaseGeneral/Measures/PercentofPatientsPatientswithKnownHepatitisCStatus.htm>.

<sup>5</sup> <http://www.hivguidelines.org/admin/files/qoc/hivqual/proj%20info/HQNatlAggScrs3Yrs.pdf>.

<sup>6</sup> AIDS Institute, New York State Department of Health. Criteria for the Medical Care of Adults with HIV-infection, Hepatitis C Virus Updated September 2004 [*Text taken from the NYSDOH AI publication - "Criteria for the Medical Care of Adults with HIV-infection"*].

[http://www.hivguidelines.org/public\\_html/hep-c/hepc.pdf](http://www.hivguidelines.org/public_html/hep-c/hepc.pdf).

<sup>7</sup> Panel on Antiretroviral Guidelines for Adult and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. November 3, 2008. Available at <http://aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>.

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<b>Performance Measure 1.9:</b> HIV Risk Counseling (HAB Group 2)		<b>OPR-Related Measure:</b> Yes <a href="http://www.hrsa.gov/performance/measurereview/measures.htm">www.hrsa.gov/performance/measurereview/measures.htm</a>
Percentage of patients <sup>1</sup> with HIV-infection who received HIV risk counseling <sup>2</sup> within the measurement year.		
<b>Numerator:</b>	Number of HIV-infected patients, as part of their primary care, who received HIV risk counseling	
<b>Denominator:</b>	Number of HIV-infected patients who had a medical visit with a provider with prescribing privileges <sup>3</sup> at least twice in the measurement year	
<b>Patient Exclusions:</b>	None	
<b>Data Element:</b>	1. Is the patient HIV-infected? (Y/N) a. If yes, did the patient receive HIV risk counseling at least once during the measurement year with appropriate feedback to the provider?(Y/N)	
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>• Electronic Medical Record/Electronic Health Record</li> <li>• CARE Ware, Lab Tracker, or other electronic data base</li> <li>• Medical record data abstraction by grantee of a sample of records</li> </ul>	
<b>National Goals, Targets, or Benchmarks for Comparison:</b>	OAPP TFC: 95% None available at this time	
<b>Outcome Measures for Consideration:</b>	<ul style="list-style-type: none"> <li>○ Incidence of new HIV-infection</li> <li>○ Incidence of STD cases in clinic population</li> <li>○ Rates of substance abuse counseling and referrals</li> </ul>	
<b>Basis for Selection and Placement in HAB Group 2:</b>		
<p>Reducing transmission of HIV in the United States requires new strategies, including emphasis on prevention of transmission by HIV-infected persons. Through ongoing attention to prevention, risky sexual and needle sharing behaviors among persons with HIV-infection can be reduced, and transmission of HIV-infection prevented. 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.<sup>4</sup></p> <p>Measure reflects important aspect of care that impacts HIV-related morbidity and focuses on treatment decisions that affect a sizable population. Measure has a strong evidence base supporting its use.</p>		
<b>US Public Health Guidelines:</b>		
"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." <sup>4,5</sup>		
<b>References/Notes:</b>		
<sup>1</sup> “Patients” include all patients aged 13 years or older. <sup>2</sup> HIV risk counseling includes assessment of risk, counseling, and as necessary, referrals. Counseling occurs in the context of comprehensive medical care and can be provided by any member of the		

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multidisciplinary primary care team.

<sup>3</sup> A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP.

<sup>4</sup> 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](http://aidsinfo.nih.gov/ContentFiles/HIVPreventionInMedCare_TB.pdf).

<sup>5</sup> Panel on Antiretroviral Guidelines for Adult and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. November 3, 2008. Available at <http://aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>.

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<b>Performance Measure 1.10:</b> Lipid Screening (HAB Group 2)	<b>OPR-Related Measure:</b> No																							
Percentage of patients <sup>1</sup> with HIV-infection on ART who had a lipid panel <sup>2</sup> during the measurement year.																								
<b>Numerator:</b>	Number of HIV-infected patients who: <ul style="list-style-type: none"> <li>• were prescribed ART, and</li> <li>• had a lipid panel in the measurement year</li> </ul>																							
<b>Denominator:</b>	Number of HIV-infected patients who are on ART and who had a medical visit with a provider with prescribing privileges <sup>3</sup> at least twice in the measurement year																							
<b>Patient Exclusions:</b>	1. Patient refusal of test																							
<b>Data Element:</b>	1. Is the patient HIV-infected? (Y/N) <ul style="list-style-type: none"> <li>a. If yes, was the patient on ART?(Y/N) <ul style="list-style-type: none"> <li>i. If the patient was on ART, did he/she have a lipid panel during the measurement year? (Y/N)</li> </ul> </li> </ul>																							
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>• Electronic Medical Record/Electronic Health Record</li> <li>• CAREWare, Lab Tracker, or other electronic data base</li> <li>• HIVQUAL reports on this measure for grantee under review</li> <li>• Medical record data abstraction by grantee of a sample of records</li> </ul>																							
<b>National Goals, Targets, or Benchmarks for Comparison:</b>	OAPP TFC: 90% National HIVQUAL Data: <sup>4</sup> <table border="1" data-bbox="383 1026 1094 1180"> <thead> <tr> <th></th> <th>2003</th> <th>2004</th> <th>2005</th> <th>2006</th> </tr> </thead> <tbody> <tr> <td>Top 10%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>Top 25%</td> <td>94.4%</td> <td>100%</td> <td>97.9%</td> <td>100%</td> </tr> <tr> <td>Median*</td> <td>80.7%</td> <td>79.1%</td> <td>80.2%</td> <td>84.7%</td> </tr> </tbody> </table> *From HAB database					2003	2004	2005	2006	Top 10%	100%	100%	100%	100%	Top 25%	94.4%	100%	97.9%	100%	Median*	80.7%	79.1%	80.2%	84.7%
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<b>Outcome Measures for Consideration:</b>	<ul style="list-style-type: none"> <li>○ Incidence of cardiovascular events in clinic population</li> <li>○ Incidence of metabolic syndrome in the clinic population</li> </ul>																							
<b>Basis for Selection and Placement in HAB Group 2:</b>																								
<p>Changes in body shape, fat distribution, and metabolism occur with frequency among HIV-infected patients, particularly those prescribed ART. Metabolic changes that have been observed include hypertriglyceridemia, low high-density lipoprotein (HDL) cholesterol and changes in low-density lipoprotein (LDL) cholesterol.</p> <p>Although rates of prevalence vary, studies have found the rate of prevalence for metabolic syndrome to be almost 25% in a population of patients taking ART,<sup>5</sup> where metabolic syndrome is defined as the presence of at least three of the following: hypertriglyceridemia, low HDL cholesterol, hypertension, abdominal obesity, or high serum glucose.<sup>6</sup></p> <p>All patients should receive a lipid profile at least once a year in order to monitor general health. For patients on ART, lipid level monitoring is important to detect side effects and to identify patients who are at increased cardiovascular risk and may require treatment for hyperlipidemia.</p> <p>Measure reflects important aspect of care that impacts HIV-related morbidity and focuses on treatment decisions that affect a sizable population. Measure has a strong evidence base supporting its use.</p>																								
<b>US Public Health Guidelines:</b>																								
As part of pretreatment evaluation: “The following laboratory tests should be performed for each new																								

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patient during initial patient visits:...and serum lipids if considered at risk for cardiovascular disease and for baseline evaluation prior to initiation of combination antiretroviral therapy (AIII)...”<sup>7</sup>

**References/Notes:**

<sup>1</sup>“Patients” include all patients aged 13 years or older.

<sup>2</sup> A lipid panel consists of fasting cholesterol, HDL, calculated LDL, and triglycerides.

<sup>3</sup> A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP.

<sup>4</sup> <http://www.hivguidelines.org/admin/files/qoc/hivqual/proj%20info/HQNatlAggScrs3Yrs.pdf>. The HIVQUAL indicator includes all patients on ARV therapy.

<sup>5</sup> Jacobson DL, Tang AM, Spiegelman D. Incidence of Metabolic Syndrome in a Cohort of HIV-Infected Adults and Prevalence Relative to the US Population (National Health and Nutrition Examination Survey).. *J Acquir Immune Defic Syndr.* 2006 Sep 14.

<sup>6</sup> Jacobson DL, Tang AM, Spiegelman D. Incidence of Metabolic Syndrome in a Cohort of HIV-Infected Adults and Prevalence Relative to the US Population (National Health and Nutrition Examination Survey).. *J Acquir Immune Defic Syndr.* 2006 Sep 14.

<sup>7</sup> Panel on Antiretroviral Guidelines for Adult and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. November 3, 2008. Available at <http://aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>.

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<b>Performance Measure 1.11: Oral Exam</b> (HAB Group 2)	<b>OPR-Related Measure:</b> Yes <a href="http://www.hrsa.gov/performance/measure/1.11.htm">www.hrsa.gov/performance/measure/1.11.htm</a>																				
Percent of patients <sup>1</sup> with HIV-infection who received a referral to a dentist at least once during the measurement year.																					
<b>Numerator:</b>	Number of patients who had a referral to the dentist during the measurement year, based on medical record documentation																				
<b>Denominator:</b>	Number of patients with HIV-infection who had a medical visit with a provider with prescribing privileges <sup>2</sup> at least twice in the measurement year																				
<b>Patient Exclusions:</b>	1. Patients with refusal of dental referral documented in medical record																				
<b>Data Element:</b>	1. Is the patient HIV-infected? (Y/N) a. If yes, did the patient receive a referral to a dentist during the measurement year?(Y/N)																				
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>• Ryan White Program Data Report, Section 3, Item 33c may provide data useful in establishing a baseline for this performance measure<sup>3</sup></li> <li>• Electronic Medical Record/Electronic Health Record</li> <li>• CAREWare, Lab Tracker, or other electronic data base</li> <li>• HIVQUAL reports on this measure for grantee under review</li> <li>• Medical record data abstraction by grantee of a sample of records</li> </ul>																				
<b>National Goals, Targets, or Benchmarks for Comparison</b>	<p>OAPP TFC: 90%</p> <p>IHI Goal for oral exam by dentist: 75%<sup>4</sup></p> <p>National HIVQUAL Data for oral exam by dentist:<sup>5</sup></p> <table border="1" data-bbox="386 1108 1092 1262"> <thead> <tr> <th></th> <th>2003</th> <th>2004</th> <th>2005</th> <th>2006</th> </tr> </thead> <tbody> <tr> <td>Top 10%</td> <td>66.7%</td> <td>78.5%</td> <td>66.7%</td> <td>77.4%</td> </tr> <tr> <td>Top 25%</td> <td>46.7%</td> <td>62.2%</td> <td>53.6%</td> <td>56.4%</td> </tr> <tr> <td>Median*</td> <td>34.6%</td> <td>39.7%</td> <td>37.3%</td> <td>39.4%</td> </tr> </tbody> </table> <p>*from HAB data base</p>		2003	2004	2005	2006	Top 10%	66.7%	78.5%	66.7%	77.4%	Top 25%	46.7%	62.2%	53.6%	56.4%	Median*	34.6%	39.7%	37.3%	39.4%
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<b>Outcome Measures for Consideration:</b>	Rates of dental disease and oral pathology.																				
<b>Basis for Selection and Placement in HAB Group 2:</b>																					
<p>Oral health care is an important component of the management of patients with HIV-infection. A poorly functioning dentition can adversely affect the quality of life, complicate the management of medical conditions, and create or exacerbate nutritional and psychosocial problems.<sup>6</sup> When the oral cavity is compromised by the presence of pain or discomfort, maintaining adherence to complicated ART regimens becomes more difficult.<sup>7</sup></p> <p>There is limited evidence on the risks of oral procedures among persons with HIV/AIDS. Evidence for the utility of selected oral lesions as markers for seroconversion is limited to a single study of a single oral condition—candidiasis.<sup>8</sup> In the later stages of HIV disease, greater numbers of oral lesions and aggressive periodontal breakdown are more likely; therefore, oral health care visits should be scheduled more frequently.<sup>9</sup></p>																					

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Measure reflects important aspect of care that impacts HIV-related morbidity and focuses on treatment decisions that affect a sizable population. Completing an oral health exam at least every 12 months is not specified in the PHS guidelines but is accepted as good practice.

**US Public Health Guidelines:**

Primary health care providers should make an initial dental referral for every HIV/AIDS patient under their care. Oral health care providers should examine all patients on an annual basis for dental prophylaxis and other appropriate preventive care. As HIV-related medications may affect dental treatment and cause adverse effects, the patient's oral health care provider should review all medications being used by the patient and should understand the potential for these medications to affect oral health care.<sup>10</sup>

**References/Notes:**

<sup>1</sup>“Patients” include all patients aged 13 years or older.

<sup>2</sup> A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP.

<sup>3</sup> Ryan White Data Report does not provide number of dental exams, preventive, curative treatments, and/or surgeries. It only provides information on the number of patients and number of visits in the “Oral health care” service category.

<sup>4</sup> IHI Measure reads, “Percent of Patients Receiving an Annual Dental Exam.”

<http://www.ihl.org/IHI/Topics/HIVAIDS/HIVDiseaseGeneral/Measures/PercentofPatientsReceivinganAnnualDentalExam.htm>.

<sup>5</sup> <http://www.hivguidelines.org/admin/files/qoc/hivqual/proj%20info/HQNatlAggScrs3Yrs.pdf>

<sup>6</sup> US Department of Health and Human Services Oral Health in America: A Report of the Surgeon General <http://www2.nidcr.nih.gov/sgr/sgrohweb/welcome.htm>

<sup>7</sup> [http://www.hivguidelines.org/public\\_html/center/clinical-guidelines/oral\\_care\\_guidelines/oral\\_health\\_book/oral\\_health\\_supp\\_pages/oral\\_health\\_chap1.htm#references](http://www.hivguidelines.org/public_html/center/clinical-guidelines/oral_care_guidelines/oral_health_book/oral_health_supp_pages/oral_health_chap1.htm#references)

<sup>8</sup> <http://www.ahrq.gov/clinic/epcsums/denthivsum.htm>

<sup>9</sup> [http://www.hivguidelines.org/public\\_html/center/clinical-guidelines/adult\\_hiv\\_guidelines/supplemental\\_pages/oral\\_health\\_adults/pdf/adults\\_oral\\_health.pdf](http://www.hivguidelines.org/public_html/center/clinical-guidelines/adult_hiv_guidelines/supplemental_pages/oral_health_adults/pdf/adults_oral_health.pdf)

<sup>10</sup> New York State Dept of Health AIDS Institute *Oral Health Care for People With HIV-infection* <http://www.hivguidelines.org/Content.aspx?pageID=263>

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<b>Performance Measure 1.12: Syphilis Screening (HAB Group 2)</b>		<b>OPR-Related Measure:</b> Yes <a href="http://www.hrsa.gov/performance/measure/1.12.htm">www.hrsa.gov/performance/measure/1.12.htm</a>																					
Percentage of adult patients <sup>1</sup> with HIV-infection who had a test for syphilis performed within the measurement year.																							
<b>Numerator:</b>	Number of HIV-infected patients who had a serologic test for syphilis performed at least once during the measurement year																						
<b>Denominator:</b>	Number of HIV-infected patients who: <ul style="list-style-type: none"> <li>were <math>\geq 18</math> years old in the measurement year<sup>2</sup> or had a history of sexual activity <math>&lt; 18</math> years, and</li> <li>had a medical visit with a provider with prescribing privileges<sup>3</sup> at least twice in the measurement year</li> </ul>																						
<b>Patient Exclusions:</b>	<ol style="list-style-type: none"> <li>Patients who were <math>&lt; 18</math> years old and denied a history of sexual activity</li> <li>Patient refusal of test</li> </ol>																						
<b>Data Element:</b>	<ol style="list-style-type: none"> <li>Is the patient HIV-infected? (Y/N) <ol style="list-style-type: none"> <li>If yes, is the patient <math>\geq 18</math> years or reports having a history of sexual activity? (Y/N) <ol style="list-style-type: none"> <li>If yes, was the patient screened for syphilis with Nontreponemal test (RPR, VDRL) during the measurement year?</li> <li>If Nontreponemal test was positive, was confirmatory Treponemal test performed (Treponemal tests include: fluorescent Treponemal antibody absorption (FTA-ABS) test, the microhemagglutination test for antibodies to Treponema pallidum (MHA-TP), or the Treponema pallidum particle agglutination assay (TPPA).</li> </ol> </li> </ol> </li> </ol>																						
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>Ryan White Program Data Report, Section 5, Items 42 and 48 may provide data useful in establishing a baseline for this performance measure</li> <li>Electronic Medical Record/Electronic Health Record</li> <li>CAREWare, Lab Tracker, or other electronic data base</li> <li>HIVQUAL reports on this measure for grantee under review</li> <li>Medical record data abstraction by grantee of a sample of records</li> </ul>																						
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<b>Outcome Measures for Consideration</b>	<ul style="list-style-type: none"> <li>Incidence of syphilis in the clinic population</li> </ul>																						
<b>Basis for Selection and Placement in HAB Group 2:</b>																							
HIV-1 infection appears to alter the diagnosis, natural history, management, and outcome of <i>T. pallidum</i> infection. Measure reflects important aspect of care that impacts HIV-related morbidity and focuses on treatment																							

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decisions that affect a sizable population. Measure has a strong evidence base supporting its use.

**US Public Health Guidelines:**

“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.”<sup>6</sup> (7/18/03)

**References/Notes:**

<sup>1</sup>“Patients” include all patients aged 13 years or older.

<sup>2</sup> Onset of sexual activity is not reliably reported or recorded. The lower age bracket of 18 years is selected for performance measurement purposes only and should not be interpreted as a recommendation about the age at which screening should begin to occur.

<sup>3</sup> A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP.

<sup>4</sup> IHI Measure reads, “Percent of Patients with Annual Syphilis Screen” (<http://www.ihl.org/IHI/Topics/HIVAIDS/HIVDiseaseGeneral/Measures/PercentofPatientswithAnnualSyphilisScreen.htm>)

<sup>5</sup> ([http://www.hivguidelines.org/public\\_html/center/quality-of-care/hivqual-project/hivqual-workshop/03-04-natl-score-top10-25.pdf](http://www.hivguidelines.org/public_html/center/quality-of-care/hivqual-project/hivqual-workshop/03-04-natl-score-top10-25.pdf))

<sup>6</sup> 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](http://aidsinfo.nih.gov/ContentFiles/HIVPreventionInMedCare_TB.pdf) or [http://aidsinfo.nih.gov/ContentFiles/HIVPreventionInMedCare\\_TB.pdf](http://aidsinfo.nih.gov/ContentFiles/HIVPreventionInMedCare_TB.pdf))

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<b>Performance Measure 1.13: TB Screening</b> (HAB Group 2)		<b>OPR-Related Measure:</b> No																					
Percentage of patients <sup>1</sup> with HIV-infection who received testing with results documented for latent tuberculosis infection (LTBI) in the measurement year.																							
<b>Numerator:</b>	Number of patients who received documented testing for LTBI with any approved test (tuberculin skin test [TST] or interferon gamma release assay [IGRA]) since HIV diagnosis																						
<b>Denominator:</b>	Number of HIV-infected patients who: <ul style="list-style-type: none"> <li>do not have a history of previous documented culture-positive TB disease or previous documented positive TST or IGRA<sup>2</sup>; and</li> <li>had a medical visit with a provider with prescribing privileges<sup>3</sup> at least twice in the measurement year.</li> </ul>																						
<b>Patient Exclusions</b>	1. Patient refusal of TST or IGRA <sup>4</sup>																						
<b>Data Element:</b>	1. Is the patient HIV-infected? (Y/N) <ol style="list-style-type: none"> <li>If yes, has the patient ever had previous documented culture-positive TB disease or previous documented positive TST or IGRA? (Y/N)             <ol style="list-style-type: none"> <li>If no, has the patient been tested for LTBI with a TST or IGRA in the measurement year? (Y/N)                 <ol style="list-style-type: none"> <li>If yes, are the results documented? (Y/N)</li> </ol> </li> </ol> </li> </ol>																						
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>Ryan White Program Data Report, Section 5, Item 47 may provide data useful in establishing a baseline for this performance measure</li> <li>Electronic Medical Record/Electronic Health Record</li> <li>CAREWare, Lab Tracker, or other electronic data base</li> <li>HIVQUAL reports on this measure for grantee under review</li> <li>Medical record data abstraction by grantee of a sample of records</li> </ul>																						
<b>National Goals, Targets, or Benchmarks for Comparison</b>	OAPP TFC: 75% National HIVQUAL Data: <sup>5</sup> <table border="1"> <thead> <tr> <th></th> <th>2003</th> <th>2004</th> <th>2005</th> <th>2006</th> </tr> </thead> <tbody> <tr> <td>Top 10%</td> <td>88.9%</td> <td>91.7%</td> <td>88.8%</td> <td>92.2%</td> </tr> <tr> <td>Top 25%</td> <td>77.4%</td> <td>73.5%</td> <td>74.8%</td> <td>78.2%</td> </tr> <tr> <td>Median*</td> <td>58.8%</td> <td>56.0%</td> <td>57.1%</td> <td>56.2%</td> </tr> </tbody> </table> *from HAB data base				2003	2004	2005	2006	Top 10%	88.9%	91.7%	88.8%	92.2%	Top 25%	77.4%	73.5%	74.8%	78.2%	Median*	58.8%	56.0%	57.1%	56.2%
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<b>Outcome Measures for Consideration</b>	<ul style="list-style-type: none"> <li>Incidence of TB disease in the clinic population</li> </ul>																						
<b>Basis for Selection and Placement in HAB Group 2:</b>																							
<p>HIV is the most important known risk factor for progression to TB disease from LTBI after exposure to infectious TB patients. There is a 2% to 8% TB risk per year within five years after LTBI for HIV-infected adults<sup>6,7</sup> versus an 8% TB risk over 60 years for adults with LTBI but not HIV.<sup>8</sup> The TB risk for HIV-infected persons remains higher than for HIV-uninfected persons, even for HIV-infected persons who are taking antiretroviral medications.<sup>9,10</sup> TB disease is an AIDS-defining opportunistic condition that can be deadly. McCombs found a three-times adjusted odds of being diagnosed with TB at death and a five times adjusted odds of dying during TB treatment for HIV-infected TB patients compared with other patients from 1993 through 2001.<sup>11</sup></p>																							

## HIV MOP Clinical Performance Measures For Adult /Adolescent Patients: Core Measures

Immunologic and virologic evidence now indicates that the host immune response to *M. tuberculosis* enhances HIV replication and might accelerate the natural progression of HIV-infection.<sup>12</sup> Providers should screen all HIV-infected patients for TB and LTBI as soon as possible after HIV diagnosis. TB and LTBI testing should be conducted among HIV-infected persons regardless of duration of infection since they are at increased risk for progressing to TB disease. Thus, an HIV-infected person having a prior positive TST for which he/she did not complete treatment is still eligible for treatment. However, early identification and treatment of TB disease improves outcomes and reduces the risk of transmission. TB should be suspected in any patient who has had a persistent cough for more than two to three weeks, especially if the patient has at least one additional symptom, including fever, night sweats (sufficient to require changing of bed clothes or sheets), weight loss, or hemoptysis (coughing up blood). Identification of LTBI and completion of LTBI treatment reduces the risk of development of TB disease by 70 to 90 percent.<sup>13</sup> Measure reflects important aspect of care that impacts HIV-related morbidity and mortality and focuses on treatment decisions that affect a sizable population. Measure has a strong evidence base supporting its use.

### US Public Health Guidelines:

Guidelines for TB services for HIV-infected persons, such as those jointly published by the PHS and the Infectious Diseases Society of America<sup>14</sup> or by the Centers for Disease Control and Prevention (CDC)<sup>15</sup> call for:

- provision of a TST or IGRA when HIV-infection is first recognized,
- annual TST or IGRA for HIV-infected persons who are initially TST-negative and belong to groups at substantial risk for TB exposure or if they experience immune reconstitution,
- chest radiographs and clinical evaluations to rule out active TB among those who are TST positive (reactions  $\geq 5$  mm) or who have symptoms (regardless of TST result), and
- LTBI treatment (once active TB has been excluded) for those having a positive TST/IGRA or for those who are recent contacts of persons with infectious active TB.<sup>16</sup>

### References/Notes:

<sup>1</sup>“Patients” include all patients aged 13 years or older.

<sup>2</sup> Previous documented culture-positive TB disease or previous documented positive TST or IGRA occurred prior to HIV diagnosis.

<sup>3</sup> A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP.

<sup>4</sup> History of receiving BCG is NOT an exclusion to receiving TST. See: Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection. MMWR, 2000/49(RR06);1-64.

<sup>5</sup>“PPD screening.”

<http://www.hivguidelines.org/admin/files/qoc/hivqual/proj%20info/HQNatlAggScrs3Yrs.pdf>

<sup>6</sup> Markowitz N, Hansen NI, Hopewell PC, et al. Incidence of tuberculosis in the United States among HIV-infected persons. *Annals of Internal Medicine*. 1997;126:123-32.

<sup>7</sup> Selwyn PA, Hartel D, Lewis VA, et al. A prospective study of the risk of tuberculosis among intravenous drug users with human immunodeficiency virus infection. *New England Journal of Medicine*. 1989;320:545-50.

<sup>8</sup> Aronson NE, Santosham M, Comstock GW, et al. Long-term efficacy of BCG vaccine in American Indians and Alaska Natives: A 60-year follow-up study. *Journal of the American Medical Association*. 2004;291(17):2086-91.

<sup>9</sup> The Antiretroviral therapy cohort collaboration. Incidence of tuberculosis among HIV-infected patients

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receiving highly active antiretroviral therapy in Europe and North America. *Clinical Infectious Diseases*. 2005;41:1772-1782.

<sup>10</sup> Jones JL, Hanson DL, Dworkin MS, DeCock KM, and the Adult/Adolescent Spectrum of HIV Disease Group. HIV-associated tuberculosis in the era of highly active antiretroviral therapy. *International Journal of TB and Lung Disease*. 2000;4(11):1026-1031.

<sup>11</sup> McCombs SB. Tuberculosis mortality in the United States, 1993-2001. Oral presentation at CDC. Atlanta. December 2003.

<sup>12</sup> Centers for Disease Control and Prevention. Prevention and treatment of tuberculosis among patients infected with human immunodeficiency virus: Principles of therapy and revised recommendations. *MMWR* 1998 Oct 30; 47(RR-20):1-58.

<sup>13</sup> American Thoracic Society/Centers for Diseases Control and Prevention/Infectious Diseases Society of America. Treatment of tuberculosis. *Am J Respir Crit Care Med* 2003;167:603-662

<sup>14</sup> Centers for Disease Control and Prevention. Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents —Recommendations from CDC, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. *MMWR*. March 24, 2009. Volume 58.  
<http://www.aidsinfo.nih.gov/Guidelines/GuidelineDetail.aspx?MenuItem=Guidelines&Search=Off&GuidelineID=211&ClassID=4>.

<sup>15</sup> Centers for Disease Control and Prevention. Prevention and treatment of tuberculosis among patients infected with human immunodeficiency virus: Principles of therapy and revised recommendations. *MMWR* 1998 Oct 30; 47(RR-20):1-58.

<sup>16</sup> Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis Recommendations from the National Tuberculosis Controllers Association and CDC. *MMWR* December 16, 2005 / Vol. 54 / No. RR-15.

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<b>Performance Measure 1.14: MAC Prophylaxis (HAB Group 3)</b>		<b>OPR-Related Measure: N/A</b>																	
Percent of patients <sup>1</sup> with HIV-infection with CD4 count < 50 cells/mm <sup>3</sup> who received MAC prophylaxis within measurement year.																			
<b>Numerator:</b>	Number of patients who were prescribed MAC prophylaxis at the time of the CD4+ count below 50 cells/mm <sup>3</sup>																		
<b>Denominator:</b>	Number of patients with HIV-infection who: <ul style="list-style-type: none"> <li>had a medical visit with a provider with prescribing privileges<sup>2</sup> at least twice in the measurement year; and</li> <li>had a CD4 count &lt; 50 cells/mm<sup>3</sup></li> </ul>																		
<b>Patient Exclusions:</b>	1. Patients with documented refusal to take MAC prophylaxis in medical record																		
<b>Data Element:</b>	1. Is the patient HIV-positive? (Y/N) <ul style="list-style-type: none"> <li>a. If yes, was the CD4 count &lt; 50 cells/mm<sup>3</sup> (Y/N) <ul style="list-style-type: none"> <li>i. If yes, list the dates and results of CD4 test counts performed during the reporting period</li> </ul> </li> </ul> 2. List the date on which MAC prophylaxis was prescribed (preferred: azithromycin or clarithromycin, alternative: rifabutin). <sup>3</sup>																		
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>Electronic Medical Record/Electronic Health Record</li> <li>CAREWare, Lab Tracker or other electronic</li> <li>HIVQUAL reports on this measure for grantee under review</li> <li>Medical record data abstraction by grantee of a sample of records</li> </ul>																		
<b>National Goals, Targets, or Benchmarks for Comparison:</b>	OAPP TFC = 95% National HIVQUAL Data: <sup>4</sup> <table border="1" data-bbox="381 1192 971 1348"> <thead> <tr> <th></th> <th>2003</th> <th>2004</th> <th>2005</th> </tr> </thead> <tbody> <tr> <td>Top 10%</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>Top 25%</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>Median*</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> </tbody> </table> *from HAB data base				2003	2004	2005	Top 10%	100%	100%	100%	Top 25%	100%	100%	100%	Median*	100%	100%	100%
	2003	2004	2005																
Top 10%	100%	100%	100%																
Top 25%	100%	100%	100%																
Median*	100%	100%	100%																
<b>Basis for Selection and Placement in HAB Group 3:</b>																			
MAC complex is an opportunistic infection that can cause severe illness in people with advanced AIDS but rarely affects others. The risk of disseminated MAC (DMAC) is directly related to the severity of immunosuppression. DMAC typically occurs in persons with CD4 counts < 50 cells/mm <sup>3</sup> and its frequency increases as the CD4 count declines. In the absence of antibiotic prophylaxis, DMAC occurs in up to 40% of AIDS patients with CD4 counts of < 50 cells/mm. <sup>5</sup>																			
<b>US Public Health Guidelines:</b>																			
“Adults and adolescents who have HIV-infection should receive chemoprophylaxis against disseminated MAC disease if they have CD4 count < 50 cells/mm <sup>3</sup> (AI).” <sup>6</sup>																			
<b>References/Notes:</b>																			
<sup>1</sup> “Patients” include all patients aged 13 years or older. <sup>2</sup> A “provider with prescribing privileges” is a health care professional who is certified in their jurisdiction to prescribe ART, i.e. MD, PA, NP. <sup>3</sup> MAC Prophylaxis preferred regimens: Azithromycin or Clarithromycin. Alternative regimen in																			

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preferred regimens not tolerated: Rifabutin.

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<http://www.aidsinfo.nih.gov/Guidelines/GuidelineDetail.aspx?MenuItem=Guidelines&Search=Off&GuidelineID=211&ClassID=4>.

<sup>4</sup> MAC Prophylaxis HIVQUAL Indicator.

<http://www.hivguidelines.org/admin/files/qoc/hivqual/proj%20info/HQNatlAggScrs3Yrs.pdf>.

<sup>5</sup> National AIDS Education & Training Centers (2006). Clinical Manual for Management of the HIV-Infected Adult.

<sup>6</sup> Centers for Disease Control and Prevention. Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents —Recommendations from CDC, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. MMWR. March 24, 2009. Volume 58.

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