

**HAB HIV Core Clinical Performance Measures  
Viral load monitoring and viral load suppression  
November 2011**

<b>Performance Measure:</b> Viral Load Monitoring																													
Percentage of patients, regardless of age, with a diagnosis of HIV/AIDS with a viral load test performed at least every six months during the measurement year																													
<b>Numerator:</b>	Number of patients with a viral load test performed at least every 6 months																												
<b>Denominator:</b>	Number of patients, regardless of age, with a diagnosis of HIV/AIDS who had at least two medical visits during the measurement year, with at least 60 days in between each visit																												
<b>Patient Exclusions:</b>	Patients newly enrolled in care during last 6 months of the measurement year																												
<b>Data Element:</b>	<ol style="list-style-type: none"> <li>1. Does the patient, regardless of age, have a diagnosis of HIV/AIDS? (Y/N) <ol style="list-style-type: none"> <li>a. If yes, did the patient have at least two medical visits during the measurement year, with at least 60 days in between each visit? (Y/N) <ol style="list-style-type: none"> <li>i. If yes, list the dates the viral load tests were performed. <ol style="list-style-type: none"> <li>1. Were viral load tests performed at least every six months during the measurement year? (Y/N)</li> </ol> </li> </ol> </li> </ol> </li> </ol>																												
<b>Data Sources:</b>	<ul style="list-style-type: none"> <li>• Ryan White Program Services Report (RSR) questions 47 (date of first outpatient/ambulatory care visit); 48 (outpatient/ambulatory care visits dates); and 50 (viral load counts)</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><b>National HIVQUAL Data:</b><sup>1</sup></p> <table border="1"> <thead> <tr> <th></th> <th>2003</th> <th>2004</th> <th>2005</th> <th>2006</th> <th>2007</th> <th>2009</th> </tr> </thead> <tbody> <tr> <td>Top 10%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>98.9%</td> <td>100%</td> </tr> <tr> <td>Top 25%</td> <td>97.1%</td> <td>97.0%</td> <td>95.7%</td> <td>95.7%</td> <td>95.5%</td> <td>94.2%</td> </tr> <tr> <td>Median*</td> <td>89.7%</td> <td>90.9%</td> <td>89.6%</td> <td>91.6%</td> <td>90.3%</td> <td>89.4%</td> </tr> </tbody> </table> <p><small>*from HAB data base</small></p>		2003	2004	2005	2006	2007	2009	Top 10%	100%	100%	100%	100%	98.9%	100%	Top 25%	97.1%	97.0%	95.7%	95.7%	95.5%	94.2%	Median*	89.7%	90.9%	89.6%	91.6%	90.3%	89.4%
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<b>Basis for Selection and Placement in Group 1:</b>																													
Viral load testing serves as a surrogate marker for response to antiretroviral therapy and can be useful in predicting clinical progression.																													
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.																													
<b>US Department of Health and Human Services Guidelines:</b>																													
Antiretroviral therapy (ART) should be initiated in all patients with a history of an AIDS-defining illness or with a CD4 count <500 cells/mm <sup>3</sup> . The primary goal of ART is to reduce HIV-associated morbidity and mortality. This is best accomplished by using antiretroviral therapy to maximally inhibit HIV replication, as measured by consistent plasma HIV RNA (viral load) values below the level of detection using commercially available assays. <sup>2</sup>																													

## HAB HIV Core Clinical Performance Measures



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, because viral load is the most important indicator of response to antiretroviral therapy (ART)...Thus, viral load testing serves as a surrogate marker for treatment response and can be useful in predicting clinical progression.<sup>2</sup>

**References/Notes:**

<sup>1</sup>HIVQUAL-US Indicator: Percent of patients who received a viral load test during each six-month semester <http://hivqualus.org/index.cfm/22/9842> and <https://www.ehivqual.org/>  
<sup>2</sup>Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. January 10, 2011; pp. 9, 27-28. <http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>

**Corresponding National Quality Forum (NQF) Endorsed Measure:**

None

<b>Performance Measure:</b> Viral Load Suppression																													
Percentage of patients, regardless of age, with a diagnosis of HIV/AIDS with viral load below limits of quantification <sup>1</sup> at last test during the measurement year																													
<b>Numerator:</b>	Number of patients with viral load below limits of quantification <sup>1</sup> at last test during the measurement year																												
<b>Denominator:</b>	Number of patients, regardless of age, with a diagnosis of HIV/AIDS who: <ul style="list-style-type: none"> <li>• had at least two medical visits during the measurement year with at least 60 days in between each visit; <u>and</u></li> <li>• were prescribed antiretroviral therapy for at least 6 months; <u>and</u></li> <li>• had a viral load test during the measurement year</li> </ul>																												
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<b>Data Element:</b>	<ol style="list-style-type: none"> <li>1. Does the patient, regardless of age, have a diagnosis of HIV/AIDS? (Y/N) <ol style="list-style-type: none"> <li>a. If yes, did the patient have at least two medical visits during the measurement year with at least 60 days in between each medical visit? (Y/N) <ol style="list-style-type: none"> <li>i. If yes, was the patient prescribed antiretroviral therapy for at least 6 months? (Y/N) <ol style="list-style-type: none"> <li>1. If yes, was a viral load test drawn? (Y/N) <ol style="list-style-type: none"> <li>a. If yes, did the patient have viral load below limits of quantification<sup>1</sup> on the last test? (Y/N) <ol style="list-style-type: none"> <li>i. If yes, list date.</li> </ol> </li> </ol> </li> </ol> </li> </ol> </li> </ol> </li> </ol>																												
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<p>The primary goal of antiretroviral therapy (ART) is to reduce HIV-associated morbidity and mortality. This is best accomplished by using antiretroviral therapy to maximally inhibit HIV replication, as measured by consistent plasma HIV RNA (viral load) values below the level of detection using commercially available assays.<sup>6</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>																													

**US Public Health Service Guidelines:**

ART should be initiated in all patients with a history of an AIDS-defining illness or with a CD4 count <500 cells/mm<sup>3</sup>. The primary goal of ART is to reduce HIV-associated morbidity and mortality. This is best accomplished by using antiretroviral therapy to maximally inhibit HIV replication, as measured by consistent plasma HIV RNA (viral load) values below the level of detection using commercially available assays.<sup>6</sup>

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, because viral load is the most important indicator of response to antiretroviral therapy (ART)...Thus, viral load testing serves as a surrogate marker for treatment response and can be useful in predicting clinical progression.<sup>6</sup>

Optimal viral suppression is generally defined as a viral load persistently below the level of detection (<20–75 copies/mL, depending on the assay used). In addition, low-level positive viral load results (typically <200 copies/mL) appear to be more common with some viral load assays than others, and there is no definitive evidence that patients with viral loads quantified as <200 copies/mL using these assays are at increased risk for virologic failure. For the purposes of clinical trials the AIDS Clinical Trials Group (ACTG) currently defines virologic failure as a confirmed viral load >200 copies/mL, which eliminates most cases of apparent viremia caused by blips or assay variability.<sup>6</sup>

**References/Notes:**

- <sup>1</sup>”Below limits of quantification” is defined as < 200 copies/mL. The Department of Health and Human (DHHS) guidelines and the AIDS Clinical Trials Group define virologic failure as a confirmed viral load >200 copies/mL. <http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>
- <sup>2</sup> HIVQUAL-US Indicator: Percent of patients on ART whose last viral load was ≤400 copies/mL who had at least 2 viral loads completed <http://hivqualus.org/index.cfm/22/9842> and <https://www.ehivqual.org/>
- <sup>3</sup>Horberg, M. et al HIV quality performance measures in a large integrated healthcare system *AIDS Patient Care and STDs*. January 2011, 25(1): 21-28.
- <sup>4</sup>Backus, L., et al National Quality Forum performance measures for HIV/AIDS Care The Department of Veterans Affairs’ Experience. *Arch Intern Med*; 2010; 170(14): 1239-1246.
- <sup>5</sup>HIV Research Network (HIVRN) data includes patients on at least 1 ART drug in CY2009 whose viral load was undetectable. Available at: [https://cde.johnshopkins.edu/hivrn/index.cfm?do=sens.content&page=data\\_reports.html](https://cde.johnshopkins.edu/hivrn/index.cfm?do=sens.content&page=data_reports.html)
- <sup>6</sup>Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. January 10, 2011; pp. 9, 27-28. <http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>

**Corresponding National Quality Forum (NQF) Endorsed Measure:**

NQF #: 0407  
 Title: HIV RNA control after six months of potent antiretroviral therapy  
 Description: Percentage of patients with viral load below limits of quantification OR patients with viral load not below limits of quantification who have a documented plan of care  
 Status: Endorsed (Original Endorsement Date: July 31, 2008)  
 Available at: [http://www.qualityforum.org/Measures\\_List.aspx](http://www.qualityforum.org/Measures_List.aspx)

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