

Performance Measure:	CD4 Cell Count¹	National Quality Forum #: 404												
Percentage of patients aged six months and older with a diagnosis of HIV/AIDS, with at least two CD4 cell counts or percentages performed during the measurement year at least 3 months apart														
Numerator:	Patients with at least two CD4 cell counts or percentages performed during the measurement year at least 3 months apart													
Denominator:	All patients aged 6 months and older with a diagnosis of HIV/AIDS, who had at least two medical visits during the measurement year, with at least 90 days between each visit													
Patient Exclusions:	None													
Data Elements:	<p>1. Does the patient, aged six months and older, have a diagnosis of HIV/AIDS? (Y/N)</p> <p>a. If yes, did the patient have at least two medical visits during the measurement year, with at least 90 days in between each visit? (Y/N)</p> <p>i. If yes, list the dates the CD4 cell counts were performed.</p> <p>1. Were CD4 cell counts performed at least three months during the measurement year? (Y/N)</p>													
Comparison Data:	<p>National HIVQUAL:</p> <p>Every 4 months: Percentage of patients for whom one or more CD4 count was performed during each four-month trimester of the review period at least 60 days apart</p> <p>Every 6 months: Percentage of patients for whom one or more CD4 count was performed during each six month semester of the review period at least 60 days apart (http://www.hivqualus.org/ and http://www.nationalqualitycenter.org/index.cfm/35778/index.cfm/22/82627)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>2007</th> <th>2009</th> <th>2011</th> </tr> </thead> <tbody> <tr> <td>Every 4 months (median)</td> <td>64.4%</td> <td>-</td> <td>56%</td> </tr> <tr> <td>Every 6 months (median)</td> <td>91.2%</td> <td>91.1%</td> <td>91%</td> </tr> </tbody> </table>			2007	2009	2011	Every 4 months (median)	64.4%	-	56%	Every 6 months (median)	91.2%	91.1%	91%
	2007	2009	2011											
Every 4 months (median)	64.4%	-	56%											
Every 6 months (median)	91.2%	91.1%	91%											
U.S. Department of Health & Human Services Guidelines:	<p><u>Adult guidelines:</u>² “In untreated patients, CD4 counts should be monitored every 3 to 6 months to determine the urgency of ART initiation. In patients on ART, the CD4 count is used to assess the immunologic response to ART and the need for initiation or discontinuation of prophylaxis for opportunistic infections (AI).”¹</p> <p><u>Pediatric guideline:</u>³ “Baseline laboratory assessments including CD4 T lymphocyte (CD4 cell) count/percentage and HIV RNA level, ... should be done before initiation of therapy. A baseline assessment of ARV resistance using a genotype assay also is recommended (see Antiretroviral Resistance Testing). Within 4 to 8 weeks after initiating or changing therapy, children receiving ART should be seen to...receive laboratory tests to evaluate the effectiveness of therapy (CD4 count/percentage, plasma HIV RNA level [viral load]) and to detect medication-related toxicities.</p> <p>“Thereafter, medication adherence and regimen toxicity and effectiveness should be assessed every 3 to 4 months in children taking ARV drugs. Some experts monitor CD4 cell counts and HIV RNA levels less frequently in children and youth who are adherent to</p>													

HAB HIV Core Clinical Performance Measures



	therapy and have sustained viral suppression and stable clinical status for more than 2 to 3 years.” ²
Use in Other Federal Programs:	None
References/ Notes:	<p>¹The HIV/AIDS Bureau did not develop this measure. The National Committee on Quality Assurance developed this measure. Measure details available at: http://www.qualityforum.org/Projects/im/Infectious_Disease_Endorsement_Maintenance_2012/Infectious_Disease_Consensus_Standards_Endorsement_Maintenance_2012.aspx</p> <p>²Panel 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. Available at http://aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf. Section accessed July 25, 2013. C-3.</p> <p>³Panel on Antiretroviral Therapy and Medical Management of HIV-Infected Children. Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection. Available at http://aidsinfo.nih.gov/contentfiles/lvguidelines/pediatricguidelines.pdf. Accessed July 25, 2013. H-1 and 2.</p>

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

Performance Measure: 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																													
Numerator:	Number of patients with a viral load test performed at least every 6 months																												
Denominator:	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																												
Patient Exclusions:	Patients newly enrolled in care during last 6 months of the measurement year																												
Data Element:	<ol style="list-style-type: none"> 1. Does the patient, regardless of age, have a diagnosis of HIV/AIDS? (Y/N) <ol style="list-style-type: none"> 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"> i. If yes, list the dates the viral load tests were performed. <ol style="list-style-type: none"> 1. Were viral load tests performed at least every six months during the measurement year? (Y/N) 																												
Data Sources:	<ul style="list-style-type: none"> • 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) • Electronic Medical Record/Electronic Health Record • CAREWare, Lab Tracker, or other electronic data base • HIVQUAL reports on this measure for grantee under review • Medical record data abstraction by grantee of a sample of records 																												
National Goals, Targets, or Benchmarks for Comparison:	<p>National HIVQUAL Data:¹</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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Median*	89.7%	90.9%	89.6%	91.6%	90.3%	89.4%																							
Basis for Selection and Placement in Group 1:																													
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.																													
US Department of Health and Human Services Guidelines:																													
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 ³ . 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. ²																													
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.²

References/Notes:

¹HIVQUAL-US Indicator: Percent of patients who received a viral load test during each six-month semester <https://www.ehivqual.org/scripts/eHIVQUAL%202011%20Report%20-%20National.pdf> and <https://www.ehivqual.org/>
²Panel 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

Performance Measure: Viral Load Suppression																													
Percentage of patients, regardless of age, with a diagnosis of HIV/AIDS with viral load below limits of quantification ¹ at last test during the measurement year																													
Numerator:	Number of patients with viral load below limits of quantification ¹ at last test during the measurement year																												
Denominator:	Number of patients, regardless of age, with a diagnosis of HIV/AIDS who: <ul style="list-style-type: none"> • had at least two medical visits during the measurement year with at least 60 days in between each visit; <u>and</u> • were prescribed antiretroviral therapy for at least 6 months; <u>and</u> • had a viral load test during the measurement year 																												
Patient Exclusions:	None																												
Data Element:	<ol style="list-style-type: none"> 1. Does the patient, regardless of age, have a diagnosis of HIV/AIDS? (Y/N) <ol style="list-style-type: none"> 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"> i. If yes, was the patient prescribed antiretroviral therapy for at least 6 months? (Y/N) <ol style="list-style-type: none"> 1. If yes, was a viral load test drawn? (Y/N) <ol style="list-style-type: none"> a. If yes, did the patient have viral load below limits of quantification¹ on the last test? (Y/N) <ol style="list-style-type: none"> i. If yes, list date. 																												
Data Sources:	<ul style="list-style-type: none"> • Ryan White Program Services Report (RSR) questions 47 (date of first outpatient/ambulatory care visit); 48 (outpatient/ambulatory care visits dates); 50 (viral load counts); and 52 (ART prescription) • Electronic Medical Record/Electronic Health Record • CAREWare, Lab Tracker, or other electronic data base • Medical record data abstraction by grantee of a sample of records 																												
National Goals, Targets, or Benchmarks for Comparison:	<p>National HIVQUAL Data:²</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>76.2%</td> <td>83.3%</td> <td>86.5%</td> <td>87.0%</td> <td>90.9%</td> <td>95.1%</td> </tr> <tr> <td>Top 25%</td> <td>70.3%</td> <td>76.5%</td> <td>80.0%</td> <td>82.0%</td> <td>85.7%</td> <td>89.9%</td> </tr> <tr> <td>Median*</td> <td>61.7%</td> <td>66.7%</td> <td>70.0%</td> <td>72.7%</td> <td>79.5%</td> <td>81.8%</td> </tr> </tbody> </table> <p><small>*from HAB data base</small></p> <p>Kaiser Permanente:³ 88.8%</p> <p>Veterans Administration⁴: 73%</p> <p>HIV Research Network (HIVRN)⁵: 70%</p>		2003	2004	2005	2006	2007	2009	Top 10%	76.2%	83.3%	86.5%	87.0%	90.9%	95.1%	Top 25%	70.3%	76.5%	80.0%	82.0%	85.7%	89.9%	Median*	61.7%	66.7%	70.0%	72.7%	79.5%	81.8%
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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. ⁶																													
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.

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/mm³. 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.⁶

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.⁶

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.⁶

References/Notes:

¹“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>

² HIVQUAL-US Indicator: Percent of patients on ART whose last viral load was ≤400 copies/mL who had at least 2 viral loads completed <https://www.ehivqual.org/scripts/eHIVQUAL%202011%20Report%20-%20National.pdf> and <https://www.ehivqual.org/>

³Horberg, M. et al HIV quality performance measures in a large integrated healthcare system *AIDS Patient Care and STDs*. January 2011, 25(1): 21-28.

⁴Backus, 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.

⁵HIV Research Network (HIVRN) data includes patients on at least 1 ART drug in CY2009 whose viral load was undetectable. Available at: https://cds.johnshopkins.edu/hivrn/index.cfm?do=sens.content&page=data_reports.html

⁶Panel 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

Accessibility

HAB HIV Core Clinical Performance Measures



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