

CAREWare Version 4:
Performance Measures Module

May 2008

Table of Contents

Background and need 3

HAB Performance Measures: Background Reading 3

Getting started-Setting Permissions 5

Creating Performance Measures..... 6

Create a new performance measure..... 7

Building Denominator and Numerator filters 7

Editing existing Performance Measures..... 10

Producing reports and investigating specific clients 10

Displaying Performance Measures in a graph..... 13

Adding Performance Measure Tab to Client screen 14

Using Performance Measure Fields in Custom Reports..... 15

Other Features: Exporting, Importing and Copying Performance Measures 16

Filter settings used in HAB clinical performance measures..... 17

Background and need

HIV/AIDS primary care providers are increasingly being required to use health information systems such as CAREWare to generate timely and reliable data on the quality of care. Electronic health information systems can greatly assist in helping identify areas of care and treatment that may require improvement and to identify those clients in need of specific interventions or follow-up.

In 2007, HRSA/HAB released a group of core clinical performance measures in the management of HIV care and antiretroviral therapy for adults and adolescents. These Performance Measures were selected with the following criteria in mind: 1) that they have the greatest impact on persons living with HIV; 2) are based on “scientific soundness” and 3) are feasible to collect with current data systems. The core measures for HIV-positive clients focus on:

- ARV therapy for pregnant women
- CD4 T-cell counts
- HAART
- Medical visits
- PCP prophylaxis

HAB Performance Measures: Background Reading

We recommend that you visit the HAB website to obtain detailed information on the performance measures. There are a number of resources available and a comprehensive list of Frequently Asked Questions.

<http://hab.hrsa.gov/special/habmeasures.htm>

Each Performance Measure is defined by a specific numerator, denominator and time period. The Performance Measure Module (PMM) in CAREWare is designed to make it easy to generate these measures and to make a direct connection between quality of care and the clients in your service that are or are not meeting certain care and treatment benchmarks.

Major Features:

- HAB's first five clinical Performance Measures come pre-built
- The module uses all existing custom report filter functionality
- Any number of Performance Measures can be built, customized, saved and rerun
- Performance Measures are displayed in a clear format with a numerator, denominator and the percent
- Performance Measures can be graphed and measured over any time period so that trends can be assessed (for example, are you doing better or worse in a specific area, in the last 2 or 3 years?)
- Client lists showing who did or did not meet the Performance Measure can be readily generated
- Hyperlinks allow you to jump directly to each client's record or print client lists, or include them in another custom report, or even produce mailing labels if that specific group of individuals needs to be contacted
- Performance Measures can be copied and exported to other users

IMPORTANT NOTE ABOUT SERVICES: It is important to remember that the service data used in performance measure filters must coincide with the HAB definition of services. As outlined in the Ryan White Annual Data Report (RDR) instructions (see data reporting instructions at <http://hab.hrsa.gov/tools.htm>), **Outpatient/ambulatory medical care** includes the provision of professional diagnostic and therapeutic services rendered by a physician, physician's assistant, clinical nurse specialist, or nurse practitioner in an outpatient setting. Settings include clinics, medical offices, and mobile vans where clients generally do not stay overnight. Emergency room services are not outpatient settings. Services includes diagnostic testing, early intervention and risk assessment, preventive care and screening, practitioner examination, medical history taking, diagnosis and treatment of common physical and mental conditions, prescribing and managing medication therapy, education and counseling on health issues, well-baby care, continuing care and management of chronic conditions, and referral to and provision of specialty care (includes all medical subspecialties).

Getting started-Setting Permissions

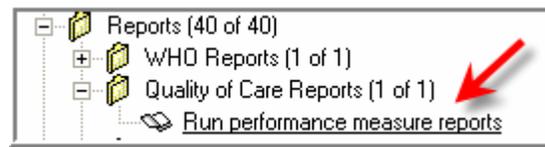
You must first give your provider domain and then a user in that provider (yourself) rights to use the Performance Measure Module.

- Log into **Central Administration**. Go to the Provider/User Manager.
- Find the entry for Real time providers and your agency.
- Under the **Administration** node, Quality of Care Setup (bottom entry), right-click and grant rights to Setup performance measures. Similarly under the **Reports** node, find Quality of Care Reports, grant the right to Run performance measure reports (as in screenshot below).
- Now repeat this for a specific user within that provider.

Administration



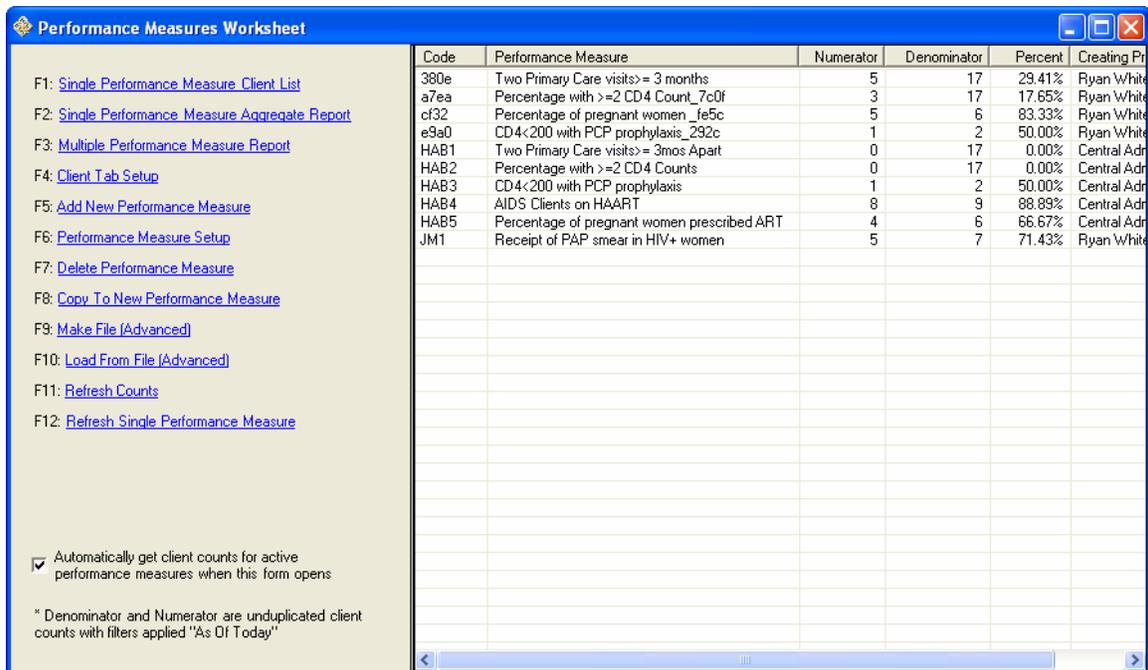
Reports



- Click Save. You are now ready to log into the Provider domain and run the Performance Measures Module.

Creating Performance Measures

- To enter the Performance Measure module, go to Administrative Options and select Performance Measure Module in the bottom right. The **Performance Measures Worksheet** will appear.
- The five core clinical performance measures developed by HRSA/HAB come pre-built (HAB1-HAB5). *Note that the numbering of these measures does not imply any degree of importance!* You will not be able to edit them, but you can copy them and develop different measures from the originals. Just click **F11 Refresh Counts** to see the percentages for these measures as of today.



Code	Performance Measure	Numerator	Denominator	Percent	Creating Pt
380e	Two Primary Care visits>= 3 months	5	17	29.41%	Ryan White
a7ea	Percentage with >=2 CD4 Count_7c0f	3	17	17.65%	Ryan White
cf32	Percentage of pregnant women _fe5c	5	6	83.33%	Ryan White
e9a0	CD4<200 with PCP prophylaxis_292c	1	2	50.00%	Ryan White
HAB1	Two Primary Care visits>= 3mos Apart	0	17	0.00%	Central Adr
HAB2	Percentage with >=2 CD4 Counts	0	17	0.00%	Central Adr
HAB3	CD4<200 with PCP prophylaxis	1	2	50.00%	Central Adr
HAB4	AIDS Clients on HAART	8	9	88.89%	Central Adr
HAB5	Percentage of pregnant women prescribed ART	4	6	66.67%	Central Adr
JM1	Receipt of PAP smear in HIV+ women	5	7	71.43%	Ryan White

The following notice will appear when you hover over the HAB measures.

Code	Performance Measure	Numerator	Denominator	Percent
HAB1	Two Primary Care visits>= 3mos ...	3	15	20.00%
HAB2	Percentage with >=2 CD4 Counts	3	15	20.00%
HAB3	CD4<200 with PCP prophylaxis	1	1	100.00%
HAB4	AIDS Clients on HAART	9	9	100.00%
HAB5	Percentage of pregnant women ...	4	4	100.00%

Important reminder:
 For the HAB measures, an Outpatient/ambulatory medical care visit should comply with the formal definition outlined by HAB in its guidance and include only the provision of professional diagnostic and therapeutic services rendered by a physician, physician's assistant, clinical nurse specialist, or nurse practitioner in an outpatient setting restricted to clinics, medical offices, and mobile vans where clients generally do not stay overnight.
 See <http://hab.hrsa.gov/tools.htm> Ryan White Data Report instructions for further details.

Create a new performance measure

- Select F5: Add New Performance Measure.

In the New Performance Measure Setup screen, fill in

- The name of the Performance Measure
- A Performance Measure code (this can be any number or letter that CAREWare uses to sort)
- A description of the numerator and denominator
- **Click F4: Save**

Building Denominator and Numerator filters

Let's build a measure that calculates the percentage of adult (18 yrs and older) HIV-positive females who had a documented Pap smear result in the measurement year. (Note that the formal HAB inclusion criteria for this measure is slightly expanded and also includes clients less than 18 years of age who are sexually active, but that is not shown here.)

1. Select F1 or click Denominator Filter

The following screen will come up with your custom filter already named (and grayed out so that it can't be changed). Start building your filter. Here we've entered 4 criteria joined by the AND operator:

HIV Positive = Yes **and**

Gender=Female **and**

Age>=18 **and**

HRSA visits by Category in Span >=1 ambulatory care visit in the last year.

Custom Reports - Filter

Custom Filter Name: Adult HIV+ women - Denominator Filter Advanced ? Close

Report Type: Operator: Clear Filter

Criterion

Pos...	Opera...	Par...	Field Name	Is Not	=	>=	<=	Null	Pa
1			HIV Positive		Yes				
2	AND		Gender		Female				
3	AND		Age			18			
4	AND		HRSA visits by Category In Span			1			

Srv Category = Outpatient/Ambulatory Medical Care; Date Span Between 365 AND 0

Add Criterion Edit Criterion Remove Criterion

This screen should be quite familiar to users of custom reports. Note that the “Advanced” button at the top must be checked to use the And/Or Operators.

Now let’s build the numerator: **Select F2 or click Numerator Filter**

- **IMPORTANT: The filter criteria entered in the Denominator should NOT be repeated in the Numerator. CAREWare has already stored that information!**

Numerator Filter:

- To select clients with a Pap smear in the year, we need only one field, “Received Lab or Screening.” (Remember, the denominator criteria are already stored and don’t need repeating.)
- Because it is a calculated field, first click the ellipsis (see arrow in first screen shot below) to provide CAREWare with two pieces of information required for this subfilter: 1) The test of interest (in this case Pap smear) and the number of days CAREWare should go back from the As Of Date of the report to determine if there is a Pap smear record (we’ll go back 365 days, i.e. one year). Click save when the parameters are set. Here’s a view of the subfilter screen for the numerator field:

Criterion

Field: Lab or Screening ... Click the ellipsis to go to the subfilter

Not = Yes Null Save Cancel

Now set your values for the subfilter.

Criterion

Field: Not >= <= Null

Pos...	Opera...	Par...	Field Name	Is Not	=	>=	<=	Null	Par...
1		(Any Test		Pap Smear				
2	AND		Any Test Date			365	0)

And on the main screen set the return value to “Yes” (in this case, client had a Pap smear in the time range.)

Custom Reports - Filter

Custom Filter Name: Advanced

Report Type: Operator:

Criterion

Field: Not = >= <= Null

Pos...	Opera...	Par...	Field Name	Is Not	=	>=	<=	Null	Par...
1			Received Lab or Screening		Yes				
<input type="text" value="Any Test = Pap Smear; Any Test Date Between 365 AND 0"/>									

New Feature: When you place your cursor over a calculated field that has a subfilter, CAREWare will show you the criteria you have selected; you don't need to click the ellipse to review what you have set.

CAREWare now has all the information it needs to generate this specific Performance Measure. Save your filter and return to the Performance Measures screen.

- **Select F3 or click Refresh Counts** and your figures will be generated, as in this screen, showing that 5 of 7 clients (71.4%) met the numerator/denominator criteria:

Performance Measure:

Code: Provider: Nmr Count: Dnm Count: Percent:

Editing existing Performance Measures

To edit existing measures, simply double-click the item of interest.

Producing reports and investigating specific clients

Now we are ready to use the second major feature in the Performance Measure module: The ability to see which clients are or are not in the numerator—that is, view the records of those individuals that did not meet the criteria—and jump right to their records, or produce reports.

- Close out of the Add Performance Measure Screen
- Select F1 or Click Single Performance Measure Client List. The following screen will appear:

Single Performance Measure Client List

JM1 - Receipt of PAP smear in HIV+ women

[F1 - Make Client List](#)

As of Date:
5/13/2008

List Clients:

- Not In Numerator (clients not meeting performance measure)
- In Numerator (clients meeting performance measure)
- Not In Denominator (clients not considered for performance measure)

List To:
Quick Paper List

- Quick Paper List
- Real-time Lookup List
- Custom Report Field Selection
- Mailing Labels

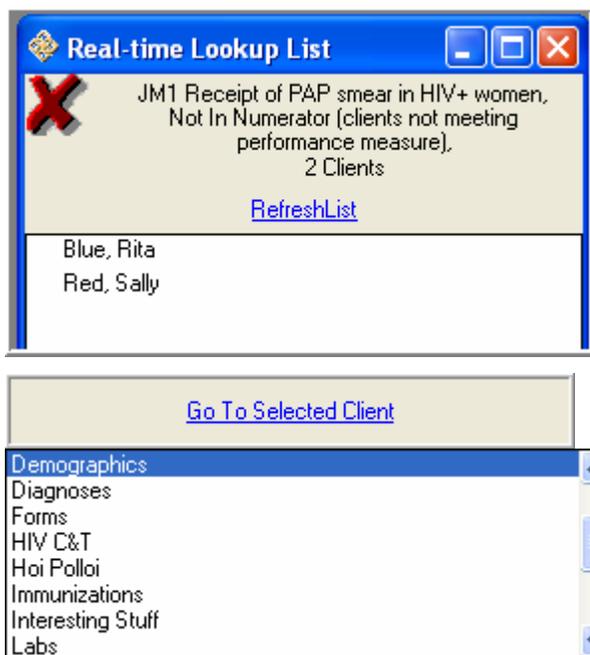
We can generate 4 different lists, as shown here. Let's first do a "Real-time Lookup List." All names listed here are purely fictitious!

- **Click F1-Make Client List**

The all-important “**As of Date**”: Remember that all measures are generated relative to the **As of Date**. We can change that date to anything we’d like, but of course your results will likely change!

Quality of Care Feature:

Looking into the future: Say that it is the end of the third quarter (September 30th) and you want a list of clients who, if they don’t come in for a visit in the next three months, will not meet your performance measure of interest. Simply set the “As of Date” to that future-say December 31st and the list will generate relative to that time point.

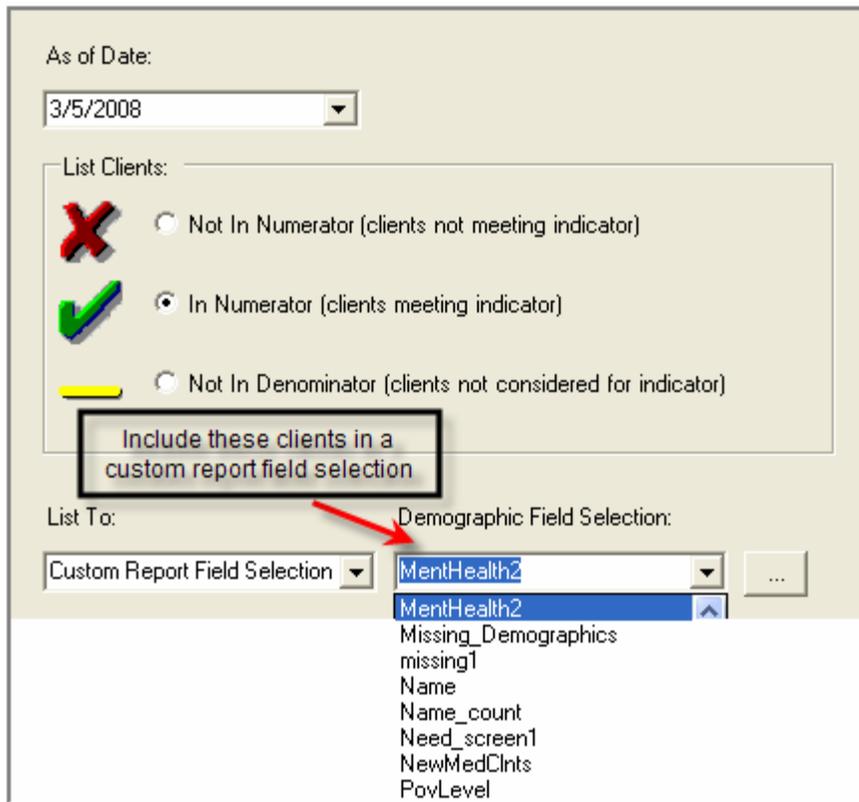


We can go straight to either of these client records, and select any location in CAREWare to jump to. First select a name from the list, then pick a location or screen in their record that you would like to go to, and then click “Go To Selected Client.” Say that you needed to edit one of the client’s record when you realize that the Pap smear had not been entered into CAREWare. After you make the appropriate edits to any client’s record, return to this screen, simply click “Refresh List” at the top and the list of names will be updated.

Now let's produce a regular printable report of our 2 clients not in the numerator:

Receipt of PAP smear in HIV+ women				
 Not In Numerator (clients not meeting performance measure) as of 05/12/2008				
Total Clients: 2				
Name:	URN:	Client ID:	Age:	Gender:
Blue, Rita	RTBU1110482U	15111	59	Female
Red, Sally	SLRD1210552U		52	Female

Finally, let's include these specific clients in a custom report with fields of your own choosing. Return to single Performance Measure screen and select output to "Custom Report Field Selection" as shown below, and choose from your previously created list, or build a new one.



As of Date:
3/5/2008

List Clients:

-  Not In Numerator (clients not meeting indicator)
-  In Numerator (clients meeting indicator)
-  Not In Denominator (clients not considered for indicator)

Include these clients in a custom report field selection

List To: Custom Report Field Selection

Demographic Field Selection: MentHealth2

- MentHealth2
- Missing_Demographics
- missing1
- Name
- Name_count
- Need_screen1
- NewMedClnts
- PovLevel

Displaying Performance Measures in a graph

Now let's display our Performance Measure measures graphically and compare them to previous time periods. To do this, return to the main **Performance Measures Worksheet** screen and select **F2 Single Performance Measure Aggregate report**. The following screen will appear:

Single Performance Measure Aggregate Report

JM1 - Receipt of PAP smear in HIV+ women

[F1-Make Report](#)

Period(s):

As of Date:
5/13/2008

Compare periods (periods calculated back from "As of Date":

Days in period: 365

Number of periods: 3

Put on Report:

Columns / Rows Line Graph Filter Specifics

Header text

Percentage of HIV positive female clients who had PAP screen results documented in the measurement year.

[Performance Measure Description ^](#) [Denominator Description ^](#) [Numerator Description ^](#)

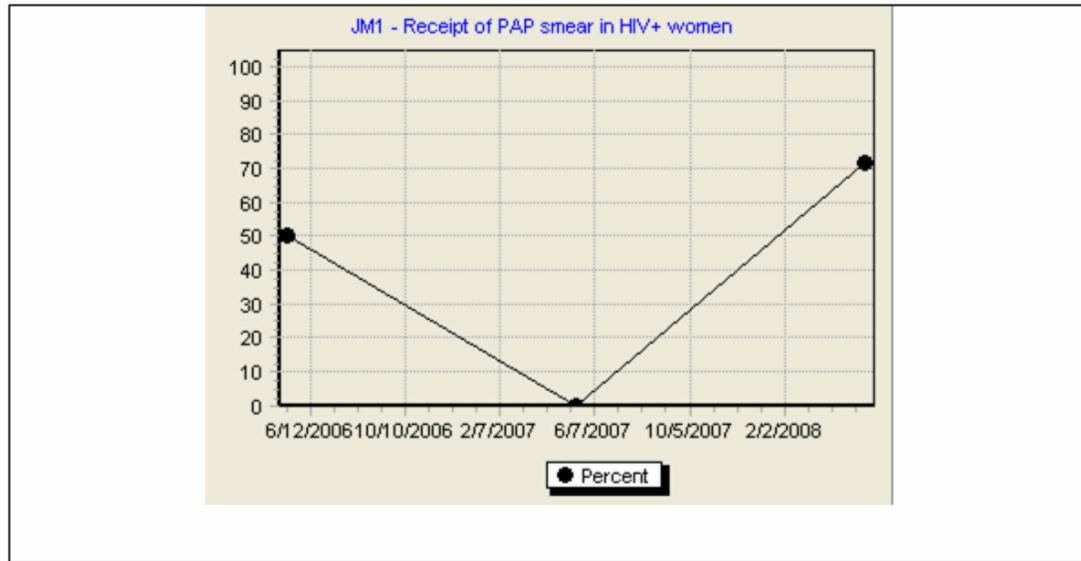
Complete the following:

- **As of date:** CAREWare will run your Performance Measures relative to this date. Today's date is the default value.
- Indicate if you want to compare the Performance Measure rate to previous time periods. Here we've entered a year (365 days) and 3 time periods for comparison.
- Indicate what features/headings you want placed on the report (Cols/Rows, Line Graph, etc).
- Now select F1 Make Report.

JM1 - Receipt of PAP smear in HIV+ women

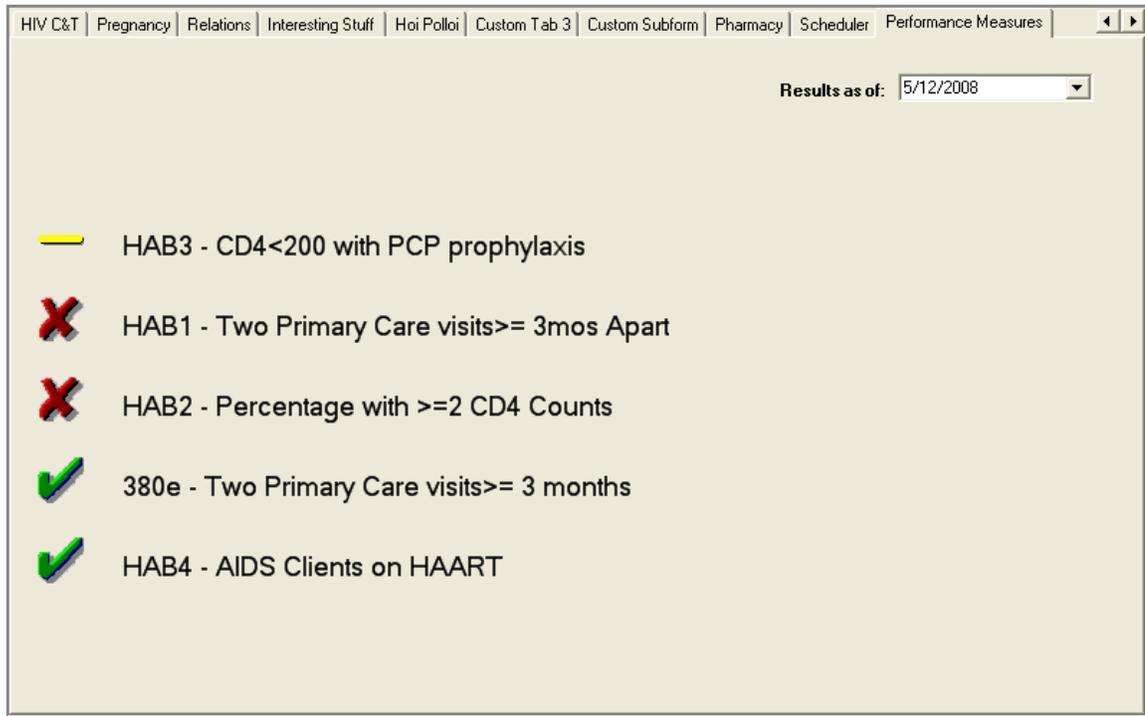
Percentage of HIV positive female clients who had PAP screen results documented in the measurement year.

As Of Date:	Numerator:	Denominator:	Percent:
05/13/2008	5	7	71.43%
05/14/2007	0	3	0.00%
05/14/2006	1	2	50.00%



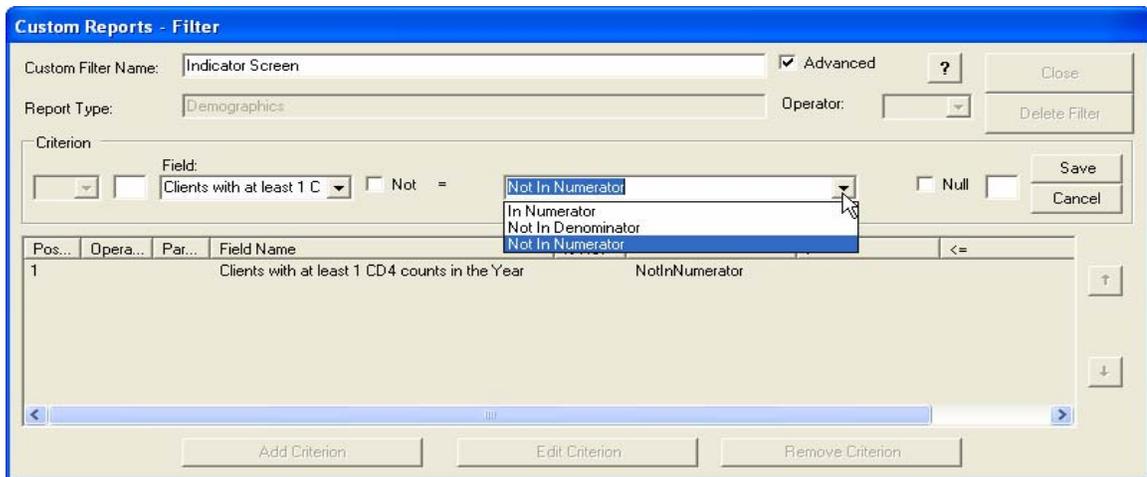
Adding Performance Measure Tab to Client screen

To view Performance Measures on the client, select **F4 Client Tab Setup** on the main Quality Assurance screen. Select which Performance Measures that you want to appear on the client screen. Now when we go to the client, a new Performance Measures Tab will be setup. Note that you may need to scroll to the right to reveal this tab (see arrow below). Here's an example of a client's Performance Measures tab:



Using Performance Measure Fields in Custom Reports

It is also possible to use the fields created in the Performance Measure module for use in custom reports or the Crosstab Wizard. For example, we might want to run a custom report that uses as a filter the values returned for the report “Clients with at least 2 CD4 counts in the year”. CAREWare will create a field with this precise name, which can be used like any field. In this screen we’ll use this field in a filter and select client “***Not in the Numerator***,” as follows:



Other Features: Exporting, Importing and Copying Performance Measures

- To send a Performance Measure to another user, simply click **F9 Make File (Advanced)**. Name the file and put it in an easy-to-remember location like your Desktop.
- The other user simply selects **F10 Load from File (Advanced)** to import your settings and run that Performance Measure right away.
- To copy a Performance Measure (so you don't have to recreate from scratch) simply select **F8 Copy to New Performance Measure**.

F1: [Single Performance Measure Client List](#)
F2: [Single Performance Measure Aggregate Report](#)
F3: [Multiple Performance Measure Report](#)
F4: [Client Tab Setup](#)
F5: [Add New Performance Measure](#)
F6: [Performance Measure Setup](#)
F7: [Delete Performance Measure](#)
F8: [Copy To New Performance Measure](#)
F9: [Make File \(Advanced\)](#)
F10: [Load From File \(Advanced\)](#)
F11: [Refresh Counts](#)
F12: [Refresh Single Performance Measure](#)

Automatically get client counts for active performance measures when this form opens

* Denominator and Numerator are unduplicated client counts with filters applied "As Of Today"

Filter settings used in HAB clinical performance measures

Performance Measure	Denominator fields and value	Numerator field(s) and Value
Medical visits (HAB1)	<ul style="list-style-type: none"> HIV positive:Yes HRSA visits by category in span: (>=1 Outpatient/ambulatory care visit in last year) Enrl Status by date (enrolled at least 6 months before As of Date) 	<ul style="list-style-type: none"> Srv Cat Interval Count: (>=2 Outpatient/amb care visits at least 90 days apart in last year)
CD4 T-cell count (HAB2)	<ul style="list-style-type: none"> HIV positive:Yes HRSA visits by category in span: (>=1 Outpatient/amb care visits at least 6 months before As of Date) Enrl Status by date: (enrolled at least 6 months before As of Date) 	<ul style="list-style-type: none"> Lab Interval Count: >= 2 CD4 Counts at least 90 days apart in year before As of Date.
PCP prophylaxis (HAB3) See Further Explanation of this measure below!	<ul style="list-style-type: none"> HIV positive:Yes HRSA visits by category in span: (>=1 Outpatient/amb care visits at least 3 months before As of Date) Lowest Quant Test: CD4 test <200 in last year. 	<ul style="list-style-type: none"> Has OI Proph in period: Yes and OI indication=PCP in last year
HAART (HAB4)	<ul style="list-style-type: none"> HIV status by Date=AIDS HRSA visits by category in span: (>=1 Outpatient/amb care visits at least 3 months before As of Date) Enrl Status by date: (enrolled at least 3 months before As of Date) 	<ul style="list-style-type: none"> Max ARV Count:>=3 ARV meds in last year
ARV therapy for pregnant women (HAB5)	<ul style="list-style-type: none"> HIV positive:Yes Gender: Female HRSA visits by category in span: (>=1 Outpatient/amb care visits at least 3 months before as of date) Pregnant in period: At least 3 months before As of Date. Last preg outcome: Not equal to Therapeutic or spontaneous abortion or stillbirth. (Client will be included if last pregnancy outcome is null.) Enrl Status by date: (enrolled at least 6 months before As of Date) 	<ul style="list-style-type: none"> Max ARV Count:>=1 ARV meds in last year OR ART Taken for PMTCT: Yes in last year

PCP Prophylaxis performance measure note:

As currently configured within CAREWare, the PCP Prophylaxis performance measure differs slightly from the stated HAB Performance Measure. Specifically, the HAB measure excludes patients whose CD4 T-cell count goes back above 200 cells/mm³ if the test is repeated within 3 months of the level falling below 200.

Within CAREWare, **all** patients whose CD4 T-cell count falls below 200 cells/mm³ are captured in the denominator, whether or not they go back above that threshold in 3 months. Because the frequency of occurrence of this latter event is low, the impact on the figures is not expected to be significant.