CMIP Performance Measure
Trend Report Guide
Disease Specific Care (DSC) Certified Program Rates
and
National/State Overall Rates
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Introduction

Programs with Joint Commission certification as a Primary Stroke Center or Advanced Certification in Heart Failure can get feedback on their performance on standardized performance measures through the Certification Measurement Information Process (CMIP) Performance Measure Trend Reports. Certified programs have access to separate reports for Primary Stroke Center and for Advanced Certification in Heart Failure.

The Performance Measure Trend Reports provide your organization with the opportunity to
- use standardized performance measure data for ongoing internal performance assessment and improvement activities
- see national and state rates trend for each of the self-reported standardized measures

Standardized performance measures that you are submitting through CMIP have precisely-defined specifications and standardized data collection protocols. These specifications and protocols are described in the Specifications Manual.

Performance Measure Trend Reports summarize performance measure information at the individual measure level. The reports also include information on overall performance on the measures at both the national and state level. Organizations should use the CMIP Trend Reports as a visual to identify trends and variations in the data that they have collected and reported to the Joint Commission. The charts are a data analysis tool that will assist certified organizations in meeting the elements of performance for standard PM.4 (the program/firm analyzes the data it collects; the program/firm uses appropriate data analysis tools; the program/firm makes improvements based on the analysis of its data), and also assists them when completing the Performance Measure Data Report (PM Data Report) questions due at the time of intra-cycle and recertification.

The reports are updated and made available on each program’s secure Joint Commission extranet site approximately five months after the close of a calendar quarter (March 1, June 1, September 1, and December 1) of each year.

The reports also are provided as a reminder to certified programs that they must collect and enter their standardized performance measure data in the CMIP application for the required number of measures and be prepared to share this information with Joint Commission reviewers at the time of their intra-cycle review and on-site recertification.

Joint Commission reviewers will have access to an identical copy of the report prior to the intra-cycle review and on-site recertification review. Reviewers will use the report as a guide to understanding how the organization uses and responds to performance measure data.

This Users’ Guide provides detailed directions on how to access and use the new reporting function. Any questions on your use of the CMIP Performance Measure Trend Reports should be addressed to your Account Executive.
Accessing the Reports

Step 1

- For Advanced Disease Specific Care Certification Programs
  - Login to your Joint Commission secure extranet site (The Joint Commission Connect™) then,
  - Click on “Disease-Specific Care Certification Home” to access your “Disease Specific Care Certification Tools”

Step 2

- On the “... Certification Tools” page under “Application for Certification” click on “Certification Measure Information Process”.

Step 3

- On the “Application for Certification” page click on the “Open the CMIP electronic form” link
Step 4

– On the “Introduction/Summary Page” from the left hand menu bar, click on the “Reports” link to access “CMIP Reporting”

<table>
<thead>
<tr>
<th>Measure Short Name</th>
<th>Measure Title</th>
<th>Measure Status</th>
<th>Measure Start Date</th>
<th>Measure End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>STK-1 VTE PropPhylaxis</td>
<td>Performance Measure</td>
<td>Accept</td>
<td>6/1/2009</td>
<td></td>
</tr>
<tr>
<td>STK-2 D/C on Antithrombotic Therapy</td>
<td>Performance Measure</td>
<td>Accept</td>
<td>5/1/2009</td>
<td></td>
</tr>
<tr>
<td>STK-3 Anticoagulation for Fibrin</td>
<td>Performance Measure</td>
<td>Accept</td>
<td>5/1/2009</td>
<td></td>
</tr>
<tr>
<td>STK-4 Thrombolytic Therapy</td>
<td>Performance Measure</td>
<td>Accept</td>
<td>5/1/2009</td>
<td></td>
</tr>
</tbody>
</table>

Step 5

– From the “CMIP Reporting” page you will be able to access:
  o CMIP Trend Reports
  o CMIP Multi-State Report
Accessing CMIP Trend Reports

Step 1
- On the CMIP Reporting page click on “CMIP Trend Report”
- From the “Processing Quarter Year” drop-down menu click on “Choose Quarter Year” and then,
- From the drop-down menu select the reporting period for your report

Step 2
- After selecting the “Processing Quarter Year” click on “<Choose Cert>” drop-down menu to select the applicable certification program for which you wish to have a report generated and then,
- Click on “Submit”

NOTE: The CMIP Trend Report is designed to automatically provide you with a measure rate trend report for your state. Your view is based on the state of the owner's location. If you wish to see trend data for another state:
- Click on the “(Optional) View a State other than…” check box
- From the drop-down menu select the applicable state and then,
- Click “Submit”
Accessing Multi-State Reports

Step 1
– On the CMIP Reporting page click on “CMIP Multi-State Report”

Step 2
– From the “Processing Quarter Year” drop-down menu click on “Choose Quarter Year” and then,
– From the drop-down menu select the reporting period for your report
**Step 3**
- After selecting the Processing Quarter Year, from the “Measure Set” selection box
- Click on “Choose Cert” to select the applicable certification program for which you wish to have a trend report generated and then,
- Click “Submit”

**Step 4**
- After selecting the applicable certification program for which you wish to have a trend report generated, from the “Measure” drop-down menu click on “<Choose Measure>” and then,
- From the drop-down menu select the applicable measure for which you wish to see a multi-state trend report and then,
- Click “Submit”

**Step 5**
- After selecting the applicable measure for which you wish to see a multi-state trend report then,
- From the “State(s)” drop-down menu box, holding down the Ctrl key, click on the individual states that you wish to include in your multi-state trend report for the selected measure and then,
- Click “Submit”
- You will be presented with a multi-state trend report for the specified measure for the reporting time period requested (See Example below).
Example: Multi-State Trend Report for specific measure

Report Format

The reports are provided in both PDF and EXCEL format and can be exported and saved or printed by:

– Click on the “Select a format” from the drop-down menu and then,
– Click on “Excel” or “Acrobat (PDF) file” and then,
– Click on “Export”

**NOTE:** To view a PDF file, you must have Adobe Reader on your computer.
**User Support**

If you have questions concerning the reports please contact your Account Executive by phone or e-mail. Your Joint Commission Connect™ home page (Advanced Disease Specific Care Programs please click the Disease-Specific Care Certification Home tab) displays the name, phone number, and e-mail address of your Account Executive assigned to your organization along with the days and hours that your Account Executive is available for support.
Report Components

CMIP Trend Report

Summary Cover Page
The name and address of the certified organization is displayed on the front page of the CMIP Trend Report along with the name of the applicable standardized measure set for the certification program, and the reporting time period covered by the data contained in the report. Also included on the summary cover page is:

1. The list of individual measures that comprise the standardized measure set for which the certified program is collecting and analyzing data internally and manually entering aggregate numerator and denominator values into the “Data Submission” component of the Certification Measure Information Process (CMIP) application.

2. For each measure within the standardized measure set, information on whether or not there are “Missing Data” for the reporting period.

3. For each measure within the standardized measure set, under “Control Chart Stable,” information on whether or not there are measures within the set with an unstable control chart.

Summary Cover Page Example:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Missing Data</th>
<th>Control Chart Stable</th>
</tr>
</thead>
<tbody>
<tr>
<td>STK-1 VTE Prophylaxis</td>
<td>None</td>
<td>No</td>
</tr>
<tr>
<td>STK-2 D/C on Antithrombotic Therapy</td>
<td>None</td>
<td>Yes</td>
</tr>
<tr>
<td>STK-3 Anticoagulation for A-Fib/Rutter</td>
<td>None</td>
<td>Yes</td>
</tr>
<tr>
<td>STK-4 Thrombolytic Therapy</td>
<td>None</td>
<td>No</td>
</tr>
<tr>
<td>STK-5 Antithrombotic Therapy / Day 2</td>
<td>None</td>
<td>No</td>
</tr>
<tr>
<td>STK-6 D/C on Statin Medication</td>
<td>None</td>
<td>No</td>
</tr>
<tr>
<td>STK-8 Stroke Education</td>
<td>None</td>
<td>No</td>
</tr>
<tr>
<td>STK-10 Assessed to Rehabilitation</td>
<td>None</td>
<td>No</td>
</tr>
</tbody>
</table>
Measure Detail

Measure detail pages exist for each measure for which the program must manually collect and enter data into the “Data Submission” component of the CMIP application.

The measure detail page presents the user with:
- Statistical Process Control (SPC) Tests for the specific measure displayed
- Table of the monthly data values used to create the control chart display
- Chart displaying the quarterly overall national rate for the specific measure along with the quarterly overall state rate for the user’s state
- Table of the quarterly overall national and state rates displayed on the chart

The top left side of the page displays the:
- Name of the organization
- Name of the measure set for the advanced certification program, and
- Name of the individual measure data displayed on the page.

The top right side of the page displays the:
- Denominator statement for the measure
- Numerator statement for the measure
- Direction of Improvement, and
- Type of measure

Included on the bottom of the page is information regarding:
- Special cause variation identified through application of SPC Tests
- Missing Data issues identified

Measure Detail Page Example:
Type of Measure, Denominator, Numerator, and Statement

There are two types of standardized measures currently used for advanced certification and displayed in the CMIP Trend Report. The denominator and numerator statements define the population each measure is evaluating.

**Proportion Measure**
- An aggregated data measure in which the value of each measurement is expressed as a rate (e.g., Ischemic stroke patients prescribed antithrombotic therapy at hospital discharge, divided by Ischemic stroke patients). The numerator is a subset of the denominator. The rate for the measure is calculated as a percentage.
- The denominator defines the population evaluated by the measure (e.g., Ischemic stroke patients). This is the lower part of the fraction used to calculate the observed rate. The denominator is a whole number (e.g., 0, 1, 2, 3, etc.).
- The numerator defines the portion of the denominator population that satisfies the conditions of the measure to be an indicator event (e.g., stroke patients prescribed antithrombotic therapy at hospital discharge). This is the upper part of the fraction used to calculate the observed rate. The numerator value is a whole number (e.g., 0, 1, 2, 3, etc.) and cannot be greater than the denominator.

**Ratio Measure**
- An aggregated data measure in which the value of each measurement is expressed as a ratio. The numerator and denominator measure different phenomena (e.g., the number of patients with central lines who develop infections divided by the number of central line days). The numerator is not a subset of the denominator. The measure rate is calculated as a rate in decimals.
- The denominator defines the population evaluated in the lower part of the fraction used to calculate the measures observed ratio (e.g., the number of central line days). The denominator value is a decimal and cannot be zero (0); it should vary month to month.
- The numerator defines the population evaluated in the upper portion of the fraction used to calculate the measures observed ratio (e.g., the number of patients with central lines who develop infections). The numerator must be a whole number (e.g., 0, 1, 2, 3, etc.). It may be greater than the denominator but should be less than 100.

**Direction of Improvement**
The ‘direction of improvement’ defines the direction that a certified program’s rate should change over time to indicate improvement in the measure.
- Positive Rate/Value: The rate, score, or number of occurrences (e.g., immunizations) denotes improvement
- Negative Rate/Value: The rate, score, or number of occurrences (e.g., surgical site infections) denotes improvement.
SPC Chart

SPC charts are statistical tools designed to evaluate the variation and stability of a process over time and facilitate process management. They identify whether a process is stable (in statistical control), i.e., only common cause variation exists, or unstable (out of statistical control) as the result of special cause variation. A process that is in statistical control can be further analyzed to determine process capability and to compare the process to an external norm to determine whether performance is at an acceptable level.

Elements of a SPC Chart

A SPC chart is a line graph with the addition of a center line representing the overall process average (mean) or median, and with upper and lower control limits. It shows the flow of a process over time and is a dynamic presentation of the data values. The measure of the process being monitored or evaluated will appear on the vertical axis.

The control limits describe the natural variability of a process over time. Common cause variation presents as an irregular random pattern, mostly within the control limits. Any observations outside the limits or that demonstrate certain set regular patterns within the control limits signal a special-cause. The SPC chart provides a context in which to interpret these signals.

Number of Data Points

SPC charts are created when a measure has been selected for a minimum of twelve months. Depending on how long the measure has been selected, from twelve to twenty-four months of rolling data are used to perform the SPC chart analysis.

Control Limits

The control limits are set to three standard deviations (or three sigma) above and below the center line. The upper control limit (UCL) is calculated by adding three times the standard deviation for the month to the overall process center line. The lower control limit (LCL) is calculated by subtracting three times the standard deviation for the month from the overall process center line. Since the subgroup size (or sample size for each monthly data point) varies, the control limits are often uneven lines. Depending on the amount of variation in the number of cases each month, the UCL and LCL lines may appear in a stair-step shaped pattern. Control limits are updated each quarter with the new data.

Tests for Special Cause

The following four tests are used for detecting special cause variation:

- Six consecutive data points are decreasing away from the direction of improvement for the measure,
- Six consecutive data points are rising in the direction of improvement for the measure,
- One data point is above +3 standard deviations (sigma) or below -3 standard deviations (sigma), or
- Eight consecutive data points are on the same side of the mean.
The report simply displays information about the stability of the process addressed by the measure along with the actual monthly data points used in the analysis. A stable measure is one in which no out-of-control trends or patterns exist. If the measure is stable, the following message is displayed, ‘No special cause variation; process may demonstrate variation due to common cause’.

All of the data, from twelve to twenty-four months, are analyzed to determine if the process is stable.

**Control Chart Analysis Example:**

![Control Chart](image)

<table>
<thead>
<tr>
<th>Data points:</th>
<th>4/06</th>
<th>5/06</th>
<th>6/06</th>
<th>7/06</th>
<th>8/06</th>
<th>9/06</th>
<th>10/06</th>
<th>11/06</th>
<th>12/06</th>
<th>1/07</th>
<th>2/07</th>
<th>3/07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Num</td>
<td>2.00</td>
<td>3.00</td>
<td>0.00</td>
<td>3.00</td>
<td>1.00</td>
<td>1.00</td>
<td>5.00</td>
<td>8.00</td>
<td>5.00</td>
<td>4.00</td>
<td>2.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Den</td>
<td>5.00</td>
<td>5.00</td>
<td>4.00</td>
<td>3.00</td>
<td>5.00</td>
<td>1.00</td>
<td>7.00</td>
<td>9.00</td>
<td>8.00</td>
<td>5.00</td>
<td>2.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Obs</td>
<td>0.40</td>
<td>0.60</td>
<td>0.00</td>
<td>1.00</td>
<td>0.20</td>
<td>1.00</td>
<td>0.71</td>
<td>0.69</td>
<td>0.63</td>
<td>0.80</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Out of Statistical Control Tests (e.g., Special Cause Variation)**

- One data point above +3 sigma or below -3 sigma - 6/2006
Missing Data
All certification programs are required to provide monthly data to The Joint Commission on a quarterly basis within 45 days after the close of the calendar quarter. If data are missing, the following will display on the report:

- CMIP Trend Report Summary page: Missing Data column; Yes
- Measure Detail page: Missing Data Issues field; month/year of missing data

CMIP Trend Report Summary page with Missing Data Example:

CMIP Measure Detail page with Missing Data Example:
National and State Overall Rate Charts

The Joint Commission aggregates the data reported for each standardized measure on a quarterly basis at both the state and national level. The graphic display of quarterly overall organization performance on each of the measures at both the national and state level is displayed in a simple line graph that accompanies the SPC chart for each measure. The overall national and state rates for each quarter also are included in a table beneath each national and state overall rate chart.

While each organization using the related measures may wish to compare its performance against the national and state rates, caution should be exercised. The national and state data/rates have not been verified by The Joint Commission and are provided for internal organization quality improvement only. Because measure rates calculations are self-reported and have not been verified by The Joint Commission, use of these aggregate data for promotional purposes is not appropriate, should not be done, and clearly not endorsed by The Joint Commission. Organizations should refrain from any such use of these data.

Glossary of Terms and Abbreviations

Account Executive (AE) – An initial point of contact that Joint Commission customers can speak to when they have questions about their CMIP Reports.

Data Points – The monthly or quarterly data used to perform control chart analysis and National and State Overall Rate Charts. The data is displayed underneath the appropriate chart. The data abbreviations and definitions are:

Proportion Measures

- \textit{Den (Denominator)} – Represents the population evaluated by the performance measure. This is the lower part of a fraction used to calculate the observed rate.
- \textit{Num (Numerator)} – Represents the portion of the denominator population that satisfies the conditions of the performance measure to be an indicator event. In other words, the numerator is a subset of the denominator. This is the upper portion of a fraction used to calculate the observed rate.
- \textit{Obs (Observed Rate)} – Derived by dividing the numerator (e.g., cases that meet the criterion for good or poor care) by the denominator (e.g., all cases to which the criterion applies) within a given time frame.
- \textit{UCL} – The upper limit (3 sigma or standard deviations) above the organization mean rate for the measure
- \textit{LCL} – The lower limit (3 sigma or standard deviations) below the organization mean rate for the measure

Ratio Measures

- \textit{Den (Denominator)} – Represents the population evaluated by the denominator statement of the performance measure (e.g., the number of central line days). This is the lower part of a fraction used to calculate the observed rate.
- \textit{Num (Numerator)} – Represents the population evaluated by the numerator statement of the performance measure (e.g., the number of patients with central lines who develop
infections). In other words, the numerator is not a subset of the denominator. This is the upper portion of a fraction used to calculate the observed rate.

- **(Obs) Observed Rate** – Derived by dividing the numerator (e.g., the number of patients with central lines who develop infections) by the denominator (e.g., the number of central line days) within a given time frame.
- **UCL** – The upper limit (3 sigma or standard deviations) above the organization mean rate for the measure
- **LCL** – The lower limit (3 sigma or standard deviations) below the organization mean rate for the measure

**Health Care Organization** – An organization to which The Joint Commission provides accreditation or certification services.

**Measures** – A quantitative tool designed to evaluate the processes or outcomes of patient care associated with the delivery of clinical services. Measures allow for intra- and inter-organizational comparisons that are used to continuously improve patient health outcomes. They may focus on the appropriateness of clinical decision-making and implementation of these decisions. In addition, they must be condition specific, procedure specific, or address important functions of patient care (e.g., medication use, infection control, patient assessment, etc.).

**Measure Set** – A grouping of performance measures. For standardized (core) measures, each set has been carefully selected to provide, when viewed together, a robust picture of the care provided in a given area (for example, Stroke care).

**Standard** – A statement that defines the performance expectations, structures, or processes that must be in place for an organization to provide safe and high quality care, treatment, and service. A standard is judged either Compliant or Not Compliant, based on the scoring of the EPs for that standard.

**Standardized (Core) Measure** – A standardized performance measure that meets Joint Commission established evaluation criteria. Standardized performance measures have precisely defined specifications, standardized data collection protocols, and can be uniformly adopted for use. Standardized sets of measures are identified and specified by The Joint Commission and external performance measurement experts. When available, standardized measures replace non-standardized measures and are uniformly adopted by all certified programs, as well as programs seeking initial certification. Currently, standardized measures are available for Primary Stroke Center, Advanced Heart Failure, and Health Care Staffing Services certification programs.