

CPQCC Clinical Improvement Collaborative:
Reducing Healthcare Associated Infections (HAIs)
MEASUREMENT STRATEGY



Purpose of the Measurement Grid:

The measurement grid outlines the measures to be collected over the life of the collaborative. The grid includes the specific parameters for each measure.

Measurement for Improvement:

CPQCC improvement collaboratives are about making hospital systems safer for patients, not measurement. But measurement plays an important role. Always remember that measurement should be designed to accelerate improvement, not slow it down.

Timeline for Measurement:

Baseline data will be collected during the first 3 months of the collaborative (3.01.08- 5.31.08), as well as for approximately the following 6 months of collaborative (6.01.08- 12.31.08).

Three Types of Measures:

The Measures Grid is broken down into three categories: Outcome, Process and Balancing Measures. Teams may also develop additional measures based on the issues that are of most interest and importance to their hospital. Only the measures in the grid below will be submitted to CPQCC.

Outcome Measures (voice of the customer or patient):

These measures tell you whether changes are actually leading to improvement – that is, helping to achieve the overall aim of reducing BSIs associated with catheters (“CABSIs”). Outcome measures answer questions like, “How is the system performing?” and “What is the result?”

Process Measures (voice of the workings of the system):

To affect the outcome measure of reducing BSIs associated with catheters, changes will be made to improve many core processes in the care system, as well as changes to improve the culture as it relates to safety. We will want to know if the parts / steps in the system are performing as planned. Measuring the results of these process changes will tell you if the changes are leading to an improved, safer system.

Balancing Measures (looking at a system from different directions / dimensions):

We will use these measures to make sure that changes to improve one part of the system aren't causing new problems in other parts of the system. Balancing measures help us to draw reasonable conclusions about the sustainability of the changes.

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Measure	Calculation	Data Collection Plan/Sample Size	Data collection method	Goal	Required Yes/No
OUTCOME MEASURES					
Central Catheter-Associated Bloodstream Infection (CABSI) Rate PER MONTH	<p>Numerator: Number of CABSI infections (Total) (all broken out by birthweight cohort in accord with NHSN format)</p> <ul style="list-style-type: none"> • <u>Total</u> (composite) AND <ul style="list-style-type: none"> ○ ≤750g ○ 751-1,000g ○ 1,001-1,500g ○ 1,501-2,500g ○ >2,500g • <u>Subtotals</u> for umbilical catheter-associated infections • <u>Subtotals</u> for central catheter associated infections <p>Denominator: Total number of central catheter days (all broken out by birthweight cohort in accord with NHSN format).</p> <p><u>Subtotals</u> for number of umbilical catheter days; <u>Subtotals</u> for number of central catheter days</p> <p>Overall: Multiply by 1000 to convert to a rate (Ex. 2.9 <i>Catheter Associated BSIs per 1000 line days</i>)</p>	<p>Baseline: Up to 6 months of data from 9.01.07 thru 3.01.08, across the targeted population.</p> <p>Intervention: 9 months of data from 3.01.08-12.31.08</p> <p>Concurrent: Report monthly</p>	<p>Infection rate from internal sources, such as IC surveillance data.</p> <p>If infection prevention practitioner reports data quarterly, please disaggregate and report by month</p>	Reduce CABSI rates by 25-50% from baseline rate) <ul style="list-style-type: none"> • Individual sites • Collaborative (collectively) 	YES

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Time between CABSIs	Days between occurrences <u>On graph:</u> X axis = occurrence Y axis = days between occurrences all broken out by birthweight cohort in accord with NHSN format: • <u>Total</u> (composite) AND <ul style="list-style-type: none"> ○ ≤750g ○ 751-1,000g ○ 1,001-1,500g ○ 1,501-2,500g ○ >2,500g 	Baseline: Up to 6 months of data from 9.01.07 thru 3.01.08, across the targeted population. Intervention: 9 months of data from 3.01.08-12.31.08 Concurrent: Report monthly	Request IC to report date of each occurrence (monthly)	Double the number of days between CABSIs (2x current number)	YES
Nosocomial Infection (NI) rate (500-1500 grams)	CPQCC definition	Baseline: Up to 6 months of data from 9.01.07 thru 3.01.08, across the targeted population. Intervention: 9 months of data from 3.01.08-12.31.08 Concurrent: Report monthly	Infection rate from internal sources, such as IC or CPQCC data collection person. Collect rate from CPQCC database and enter into HAI Collaborative Extranet	Reduce by 10-20%	YES
PROCESS MEASURES					
Daily central catheter Necessity Evaluation	Numerator: The total number of patients who had daily goals documented on the day of the prevalence study. Denominator: Total number of patients surveyed	Sample should include all patients with central catheters. Conduct audit one day per week. Rotate days of the week and rotate shifts. Aggregate and report monthly.	Audit of daily progress notes	100% of patients received daily evaluations for catheter necessity (and it was documented)	No

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<p>Central Catheter Insertion Bundle Compliance</p> <p>Insertion bundle includes:</p> <ul style="list-style-type: none"> • Hand hygiene • Use transparent semi-permeable dressings when possible / Use gauze only with bleeding/oozing for central catheter insertions (umbilical catheters may be excluded) • Use of maximum sterile barrier precautions (sterile technique maintained throughout) • Prepare skin with antiseptic/detergent chlorhexidine or povidone iodine 	<p>Numerator: Number of patients with newly placed central catheters which are compliant with the insertion bundle.</p> <p>Denominator: Total number of insertions observed.</p>	<p>Baseline: Sample should include at least 10 patients with newly inserted central catheters</p> <p>Only patients with all aspects of CVC bundle in place are recorded as compliant.</p> <p>Rotate days of the week and shifts.</p> <p>Concurrent: Aggregate and report monthly.</p>	Observation worksheet - insertion	100% of patients with newly inserted central catheters receive all aspects of central catheters insertion bundle	Yes

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<p>Central Catheter Maintenance Bundle Compliance</p> <p>Maintenance bundle includes:</p> <ul style="list-style-type: none"> • Hand hygiene • Aseptic technique maintained throughout all aspects of care (i.e. dressing change, catheter entry, infusion tubing change) • Use transparent semi-permeable dressings when possible / Use gauze only with bleeding/oozing for central catheters (umbilical catheters may be excluded) • Replace dressing if it becomes damp, loosened or visibly soiled • Prepare skin with antiseptic/detergent chlorhexidine or povidone iodine when performing dressing change 	<p>Numerator: Number of patients with central catheters which were compliant with the maintenance bundle</p> <p>Denominator: Total number of maintenance events observed.</p>	<p>Baseline: Sample should include at least 10 maintenance events for patients with central lines</p> <p>Only patients with <u>all</u> aspects of central line bundle in place are recorded as compliant.</p> <p>Rotate days of the week and shifts.</p> <p>Concurrent: Aggregate and report monthly.</p>	Observation worksheet - maintenance	100% of patients with central lines receive all aspects of central line bundle	Yes

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Measure	Calculation	Data Collection Plan/Sample Size	Data collection method	Goal	Required Yes/No
Catheter Prevalence (catheter utilization)	Numerator: Total central catheter days (all broken out by birthweight cohort in accordance with NHSN format) Subtotals for umbilical catheter days Denominator: Total patient days (all broken out by birthweight cohort in accordance with NHSN format)	Baseline: Up to 6 months of data from 9.01.07 thru 3.01.08, across the targeted population. Intervention: 9 months of data from 3.01.08-12.31.08 Concurrent: Report monthly	Internal sources, such as IC surveillance data and hospital discharge data.	Reduce use of vascular access catheters	No