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Introduction

This document identifies the measures that are required for the national collaborative to prevent Central Line Associated Bacteraemia in New Zealand.

The initial focus of the collaborative will be in the intensive care units in each of the 20 District Health Boards (DHBs) and then rolled out to other high central line users in the DHBs such as theatres, radiology, renal units and inpatient wards.

For each measure the following pieces of information are presented:

- **Measure Name**
- **Extranet Identifier** (the pre-coded unique identifier found on the Extranet for each measure)
- **Operational Definition** (which provides the specific details on the components of the measure, e.g., numerator and denominator)
- **Data Collection Guidance** (which provides suggestions on how to obtain the data including sampling recommendations)

A few general guidelines for data collection include:

- For the 2010 Baseline outcome measures data was collected at the outset of the project in September 2011 and it was determined that only 2 DHBs have a data base in place for the collection and analysis of CLAB. Only 5 units collect central line days and a follow up retrospective analysis of the incidence of CLAB applying the CDC definitions was requested from all participating units.
- For the 2010 baseline outcome measures patient cases/files were audited against the CDC definitions. Monthly line days and number of CLAB per month were only available in two DHBs, Christchurch and Counties Manukau.
- All of the High Level Outcome measures (enter extranet identifiers) should be collected at all the DHB intensive care units and subsequent units where this prevention of CLAB methodology is rolled out.
- When collecting data on the Process and Outcome measures moving forward (i.e., February 2012 on), data should be collected for BOTH the designated pilot areas and the entire DHBs as the methodology is rolled out across the DHB. The Operational Definitions include both the numerator/denominator and the method of calculating the measure. It is important to note that when using the Extranet only the numerator and denominator will be entered; the actual calculation will take place automatically (no additional manual computation is necessary).

Note that this document will be updated as needed.
Participating units within the District Health Boards will be notified when an updated version is posted on the Extranet.

Measure Name	Extranet Identifier	Operational Definition	Data Collection Guidance
1. Central line associated bacteraemia rate per 1,000 line days		1. Determine the numerator: The total number of central line associated infections for the month. 2. Determine the denominator: The total number of central line days for the month. 3. The central line associated bacteraemia rate is calculated by dividing the total numerator by the denominator and multiplying the result by 1000 to get the central line associated bacteraemia rate per 1000 central line days.	Report the numerator and denominator **monthly** to the Extranet. Provide annotations as appropriate to reflect any interventions you made during the month. If the infection control practitioner reports data quarterly, please disaggregate the data and report it by month. NB Allow one week after the end of the month for reporting. NB: If using the tally method, need to do the calculation to obtain entire months line days
2. Days between a central line bloodstream infections		This measure is a cumulative count of the number of days that have gone by with no central line bloodstream infections being reported. Every time a central line bloodstream infection occurs the count is started over again. In this case, we are plotting successes between failures. The longer the run of cumulative successes (days with no central line bloodstream infections occurring) the better the outcome.	Whenever events occur that are relatively rare in nature or when a ward or pilot area has sufficiently small numbers of events, the preferred way to analyse the data is to plot: (1) successes between failures, or (2) time between failures. For rare events, 300 days or more between central line bloodstream infections is the goal. If an intervention is initiated, however, and the period between events is greater than two times the baseline period average this is also significant. In this case, it may be possible to show a true improvement before going 300 days without a central line bloodstream infection.

Measure Name	Extranet Identifier	Operational Definition	Data Collection Guidance
3. Percentage compliance with central line insertion bundle		1. Determine the numerator: the total number of insertions that have all elements of the (Central Venous Line) CVL insertion bundle applied 2. Determine the denominator: the total number of CV lines inserted. 3. Calculate the percent compliance with the central line bundle by dividing the numerator by the denominator and then multiplying the resulting proportion by 100 Note: The CVL Insertion bundle includes: (1) Hand hygiene prior to insertion; (2) Skin antisepsis with chlorhexidine prior to insertion; (3) Maximum Barrier Precautions during insertion.	Use insertion checklist as the primary data source. Review each sheet for implementation of the CVL bundle. There is no sampling with this measure; include all patients with CLs. Only patients with all elements of CL bundle in place are recorded as being compliant. Report monthly to the IHI Extranet but report each week's prevalence. This means that there should be 4 data points for each month unless the volume is low (e.g., some weeks there are no CVLs in place) in which case the results for all CVLs for the month will need to be aggregated.

Measure Name	Extranet Identifier	Operational Definition	Data Collection Guidance
4. Percentage compliance with the central line Maintenance bundle		1. Determine the numerator: the total number of line days that are compliant with all 4 elements of the CVL maintenance bundle. i.e There may be multiple days for one line and each day should be counted as a separate entity. 2. Determine the denominator: the total number of line days for the period reviewed. The same applies as above 3.Calculate the percent compliance with the central line maintenance bundle by dividing the numerator by the denominator and then multiplying the resulting proportion by 100 This can be a random sample, or all line days. Any line day that is not compliant with all the elements of the maintenance bundle means that compliance for that day is not achieved. Note the CL Maintenance bundle includes (1) Review of necessity (2)Dedicated port for TPN (3) Daily site check for inflammation (4) chlorhexidine ***prior to each access*** and should be documented at the end of each shift to confirm that the "hub was scrubbed" at every access on that shift. (8r shifts require 3 ticks, 12hr shifts require 2 ticks)	Maintenance Bundle optimal criteria includes: • Daily checking and recording of the need for a CVL • Dedicated port for TPN when applicable • Daily site check for inflammation • Chlorhexidine prior to each access For those DHBs that have more than 100 CVL's per month, a sample of the lines under review can be done. The aim is to achieve review of at least 5 charts per week. The method to be used is the Simple Random Sample; using excel random sample generator, enter your number of observations and ask for the number of random numbers that allows review of at least 20 charts. i.e 100 charts (observations) ask for 20 random numbers. Check those 20 charts (observations) Only days with all elements of CL bundle adhered to are recorded as being compliant. Report monthly to the IHI Extranet but report each week's prevalence. This means that there should be 4 data points for each month unless the volume is low (e.g., some weeks there are no CVLs in place) in which case the results for all CVLs for the month will need to be aggregated.) Note: if a patient is not eligible for one of the bundle elements for medical reasons and that exclusion is documented, that patient is considered compliant for that element of the bundle.