

Metrics Group for California HAI Reporting
CLABSI Recommendations – FINAL REPORT
April 18, 2011

Purpose: The purpose of this committee is to gather experienced leaders in hospital epidemiology and HAI metrics to provide recommendations to CDPH for upcoming public reporting of HAIs.

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Recommendations

1. Time Window for Reporting:

We strongly recommend reporting annual rates. If more frequent reporting is desired, we recommend a moving 1 year period to calculate annual rates. With the possible exception of the largest hospitals, the low frequency of CLABSI will produce highly unstable estimates with shorter intervals.

2. Metric

Numerator: NHSN definition of BSI with CVC in place or recently discontinued

Denominator: Self reported CVC days

Recommended Primary Metric

We recommend providing unadjusted stratified rates as the primary metric for CLABSI. We recommend that this be the first results that are seen after an initial screen displaying the strata. We further support the threshold used in the prior state report whereby hospitals with <100 central line days in the reporting period are not reported.

Secondary Metrics for Consideration

Although secondary adjusted measures are critically needed, we recommend against providing adjusted metrics at this time pending further evaluations to determine best measures. We recommend that CDPH partner with internal or external partners who are interested in exploring the value of various adjustments using routinely collected information that is available to CDPH. Such information could include submitted NHSN data, facility licensing information, or hospital level information from OSHPD. When validated, these additional measures should be provided. Until then, caveats about lack of case mix adjustment should be clearly stated throughout the report.

It is the recommendation of this group that the SIR not be initially provided so that further evaluations between the recommended primary metrics, additional risk adjustment evaluations and facility-level SIRs may be performed. If SIRs are provided, it is the recommendation of this group that they only be provided as a secondary measure. Although the SIR is used in some states and by the CDC and has the advantage of being a single measure that accounts for differences among facilities, it is highly dependent on a historical baseline for comparison and interpretation, and is not yet sufficiently validated. Stratified metrics often provide more information and direction for improvement. Given the number of facilities in CA, it is reasonable to evaluate the wealth of data in this more meaningful way.

Utilization Ratio

We recommend that strata-specific utilization ratios be provided for each facility. This is the total number of self reported CVC days divided by the total number of patient days.

Strata

We recommend that the primary metric use a minimum of the following strata, all of which are existing NHSN strata. As NHSN strata become more refined, this should be revisited.

Adult ICU (each separate strata)

Medical*	Med/Surg*	Trauma
Surgical	Burn	

Adult non-ICU (each separate strata)

Medical	Med/Surg	Rehabilitation
Surgical	Stepdown	

Pediatric ICU (each separate strata)

NICU
General Pediatric

Pediatric Non-ICU: All acute areas together, excluding rehabilitation

Adult Specialty Care (each separate strata)

Oncology	Transplant
BMT	

Pediatrics Specialty Care (each separate strata)

Oncology	Transplant
BMT	

LTACs

* further stratify by teaching hospital status (Y/N)

3. Statistically Minded Display:

We strongly recommend that hospitals be listed alphabetically, not sorted by point estimate (CLABSI rate). Similarly, we strongly recommend against rank ordering hospitals by the point estimates of their incidence rates. The reason for avoiding this is to avoid the misconception that adjacent ranks are meaningfully statistically different from one another. Even if confidence intervals are provided and overlap, the lay reader is still likely to perceive that one hospital is worse than the one that comes before it and better than the one that comes after it.

We recommend a statistically-based three tiered system that uses color circles or some other marker to reflect the categories of hospitals that are normative for the state, statistically better than the norm, and statistically worse than the norm. It is important to note that use of statistics means that there may come a time when all hospitals are statistically indistinguishable from one another

4. Validation and Definitions

For data validation, the committee recommends the following guidance:

- a) Validate both cases and controls by identifying positive blood cultures that were and were not reported as CLABSI events to NHSN to confirm appropriate classification and reporting.
- b) The sample size of cases and controls should be determined by CDPH to be able to be practically conducted during a typical validation effort, as well as be able to
 - i. Determine the fraction of blood cultures that are reviewed by the infection prevention program
 - ii. Determine if CLABSI determination is accurate
- c) In order to ensure consistent interpretation of NHSN guidance for inter-facility comparisons, we recommend the following clarifications by CDPH to hospitals regarding the issue of excluding events “incubating on admission”
 - i. For determining CLABSI events, exclude positive blood cultures from the first 3 days of hospital admission for all patients unless the patient was recently discharged (see next point). This would focus validation efforts on cases where there should not be any discrepancies due to interpretation of “incubating on admission.”
 - ii. For determining CLABSI events upon readmission to the same hospital, include the 3 calendar days following discharge in routine surveillance so that events occurring within 3 calendar days of discharge are attributed to the patient’s location 3 calendar days prior to the positive blood culture.

5. Other

We recommend that CDPH provide public notification that reports covering data prior to January 1, 2011 reflect surveillance criteria that is different than reports covering data after January 1, 2011. Reports from time periods using different surveillance methods should not be used for inter-facility comparisons across periods.

We also recommend that:

- Prior to publication of the report, each institution is given an opportunity to review the reported data