Measure Information Form:
MRSA Bloodstream Infections per 1000 Patient Days

Intervention(s): Reduce MRSA Infection

Definition: The number of bloodstream infections from MRSA per 1000 patient days

Goal: Reduce by 50% by December 2008

Matches Existing Measures: N/A

CALCULATION DETAILS:

Numerator Definition: Number of patients with MRSA bloodstream infection during the calendar month

Numerator Exclusions: Same as denominator exclusions

Denominator Definition: Total number of hospital patient days for the calendar month after subtracting:

- Patient hospital days after the onset of an MRSA bloodstream infection (e.g., patient is admitted and has a 10-day length of stay; MRSA bloodstream infection identified from culture collected on day 4; hospital days 4 through 10 are subtracted as this patient is no longer at risk)

Denominator Exclusions:

- Patients with a length of stay of 2 days or less
- Patients with MRSA bloodstream infection identified from blood cultures collected in the first 2 days of the patient's stay

Measurement Period Length: Monthly

Definition of Terms:

- MRSA bloodstream infection: CDC definition for laboratory-confirmed bloodstream infection (LCBI) with MRSA as the organism identified in blood culture (SOURCE: The National Healthcare Safety Network (NHSN) User Manual, page 6.)

Calculate as: (numerator / denominator) x 1000; as a rate

Comments: The 2-day exclusion is intended to exclude patients who have a community-acquired strain of MRSA infection on admission. However, since patients who become colonized with MRSA in a health care setting may not develop infection until after discharge, it is possible that this exclusion will cause some patients with healthcare-associated MRSA to be missed. Some hospitals have chosen not to exclude such patients

and count all positive clinical isolates. It is important that an internally consistent definition be used when tracking improvement over time, but the overall primary Campaign measure will be based on bloodstream infections that occur after 48 hours/2days.

Multiple blood cultures positive for MRSA during a 30-day period should be considered to represent a single bacteremia episode, while those that are more than 30 days apart represent a new episode. Although a blood culture positive for MRSA occasionally may represent culture contamination, this probably occurs infrequently. It is not necessary to decide whether or not a given patient has a contaminated culture or a "true" bloodstream infection for the purpose of this measure.

For the purposes of internal tracking, this measure gives roughly the same information as another recommended outcome measure, MRSA Bloodstream Infections per 100 Admissions. We have included both measures because each has certain advantages that teams should consider (using both is also an option, since it is relatively easy to translate one to the other). Using a denominator of admissions has the advantage of being more accessible to non-medical personnel (including, perhaps, leaders and board members) and is usually easier to collect. Using a denominator of patient days has the advantage of allowing a more credible comparison between hospitals (the difference in patient days per admission serves as a crude risk adjustment). Also, hospitals already measuring this or other outcomes using one denominator or the other should probably remain consistent with historic definitions.

COLLECTION STRATEGY:

See measure details and comments above.

Sampling Strategy:

If you are beginning this intervention within a pilot unit or units, limit your initial measurement to only those units. As you spread the implementation, expand your measurement accordingly.