BACKGROUND: Beginning January 1, 2013, acute care facilities were required to submit methicillin-resistant Staphylococcus aureus (MRSA) laboratory-identified events (LabID) to the National Healthcare Safety Network (NHSN) for Centers for Medicare and Medicaid Services (CMS) Hospital Inpatient Quality Reporting. Our institution's MRSA LabID standardized infection ratio (SIR) of 1.497 was double the national median (0.785). We undertook this review to determine where to focus infection prevention (IP) efforts.

METHODS: Data submitted from September 2013–February 2015 were evaluated. Medical records were reviewed to determine if the positive blood cultures were: central line-associated bloodstream infection (CLABSI), BSI not central line-associated, secondary to another infection, present on admission (POA) or duplicate. Secondary infections were defined per NHSN criteria. If the positive blood culture was collected in the ED prior to admission, it was considered POA (consistent with the 2014 definition); duplicates included patients who had transferred to another inpatient unit and had subsequent positive blood cultures.

RESULTS: Thirty-five MRSA LabID events were reported in eighteen months (Table 1). Of these, only 15 (43%) were primary BSIs, twelve (34%) were secondary BSI, 4 (11%) POA and 4 (11%) duplicate (Figure 1).

DISCUSSION: MRSA LabID event is defined as a MRSA blood culture collected 2-3 days of admission in any location, excluding prior positives in the same location within 14 days. No other positive MRSA cultures are reported. Unlike other NHSN-derived CMS metrics, this is a proxy report based solely on admission date, patient movement within the facility, and culture dates. Over half of our events were not primary BSI; 22% were POA or duplicate which are not preventable. Further, secondary BSIs may or may not be preventable. Our findings highlight limitations of this metric, as the data inflate SIR by counting duplicates, allowing for consecutive cultures in different locations, and fail to recognize secondary infections; thus, SIR is not reflective of overall hospital quality performance. This metric should be further evaluated before it is used to reflect quality and safe care.

Abstract

• Acute care facilities are required to report MRSA LabID events for CMS Inpatient Quality Reporting.
• Our institution's SIR for this metric was double the national median.
• This review was performed to determine where to focus infection prevention efforts.

Background

- Table 1
- Figure 1

Methods

• Data submitted to NHSN from September 2013–February 2015 were evaluated.
• Medical records were reviewed to classify the positive blood cultures per NHSN surveillance criteria:
  - Central line-associated bloodstream infection (CLABSI)
  - Primary bloodstream infection (BSI), not a CLABSI
  - Secondary to another infection
  - Infection present on admission (POA) – includes patients whose cultures were collected in the ED
  - Duplicate - includes patients who had transferred to another inpatient unit and had subsequent positive blood cultures.

Results

• Thirty-five MRSA LabID events were reported in eighteen months (Table 1).
• Of these, only 15 (43%) were primary BSIs, twelve (34%) were secondary BSI, 4 (11%) POA and 4 (11%) duplicate (Figure 1).

Table 1

<table>
<thead>
<tr>
<th>Event Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLABSI</td>
<td>12</td>
</tr>
<tr>
<td>Primary BSI</td>
<td>3</td>
</tr>
<tr>
<td>Secondary BSI</td>
<td>12</td>
</tr>
<tr>
<td>POA</td>
<td>4</td>
</tr>
<tr>
<td>Duplicate</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
</tr>
</tbody>
</table>

Discussion

• Unlike other NHSN-derived CMS metrics, this is a proxy report based solely on admission date, patient movement within the facility, and culture date(s).
• Since no other positive cultures are reported, this metric does not account for other sources positive for MRSA, which would potentially indicate that the blood is not the primary source of infection.
• Over half of our events were not primary BSI; 22% were POA or duplicate which are not preventable.
• Our findings highlight limitations of this metric, as the data inflate SIR by counting duplicates, allowing for consecutive cultures in different locations, and fail to recognize secondary infections.

Conclusion

• LABID SIR is not reflective of overall hospital quality performance and should be further evaluated before it is used to reflect quality and safe care.
• Traditional infection prevention methods will not likely decrease MRSA LabID SIR.