Neonatal Blood Stream Infection Rate
Technical Specifications

Neonatal Quality Indicators #3 (NQI #3)
AHRQ Quality Indicators™, Version 5.0
March 2015
Provider-Level Indicator
Type of Score: Rate

Description

Discharges with healthcare-associated bloodstream infection per 1,000 discharges for newborns and outborns with birth weight of 500 grams or more but less than 1,500 grams; with gestational age between 24 and 30 weeks; or with birth weight of 1,500 grams or more and death, an operating room procedure, mechanical ventilation, or transferring from another hospital within two days of birth. Excludes discharges with a length of stay less than 7 days and discharges with a principal diagnosis of sepsis, sepsis or bacteremia, or newborn bacteremia.

[NOTE: The software provides the rate per hospital discharge. However, common practice reports the measure as per 1,000 discharges. The user must multiply the rate obtained from the software by 1,000 to report events per 1,000 hospital discharges.]

Numerator

Discharges, among cases meeting the inclusion and exclusion rules for the denominator, with either:
- any secondary ICD-9-CM diagnosis codes for other septicemia; or
- any secondary ICD-9-CM diagnosis codes for newborn septicemia or bacteremia and any secondary ICD-9-CM diagnosis codes for staphylococcal or Gram-negative bacterial infection

ICD-9-CM Other septicemia diagnosis codes:
03810 STAPHYLOCOCC SEPTICEM NOS
03811 METH SUSC STAPH AUR SEPT
03812 METH RES STAPH AUR SEPT
03819 STAPHYLOCOCC SEPTICEM NEC
03840 GRAM-NEG SEPTICEM NOS
03842 E COLI SEPTICEMIA
03843 PSEUDOMONAS SEPTICEMIA
03844 SERRATIA SEPTICEMIA
03849 GRAM-NEG SEPTICEMIA NEC
1125 DISSEMINATED CANDIDIASIS

ICD-9-CM Newborn septicemia or bacteremia diagnosis codes:
77181 NB SEPTICEMIA [SEPSIS]
77183 BACTEREMIA OF NEWBORN

ICD-9-CM Staphylococcal or Gram-negative bacterial infection diagnosis codes:
Denominator

All newborns and outborns with either:
• a birth weight of 500 to 1,499 grams (Birth Weight Categories 2, 3, 4 and 5); or
• any-listed ICD-9-CM diagnosis codes for gestational age between 24 and 30 weeks; or
• a birth weight greater than or equal to 1,500 grams (Birth Weight Category 6, 7, 8, or 9) and death (DISP=20); or
• a birth weight greater than or equal to 1,500 grams (Birth Weight Category 6, 7, 8, or 9) and any-listed ICD-9-CM procedure codes for operating room procedure; or
• a birth weight greater than or equal to 1,500 grams (Birth Weight Category 6, 7, 8, or 9) and any-listed ICD-9-CM procedure codes for mechanical ventilation; or
• a birth weight greater than or equal to 1,500 grams (Birth Weight Category 6, 7, 8, or 9) and transferring from another health care facility within two days of birth

See Pediatric Quality Indicators Appendices:
• Appendix A – Operating Room Procedure Codes
• Appendix I – Definitions of Neonate, Newborn, Normal Newborn, and Outborn
• Appendix L – Low Birth Weight Categories

ICD-9-CM Gestational age between 24 and 30 weeks diagnosis codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>76522</td>
<td>24 COMP WEEKS GESTATION</td>
</tr>
<tr>
<td>76523</td>
<td>25-26 COMP WKS GESTATION</td>
</tr>
</tbody>
</table>

ICD-9-CM Mechanical ventilation procedure codes:
Exclude cases:
- with a principal ICD-9-CM diagnosis code (or secondary diagnosis present on admission†) for sepsis
- with a principal ICD-9-CM diagnosis code (or secondary diagnosis present on admission†) for sepsis or bacteremia
- with a principal ICD-9-CM diagnosis code (or secondary diagnosis present on admission†) for staphylococcal or Gram-negative bacterial infection (see above)
- with birth weight less than 500 grams (Birth Weight Category 1)
- with length of stay less than 7 days
- with missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1=missing)

**ICD-9-CM Sepsis or bacteremia diagnosis codes:**

1125  DISS EM IN TED CANDIDIASIS
77181  SEPTICEMIA OF NEWBORN
77183  BACT OF NEWBORN
7907  BACTERMIA

† Only for cases that otherwise qualify for the numerator.