

**\*\*NQF-ENDORSED VOLUNTARY CONSENSUS STANDARDS FOR HOSPITAL CARE\*\***

## **Measure Information Form**

**Measure Set:** Pneumonia (PN)

**Set Measure ID #:** PN-3a

**Performance Measure Name:** Blood Cultures Performed Within 24 Hours Prior to or 24 Hours After Hospital Arrival for Patients Who Were Transferred or Admitted to the ICU Within 24 Hours of Hospital Arrival

**Description:** Pneumonia patients transferred or admitted to the ICU within 24 hours of hospital arrival, who had blood cultures performed within 24 hours prior to or 24 hours after hospital arrival.

**Rationale:** Published pneumonia treatment guidelines from ATS/IDSA recommend performance of blood cultures for all inpatients with severe pneumonia to optimize therapy. Improved survival has been associated with optimal therapy. In addition, the yield of clinically useful information is greater if the culture is collected before antibiotics are administered. The actual performance of a culture has been added to this measure because restricting measurement to culture collection prior to antibiotics provides an incentive for hospitals not to perform a culture in any patient who has already received antibiotics.

**Type of Measure:** Process

**Improvement Noted As:** An increase in the rate

**Numerator Statement:** Number of pneumonia patients transferred or admitted to the ICU within 24 hours of hospital arrival who had blood cultures performed within 24 hours prior to or 24 hours after arrival at the hospital

**Included Populations:** Not Applicable

**Excluded Populations:** None

**Data Elements:**

- *Initial Blood Culture Collection Date*
- *Initial Blood Culture Collection Time*
- *Blood Culture Prior to Arrival*
- *Arrival Date*
- *Arrival Time*

**Denominator Statement:** Pneumonia ICU patients 18 years of age and older

**Included Populations:** Discharges:

- Who are transferred or admitted to the ICU within 24 hours of hospital arrival
- With an *ICD-9-CM Principal Diagnosis Code* of pneumonia as defined in Appendix A, Table 3.1 OR *ICD-9-CM Principal Diagnosis Code* of septicemia or respiratory failure (acute or chronic) as defined in Appendix A, Tables 3.2, or 3.3  
AND
- With an *ICD-9-CM Other Diagnosis Code* of pneumonia (Appendix A, Table 3.1)

**Excluded Populations:**

- Patients received in transfer from another acute care or critical care access hospital, including another emergency department
- Patients who had no working diagnosis of pneumonia at the time of admission
- Patients receiving *Comfort Measures Only*
- Patients less than 18 years of age
- Patients not transferred or admitted to the ICU within 24 hours of hospital arrival
- Patients who had no chest x-ray or CT scan that indicated positive infiltrate within 24 hours prior to hospital arrival or anytime during this hospitalization

**Data Elements:**

- *Admission Date*
- *Admission Source*
- *Arrival Date*
- *Arrival Time*
- *Birthdate*
- *Blood Culture Collected After Arrival*
- *Chest X-ray*
- *Comfort Measures Only*
- *ICD-9-CM Other Diagnosis Codes*
- *ICD-9-CM Principal Diagnosis Code*
- *ICU Transfer or Admission Within 24 Hours*
- *Pneumonia Working Diagnosis on Admission*
- *Transfer From Another ED*

**Risk Adjustment:** No

**Data Collection Approach:** Retrospective, data sources for required data elements include administrative data and medical record documents. Some hospitals may prefer to gather data concurrently by identifying patients in the population of interest. This approach provides opportunities for improvement at the point of care/service. However, complete documentation includes the principal or other ICD-9-CM diagnosis and procedure codes, which require retrospective data entry.

**Data Accuracy:**

Variation may exist in the assignment of ICD-9-CM codes; therefore, coding practices may require evaluation to ensure consistency.

**Measure Analysis Suggestions:** None

**Sampling:** Yes, for additional information see the Sampling Section.

**Data Reported As:** Aggregate rate generated from count data reported as a proportion

**Selected References:**

- Bartlett JG, Dowell SF, Mandell LA, et al. Practice guidelines for the management of community-acquired pneumonia in adults. Infectious Diseases Society of America. *Clin Infect Dis*. 2000;31:347-382.
- Heffelfinger JD, Dowell SF, Jorgensen JH, Klugman KP, et al. Management of community-acquired pneumonia in the era of pneumococcal resistance: a report from the Drug-Resistant Streptococcus Pneumoniae Therapeutic Working Group. *Archives of Internal Medicine*. 2000, 160:1399-1408.
- Mandell LA, Bartlett JG, Dowell SF, et al. Update of practice guidelines for the management of community-acquired pneumonia in adults. Infectious Diseases Society of America. *Clin Infect Dis*. 2003;37:1405-1433.
- Mandell LA, Marrie TJ, Grossman RF, et al. Canadian guidelines for the initial management of community-acquired pneumonia: an evidence-based update by the Canadian Infectious Disease Society and the Canadian Thoracic Society. *Clin Infect Dis* 2000;31:383-421.
- Metersky ML, Ma A, Bratzler DW, et al. Predicting bacteremia in patients with community-acquired pneumonia. *Am J Respir Crit Care Med* 2004; 169: 342-347
- Niederman MS, Mandell LA, Anzueto A, et al. Guidelines for the management of adults with community-acquired pneumonia. *Am. J. Respir. Crit. Care Med*. 2001; 163: 1730-1754.

**PN-3a: Blood Cultures Performed Within 24 Hours Prior To Or 24 Hours After Hospital Arrival for Patients Who Were Transferred Or Admitted To the ICU Within 24 Hours of Hospital Arrival**

**Numerator:** Number of pneumonia patients transferred or admitted to the ICU within 24 hours of hospital arrival who had blood cultures performed within 24 hours prior to or 24 hours after arrival at the hospital

**Denominator:** Pneumonia ICU patients 18 years of age and older





