

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

## **Measure Information Form**

**Measure Set:** Pneumonia (PN)

**Set Measure ID #:** PN-1

**Performance Measure Name:** Oxygenation Assessment

**Description:** Pneumonia patients who had an assessment of arterial oxygenation by arterial blood gas measurement or pulse oximetry within 24 hours prior to or after arrival at the hospital.

**Rationale:** Inadequate oxygen in the arterial blood (hypoxemia) is common in severe pneumonia and is a known mortality risk factor. Giving supplemental oxygen has been shown to decrease mortality among patients with pneumonia.

**Type of Measure:** Process

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

**Numerator Statement:** Number of pneumonia patients whose arterial oxygenation was assessed by arterial blood gas (ABG) or pulse oximetry within 24 hours prior to or after hospital arrival

**Included Populations:** Not Applicable

**Excluded Populations:** None

**Data Elements:**

- *ABG Done*
- *Pulse Oximetry Done*

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

**Included Populations:** Patients discharged with:

- *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** 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 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

**Data Elements:**

- *Admission Date*
- *Admission Source*
- *Birthdate*
- *Comfort Measures Only*
- *ICD-9-CM Other Diagnosis Codes*
- *ICD-9-CM Principal Diagnosis Code*
- *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.

To increase efficiency in the data collection process, the abstractor should look first for the most commonly performed oxygenation assessment test. In most organizations this will be the pulse oximetry. Since only one of the two tests is required for a measure event, if the pulse oximetry is not done, the abstractor should then look for the ABG.

**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:** Health care organizations (HCO) may want to know how many patients had pulse oximetry versus those that had arterial blood gases. This information could be tied to patient outcome data and analyzed for treatment effectiveness and cost.

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

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

**Selected References:**

- Kahn KL, Rogers WH, Rubenstein LV, et al. Measuring quality of care with explicit process criteria before and after implementation of the DRG-based prospective payment system. *JAMA*, 1990;264:1969-1973.
- Meehan TP, et al: Quality of care, process, and outcomes in elderly patients with pneumonia. *JAMA*, 1997;278(23):2080-2084.

## PN-1: Oxygenation Assessment

**Numerator:** Number of pneumonia patients whose arterial oxygenation was assessed by arterial blood gas (ABG) or pulse oximetry within 24 hours prior to or after hospital arrival.

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



