Pneumonia Knockout: Quality & Clinical Performance Improvement Regional Meeting
Winston-Salem
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North Carolina Healthcare Association

Uniting hospitals, health systems and care providers for healthier communities
Introduction to Clarify Health

CMS formula for RSRR and RSMR

\[
\frac{\text{RSRR}_{\text{Hospital}}}{\text{Predicted}_{\text{Hospital}}} = \frac{\text{Expected}_{\text{AvgHospital}}}{\text{National Observed Rate (NOR)}}
\]

Clarify Health models derive the denominator of the CMS Risk Standardized Readmission Rate (RSRR) and Risk Standardized Mortality Rate (RSMR).

Clarify Health provides insights into Medicare patients beyond the inpatient discharge (e.g., patients discharged to SNF, Hospice, IRF).

CMS published data is for the 3-year period 7/1/13-6/30-16; Clarify Health incorporates more recent patient-level data from NCHA into their models to produce expected mortality (and readmission rates). Unless otherwise noted, data are from 9/1/16-8/30/17.

Patient population of interest is Medicare patients with a principal diagnosis of Pneumonia.
Piedmont Hospitals Included in this Analysis*

- Cape Fear Valley Hoke Hospital
- Duke Regional Hospital
- Scotland Memorial Hospital
- Novant Health Forsyth Medical Center
- Chatham Hospital
- WakeMed Raleigh
- Wake Forest Baptist Medical Center
- Central Carolina Hospital
- Duke University Hospital
- FirstHealth Moore Regional Hospital
- UNC Rex Healthcare
- Granville Health System
- Betsy Johnson Regional Hospital
- Duke Raleigh Hospital
- Johnston Health
- High Point Regional Health System
- Alamance Regional Medical Center
- Moses H. Cone Memorial Hospital
- UNC Hospital
- Wake Forest Baptist – Lexington Medical Center
- Person Memorial Hospital
- Maria Parham Medical Center
- Novant Health Thomasville Medical Center
- Randolph Hospital

*minimum of 20 cases between 9/1/16-8/31/17
CMS Pneumonia Mortalities

North Carolina
- 2,429 (15.8%)
- 12,960

Piedmont Region
- 782 (16%)
- 4,075
CMS PNE Mortalities by Discharge Location

North Carolina

- Home: 914 (38%)
- Hospice: 1,172 (48%)
- Inpatient: 173 (7%)

- SNF: 170 (7%)

Piedmont

- Home: 294 (38%)
- Hospice: 389 (50%)
- Inpatient: 58 (7%)

- SNF: 41 (5%)
CMS PNE Mortality Trends – Piedmont vs NC
CMS PNE Mortality Trends - Urban vs Rural in Piedmont Region

Rural designation based on CMS Provider of Service data.
A red dot indicates higher mortality rates than expected if the same patients were treated at an average facility.
A green dot indicates lower mortality rates than expected if the same patients were treated at an average facility.
A yellow dot indicates no difference in mortality rates from expected.
Piedmont Expected PNE Mortality by Discharge Location

A red dot indicates higher mortality rates than expected if the same patients were treated at an average facility.

A green dot indicates lower mortality rates than expected if the same patients were treated at an average facility.

A yellow dot indicates no difference in mortality rates from expected.
Starting from the inpatient admission (blue at the center of the circle), the patient journey for patients who die after a PNE admission can have many steps (identified by the legend below).

The two most common journeys for patients who die after a PNE admission are:

- Inpatient → Hospice → Expired: 35.8%
- Inpatient → Expired: 33.6%
NC: Expected Mortality for PN by Comorbidities Present on Admission

Minimum volume: 100 cases

A red dot indicates higher mortality rates than expected if the same patients were treated at an average facility
A green dot indicates lower mortality rates than expected if the same patients were treated at an average facility
A yellow dot indicates no difference in mortality rates from expected
Piedmont: Expected Mortality for PN by Comorbidities Present on Admission

Minimum volume: 100 cases

A red dot indicates higher mortality rates than expected if the same patients were treated at an average facility.
A green dot indicates lower mortality rates than expected if the same patients were treated at an average facility.
A yellow dot indicates no difference in mortality rates from expected.
NC: Mortality Outcomes by Patient Age Category

A red dot indicates higher mortality rates than expected if the same patients were treated at an average facility.
A green dot indicates lower mortality rates than expected if the same patients were treated at an average facility.
A yellow dot indicates no difference in mortality rates from expected.
Piedmont: Mortality Outcomes by Patient Age Category

A red dot indicates higher mortality rates than expected if the same patients were treated at an average facility.
A green dot indicates lower mortality rates than expected if the same patients were treated at an average facility.
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Knockout Pneumonia!