Non-ventilator hospital-acquired pneumonia versus pneumonia as an admission diagnosis in patients who develop sepsis: Incidence and Cost

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BACKGROUND
Evidence supports that non-ventilator hospital-acquired pneumonia (NV-HAP) contributes to prolonged hospital stays, is associated with significant patient morbidity/mortality, and occurs in approximately 0.5-1.8% of all hospital admissions.

Pneumonia is a known risk factor for sepsis, and the Agency for Healthcare Research and Quality estimates the cost of sepsis at $20 billion (2011), with incidence increasing annually by 11.9%.

Our objective was to compare incidence and cost in 2 groups of pneumonia patients with sepsis as a secondary diagnosis: patients with NV-HAP and patients admitted with pneumonia (AP).

METHODS
We used the 2012 Healthcare Utilization Project (HCUP) National Inpatient Sample (NIS).

The HCUP NIS is a sampling of inpatient records for a given year which includes diagnosis codes, billing information, and basic patient demographics.

We identified: patients with NV-HAP (N=119,075)); and AP, randomly selected to match the NV-HAP group size.

Within each group we reviewed sepsis as an associated secondary diagnosis.

RESULTS
The incidence of sepsis was 36.3% (N=43,252) in the NV-HAP group, as compared to 1.9% (N=2,332) in the AP group.

Additional comparisons are highlighted on Table 1.

CONCLUSIONS
These findings add to the emerging body of knowledge on NV-HAP as a significant healthcare issue. The combination of NV-HAP and sepsis was associated with higher costs and LOS as compared to AP patients.

While there were no differences in sepsis mortality, the higher incidence of sepsis with NV-HAP contributed to many more patient deaths as compared to patients admitted with pneumonia.