Impact of an Evidence-Based Guideline on Pediatric Patients with Pneumonia
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Problem:
Although assessments of the percentage of clinical pediatric practice supported by scientific research are variable, there is general agreement that it is low. Evidence-based (EB) practice guidelines, and decision support tools provide a vehicle for incorporating existing evidence into routine practice.

Evidence:
In 2009, Texas Children’s Hospital (TCH) developed an EB Community-Acquired Pneumonia (CAP) guideline. A multidisciplinary clinical team systematically searched for, and appraised relevant literature to make practice recommendations summarized within a clinical guideline. Accompanying EB CAP Emergency Department (ED), Inpatient (IP), and Special Care (SPEC) order sets were also developed.

Strategy:
In April 2011, TCH implemented Epic, an electronic medical record (EMR) with computerized physician order entry. The EB CAP order sets were made available electronically.

Practice Change:
Utilization of the IP and SPEC EB CAP order sets from 05/01/2011- 12/31/2011 was assessed.

Evaluation
Average length of stay (ALOS), and readmissions were compared between patients with a discharge diagnosis of pneumonia managed on an EB CAP order set, as identified in the EMR, to those patients with pneumonia managed off-guideline.

Results:
There were 940 inpatient discharges with the primary or secondary diagnosis of pneumonia. 123 of these cases were managed with either an IP or SPEC EB CAP order set (13.1%). ALOS for patients on the EB CAP order sets was 2.56 days, compared to 3.81 days for patients managed without an order set (1.25 day difference; 95% CI: 0.880, 1.620).

None of the 123 patients managed with an EB CAP order set were readmitted within 48 hours of discharge; compared to 5 of the 817 (0.61%) patients managed without an order set.
**Recommendations:**
EB management of CAP patients led to improved clinical outcomes. EB decision support tools such as order sets should be utilized for the management of CAP.

**Lessons Learned:**
Utilization of the EB CAP order sets was low. There is a need for focused implementation efforts that include assessing barriers to utilization.

**Bibliography:**