Improving Pediatric Asthma Management by Utilizing a Scoring System and Care Pathway

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Disclosures

Julie Brown: Nothing to Disclose

Kathleen Bryant, MD: Nothing to Disclose
Introduction

- Acute exacerbations of asthma are prevalent in pediatric population
- Differences in management exist among Emergency Department (ED) types and individual practitioners
- Pediatric Asthma Severity (PAS) scoring can guide therapeutic management and improve outcomes

**AIM Statement:** Improve the efficiency of asthma exacerbation care in the Children’s ED by decreasing the length of stay for patients presenting with acute asthma exacerbation by 10% in an initial 1-year period and 5% in subsequent years
Methods

**Context:** Children’s Emergency Department patients ≥ 2 years old with asthma exacerbation, October 2017-November 2020

- Gap analysis and **fishbone diagram study** were performed to identify and prioritize areas for improvement

### Primary Interventions/PDSA cycles:

1. Implementation of **PAS scoring system**
2. Nursing staff and provider education on PAS risk stratification scoring system and Asthma Care Pathway (3 separate education sessions)
3. Implementation of **Asthma Care Pathway**
4. Transformation of Asthma Care Pathway into EHR-compatible **QuickTool**
Methods: Measuring Change

Metrics and Measures:

- Data Collection: chart audit in 2-month increments as four study periods:
  1. October 2017 – November 2017 (Pre-Intervention)
  2. October 2018 – November 2018
  3. October 2019 – November 2019
  4. October 2020 – November 2020

- Parameters evaluated:
  - Triage start time
  - Time to medication administration
  - Time to Discharge
  - Time to Admission

- Primary outcome measure: Average ED Length of Stay (LOS)
Results

- Overall, average Length of Stay (LOS) was maintained for both discharged and admitted patients.
- Year 1: LOS for admitted patients decreased by 8%.
- Following incorporation of Asthma QuickTool, LOS decreased for all patients:
  - Admitted patients: 4.5%
  - Discharged patients: 4.9%
Conclusion

- Use of an *integrated* asthma care pathway can decrease the length of stay for discharged patients and patients admitted to the hospital

**Future directions**: continue to trend data (seasonal variation), evaluate additional outcome/process measures, reincorporate education sessions