Improving Pediatric Asthma Outcomes

"Through Education and Partnership"

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Pediatric Asthma

- New Jersey children **< 18** years old had
  > 10,000 hospitalization
  > 54, 000 emergency department visit for asthma between 2013 and 2015*
- In 2015 asthma hospitalization rates:
  ≤ 4 years **33/10,000**
  5-14 years **5/10,000***
- Asthma is the most prevalent pediatric chronic illness
- Children with asthma who are properly diagnosed and treated should -
  not be having daily symptoms
  not be waking up at night with symptoms
  not be limiting their physical activity

*Source: New Jersey Discharge Data Collection System
https://www26.state.nj.us/doh-shad/home/Welcome.html

Implementing Comprehensive Pediatric Asthma Care

AIM
Improve outcomes through full implementation of the 2007 NHLBI EPR-3 Asthma Guidelines in all care settings: inpatient, emergency department, primary care practice

GOALS
Increase compliance (provider & patient)

Increase number of asthma follow-up visits, for control assessment

Decrease use of systemic steroids

Decrease ED/urgent visits

Decrease missed school/work days

PRIMARY DRIVERS	SECONDARY DRIVERS
Provider Education on evidence based asthma care	Proper classification of asthma
	Prescribing controller medications
Comprehensive patient /family asthma education	Comprehensive staff education
	Family/Patient appropriate information
Comprehensive case management	Regularly scheduled asthma follow-up
Implementation of a system for facilitation of care coordination	Assessment of medical and social needs
	Develop community support for asthma patients
Patient centered care	Asthma care plans developed and updated in collaboration with the patient/families

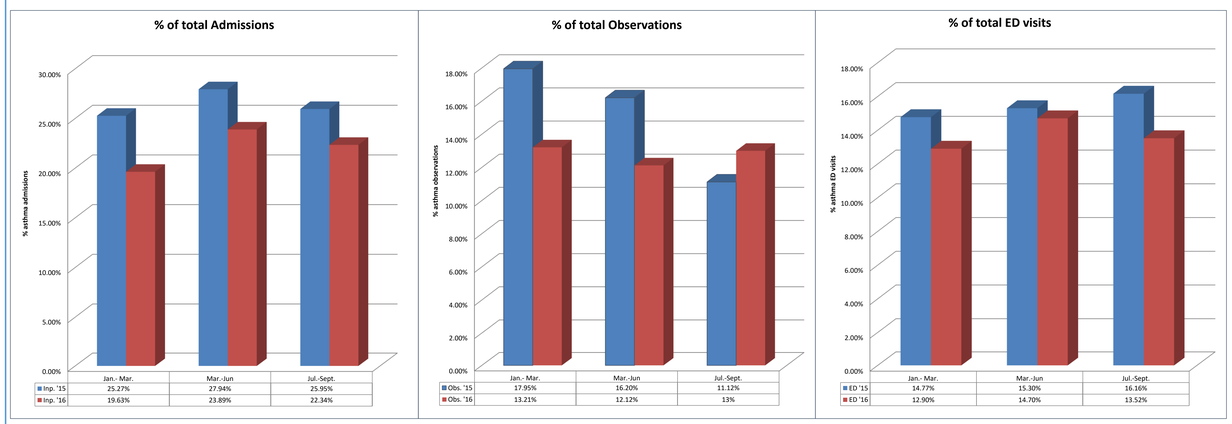
QUALITY IMPROVEMENT

Methods:
Using the PDSA (Plan, Do, Study, Act) Model for quality improvement, multiple factors and stakeholders, at every level of care, were identified and their impact on asthma outcomes was determined. Knowledge gaps were identified at both the patient/family level and provider level. Physical and emotional barriers to care and compliance were identified. Multiple interventions were tried and revised to meet the needs of providers and patients/families. The **C.O.A.C.H. Program** was developed to engage all major stakeholders (community and hospital) to eliminate/minimize barriers to implementation of evidence based care and asthma home self-management.

Barriers:
- Healthcare providers charged with educating patients on self-management have varying levels of competency
- Methods of administration of inhaled medications vary amongst providers
- Inconsistent asthma classification by providers
- Inconsistent prescribing of controller medications for children with persistent asthma
- Slow to adoption of NHLBI EPR-3 Asthma Guidelines
- Patients/families basic needs not met, therefore asthma care not be a priority
- Patients/families reluctance to allow home visits

Intervention:
The nurse driven ***C.O.A.C.H.*** Program (**C**ommunity **O**utreach for **A**sthma **C**are and **H**ealth) provides:
- Provider education on evidence base asthma management
- Patient/family education on self-management, inhaled medication, triggers, comorbidities, etc.
- Case management to assure patients have necessary medications, medical devices, etc.
- Hospital/Clinic follow-up with phone calls and/or home visits
- Home visitation to assess environmental triggers and assist with remediation including providing dust mite covers, vacuums, air purifiers, air conditions and to reinforce education
- School and Community based hands on student self-management education
- Facilitation of communication between providers, families and community based social service organization.
- School based asthma clinic – with Pediatric Pulmonologist and Spirometry

Outcomes:



Asthma Management Improvements

Inpatient:
- Provider education – asthma classification, prescribing inhaled corticosteroids, completion of Asthma Treatment Plans (ATP), proper technique for inhaled medications
- Patient education - by asthma case manager/educator proper use of medications, trigger identification, trigger remediation, ATP's are reviewed prior to discharge, teach back is used to demonstrate understanding
- Follow-up phone calls at 24-48 hours, 1 week, 4 weeks
- Asthma classified intermittent or persistent, with increased prescribing of ICS (inhaled corticosteroids) controller medications at discharge
- Home visits and assistance with trigger remediation for the "at risk" population

Booker Family Health Center :(Primary Care Facility)
Quality improvement project to identify charts of patients with a diagnosis of asthma resulted in:
- ATP's are being updated and triggers are documented regularly
- Severity and control is being assessed and documented
- Persistent asthma is identified and treated more frequently
- ICS are being prescribed for children with persistent asthma
- Asthma follow-up appointments are being order more frequently

Conclusion

The evidence based practice guidelines for diagnosis and treatment of asthma outlined in the 2007 NHLBI Asthma Guidelines have been adopted as standard of care at K. Hovnanian Children's Hospital and the Booker Family Health Center. This resulted in an increase asthma classification and prescribing of controller medications, identification of triggers, assistance with remediation , standardized asthma education across settings, family support and a decrease in the asthma exacerbation admissions.

References

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