



Evidence-Based Practice Project

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Breathmobile

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Background & Clinical Significance

- *Asthma is one of the most common chronic disorders of childhood in the United States.*
- *Inflammatory disease*
 - *Narrowing of the airways, shortness of breath, wheezing, continuous coughing, and chest tightness/pain*
- *Asthma*
 - *Seriously limits a child's activities*
 - *Often has exacerbations that result in emergency department visits and hospitalizations*
 - *Is linked to at least 4,000 deaths per year*

Asthma facts



Asthma accounts for 10 million school absences per year.

More than 50% of children with asthma missed at least one day of school

(American Academy of Allergy Asthma & Immunology)

Orange County

More than 66,000 children are affected by asthma.

(2003 National Health Interview Survey, NCHS, CDC, 2004)

Purpose of the Project

- **Child Health Priority**
 - Research indicates that self-management education is a key factor in the control of asthma in children and is related to improved outcomes. (NHLB Institute Executive Report 2007)

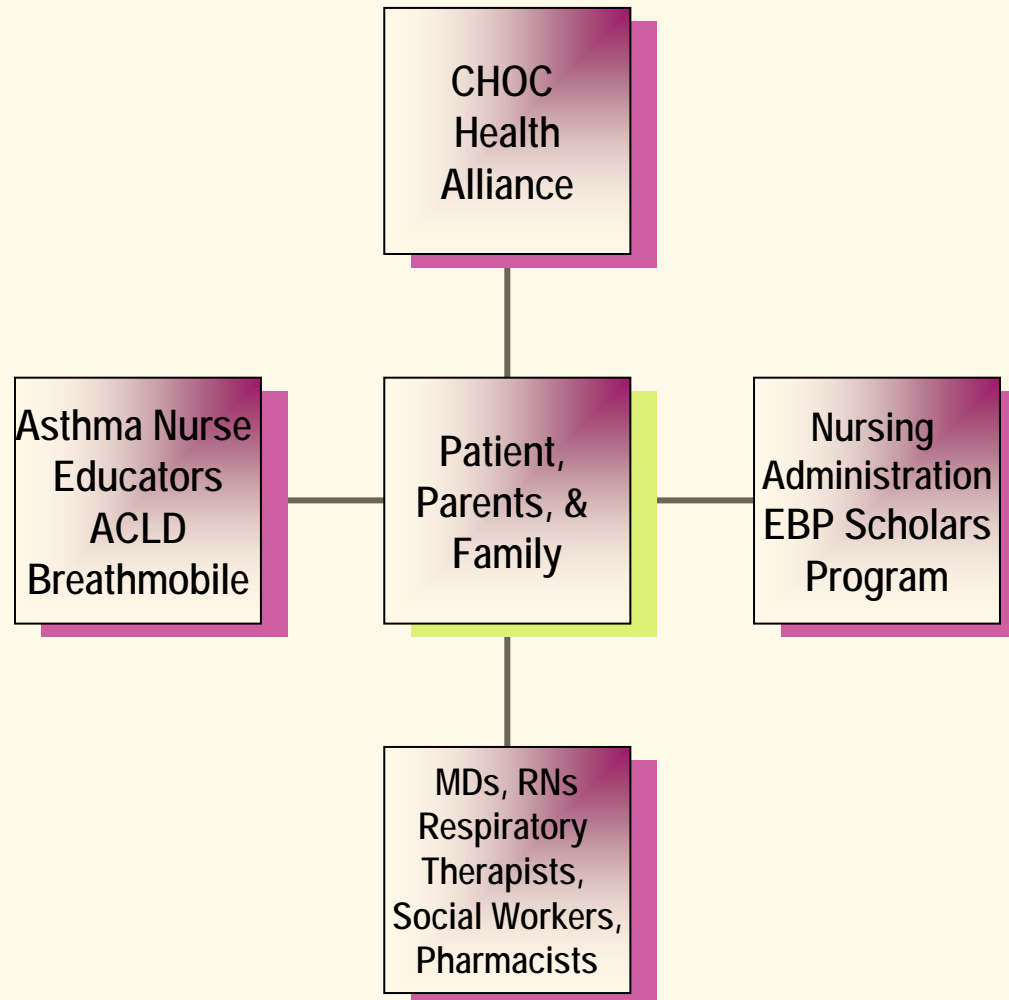
- **Organizational Priority**
 - PCS Strategic Plan
 - **Goal #2** - Deliver Exemplary Patient Care and Services Devoted to Safety and Quality
 - **Initiative #3** – Incorporate the principles of evidence-based practice into the care processes and standards of practice at CHOC

- **CHOC and Patient/Family Priority**
 - Develop a model program for active partnership in asthma self-management
 - Provide a program that has consistent asthma self-management educator(s) to assess patient concerns and provide patient/family centered care

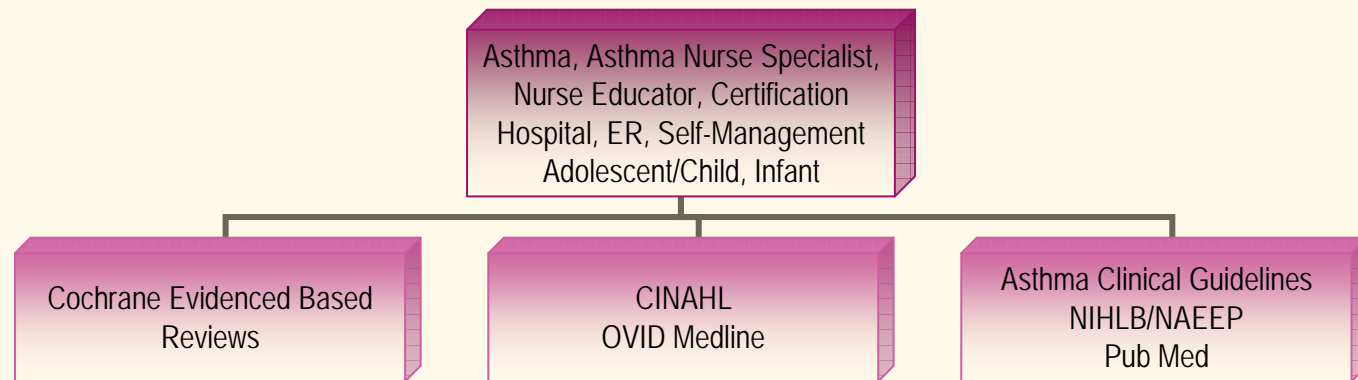
Clinical Question (PICO)

- Among hospitalized pediatric patients with asthma (*P*) does a formalized asthma educational program for patients and their parents by a certified asthma nurse educator (*I*) compared to traditional hospital discharge education (*C*) result in:
 - *Increased knowledge of asthma and its triggers*
 - *Increased adherence to daily medication management and/or rescue plan*
 - *Decreased ED visits*
 - *Increased school attendance*
 - *Increased quality of life (O)*

Stake Holders



Research Strategies: Terms and Databases



St. Joseph's Burlew Library

Librarians Provided Support services

Critique & Synthesis

- A randomized clinical control study of children hospitalized with acute asthma suggested *fewer hospital readmissions* for children whose parents had received nurse led home management education compared to children who received usual discharge instructions and education (Madge, McColl, & Paton, 1997) (Level 1)
- Nurse-taught patients increased their use of inhaled corticosteroids; reduced use of Albuterol, reached higher and less variable Peak Flow Rates (Levy et al., 2000) (Level II)
- Nurse specialists using standardized 2 hour asthma education noted a decrease in hospital utilization and missed activity over 6 months (Hopman & colleagues, 2004) (Level VI)

Critique & Synthesis

- Nurse specialist led education demonstrated the following outcomes
 - Greater reductions in asthma symptoms, less limitations of activities, and less airway inflammation (Lindberg et al. 2002; Janson et al., 2001) (Level VI)
- Reliable, consistent expertise with supporting materials is needed to ensure that education predictably occurs (Nettles, 2005) (Level IV)
- Hospitalization presents an opportunity to address patients' unique urgent learning needs (Nettles, 2005) (Level IV)

2007 Expert Panel's Evidence for Asthma Self Management

- Evidence A
 - Education is essential to provide patients with the skills necessary to control asthma and improve outcomes.
 - Know that effective allergen avoidance requires a multifaceted, comprehensive approach; individual steps alone are generally ineffective.

- Evidence B
 - Asthma education programs delivered during or following discharge from the hospital or ED are effective.
 - Patient's/family's treatment goals & preferences apart of plan; long and short term goals agreed upon.
 - Before patients are discharged, assess inhaler techniques and reinforce correct technique.
 - Provide a written asthma action plan that includes two aspects: (a) daily management; and (b) how to recognize and handle worsening asthma.

Adopt Change into Practice

Recommendations for CHOC's Asthma Care Guidelines

Standard of Practice

- **NIH 2007 Asthma Guidelines and GINA Global Initiatives 2006**
- **Assess**
 - Home, school, daycare, divorce, insurance, and financial.
 - Medication skills, peak flow meter, and spacer/delivery device technique use.
- **Admit Orders**
 - Begin asthma education/teaching
- **Curriculum**
 - Basic asthma facts
 - Medications and medication/delivery device skills
 - Self monitoring techniques
 - Environmental triggers
 - Control measures
- **Other Interventions**
 - Written action plan for daily management and how to recognize worsening asthma and what actions to take.
 - Ensure appropriate referrals (e.g. Allergist, Public Health Nurse, Social Service, Community classes)

Essential Components of the Educational Plan



NAME _____ DATE _____ BEST PEAK FLOW IS: _____

PEDIATRICIAN / SPECIALIST: _____ DOCTOR/CLINIC PHONE: _____ HOSPITAL / EMERGENCY ROOM _____

<input type="radio"/>	GREEN ZONE: Doing well. Take these controller medicines.	Medicines _____ How Much _____ When _____
<input type="radio"/>	Breathing is good No cough, wheeze, chest tightness, or shortness of breath any time Normal work and play AND peak flow is above: _____	Before exercise: _____
<input checked="" type="radio"/>	(Above 80% of Best Peak Flow)	
<input type="radio"/>	YELLOW ZONE: Doing worse. Keep taking controller medicines in the Green Zone. Add these reliever medicines.	Medicines _____ How Much _____ When _____
<input type="radio"/>	Cough, wheeze, chest tightness or shortness of breath Waking up at night due to coughing or wheezing Difficulty with work and play from shortness of breath Baby not taking bottle or breast well due to breathing problems OR peak flow is between: _____	When _____ is taken, call your doctor
<input type="radio"/>	(50% to 80% Best Peak Flow)	
<input type="radio"/>	RED ZONE: Medical alert! Take these reliever medicines immediately.	Medicines _____ How Much _____ When _____
<input type="radio"/>	Very short of breath Can not work or play from shortness of breath Reliever medicines have not helped, or same or worse after 24 hours in Yellow Zone OR peak flow is below: _____	Then call your doctor immediately. If you are still in Red Zone after 15 minutes or have not reached your doctor go to the hospital or call 911
<input type="radio"/>	(Below 50% of Best Peak Flow)	
<input type="radio"/>	RED DANGER ZONE: →	Medicines _____ How Much _____ When _____
<input type="radio"/>	Lips or fingernails blue Trouble walking or talking due to being out of breath	CALL 911 NOW

CLASSII
Approved



Adopt Change into Practice

Recommendations for Personnel

Asthma Nurse Educator

- A licensed Registered Nurse, with three years pediatric nursing experience with an existing asthma educator certification or will complete within one year of onset of employment.
- Asthma Nurse Educator (AEC) will be responsible for the education with regards to various aspects of asthma self management care for patients/families with all severity levels of asthma.

Line of Authority

- Case Management Department, Hospital funded position

Supervision

- Under supervision of delegated Manager/Supervisor

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- All patients who are admitted to CHOC with a diagnosis of asthma will be seen by an (AE-C) who will provide asthma self-management education as outlined in CHOC Asthma Care Guideline prior to discharge from CHOC.
- Clinical duties
 - Comprehensive assessment, collaborative planning, intervention, and evaluation of competency with regards to the management and skills needed to adapt to medical diagnosis.
- AE-C collaborates with the interdisciplinary team, patients/families, and community providers to coordinate plans of care, management, and education of medical condition.

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- Participate in CE activities related to AE-C role.
- Apply new research findings to improve patient care and to promote program development.
- Provide care to patients in a manner that promotes patient safety and compliance to all safety related policies and procedures.
- Demonstrate the safe delivery of healthcare.
- Participate in processes that support JACHO National Patient Safety Goals.
- Provide appropriate care based on the physiological, emotional, and cognitive needs.

Questions

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