Asthma Best Practice: Lessons from CNHN Asthma QI Learning Collaborative

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Conflicts of Interest

• None
Outline

• Asthma QI Learning Collaborative Overview

• Lessons Learned
CNHN Asthma QI Learning Collaborative

- CNHN sponsoring a regional QI learning collaborative to “Improve Pediatric Asthma Care in Practice” (9/12 – 6/13)
  - Over 50 practices & 250 providers in DC, Maryland & Virginia
  - Measure and improve asthma care in practice setting
  - Approved for ABP MOC (25 points QI Part 4) & CME (up to 30 hours)
  - Key partners: DC PICHQ, IMPACT DC, DC and Maryland AAP chapters & asthma champions
QI “Learning Collaborative”

- Structured aim, measures & project management
- Asthma & QI “best practice” learning sessions (webinars & project calls)
  - Evidence-based practices from asthma & QI experts
  - Practices share their “best practices”
- Practices do data & chart reviews, practice team meetings & improvement pilots (PDSA cycles)
- Office QI coaching & monthly project calls
  - Share aggregate & de-identified practice performance
- ABP MOC recognition and CME accreditation
# Practice Report Cards

<table>
<thead>
<tr>
<th>Type of Visit</th>
<th>Number of 'Yes' Responses Recorded</th>
<th>Project % Aim</th>
<th>Practice Average</th>
<th>Distance From Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma diagnosis is documented in patient chart on problem list</td>
<td>16</td>
<td>90%</td>
<td>100%</td>
<td>-10%</td>
</tr>
<tr>
<td>Asthma severity is documented in the patient chart at this visit or at a prior visit</td>
<td>11</td>
<td>90%</td>
<td>63%</td>
<td>21%</td>
</tr>
<tr>
<td>Inhaled corticosteroids were prescribed if asthma classified as persistent</td>
<td>6</td>
<td>90%</td>
<td>75%</td>
<td>-15%</td>
</tr>
<tr>
<td>Asthma control was assessed at this visit</td>
<td>7</td>
<td>90%</td>
<td>44%</td>
<td>-40%</td>
</tr>
<tr>
<td>Patient's exposures to allergens and irritants were assessed and addressed</td>
<td>10</td>
<td>90%</td>
<td>67%</td>
<td>23%</td>
</tr>
<tr>
<td>Patients have a scheduled or recommended follow-up visit documented in their chart</td>
<td>12</td>
<td>90%</td>
<td>75%</td>
<td>15%</td>
</tr>
<tr>
<td>Patient was given a current AAP at this visit</td>
<td>11</td>
<td>75%</td>
<td>69%</td>
<td>6%</td>
</tr>
<tr>
<td>Patient’s use of asthma inhalation device(s) was/were assessed and proper technique reviewed</td>
<td>2</td>
<td>75%</td>
<td>13%</td>
<td>-63%</td>
</tr>
<tr>
<td>The influenza vaccine was recommended for the 2012-2013 flu season</td>
<td>12</td>
<td>75%</td>
<td>73%</td>
<td>0%</td>
</tr>
<tr>
<td>Patient received influenza vaccine according to CDC guideline (applies during flu season)</td>
<td>11</td>
<td>75%</td>
<td>69%</td>
<td>6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Improvement Rating</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures- Improvement Needed</td>
<td>2 20%</td>
</tr>
<tr>
<td>Measures-Within Range</td>
<td>6 60%</td>
</tr>
<tr>
<td>Measures-Achieved</td>
<td>2 20%</td>
</tr>
</tbody>
</table>
De-identified Practice Comparisons

Severity was documented

Participating Practices

- MD19
- MD20
- MD22
- MD23
- MD24
- MD25
- MD26
- MD27
- MD28
- MD29
- MD30
- MD32
- MD33

"Yes " Response (Percent)
Practice aggregate results for each measure

Severity was documented

- Highest Practice Average
- Project Monthly Average
- Lowest Practice Average
- Linear (Project Monthly Average)

Months:
- Baseline: 0%
- November: 49%
- December: 20%
- January: 40%
- February: 30%
- March: 30%
- Linear trend from 0% to 100%

"Yes" response (Percent)
Results: region-wide improvements in practice-based asthma care measures

CNHN Asthma QI Learning Collaborative
MOC Project Measures

<table>
<thead>
<tr>
<th>Project Measures</th>
<th>Baseline ‘12</th>
<th>November</th>
<th>December</th>
<th>January ’13</th>
<th>February</th>
<th>March</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity Documented</td>
<td>49%</td>
<td>79%</td>
<td>87%</td>
<td>87%</td>
<td>90%</td>
<td>92%</td>
<td>93%</td>
</tr>
<tr>
<td>Control Assessed</td>
<td>67%</td>
<td>84%</td>
<td>82%</td>
<td>87%</td>
<td>91%</td>
<td>90%</td>
<td>93%</td>
</tr>
<tr>
<td>ICS Prescribed</td>
<td>77%</td>
<td>87%</td>
<td>95%</td>
<td>95%</td>
<td>93%</td>
<td>97%</td>
<td>96%</td>
</tr>
<tr>
<td>Triggers Assessed/</td>
<td>44%</td>
<td>70%</td>
<td>65%</td>
<td>71%</td>
<td>76%</td>
<td>81%</td>
<td>89%</td>
</tr>
<tr>
<td>addressed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Follow-up Documented</td>
<td>62%</td>
<td>82%</td>
<td>85%</td>
<td>88%</td>
<td>91%</td>
<td>86%</td>
<td>80%</td>
</tr>
<tr>
<td>Current Asthma Action Plan</td>
<td>24%</td>
<td>50%</td>
<td>56%</td>
<td>58%</td>
<td>68%</td>
<td>69%</td>
<td>77%</td>
</tr>
</tbody>
</table>
And supplemental measures of care
Asthma QI LC: Lessons Learned
Lessons Learned

• Diagnosis is the first step to proper asthma management
• There are efficient tools that can be used to monitor asthma control
• Team approach to asthma management is critical to success
• Device teaching is instrumental to patient compliance/adherence
The Basics: Conceptual Model of Asthma

Child With Asthma

Individual & Social Factors
- Genetics
- Physical conditioning
- Socioeconomic status
- Stress

Environmental Factors
- Allergen sensitization and exposure (dust, mold, roach, mice, pollen…)
- Viral infections
- Weather changes
- Air quality (irritants)

Medical Care Factors
- Access to care
- Quality of care
- Medication plan
- Adherence
- Technique
- Immunizations

Level of Asthma Control

Good
- Low Morbidity
  - Few Symptoms
  - Few school absences
  - Few Unscheduled Visits

Poor
- High Morbidity
  - Many symptoms
  - Many school absences
  - Many Unscheduled Visits
NIH Guidelines
GIP Priority Messages

1. Assess asthma severity
2. Use inhaled corticosteroids
3. Assess and monitor asthma control
4. Control environmental exposures
5. Use asthma action plans
6. Schedule follow up visits

Core quality measures for Asthma Learning Collaborative
Role of the General Pediatrician

1. Make the clinical diagnosis

2. Initiate treatment: inhaled steroids, beta-agonist

3. Evaluate response within 2-6 weeks

4. If not improving, consider:
   – Review adherence/technique and exposures
   – Step up therapy (increase ICS, add montelukast)
   – Treat co-morbid conditions (reflux, AR)
   – Refer to Pulmonary Medicine and/or Allergy
Severity & Control: Two Domains

- **Impairment (present)**
  - frequency and intensity of symptoms
  - functional limitations = quality of life

- **Risk (future)**
  - asthma exacerbations
  - progressive loss of pulmonary function, or lung growth in children
  - risk of adverse reaction from medication
Treatment Strategies

• Gain Control!
  – Aggressive, intensive initial therapy to suppress airway inflammation and gain prompt control

• Maintain Control
  – *Frequent follow-up*
  – Therapeutic modifications depending on severity and clinical course
  – “Step down” long-term control medications to maintain control with minimal side effects
Lessons Learned

- Diagnosis is the first step to proper asthma management
- There are efficient tools that can be used to monitor asthma control
- Team approach to asthma management is critical to success
- Device teaching is instrumental to patient compliance/adherence
Childhood Asthma Control Test for children 4 to 11 years old.

Know the score.

This test will provide a score that may help you determine if your child’s asthma treatment plan is working or if it might be time for a change.

How to take the Childhood Asthma Control Test

Step 1: Let your child respond to the first four questions (1 to 4). If your child needs help reading or understanding the question, you may help, but let your child select the response. Complete the remaining three questions (5 to 7) on your own and without letting your child’s response influence your answers. There are no right or wrong answers.

Step 2: Write the number of each answer in the score box provided.

Step 3: Add up each score box for the total.

Step 4: Take the test to the doctor to talk about your child’s total score.

Have your child complete these questions.

1. How is your asthma today?
   - Very bad
   - Bad
   - Good
   - Very good

2. How much of a problem is your asthma when you run, exercise or play sports?
   - It’s a big problem, I can’t do what I want to do.
   - It’s a problem and I don’t like it.
   - It’s a little problem but it’s okay.
   - It’s not a problem.

3. Do you cough because of your asthma?
   - Yes, all of the time.
   - Yes, most of the time.
   - Yes, some of the time.
   - No, none of the time.

4. Do you wake up during the night because of your asthma?
   - Yes, all of the time.
   - Yes, most of the time.
   - Yes, some of the time.
   - No, none of the time.

Please complete the following questions on your own.

5. During the last 4 weeks, on average, how many days per month did your child have any daytime asthma symptoms?
   - Not at all
   - 1-3 days/month
   - 4-10 days/month
   - 11-18 days/month
   - 19-24 days/month
   - Everyday

6. During the last 4 weeks, on average, how many days per month did your child wheeze during the day because of asthma?
   - Not at all
   - 1-3 days/month
   - 4-10 days/month
   - 11-18 days/month
   - 19-24 days/month
   - Everyday

7. During the last 4 weeks, on average, how many days per month did your child wake up during the night because of asthma?
   - Not at all
   - 1-3 days/month
   - 4-10 days/month
   - 11-18 days/month
   - 19-24 days/month
   - Everyday

Asthma Control Test™ for teens 12 years and older. Know the score.

If your teen is 12 years or older have him take the test now and discuss the results with your doctor.

Step 1: Write the number of each answer in the score box provided.

Step 2: Add up each score box for the total.

Step 3: Take the test to the doctor to talk about your child’s total score.

1. In the past 4 weeks, how much of the time did your asthma keep you from getting as much done at work, school or at home?
   - All of the time
   - Most of the time
   - Some of the time
   - A little of the time
   - None of the time

2. During the past 4 weeks, how often have you had shortness of breath?
   - More than once a day
   - Once a day
   - 2 to 6 times a week
   - Once or twice a week
   - 4 or less times a week
   - Not at all

3. During the past 4 weeks, how often did your asthma symptoms (wheezing, coughing, shortness of breath, chest tightness, or pain) wake you up at night or earlier than usual in the morning?
   - 4 or more nights a week
   - 2 or 3 nights a week
   - Once a week
   - Once or twice
   - Not at all

4. During the past 4 weeks, how often have you used your rescue inhaler or nebulizer medication (such as albuterol)?
   - 3 or more times per day
   - 1 or 2 times per day
   - 2 or 3 times per week
   - Once a week or less
   - Not at all

5. How would you rate your asthma control during the past 4 weeks?
   - Not controlled at all
   - Poorly controlled
   - Somewhat controlled
   - Well controlled
   - Completely controlled

总分

American Lung Association supports the Asthma Control Test and works every day of the year with others with asthma to take it.

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Triggers can cause asthma symptoms.

Not everyone has the same triggers.

- Cigarette Smoke
- Colds & Viruses
- Weather Changes
- Hot Air or Cold Air
- Cats
- Dogs
- Odors & Perfumes
- Cleaning Products
- Exercise
- Mold
- Pollution
- Pollen
- Dust Mites
- Cockroaches
- Rats & Mice
Follow-up visits

- Schedule 2-6 weeks after initiating or changing daily treatment plan
- Every 3 months once control is established
- Every 6 months if intermittent asthma
Why a planned asthma visit?

- EPR-3 recommendation, GIP priority
- Chronic and variable nature of asthma
- Centrality of education in self-management
- Patient-centered care in medical home
The planned asthma visit

- Assess control
- Review device technique
- Check environmental exposures
- Adjust Rxs
- Address co-morbidities
- Update Asthma Action Plan
Lessons Learned

- Diagnosis is the first step to proper asthma management
- There are efficient tools that can be used to monitor asthma control
- Team approach to asthma management is critical to success
- Device teaching is instrumental to patient compliance/adherence
Asthma Action Plans

• Communication tool
  – Copies for all caregivers
  – Update/review each visit

• Includes
  – Daily treatment plan
  – Info on how to recognize and manage symptoms
  – Triggers
Asthma Action Plan

DO NOT WRITE IN THIS SPACE

Asthma Triggers Identified (Things that make your asthma worse):
- Colds
- Smoke (tobacco, incense)
- Pollen
- Dust
- Animals
- Strong odors
- Mold/moisture
- Pets (rodents, cockroaches)
- Stressors
- Gastroesophageal reflux
- Exercise
- Season: Fall, Winter, Spring, Summer
- Other:

Asthma Severity (see reverse side)
- Intermittent or Persistent
- Mid
- Moderate
- Severe

Asthma Control
- Well-controlled
- Needs better control

Date of Last Flu Shot:

Green Zone: Go!—Take these CONTROL (PREVENTION) Medicines EVERY Day
- No control medicines required.
  - Always rinse mouth after using your daily inhaled medicine.
  - Inhaled controller or inhaled corticosteroid plus an inhaled quick-relief medication 1 puff(s) inhaler with spacer every ___ times a day
  - Nebulizer treatment(s) every ___ times a day

Yellow Zone: Caution!—Continue CONTROL Medicines and ADD QUICK-RELIEF Medicines
- Fast acting inhaled quick-relief medication 1 puff(s) inhaler with spacer every ___ hours as needed

Red Zone: EMERGENCY!—Continue CONTROL & QUICK-RELIEF Medicines and GET HELP!
- Follow up with primary doctor in 1 week or:

Maryland State School Asthma Medication Administration Authorization Form

Asthma Action Plan

Assessment by: Date:

Asthma Severity
- Inhale reduced
- Intermittent
- Mild Persistent
- Moderate Persistent
- Severe Persistent

Asthma Control
- Well-controlled
- Needs better control

Date of Last Flu Shot:

Green Zone

Medication

Controller Medication - Use daily at home unless otherwise indicated

Yellow Zone

Emotional

Blue

Red Zone

Emotional

Healthcare Provider Authorization

 Responsible Person Authorization

Parent/Guardian Authorization

Reviewed by School Nurse

Government of the District of Columbia
Vincent C. Gray, Mayor
Barriers to Good Control

- Patient Factors
- Provider Factors
- System Factors
Asthma Co-Morbidities

- Chronic sinusitis
- GERD
- Obesity
- OSA
- Hyperventilation Glottic dysfunction
- Psychopathologies
- Smoking Nicotine dependence
- COPD
- Respiratory infections
- Other conditions: Atopic dermatitis, ABPA, Bronchiectasis
- Rhinitis: Allergic Nonallergic Polypoid
- Hormonal disturbances

When should I refer to a sub-specialist?

- History of life-threatening asthma exacerbation
- Hospitalization or >2 courses of oral steroids in a year
- Child >5 years requiring step 4 care or higher or child <5 years requiring step 3 care or higher
- Uncontrolled asthma after three to six months of active therapy and appropriate monitoring
- Diagnosis of asthma is uncertain
- Other complicating co-morbidities (nasal polyposis, chronic sinusitis, severe rhinitis, allergic bronchopulmonary aspergillosis, vocal cord dysfunction, etc.)
- Additional diagnostic tests are needed (skin testing for allergies, pulmonary function testing, bronchoscopy)
- Patient may be a candidate for allergen immunotherapy

Involving the School Nurse

• Include asthma diagnosis on health form and encourage parents to disclose the child’s asthma to the school nurse

• Discuss with parent and child the need for easy access to quick relief inhaler at school

• Assess ability to self-carry

• Ensure that child has inhaler & spacer for home and school

• Complete an individualized asthma action plan and other medical authorization if needed
Challenging Environmental Exposures

- Encourage renters to document exposures (pests, mold, sewage) and their communication with landlord
- Write letter to landlord re effects of exposures on health
- Refer families for housing inspections and/or legal support services
- Refer smokers to 1-800-QUIT-NOW
Lessons Learned

• Diagnosis is the first step to proper asthma management
• There are efficient tools that can be used to monitor asthma control
• Team approach to asthma management is critical to success
• Device teaching is instrumental to patient compliance/adherence
An opportunity for improvement...

Observational study of 296 children ages 8-16y from five primary care practices (41 providers) in non-urban areas of NC

- Only 8% of children performed all of the correct steps for use of MDI/spacer
- 5% of providers assessed technique
- 4% of providers demonstrated technique

HOW TO USE YOUR INHALER AND SPACER

1. Have your child stand up.
2. Take off cap and make sure opening is clean. Shake inhaler for 5 seconds.
3. Put inhaler into spacer.
4. Push the inhaler once so that the medicine sprays into the spacer tube.
5. Let your child take seven slow deep breaths while the mask stays on his or her face.

Take your time!
The more slowly and deeply your child breathes in, the more medicine he or she will get.

Need 2 puffs? Wait 60 seconds and repeat all steps.

Always use your inhaler with a spacer.

Keep track of your doses if there is no counter on your inhaler.

If your inhaler is new/old
If you have not used your inhaler in 2 weeks/you drop your inhaler
Then You need to “prime” your inhaler. Spray 4 puffs into the air before you use your inhaler.

For more information: www.impact-dc.org

Adapted from Maimon Health Asthma Health Program

Revised 06/30/11
Device Teaching in a Busy Practice

• Have handouts and videos available
• Keep kit of common devices in office
• Remind patients to bring meds and devices to all appointments
• Schedule visits just for asthma review
• Enlist ancillary staff – consider AE training
Questions?