

Asthma Best Practice: Lessons from CNHN Asthma QI Learning Collaborative

Rhonique Harris, MD, MHA, FAAP

*Director, Mobile Health Programs
Children's Health Center at THEARC*

Mark Weissman, MD

Chief, Division of General Pediatrics & Community Health

Molly Savitz, FNP, AE-C

Clinical Director, IMPACT DC Asthma Clinic

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

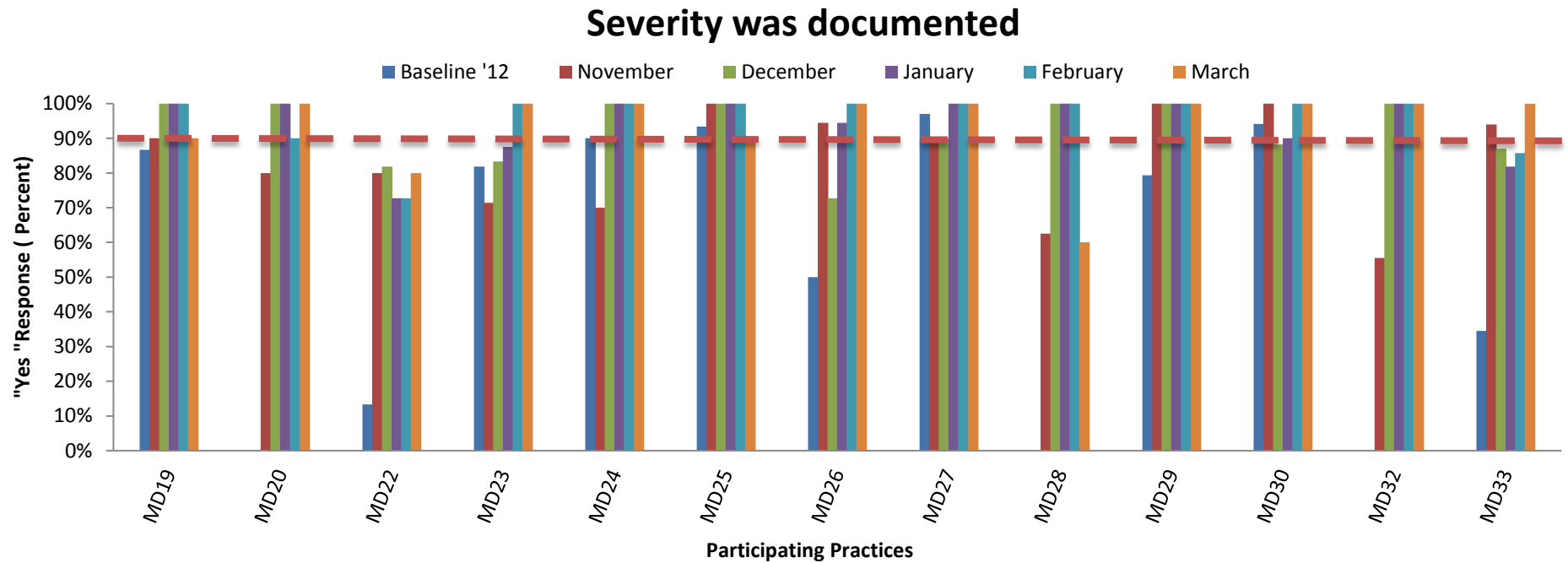
QI “Learning Collaborative”

- 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

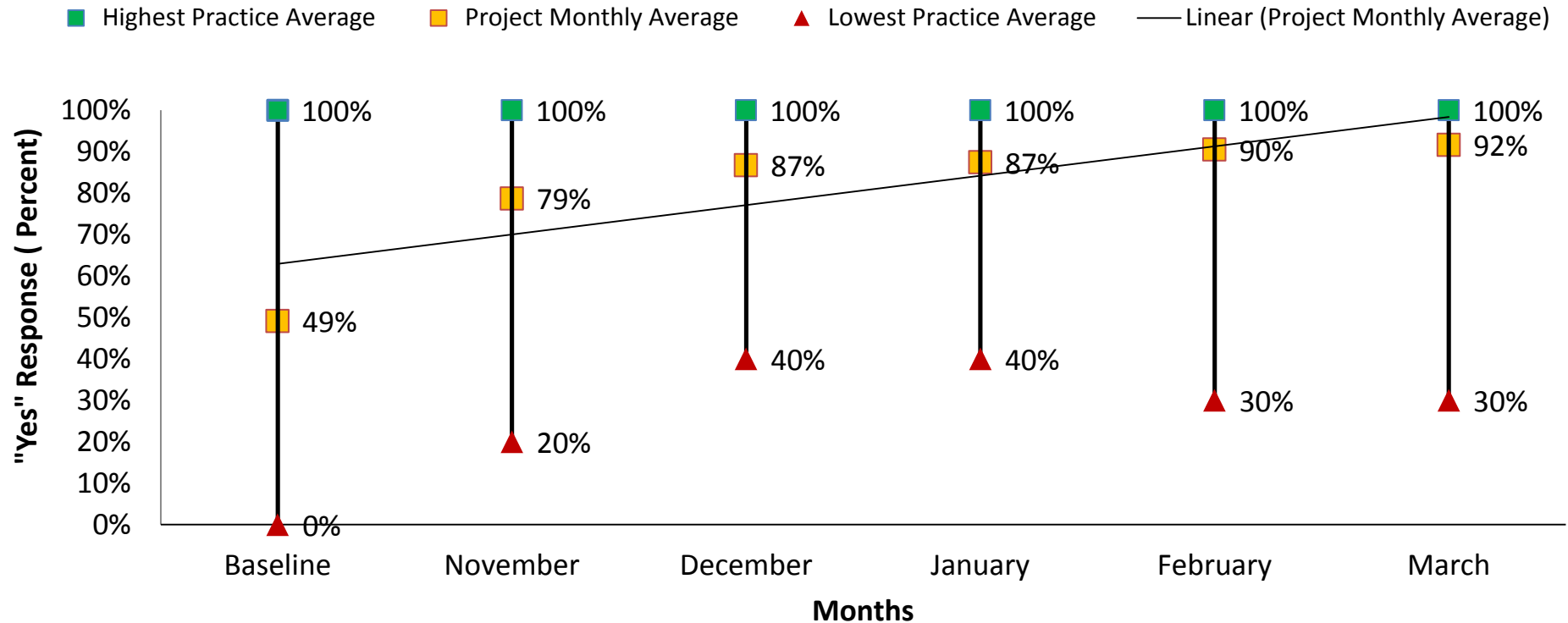
Type of Visit	Count of Charts		Percent Response	
Well	4		25%	
Sick	12		75%	
Planned	0		0%	
Measures	Number of "Yes" Responses Recorded	Project % Aim	Practice Average	Distance From Goal
Asthma diagnosis is documented in patient chart on problem list	16	90%	100%	🟢 -10%
Asthma severity is documented in the patient chart at this visit or at a prior visit	11	90%	69%	🟡 21%
Inhaled corticosteroids were prescribed if asthma classified as persistent	6	90%	75%	🟡 15%
Asthma control was assessed at this visit	7	90%	44%	🔴 46%
Patient's exposures to allergens and irritants were assessed and addressed	10	90%	67%	🟡 23%
Patients have a scheduled or recommended follow-up visit documented in their chart	12	90%	75%	🟡 15%
Patient was given a current AAP at this visit	11	75%	69%	🟡 6%
Patient's use of asthma inhalation device(s) was/were assessed and proper technique reviewed	2	75%	13%	🔴 63%
The influenza vaccine was recommended for the 2012-2013 flu season	12	75%	75%	🟡 0%
Patient received influenza vaccine according to CDC guidelines (applies during flu season)	11	75%	69%	🟡 6%
Improvement Rating			Percentage	
Measures- Improvement Needed			2	20%
Measures-Within Range			6	60%
Measures-Achieved			2	20%

De-identified Practice Comparisons



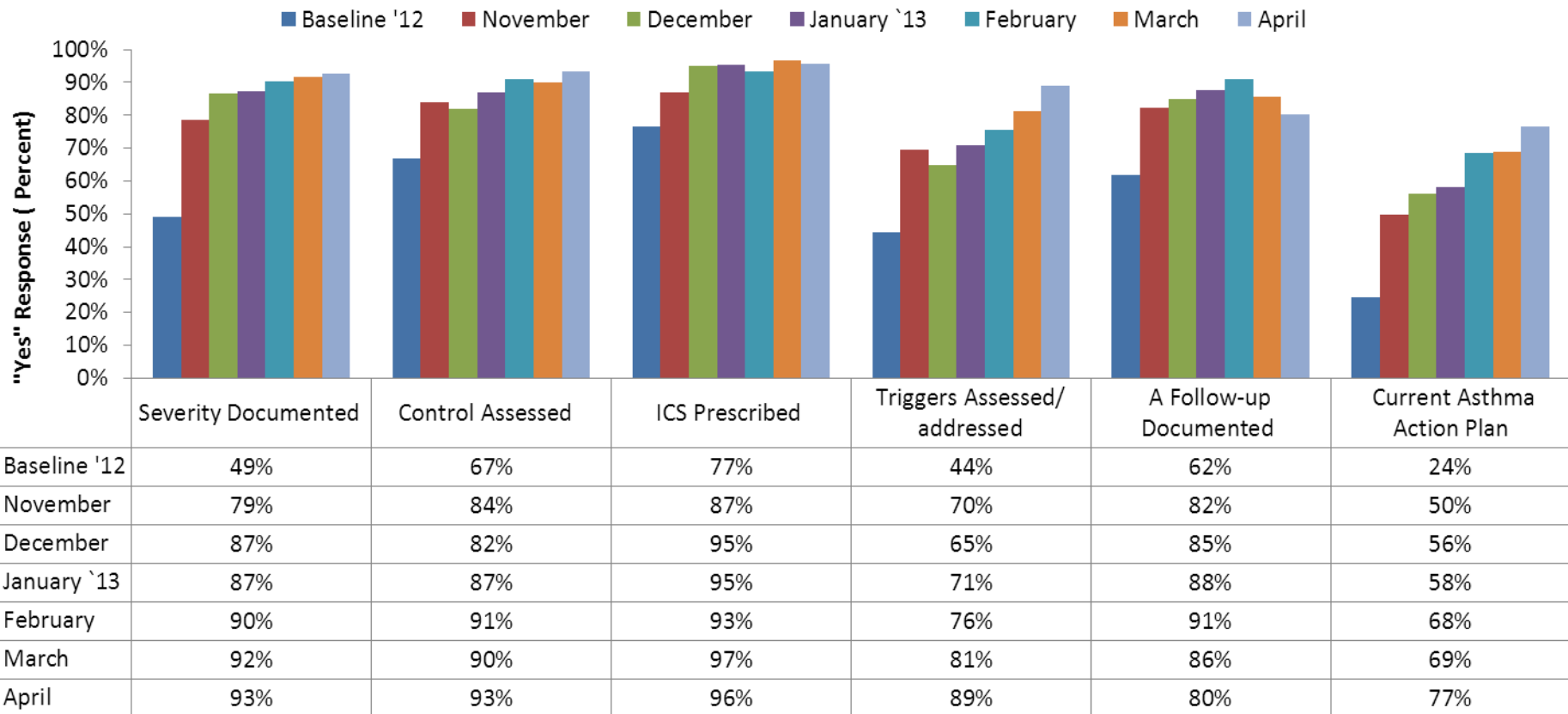
Practice aggregate results for each measure

Severity was documented



Results: region-wide improvements in practice-based asthma care measures

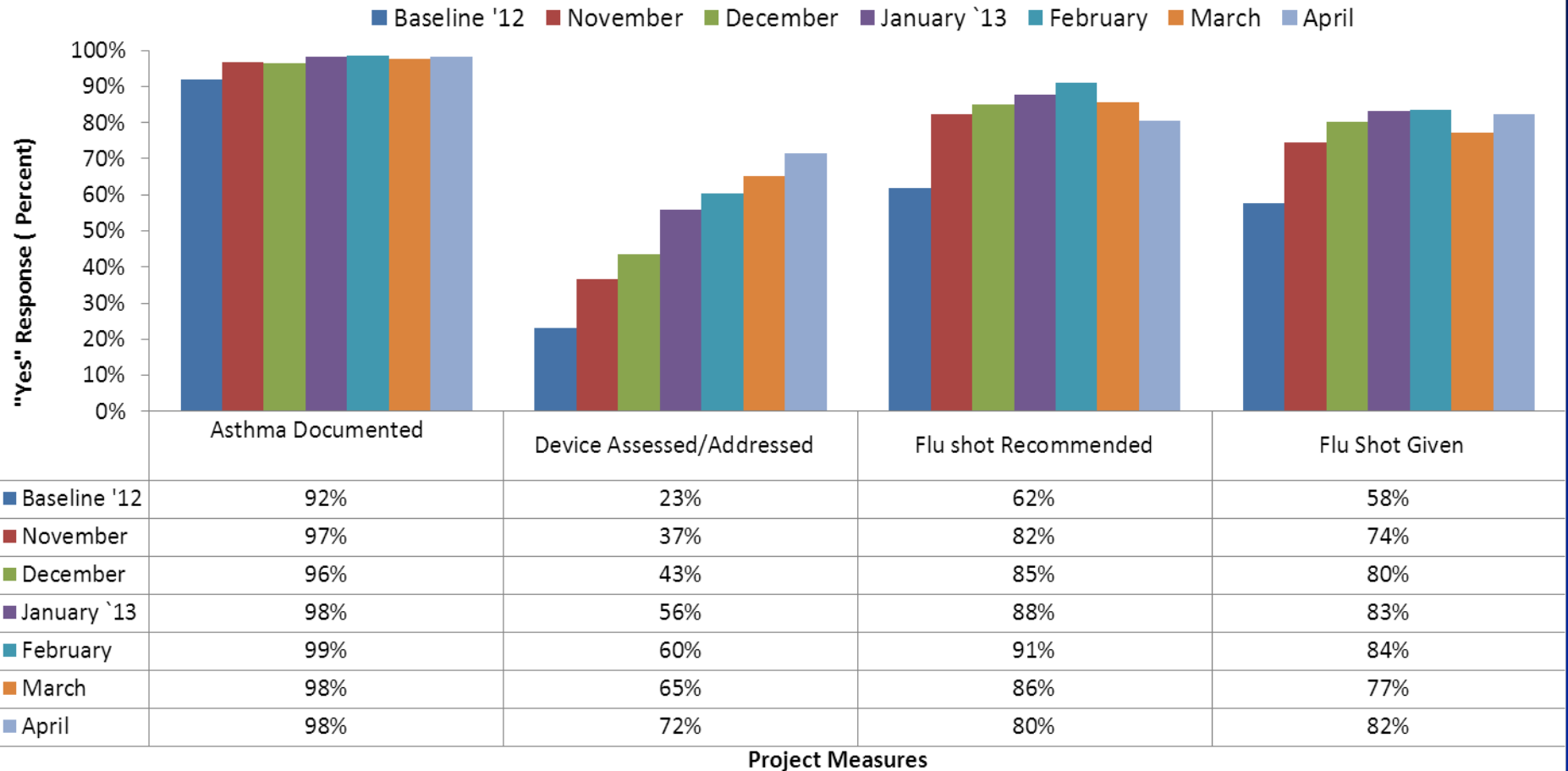
CNHN Asthma QI Learning Collaborative
MOC Project Measures



Project Measures

And supplemental measures of care

CNHN Asthma QI Learning Collaborative
Supplemental Project Measures



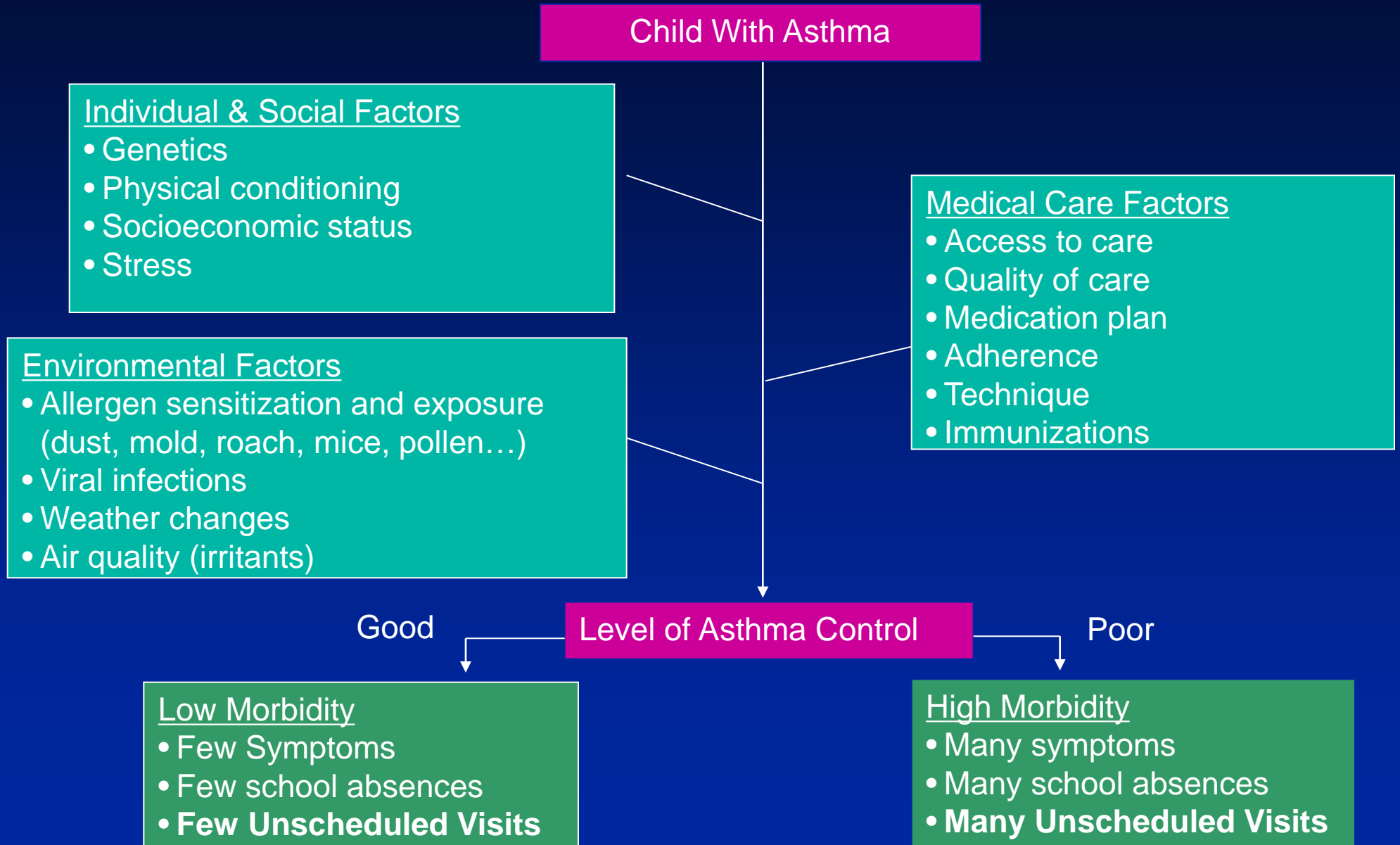
Asthma QI LC: Lessons Learned



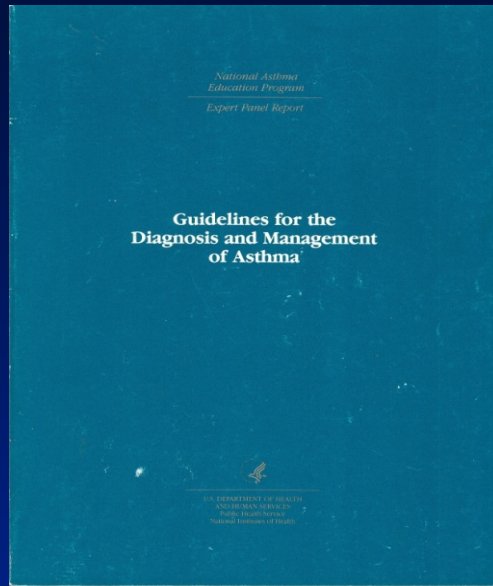
Lessons Learned

- 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

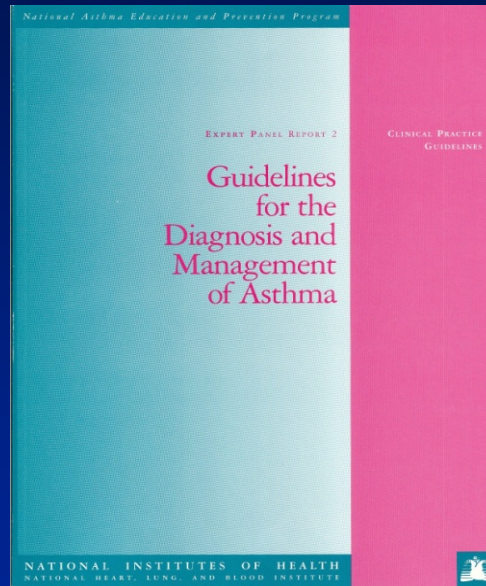
The Basics: Conceptual Model of Asthma



NIH Guidelines



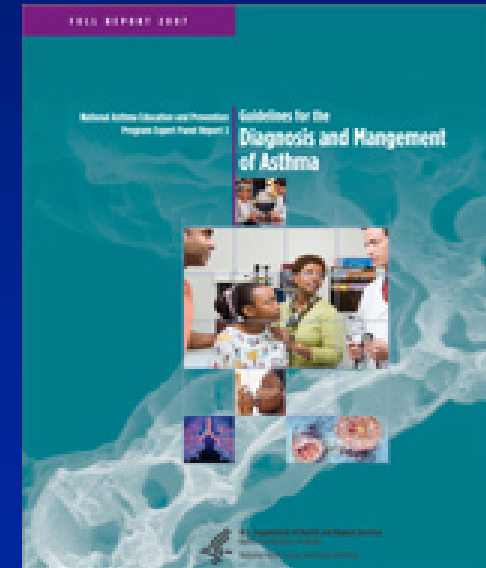
1991



1997



2002



2007

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
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Childhood Asthma Control Test for children 4 to 11 years old.

Know the score.

This test will provide a score that may help your doctor 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.

**19
or less**

If your child's score is 19 or less, it may be a sign that your child's asthma is not controlled as well as it could be. No matter what the score, bring this test to your doctor to talk about your child's results.

Have your child complete these questions.

1. How is your asthma today?

 0 Very bad	 1 Bad	 2 Good	 3 Very good
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SCORE

2. How much of a problem is your asthma when you run, exercise or play sports?

 0 It's a big problem, I can't do what I want to do.	 1 It's a problem and I don't like it.	 2 It's a little problem but it's okay.	 3 It's not a problem.
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3. Do you cough because of your asthma?

 0 Yes, all of the time.	 1 Yes, most of the time.	 2 Yes, some of the time.	 3 No, none of the time.
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4. Do you wake up during the night because of your asthma?

 0 Yes, all of the time.	 1 Yes, most of the time.	 2 Yes, some of the time.	 3 No, none of the time.
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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?

5 Not at all	4 1-3 days/mo	3 4-10 days/mo	2 11-18 days/mo	1 19-24 days/mo	0 Everyday
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6. During the last 4 weeks, on average, how many days per month did your child wheeze during the day because of asthma?

5 Not at all	4 1-3 days/mo	3 4-10 days/mo	2 11-18 days/mo	1 19-24 days/mo	0 Everyday
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7. During the last 4 weeks, on average, how many days per month did your child wake up during the night because of asthma?

5 Not at all	4 1-3 days/mo	3 4-10 days/mo	2 11-18 days/mo	1 19-24 days/mo	0 Everyday
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TOTAL

Please turn this page over to see what your child's total score means.

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 1	Most of the time 2	Some of the time 3	A little of the time 4	None of the time 5
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2. During the past 4 weeks, how often have you had shortness of breath?

More than once a day 1	Once a day 2	3 to 5 times a week 3	Once or twice a week 4	Not at all 5
----------------------------------	------------------------	---------------------------------	----------------------------------	------------------------

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 1	2 or 3 nights a week 2	Once a week 3	Once or twice 4	Not at all 5
-------------------------------------	----------------------------------	-------------------------	---------------------------	------------------------

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	1 or 2 times per day 2	2 or 3 times per week 3	Once a week or less 4	Not at all 5
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5. How would you rate your asthma control during the past 4 weeks?

Not controlled at all 1	Poorly controlled 2	Somewhat controlled 3	Well controlled 4	Completely controlled 5
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The American Lung Association supports the Asthma Control Test and wants everyone 12 years of age and older with asthma to take it.

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Total

Triggers can cause asthma symptoms.



What Are Your 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

Not everyone has the same triggers.

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 Rx's
- 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

Name	School	DOB / /
Health Care Provider	Provider's Phone	
Parent/Responsible Person	Parent's Phone	
Additional Emergency Contact	Contact Phone	

DO NOT WRITE IN THIS SPACE

Place Patient Label Here

Asthma Severity (see reverse side) <input type="checkbox"/> Intermittent or Persistent: <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe Asthma Control <input type="checkbox"/> Well-controlled <input type="checkbox"/> Needs better control	Asthma Triggers Identified (Things that make your asthma worse): <input type="checkbox"/> Colds <input type="checkbox"/> Smoke (tobacco, incense) <input type="checkbox"/> Pollen <input type="checkbox"/> Dust <input type="checkbox"/> Animals <input type="checkbox"/> Strong odors <input type="checkbox"/> Mold/moisture <input type="checkbox"/> Pests (rodents, cockroaches) <input type="checkbox"/> Stress/emotions <input type="checkbox"/> Gastroesophageal reflux <input type="checkbox"/> Exercise <input type="checkbox"/> Season: Fall, Winter, Spring, Summer <input type="checkbox"/> Other:	Date of Last Flu Shot: / /
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Green Zone: Go!—Take these CONTROL (PREVENTION) Medicines EVERY Day

You have ALL of these: • Breathing is easy • No cough or wheeze • Can work and play • Can sleep all night Peak flow in this area: to (More than 80% of Personal Best) Personal best peak flow:	<input type="checkbox"/> No control medicines required. Always rinse mouth after using your daily inhaled medicine. <input type="checkbox"/> Inhaled corticosteroid or inhaled corticosteroid/long-acting β -agonist _____ puff(s) inhaler with spacer _____ times a day <input type="checkbox"/> Inhaled corticosteroid _____, _____ nebulizer treatment(s) _____ times a day <input type="checkbox"/> Leukotriene antagonist _____, take _____ by mouth once daily at bedtime For asthma with exercise, ADD: <input type="checkbox"/> Fast-acting inhaled β -agonist _____ puff(s) inhaler with spacer 15 minutes before exercise For nasal/environmental allergy, ADD: <input type="checkbox"/>
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Yellow Zone: Caution!—Continue CONTROL Medicines and ADD QUICK-RELIEF Medicines

You have ANY of these: • First sign of a cold • Cough or mild wheeze • Tight chest • Problems sleeping, working, or playing Peak flow in this area: to (50%-80% of Personal Best)	<input type="checkbox"/> Fast-acting inhaled β -agonist _____ puff(s) inhaler with spacer every _____ hours as needed OR <input type="checkbox"/> Fast-acting inhaled β -agonist _____ nebulizer treatment(s) every _____ hours as needed <input type="checkbox"/> Other _____ Call your DOCTOR if you have these signs more than two times a week, or if your quick-relief medicine doesn't work!
--	---

Red Zone: EMERGENCY!—Continue CONTROL & QUICK-RELIEF Medicines and GET HELP!

You have ANY of these: • Can't talk, eat, or walk well • Medicine is not helping • Breathing hard and fast • Blue lips and fingernails • Tired or lethargic • Ribs show Peak flow in this area: Less than (Less than 50% of Personal Best)	<input type="checkbox"/> Fast-acting inhaled β -agonist _____ puff(s) inhaler with spacer every 15 minutes, for 3 treatments OR <input type="checkbox"/> Fast-acting inhaled β -agonist _____ nebulizer treatment every 15 minutes, for 3 treatments <input type="checkbox"/> Other _____ Call your doctor while giving the treatments. IF YOU CANNOT CONTACT YOUR DOCTOR: Call 911 for an ambulance or go directly to the Emergency Department!
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REQUIRED Healthcare Provider Signature:

Date:

REQUIRED Responsible Person Signature:

Date:

Follow up with primary doctor in 1 week or:

Phone:

☐ Patient/parent has doctor/clinic number at home

SCHOOL MEDICATION CONSENT AND PROVIDER ORDER FOR CHILDREN/YOUTH:
 Possible side effects of quick-relief medicines (e.g., albuterol) include tachycardia, tremor, and nervousness.
Healthcare Provider Initials:

☐ This student is capable and approved to self-administer the medicine(s) named above.
☐ This student is **not** approved to self-medicate.
 This authorization is valid for one calendar year.

As the RESPONSIBLE PERSON:

☐ I hereby authorize a trained school employee, if available, to administer medication to the student.
☐ I hereby authorize the student to possess and self-administer medication.
☐ I hereby acknowledge that the District and its schools, employees and agents shall be immune from civil liability for acts or omissions under D.C. Law 17-107 except for criminal acts, intentional wrongdoing, gross negligence, or willful misconduct.

www.dcasthmapartnership.org



Government of the
District of Columbia
Vincent C. Gray, Mayor

Maryland State School Asthma Medication Administration Authorization Form

ASTHMA ACTION PLAN

_____ to _____ (not to exceed 12 months)



TRIGGER (LIST)

Child's Name: _____	DOB: _____	PEAK FLOW PERSONAL BEST: _____
Parent/Guardian's Name: _____	Home: _____	Work: _____
	Cell: _____	

ASTHMA SEVERITY: ☐ Exercise Induced ☐ Intermittent ☐ Mild Persistent ☐ Moderate Persistent ☐ Severe Persistent

CHECK SYMPTOMS / INDICATIONS FOR MEDICATION USE	GREEN ZONE	CONTROLLER MEDICATION - USE DAILY AT HOME UNLESS OTHERWISE INDICATED			
	<input type="checkbox"/> Breathing is good <input type="checkbox"/> No cough or wheeze <input type="checkbox"/> Can work, exercise, play <input type="checkbox"/> Other: _____ <input type="checkbox"/> Peak flow greater than (80% personal best)	Medication	Dose	Route	Frequency/Time
					<input type="checkbox"/> School
					<input type="checkbox"/> School
					<input type="checkbox"/> School
	EXERCISE ZONE	Medication (Rescue Medication)	Dose	Route	Frequency/Time
	<input type="checkbox"/> Prior to exercise/sports/physical education (PE)				
YELLOW ZONE	RESCUE MEDICATIONS - TO BE ADDED TO GREEN ZONE MEDICATIONS FOR SYMPTOMS				
<input type="checkbox"/> Cough or cold symptoms <input type="checkbox"/> Wheezing <input type="checkbox"/> Tight chest or shortness of breath <input type="checkbox"/> Cough at night <input type="checkbox"/> Other: _____ <input type="checkbox"/> Peak flow between (50%-79% personal best)	Medication	Dose	Route	Frequency/Time	
RED ZONE	EMERGENCY MEDICATIONS - TAKE THESE MEDICATIONS AND CALL 911				
<input type="checkbox"/> Medication is not helping within 15-30 mins <input type="checkbox"/> Breathing is hard and fast <input type="checkbox"/> Nasal flaring or intercostal retraction <input type="checkbox"/> Lips or fingernails blue <input type="checkbox"/> Trouble walking or talking <input type="checkbox"/> Other: _____ <input type="checkbox"/> Peak flow less than (50% personal best)	Medication	Dose	Route	Frequency/Time	

CONTACT THE PARENT/GUARDIAN AFTER CALLING 911.

HEALTH CARE PROVIDER AUTHORIZATION

I authorize the administration of the medications as ordered above.

Student may self-carry medications ☐ Yes ☐ No

Health Care Provider Name: _____

Signature: _____

Date: _____

PARENT/GUARDIAN AUTHORIZATION

I authorize the administration of the medications as ordered above.

I acknowledge that my child ☐ is ☐ is not authorized to

self-carry his/her medication(s):

Signature: _____

Date: _____

REVIEWED BY SCHOOL NURSE

Name: _____

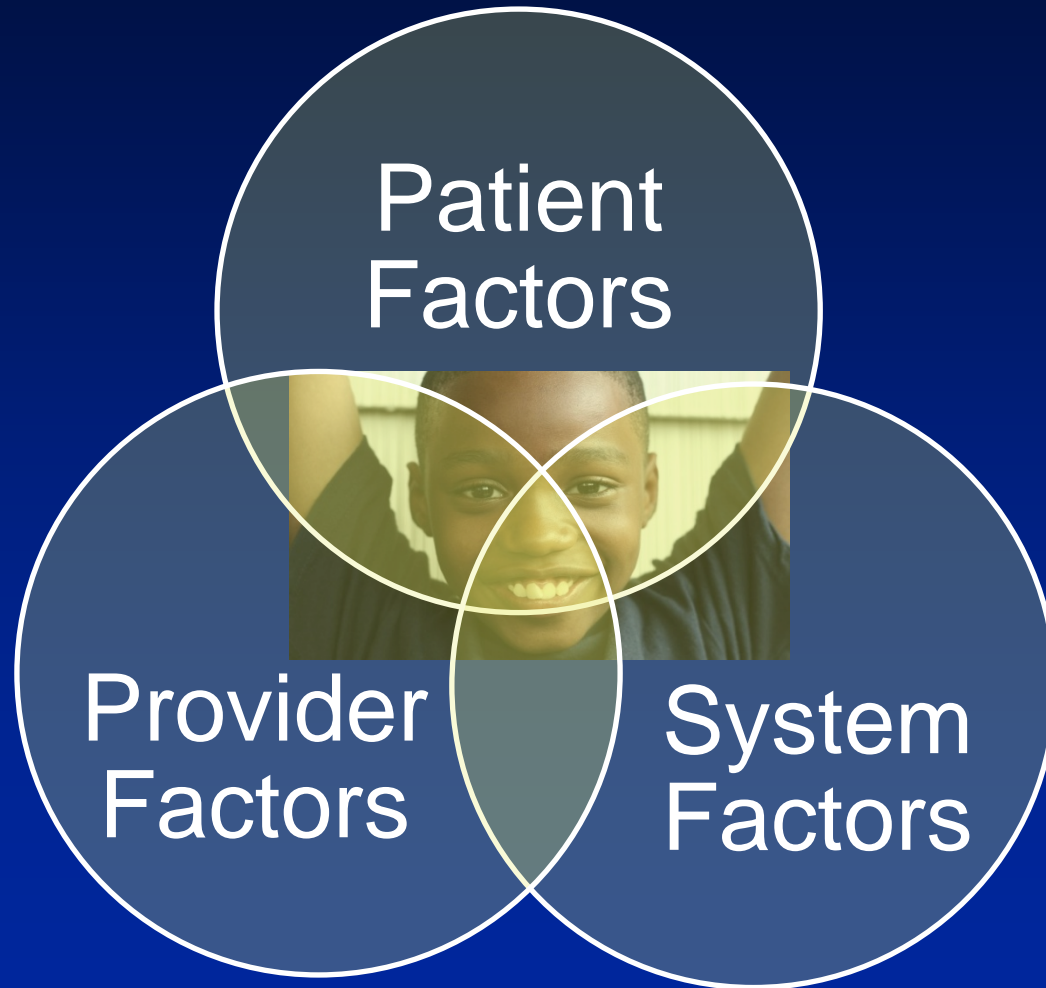
Signature: _____

Date: _____

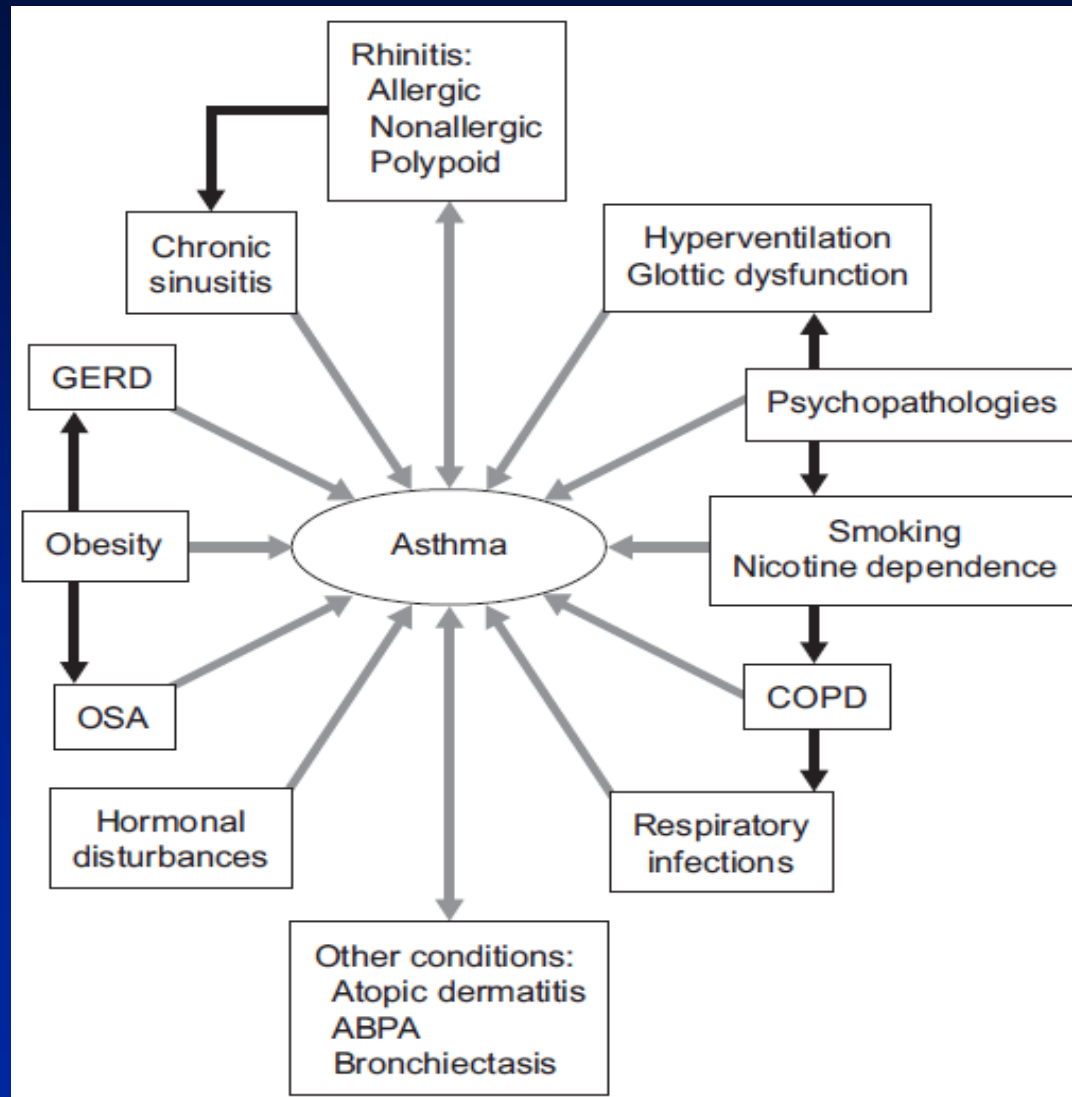
Authorized to self-carry medications: ☐ Yes ☐ No

10/2012

Barriers to Good Control



Asthma Co-Morbidities

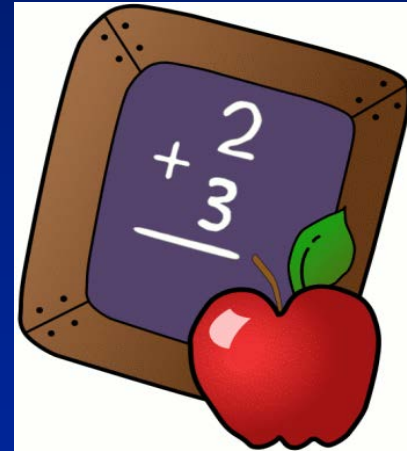


When should I refer to a sub-specialist?

- 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 and other med 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*

Asthma Devices



Proper Inhaler Technique - Videos

Resources for Families - IMPACT DC - Children's National Medical Center - Windows Internet Explorer

http://www.childrensnational.org/impactdc/family-videos.aspx

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Email This Page

Resources for Families

Asthma Videos

IMPACT DC
Improving Pediatric Asthma Care in the District of Columbia

How to Use Your Inhaler and Spacer (older children & teens)

How to Use Your Inhaler and Spacer (young children) - English

Quick Links

- Visiting & Staying
- Refer a Patient
- Find a Doctor
- Request an Appointment
- Online Bill Pay
- Give to Children's
- Get Involved
- Subscribe to our RSS Feed

Related Links

Done

Internet 100%

Inhaler Technique - Handouts



IMPACT DC

Improving Pediatric Asthma Care in the District of Columbia



With Mask

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
If you have not used your inhaler in 2 weeks
If 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 visit us: www.impact-dc.org

Adapted from MaineHealth Asthma Health Program

Revised 05/12/11



IMPACT DC

Improving Pediatric Asthma Care in the District of Columbia



HOW TO USE YOUR INHALER AND SPACER



1. Stand up.

2. Take off cap and make sure opening is clean.

Shake inhaler for 5 seconds.



3. Put inhaler into spacer.



4. Breathe out all the air in your lungs.



5. Put spacer in your mouth and close lips **tightly** around the mouthpiece.

Spray **one** puff into spacer.



5. Take a **slow deep** breath in.

If you hear a whistle, breathe slower.

Do not breathe through your nose.



6. Take the spacer out of your mouth and hold your breath. Count to 10 slowly.



7. Breathe out slowly, like cooling soup on a spoon.

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
If you have not used your inhaler in 2 weeks
If 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 visit us: www.impact-dc.org

Adapted from MaineHealth Asthma Health Program

Revised 05/12/11

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?

