

## Improving Asthma Outcomes: 2007 NAEPP Guidelines focus attention on education and environmental interventions

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## Overview

- Overview of the 2007 NAEPP Guidelines for the Diagnosis and Management of Asthma
- Highlight Guidelines recommendations for patient education and control of environmental factors
- Introduce EPA Initiative to accelerate adoption of best practices

## National Guidelines for the Diagnosis and Management of Asthma

IMPLICATIONS OF MAJOR CHANGES IN GINA-3 FINAL REPORT 2007

The following are highlights of major changes. Many recommendations have remained unchanged from previous editions. See Table 1 for a complete list of the changes and the rationale for each change.

**Major changes in the diagnosis of asthma include:**

- 1. The use of spirometry to confirm the diagnosis of asthma. Spirometry is now a required test for the diagnosis of asthma.
- 2. The use of peak flow monitoring to monitor asthma control. Peak flow monitoring is now a recommended test for monitoring asthma control.
- 3. The use of a written asthma action plan to guide the patient's self-management. A written asthma action plan is now a required component of asthma management.

**Major changes in the management of asthma include:**

- 1. The use of inhaled corticosteroids as the preferred controller therapy. Inhaled corticosteroids are now the preferred controller therapy for asthma.
- 2. The use of long-acting beta<sub>2</sub>-agonists (LABAs) as the preferred reliever therapy. LABAs are now the preferred reliever therapy for asthma.
- 3. The use of biologics for severe asthma. Biologics are now recommended for the treatment of severe asthma.

**Major changes in the management of asthma exacerbations include:**

- 1. The use of oral corticosteroids for the treatment of asthma exacerbations. Oral corticosteroids are now the preferred therapy for asthma exacerbations.
- 2. The use of inhaled corticosteroids for the prevention of asthma exacerbations. Inhaled corticosteroids are now recommended for the prevention of asthma exacerbations.

**Major changes in the management of asthma in special populations include:**

- 1. The use of inhaled corticosteroids for the treatment of asthma in children. Inhaled corticosteroids are now the preferred therapy for asthma in children.
- 2. The use of inhaled corticosteroids for the treatment of asthma in pregnant women. Inhaled corticosteroids are now recommended for the treatment of asthma in pregnant women.

**Major changes in the management of asthma in special settings include:**

- 1. The use of inhaled corticosteroids for the treatment of asthma in schools. Inhaled corticosteroids are now recommended for the treatment of asthma in schools.
- 2. The use of inhaled corticosteroids for the treatment of asthma in long-term care facilities. Inhaled corticosteroids are now recommended for the treatment of asthma in long-term care facilities.

**Major changes in the management of asthma in special circumstances include:**

- 1. The use of inhaled corticosteroids for the treatment of asthma in patients with comorbid conditions. Inhaled corticosteroids are now recommended for the treatment of asthma in patients with comorbid conditions.
- 2. The use of inhaled corticosteroids for the treatment of asthma in patients with mental health conditions. Inhaled corticosteroids are now recommended for the treatment of asthma in patients with mental health conditions.

**Major changes in the management of asthma in special situations include:**

- 1. The use of inhaled corticosteroids for the treatment of asthma in patients with travel-related asthma. Inhaled corticosteroids are now recommended for the treatment of asthma in patients with travel-related asthma.
- 2. The use of inhaled corticosteroids for the treatment of asthma in patients with occupational asthma. Inhaled corticosteroids are now recommended for the treatment of asthma in patients with occupational asthma.

**Major changes in the management of asthma in special populations and settings include:**

- 1. The use of inhaled corticosteroids for the treatment of asthma in patients with asthma in low- and middle-income countries. Inhaled corticosteroids are now recommended for the treatment of asthma in patients with asthma in low- and middle-income countries.
- 2. The use of inhaled corticosteroids for the treatment of asthma in patients with asthma in resource-poor settings. Inhaled corticosteroids are now recommended for the treatment of asthma in patients with asthma in resource-poor settings.

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[www.nhlbi.nih.gov/guidelines/asthma/index.htm](http://www.nhlbi.nih.gov/guidelines/asthma/index.htm)

## National Guidelines for the Diagnosis and Management of Asthma

- New focus on monitoring asthma control as the goal for asthma therapy and distinguishing between classifying asthma severity and monitoring asthma control.
- New focus on impairment and risk as the two key domains of severity and control, and multiple measures for assessment.
- Modifications in the stepwise approach to Managing Asthma Long Term.
- New emphasis on multifaceted approaches to patient education and control of environmental factors and comorbid conditions that affect asthma.
- Modifications to treatment strategies for managing asthma exacerbations.

## Guidelines Framework: 4 Essential Components of Asthma Care

- Assess and Monitor Asthma Severity and Control
- Education for a Partnership in Asthma Care
- Control of Environmental Factors and Comorbid Conditions
- Medications

## Educating patients, families, and providers

Education for a Partnership in Asthma Care:  
*Self-management education is essential, should be integrated into all aspects of asthma care, and requires repetition and reinforcement.*

- Patient education
  - Many potential sites/points of care outside office setting
  - Written asthma action plan emphasizes both daily management and worsening asthma
  - Attention to cultural, ethnic factors and health literacy
- Provider education
  - systems-based interventions and
  - effective clinician education programs

## Multi-faceted approach to control environmental factors

**FIGURE 6. HOW TO CONTROL THINGS THAT MAKE YOUR ASTHMA WORSE**

This chart lists various environmental factors that can worsen asthma symptoms and provides practical steps to control them. It covers areas like mold, dust mites, tobacco smoke, and pet dander, offering specific actions such as using dehumidifiers, vacuuming with HEPA filters, and avoiding smoking.

**FIGURE 8. HOW TO CONTROL THINGS THAT MAKE YOUR ASTHMA WORSE (CONTINUED)**

This chart continues the list of environmental factors, including pollen, radon, and outdoor air pollution. It provides strategies like staying indoors on high pollen days, testing for radon, and monitoring air quality indices to plan outdoor activities.

## Multi-faceted approach to control environmental factors

- Reducing exposures to inhalant indoor allergens and irritants improves asthma control
  - Determine exposures and sensitivities—use skin testing or in vitro testing for persistent asthma
  - Consider allergen immunotherapy for persistent asthma and clear, consistent exposure/response
- Multi-faceted approach is most effective
  - Tobacco Smoke
  - Dust Mites
  - Animal Dander
  - Cockroach
  - Indoor Mold
  - Pollen and Outdoor Mold
  - Smoke, Strong Odors, Sprays, Formaldehyde, VOCs
  - Vacuum Cleaning
  - Exercise or Sports

## Asthma in the US

- 20 M, including 6.3M kids
  - 2M ER visits
  - 14M missed school days
- Some National indicators leveling off, but at all-time highs
  - Prevalence, ER visits, hospitalizations
- Important disparities in morbidity and mortality continue
  - Children and the elderly
  - African Americans, Native Americans, Hispanics
- \$16.1 B in annual costs
  - direct health care costs, e.g. physician services -\$11.6 B
  - indirect costs, e.g. school/work absence, mortality -\$4.5 B

## Healthy People 2010: How are we doing?

Healthy People 2010 Objective	2010 Target	Midcourse Status
With prescribed inhalers who receive instruction on how to use them properly	98.8%	96%
Medication regimens that prevent the need for more than one canister of short-acting inhaled beta agonists per month for relief of symptoms	92%	80%
Follow-up medical care for long-term management of asthma after any hospitalization due to asthma	87%	76%
Education about recognizing early signs and symptoms of asthma episodes and how to respond appropriately, including instruction on peak flow monitoring for those who use daily therapy	71%	68%
Written asthma management plan from their HC provider	38%	35%
Assistance with assessing and reducing exposure to environmental risk factors in their home, school, and work environments	50%	49%
Formal patient education, including information about community and self-help resources as an essential part of the management of their condition	30%	12.4%

## Driving Improvements in Asthma Care through Increased Patient Education/Control of Triggers

- Health Care Provider outcomes
  - Increasing numbers of patients receiving
    - written asthma management plans
    - education
    - assistance with trigger avoidance
- Patients/Caregivers
  - ~30% taking essential environmental control actions
- Health Plan Results
  - Widespread promotion of guidelines to providers
  - Increased support for education/environmental interventions
  - Business case is becoming more evident

## Accelerating progress through Community-based asthma care

- Asthma Health Outcomes Project
  - Identified program elements linked to health outcomes
- Change Package of Successful Strategies
  - Compendium of field tested actions
- Network of programs driving toward best practices and outcomes
  - [www.asthmacommunitynetwork.org](http://www.asthmacommunitynetwork.org)

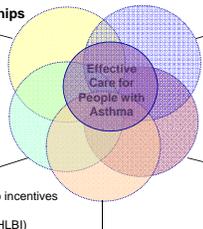
## Cambridge Health Alliance

**High-Performing Collaborations & Partnerships**

- School System
- Department of Public Health
- Advocacy with city government and politicians

**Integrated Health Care Services**

- Registry as a "connector"
- EMR supporting "best practice"
- Performance outcomes linked to incentives
- Educated clinical care teams on evidence-based guidelines (NHLBI)



**Strong Community Ties**

- Linkages with School Nurses
- Chief of Pediatrics is co-chair of *Healthy Children's Taskforce*, Cambridge, MA

**Tailored Environmental Interventions**

- *Asthma Action Plan* for each child
- Referral to Healthy Homes Program (RN home assessment, patient education, and home supplies)

**Committed Program Champions**

- Providers, nurses, and staff at practice sites
- CEO and Senior Leaders
- Chief of Pediatrics and Family Medicine
- Ambulatory Administration
- Performance Improvement Department
- IT Department

## Communities in Action Network

Objective	HP 2010 Target	Best in Class Results
Reduce ED Visits	30% – 50% (15-80 per 10,000)	50% – 75%
Reduce Hospitalizations	38% – 45% (8-25 per 10,000)	50% – 80%
Increase Symptom-Free Days	>10 per 14 days	10.4 days in a row
Patients receiving Education	30%	100%
Patients receiving Assistance to Assess/Reduce Triggers	50%	100%

## Communities in Action Network

## Mobilizing 1000 Communities to deliver quality asthma care



## Looking Ahead

- Educate clinicians and others in health care community to follow new NAEPP Guidelines
- Clinicians collaborate with community resources to deliver comprehensive care addressing all 4 components of asthma care
- Your programs are leaders in understanding effective care
- Join the Communities in Action Network  
[www.asthmacommunitynetwork.org](http://www.asthmacommunitynetwork.org)
- Join us May 1-2 at the 3<sup>rd</sup> National Asthma Forum  
[www.epaasthmaforum.com](http://www.epaasthmaforum.com)