

## Focus

### Asthma: A Serious and Growing Health Problem

More than 30 million people in the United States have asthma. Every year, asthma is responsible for about 500,000 hospitalizations, 4,500 deaths, and 134 million days of restricted activity. The increase in the numbers of people with asthma is of great concern; the number of people with asthma increased by 102 percent between 1979–1980 and 1993–1994.

Asthma is a respiratory disease, the causes of which are not really understood. Asthma can occur at any age. Symptoms vary by person and from time to time.

People with asthma have sensitive airways in their lungs. When they are exposed to things that make their asthma worse (triggers), their airways narrow, and they have difficulty breathing. Asthma patients can help prevent asthma attacks by staying away from their asthma triggers. Something that triggers asthma for some people is not a problem for others. So people with asthma need to become aware of their specific asthma triggers. Some examples of asthma triggers follow:

- Inhaled allergens (e.g., pollens, molds, animal hair dander, and dust mite waste products)
- Cigarette smoke
- Changes in temperature and weather
- Colds or flu
- Exercise (a trigger that can be managed)
- Certain drugs (e.g., aspirin and some blood pressure medications)

- Chemicals and strong smells
- Some foods and food preservatives, flavorings, and colorings
- Environments associated with some occupations

Although no cure exists for asthma, the disease can be controlled with these four management strategies:

- Control of exposure to factors that trigger asthma attacks, including tobacco smoke, dust mites, and stress
- Appropriate medication
- Monitoring of lung function
- Education and communication among patients, families/caregivers, and health professionals

Health outcomes for asthma—illness, disability, quality of life, and death—are related directly to the actions of healthcare professionals and patients. Patient and professional involvement has been a focus of the National Asthma Education and Prevention Program (NAEPP) coordinated by the National Heart, Lung, and Blood Institute (NHLBI). (See *Spotlight*.)

In June 2003, the NAEPP hosted a major national conference, “Meeting the Challenge of *Healthy People 2010: Preventing and Controlling Asthma*” ([www.asthma2003.net](http://www.asthma2003.net)). The conference was tied to these NHLBI performance goals: promote asthma awareness, diagnose and manage asthma, implement community asthma programs and policies, and prevent recurrent exacerbations of asthma. As more than one speaker stressed, “There is still much to do to improve the quality of life for asthma patients and their families.”

*continued on page 2*



*continued from page 1*

Considered the key asthma prevention and education conference of the decade, the 3-day meeting covered a multitude of topics. The presentations included recent trends in asthma diagnosis and treatment, demographics of asthma, health disparities and the needs of inner-city and rural populations, latest Web-based technologies to reach the public, and asthma-friendly policies in child care centers, schools, worksites, and other community settings. Health professionals learned ways to implement best practices and community strategies designed to reduce asthma-related death and illness. The professionals learned how to complement traditional patient education with self-management education. The overall message was, “Effective asthma management thus far is the best way to fight against asthma.”

### **Asthma and Healthy People**

Asthma has been included in Healthy People initiatives pursued over the past two decades. *Healthy People 2000* had three asthma objectives. At the completion of the decade, progress had been made toward only one—increasing the proportion of persons with asthma who receive patient education.

*Healthy People 2010* has elevated the importance of asthma with the new Respiratory Diseases focus area that also includes chronic obstructive pulmonary disease and obstructive sleep apnea. Eight of the 12 Respiratory Diseases objectives cover asthma. One objective serves as a true indicator of the challenge of this disease: Scientific evidence shows that secondary prevention works. Yet in 1998, only 8.4 percent of persons with asthma received formal patient education, including information about community and self-help resources, as an essential part of the management of their condition.

### **Opportunities for Improving Asthma Prevention and Management**

In 2000, the U.S. Department of Health and Human Services (HHS) published “Action Against Asthma: A Strategic Plan” (<http://aspe.hhs.gov/sp/asthma>). The

plan postulates that opportunities are many and encompass a coordinated approach.

Living with asthma means the following:

- Working with your doctor and seeing him/her at least every 6 months. Asking questions until you feel you know what your doctor wants you to do, when you should do it, and why. Writing down the things you are supposed to do before you leave the doctor’s office.
- Taking your asthma medicines as your doctor tells you. Putting up reminders to yourself to take medicines on time.
- Watching for signs that your asthma is getting worse and taking action quickly.
- Staying away from the things that make your asthma worse—asthma triggers.

Following these simple instructions can help asthma patients prevent and control their asthma.

Most important in terms of the *Steps to a Healthier US* initiative, these action steps help asthma patients and their families/caregivers take control of asthma and enhance the chance of improving quality and years of healthy life.

## **Spotlight**

### **Federal Agencies Attack Asthma**

*Even One Attack Is One Too Many.* That’s the message being driven home to parents by the *Childhood Asthma Campaign* sponsored by the Environmental Protection Agency (EPA) and the Advertising Council ([www.epa.gov/asthma/adcampaign.html](http://www.epa.gov/asthma/adcampaign.html)). EPA officials have called childhood asthma an epidemic and are promoting an aggressive campaign to prevent attacks.

*continued on page 3*

Facts from the Centers for Disease Control and Prevention (CDC) ([www.cdc.gov/nceh/airpollution/asthma/children.htm](http://www.cdc.gov/nceh/airpollution/asthma/children.htm)) support the epidemic label:

- Asthma accounts for 14 million days of school missed annually.
- Asthma is the third-ranking cause of hospitalization among those younger than age 15 years.
- The estimated cost of treating asthma in those younger than age 18 years is \$3.2 billion per year.

CDC's National Asthma Control Program seeks to reduce these measures of the burden of asthma. In fiscal year 2002, CDC funded 11 asthma-tracking projects, 48 asthma interventions, and 33 asthma partnerships, plus a variety of projects targeting inner-city families and urban school districts.

CDC and EPA are not the only agencies fighting asthma. The Federal Liaison Group on Asthma (FLGA) is a subcommittee of the National Asthma Education and Prevention Program (NAEPP) and comprises representatives from 21 Federal agencies that have programmatic activities related to asthma. FLGA meets two to three times a year to explore ways of strengthening Federal coordination of asthma activities.

The power of Federal partnerships is illustrated by a recent intervention sponsored by CDC to improve the health of inner-city children with asthma. This intervention was based on the National Cooperative Inner-City Asthma Study ([www.cdc.gov/nceh/airpollution/asthma/interventions/inner\\_city\\_asthma.htm#description](http://www.cdc.gov/nceh/airpollution/asthma/interventions/inner_city_asthma.htm#description)). With funding from CDC, asthma counselors in 23 community-based health organizations across the United States implemented a treatment intervention developed and proven effective by research supported by the National Institute of Allergy and Infectious Diseases (NIAID). The efforts of these counselors significantly reduced asthma symptoms and asthma-related hospital visits.

NAEPP itself is an extensive partnership of 39 major scientific, professional, governmental, and voluntary organizations working together to promote effective

### ***Steps to a HealthierUS: A Community-Focused Initiative To Reduce the Burden of Asthma, Diabetes, and Obesity***

In September 2003, HHS awarded 12 grants totaling \$13.7 million that will reach 23 communities to reduce the burden of diabetes, obesity, and asthma, and also address three related risk factors—physical inactivity, poor nutrition, and tobacco use. The grants will help to implement community action plans that include community and school interventions. *Steps* focuses on reducing the complications of asthma through the prevention of tobacco use and exposure, tobacco cessation, increased use of appropriate healthcare services, improved quality of care, and increased effective self-management of asthma. Such prevention efforts are essential to interrupt the progression of asthma and improve the quality of life for persons with asthma.

Specific *Steps* community activities addressing asthma include the following:

- Seattle and King County will support community health workers to make home visits to educate and encourage asthma self-management. In addition, they will require asthma action plans for all students with asthma and train school staff in asthma-trigger reduction in the school environment.
- New Orleans plans to create a system to link asthmatic children with primary care providers and to provide asthma education for teachers, nurses, and parents of children with asthma.
- New York will conduct asthma education programs for preschool staff, daycare providers, and school-aged children. It also plans to refer high-risk families to the health department's environmental health team, which will make home visits to help identify environmental triggers and help families develop a remediation plan.

*continued on page 4*

continued from page 3

asthma management. Launched in 1989 and coordinated by the National Heart, Lung, and Blood Institute (NHLBI), the program aims to enhance the quality of life for patients with asthma and decrease asthma-related morbidity and mortality. NAEPP's early achievements include the development and distribution of the evidence-based *Guidelines for the Diagnosis and Management of Asthma* ([www.nhlbi.nih.gov/guidelines/asthma/index.htm](http://www.nhlbi.nih.gov/guidelines/asthma/index.htm)) and the development of the First National Conference on Asthma Management to encourage implementation of the guidelines. These guidelines have been updated twice—in 1997 and in 2002—to incorporate the latest evidence-based recommendations. Moreover, NAEPP has funded seven asthma coalition outreach and education projects to further facilitate implementation of key asthma control messages in high-risk communities across the United States.

In addition to serving patients and health professionals, NAEPP offers a school-based initiative that includes teaching materials for parents, children, and staff. NAEPP urges schools to adopt policies for management of asthma that encourage the active participation of students in the self-management of their condition and allow for the most consistent, active participation in all school activities. A helpful NAEPP product available online is a scorecard that parents and school staff can use to determine how well their school setting accommodates children with asthma. A similar scorecard is designed for assessing childcare facilities.

Education is not the only goal of Federal programs. For example, NIAID researchers are exploring the genetic and environmental risk factors that lead to asthma as well as searching for more effective treatments. They also are looking at the following disparities: African Americans are hospitalized for asthma three to four times more often than other Americans, and African Americans are four to six times more likely than whites to die from asthma.

Despite continued and accelerated Federal efforts in research and education, asthma is on the rise. The search for improved treatment and prevention strategies must go on.

## Resources

### Federal Asthma Resources

The Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH) are the co-lead agencies for the Respiratory Diseases focus area of *Healthy People 2010*. Both agencies have Web sites rich with information about asthma—everything from fact sheets, to recruitment opportunities for clinical trials, to an elementary school curriculum.

Asthma information can be found at CDC's National Institute for Occupational Safety and Health ([www.cdc.gov/niosh/topics/asthma](http://www.cdc.gov/niosh/topics/asthma)) and the National Center for Environmental Health ([www.cdc.gov/nceh/airpollution/default.htm](http://www.cdc.gov/nceh/airpollution/default.htm)) Web sites. CDC's National Asthma Control Program Web site ([www.cdc.gov/nceh/airpollution/asthma/NACP.htm](http://www.cdc.gov/nceh/airpollution/asthma/NACP.htm)) offers publications such as "Improving Childhood Asthma Outcomes in the United States: A Blueprint for Policy Action," links to other asthma resources, and a list of contacts for asthma-tracking projects.

Several NIH sites offer information on asthma: the National Institute of Allergy and Infectious Diseases ([www.niaid.nih.gov/newsroom/focuson/asthma01/default.htm](http://www.niaid.nih.gov/newsroom/focuson/asthma01/default.htm)), the National Institute of Environmental Health Sciences (<http://library.niehs.nih.gov/consumer/disease.htm#ast>), and the National Heart, Lung, and Blood Institute (NHLBI) ([www.nhlbi.nih.gov/health/public/lung/index.htm](http://www.nhlbi.nih.gov/health/public/lung/index.htm)). NHLBI coordinates the National Asthma Education and Prevention Program ([www.nhlbi.nih.gov/about/naepp/index.htm](http://www.nhlbi.nih.gov/about/naepp/index.htm)). Two downloadable slide sets cover asthma management in school settings.

The Environmental Protection Agency (EPA), along with the Ad Council, has launched the second phase of the Childhood Asthma Campaign ([www.epa.gov/asthma/adcampaign.html](http://www.epa.gov/asthma/adcampaign.html)), featuring a new round of public service announcements (PSAs) for television and radio ([www.epa.gov/asthma/psa.html](http://www.epa.gov/asthma/psa.html)). This campaign sustains EPA's efforts to inform parents about how to stop their child's asthma attacks before they happen. Available in English and Spanish, the new PSAs encourage parents of asthmatic children to

continued on page 5

*continued from page 4*

call 1-866-NOATTACKS (1-866-662-8822) or visit [www.noattacks.org](http://www.noattacks.org).

The President's Task Force on Environmental Health Risks and Safety Risks to Children is composed of 16 Federal agencies and White house offices ([http://yosemite.epa.gov/ochp/ochpweb.nsf/content/Whatwe\\_fedtask.htm](http://yosemite.epa.gov/ochp/ochpweb.nsf/content/Whatwe_fedtask.htm)). The Task Force selected asthma as one of four priority areas and developed a report titled *Asthma and the Environment—A Strategy to Protect Children* ([http://yosemite.epa.gov/ochp/ochpweb.nsf/content/pdf/12.htm/\\$File/asthmastrategy.pdf](http://yosemite.epa.gov/ochp/ochpweb.nsf/content/pdf/12.htm/$File/asthmastrategy.pdf)).

### **Professional and Private Organizations and State and Local Agencies**

Professional and voluntary organizations, state and local governments, and private industry provide information, education, and outreach through classes, workshops, and programs on asthma-related topics. For example, the American Academy of Allergy, Asthma, and Immunology ([www.aaaai.org](http://www.aaaai.org)) serves patients, consumers, health professionals, members, and the news media. Its newest product is an online medication guide based on the long-term control and quick relief categories established by the National Asthma Education and Prevention Program. The site offers tips for dealing with asthma triggers such as stress and perfume fragrances. A free online course on environmental management of asthma is available to physicians and allied health professionals.

The American College of Allergy, Asthma & Immunology maintains Allergy, Asthma & Immunology Online, an information and news service for patients, parents of patients, the news media, and purchasers of group healthcare programs (<http://allergy.mcg.edu>). The site features an interactive 20-question quality-of-life test and posts information on free asthma screenings throughout the United States.

The American Lung Association ([www.lungusa.org](http://www.lungusa.org)), a voluntary health organization, offers interactive educational tools for patients and physicians, publications about asthma in adults and in children,

and educational campaigns such as Open Airways for Schools.

The Asthma and Allergy Foundation of America ([www.aafa.org](http://www.aafa.org)), a patient organization, advocates “for life without limits.” It funds research for prevention and treatment and invites patients to share their stories online.

A national nonprofit network of families whose desire is to overcome, not cope with, allergies and asthma, Allergy & Asthma Network Mothers of Asthmatics ([www.aanma.org/headquarters](http://www.aanma.org/headquarters)) hosts Breatherville, USA™. Learning about allergies and asthma is a positive experience at this online town. Sections include Pet Shop, School House, and College.

## **Activities**

The Children's Asthma Camps Tool Kit offers the information, examples, and guidance you need to actively promote an asthma camp program, whether you are launching a new camp or simply looking for creative, effective ideas for updating a well-established program. In this kit, you will find detailed suggestions for planning, marketing, and staffing camps. The registration section contains many easy-to-use forms that you can customize for your camp. You also will see extensive information on medical considerations related to the asthma camp experience. Evaluation and assessment of the camp experience, including survey forms, also are covered. For more information, visit [www.asthmacamps.org/asthmacamps/toolkit/default.asp](http://www.asthmacamps.org/asthmacamps/toolkit/default.asp).

The Environmental Protection Agency's (EPA's) Indoor Environments Division has launched a national public education and prevention program in response to the asthma epidemic in the United States. The goal of the outreach program is to raise public awareness of indoor environmental asthma triggers (e.g., second-hand smoke, dust mites, mold, pet dander, and cockroaches) and actions that can be taken to reduce children's exposure to these triggers in homes, schools, and child care settings. EPA is working to ensure that environmental management is fully incorporated into

*continued on page 6*

continued from page 5

all asthma education and disease management programs. For more information, visit [www.epa.gov/iaq/asthma/iedasthmaprog.html](http://www.epa.gov/iaq/asthma/iedasthmaprog.html).

Six states have or are considering legislation this year to promote awareness of asthma, while 17 states are looking at reducing the risk of mercury contamination, according to a new online database from the National Conference of State Legislatures (NCSL). From lead hazards to pesticides, NCSL has created a searchable online database of children's environmental health legislation. The database provides users with free access to legislation from every state that addresses children's environmental health. Users can search for bills about indoor air quality, mercury, lead hazards, pesticides, asthma, and other environmental concerns that affect children's health. The database can be accessed at [www.ncsl.org/programs/ESNR/cehdb.htm](http://www.ncsl.org/programs/ESNR/cehdb.htm).

The National Institute of Allergy and Infectious Diseases' Office of Communications developed an "Asthma Awareness Day Planning Guide" for local communities. The guide provides detailed information on the problem of asthma in minority populations, particularly children; it contains sample materials that can be used to plan, publicize, and carry out asthma awareness activities; and it has an extensive annotated bibliography of educational materials on asthma. The guide has been distributed to a wide range of educational, health-related, and community organizations. For more information, visit [www.niaid.nih.gov/facts/mwhhp4.htm](http://www.niaid.nih.gov/facts/mwhhp4.htm).

How asthma friendly is your school? The National Heart, Lung, and Blood Institute offers a questionnaire and checklist that can be useful to parents and school staff in determining how well their school setting accommodates children with asthma. The questionnaire for schools is formatted with seven questions that can help in identifying sources of problems for children with asthma. The checklist is a seven-item list in a scorecard format that can be used by parents, teachers, and school nurses to help

pinpoint specific areas that may cause problems for children with asthma. The checklist is available in English and Spanish. Both versions are accompanied by an extensive list of organizations that can serve as useful resources to parents and school staff in making asthma-friendly changes in their school. Visit [www.nhlbi.nih.gov/health/public/lung/asthma/friendhi.htm](http://www.nhlbi.nih.gov/health/public/lung/asthma/friendhi.htm) for more information.

## ***In the Literature***

**Asthma in the United States: Recent Trends and Current Status.** S.D. Sullivan. *Journal of Managed Care Pharmacy* (September–October 2003):3–7. There has been an increase in the prevalence of asthma and in its associated costs in the United States. A disproportionately large share of health resources is used for patients with asthma that is difficult to treat because of frequent or severe exacerbations, inability to avoid asthma triggers, or the need for multiple or complex medication therapies. New asthma drug therapies are needed to improve asthma control, patient adherence to the therapeutic regimens, and quality of life; the new therapies also could lower the incidence of asthma exacerbations, the use of health resources, and associated costs.

**Effect of Acupuncture or Acupressure on Quality of Life of Patients With Chronic Obstructive Asthma: A Pilot Study.** S.H. Maa et al. *Journal of Alternative and Complementary Medicine* (October 2003): 659–670.

In this pilot clinical study, adult patients with chronic obstructive asthma were randomly assigned to receive acupuncture treatment in addition to standard care, acupressure and standard care, or standard care alone. Patients with clinically stable, chronic obstructive asthma experienced clinically significant improvements in quality of life when their standard care was supplemented with acupuncture or acupressure.

continued on page 7

continued from page 6

**Do Asthma Patients in General Practice Profit From a Structured Allergy Evaluation and Skin Testing? A Pilot Study.**

C. Bobb and T. Ritz. *Respiratory Medicine* (November 2003):1180–1187. The study looked at the effects of a structured allergen evaluation and allergen avoidance advice combined with or without additional allergy skin testing on health status, perception of illness, and lung function of asthma patients treated in general practice. Fifty-four asthma patients were randomly assigned to one of three care groups; they were seen for an initial appointment at a primary care asthma clinic and a followup examination 3 months later. Results show that structured allergy evaluation and avoidance advice can improve lung function and the control of asthma in primary care.

**The Use of Complementary Therapies in Inner-City Asthmatic Children.**

S. Braganza et al. *Journal of Asthma* (November 2003):823–827. Use of complementary/alternative medicine (CAM) has been increasing, especially among patients with a chronic illness. A cross-sectional survey of parents of children with asthma attending an urban health center was performed. The study found a very high rate of CAM use among children with asthma in this inner-city population. In addition, a very high proportion of parents perceived the therapies to be effective, used them as first treatment of an acute exacerbation, and did not inform a physician of doing so.

**Quality of Life in Adolescents With Mild Asthma.**

T.S. Hallstrand et al. *Pediatric Pulmonology* (December 2003):536–543. The majority of individuals with asthma have a mild disease, often in conjunction with allergic rhinitis and exercise-induced bronchoconstriction (EIB). Although health-related quality-of-life (HRQoL) is lower in moderate to severe asthma and allergic rhinitis, little is known about the effect of mild asthma, mild allergic rhinitis, and EIB on HRQoL outcomes. The objective of this study was to determine the effect of mild asthma, allergic rhinitis, and EIB on health-related quality of life.

## Meetings

**2004 American Academy of Allergy, Asthma & Immunology Annual Meeting: Visions to the Future.** San Francisco, CA. Visit [www.aaaai.org/members/annual\\_meeting/am2004/default.stm](http://www.aaaai.org/members/annual_meeting/am2004/default.stm). **March 19–23, 2004.**

**Centers for Disease Control and Prevention 4th National Conference on Asthma.** Atlanta, GA. Visit [www.signup4.net/Public/ap.aspx?EID=200414E](http://www.signup4.net/Public/ap.aspx?EID=200414E). **April 14–16, 2004.**

**American Association of Immunologists Annual Meeting.** Washington, DC. Visit [www.aai.org/prog\\_eb2004/default.htm](http://www.aai.org/prog_eb2004/default.htm). **April 17–21, 2004.**

**American Thoracic Society 100th International Conference.** Orlando, FL. Visit [www.thoracic.org/ic/ic2004/conference.asp](http://www.thoracic.org/ic/ic2004/conference.asp). **May 21–26, 2004.**

**American College of Allergy, Asthma & Immunology Annual Meeting.** Boston, MA. Visit [www.acaai.org/annual.html](http://www.acaai.org/annual.html). **November 12–17, 2004.**

**World Allergy Organization's World Allergy Congress—XIX.** Munich, Germany. Visit [www.congrex.com/wac2005](http://www.congrex.com/wac2005). **June 26–July 1, 2005.**

## Save the Date

Save **April 29–30, 2004.** Be at the Baltimore Marriott Waterfront Hotel for the 2nd national *Steps to a HealthierUS* summit. The summit will focus attention on chronic disease prevention and health promotion and will feature presentations on asthma, obesity, diabetes, heart disease and stroke, and cancer. To register, visit [www.healthierus.gov/steps](http://www.healthierus.gov/steps). We hope to see you there.