

Asthma Control: Improving Quality of Life and Reducing Costs

In 2005, nearly 4,000 Americans died of asthma. Asthma's impact on health, quality of life, and the economy remain substantial.

The initial onset of asthma cannot be prevented, and asthma cannot be cured. However, asthma can be controlled. People who have asthma can lead high-quality, productive lives. Asthma can be controlled by following a medical management plan and avoiding contact with environmental "triggers." These triggers include allergens such as mold, pet dander, cockroaches, and dust mites, or irritants such as tobacco smoke, certain chemicals, and other environmental exposures.

Asthma's Impact on the U. S. Population

In 2005, an estimated

- 32.6 million people had been diagnosed with asthma during their lifetimes
- 22.2 million people still had asthma
- 12.2 million people had experienced an asthma attack in the previous year

In 2004, asthma accounted for 3,816 deaths and an estimated

- 13.6 million doctor visits
- 1.1 million hospital outpatient visits
- 1.8 million emergency department visits
- 497,000 hospitalizations

Source: [CDC National Center for Health Statistics](#)

The Center for Disease Control's (CDC) National Asthma Control Program

CDC's National Asthma Control Program supports the goals and objectives of *Healthy People 2010* for asthma. The goals of the program are to reduce the number of deaths, hospitalizations, emergency department visits, school or work days missed, and limitations on activity due to asthma.

Most grants are awarded in September for activities to be conducted the following fiscal year (FY). During FY 2006, the National Asthma Control Program funded grantees in 33 states, the District of Columbia and Puerto Rico, three national organizations, and others for activities to be conducted in FY 2007. These grantees and CDC are conducting asthma tracking, intervention, partnership, and public health research activities. CDC also funded seven urban school districts, one state education agency, and two national non-government organizations to support and address asthma control within a coordinated school health program.

Major Data Collection Systems

CDC also supports major efforts to collect asthma data, including the following:

- The Behavioral Risk Factor Surveillance System Survey (BRFSS), which measures the prevalence of adult asthma in 50 states, three territories (Puerto Rico, Guam, and the Virgin Islands), and Washington, D.C.;

- The National Health Interview Survey, which documents the number of days of work or school missed, Emergency department visits and hospitalizations due to asthma; and
- A collection of in-depth information about state and local asthma management through implementation of the BRFSS asthma call-back survey in 35 states in 2007.

Program Funding

| Fiscal Year | Appropriation (millions) |
|-------------|--------------------------|
| 1999 | 1.2 |
| 2000 | 10.3 |
| 2001 | 27.9 |
| 2002 | 35.2 |
| 2003 | 36.9 |
| 2004 | 32.1* |
| 2005 | 32.4* |
| 2006 | 31.9 |

* represents approximately level funding under CDC's new budget structure

For more information, visit <http://www.cdc.gov/asthma/asthmadata.htm>.

Asthma Control Program Highlights

A complete list of program grantees and their activities is available at <http://www.cdc.gov/asthma/contacts/>. The following activities are highlights of the program.

Tracking

Tracking is the ongoing collection and analysis of data to understand the “who, what, and where” of asthma. This information is used to plan, target, implement, and evaluate interventions. CDC funds several tracking efforts, including:

Characterizing childhood asthma. CDC is funding the Bureau of Labor Statistics to collect data on social, environmental, and medical aspects of asthma among approximately 10,000 children through the National Longitudinal Survey of Youth.

National Asthma Survey. To provide in-depth state and local data to support various programs and policy needs, CDC developed and tested an asthma survey module in four states (Alabama, California, Illinois, and Texas) and is analyzing the data. New York implemented the survey independently in 2003, and Minnesota, Michigan, and Oregon implemented it as a call-back survey in conjunction with BRFSS in 2005. In 2006, 25 states conducted the call-back survey, and 35 states are conducting the survey in 2007.

Population-based models to establish surveillance for asthma incidence in defined geographic areas.

To better estimate asthma incidence rates, CDC is funding the Kaiser Foundation Research Institute (Portland, Oregon) to develop models for identifying new asthma cases.

Interventions

The program works both on the national level (with the National Heart Lung and Blood Institute) and with funded partners to ensure that scientific information is translated into public health practices and programs to reduce the burden of asthma. It also works with the Task Force on Community Preventive Services to conduct systematic reviews of the effectiveness of commonly implemented community-based asthma interventions.

Controlling asthma in American cities. To decrease the burden of asthma among children in inner city populations, CDC has established collaborative agreements with seven communities (Chicago, New York City, Minneapolis/St. Paul, Oakland (CA), Philadelphia, Richmond (VA), and St. Louis). Each of the sites works through community-based coalitions to implement and coordinate multiple, complementary interventions for children with asthma in populations of need.

Addressing asthma in schools. CDC is funding seven urban school districts (Albuquerque, Baltimore, Charlotte, Detroit, Los Angeles, Memphis, and Philadelphia) and one state education agency (Oregon) to implement strategies to reduce asthma-related illnesses and absences. CDC also is funding two national non-government organizations (the American Lung Association and the American Association of School Administrators) to build the capacity of state and local health and education agencies to support and address school-based asthma management activities. “Strategies for Addressing Asthma Within a Coordinated School Health Program” is a web-based, CDC–developed guidance document that offers concrete suggestions for schools working to improve the health and school attendance of students with asthma. For updates on school-related asthma activities and resources, go to <http://www.cdc.gov/healthyyouth/asthma>.

Partnerships

Asthma control requires a coordinated response among many parts of a community, including the medical, educational, and business sectors. The program supports partnerships for developing, implementing, and evaluating local asthma programs.

Addressing asthma from a public health perspective. CDC is funding two state health departments (Massachusetts and North Carolina) to develop asthma surveillance systems, partnerships, and state asthma plans. CDC also is funding 31 state health departments (CA, CO, CT, GA, HI, ID, IL, IN, IA, ME, MD, MI, MS, MN, MO, NH, NJ, NM, NY, OH, OK, OR, PA, RI, TX, UT, VT, VA, WA, WV, WI), and the health departments of the District of Columbia and Puerto Rico to implement their state comprehensive asthma control plans.

Examples of CDC’s National Asthma Control Partners

- Allergy and Asthma Network/Mothers of Asthmatics
- American Academy of Allergy, Asthma & Immunology
- American Association of School Administrators
- American Lung Association
- Asthma and Allergy Foundation of America
- National Heart, Lung, and Blood Institute
- National Institute of Allergy & Infectious Diseases
- U.S. Environmental Protection Agency

Public Health Research

CDC is conducting basic research to help target asthma control efforts. CDC is funding (1) Kaiser Permanente of Oregon to conduct a study of HMO members to identify

risk factors for onset of adult asthma related to worksites, homes, and hobbies; (2) Mexico's National Institute for Public Health to define the effect of diesel and particulate matter exposure on the health of asthmatic children; and (3) China's Peking University Health Science Center in a collaborative project to develop surveillance for and studies of incident asthma in children aged 0–7 years to improve understanding of its causes.

Training

CDC provides ongoing asthma training and educational activities and resources for state programs and other partners. CDC hosts periodic national meetings that give attendees opportunities to learn and to discuss asthma activities and issues. Funded state programs and CDC also share lessons learned through teleconference educational seminars. In addition, CDC works with partners to produce and disseminate training materials, such as the *Asthma Speakers Kit for Health Care Professionals* and the *National Asthma Training Curriculum* to increase the skills and knowledge of the public health workforce. Training efforts funded by CDC include:

- CDC and the National Heart, Lung, and Blood Institute (NHLBI) collaborated on a special issue of the *Journal of School Health*, "Managing Asthma in Schools—What

Have We Learned?" (August 2006). This innovative publication features more than 25 research articles, brief reports, and case studies that cover a range of activities, such as asthma education programs for students and staff members, asthma-related health services, and policy changes. CDC and NHLBI co-authored the conclusion, which highlights five key lessons for successful school-based asthma programs that emerged from the research and case study findings.

- CDC provided technical assistance to the Albuquerque Public Schools to design an evaluation of their asthma program through a contract with ORC Macro. Data collection and analysis will begin in 2007.
- CDC's *School Health Index: A Self-Assessment and Planning Guide* now includes asthma content. This tool enables schools to identify the strengths and weaknesses of health promotion policies and programs and assists schools in developing an action plan for improving the school environment to promote health.
- Through a cooperative agreement with CDC, the American Lung Association has produced and disseminated the *Asthma-Friendly Schools Toolkit*, which provides guidance and tools to support implementation of CDC's Strategies for Addressing Asthma Within a Coordinated School Health Program.

FY 2006 Activity Highlights

- Funded state programs to develop evaluation plans to monitor the impact of intervention activities on the burden of asthma.
- Evaluated state surveillance reports to identify consistency between the use of state surveillance methods and reporting formats. This information will be used to develop guidance for the states regarding data analysis and reporting.
- Supported four additional state health departments in implementing state asthma plans developed in partnership with state asthma coalitions.
- Twenty-five states collected data through a BRFSS asthma call-back survey in 2006, and 35 states are funded to collect data in 2007.

Future Directions

With continued and increased funding, CDC will (1) work with state and local health departments and other partners to improve asthma tracking; (2) identify and develop population-based and individual solutions for controlling asthma; (3) help more partner organizations implement

and evaluate programs to reduce the incidence of asthma attacks and the severity of asthma; and (4) build capacity of educational agencies and national non-government organizations to address asthma in schools.

For more information or copies of this document, please contact:

**Centers for Disease Control and Prevention
National Center for Environmental Health**

Telephone: 1-800-CDC-INFO • E-mail: EHHEin@cdc.gov • Web: <http://www.cdc.gov/asthma>

NCEH Pub. No. 99-8923; July 2007