Asthma

Researching causes, enhancing treatment, and promoting education

Abt Associates works with government agencies, healthcare providers, and community-based programs to develop greater understanding of asthma and to identify and facilitate effective prevention, treatment, and public education strategies. Our approach blends medical, environmental, and social science perspectives.

Asthma is one of the nation’s most common and costly chronic conditions, affecting more than 14.5 million Americans, including about 4.5 million children. Recent research has provided new insights into asthma management and control; however, more information is needed on the factors that cause asthma, prevention strategies, and the effectiveness of outreach and education for patients, families, and medical service providers.

For over 40 years, Abt Associates has engaged in efforts to improve the health of people and communities, including a broad range of asthma-related projects. We believe that managing asthma requires a long-term, multifaceted approach that comprises patient education, behavior changes, avoidance of asthma triggers, pharmacological therapy, and frequent medical follow-up. Much of our work focuses on these key areas.

Evidence suggests that environmental factors play a major role in triggering asthma symptoms. We have conducted substantial research on air quality issues, through both our health and environmental divisions, and have comprehensive knowledge of the epidemiological evidence linking environmental factors to adverse human health effects.

Abt Associates has worked with a variety of federal and state organizations and foundations on asthma-related projects.

Major clients include the U.S. Environmental Protection Agency (EPA) and Centers for Disease Control and Prevention (CDC). Much of our work with the CDC supports the CDC’s “Healthy People and Healthy Places” mission to protect and enhance public health in the 21st century. Addressing chronic conditions such as asthma is an important element of the CDC’s plan.

Science-driven research and accurate analysis

Abt Associates offers a range of research and analysis services on projects related to asthma. We evaluate the effectiveness of treatment and prevention programs; provide analysis and guidance on policy development; assess the effectiveness of public outreach and education initiatives; and provide support for medical research on asthma causes, triggers, and treatment. We also develop Web-based models available to the public to predict the incidence of asthma associated with air quality, such as the Benefits Mapping and Analysis Program (BenMAP), which can be accessed on the EPA website.

Diverse skills and perspectives

Abt Associates brings a full spectrum of skills, knowledge, and ideas to asthma-related projects. Our staff has academic credentials and substantial expertise in medical and environmental research, economic analysis, public health, epidemiology, technical modeling, policy development, program management, and public education. We address asthma issues from various perspectives, including medical research, healthcare, the environment, public policy, community development, and public health. Our emphasis on interdisciplinary project teams enables us to combine complementary staff talents and perspectives that address all aspects of an issue. This approach provides clients with whole-picture research and analysis as well as comprehensive, informed recommendations.

A sample of our asthma-related work appears below. For detailed project descriptions and to explore the range of our capabilities, visit www.abtassociates.com.

- Conducting national surveys
  Abt Associates conducted the National Asthma Survey for the CDC, which provided information on the health, socioeconomic, behavioral, and environmental predictors of improved asthma control. The survey supplied demographic-based asthma prevalence rates and gathered information on experiences and limitations of persons with asthma. We screened for the presence of asthma from a national sample of 10,000 households and over 48,000 households in Alabama, California, Illinois, Texas, and New York. The survey was part of the State and Local Area Integrated Telephone Survey, initiated by the U.S. National Center for Health Statistics to gather data to track health-and-welfare-related issues.

  Under contract to the EPA, we conducted the National Survey on Environmental Management of Asthma...
to evaluate the extent to which individuals with asthma are acting to reduce indoor exposure to environmental triggers. We screened 15,000 households for the presence of household members with asthma. We then interviewed one household member with asthma, conducting approximately 2,300 interviews on topics including asthma history and management, tobacco smoke exposure in households with children, knowledge of asthma triggers, and environmental modifications to reduce exposure to triggers. The survey will help EPA to assess national asthma awareness and refine its education programs.

• Estimating healthcare benefits of trigger avoidance
Abt Associates conducted research for the Indoor Environments Division of EPA to estimate the impact of asthma trigger avoidance on symptoms and on the use of medical services. We estimated potential cost savings to healthcare insurers by considering the baseline annual direct medical costs to insurers for care of moderate-to-severe asthmatics who did not have training in trigger avoidance, as well as the reduction in morbidity and costs that could result from avoidance. The research supported EPA’s work with insurers to reduce asthma morbidity.

• Analyzing tobacco-related issues
The Massachusetts Tobacco Control Program used mass media and the Internet as part of its public awareness campaigns. Under contract to the Massachusetts Department of Public Health, Abt Associates performed media tracking to evaluate the effectiveness of the program’s media component. We analyzed the impact of television ads about environmental tobacco smoke on the beliefs of adults. We also examined the combined effect of media and local interventions, using data collected by the media vendor from Massachusetts residents before and after the campaign and a control group of adults in other states.

Under contract to EPA, Abt Associates conducted research to estimate the national and per capita annual direct medical costs of the effects of environmental tobacco smoke (ETS) on children, focusing on insurer costs. We applied the ETS-attributable risk fraction of illnesses and symptoms associated with ETS exposure to national illness prevalence data to estimate the incidence associated with ETS. Direct medical costs of caring for people with these illnesses and symptoms were applied to the incidence to estimate the overall cost burden to insurers. The results supported the argument that smoking cessation programs help to advance overall health and control medical costs, and the EPA used the study in its outreach to insurers.

• Supporting public education programs
“Healthy Children, Healthy Homes” (HCHH) is a community-based asthma education and prevention program that focuses on common household asthma triggers and provides families with information about reducing triggers. Funded by SC Johnson, the project was developed in collaboration with Florida International University (FIU) School of Nursing and Zubi Advertising. HCHH targets low-income urban Hispanics using a peer-to-peer approach. Parent volunteer peer educators received training on asthma risk, household triggers, and methods for educating community members about reducing triggers in their homes. We worked with SC Johnson and FIU to develop a pilot version of HCHH for a Miami school. We also evaluated the pilot program, conducting baseline and postintervention surveys. HCHH participants demonstrated better understanding of asthma risk, severity, and triggers, and reported increased behaviors in managing household triggers. We are currently refining the program and will test it in Los Angeles and Chicago in spring 2007.

• Assessing air quality effects on health
Abt Associates is supporting EPA in conducting an ozone (O3) health risk assessment as part of its review of the O3 National Ambient Air Quality Standard (NAAQS). The assessment estimates health effects associated with short-term exposures to O3 under “as is” air quality levels and those meeting current and alternative O3 primary NAAQS. Our assessment uses estimated exposure-response relationships derived from controlled human exposure studies and concentration-response functions derived from epidemiological studies. Categories covered in the assessment include premature total, respiratory, and cardiovascular mortality; unscheduled hospital admissions for respiratory illnesses; and asthmatic symptoms in children with moderate to severe asthma.

For more information on Abt Associates and our work on asthma-related issues, contact:

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