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FOCUS

Environmental Health: Promoting Health for All Through a Healthy Environment

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A healthy environment—including the physical, chemical, biological, and psychosocial environment—plays an important role in human development, health, and disease. Human exposures to hazardous agents in the air, water, soil, and food, as well as physical hazards in the environment, are major contributors to illness, disability, and death. While much is known about the impact of some environmental exposures on health, additional research is needed to assess the long-term impact of other environmental exposures and to develop effective interventions to reduce illness and death.

Outdoor Air Quality. Air pollution continues to be a widespread public health and environmental problem in the United States, causing premature death, cancer, and long-term damage to respiratory and cardiovascular systems. Air pollution also reduces visibility, damages crops and buildings, and deposits pollutants on the soil and in bodies of water where they affect the chemistry of the water and the organisms living there. According to the U.S. Environmental Protection Agency (www.epa.gov), approximately 113 million people in the United States live in areas where the Federal Government has established health-based standards for one or more of the six commonly found air pollutants.

Unhealthy air is expensive. According to the American Lung Association (www.lungusa.org), the estimated annual health costs of human exposure to all outdoor air pollutants range from $40 billion to $50 billion, with an associated 50,000 premature deaths.

Water Quality. The primary goal of all water supply systems is to provide drinking water that is free of disease-causing biological or chemical agents. Water may be contaminated through a variety of means, such as industrial sites or agricultural runoff. Biological and chemical contamination significantly reduces the value of surface waters (streams, lakes, and estuaries) for fishing, swimming, and other recreational activities.

Toxic Substances and Waste. Toxic and hazardous substances, including low-level radioactive wastes, deposited on land often are carried far from their sources by air, groundwater, and surface

water runoff into streams, lakes, and rivers. In addition, many agricultural, commercial, recreational, and home settings still introduce and use pesticides that may jeopardize the health of those who live, work, or play nearby. As a result, toxic substances pose a potential threat to the people who use them, especially if they are handled, mixed, or applied inappropriately or excessively. Children are at increased risk for pesticide poisoning because of their smaller size and because pesticides may be stored improperly or applied to surfaces that are more readily accessible to children.

Healthy Homes and Communities. To provide a healthy environment within the Nation's communities, areas where people spend the most time (i.e., their homes, schools and offices) must be considered. Potential risks include indoor air pollution, electrical and fire hazards, and lead-based paint hazards.

Air quality, lead-based paint, hazardous household substances such as cleaning products and pesticides, and other factors can affect health and safety. In 1996, the American Association of Poison Control Centers (www.aapcc.org) reported more than 2 million poison exposures from 67 participating poison control centers. In 91 percent of cases, the site of exposure was a residence.

Global Environmental Health. According to the World Health Organization (www.who.int), poor environmental quality is estimated to be directly responsible for about 25 percent of all preventable illness worldwide. Although ill health resulting from poor environmental quality varies considerably from one country to another, it is clear that poor environmental quality has its greatest impact on people whose health status already may be at risk.

Infrastructure and Surveillance. Preventing health problems caused by environmental hazards requires the following:

- Having enough personnel and resources to investigate and respond to disease and injuries potentially caused by environmental hazards
- Monitoring the population and its environment to detect hazards, exposures, and diseases potentially caused by these hazards
- Monitoring the population and its environment to assess the effectiveness of prevention programs
- Educating the public on the relationship between health and the environment
- Ensuring that laws, regulations, and practices protect the public and the environment from hazardous agents
- Providing public access to understandable and useful information on environmental hazards, the sources of these hazards, the health effects, and how to avoid, manage, or address them
- Coordinating public- and private-sector efforts
- Providing adequate resources

Recent Trends in Environmental Health

During the 1990s, progress in improving environmental health was mixed. The dramatic decline in childhood lead poisoning in the United States represents a public health success. This reduction is the result of research to identify persons at risk, professional and public education campaigns, broad-based screening, and effective community efforts to clean up problem areas—namely, substandard housing units. However, much more remains to be done before childhood lead poisoning becomes a disease of the past. Although childhood lead poisoning occurs in all

population groups, the risk was higher for persons having low income, living in older housing, and belonging to certain racial and ethnic groups.

Unfortunately, not all trends for environmental health issues are as encouraging. For example,

- According to the Centers for Disease Control and Prevention (www.cdc.gov), asthma rates in the United States have risen to epidemic levels since the mid-1980s. Asthma and other respiratory conditions often are triggered or worsened by substances found in the air, such as tobacco smoke, ozone, and other particles or chemicals.
- Infectious and chemical agents still contaminate food and water. Animals continue to carry diseases to human populations, and outbreaks of once-common intestinal disease, although less frequent, still occur.
- In the United States, we can make significant strides toward a reduction in harmful air emissions if individuals choose to drive their cars less often. However, too few people elect to walk, bicycle, or use public transit.
- Urban sprawl has become an increasingly important concern in the United States for several reasons, including increased outdoor air pollution in major urban areas, reduced quality of life due to the loss of free time and the stress of increased commuting time, and less green space in major metropolitan areas. In addition, sprawl diminishes the amount of land available for prime recreational and agricultural uses.

Existing Disparities in Environmental Health

Studies have linked race and socioeconomic status to increased exposure to environmental hazards, and information about gene-environment interactions improves the ability to determine who has increased risk of disease from these exposures. Disparities exist in the environmental exposures certain populations face and in the health status of these populations.

- In New York City, African American, Hispanic, and low-income populations have been found to have hospitalization and death rates from asthma three to five times higher than those for all New York City residents. According to the Institute of Medicine, African American children have been found to be three times more likely than white children to be hospitalized for asthma and asthma-related conditions and four to six times more likely to die from asthma.
- With respect to blood lead levels, children from racial and ethnic groups are disproportionately affected.
- Although there are no studies to show rural and frontier dwellers are at increased risk for exposure to contaminated drinking water, the majority of this population depends on self-supplied private wells for drinking water.

How Children Are Especially Vulnerable to Their Environment

Compared with adults, children are at increased risk for experiencing negative health outcomes due to environmental influences for the following reasons:

- Increased sensitivity is the result of developing and growing systems.
- Increased exposure exists to physical, chemical, biological, and psychosocial threats.
- Effects tend to last throughout life.
- Patterns and combinations of environmental exposures on human growth and development are complex and challenging.
- There is a broad range of outcomes.

- Gene-environment interactions are important to understanding susceptibility to and actual occurrence of childhood illness throughout the life cycle.

Health effects from low-level contaminants, such as lead—and from other influences, such as poverty—raise concerns about a number of environmental factors and their effects on the health and well-being of children. New methods and technologies provide ways to measure low-level and chronic exposures and influences. Furthermore, recent advances in genomics will allow the study to examine the effects of gene-environment interactions.

SPOTLIGHT

NATIONAL CHILDREN'S STUDY TO SHED NEW LIGHT ON WHAT'S HARMFUL, WHAT'S HARMLESS, AND WHAT'S HELPFUL

Overview of the National Children's Study

The Developmental Disabilities Work Group of the President's Task Force on Environmental Health Risks and Safety Risks to Children recommended a longitudinal cohort study of environmental impacts on children to identify and quantify these risks. The Work Group suggested that the study be of sufficient size and design to identify subtle, but important, effects of low-level environmental exposures and other biological and social factors that may impact children's health. In addition, the study would become a valuable resource for future investigations.

The Task Force's recommendation was underscored by the Children's Health Act of 2000, which was signed into law on October 17, 2000. Title X of the Act lays the groundwork for a major national study on the impact of the environment on child health. Under the auspices of the President's Task Force, investigators at several Federal agencies—especially the National Institute of Child Health and Human Development (www.nichd.nih.gov), the Environmental Protection Agency (www.epa.gov), and the National Center for Environmental Health (www.cdc.gov/nceh)—began planning the National Children's Study. It is expected that the study will span 30 years, enabling researchers to track the effects of environmental exposures through childhood and adolescence and into young adulthood. Approximately 100,000 children will be included in the sample.

The NCS will focus on four priority public health challenges—asthma, unintentional injuries, cancer, and developmental disorders. However, a longitudinal study of this magnitude and sample size will allow researchers to examine the impact of environmental exposures on the development and health of children.

Study planners believe that a longitudinal study of the relationship between environmental exposures and child development is critical for the following reasons:

- Children are more vulnerable to environmental exposures than adults.
- Some exposures, namely lead and alcohol, can cause serious developmental effects.
- Some current childhood exposures, especially pesticides and phthalates, are known to occur at high frequencies.

- Existing studies are limited in sample size and scope.
- A longitudinal approach is necessary to identify environmental effects and to ensure safety.
- A longitudinal design will enable research to infer causalities.

The Four Primary Areas of Effort in the NCS

The NCS is designed to address four critical public health principles:
- Primary prevention (eliminating the threat of exposure)
- Secondary prevention (providing screening, treatment, and followup care)
- Surveillance and monitoring (providing data for evaluation)
- Research (generating new knowledge for effective primary prevention, treatment, and elimination of disparities)

The Federal Partners

The NCS is supported by four Federal components:
- National Institute of Child Health and Human Development (www.nichd.nih.gov)
- Centers for Disease Control and Prevention (www.cdc.gov)
- National Institute of Environmental Health Sciences (www.niehs.nih.gov)
- U.S. Environmental Protection Agency (www.epa.gov)

The Interagency Coordinating Committee and Federal Advisory Committee

The Interagency Coordinating Committee (ICC) consists of representatives of the four Federal partners. The ICC is responsible for overseeing the planning of the study, allocating resources, and monitoring the activities of the working groups and subcommittees. In addition, a Federal Advisory Committee, composed of internationally renowned researchers and private-sector representatives, has been established to provide overarching leadership and direction, and to make recommendations regarding the design and implementation of the study.

Working Groups

Twenty-two working groups, which include both Federal and private-sector representation, are actively involved in planning various aspects of the study and formulating potential hypotheses. Some of the working groups are focused on a particular health outcome, others are focused on certain types of exposures, and a few are cross-cutting in nature. The working groups are as follows:

Hypotheses-Generating Working Groups
- Asthma
- Birth Defects
- Developmental Behavior
- Health Disparities and Environmental Justice
- Early Markers of Adult Disease
- Exposure to Chemical Agents
- Fertility and Early Pregnancy
- Gene-Environment Interactions
- Infection Immunity and Vaccines

- Injury in Childhood and Adolescence
- Medicine and Pharmaceuticals
- Mid and Late Pregnancy
- Physical Exposures
- Social Environment

Cross-Cutting Working Groups

- Community Outreach and Communications
- Ethics
- Information Technology
- Recruitment and Retention
- Sample Collection, Storage, and Archiving
- Study Design

In addition to broad representation on the working groups, more than 200 individuals serve as part of the NCS Study Assembly. The full Study Assembly meets two times each year, which affords an opportunity for Study Assembly members to provide input and guidance and to share their expertise.

How To Get Involved or To Join the NCS Listserv

To get involved in the study or to join the listserv for news updates and ongoing communication, contact the National Institute of Child Health and Human Development at nichdcohort@mail.nih.gov.

ACTIVITIES

Biodefense

HHS Bolstering Public Health Preparedness. The Department of Health and Human Services (HHS) has launched several new initiatives in recent weeks to ensure that States and communities are prepared to respond to terrorist acts, including acts of bioterrorism. Specific programs include the following:

- Funding academic centers for public health preparedness (www.hhs.gov/news/press/2002pres/20020205c.html)
- Strengthening the capacity of States to respond to bioterrorism and other public health emergencies (www.hhs.gov/news/press/2002pres/20020131b.html)
- Funding the production of 155 million doses of smallpox vaccine (www.hhs.gov/news/press/2001pres/20011128.html)
- Signing an agreement with the United Kingdom to collaborate on biodefense preparedness and increasing health care quality (www.hhs.gov/news/press/2001pres/20011010b.html)
- Providing aid to cities for disaster preparedness (www.hhs.gov/news/press/2001pres/20011003.html)

HHS Secretary Tommy G. Thompson recently outlined the Bush Administration's biodefense agenda in testimony before the U.S. Senate

(www.hhs.gov/news/press/2001pres/20011003b.html). HHS also has released a fact sheet (www.hhs.gov/news/press/2002pres/20020125.html) that describes what the Department is doing to strengthen the Nation's biodefense infrastructure.

Links to additional biodefense information and resources are available at the HHS Office of Emergency Preparedness Web site (www.ndms.dhhs.gov/Links/Federal_Links/federal_links.html).

NIAID's Biodefense Research Agenda. HHS Secretary Tommy G. Thompson recently announced seven new initiatives to accelerate biodefense research and to help strengthen the Nation's ability to deal with the public health threat posed by bioterrorism (www.hhs.gov/news/press/2001pres/20011206a.html). These new activities will be carried out by the National Institute of Allergy and Infectious Diseases (www.niaid.nih.gov), the lead Institute for biodefense research at the National Institutes of Health (www.nih.gov).

NIAID's research agenda (www.niaid.nih.gov/publications/bioterrorism.htm) will investigate high-priority, Category A biological diseases as defined by the Centers for Disease Control and Prevention (www.cdc.gov)—anthrax, botulism, plague, smallpox, tularemia, and viral hemorrhagic fevers.

Previous biodefense research at NIAID has included the following:

- Sequencing the genome of the anthrax bacterium (www.tigr.org)
- Publishing two studies that help explain how the anthrax toxin destroys cells
- Launching a clinical study to determine whether the current 15 million doses of smallpox vaccine might be safely diluted and thereby stretched to protect more people
- Submitting an Investigational New Drug application to the Food and Drug Administration (www.fda.gov) for the use of the antiviral drug cidofovir as an emergency smallpox treatment

NIAID biodefense research publications are available at www.niaid.nih.gov/publications/bioterrorism.htm.

HRSA Announces New Biodefense Preparedness Program. The Health Resources and Services Administration (www.hrsa.gov) has announced a new Bioterrorism Hospital Preparedness program for States, territories, and three of the largest U.S. cities (Chicago, Los Angeles, and New York City). More information on the initiative is available at www.hrsa.gov/bioterrorism.htm.

Impact of Terrorism on Mental Health. Most people who are coping with the aftermath of a disaster have normal reactions as they struggle with the disruption and loss caused by the disaster. They do not see themselves as needing mental health services and are unlikely to request them. Community outreach may be necessary to seek out and provide mental health services to individuals who may be affected by a disaster.

Through an interagency agreement with the Federal Emergency Management Agency (FEMA), the Center for Mental Health Services (CMHS) helps to ensure that victims of disasters declared as such by the President receive immediate short-term crisis counseling, as well as ongoing support for emotional recovery. CMHS collaborates with FEMA to train State mental health staff to develop crisis counseling training and preparedness efforts in their States. More information is available at www.mentalhealth.org/cmhs/EmergencyServices and at www.fema.gov.

President Bush Takes Steps To Protect Agriculture and Ensure Food Safety. President Bush's fiscal year 2003 budget request includes $146 million in new spending to protect the Nation's food supply, strengthen food safety programs, and support new research (www.usda.gov/news/releases/2002/01/0026.htm). The President's proposal calls for the following:

- $48 million increase in animal health monitoring
- $19 million increase for the Agricultural Quarantine Inspection Program
- $12 million increase to expand the Animal Plant Health Inspection Service (www.aphis.usda.gov)
- $28 million increase for the Food Safety and Inspection Service (www.fsis.usda.gov/index.htm)
- $34 million increase for new research
- $5 million increase for monitoring disease outbreaks in other countries

ODPHP Launches Biodefense Web Page. The Office of Disease Prevention and Health Promotion (ODPHP) has launched a new biodefense Web page (www.healthfinder.gov). The site offers a wealth of information for both the general public and professionals. It also links users to Federal and private sector sources of information on biodefense.

What's Happening at EPA

Safety of Drinking Water. Speaking to the Association of Metropolitan Water Agencies (www.amwa.net), Environmental Protection Agency (EPA) Administrator Christie Whitman detailed a nearly $90 million national effort that EPA and its partners are undertaking to make drinking water and wastewater utilities as safe as possible as quickly as possible (www.epa.gov/epahome/headline_032202.htm).

Safeguarding Water Quality at the Nation's Beaches. EPA will make $10 million in grants available to eligible States and territories to protect public health at the Nation's beaches (www.epa.gov/epahome/headline_032002.htm). The funds are targeted to coastal and Great Lakes States to improve monitoring the quality of water at beaches and notifying the public of beach warnings or closings.

Saving Water, Reducing Costs to Consumers. EPA is promoting water efficiency in the home by offering online information on what consumers can do to save water and reduce utility costs (http://www.epa.gov/epahome/headline_022802.htm). Water efficiency is an important part of protecting human health and the environment. Water efficiency means providing the same benefit using less water; water conservation often means simply using less water. Using water efficiently can help improve water quality, maintain healthy aquatic ecosystems, protect valuable sources of drinking water, reduce the cost of drinking water and wastewater treatment, and mitigate drought impacts.

New Violence Prevention Campaign Encourages Parents To Promote Healthy Behaviors

The Center for Mental Health Services has launched a new campaign, "Make Time to Listen, Take Time to Talk: 15+" (www.mentalhealth.org/15plus), which is designed to provide practical guidance to parents and caregivers about how to create time to listen and take time to talk with their children. The campaign is part of the CMHS School Violence Prevention Initiative (www.mentalhealth.org/schoolviolence). It is based on the premise that parents who talk with

their children about what is happening in their lives are better able to guide their children toward more positive, skill-enhancing activities and friendships.

CDC Releases *Safe Water Systems Handbook*

The Safe Water System (www.cdc.gov/safewater/default.htm) was developed by the Centers for Disease Control and Prevention (www.cdc.gov) and the Pan American Health Organization (www.paho.org). It is a water quality intervention that employs simple, inexpensive, and robust technologies appropriate for the developing world. The strategy is to make water safe through disinfection and safe storage at the point of use. CDC recently released the *Safe Water Systems Handbook* to help developing countries implement household-based water treatment and safe storage projects. The handbook is available at www.cdc.gov/safewater/manuals.htm.

ATSDR Releases 2002–2007 Strategic Plan

The Agency for Toxic Substances and Disease Registry (www.atsdr.cdc.gov) recently released its strategic plan for fiscal years 2002–2007 (www.atsdr.cdc.gov/2002-2007strategicplan.html). The strategic plan outlines the following five overarching goals for the Agency's future:

- Evaluate human health risks from toxic sites and releases, and take action in a timely and responsive public health manner
- Ascertain the relationship between exposure to toxic substances and disease
- Develop and provide reliable, understandable information for people in affected communities and tribes and for other stakeholders
- Build and enhance effective partnerships
- Foster a quality work environment at ATDSR

MEETINGS

Fourth Annual Technologies for Public Safety in Critical Incident Response Conference. Albuquerque, NM. (703) 933-0122, jtelander@ctc.org. May 6-8, 2002.

Third National Electronic Disease Surveillance System. Norcross, GA. (404) 639-7860, TBrooks1@cdc.gov. May 7-10, 2002.

29th Annual Educational Conference and International Meeting for the Association for Professionals in Infection Control and Epidemiology. Nashville, TN. (202) 789-1890, apicinfo@apic.org, or visit www.apic.org/apic2002. May 19-23, 2002.

The Third International Congress on Women Work & Health. Stockholm, Sweden. 0046-8-730 90 78, karin.linden@niwl.se, or visit www.niwl.se/wwh. June 2-5, 2002.

Task Force on Community Preventive Services. Atlanta, GA. (770) 488-8225, jxw5@cdc.gov. June 12-13, 2002.

Healthy Mothers, Healthy Babies Coalition's "Connections 2002 Conference." Clearwater, FL. (703) 836-6110, or visit www.hmhb.org. July 21-24, 2002.

Public Health: The Challenge Continues. Nashville, TN. (202) 371-9090, rboyce@astho.org. September 10-13, 2002.

The First Mid-Atlantic Conference on Children's Health and the Environment. Washington, DC. (202) 994-1166, www.health-e-kids.org. September 21, 2002.

Task Force on Community Preventive Services. Atlanta, GA. (770) 488-8225, jxw5@cdc.gov. October 23-24, 2002.

The 40th Annual Meeting of the Infectious Diseases Society of America. Chicago, IL. (703) 299-0200, info@idsociety.org, or visit www.idsociety.org/ME/AM2002/ToC.htm. October 24-27, 2002.

Ninth Annual Minority Health Conference: Healthy Texans 2010. Irving, TX. (972) 721-3629, healthtx@ci.irving.tx.us, or visit www.ci.irving.tx.us/healthtx. November 7-9, 2002.

12th World Conference on Tobacco or Health: Global Action for a Tobacco Free Future. Helsinki, Finland. wctoh2003@congcreator.com, or visit www.wctoh2003.org. August 3-8, 2003.

IN THE LITERATURE

Lung Cancer, Cardiopulmonary Mortality, and Long-Term Exposure to Fine-Particulate Air Pollution. Pope, C.A., et al. *Journal of the American Medical Association* 287 (2002):1132–41.

The risk of dying from lung cancer as well as heart disease in the most polluted cities is comparable to the risk associated with nonsmokers being exposed to secondhand smoke over a long period of time, according to the findings of a 16-year study published in the *Journal of the American Medical Association*. These findings provide the strongest evidence to date that long-term exposure to the fine-particulate air pollution commonly found in many cities is an important risk factor for cardiopulmonary mortality and lung cancer deaths.

Previous studies have found an association between day-to-day particulate air pollution and increased risk for several negative health outcomes, such as cardiopulmonary mortality. However, previous studies of the health effects linked to long-term particulate air pollution have been less conclusive. The purpose of this study was to examine the relationship between long-term exposure to fine-particulate air pollution and lung cancer and heart disease.

The study evaluated the effects of air pollution on human health over a 16-year period. Researchers found that years of exposure to the high concentrations of tiny particles of soot and dust from cars, power plants, and factories in some metropolitan areas of the United States significantly increase residents' risk of dying from lung cancer and heart disease.

Environmental Exposure and Cancer in Children: A Conceptual Framework for the Pediatrician. De Baun, M.R., and Gurney, J.G. Genetic Epidemiology Branch, National Cancer Institute, National Institutes of Health, Bethesda, Maryland. *Pediatric Clinics of North America* 48(5) (October 2001):215–21.

Pediatricians and health care policymakers must gather and evaluate all existing evidence to make informed decisions about whether exposure to a specific agent can cause cancer in children, according to the findings of a recent National Cancer Institute study. In most cases, there is insufficient evidence to prove that suspected carcinogens cause childhood cancer. For example, epidemiologic and biologic researchers have tried for more than 20 years to determine whether exposure to high levels of electromagnetic fields (EMFs) poses health risks, especially childhood cancer. Although most of the existing evidence indicates that EMFs are harmless, some scientists and many within the general population are concerned about potential hazards.

Pediatricians often are placed in a difficult position when they are asked about certain products or foods that have been publicized in the popular press as possibly posing an increased risk for cancer. Sometimes, the evidence regarding a causal relationship between the agent and cancer is not as strong as suggested in the popular media. The authors state that better models of disseminating information on the cancer risks associated with specific agents or products are needed. In addition, the public must be able to understand the difference between a weak study that was publicized on the local news and a well-designed study that was published in a peer-reviewed journal and provides sufficient evidence of a cause and effect relationship.

The Built Environment and Children's Health. Cummins, S.K., and Jackson, R.J. National Center for Environmental Health, Centers for Disease Control and Prevention, Atlanta, Georgia. *Pediatric Clinics of North America* 48(5) (October 2001):1241−52.

Although many common childhood conditions, such as obesity, asthma, lead poisoning, and injuries, are linked to risk factors in a child's built environment, this issue has received little attention from policymakers and researchers. The authors of a recent study by the Centers for Disease Control and Prevention indicate that this new field presents numerous opportunities for etiologic and prevention research, and the article points to a need for advocates to speak out on behalf of children.

The built environment includes many components, from the design and quality of housing to land use and urban planning. Children must live in a high-quality environment to ensure optimal health and development. Building and land-use policies, including the quality and design of a child's physical environment, may cause or prevent illness, disability, and injury. They also can degrade or preserve natural resources.

The Challenge of Preventing Environmentally Related Disease in Young Children: Community-Based Research in New York City. Perera, F.P., et al. *Environmental Health Perspectives* 110 (February 2002):197-204.

Underserved minority populations, such as those in New York City's Washington Heights, Harlem, and the South Bronx, experience disproportionately high rates of developmental and respiratory diseases. African Americans and Latinos in these neighborhoods are at high risk for asthma, adverse birth outcomes, impaired development, and some types of cancer.

The Columbia Center for Children's Environmental Health in Washington Heights is using molecular epidemiologic methods to study the effects of indoor and outdoor urban pollutants on children, both prenatally and postnatally, in a population of 500 African American and Dominican mothers and newborns. The Center is collecting data to determine exposures to particulate substances, including polycyclic aromatic hydrocarbons, diesel exhaust particulate,

nitrogen oxide, nonpersistent pesticides, home allergens, environmental tobacco smoke, and lead and other metals. Biomarkers, air sampling, and clinical assessments are used to study the effects of these exposures on children's increased risk for allergies, asthma and other respiratory disorders, impairment of neurocognitive and behavioral development, and cancer.

The study is being conducted in collaboration with 10 community-based health and environmental advocacy organizations. This unique academic-community partnership is critical to guiding the Center's research; ensuring that the study is relevant to low-income, minority neighborhoods; and returning information to communities in a meaningful and culturally competent manner. In this article, the authors provide a detailed description of this academic-community partnership and present preliminary findings.

Outdoor Air Pollution: Asthma and Other Concerns. Teague, W.G., and Bayer, C.W. *Pediatric Clinics of North America* 48(5) (October 2001):1167−83.

A significant number of children in the United States are exposed to airborne pollutants. It is now recognized that infants at risk for atrophy when exposed to specific environmental airborne pollutants are more likely to develop asthma. Asthma can be exacerbated by airborne pollutants. Airborne ozone and suspected particles are the two most important pollutants in terms of exposure prevalence and suspected adverse health effects in U.S. children.

The authors suggest that pediatricians should be actively involved in community-based efforts to improve air quality. The authors also note that pediatricians, as knowledgeable practitioners, should discuss practical air pollution avoidance strategies with patients and their families.

The mission of the Office of Disease Prevention and Health Promotion (ODPHP) is to provide leadership for disease prevention and health promotion among Americans by stimulating and coordinating prevention activities. *Prevention Report* is a service of ODPHP.