

# SPECIFIC RECOMMENDATIONS

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**T**his five year strategy for DHHS, *Action Against Asthma*, was developed by the Department's asthma experts, along with input from the public. The following specific recommendations address the four priority areas of the five-year strategy. With each recommendation, the agency with primary responsibility for implementation is identified. However, many recommendations require work and coordination among many agencies within the Department and, in these cases, multiple agencies are listed. The majority of the specific recommendations were developed near the time of the first year of the strategy—fiscal year 2000. However, as science continues to produce new findings, new recommendations will continue to emerge.

## **Priority Area 1: Determine the Causes of Asthma and Develop Interventions to Prevent its Onset**

### **Improve Understanding of the Early Life Origins of Asthma**

Determine how early life events, such as features of the mother's or child's diet, exposures in utero or in early infancy to allergens and environmental pollutants, tobacco smoke, or respiratory infections cause children to develop asthma (NIH).

Identify immunologic and clinical markers in infancy and early childhood among children of distinct genetic backgrounds. Determine the utility of these markers as predictors of the onset of asthma or of responsiveness to primary prevention therapy (NIH).

### **Study Gene-Environment Interactions and Links to Characteristics of Asthma**

Identify different clinical characteristics (e.g., exercise induced, nocturnal, persistent symptoms, etc.) of asthma associated with different genetic, physiologic, immunologic and environmental factors (NIH).

Examine the processes involved in asthma, such as understanding: 1) airway biology, 2) role of genetic and environmental factors in the development of airway inflammation, 3) genetic factors underlying atopy (inherited susceptibility to become allergic) or bronchial hyper-responsiveness, and 4) genetic regulation of the immune inflammatory response relevant to asthma (NIH).

### **Investigate Adult Onset of Asthma**

Study the mechanisms of adult onset asthma, including the development of asthma in women and its relationship to hormonal changes, and asthma in the elderly who are likely to have confounding medical complications. In the elderly, study the interaction of asthma medications with medications for other chronic conditions (HCFA, NIH).

Seek to more fully elucidate asthma mechanisms, patterns of responses, and risk factors for work-related asthma (CDC, NIH).

## Test Strategies for Prevention

Assess the effectiveness of allergen avoidance in preventing allergen sensitization and in reducing asthma prevalence among children from low-income families (NIH).

Conduct clinical trials using new immune approaches, in conjunction with optimized environmental control, to test their effectiveness in preventing the onset of asthma and allergic diseases (NIH).

Evaluate the efficacy of early pharmacologic treatment in reducing the onset of asthma in children (NIH).

## Priority Area 2: Reduce the Burden of Asthma for People With the Disease

### **Promote Wider Use of Current Knowledge to Diagnose and Manage Asthma: Public Health Actions**

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#### Help Health Care Providers Practice Up-to-date Asthma Care, and Educate Patients and Their Families

To accelerate widespread use of the *Guidelines* and to increase self-management skills of families and parents, develop partnerships with State health officials, community coalitions, professional societies, public and private health care purchasers, health plans, patients and others (AHRQ, CDC, HCFA, NIH).

Working in partnership within and outside the Federal Government, develop and evaluate improved models and programs that can advance widespread use of the *Guidelines* by health care providers and patients (AHRQ, CDC, NIH).

#### Evaluate and Address Organizational Barriers to Quality Care for Asthma

Evaluate innovative and cost-effective methods promoting adoption of the *Guidelines*, with analysis focused on organizational factors that may drive provider and patient behavior (AHRQ, HRSA, NIH).

Work with managed care and other health care organizations, and with State health officials, to accelerate widespread adoption of the *Guidelines* (HCFA, NIH, CDC).

## **Extend Asthma Control Activities in Community Settings**

Integrate asthma control activities into existing systems such as schools, public housing, child care, youth programs, workplaces, job training programs, and other community institutions (CDC, NIH).

Expand the capacity of school-based health centers to help promote and sustain improved health and environmental policies in schools (HRSA).

Establish programs involving asthma management, education and awareness at the local school level to help monitor and control the physical environment, promote self-management, help identify students with asthma, train school staff, and establish action plans for handling asthma episodes (CDC, NIH).

Increase support for public education campaigns to enhance public awareness about asthma as a serious disease and appropriate asthma management techniques (NIH, CDC).

## **Sustain Support for State and Local Public Health Action**

Provide grants to State health departments to ensure that effective asthma education, prevention, and public health outreach activities in local communities are developed and sustained (CDC, HCFA, NIH).

## **Discover and Develop Improved Means of Managing Asthma: Research**

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### **Improve Understanding of What Makes Asthma Persistent and Severe**

Support basic research on the mechanisms underlying the chronic nature of asthma and the role of airway remodeling and repair in determining the persistence and severity of asthma (NIH).

### **Develop Improved Means of Controlling Triggers of Asthma and Allergic Responses**

Develop new immunologic approaches to reduce allergic responses to indoor allergens responsible for asthma exacerbations. Conduct clinical trials using new immune approaches, in conjunction with optimized environmental control to test effectiveness in treating asthma and allergic diseases (this recommendation is also applicable to preventing the onset of disease) (NIH).

Identify optimal and cost-effective methods to reduce levels of cockroach and other allergens (NIH).

## **Investigate the Relationship Between Air Pollutants and Asthma**

Analyze pollutant-allergen effects on immune responses in animal models and preclinical studies and better understand the mechanisms by which air pollutants contribute to, and mediate, asthma (NIH).

Identify the relative importance and potential synergistic effects of toxic air pollutants on asthma in population-based studies (ATSDR).

Develop and refine methods for medical and environmental monitoring for workplace asthma (CDC).

## **Investigate Variations in Patient Response to Asthma Medications**

Study, in different population groups, the relationship of inherited characteristics of asthma, the severity of an individual's asthma, and the individual's response to medications. Develop appropriate tools to identify the best treatment options for patients based on these characteristics (NIH).

## **Establish Causes and Risk Factors of Asthma Fatalities**

Establish a registry of fatal asthma to permit identification of specific risk factors and mechanisms of fatal and near fatal asthma. This research would provide a scientific basis for change in patient management to reduce the risk of asthma fatality (NIH, CDC).

## **Develop Non-invasive Methods for Diagnosis and Disease Monitoring**

Research is needed to develop non-invasive methods such as imaging or biochemical markers of inflammation for detecting disease and monitoring disease progression. Surrogate markers for asthma in infants, young children and the elderly will also be included (NIH).

## **Expand Research on Asthma in Pregnancy**

Examine the impacts of asthma during pregnancy and the effectiveness of specific treatment regimens on perinatal outcome (NIH).

Follow-up mothers and children currently enrolled in observational studies of asthma during pregnancy through the Maternal-Fetal Medicine Units network. Continue longitudinal observations to: compare asthma in non-pregnancy with prior pregnancy, and subsequent pregnancy in the same individuals; assess risk of development of asthma in study children and their siblings; investigate biomarkers of disease; and, measure environmental factors which may contribute to asthma during pregnancy (NIH).

## **Priority Area 3: Eliminate the Disproportionate Health Burden of Asthma in Minority Populations and Those Living in Poverty**

### **Promote Wider Use of Current Knowledge to Diagnose and Manage Asthma, Focusing on Minority and Low Income Populations**

Focus comprehensive public health initiatives (previously described) on underserved populations, taking into account unique circumstances of the community (ACF, CDC, HRSA, IHS, NIH).

Make culturally and linguistically appropriate information on asthma widely available (CDC, NIH, HRSA).

Train Head Start staff in asthma management techniques by expanding existing programs on “Sustaining a Healthy Environment” and “Caring for Children with Chronic Illnesses” (ACF).

### **Improve Access to Quality Care**

Award grants to state and local agencies or organizations to develop and expand effective strategies for reducing the adverse effects of asthma by expanding access to high-quality health care. Key features include: use of the *Guidelines*; consistent and ongoing comprehensive care; adequate financing for services, medications and medical supplies that help control asthma; coordination of services among community providers; and active participation of families in the provision of culturally competent, family-centered, community-based services (HRSA).

Test the effectiveness of quality improvement strategies such as disease management (through grants and technical assistance to States), in reducing the frequency and severity of asthma attacks among children insured by Medicaid and the Children’s Health Insurance Program (HCFA, HRSA, AHRQ).

### **Expand Research on Asthma in Special Population Groups**

Distinguish the roles of environmental, socio-economic and socio-cultural factors in asthma severity from those of genetically-based differences. For inner-city populations exposed to higher levels of environmental allergens and pollutants, design and evaluate interventions to reduce asthma severity. Investigate variations in responses to asthma medications (ATSDR, NIH).

Examine the prevalence and impacts of asthma on American Indians (IHS, NIH).

Examine the differences in asthma prevalence among people of different origins in order to provide insights on risk factors contributing to higher prevalence rates (NIH).

## **Investigate Access to Quality Care and Evaluate Quality**

Develop and evaluate new models for delivering quality asthma care to patients most at risk for asthma related illness and death (AHRQ, NIH, HRSA, HCFA).

Evaluate the utilization and expenditure patterns associated with asthma among low-income individuals covered under Medicaid, State Children's Health Insurance Program (SCHIP), and Medicare. Evaluate access to care and its barriers, the process and quality of care, and the outcomes of care for asthma (HCFA, AHRQ).

Examine the health impact of managed care practices and policies on those with asthma insured under Medicaid and SCHIP (HCFA, AHRQ, HRSA).

Evaluate the roles of poverty, race and ethnicity in the use of emergency room services and hospitalization rates and in the quality of care received for asthma (CDC, NIH, AHRQ).

## **Priority Area 4: Track the Disease and Assess the Effectiveness of Asthma Programs**

### **Establish Coordinated and Systematic Local, State and National Systems for Asthma Surveillance**

Conduct surveys to determine the prevalence of asthma, the quality of asthma management and the quality of life for people with asthma (CDC).

Examine mortality and hospitalization data at the local level to allow for immediate investigation of deaths from asthma, and for rapid assessment of reasons behind changing rates of morbidity (CDC).

Develop supplementary data systems to gather additional information in locations with particularly elevated rates of asthma prevalence or other measures of the burden of the disease (CDC).

Develop model emergency department surveillance systems to identify characteristics of persons without access to quality care or with exceptionally severe disease (CDC).

### **Evaluate Public Health and Health Services Interventions, and Disseminate Results**

Develop and utilize appropriate tools to evaluate the cost-effectiveness of various intervention and asthma management strategies (AHRQ, HRSA, NIH)

Incorporate and adequately fund appropriate evaluation mechanisms into all asthma intervention programs (ACF, CDC, HCFA, HRSA, IHS, NIH)

Evaluate local and regional asthma coalition efforts (AHRQ, NIH)

Widely disseminate the results of evaluations of asthma programs (ACF, AHRQ, CDC, HCFA, HRSA, IHS, NIH).