

# MARYLAND ASTHMA PLAN 2004



Prepared by  
Maryland Asthma Control Program  
Maryland Department of Health and Mental Hygiene

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Chapter

American Lung Association



STATE OF MARYLAND

**DHMH**

Maryland Department of Health and Mental Hygiene  
201 W. Preston Street • Baltimore, Maryland 21201

Robert L. Ehrlich, Jr., Governor • Nelson J. Sabatini, Secretary

**Family Health Administration**

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March 24, 2004

Dear Colleagues and Supporters:

We know that you are aware of the increasing problems associated with asthma in Maryland and the Nation. To address this growing concern, the Maryland Department of Health and Mental Hygiene, the American Lung Association of Maryland and a vast array of public and private partners in the State have worked over the last two and a half years to develop a long-term plan to control asthma. The Centers for Disease Control and Prevention have provided funding and technical support for the development of the Maryland Asthma Plan. We see the accompanying Asthma Plan as a road map for immediate intervention as well as a guide to address asthma in the decade to come. The Plan is not meant to be a static document but one that will evolve to meet changing needs and priorities with the resources at hand.

Maryland is advantaged with tremendous assets committed to address the burden of asthma in our State. The Asthma Plan helps to bring together these assets to work toward common goals. The evolving Plan--informed by our tracking activities and supported by the ongoing collaboration of the Maryland Asthma Coalition--will lead us forward in a coordinated manner to decrease the impact of asthma on our citizens.

We want to offer special thanks to the members of our Planning Task Force who worked diligently to produce the Plan, to those who shared their views at Regional Meetings and Focus Groups to enlighten the Plan and to everyone in Maryland who works every day to help individuals living with asthma breathe more easily. It has been a rewarding effort to work with such committed individuals.

The Plan, however, is a beginning not an end in itself. We look forward, therefore, to ongoing collaboration with our established and future partners to achieve the progress necessary to control asthma in Maryland.

Sincerely,

Maureen C. Edwards, MD, MPH  
Maryland Asthma Control Program

Stephen M. Peregoy, President & CEO  
American Lung Association of Maryland



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## EXECUTIVE SUMMARY

### Introduction

In 2001 the Maryland Department of Health and Mental Hygiene received the three-year CDC grant, “Addressing Asthma from a Public Health Perspective” to develop a surveillance system and State plan to reduce the burden of asthma. In 2002 the Maryland State Legislature established the Maryland Asthma Control Program (MACP) to address asthma, a chronic respiratory disease with no known cure. MACP envisions a future in Maryland in which individuals and the population as a whole are free of the impact of asthma. MACP seeks to prevent asthma and to maximize the health and well being of children, adolescents, and adults living with asthma. The Maryland Asthma Plan is intended to provide a comprehensive framework for local and statewide action against this disease.

### The Burden of Asthma

The Maryland Asthma Surveillance Report, 2003 reveals that one out of every 10 Maryland residents is directly affected by asthma. Many others are touched by asthma-related problems in their communities, families, schools and workplace. Nationally, the United States Department of Health and Human Services describes asthma as epidemic (May, 2000). Asthma is identified as the leading work-related lung disease for adults and the leading cause of school absence due to chronic disease for children. The Center for Disease Control and Prevention’s (CDC) Behavioral Risk Factor Surveillance System reports about 500,000 Maryland adults and 150,000 Maryland children have been diagnosed with asthma at a prevalence rate parallel to the national rate. Maryland surveillance additionally reports asthma, a disease which can be controlled, as the cause of 39,019 emergency department visits, 8000 hospitalizations, and 88 deaths in an average year.

In Maryland, young adults, elderly, women, African-Americans and individuals with lower incomes are disproportionately impacted by asthma. Young children with asthma have increased episodes of severe events.

### Developing the Maryland Asthma Plan

MACP, funded by the CDC, has established the Maryland Asthma Coalition, formerly the Maryland Asthma Task Force, as a group of stakeholders representing individuals with asthma, public and private agencies, educational institutions, asthma care providers and others with an interest in asthma. Six work groups, six focus groups, four regional meetings and an Asthma Summit have convened to meet the charge to develop the Maryland Asthma Plan.

The Coalition is designing the Maryland Asthma Plan to be consistent with the CDC Asthma Program. Components of both the national and state program will include surveillance, identification and implementation of evidence-based asthma interventions, and the development of partnerships. The Coalition intends to meet long-term goals of the Plan in a ten-year time frame.

*Summary of Goals and Objectives in the Maryland Asthma Plan*

***Goal I: Decrease the prevalence of asthma and the occurrence of its complications in Maryland.***

- A. *Surveillance/Tracking:*** Maintain and expand an asthma surveillance/tracking system to identify geographic areas and populations with an increased burden of asthma and to evaluate efficacy of interventions.
- B. *Provider Issues:*** Increase provider use of the NIH Guidelines (National Heart, Lung and Blood Institute's National Asthma Education and Prevention Program Expert Panel Report 2: Guidelines for the Diagnosis and Management of Asthma and the Update on Selected Topics 2002).
- C. *Patient Issues:*** Improve access to care and increase self-management knowledge and behavior in people with asthma, their families and other caregivers.
- D. *Environment:*** Decrease exposure to environmental factors that negatively influence asthma.
- E. *Schools:*** Maximize management of asthma in the school setting.
- F. *Child care:*** Maximize management of asthma in the child care setting.
- G. *Collaboration and Coordination:*** Establish and maintain an ongoing statewide asthma coalition.
- H. *Communication:*** Improve public awareness and sensitivity to the needs of persons with asthma.
- I. *Research:*** Support activities of researchers investigating causes, triggers and management of asthma, as well as health care policies and outcomes, particularly as the activities relate to Maryland issues.

***Goal II: Decrease disparity in health outcomes related to asthma in all parts of the State.***

- A. *Exploring Disparities:*** Utilize surveillance/tracking data to identify determinants of disparities in asthma occurrence or outcome among population groups.
- B. *Eliminating Disparities:*** Ensure that all persons with asthma receive the appropriate level of care and services that are culturally effective and centered in their community.



## ASTHMA AS A DISEASE

**A**sthma is a chronic respiratory disease with significant effect on both children and adults. The Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH) in Healthy People 2010 identify asthma as among the ten most common chronic health conditions in the United States. Action Against Asthma: A Strategic Plan for the Department of Health and Human Services May, 2000 reports asthma in our country as epidemic: the number of persons with asthma has more than doubled since 1980.

### **D**agnosis

Guidelines for the Diagnosis and Management of Asthma. National Institutes of Health, National Heart, Lung, and Blood Institute, NIH Publication No. 97-4501, April, 1997 defines asthma as a chronic inflammatory disease of the airways. It can be life threatening. Airway inflammation contributes to airflow limitation, airway hyper-responsiveness, disease chronicity and respiratory symptoms. Airflow limitation occurs in several forms including acute bronchoconstriction, airway edema, mucus plug formation and airway wall remodeling.

Asthma symptoms may include coughing, recurrent breathing difficulty, chest tightness and wheezing; symptoms most often occur when a person with asthma is exposed to environmental triggers.

The Guidelines for the Diagnosis and Management of Asthma, NIH Publication No. 97-4501, April, 1997 and Guidelines for the Diagnosis and Management of Asthma—Update on Selected Topics 2002, NIH Publication No. 02-5075, June, 2002 (collectively referred to henceforth as the NIH Guidelines) advise the clinician to diagnose asthma through careful medical history taking, physical examination, lung function measurement and additional testing as appropriate. The clinician may make the asthma diagnosis by determining that:

- episodic symptoms of airflow obstruction are present,
- airflow obstruction is at least partially reversible and
- alternative diagnoses are excluded.

### **C**auses

The exact cause(s) of asthma remains unknown although current knowledge suggests that susceptible persons have a genetic predisposition to be allergen responsive. The interplay of genetics and exposure to environmental and other asthma triggers can lead to asthma episodes. These triggers may include:

- allergens -- animal dander, cockroaches, dust mites, foods, mildew, mold, pollen, sulfites;
- irritants -- air pollution/ozone, chalk dust, environmental tobacco smoke, home and

- personal care products, spray products, weather changes;
- others -- exercise, medical conditions (gastric reflux, rhinitis, sinusitis), stress, strong emotions (crying, laughing) and viral infections.

## Treatment

The severity and persistence of asthma symptoms determine asthma treatment. The [NIH Guidelines](#) recommend clinical asthma treatment standards. Therapy goals are to:

- prevent chronic and troublesome symptoms (coughing, breathlessness, wheezing and chest tightness),
- maintain “normal” lung function,
- maintain normal activity levels (exercise and other physical activity),
- prevent recurrent exacerbations of asthma (minimize the need for emergency department visits and/or hospitalizations),
- provide optimal drug therapy while minimizing adverse effects and
- meet patients’ and families’ expectations of and satisfaction with care.

The clinician should use the following tools for effective asthma management:

- asthma action plan -- a written plan to guide asthma management and promote partnership between persons with asthma, health care providers, family, and all persons regularly associated with the affected person (school, day care, work associates),
- environmental control to decrease exposure to asthma triggers,
- control medication to decrease airway inflammation that may lead to asthma episodes and for long-term management of persistent asthma,
- quick relief medication to treat acute symptoms and to help prevent exercise-induced asthma,
- metered dose inhalers, spacers and nebulizers to assure appropriate delivery of medications and
- peak flow meters to measure respiratory status.

## Cure

Asthma has no cure but it can be controlled. Use of effective treatment options as outlined in the [NIH Guidelines](#) can prevent much of the disability and disruption to daily lives resulting from asthma.

## ASTHMA AS A NATIONAL PUBLIC HEALTH PRIORITY

**E**veryone knows someone with asthma. Asthma substantially impacts American health, quality of life and the economy (CDC, 2003).

The CDC National Center for Health Statistics (NCHS) 2001 data reported that 31.3 million Americans (114 per 1000) had been diagnosed with asthma at some point in their lifetime. This includes 22.2 million adults (109 per 1000) and 9.2 million children 0-17 years (126 per 1000). Of this population, 20.3 million--including 6.3 million children--had a current asthma diagnosis. NCHS adds that in the year 2000, asthma episodes accounted for 10.4 million outpatient visits, 1.8 million emergency department visits, 465,000 hospitalizations and 4,487 deaths.

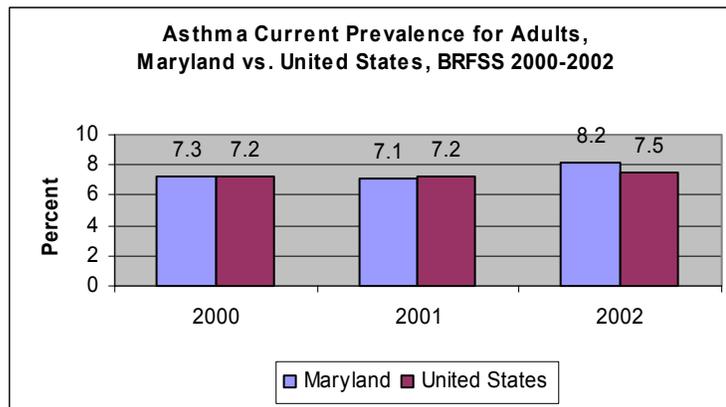
NCHS data also shows that severe asthma disproportionately affects poor, minority and inner city populations. African Americans visit emergency departments, are hospitalized, and die due to asthma at rates three times higher than white Americans.

The U.S. Department of Health and Human Services' strategic plan, Action Against Asthma, identifies asthma as the leading work-related lung disease. As much as 20% of adult onset asthma may be work-related in some regions.

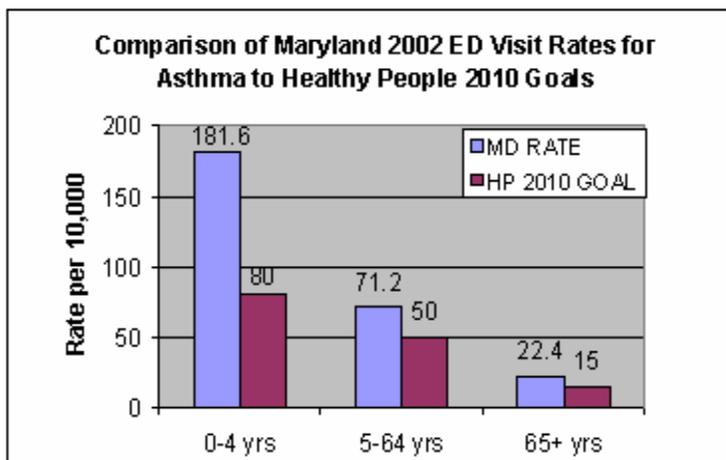
Action Against Asthma also reports that children under the age of five are experiencing the highest rate of increase in asthma. It suggests there are usually two children with asthma in every American classroom of 30 children. The National Center for Environmental Health (NCEH) adds that asthma episodes account for 14 million lost school days annually and 100 million days of restricted activity for affected children. NCEH also reports asthma to be the third-ranking cause of hospitalization in children 0-15 years and the estimated cost of treating asthma in children 0-18 years to be \$3.2 billion per year.

## BURDEN OF ASTHMA IN MARYLAND

**A**sthma's impact on personal and public health, quality of life and the economy in Maryland follows national trends. The Maryland Asthma Surveillance Report, 2003 summarizes that one out of every 10 Maryland residents is directly affected by asthma. Even more persons in Maryland are touched by asthma-related problems in their workplace, schools, families and communities.

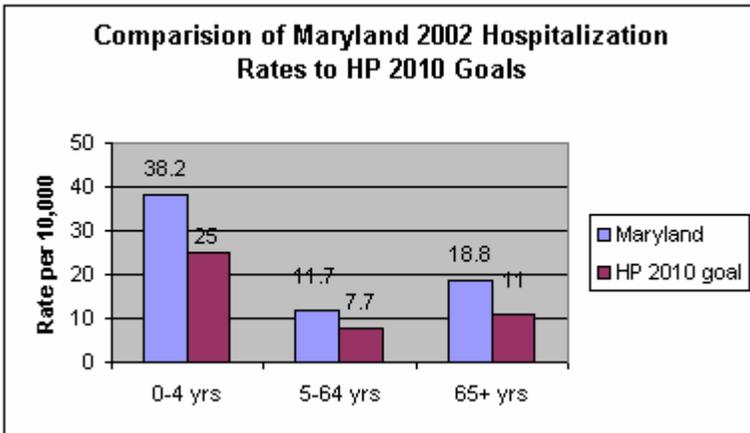


In 2002 the CDC Behavioral Risk Factor Surveillance System (BRFSS) estimated that more than 500,000 Maryland adults and 150,000 Maryland children have been diagnosed with asthma. Maryland prevalence rates for asthma are similar to that of the United States as a whole. BRFSS data for adults aged 18 and over indicate that African-Americans, women and young adults are disproportionately burdened by asthma, as are persons with low income and limited education.



In 2002, asthma led to 39,019 visits to Maryland hospital emergency departments (ED) according to data provided by the Health Services Cost Review Commission (HSCRC). This corresponds to a rate of 72.4 visits per 10,000 persons. Maryland's ED visit rate is higher than the 2001 national average of 60 visits per 10,000 persons as determined by the NCHS. Maryland rates are also higher than the Healthy People 2010 goals for all age groups.

Comparison of Maryland 2002 Hospitalization Rates to HP 2010 Goals



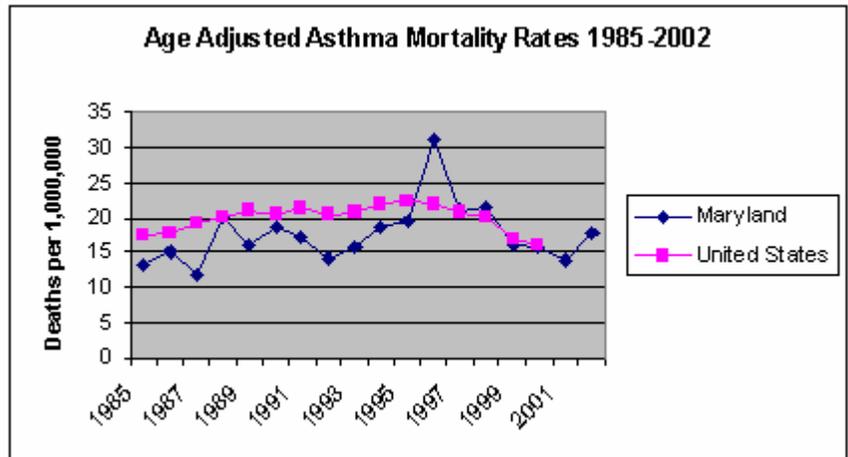
Maryland residents who are African-American, female and/or less than 5 years of age suffer from a disproportionate number of ED visits.

HSCRC data also provides information about asthma hospitalizations. In 2002, Maryland residents were hospitalized 7695 times for asthma in the State, and an additional 521 times in the District of Columbia or West Virginia. The hospitalization rate of 15.2 per 10,000 persons is lower than the 2002 national

average of 17.4 per 10,000 persons, but rates are higher than the Healthy People 2010 goals for all age groups. Similar to ED visit data, African-Americans, females and children under 5 years of age are hospitalized more often for asthma.

Over the past five years, an average of 88 Maryland residents have died from asthma annually (16.7 deaths per million persons.) While these rates are similar to national data from 2000, asthma mortality rates have exceeded the Healthy People 2010 goals for all age groups.

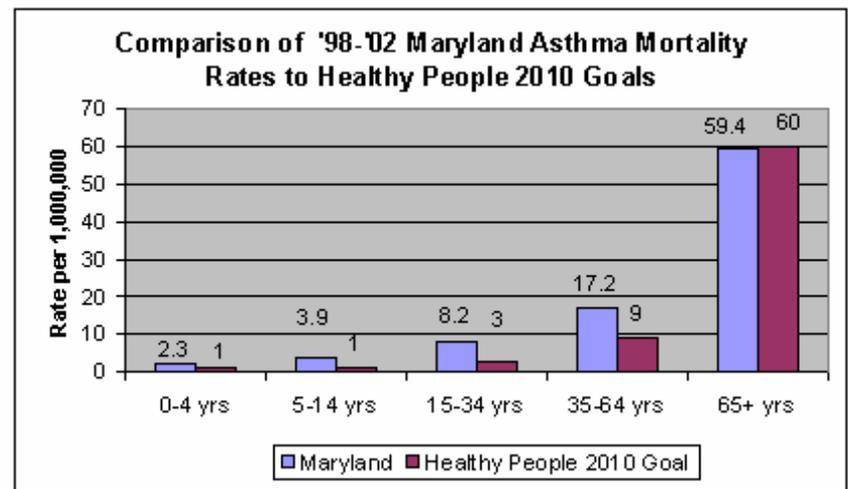
Age Adjusted Asthma Mortality Rates 1985-2002



Disparities in asthma mortality have been identified. Over the last five years and adjusting for age, three times as many African-Americans died from asthma compared to whites, and nearly twice as many women as men in Maryland died from asthma.

Several Maryland counties are particularly burdened by asthma. Baltimore City has asthma prevalence rates that are higher than the State average and also has significantly higher ED visit, hospitalization and mortality rates as compared to the State as a whole. While other counties have prevalence rates similar

Comparison of '98-'02 Maryland Asthma Mortality Rates to Healthy People 2010 Goals



to the State as a whole, they suffer from significantly higher ED visit, hospitalization and mortality rates compared to statewide averages (See the [Maryland Asthma Surveillance Report, 2003](#) for details).

Asthma leads to significant monetary and non-monetary costs to the State and its residents. Hospitalization and ED visits alone led to \$62 million in charges in 2002 according to HSCRC data, and the proportion of hospitalization charges billed to Medicare and Medicaid is increasing. Asthma affects the quality of life of both Maryland adults and children. BRFSS data indicate that adults with asthma are more likely than those without to consider their health status as fair or poor. In 2002, nearly 42% of children with asthma missed school as a result of their illness.

In addition to persons with identified asthma, national sources suggest that many more people may have undiagnosed disease thus increasing the actual burden of disease.

In light of the extensive burden of asthma on Maryland citizens, it is important that the State approach asthma from a public health perspective with a comprehensive plan.



Photo courtesy of American Lung Association.

## DEVELOPING THE MARYLAND ASTHMA PLAN

**A**sthma occurs as a complex health condition affecting those of all ages, races and incomes. In addition to medical impact on individual behaviors and lifestyles, asthma has broad educational, environmental and workplace consequences within communities. Addressing asthma in all of these arenas requires a comprehensive plan, one that can help integrate actions efficiently and economically.

Several national efforts are already in place and can serve as a framework for asthma planning in Maryland. These include:

- Healthy People 2010 [www.health.gov/healthypeople/document/html/volume2/24respiratory.htm](http://www.health.gov/healthypeople/document/html/volume2/24respiratory.htm)
- Action Against Asthma: A Strategic Plan for the Department of Health and Human Services May, 2000  
[www.aspe.hhs.gov/sp/asthma](http://www.aspe.hhs.gov/sp/asthma)
- Centers for Disease Control and Prevention Asthma Program  
[www.cdc.gov/nceh/airpollution/asthma](http://www.cdc.gov/nceh/airpollution/asthma)

### **P**urpose

The purpose of the Maryland Asthma Plan is to provide a common vision for individuals, organizations and communities to address the burden of asthma in Maryland. The Plan will serve as a roadmap to implement and evaluate local and statewide actions based on best practices of medical and environmental asthma management.

The Maryland Asthma Plan encompasses the CDC Asthma Program components that include surveillance, identification and implementation of science-based asthma interventions and the development of partnerships. The Maryland Asthma Plan is designed to meet long-term goals in a ten-year time frame and as such arises from an ongoing dynamic process.

## **P**rocess

In the late 1990s, the CDC established asthma contacts in each state and jurisdiction of the United States. The contacts are provided with information on asthma and on funding opportunities. In 2001, the Family Health Administration of the Maryland Department of Health and Mental Hygiene (DHMH) sought and received the three-year CDC grant, “Addressing Asthma from a Public Health Perspective.” The Maryland State Legislature established the Maryland Asthma Control Program (MACP) in statute in 2002 to assure continuity of the Program. MACP has utilized the CDC funding to establish a Maryland Asthma Planning Task Force to meet its charge of developing a ten-year plan for comprehensively addressing asthma in Maryland. The Task Force has met quarterly and consists of asthma stakeholders representing individuals with asthma, public and private agencies, educational institutions, asthma care providers and others.

The Task Force initially convened four work groups in 2002. Participants in the work groups developed goals, objectives, strategies, and action steps to address data, environment, patient issues and provider issues. Subsequently a work group was formed to address specific school asthma issues.

Next, six demographically and geographically representative asthma focus groups were held to explore asthma issues from the perspectives of both consumers and providers. Four consumer focus groups composed of adults with asthma and parents of children with asthma included rural and urban representation. The groups met in Baltimore City, Largo (Central Maryland), Salisbury (Eastern Shore), and Hagerstown (Western Maryland). Two service provider focus groups were held in Salisbury (rural) and another in Baltimore (metropolitan). Each group included physician, respiratory therapist, local health department and non-profit agency representation.

The Task Force shared the early efforts of the work groups and focus group information at a Maryland Asthma Summit on September 23, 2002. Summit attendees met in breakout sessions to formulate additional input to the draft Maryland Asthma Plan.

DHMH and local health departments sponsored four regional public meetings in early spring 2003 to further address the draft Plan. Attendees identified asthma management barriers, successes, resources and recommendations at meetings held in Allegany County (Western Maryland), Calvert County (Southern Maryland), Montgomery County (Central Maryland) and Talbot County (Eastern Shore). Asthma work group meetings have continued in 2004. The data group has become the asthma surveillance/tracking group and a new group is addressing asthma in the child care setting. The Task Force now convenes as the Maryland Asthma Coalition and continues to actively pursue the implementation of the Maryland Asthma Plan as well as other statewide Coalition functions.

## ASTHMA PRIORITIES IN MARYLAND

**T**he Maryland Asthma Control Program and its Planning Task Force have defined the vision, mission and two overarching goals for the Maryland Asthma Plan.

### **V**ision

The Maryland Asthma Control Program envisions a future in Maryland in which individuals and the population as a whole are free of the impact of asthma.

### **M**ission

The Maryland Asthma Control Program seeks to prevent asthma and to maximize the health and well being of children, adolescents and adults living with asthma.

### **G**oals and Objectives

**Goal I: Decrease the prevalence of asthma and the occurrence of its complications in Maryland.**

**Objective A: Surveillance/Tracking**

Maintain and expand an asthma surveillance/tracking system to identify geographic areas and populations with an increased burden of asthma and to evaluate efficacy of interventions.

**Objective B: Provider Issues**

Increase provider use of the NIH Guidelines (National Heart, Lung and Blood Institute's National Asthma Education and Prevention Program Expert Panel Report 2: Guidelines for the Diagnosis and Management of Asthma and the Update on Selected Topics 2002).

**Objective C: Patient Issues**

Improve access to care and increase self-management knowledge and behavior in people with asthma, their families and other caregivers.

**Objective D: Environment**

Decrease exposure to environmental factors that negatively influence asthma.

Objective E: Schools

Maximize management of asthma in the school setting.

Objective F: Child care

Maximize management of asthma in the child care setting.

Objective G: Collaboration and Coordination

Establish and maintain an ongoing statewide asthma coalition.

Objective H: Communication

Improve public awareness and sensitivity to the needs of persons with asthma.

Objective I: Research

Support activities of researchers investigating causes, triggers and management of asthma, as well as health care policies and outcomes, particularly as the activities relate to Maryland issues.

**Goal II: Decrease disparity in health outcomes related to asthma in all parts of the State.**

Objective A: Exploring Disparities

Utilize surveillance/tracking data to identify determinants of disparities in asthma occurrence or outcome among population groups.

Objective B: Eliminating Disparities

Ensure that all persons with asthma receive the appropriate level of care and services that are culturally effective and centered in their community.

## MARYLAND ASTHMA PLAN

### **G**oal I

Decrease the prevalence of asthma and the occurrence of its complications in Maryland.

### **O**bjective A: Surveillance/Tracking

Maintain and expand an asthma surveillance/tracking system to identify geographic areas and populations with an increased burden of asthma and to evaluate efficacy of interventions.

#### **Background**

Asthma surveillance/tracking is essential as the first step in determining asthma's impact on both personal and public health in Maryland. Systematic asthma surveillance/tracking can provide the who, where, why, and how of asthma morbidity and mortality. Gathering and evaluating data identifies asthma problems and helps guide solutions.

#### **Strategies**

1. Ensure adequate resources to provide infrastructure for asthma surveillance/tracking programs.
2. Maintain existing surveillance/tracking strategies.
3. Utilize and expand surveillance/tracking data to identify and describe geographic areas and populations at increased risk, with particular attention to special populations including:
  - adults with work-related asthma,
  - children,
  - elderly,
  - Medicaid enrollees,
  - non-English speaking persons and
  - pregnant women.
4. Collaborate with local and neighboring jurisdictions as well as with regional and national efforts to reach an integrated asthma surveillance/tracking system.
5. Collaborate with the state environmental health tracking system and others to collect data on environmental factors as they relate to asthma.

6. Ensure that the asthma surveillance/tracking system is responsive to the needs of asthma stakeholders.
7. Support development of local, state and national surveillance policies and enabling legislation where appropriate.

**Proposed Action Steps**

1. Secure national, state and local funding from public and private sources to support asthma surveillance/tracking efforts.
2. Utilize existing data sets for indicators of prevalence, emergency visits, hospitalization rates, mortality rates and quality of life.
3. Consider the variability in making an asthma diagnosis and its impact on data collection, particularly as it relates to young people and to adults with co-morbid conditions.
4. Acquire and organize data by age groups, economic status, ethnicity, race, primary language spoken, gender and geography to identify populations at highest risk.
5. Develop new sources and tools to expand surveillance for special populations.
  - a. Survey adult asthma providers to determine occurrence of work-related asthma.
  - b. Develop ongoing surveillance/tracking for work-related asthma.
  - c. Utilize childhood asthma questions on the Behavioral Risk Factor Surveillance System (BRFSS) to substantiate childhood prevalence.
6. Produce and distribute annual reports.
7. Inform and involve the community in ongoing development and evaluation of the asthma surveillance/tracking system.
8. Share asthma surveillance/tracking information among Maryland jurisdictions, the District of Columbia and neighboring state health officials.
9. Partner with agencies/organizations who have an interest in asthma and its environmental triggers including the American Lung Association (ALA), the Asthma and Allergy Foundation of America (AAFA), the Maryland Department of the Environment (MDE), the Maryland State Department of Education (MSDE), the Maryland Department of Human Resources (DHR) and Maryland's universities.
10. Develop and pilot a system to collect data on care management issues.

## **G**oal I

Decrease the prevalence of asthma and the occurrence of its complications in Maryland.

## **O**bjective B: Provider Issues

Increase provider use of the NIH Guidelines (National Heart, Lung and Blood Institute's National Asthma Education and Prevention Program Expert Panel Report 2: Guidelines for the Diagnosis and Management of Asthma and the Update on Selected Topics 2002).

### **Background**

Asthma is a chronic respiratory disease which cannot be cured but which can be controlled utilizing national asthma guidelines. The NIH Guidelines promote standards for diagnosing and managing asthma. Effective management includes controlling exposure to factors that initiate asthma episodes, treating asthma with medication, using objective lung function measures to assess disease status, monitoring of the patient's self care skills and educating persons with asthma to be partners in their own care. Increasing provider awareness and utilization of these established standards to provide quality, comprehensive asthma care for Marylanders is an ongoing process.

### **Strategies**

1. Increase health care providers' knowledge of the NIH Guidelines.
2. Identify barriers and minimize their effect on provider use of the NIH Guidelines.
3. Promote provider use of the NIH Guidelines in emergency care and hospital inpatient settings.
4. Promote integration of effective patient education with provider care in all settings.
5. Promote communication among all providers regarding patient status.
6. Acknowledge and encourage the insurer's role as provider.
7. Support development of local, state and national policies and enabling legislation to assure access to quality comprehensive care where appropriate.

**Proposed Action Steps**

1. Conduct provider surveys and focus groups to assess current provider knowledge of and barriers to NIH Guidelines use.
  - a. If knowledge of the NIH Guidelines is a barrier, identify what has already been done to educate current providers.
  - b. If time is a barrier, develop strategies that utilize all staff and time saving procedures in patient care and education.
  - c. Share survey and focus group findings with providers.
2. Promote availability and referral to sub-specialty care consistent with the NIH Guidelines in geographic areas of need and for populations at increased risk.
3. Educate all asthma care providers regarding the content of the NIH Guidelines. Asthma care providers include emergency medicine providers, insurers, nurses, nurse practitioners, office staff, pharmacists, primary care providers, respiratory therapists and specialists.
4. Educate all clinical care providers to be responsible for ongoing patient education, written asthma action plans, appropriate medication, equipment for home and school and environmental modifiers.
5. Use a behavior change model to increase use of the NIH Guidelines.
6. Collaborate with non-profit agencies and professional organizations to enhance provider education resources.
7. Encourage inclusion and periodic update of the NIH Guidelines education in all health professions' curricula.
8. Distribute patient asthma education materials for provider use appropriate for varying age, language, literacy and cultural preferences.
9. Encourage providers to promote healthy living behaviors that positively impact general health and lung health such as adequate sleep and exercise, appropriate nutrition, hand washing and immunizations (See Goal I Objective C).
10. Encourage providers to promote flu vaccination for persons with asthma as appropriate (See Goal I Objective C).
11. Utilize Certified Asthma Educators, insurers and non-profit agencies to supplement patient education.
12. Seek reimbursement for patient education.

13. Promote provider use of written asthma action plans.
  - a. Make a multi-copy asthma action plan available to providers.
  - b. Include instruction in how to develop and use a written asthma action plan in health professions' education curricula and in the NIH Guidelines education to current providers.
14. Develop and utilize asthma protocols in emergency care and hospital inpatient settings.



Maryland Asthma Planning Task Force meeting 2003.

## **G**oal I

**Decrease the prevalence of asthma and the occurrence of its complications in Maryland.**

## **O**bjective C: Patient Issues

**Improve access to care and increase self-management knowledge and behavior in people with asthma, their families and other caregivers.**

### **Background**

Persons with asthma who have self-management knowledge and behaviors are better able to control their disease. Fewer asthma episodes result in fewer health, education, workplace and economic consequences. Asthma education must be appropriate for differing needs based on age, language, literacy and cultural diversity.

### **Strategies**

1. Assess asthma education needs of patients, families and caregivers.
2. Promote statewide implementation of asthma education activities that are evidence-based and successful on the local level.
3. Support activities that increase patient asthma knowledge and encourage asthma self-management.
4. Promote education of all families and caregivers regarding asthma self-management.
5. Support the Certified Asthma Educator as integral to the asthma management team.
6. Raise public awareness of asthma so that persons with undiagnosed or uncontrolled asthma will seek care.
7. Support access to primary and specialized asthma care across the State.
8. Support development of local, state and national asthma policies and enabling legislation that enhance patient self-management where appropriate.

**Proposed Action Steps**

1. Conduct periodic patient focus groups, community meetings, surveys, etc. to update the Maryland Asthma Plan.
2. Utilize public service announcements and other mass education efforts to raise asthma awareness.
3. Review asthma education materials to ensure appropriateness across various age, language, literacy and cultural preferences; and develop appropriate materials if they are not available.
4. Educate persons with asthma and their families about healthy living behaviors that positively impact general health and lung health including adequate sleep and exercise, appropriate nutrition, hand washing and immunizations (See Goal I Objective B).
5. Inform persons with asthma to seek flu vaccination as appropriate (See Goal I Objective B).
6. Encourage persons with asthma and their families to ask questions that stimulate guideline-based practice: for example, “what is an asthma action plan?”
7. Increase funding and other support for asthma camps, clinic care and evidence-based asthma education in schools to enhance asthma self-management skills for both youth and adults.
8. Distribute asthma education resources to public libraries.
9. Provide asthma education and awareness programs to child care providers, school health care providers and school staff including administrators, cafeteria and transportation personnel, classroom and playground aides, coaches and teachers (See Goal I Objectives E and F).
10. Promote asthma awareness in first aid and emergency care courses.
11. Support availability of a nurse consultant and/or Certified Asthma Educator in venues such as child care, schools and the workplace (See Goal I Objectives E and F).
12. Develop an asthma resource guide and make it available to patients, caregivers and providers.
13. Strengthen the infrastructure for asthma educator certification.
  - a. Pilot evaluation of the Certified Asthma Educator’s contribution to patient status.
  - b. Support asthma educator certification.
  - c. Promote asthma education reimbursement via Medicaid and private insurance.

14. Assure access to appropriate interventions for special populations including:
  - adults with work-related asthma,
  - children,
  - elderly,
  - Medicaid enrollees,
  - non-English speaking persons and
  - pregnant women.
15. Support health care insurance coverage for all persons with asthma, particularly uninsured adults.



Photos courtesy of American Lung Association and Asthma and Allergy Foundation of America.

## **G**oal I

**Decrease the prevalence of asthma and the occurrence of its complications in Maryland.**

## **O**bjective D: Environment

**Decrease exposure to environmental factors that negatively influence asthma.**

### **Background**

Environmental factors may contribute to the development of asthma and the onset of asthma attacks. State health and environmental agencies, other groups and individuals must work together to decrease the impact of these factors.

### **Strategies**

1. Ensure public awareness of environmental factors that influence asthma.
2. Collaborate with groups applying a healthy-homes, healthy-community approach to environmental health.
3. Support efforts to decrease exposure to outdoor environmental factors that affect asthma.
4. Support efforts to decrease exposure to indoor environmental factors that affect asthma.
5. Support efforts to reduce smoking and exposure to environmental tobacco smoke.
6. Promote the development and implementation of an environmental assessment and improvement program for child care centers and schools.
7. Develop a system for addressing work-related asthma.

### **Proposed Action Steps**

1. Identify existing environmental health guidelines from government and professional organizations that relate to asthma.
2. Integrate consistent and culturally effective environmental messages into existing asthma outreach materials including those relating to indoor and outdoor air quality, bio-allergens and infectious agents.
3. Promote environmental practices that minimize infections which impact asthma.

4. Encourage collaboration among the wide-range of groups interested in the comprehensive healthy-homes, healthy-community concept including environmental health professionals, builders and architects, community planners, neighborhood groups and public and private organizations
5. Involve above stakeholders in asthma outreach activities (See Goal I Objective H).
6. Support and expand data collection and research efforts relative to outdoor and indoor air quality factors as they relate to asthma (See Goal I Objective I).
7. Develop methods to integrate and utilize outdoor air quality and asthma data to identify trends and evaluate interventions.
8. Support regulatory and non-regulatory efforts to decrease outdoor air factors impacting asthma.
9. Encourage the development and implementation of indoor air quality guidelines and standards including those related to construction and building maintenance.
10. Address indoor air technical training efforts as they relate to remediation of asthma triggers such as mold.
11. Provide public education regarding adverse effects of tobacco smoke on health of persons with asthma.
12. Collaborate with others working to reduce smoking and lead poisoning in efforts to comprehensively improve the indoor environment.
13. Consider asthma in facility location, design, operation, maintenance and renovation of schools and child care centers (See Goal I Objectives E and F).
14. Collaborate with all affected parties in the development of environmental programs for schools and child care centers (See Goal I Objectives E and F).
15. Develop a system for collecting and analyzing data concerning work-related asthma.
16. Identify and collaborate with partners—including employer and employee groups—who have an interest in work-related asthma.
17. Conduct educational activities involving all appropriate stakeholders that will raise awareness regarding work-related asthma.
18. Develop educational and government activities that identify and eliminate factors contributing to work-related asthma.

## **G**oal I

**Decrease the prevalence of asthma and the occurrence of its complications in Maryland.**

## **O**bjective E: Schools

**Maximize management of asthma in the school setting.**

### **Background**

Students with asthma require many partners in order to be present, healthy and available to learn. Asthma episodes result in restricted student activities, lost student school days and lost parental work time. The CDC recommends addressing asthma management in schools within the context of coordinated school health programs.

### **Strategies**

1. Support development of local, state and national policies and enabling legislation to advance a system of asthma management and support in schools where appropriate.
2. Promote comprehensive health care of students with asthma in the school setting.
3. Provide asthma education and awareness programs for students, school staff and school health staff.
4. Promote the development and implementation of an environmental assessment and improvement program for schools.
5. Promote safe, appropriate physical education and activity opportunities for students with asthma.
6. Coordinate provider, family, school and community efforts to better manage asthma and reduce school absences among students with asthma.
7. Apply lessons learned in addressing asthma in the school setting to other youth programs.
8. Collaborate with other chronic disease programs focusing on school-aged children.
9. Strengthen school-based surveillance.

**Proposed Action Steps**

1. Utilize Maryland State School Health Services Guidelines on Management of Students with Asthma in School (School Health Guidelines) from MSDE, DHMH and the Maryland State School Health Council, School-Based Asthma Management Resolutions (American School Health Association), Strategies for Addressing Asthma Within a Coordinated School Health Program (CDC) and NIH Guidelines to address asthma management and support in the policy and legislative process.
2. Collect data on asthma prevalence and educational consequences.
3. Present asthma data and provide asthma education including environmental information to local school health councils, local school improvement teams, local and state school boards and other local and state policy makers.
4. Develop a multi-copy and user-friendly asthma action plan form (See Goal I Objective B).
5. Promote a written action plan for students with asthma at the school nurse's discretion and in accord with School Health Guidelines.
6. Share the written asthma action plan with appropriate faculty and staff with provisions for confidentiality and parental permission.
7. Ensure that students with asthma have access to quick relief medications at all times and in all places in accord with School Health Guidelines and Maryland State School Health Services Guidelines on Medication Administration in Schools.
8. Educate parents, providers, schools and students regarding the self-carry asthma medication policy to assure its appropriate implementation.
9. Support increased resources for school nurses, health aides, school consulting physicians, nurse practitioners and school-based health.
10. Encourage students with asthma to enroll in school-based health centers when available.
11. Support additional school-based health centers in order to make asthma management services more available.
12. Provide opportunities for asthma management education for school health care providers and school staff.
13. Provide resources for asthma education conferences and continuing asthma education for school nurses and other school health care providers.

14. Include administrators, cafeteria and transportation personnel, classroom and playground aides, coaches, counselors and teachers in school staff asthma awareness and education programs.
15. Support community asthma resource groups (AAFA, ALA, etc.) in providing school-based asthma education.
16. Infuse asthma education into all related health promotion activities in schools such as in-service days, PTA events, health fairs and at specially designated times of the year.
17. Provide consultation to school systems to prevent or minimize harmful environmental exposure when planning for school sites, facility design, operation, maintenance and renovation (See Goal I Objective D).
18. Promote the inclusion of school environment teams to monitor environmental issues that impact asthma as part of the school improvement plans.
19. Maximize physical education and activity for students with asthma as directed by the students' written asthma action plan, Individual Education Plan (IEP), and/or 504 Plan according to School Health Guidelines.
20. Educate administrators, classroom and physical education teachers and coaches about exercise-induced asthma.
21. Assure access to quick relief medications before and during exercise in accord with Maryland State School Health Services Guidelines on Management of Students with Asthma in School.
22. Focus resources for programs that improve asthma management and reduce school absences due to asthma in high prevalence areas.
23. Identify and promote collaboration of asthma stakeholders with groups focusing on other chronic health conditions in school children.
24. Encourage communication between primary care providers, school health staff and the insurer's case manager, especially for students with inadequately managed asthma.
25. Establish a system for monitoring the effectiveness of coordinated efforts.



Photo courtesy of American Lung Association.

## **G**oal I

**Decrease the prevalence of asthma and the occurrence of its complications in Maryland.**

## **O**bjective F: Child care

**Maximize management of asthma in the child care setting.**

### **Background**

Asthma episodes can interfere with the health and development of the child with asthma who receives child care services. Caring for Our Children: National Health and Safety Performance Standards Guidelines (Caring for Our Children Guidelines) include the child care provider, program and facility as elements to be addressed in asthma management.

### **Strategies**

1. Promote collaboration between appropriate agencies concerning asthma management standards and child care provider education.
2. Support development of local, state and national child care asthma management policies and enabling legislation where appropriate.
3. Promote asthma awareness in all child care environments including licensed and informal child care settings.
4. Provide resources to promote asthma education and consultation in child care settings.
5. Promote collaboration and communication between child care providers, families, health care providers and insurers.
6. Educate parents, parent substitutes, and guardians regarding their role as primary advocates for their child with asthma.
7. Promote the development and implementation of an environmental assessment and improvement program for the child care setting.
8. Support the establishment of data collection on asthma prevalence in the child care setting.
9. Apply lessons learned in addressing asthma in the child care setting to the future consideration of asthma management in the youth program setting.

**Proposed Action Steps**

1. Utilize best practice standards as presented in the NIH Guidelines and Caring for Our Children Guidelines to direct child care asthma policies and enabling legislation.
2. Support development and maintenance of an asthma-specific training system for child care providers.
3. Initiate a baseline survey of children in child care settings to determine asthma prevalence.
4. Survey child care providers to identify their needs in caring for children with asthma.
5. Establish asthma education training standards for licensing child care providers.
6. Incorporate asthma-specific training, including asthma medication training, into existing respiratory illness and emergency management training required for child care providers.
7. Expand the availability of nurse consultants or Certified Asthma Educators to every child care provider.
8. Develop a multi-copy and user-friendly asthma action plan form (See Goal I Objective B).
9. Promote the universal use of a written asthma action plan for children with asthma in the child care setting.
10. Assure that asthma education materials are appropriate for differing needs based on age, language, literacy and cultural preferences (See Goal I Objective C).
11. Consider asthma in facility location, design, operation, maintenance and renovation of child care centers (See Goal I Objective D).
12. Address the emotional needs of children with asthma and their care providers.

## **G**oal I

**Decrease the prevalence of asthma and the occurrence of its complications in Maryland.**

## **O**bjective G: Collaboration and Coordination

**Establish and maintain an ongoing statewide asthma coalition.**

### **Background**

Partnerships are essential in a successful asthma control program. The Maryland Asthma Coalition can serve as a conduit for partnerships, support local asthma efforts and facilitate statewide sharing of information and resources.

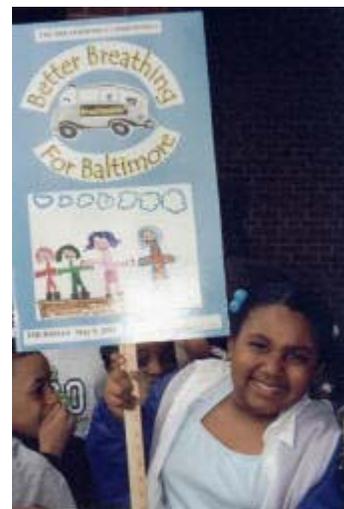
### **Strategies**

1. Ensure adequate resources to provide infrastructure for the Maryland Asthma Coalition.
2. Enhance the Maryland Asthma Coalition's structure and function to include active participation of affected individuals and community groups.
3. Support current local and regional asthma coalitions.
4. Support development and operation of additional local and regional coalitions.
5. Assure that the goals and priorities of the State and local coalitions are in alignment.
6. Support development of local, state and national coalition policies and enabling legislation where appropriate.
7. Support and partner with local coalitions in the implementation of the Maryland Asthma Plan.

### **Proposed Action Steps**

1. Enhance public awareness of the Maryland Asthma Coalition.
2. Secure financial and staffing support for the Maryland Asthma Coalition.
3. Develop work groups or subcommittees for the Maryland Asthma Coalition to assist in the implementation of the Maryland Asthma Plan.

4. Expand the Maryland Asthma Coalition to be representative of cultural and geographic diversity.
5. Identify and disseminate information regarding funding opportunities for asthma-related programs and research.
6. Link community health workers with MACP and local coalitions.
7. Identify and promote collaboration of asthma stakeholders with groups focusing on other chronic health conditions in school children.
8. Identify new community partners in diverse areas such as business and faith-based organizations.
9. Establish neighborhood groups for addressing asthma at the community level and encourage their participation in the State Coalition.
10. Set up a structure for mutual support and information exchange between State and local coalitions to sustain and learn from the efforts to address asthma at the local level.
11. Link asthma program infrastructure with other chronic disease program infrastructure at the State and local level.
12. Identify and seek resources for sustainability of the MACP Coalition and efforts across the State to address the burden of asthma.



Photos courtesy of Allergy and Asthma Foundation of America.

## **G**oal I

**Decrease the prevalence of asthma and the occurrence of its complications in Maryland.**

## **O**bjective H: Communication

**Improve public awareness and sensitivity to the needs of persons with asthma.**

### **Background**

Actions addressing asthma begin with awareness. Ignorance often can contribute to an asthma episode. Many opportunities already exist for communicating asthma awareness messages.

### **Strategies**

1. Raise public awareness about asthma.
2. Enhance the public's understanding of the personal behaviors that negatively impact people with asthma.
3. Support development of local, state and national policies and enabling legislation that promote asthma awareness and public responsibility.

### **Proposed Action Steps**

1. Provide information to the public about asthma's prevalence, risk factors and severity, as well as its impact on special populations and the importance of medical and environmental controls in managing asthma.
2. Promote improved public knowledge of resources especially in underserved areas.
3. Utilize existing asthma education materials and methods from local and national agencies and organizations to enhance public awareness of asthma.
4. Utilize public health and community events to deliver asthma awareness messages.
5. Develop a state-specific asthma public education campaign as resources allow.
6. Provide information to the public about chemical, perfume and tobacco use and other environmental factors that may initiate asthma episodes.

7. Assure that asthma education materials and methods are appropriate for differing needs based on age, language, literacy, and cultural preferences.
8. Provide sample asthma action plans, brochures, public service announcements and videos in multiple languages.
9. Link asthma awareness messages to smoking cessation activities.
10. Link asthma awareness messages to other chronic disease education messages.
11. Promote asthma awareness messages at athletic events, community health fairs, school functions, etc.
12. Continue to provide structures for communication between State and local jurisdictions and coalitions through website maintenance, newsletters and announcements regarding educational and funding opportunities.
13. Expand access to participation in MACP meetings by use of videoconference.

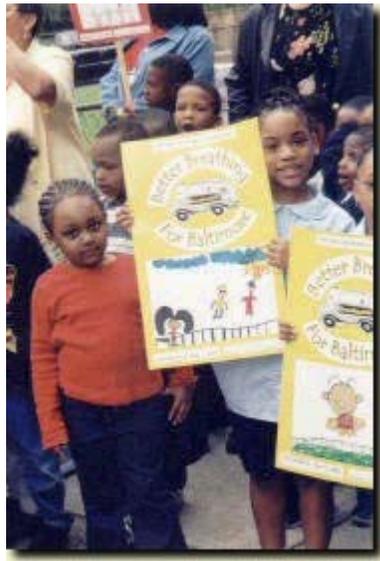


Photo courtesy of Asthma and Allergy Foundation of America.

## **G**oal I

**Decrease the prevalence of asthma and the occurrence of its complications in Maryland.**

## **O**bjective I: Research

**Support activities of researchers investigating causes, triggers and management of asthma, as well as health care policies and outcomes, particularly as the activities relate to Maryland issues.**

### **Background**

Research joins with surveillance/tracking in determining the reality of asthma's impact on both personal and public health in Maryland. Research provides the basis for asthma prevention, management, interventions, education and policy development.

### **Strategies**

1. Increase awareness of asthma research, particularly Maryland-specific projects.
2. Facilitate networking and collaboration among persons pursuing asthma research activities in Maryland.
3. Support development of local, state and national policies and enabling legislation that facilitate appropriate research to address the burden of asthma.

### **Proposed Action Steps**

1. Promote the Maryland Asthma Coalition as a source of asthma research information.
2. Identify and disseminate information regarding funding opportunities for asthma-related research.
3. Facilitate dissemination of asthma research outcomes particularly of those studies conducted in Maryland.
4. Support and expand research relating to asthma's cause, provider adherence to best practices management and environmental factors that mediate disease severity.

## **G**oal II:

**Decrease disparity in health outcomes related to asthma in all parts of the State.**

## **O**bjective A: Exploring Disparities

**Utilize surveillance/tracking information to help identify determinants of disparities in asthma occurrence or outcome among population groups.**

### **Background**

Asthma does not affect persons equally. Maryland surveillance/tracking identifies higher prevalence as well as higher morbidity and mortality among certain demographic and geographic populations. However, some data exists that suggests that factors such as race and income do not completely account for differences in asthma burden, and that even when controlling for such factors disparities persist.

### **Strategies**

1. Support epidemiological approaches to measuring the contribution of various factors (demography, geography, access to care, insurance status) to disparities in burden of asthma.
2. Create awareness by disseminating information on the factors related to an increased burden of asthma.

### **Proposed Action Steps**

1. Identify geographic areas and populations with an increased burden of asthma.
2. Support use of analytic tools to identify the contribution of various factors to asthma occurrence and outcome individually and in interaction with other factors.
3. Collaborate with community groups to identify specific, community-level characteristics that may uniquely impact asthma burden in local environments.
4. Support qualitative efforts to explore the underlying reasons for disparities through means such as focus groups comprised of affected persons.
5. Focus efforts to identify those underlying risk factors that are modifiable so as to offer a practical contribution to reducing the burden of asthma in Maryland.

## **G**oal II:

**Decrease disparity in health outcomes related to asthma in all parts of the State.**

## **O**bjective B: **Eliminating Disparities**

**Ensure that all persons with asthma receive the appropriate level of care and services that are culturally effective and centered in their community.**

### **Background**

Given that asthma does not affect people equally, interventions should be focused on the most affected groups. Interventions should take into account a community's unique strengths and challenges in order to build collaborative efforts for change.

### **Strategies**

1. Ensure meaningful, community involvement in asthma control and management strategies.
2. Focus activities to decrease exposures that induce asthma effects in populations at greatest risk.
3. Focus asthma management programs in populations with greatest prevalence.
4. Consider special interventions for individuals with unique risks such as adolescents, the elderly and young children.
5. Collaborate with groups addressing environmental justice issues such as the Governor's Commission on Environmental Justice and Sustainable Communities.

### **Proposed Action Steps**

1. Promote availability of appropriate asthma resources to geographic areas with an increased burden of asthma particularly inner city and rural areas.
2. Assure that asthma control, education and management programs are culturally effective.
3. Develop and utilize asthma educational and management materials that are appropriate for different needs based on age, language, literacy and cultural preferences.
4. Provide asthma education to local community health workers and link them with local asthma activities.

## NEXT STEPS

The Maryland Asthma Control Program in collaboration with the Maryland Asthma Coalition and asthma stakeholders throughout Maryland will work together to implement the Maryland Asthma Plan. This partnership will establish priorities, identify responsible parties, set timelines and seek funding for implementation of the Plan. Through this partnership, the Plan will continue to evolve to meet the changing needs identified in Maryland.



Photo courtesy of American Lung Association.

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Additional copies of the Maryland Asthma Plan and further information about the Maryland Asthma Control Program is available at:  
[www.MarylandAsthmaControl.org](http://www.MarylandAsthmaControl.org).

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