

**BREATHING FREE**

**AN ASTHMA PLAN**

**FOR**

**NEW MEXICO**

# HEALTH

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I am pleased to present to you *Breathing Free - An Asthma Plan for New Mexico*. New Mexico Department of Health and our partners in the *New Mexico Asthma Coalition* (NMAC), have worked together and developed a comprehensive and practical blueprint for addressing and managing the asthma burden in New Mexico. Our coalition members represent health providers, community and family advocates, researchers, school nurses and officials from a cross section of the state.

**Why an asthma plan in New Mexico? Asthma is a chronic disease impacting the health, quality of life, and economy of New Mexicans. Although there remains no cure for asthma, it can be controlled with proper medical management, thus allowing asthmatics to live healthy and productive lives. An asthma plan will allow us to coordinate the asthma services and activities currently available through various agencies and organizations, clearly identify services that are lacking, and provide a guide for developing or improving upon any further actions needed.**

*Breathing Free - An Asthma Plan for New Mexico* consists of five essential components:

- Conduct asthma surveillance
- Increase asthma education of health care professionals
- Increase asthma education of patients, families, schools and communities
- Improve access to and delivery of asthma health care
- Reduce environmental exposures to asthma triggers and causes

Together these five essential components will guide us to develop a comprehensive system for reducing the burden of asthma in New Mexico.

*Breathing Free - An Asthma Plan for New Mexico* is a living document, meant to be revisited and revised over the years. In order to continue implementing the objectives outlined in the plan, I urge all health care providers, educators, organizations and citizens concerned about asthma to become involved and advocate for quality asthma education and care. It is only by working together that the burden of asthma in New Mexico will be reduced.

My thanks to all the individuals, health agencies, and organizations who contributed their time toward the creation of this plan.

Sincerely,

Patricia T. Montoya  
Secretary  
New Mexico Department of Health

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## EXECUTIVE SUMMARY

Asthma is a significant public health issue in the United States as it has serious medical, economic and psychosocial impact on society. While the exact causes of asthma have not been determined, research indicates that environmental and genetic factors play contributory roles. The direct effects of asthma can be measured by tracking the number of asthma related medical visits, emergency rooms visits, hospitalizations and even deaths. The disease takes its toll economically through increased medical costs and missed school and work days. Asthma also decreases the quality of life of asthmatics and their families.

According to the Behavioral Risk Factors Surveillance System, an estimated 90,500 adults living in New Mexico currently have asthma. Similar estimates for current prevalence of asthma in children are not available. Management of asthma in New Mexico is complicated by the state's rural nature. This results in a lack of easy access to appropriate asthma treatment and a need for trained asthma specialists in outlying areas. Another significant factor in addressing asthma is the high number of people living in poverty, and a lack of any or adequate health coverage for many people in the state.

In response to this public health problem, the New Mexico Asthma Coalition was founded in 1999 to bring partners together to address these issues throughout the State. When considering the complexities of asthma management, a coalition is the logical development of a public health response to the many aspects of asthma. Many partners (such as Children's Medical Services, Allergy and Asthma Network Mothers of Asthmatics, American Lung Association of New Mexico, and the University of New Mexico) came together to form the Coalition. In the fall of 2002, the Coalition, working through five planning groups, developed the New Mexico asthma plan, *Breathing Free - An Asthma Plan for New Mexico*. The New Mexico Department of Health - Environmental Health Epidemiology Unit will provide the inter-organizational framework to insure the success of the plan. The plan is consistent with the Ten Essential Public Health Services, Healthy People 2010, and the guidelines of the National Heart Lung Blood Institute.

### GOALS OF THE NEW MEXICO ASTHMA PLAN

1. Assess the burden of asthma in New Mexico to provide the basis for planning and evaluating intervention/prevention programs and directing public health resources.
2. Develop, promote and deliver statewide asthma education/training to all levels of health care professionals, including Community Health Representatives and *Promotores*, in order to standardize high quality care.
3. Improve the understanding and management of asthma by informing and educating patients, families, schools and diverse communities in New Mexico with particular focus on underserved populations.
4. Reduce barriers to asthma care throughout the state.
5. Identify and prioritize environmental causes and triggers for asthma to better understand the relationship between specific environmental factors and asthma morbidity and mortality in New Mexico.

## NEW MEXICO ASTHMA COALITION MEMBERS

Allergy and Asthma Network Mothers of Asthmatics

American Lung Association of New Mexico

Cimarron Health Plan

City Of Albuquerque - Environmental Health Department, Air Quality Division

Michael Clayton, MD - Asthma and Allergy, Private Practice

Community Health Partnerships

Environmental Building Sciences, Inc.

Environmental Protection Agency - Region 6

Indian Health Services

Jicarilla Apache Nation - Environmental Protection Office

Lovelace Sandia Health Systems

Multicultural Advocates for Social Change - STOMP (Stop Tobacco on my People)

New Mexicans Concerned About Tobacco - American Cancer Society

New Mexico Environment Department - Environmental Protection Division

New Mexico Department of Health

Public Health Division

Border Health Office

Children's Medical Services

Chronic Disease Bureau

District I

District II

District III

District IV

Office of Epidemiology, Environmental Health Epidemiology Unit

Injury Prevention and Emergency Medical Services

Health Services Bureau

Office of School Health

New Mexico PIRG (Public Interest Regulatory Group)

New Mexico State University

Presbyterian Healthcare Services

Ron Hendershott, Pulmonary Rehabilitation Case Manager, St. Vincent Hospital  
Santa Fe

Santa Fe Tobacco Free Coalition

Stephen G. Tolber, MD - Allergist, Private Practice

University of New Mexico

Health Sciences Center

College of Nursing

Department of Emergency Medicine

Department Of Pediatrics

Pediatric Pulmonary Center

Department of Internal Medicine

Occupational Medicine Division

Pulmonary Division

Adult Asthma Clinic

Community and Environmental Health Program

Family and Community Medicine

Office of Evaluation

Indigent Assistance Program

National Center for Environmental Health

Patient Education

Quality Assurance

## **NEW MEXICO ASTHMA COALITION STEERING COMMITTEE**

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Julianne Vollmer MS Environmental Health Educator, New Mexico Department of Health - Office of Epidemiology, Environmental Health Epidemiology Unit

## TABLE OF ACRONYMS

AANMA	Allergy and Asthma Network Mothers of Asthmatics
ABCAC	Albuquerque Bernalillo County Asthma Coalition
ALA	American Lung Association
ALANM	American Lung Association Of New Mexico
AQI	Air Quality Index
BHO	Border Health Office
BRFSS	Behavioral Risk Factors Surveillance System
CCCR	Children’s Chronic Conditions Registry
CDC	Centers for Disease Control and Prevention
CME	Continuing Medical Education
CMS	Children’s Medical Services
CHR	Community Health Representatives
ED	Emergency Department
EHEU	Environmental Health Epidemiology Unit
EPA	Environmental Protection Agency
ETS	Environmental Tobacco Smoke
HIDD	Hospital Inpatient Discharge Data
IAQ	Indoor Air Quality
IHS	Indian Health Services
MCO	Managed Care Organization
NAEPP	National Asthma Education and Prevention Program
NHIS	National Health Interest Survey
NHLBI	National Heart Lung Blood Institute
NIH	National Institute of Health
NM	New Mexico
NMAC	New Mexico Asthma Coalition
NMDOH	New Mexico Department of Health
NMSU	New Mexico State University
OAE	Outdoor Air Exposure
OSH	Office of School Health
SBHC	School Based Health Center
SDE	State Department of Education
TVI	Technical Vocational Institute
UNM	University of New Mexico
VA	Veteran’s Administration

## MISSION OF THE NEW MEXICO ASTHMA COALITION

**Reduce the burden of asthma in New Mexico by: assessing the scope and magnitude of the asthma problem; providing asthma education/training for health care professionals, patients, families, schools, employees, employers, and communities; improving access to and delivery of asthma health care; and reducing exposures to environmental factors that may trigger or cause asthma episodes.**

## INTRODUCTION

Asthma is a chronic inflammatory disease of the airways associated with considerable morbidity and mortality. In susceptible individuals, this inflammation causes recurrent episodes of wheezing, breathlessness, chest tightness and coughing particularly at night and in the early morning. The episodes cause airflow obstruction that is often reversible either spontaneously or with treatment.<sup>1</sup>

Asthma is a serious and growing health problem. It is one of the nation's most common chronic diseases.<sup>2</sup> The plan, *Breathing Free - An Asthma Plan for New Mexico*, was developed to reduce the burden of asthma in New Mexico. The burden of asthma includes: the medical aspect such as the prevalence of disease, health care visits, hospitalization, and mortality; the economic impact which includes direct and indirect medical cost; and the psychosocial facets including lack of health insurance, limited access to asthma treatment, anxiety, and restriction of activity.

The 2001 National Health Interview Survey (NHIS) results indicate that an estimated 31.3 million Americans have been diagnosed with asthma at some point in their lifetime.<sup>3</sup> An estimated 20.3 million people in the United States currently have asthma and about 6.3 million of them are children.<sup>4</sup> Nationally, women have a higher prevalence of asthma than men, with percentages of 9.1 and 5.1 respectively.<sup>5</sup> Asthma is more prevalent among white non-Hispanic adults (7.4%) than those of Hispanic heritage (5.2%). Black non-Hispanic adults have the highest rates of asthma (8.5%).<sup>5</sup> Despite progress in the understanding of asthma, safer and more effective medications, the prevalence of asthma increases each year.

Based on 2001 Behavioral Risk Factors Surveillance System (BRFSS) data, in New Mexico an average of 90, 500 adults reported currently having asthma.<sup>6</sup> There is no current, statewide survey that gives an accurate total number of children living in New Mexico with asthma. However, based on US Census data,<sup>7</sup> regional estimates of asthma prevalence from NHIS,<sup>8</sup> and percentages from the 1998 *Summary Health Statistics for US Children*,<sup>9</sup> it could be calculated that approximately 25,000 children in New Mexico under the age of 18 had an asthma attack in that year and as many as 62,000 children in New Mexico had ever been diagnosed with asthma in their lifetime. The lack of direct data for children in New Mexico underscores the need for surveillance in this area.

Children's Medical Services (CMS), according to the Chronic Children's Conditions Registry (CCCR) estimates that the northeastern counties, where there is a lack of services, have the highest rates of asthma.<sup>10</sup>

The New Mexico 2001 BRFSS data indicate that 9.0% of New Mexican women compared to 4.8% of New Mexican men currently have asthma. This follows the same pattern as the national rates. Generally, more men than women lack regular contact with the health care system and Hispanic men are twice as likely as other groups of men not to see a physician annually.<sup>11</sup>

New Mexico also reflects the national trends with regard to rates of asthma in ethnic groups. The 2001 BRFSS data indicate that 8.7% of white non-Hispanic adults and 4.8% of Hispanic adults currently have asthma. The same data indicate that 4.3% of Native American adults in New Mexico currently have asthma,<sup>12</sup> but the results are unreliable due to the small sample size in the survey. The rates for African-Americans in New Mexico are also unreliable as this group comprises only 1.9% of the state's population.<sup>7</sup>

In the US, approximately 5,000 people died each year from asthma.<sup>2, 3, 13</sup> During the years 1980-1993, asthma accounted for 3,850 deaths among persons aged 0-24 years.<sup>14</sup> New Mexico has had an average of 37 deaths a year from asthma, including 11 deaths in the 0-17 age group, for the past 10 years.<sup>15</sup>

In the US, asthma-related illness accounted for 10.8 million visits to health care providers in 1999<sup>16</sup> and asthma was the 10<sup>th</sup> most common principal diagnosis in Emergency Departments (ED). Asthma also accounts for over 500,000 days of hospitalization per year.<sup>17</sup> Nationally hospitalization rates for asthma range from 19.5 per 10,000 people in 1995 to 16.7 per 10,000 in 2000.<sup>3</sup> In New Mexico, Hospital Inpatient Discharge Data (HIDD) indicate that the rates ranged from a high of 11.4 per 10,000 in 1995 to a low of 7.4 per 10,000 in 2000, showing lower figures than the national rates.<sup>18</sup> To date, New Mexico HIDD do not include numbers from federal hospitals [Indian Health Services (IHS) and Veterans Administration (VA)], but discussions are under way to share data from these facilities.

Nationally the economic impact of asthma can be measured with direct medical expenditures equaling \$3.64 billion in 1990 (57% of this due to hospitalization). Nationally, indirect economic costs equal \$2.6 billion.<sup>13</sup> An estimated \$800 million are lost annually due to missed workdays by adults with asthma and an additional \$900 million is lost each year in productivity, by parents missing work to care for an asthmatic child.<sup>19</sup> In New Mexico, an estimated \$38 million are spent on direct medical costs for asthma, with an additional \$29 million spent on indirect costs.<sup>20</sup>

Asthma is the leading chronic illness resulting in approximately 14 million missed school days annually.<sup>21</sup> Frequent disruption of the educational process can have a subsequent economic impact. Statistics for asthma-related school absenteeism in New Mexico are not yet available.

The psychosocial impact of asthma is less measurable, but the Healthy People 2010 Information Access Project estimates that asthmatics experience 134 million days

of restricted activity each year.<sup>13</sup> Asthma can cause sleep disturbance resulting in poor performance on the job and in school, social stigma and negative stereotype, disruption of family routine, and anxiety about health and the cost and availability of care. The disease not only affects the lives of those afflicted with the disease but also families, communities, schools and businesses.

The inability to utilize asthma health care services affects not only the physical health of many Americans but also their emotional wellbeing. Even though Medicaid insures 13.3 million people annually, 41.2 million or 14.6% of Americans have no health care coverage. Of this group, 10% are White non-Hispanic and 33.2% are Hispanic and 19% are black non-Hispanic.<sup>22</sup>

New Mexico, with 38.6% of the people living in poverty, ranks as the third highest state in the nation in this category.<sup>23</sup> The state ranks as the fourth highest for the number (24%) of uninsured non-elderly people (under age 65),<sup>24</sup> and as the highest for the number of uninsured children.<sup>25</sup> Among adult New Mexicans, 32.2% of Hispanics, 24.4% of Native Americans, and 13.1% of White non-Hispanics do not have health insurance.<sup>12</sup>

New Mexico is a geographically large state with 50% of population living in rural communities.<sup>7</sup> Access to health care in rural areas of the state is limited with approximately one half of the zip codes in New Mexico having no physician at all and many other zip codes having less than five. In some areas, there is not a single physician in the entire county.<sup>26</sup>

Many asthmatics see their primary care physician or pediatrician for asthma care. The understanding of state of the art asthma management is not necessarily consistent in these groups as they face many barriers to continuing education. There are approximately 651 Family Practice physicians, 171 Pediatricians, and 36 physicians with a primary specialty in Pulmonary Diseases. An additional 16 physicians list Pulmonary Disease as their secondary specialty,<sup>27</sup> but most are located in urban areas. There are only 4 Pediatric Pulmonologists in the state, all in the Albuquerque area. CMS sponsor 30 pediatric asthma clinic days [through the Pediatric Pulmonary Division of the University of New Mexico (UNM)] at 11 different sites in an attempt to meet the needs of underserved areas. However, due to financial constraints, none of these clinic days take place in the northeast section of the state. The difficulty and cost of travel together with lost school and work days exacerbates the problem of access to asthma care.

Many New Mexicans face language and other cultural barriers when trying to negotiate the health care system. *Promotores*, trusted members of the Spanish-speaking communities who are trained health care advocates, are present in some regions of the State. Community Health Representatives (CHR) serve a similar function for Native Americans in all 22 tribes in New Mexico. The need for these advocates however, far exceeds their numbers.

In addition to the medical, economic and psychosocial burden of asthma, inconsistent diagnosis and treatment account for many of the problems caused by asthma. These could be avoided if asthmatic patients, their care givers, and their health care providers managed the disease according to established NAEPP guidelines.<sup>13</sup> Effective management of asthma consists of four major elements: assessing and monitoring the

disease by using objective measures of lung function, adequately managing asthma with appropriate medication, educating asthma patients and their caregivers to become partners with health care providers in the management of asthma, and controlling exposure to factors that trigger asthma episodes. <sup>1</sup>

## HISTORY OF THE COALITION

Asthma population studies and treatment interventions have been addressed in New Mexico in the past. These projects however, have been sporadic and limited to specific populations. In 1995, an asthma study of middle school children was conducted in Los Alamos and revealed that respiratory symptoms were high (13%) in this age group. From detailed testing, it was estimated that 6.3% of children had asthma,<sup>28</sup> Lovelace Sandia Health Systems, the largest Managed Care Organization (MCO) in the state tracks data on asthma prevalence and utilization of health care facilities among its patients. Another study demonstrated that combinations of education, medication for long term control, and objective home monitoring of pulmonary functions can improve the course of asthma in children.<sup>29</sup> The Border Health Office (BHO) recently conducted a study on the respiratory health of children at 12 elementary schools in Doña Ana County and found that between 10 and 12 percent of parents surveyed reported that their child has asthma.<sup>30</sup>

A variety of asthma programs and organizations have been in place for some time. A joint effort of the UNM Pediatric Pulmonary Team together with CMS provides services for moderately severe to severe asthmatic children throughout the state. Various organizations, such as American Lung Association of New Mexico (ALANM) and Allergy and Asthma Network, Mothers of Asthmatics (AANMA) are dedicated to improving the lives of asthmatics. The Albuquerque and Bernalillo County Asthma Coalition (ABCAC) was formed at one time, but no single statewide organization existed. The Environmental Health Epidemiology Unit (EHEU) of the New Mexico Department of Health (NMDOH) took the first steps to contact organizations and people who would have an interest in a statewide coalition.

The first meeting of the New Mexico Asthma Coalition (NMAC) was held in April 1999. On August 1, 2000 the NMDOH received a three-year grant from the CDC entitled *Addressing Asthma From a Public Health Perspective*. The EHEU collaborated with the Office of School Health (OSH) to begin an asthma pilot program in schools, conducted surveillance, and led the preparation of a statewide plan to address asthma. Under the direction of the EHEU asthma health educator and support staff, another meeting of the NMAC took place on September 12, 2002.

The Coalition divided into five planning groups formed around each of the essential elements of the plan. Each group established goals appropriate for New Mexico, wrote objectives, and identified activities to meet the goals and objectives for their section of the plan. A voluntary coordinator headed each working group and made reports to an EHEU staff person. Numerous group meeting, phone calls and e-mails resulted in a working document.

The NMAC formed a steering committee comprised of the group coordinators and EHEU staff to review and revise the plan. The dedication and hard work of these people has resulted in this plan. This plan is intended to serve as a guide and supporting resource for the myriad ongoing and anticipated asthma-related activities throughout the state. These endeavors will be pursued by various partners and organizations supported by diverse sources of funding and revenues.

The endeavors of the NMAC are endorsed by Patricia Montoya, the Secretary of Health for the State of New Mexico. These efforts are consistent with the Ten Essential Public Health Services (See Appendix A, page 24). All activities of the NMAC will also be aligned with the guidelines for diagnosis and management of asthma as set forth by the National Asthma Education and Prevention Program (NAEPP) as administered and coordinated by the National Heart, Lung and Blood Institute (NHLBI). The NAEPP four essential components of asthma management are assessment and monitoring, pharmacotherapy, education for partnerships in care, and controlling factors contributing to asthma severity.<sup>1</sup>

Furthermore, the actions of the NMAC will strive to realize the Healthy People 2010 asthma-related goals, which are to reduce asthma-related deaths, hospitalizations for asthma, hospital emergency room visits for asthma, limitations among persons with asthma, and the number of school or work days missed because of asthma. The goals also aim to increase the proportion of persons with asthma who receive formal patient education, including information about community and self-help resources as an essential part of the management of their condition, and the proportion of persons with asthma who receive appropriate asthma care according to the NAEPP guidelines.<sup>13</sup>

## SUMMARY CHARTS

### MEDICAL IMPACT OF ASTHMA\*

	United States	New Mexico
Estimated # of People w Asthma	20.3 million	115,500
Estimated # of Adults w Asthma	15 million	90,500
Estimated # of Children w Asthma	6.3 million	25,000
Estimated % of Men w Asthma	5.1	4.8
Estimated % of Women w Asthma with Asthma	9.1	9.0
Estimated % of white non-Hispanic Adults w Asthma	7.4	8.7
Estimated % of Hispanic Adults w Asthma	5.2	4.8
Estimated % of black non-Hispanic Adults w Asthma	8.5	Not available
Estimated % of Native America w Asthma	Not available	4.3
Average # of Health Care Visits/Year from Asthma	10.8 million	Not available
Average rate of Hospitalizations/Year from Asthma from '95 to '00	19.5 to 16.7 per 10,000 people	11.4 to 7.4 per 10,000 people **
Average # of deaths/Year from Asthma	5,000	37

\* currently have asthma

\*\* does not include VA and IHS

## ECONOMIC IMPACT OF ASTHMA

	United States	New Mexico
Total Estimated Direct Medical Costs for Asthma Care	3.64 billion	38 million
Total Estimated Indirect Medical Costs Resulting from Asthma Care	2.6 billion	29 million
Estimated Indirect Medical Costs - Missed Work due to Adult Asthma	800 million	Not available
Estimated Indirect Medical Costs - Missed Work to Care for Children w Asthma	900 million	Not available

## PSYCHOSOCIAL IMPACT OF ASTHMA

	<b>United States</b>	<b>New Mexico</b>
# of Days of Restricted Activity Due to Asthma	100 million	Not available
# of Days of Missed School Due to Asthma	14 million	Not available
% of Non-elderly People w/o Health coverage	14.6	24.0
% of White non-Hispanic People w/o Health Coverage	10	13.1
% of Hispanic People w/o Health Coverage	33.2	32.2
% of Black non-Hispanic People w/o Health coverage	19.0	Not available
% of Native American People w/o Health coverage	Not available	24.4

# BREATHING FREE – AN ASTHMA PLAN FOR NEW MEXICO

MAY 30, 2003

## A. CONDUCT ASTHMA SURVEILLANCE

**Goal:** Assess the burden of asthma in New Mexico to provide the basis for planning and evaluating intervention/prevention programs and directing public health resources.

**Rationale:** Asthma is a high-priority condition for surveillance. Asthma prevalence has increased dramatically. It is a frequent cause of hospitalizations and emergency care visits, results in considerable decrease in quality of life, and is very costly. Currently in New Mexico, there is limited descriptive epidemiological understanding of asthma. Knowledge of the distribution of asthma morbidity and mortality will assist in the planning, implementation, and evaluation of programs to control the burden of this disease. There is a need for collection of data at the local level to determine regional differences in the distribution of asthma and to tailor interventions to specific settings. The distribution of risk factors for asthma exacerbations in different subpopulations needs to be better understood. Surveillance of asthma in the workplace is needed to effectively plan and implement prevention programs in targeted industries.

**Objective A1.** Expand and improve asthma surveillance in New Mexico.

### Activities

1. Develop, if necessary, and sign agreements and confidentiality statements to acquire data on a regular basis from major data sources including hospitals, New Mexico Health Policy Commission, emergency departments, Medicaid, Indian Health Service, CMS and MCOs.
2. Develop and maintain a list of existing data sources describing data content, data keepers and status of sharing agreements.
3. Develop surveys or utilize existing surveys to collect data not available through existing data sources.
4. Estimate the prevalence of asthma using the BRFSS and other surveys. Expand BRFSS to include questions on asthma in children. Refine the estimate of asthma prevalence by comparing estimates from the National Health Interview Survey (NHIS) and BRFSS.
5. Use existing and new data sources to assess (by demographic, geographic, and socioeconomic variables):
  - a. Asthma disease severity (e.g. hospitalization rates, mortality rates, emergency department visit rates),
  - b. Asthma management and treatment patterns (e.g. prescription utilization patterns),

- c. Cost of asthma (e.g. direct and indirect costs including Medicaid, medical care billing and pharmacy costs),
  - d. Prevalence of exposure to allergens, irritants and other risk factors associated with exacerbation of asthma,
  - e. Disparities in access to health care for asthma in targeted populations,
  - f. Quality of life for people with asthma and parents of children with asthma.
6. Perform data analysis and generate reports, as necessary, in response to data requests from health care professionals and the public.
  7. Conduct special studies to assess the burden of asthma among the Native American population.
  8. Identify gaps in existing asthma data, search for additional data sources, or develop new sources as needed.
  9. Collaborate with New Mexico Statewide Community Assessment Initiative to increase the capacity of tribal and non-tribal communities to access, interpret and utilize asthma data.

**Objective A2.** Disseminate asthma-related data in formats that are useful to local, state, and federal agencies, to health care professionals, and to the general public.

**Activities**

1. Identify and involve stakeholders in the dissemination plan.
2. Develop and disseminate reports on the results of analysis of asthma data on a regular basis, and ensure the reports are appropriate for the intended audience. Actively publicize findings and results.
3. Place asthma reports on the NMDOH/NMAC website.

**Objective A3.** Establish asthma surveillance in the work place and school environments.

**Activities**

1. Develop and maintain a work place asthma surveillance system in collaboration with colleagues working under “The Initiation and Development of State-Based Surveillance Capacity in Occupational Health” Cooperative Agreement.
2. Develop and implement surveys to determine prevalence of asthma in selected schools.
3. Explore the feasibility of collecting data on school absences due to asthma.

**Objective A4.** Evaluate the asthma surveillance system in order to improve its usefulness.

**Activities**

1. Create and maintain an asthma surveillance evaluation plan.
2. Apply Centers for Disease Control and Prevention (CDC) guidelines for evaluating public health surveillance systems to the New Mexico asthma surveillance system.
3. Modify the surveillance system based on results of the evaluations.

## **B. INCREASE ASTHMA EDUCATION OF HEALTH CARE PROFESSIONALS**

**Goal:** Develop, promote and deliver statewide asthma education/training to all levels of health care professionals, including Community Health Representatives and *Promotores*, in order to standardize high quality care.

**Rationale:** Asthma is a complex disease with all of its triggers and causes not yet fully elucidated. The disease can vary in severity and occur episodically. In addition, there are a wide range of treatment options available that can further complicate its management. Health care practitioners generally receive the necessary instruction for the diagnosis and treatment of asthma during their initial training, but many are far removed in time and distance from that original educational setting. Practitioners are encouraged to maintain and expand their professional knowledge through continuing education, but many barriers exist that prevent them from keeping current with the best practice for asthma care.

The NHLBI provides basic guidelines for the diagnosis and management of asthma that will help clinicians make appropriate decisions about patient asthma care. However, insufficient treatment and inappropriate therapy do occur and are known to increase the morbidity and mortality associated with asthma. A lack of convenient educational opportunities coupled with limited time may prevent providers from seeking the most current diagnostic and treatment information.

Assessment of the educational needs of all asthma health care professionals - physicians, physician's assistants, nurse practitioners, nurses, asthma health educators, respiratory therapists, CHRs, *Promotores*, and all others involved in comprehensive patient care is a challenge for the medical-educational community. Additionally, dissemination of standardized, high quality training to health care providers, many of whom are in rural areas, calls for innovative approaches and motivational strategies. These challenges must be met in order to insure quality treatment for all asthmatic patients.

**Objective B1.** Create a comprehensive directory of all asthma health care professionals in New Mexico.

### **Activities**

1. Identify and locate all asthma health care professionals in New Mexico.
2. Identify the categories of asthma health care professionals to be targeted for education/training.
3. Compile and make available a directory of all asthma health care professionals.

**Objective B2.** Assess the education/training needs of all levels of asthma health care professionals.

## Activities

1. Review asthma health care professional education/training need assessments that have been conducted by other states/organizations.
2. Develop and conduct focus groups to analyze results, and then create surveys to assess asthma educational training needs.
3. Survey asthma health care professionals to assess their education/training needs.

**Objective B3.** Develop strategies for meeting the education/training needs of all levels of asthma health care professionals.

## Activities

1. Recruit an asthma education/trainer coordinator to do the following:
  - a. Identify all available asthma education/training technologies or medium,
  - b. Develop new asthma education/training materials, as needed, for all levels of asthma health care professionals based on needs assessment,
  - c. Develop relevant materials for asthma health care professionals describing ways to reduce or avoid indoor or outdoor air exposures that may trigger or exacerbate asthma attacks,
  - d. Decide priorities for implementation of asthma education/training that includes geographical focus, e.g. outreach education for professionals in rural areas possibly through live courses offered at various locations, through interactive multi-media resources or through on-line courses that provide continuing medical education (CMEs) or other credits.
2. Select available asthma education/training literature and resources, based on NAEPP guidelines that are culturally sensitive and appropriate for New Mexico.
3. Recruit expert trainers to pilot the selected materials.
  - a. Train the trainers to effectively deliver the education and training materials.
  - b. Pilot test the modules in small group trainings.
  - c. Modify as needed.
  - d. Integrate asthma management education/training and clinical practice opportunities in all schools that train health care professionals, such as, UNM, New Mexico State University (NMSU), Technical Vocational Institute (TVI), etc.

**Objective B4:** Promote and conduct the asthma education/trainings.

## Activities

1. Develop strategies to motivate participation of asthma health care professionals.
2. Develop an asthma education and management resource kit for all levels of asthma health care professionals.
3. Schedule and conduct education/trainings as planned.

## **C. EDUCATE PATIENTS, FAMILIES, SCHOOLS, AND COMMUNITIES ABOUT ASTHMA**

**Goal:** Improve the understanding and management of asthma by informing and educating patients, families, schools and the diverse communities in New Mexico with particular focus on underserved populations.

**Rationale:** In managing asthma, quality care depends upon a well-informed public - patients, families, caregivers, schools, employers and communities. However, there are many gaps in available asthma educational materials and programs.

Numerous asthma educational resources exist for grade-schoolers or for adults whose only or first language is English. On the other hand, almost no asthma educational resources exist for pre-schoolers, teenagers, the elderly and those populations with English as a second language or with low literacy skills.

Pollution, irritants, allergens and environmental tobacco smoke (ETS) are topics that need discussion statewide. These air quality issues play major roles in the lives of all New Mexicans - especially asthmatics. Classroom protocols and teacher trainings on indoor air quality have been developed and tested in select schools and it is imperative they be expanded to reach other schools and institutions in the State. Additional education about the relationships between asthma and air quality requires utilization and incorporation of existing ETS prevention and cessation programs, into the current Albuquerque Public Schools asthma program, into other school district programs, and into the work of community advocacy groups.

Of the 778 schools (750 Public) in 89 school districts, 30 schools are currently served by 17 School-Based Health Centers (SBHC). In more rural areas, a SBHC may serve as a child's initial health facility in an emergency. Approximately one-half of New Mexico's population resides in rural areas. Since SBHCs in such settings are a crucial element in an asthmatic child's life, it becomes more important that such facilities are properly equipped and the personnel in them are appropriately trained to meet the asthma care needs of asthmatic students.

Occupational asthma is another real and serious issue in New Mexico that needs to be addressed by employers, employees and communities. It is to everyone's advantage to be adequately informed about the environmental exposures that may trigger or exacerbate asthma symptoms in the work place. An individual will spend on the average about 90,000 hours at work in his/her lifetime. Improving asthma education in the workplace will require considerable work with policy makers, business executives, and unions.

The need is clearly evident for a comprehensive and coordinated asthma educational component that can be available for and serve those communities in the state currently underserved in asthma educational resources.

**Objective C1.** Develop and conduct a multi-media campaign to raise awareness of New Mexico residents about asthma as a significant public health issue.

### **Activities**

1. Develop public service announcements for television, radio, newspapers and billboards.
2. Develop a NMDOH/NMAC website to disseminate asthma information and facilitate communication and collaboration among coalition members. The site will:
  - a. Provide links to other web sites especially to those that are culturally-, linguistically-, and educationally-appropriate for the diverse populations of New Mexico,
  - b. Establish criteria to select and review existing asthma websites to be linked,
  - c. Arrange selected websites by target audience, e.g. patients, schools, health care professionals, etc.,
  - d. Create a calendar to be accessed by asthma-related events and contacts.
3. Distribute age-appropriate asthma education materials, such as brochures and posters, to community locations utilized by children and families such as community centers, libraries, senior centers, Boy Scouts, Girl Scouts, YMCA, Boys & Girls Clubs, etc.
4. Support current asthma awareness events, e.g. ALANM Asthma Walk, ALANM Asthma Camp and workshops.
5. Promote Asthma Awareness Month in May.
6. Provide educational booths at community events, such as the State Fair, International Balloon Fiesta, health fairs, school activities, local fiestas, Pow-Wows, etc.
7. Encourage and support partnerships among community-based agencies, health care providers, and other parties interested in implementing community and statewide asthma education.
8. Encourage public libraries throughout the state to carry child and adult level asthma and allergy related books by forming partnerships with the New Mexico Library Association, New Mexico Friends of the Tribal Librarians and REFORMA – the National Association to Promote Library and Information Services to Latinos and the Spanish-Speaking.

**Objective C2.** Establish statewide, standardized asthma education and standardized asthma management in schools and child-care centers.

### **Activities**

1. Develop agreements and expand on collaborations with the Office of School Health (OSH), New Mexico State Department of Education (SDE), and New Mexico Department of Children, Youth, and Families.
2. Assist schools in selecting accurate and age-appropriate curricula [e.g. American Lung Association's (ALA) *Open Airways*, National Institute of Health's (NIH) *Asthma Awareness Curriculum for the Elementary Classroom*, Environmental Protection Agency's (EPA) *Tools for Schools*, CDC's *Strategies for Addressing*

- Asthma Within a Coordinated School Health Program*, etc.] for educating all students about asthma.
3. Train all school nurses to provide asthma education to students and staff.
  4. Provide in-service education, using the selected age appropriate materials for all school staff and childcare providers to raise awareness about asthma.
  5. Provide asthma care information to be distributed to parents during school registration.
  6. Assist all districts, schools, and child care facilities in adopting best practices for asthma management, e.g., all students with asthma will have an asthma action plan.
  7. Advocate for one full-time nurse per school.
  8. Advocate for an asthma education component as a requirement for childcare provider licensure.
  9. Encourage school libraries throughout New Mexico to carry asthma and allergy related books.
  10. Improve and implement the statewide emergency asthma protocol for schools and childcare centers in New Mexico.
    - a. Train an emergency response team for all times students are on school or childcare property or for school or childcare activities (e.g. field trips).
    - b. Distribute a general asthma education pamphlet as required reading for all before, during and after school staff.
    - c. Encourage the development of policies to ensure that each school or childcare center has the equipment (e.g. development of a plan similar to Nebraska's asthma protocol in schools) necessary to respond to an emergency.
    - d. Develop a uniform documentation form to be used each time the above protocol is put into action.

**Objective C3:** Collaborate with partners to enhance the resources and education for the rural areas and the educationally, linguistically and culturally diverse populations in New Mexico.

**Activities**

1. Ensure that educational materials are provided in Spanish or other languages as needed. Ensure that materials are culturally appropriate for Native Americans.
2. Ensure that materials are written at an easy reading level with illustrations and step-by-step methods.
3. Enhance partnerships with educational material distributors, e.g. ALANM and Channing-Bete to help develop or modify existing brochures to reach diverse populations.
4. Provide in-service education at CMS pediatric "pilot" clinics for families attending clinic.
5. Provide asthma information to Public Health Offices across New Mexico.

**Objective C4:** Initiate and/or enhance asthma education efforts in occupational settings.

## **Activities**

1. Develop new or adapt existing occupational asthma educational materials that address risk factors, prevention strategies and management. (Existing materials may need to be adapted to be culturally-, educationally-, and linguistically-appropriate or specific for the diverse groups in New Mexico) (See Environmental Exposures Section).
2. Publicize the availability of occupational asthma educational materials for employers, employees and healthcare providers.

**Objective C5:** Initiate and/or enhance public awareness of air quality in New Mexico, including homes, workplaces, schools and other public buildings.

## **Activities**

1. Utilize existing or develop new Indoor Air Quality (IAQ) materials that address risk factors and prevention strategies. Existing materials may need to be adapted to be appropriate for culture, education level, and language of the diverse groups in New Mexico. (See Environmental Exposures section).
2. Make the IAQ materials available in public places such as schools, libraries, community centers, and the NMDOH/NMAC web site.
3. In collaboration with the NM Department of Education and other partners identify and disseminate information on the sources of Outdoor Air Exposures (OAE) that affect persons with asthma.
4. Develop and disseminate different versions (culturally-, educationally-, and linguistically-appropriate for New Mexico's diverse populations) of materials and information describing steps to avoid exposure to pollutants, irritants, and allergens that may trigger or exacerbate asthma attacks.

**Objective C6:** Educate, inform and mobilize state residents about Environmental Tobacco Smoke (ETS) and asthma.

## **Activities**

1. Partner with and disseminate the various information and materials on ETS and asthma to the appropriate populations. (Existing materials may need to be adapted so that they are that culturally-, educationally-, and linguistically-appropriate for New Mexico's diverse populations).
2. Promote existing smoking cessation programs and asthma awareness campaigns.
3. Identify, coordinate and work with parent groups, religious and civic organizations, environmental groups, senior citizen centers and advocacy groups for social change, to inform and educate the public about the effects of ETS and asthma.
4. Identify, coordinate and work with schools and day care centers to inform and educate about the effects of ETS and asthma.
5. Educate policy makers about the efficacy of clean air policies in reducing the burden of ETS-related illness, including the development and aggravation of asthma.

## **D. IMPROVE ACCESS TO AND DELIVERY OF ASTHMA CARE**

**Goal:** Reduce barriers to asthma care throughout the state.

**Rationale:** According to the NHLBI effective medical management of persons with asthma revolves around four essential components: objective measurement of pulmonary function, implementation of environmental control measures, comprehensive treatment, and partnerships with all involved partners fostered by patient education about their condition. Because of the complexity of the disease, patients need individual treatment plans that require periodic updates.

Due to socio-economic disparities in New Mexico, many people are uninsured or under-insured and often don't seek treatment for asthma until an emergency situation arises. The rural nature of the state also impedes access to asthma care, as many of the ancillary services necessary for complete asthma management are only available at facilities in urban areas. The financial burden of medical care and travel, together with the cost and inconvenience that a trip for services may cause, can be further increased by lost time from work. Diversity in culture, language, and education may also pose barriers to asthma treatment.

Outreach programs for children with asthma do exist in rural areas, but they are inadequate to meet the present need in New Mexico. Budgetary constraints prevent expansion of this program. Additionally, a similar program is essential for adult asthma patients.

Partnerships with relevant community organizations are needed to advocate and implement changes within the health care and social services systems in order to provide more Community Health Representatives (CHRs) and *Promotores*, and to improve the cultural competence of asthma health care professionals. This will significantly broaden the availability of asthma care for many New Mexicans.

**Objective D1.** Evaluate available asthma care resources and expand these so that all residents of New Mexico can be served regardless of location or income.

### **Activities**

1. Organize information on asthma care providers by county. This will include identification of existing programs such as hospitals, clinics and primary care providers and specialists.
2. Ascertain clinic and office hours during which asthma care is available and work to expand available times where feasible.
3. Work with health care systems to provide same day appointments for asthmatic patients and telephone follow-ups.
4. Develop partnerships with the UNM's School of Medicine and the College of Nursing (Nursing Practitioner Colleges & undergraduate students), the Respiratory Therapy Program at TVI, the Nursing and Health Sciences Programs at NMSU, etc. to increase clinical rotation sites in those rural areas with limited provider access.

5. Expand the present CMS outreach program (operated by the Pediatric Pulmonary Division of UNM) to include NMDOH District II region with a particular focus on the tribal communities. The components of the outreach program are:
  - a. Patient/family care is initiated with an action plan outlining patient's care.
  - b. Patient/family are provided with asthma education.
  - c. All medications are reviewed with patient/family.
  - c. Patient/family are instructed on correct use of inhalers, spacers and peak flow meter.
  - d. Care coordination for patient/family is provided by CMS local social worker.
6. Using existing models, (e.g. UNM's Adult Asthma Disease Management Program and others) expand asthma outreach services to adults in the state. Currently, Albuquerque houses the only adult outreach asthma clinic in New Mexico.
7. Evaluate transportation options for patients who cannot provide their own.
8. Establish a statewide asthma network that identifies other partners willing to provide asthma care in each county.
9. Utilize community resources health liaisons, e.g. Promotores, interpreters, etc.
10. Investigate the feasibility of funding a mobile clinic to visit remote areas of the state. (Appropriate health care professionals to diagnose, treat and provide support for asthma patients could staff this van.)

**Objective D2.** Improve access to medications, peak flow meters, and spacers to both patients and providers.

#### **Activities**

1. Compile a comprehensive list of potential sources of these items (i.e. pharmaceutical assistance programs, county assistance programs, MCOs, ALA, and community based and rural health clinics).
2. Organize information by areas of the state and make it easily accessible.
3. Establish a system whereby educators will work directly with providers in each county to improve patient access to necessary asthma medical devices and medication.
4. Establish a system whereby educators will work with patient and providers to enroll in drug assistance programs, emergency access to asthma medication (i.e.: refill approval for rescue medications on weekends or after hours).

**Objective D3.** Improve access to asthma educators.

#### **Activities**

1. Identify certified asthma educators by county.
2. Locate asthma educator/case-managers in pharmacies or community centers.
3. Hire a resource person to be an expert on the most current asthma treatment and education. This person would:

- a. Operate a toll free phone number to answer questions from asthma patients and caregivers (especially in situations where the person does not have access to an Internet server),
- b. Provide information to both physicians and patients about treatment options,
- c. Procure daily air quality information and notify schools as needed (e.g. as related to physical education or sports activities).

## **E. MOBILIZE TO REDUCE ENVIRONMENTAL EXPOSURE TO ASTHMA CAUSES AND TRIGGERS**

**Goal:** Reduce environmental<sup>1</sup> causes and triggers of asthma in New Mexico.

**Rationale:** While the exact causes of asthma are unknown, research indicates that many environmental factors can trigger or exacerbate asthma episodes. Irritants are present in both indoor and outdoor environments and asthmatic people should avoid exposure to these agents. However, in many cases asthmatics have limited or no control over exposure to conditions that could affect their health.

The IAQ of schools and other public buildings is often compromised by the presence of dust, dust mites, cockroaches, and mold spores. Volatile organic compounds such as those found in cleaning agents, carpets, furniture, glues and wood preservatives add to the problem. Development of IAQ standards, formation of assessment teams, and lobbying for changes in building code standards are sorely needed. Many of the same irritants found in public facilities are found in homes. The possible additional presence of tobacco smoke burdens the asthmatic patient even more.

While the amounts of many chemicals present in the workplace are regulated and monitored, these standards may not be adequate to sufficiently protect asthmatics. Often all of the sources of possible irritants and their synergistic effects are not identified and addressed.

Environmental laws regulate the release of many industrial pollutants into outdoor air, but again, existing regulations may be inadequate to protect asthmatics. Furthermore, the effects of exposure to multiple air pollutants are not addressed by existing regulations.

Education about possible environmental triggers and causes of asthma, their presence in the asthmatic's surroundings, and methods of avoiding exposure to these factors is essential to the control of asthma episodes. Improved air monitoring and reporting systems will benefit not only asthmatics, but also the entire community and contribute to the overall quality of life.

**Objective E1.** Identify and prioritize environmental causes and triggers for asthma to better understand the relationship between specific environmental factors and asthma morbidity and mortality in New Mexico.

### **Activities**

1. Review existing literature and previously conducted studies on environmental causes and triggers of asthma with a focus on the New Mexico populations.
2. Map asthma distribution in New Mexico (see asthma surveillance section).

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<sup>1</sup> Environmental is broadly defined to include indoor and outdoor air pollutants, occupational exposures, environmental tobacco smoke, psycho-social stressors, and health disparities.

3. Map specific information such as air quality monitoring and emissions data sets in New Mexico (work with asthma surveillance personnel, New Mexico Environment Department, tobacco control coalitions and others).
4. Evaluate the existing asthma related health outcome data sets (e.g., ED visits and hospital admissions) and the environmental factors data for linking the asthma surveillance section (work with asthma surveillance personnel).
5. Evaluate the strengths of the data sets and improve these data sets (e.g. atmospheric modeling and support of small focused studies), if possible to allow for meaningful interpretation of the data.
6. Assess environmental data and asthma related health outcomes to improve knowledge, prioritize environmental factors, and guide policy decisions by preparing reports for state administrators and documents for the NMAC web site. This can be done in collaboration with colleagues working with the Environmental Public Health Tracking Cooperative Agreement (see both Education of Patients, Families, Schools and Communities Section and Education of Health Care Professionals).
7. Partner with communities for the purpose of sharing reports and data. Reports and data will be available on the NMDOH/NMAC web site. (See also Education of Patients, Families, Schools and Communities).

**Objective E2.** Reduce occupational exposure to agents that cause or trigger asthma.

**Activities**

1. Collaborate with colleagues working under “The Initiation and Development of State-Based Surveillance Capacity in Occupational Health” Cooperative Agreement to:
  - a. Adopt a case definition of occupational asthma to use in State Occupational Illness Surveillance Program.
  - b. Identify industries/businesses/occupations in New Mexico associated with high asthma prevalence rates (see Asthma Surveillance section).
2. Work with employer organizations, state regulatory organizations, and employee representative groups to initiate and maintain workplace control measures.

**Objective E3.** Improve IAQ to reduce exposure to factors that cause or trigger asthma.

**Activities**

1. Provide guidance to remediate indoor environments and improve IAQ. This can be accomplished by using existing indoor air assessment tools such as the EPA’s Tools for Schools. Include IAQ training and assessment that is already taking place in some schools (see also Education of Patients, Families, Schools and Communities section).
2. Develop and implement a strategy to affect changes in building codes and creation of IAQ regulations/standards.

**Objective E4.** Develop an IAQ assessment team of experts from among various agencies and organizations to provide advice and ongoing assessment of IAQ issues in public buildings.

**Activities**

1. Assemble an ad hoc working group to develop a plan for the assessment team. (This team will define the functions, budgets, and accountability of the team).
2. Develop funding for a full or part-time statewide IAQ coordinator.
3. Determine where this capacity would be housed.

**Objective E5.** Expand and enhance outdoor air quality monitoring stations in areas with elevated asthma rate.

**Activities**

1. Evaluate current air monitoring data to determine their adequacy to track pollutant levels especially in areas of high asthma prevalence.
2. Enhance current air quality monitoring to analyze associations with health outcomes to better focus potential preventive measures (i.e., public health interventions).
3. Enhance current air quality monitoring for hazardous air pollutants/toxic air contaminants to investigate their contributions to asthma exacerbations and to select adequate preventive measures.

**Objective E6.** Improve effectiveness of existing state regulations and regulatory programs with respect to outdoor air quality.

**Activities**

1. Identify existing regulations and regulatory programs to control air emissions and outdoor air exposures<sup>2</sup> that are commonly considered to be triggers of asthma attacks.
2. Evaluate the projected impact of potential revisions of regulations and regulatory programs on asthma rates. Recommend changes in the rules and regulatory programs to reduce the levels of OAEs<sup>2</sup>.

**Objective E7.** Develop and implement new air pollution prevention programs to reduce OAE levels especially in “high risk” areas.

**Activities**

1. Design outreach activities to prevent or reduce excessive levels of certain OAEs (e.g., ozone levels and pollen or mold spores count).
2. Develop “a vehicle care tips card” containing information on how to reduce hydrocarbon and other pollutant emissions from motor vehicles and equipment;

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<sup>2</sup> Outdoor air exposure includes exposure to criteria air pollutants (ozone, particulate matter, nitrogen oxides, sulfur oxides), air toxics, pollens, dusts, and other airborne irritants and allergens.

develop multiple versions that are culturally-, educationally-, and linguistically-specific. Distribute this information broadly through community-based organizations.

**Objective E8.** Increase knowledge of the effects of OAEs on respiratory health in New Mexico communities.

**Activities**

1. Identify or develop guidelines and recommend measures to mitigate potentially excessive exposures to asthma triggers in “high risk” areas.
2. Work with local media in high ambient air pollution regions to promote presentation of daily real-time reports of air quality, including Air Quality Index (AQI) and pollen or mold spore counts. Encourage the media to present air pollution reports, including alerts in their weather broadcasts together with action steps individuals can take to reduce or avoid exposure to OAEs.

## APPENDIX A

### TEN ESSENTIAL PUBLIC HEALTH SERVICES

- \*1. Monitor health status to identify community health problems.
- \*2. Diagnose and investigate health problems and health hazards in the community.
- \*3. Inform, educate, and empower people about health issues.
- \*4. Mobilize community partnerships to identify and solve health problems.
- \*5. Develop policies and plans that support individual and community health efforts.
6. Enforce laws and regulations that protect health and ensure safety.
- \*7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
- \*8. Assure a competent public health and personal health care workforce.
- \*9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
10. Research to develop new insights and innovative solutions.

\* The blueprint, *Breathing Free - An Asthma Plan for New Mexico* advances the work of these Essential Public Health Services.

Source: National Public Health Functions Steering Committee, 1994 (3)

## APPENDIX B

### HEALTHY PEOPLE 2010 OBJECTIVES FOR IMPROVING HEALTH: RESPIRATORY DISEASES

#### Asthma

##### 24.1. Reduce asthma deaths

	1998 Baseline	2010 Target
	Rate per Million	
24-1a. Children under age 5 years	2.1	1.0
24-1b. Children aged 5 to 14 years	3.3	1.0
24-1c. Adolescents and adults aged 15 and 34 years	5.0	2.0
24-1d. Adults aged 35 to 64 years	17.8	9.0
24-1e. Adults aged 65 years and older	86.3	60.0

##### 24.2. Reduce hospitalizations for asthma

	1998 Baseline	2010 Target
	Rate per 10,000	
24-2a. Children under age 5 years	45.6	25.0
24-2b. Children and adults aged 5 to 64 years*	12.5	7.7
24-2c. Adults aged 65 years and older	17.7	11.0

\*Age adjusted to the year 2000 standard population.

##### 24-3. Reduce hospital emergency department visits for asthma

	1955-97 Baseline	2010 Target
	Rate Per 10,000	
24-3a. Children under age 5 years	150.0	80
24-3b. Children and adults aged 5 to 64 years	71.1	50
24-3c. Adults aged 65 years and older	29.5	15

##### 24-4. Reduce activity limitations among persons with asthma

Target: 10 percent.

##### 24-5. Reduce the number of school or work days missed by persons with asthma due to asthma.

##### 24-6. Increase the proportion of persons with asthma who receive formal patient education, including information about community and self-help resources, as an essential part of the management of their condition.

Target: 30 percent.

- 24-7.** Increase the proportion of persons with asthma who receive appropriate asthma care according to the NAEPP guidelines. (Developmental)
- 24-7a.** Persons with asthma who receive written asthma management plans from their health care provider
  - 24-7b.** Person with asthma with prescribed inhalers who receive instruction on how to use them properly.
  - 24-7c.** Persons with asthma who receive education about recognizing early signs and symptoms of asthma episodes and how to respond appropriately, including instruction on peak flow monitoring for those who use daily therapy.
  - 24-7d.** Person with asthma who receive medication regimens that prevent the need for more than one canister of short-acting inhaled beta-agonists per month for relief of symptoms.
  - 24-7e.** Person with asthma who receive follow-up medical care for long-term management of asthma after any hospitalization due to asthma.
  - 24-7f.** Persons with asthma who receive assistance with assessing and reducing exposure to environmental risk factors in their home, school, and work environments.
- 24-8.** Establish in at least 25 States a surveillance system for tracking asthma death, illness, disability, impact of occupational and environmental factors on asthma, access to medical care, and asthma management. (Developmental)

## APPENDIX C

### HEALTHY PEOPLE 2010

#### *RELATED OBJECTIVES FROM OTHER FOCUS AREAS*

##### Access to Quality Health Care

**1-10.** Reduce the proportion of persons who delay or have difficulty in getting emergency medical care. (Developmental)

##### Educational and Community-Based Programs

**7-8.** Increase the proportion of patients who report that they are satisfied with the patient education they receive from their health care organization. (Developmental)

**7-11.** Increase the proportion of local health departments that have established culturally appropriate and linguistically competent community health promotion and disease prevention programs.

##### Environmental Health

**8-1.** Reduce the proportion of persons exposed to air that does not meet the U.S. Environmental Protection Agency's health-based standards for harmful air pollutants.

**8-2.** Increase use of alternative modes of transportation to reduce motor vehicle emissions and improve the Nation's air quality.

**8-3.** Improve the Nation's air quality by increasing the use of cleaner alternative fuels.

**8-4.** Reduce air toxic emissions to decrease the risk of adverse health effects caused by airborne toxics.

**8-14.** Reduce the amount of toxic pollutants released, disposed of, treated, or used for energy recovery. (Developmental)

**8-16.** Reduce indoor allergen levels.

**8-17.** Increase the number of office buildings that are managed using good indoor air quality practices. (Developmental)

**8-20.** Increase the proportion of the Nation's primary and secondary schools that have official school policies ensuring the safety of students and staff from environmental hazards, such as chemicals in special classrooms, poor indoor air quality, asbestos, and exposure to pesticides. (Developmental)

**8-23.** Reduce the proportion of occupied housing units that are substandard.

**8-25.** Reduce exposure of the population to pesticides, heavy metals, and other toxic chemicals, as measured by blood and urine concentrations of the substances or their metabolites. (Developmental)

**8-27.** Increase or maintain the number of Territories, Tribes, and States, and the District of Columbia that monitor diseases or conditions that can be caused by exposure to environmental hazards.

**8-28.** Increase the number of local health departments or agencies that use data from surveillance of environmental risk factors as part of their vector control programs. (Developmental)

#### Health Communication

**11-6.** Increase the proportion of persons who report that their health care providers have satisfactory communication skills. (Developmental)

#### Occupational Health and Safety

**20-1.** Reduce deaths from work-related injuries.

**20-2.** Reduce work-related injuries resulting in medical treatment, lost time from work, or restricted work activity.

**20-4.** Reduce pneumoconiosis deaths.

#### Physical; Activity and Fitness

**22-6** Increase the proportion of adolescents who engage in moderate physical activity for at least 30 minutes on 5 or more of the previous 7 days.

**22-7.** Increase the proportion of adolescents who engage in vigorous physical activity that promotes cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion.

#### Public Health Infrastructure

**23-2.** Increase the proportion of Federal, Tribal, State, and local health agencies that have made information available to the public in the past year on the Leading Health Indicators, Health Status Indicators, and Priority Data Needs. (Developmental)

**23-4.** Increase the proportion of population-based Healthy People 2010 objectives for which national data are available for all population groups identified for the objective.

**23-7.** Increase the proportion of Healthy People 2010 objectives for which national data are released within 1 year of the end of data collection.

**23-10.** Increase the proportion of Federal, Tribal, State, and local public health agencies that provide continuing education to develop competency in essential public health services for their employees. (Developmental)

**23-16.** Increase the proportion of Federal, Tribal, State, and local public health agencies that gather accurate data on public health expenditures, categorized by essential public health service. (Developmental)

**23-17.** Increase the proportion of Federal, Tribal, State, and local public health agencies that conduct or collaborate on population-based prevention research. (Developmental)

Tobacco Use

**27-1.** Reduce tobacco use by adults.

**27-2.** Reduce tobacco use by adolescents.

**27-3.** Reduce the initiation of tobacco use among children and adolescents. (Developmental)

**27-4.** Increase the average age of first use of tobacco products by adolescents and young adults.

**27-5.** Increase smoking cessation attempts by adult smokers.

**27-6.** Increase smoking cessation during pregnancy.

**27-7.** Increase tobacco use cessation attempts by adolescent smokers.

**27-8.** Increase insurance coverage of evidence-based treatment for nicotine dependency.

**27-9.** Reduce the proportion of children who are regularly exposed to tobacco smoke at home.

**27-10.** Reduce the proportion of nonsmokers exposed to environmental tobacco smoke.

**27-11.** Increase smoke-free and tobacco-free environments in schools, including all school facilities, property, vehicles, and school events.

**27-12.** Increase the proportion of worksites with formal smoking policies that prohibit smoking or limit it to separately ventilated areas.

**27-13.** Establish laws on smoke-free indoor air that prohibit smoking or limit it to separately ventilated areas in public places and worksites.

**27-14.** Reduce the illegal sales rate to minors through enforcement of laws prohibiting the sale of tobacco products to minors.

**27-15.** Increase the number of States and the District of Columbia that suspend or revoke State retail licenses for violations of laws prohibiting the sale of tobacco to minors.

**27-16.** Eliminate tobacco advertising and promotions that influence adolescents and young adults. (Developmental)

**27-17.** Increase adolescents' disapproval of smoking.

**27-18.** Increase the number of Tribes, Territories, and States and the District of Columbia with comprehensive, evidence-based tobacco control programs. (Developmental)

**27-19.** Eliminate laws that preempt stronger tobacco control laws.

**27-20.** Reduce the toxicity of tobacco products by establishing a regulatory structure to monitor toxicity. (Developmental)

**27-21.** Increase the average Federal and State tax on tobacco products.

## APPENDIX D

### REFERENCES

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