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The Statewide Maine Asthma Plan

Maine Department of Health and Human Services

Maine Center for Disease Control and Prevention

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THE
STATEWIDE
MAINE
ASTHMA
PLAN

a collaboration to decrease the severity of
Asthma and improve the quality of life for
the people of Maine...

September 2009

Revised May 2010



Maine Center for Disease
Control and Prevention
An Office of the
Department of Health and Human Services

John E. Baldacci, Governor

Brenda M. Harvey, Commissioner

Maine Asthma
COUNCIL



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INTRODUCTION

Asthma is a chronic inflammatory disease of the airways. Asthma causes the airway to become inflamed and produce excess mucous and airway constriction. This can lead to repeated episodes of wheezing, breathlessness, chest tightness, and nighttime or early morning coughing. These episodes are commonly called “Asthma attacks.”

Left untreated Asthma can be a life threatening disease. There is no cure for Asthma, and many different things can trigger Asthma attacks in people.

Asthma can be managed with proper long-term controller and short term quick-relief medications, self-monitoring of peak flow values, and following a written Asthma action plan.

Asthma is a common chronic disease in children. Boys typically have higher Asthma rates than girls. In adults, more women have Asthma than men. Asthma can be genetic, and Asthma is exacerbated when the person with the disease is exposed to an allergen or irritant that triggers an attack. These triggers vary from person to person but common allergens include pet dander, dust mites, pollen, latex, viruses, and mold. Common irritants include second-hand smoke, wood smoke, strong odors, fumes, dust, ozone, smog and pesticides. Asthma can also be exacerbated by exposure to cold air, viruses, exercise, emotions, and certain foods.

In order to control Asthma, people with Asthma must know their warning signs and should try to stay away from known triggers and irritants. Well-controlled Asthma allows people to be more productive, to miss less work or school, and to take part in physical activities. People with well-controlled Asthma are less likely to use the emergency department or be admitted to the hospital.¹ Overall, well-controlled Asthma contributes to a better quality of life.

ASTHMA IN THE UNITED STATES

The Behavioral Risk Factor Surveillance System shows, nationally, a current Asthma prevalence rate of 8.8% in 2009. This is a 1.5% increase from the rate of 7.3% in 2000. Other national Asthma facts include²;

- An estimated 23 million Americans - children and adults - suffer from Asthma.
- Asthma is one of the most common chronic conditions among children.
- Asthma is the third-ranking cause of hospitalization among children.
- Approximately 1.7 million adult emergency room visits were attributed to Asthma in 2006.
- Asthma is the leading cause of school absenteeism.
- Asthma accounts for more than 14 million total missed days of school.
- Asthma accounted for an estimated 14.2 million lost days of work.

In the last decade, numerous national efforts have addressed the rising Asthma epidemic. The Centers for Disease Control and Prevention has provided funding for many states, including Maine, for surveillance, intervention, and collaboration with partners to address Asthma in each state from the Public Health perspective. Asthma awareness and education is essential as Asthma impacts quality of life and is a financial burden for States, businesses, and families. The annual national cost of Asthma is estimated at \$16.1 billion dollars³. This figure breaks down as follows:

- \$11.5 billion in direct health care costs, including prescription drugs (\$5.0 billion), hospital care (\$3.6 billion), and physician services (\$2.9 billion).
- \$4.6 billion in indirect costs to businesses in lost productivity due to missed work or school (\$2.9 billion) and premature mortality (\$1.7 billion).

Many organizations have taken an active role in addressing Asthma by implementing programs and affecting policy aimed at reducing national Asthma rates. These organizations include the American Lung Association, the Asthma and Allergy Foundation of America, the Environmental Protection Agency and the Allergy & Asthma Network. These organizations, amongst others, have brought national attention to the issues of medical management, environmental management and policy development.

ASTHMA IN MAINE

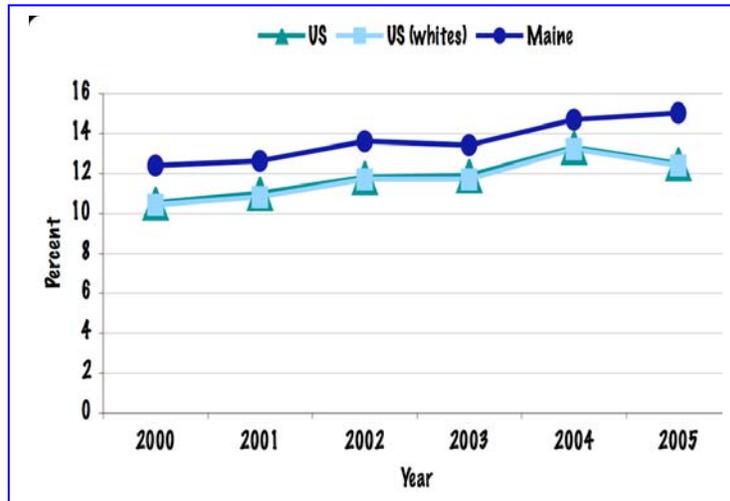
Maine Asthma rates are among the highest in the nation. In 2000 Maine was ranked the state with the highest Asthma rate. In 2005 Maine ranked third. In 2009 Maine ranked second with Arizona and Massachusetts⁴. A statewide Asthma plan for Maine is urgently needed to better control Asthma. It will improve quality of life for people with Asthma as well as reduce the economic burden of this chronic disease on the state's economy.

Asthma rates among various populations in Maine are significantly higher than the national average. Though there is no scientific evidence to directly correlate Maine's high rates with one specific cause, anecdotal information suggests Maine's geographic location lends itself to poor outdoor air quality, coupled with Maine's high dependency on burning wood, as well as limited access to health care and asthma education for those who suffer with Asthma; all contribute to higher rates we see in our State.

The figures below show Maine Asthma rates compared to National Asthma rates. It is known that several racial and ethnic groups also referred to as non-whites (African Americans, American Indians, Alaskan Natives, Puerto Ricans) have higher Asthma rates than whites. US National Asthma rates include data from both whites and non-whites, and usually Asthma rates for whites are presented separately to emphasize the difference with non-whites. In Maine, non-whites comprise a very small proportion of the population

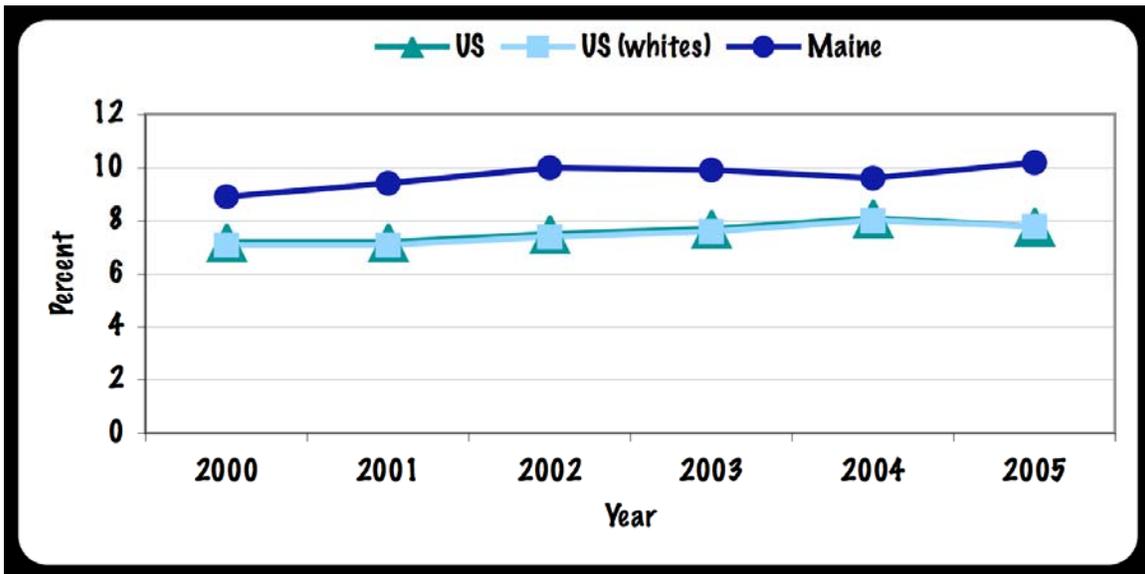
(approximately 4%), which obscures comparison to National Asthma rates.

Figure 1. Adult Lifetime Asthma Prevalence, US – Maine, 2000-2005



In 2005, Maine's lifetime Asthma prevalence in adults was 14.9% an increase of 2.5% from 2000 when the Asthma rate was 12.4%⁵. Nationally, Asthma rates increased 2% (10.5% - 12.5%) during this same time period.

Figure 2. Adult Current Asthma Prevalence, US – Maine, 2000-2005.



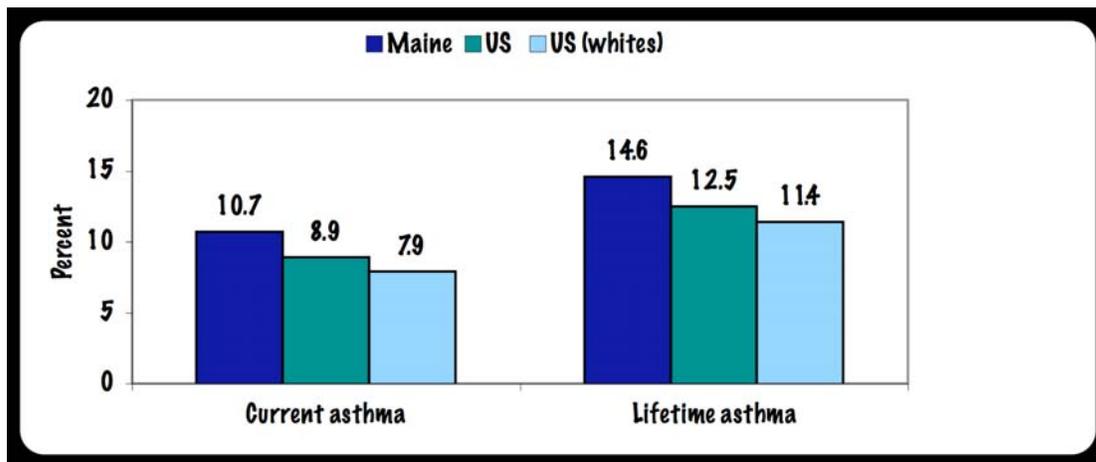
From 2000 - 2005 the current Asthma prevalence in Maine among adults was significantly higher than the national rate. During that time 9-10% of Maine adults reported having Asthma, compared to 7-8% nationally.

The 2007 Behavioral Risk Factor Surveillance System report shows a current prevalence Asthma rate for Maine adults ≥ 18 years to be 10.3% compared to a 8.3% national average.

The National Survey of Children's Health reports 14.6% of Maine children have had Asthma at some point in their life, and 10.7% had Asthma at the time of the survey.

The current Asthma prevalence in children aged 17 years and younger, was higher in Maine than the national prevalence. Figure 3 shows an overview of child lifetime and current Asthma prevalence of US and Maine youth.

Figure 3. Child Lifetime and Current Asthma Prevalence, U.S. and Maine, 2003.



Asthma impacts some population groups differentially. Nationally and in Maine, children (aged 17 years and younger) have higher current Asthma prevalence rates than adults. The difference between self-reported lifetime and current Asthma prevalence increases with age, perhaps due to remission. In 2003 the prevalence of youth reporting current Asthma was 10.7% in Maine, 8.9% US (all races), and 7.9% US whites. The prevalence of lifetime Asthma was 14.6% in Maine, 12.5% US (all races), and 11.4% US whites. Age specific child and youth data indicate boys have a higher current Asthma prevalence estimate than girls from birth until high school. Girls between the ages of 14-17 years had a higher prevalence estimate than boys of the same age. Among adults, women are more likely to have Asthma, visit the emergency room, and be hospitalized for Asthma.

Socioeconomic data⁵ also show disparities among people with current Asthma in Maine. How asthma affects disparate populations will be explored more fully, later in the Plan.

In sum, Asthma rates among different populations in Maine are high compared to National averages. A statewide plan is needed to continue existing education and outreach efforts, but moreover to develop and implement new initiatives, through existing and new partnerships, that will reduce the burden of Asthma.

ECONOMIC IMPACT

Asthma can affect productivity of many Maine residents. Evidence based programs have demonstrated cost-effective improvements in health and associated reductions in costs. The costs-savings are of interest to many employers who currently absorb the cost of lost production of an employee with Asthma. A report written by the Lowell Center for Sustainable Production highlights the high costs associated with Asthma, and utilizes the Asthma Return on Investment (ROI) calculator to show how investment in Asthma education may result in savings from reduced use of health care services and reduced absenteeism. ROI's for a low and high cost education program are presented in the Lowell Report and the results make a compelling case for employers to invest in Asthma education as a means to reduce the burden of the disease.

A costs calculator for chronic diseases is currently available through the CDC website, however the calculator for Asthma is currently in its finishing stages and is expected to be fully operational by the end of this summer. The chronic Disease Cost calculator will make it possible for the State of Maine to;

- Estimate Medicaid expenditures for Asthma
- Generate estimates of the costs to Medicaid

ABOUT THIS PLAN

This Statewide Plan was written by the Maine Asthma Council in collaboration with key Statewide partners. This plan intends to decrease Maine's Asthma burden by working on overarching goals with concerned state and community leaders, professionals and residents. As the above figures indicate, many Maine people experience poorly controlled Asthma. As a result, the Statewide Plan aims to;

- I. Increase Self-Management Education:

- Provide self-management measures to help patients avoid triggers, anticipate problems, and use medications appropriately.
- Provide measures for providers to improve accurate diagnosis, appropriate medication, patient monitoring, and patient education on how to maintain control and avoid attacks.

II. Decrease Asthma Disparities

- Provide appropriate resources (education and outreach) to different populations to help reduce existing Asthma disparities.

III.Reduce Hospital visits

- Reduce hospital visits by providing patient education and outreach to targeted groups, and support self-management initiatives.

Ultimately, improved self-management, and reductions in Asthma disparities and hospital visits, will help the State of Maine save health care dollars, reduce school absenteeism, and improve productivity.

ADDRESSING ASTHMA IN MAINE

ABOUT THE MAINE ASTHMA COUNCIL

The Maine Asthma Council was established in 1997 as a result of a statewide summit conducted by the American Lung Association of Maine. The purpose of this summit was to bring together stakeholders, interested parties and decision-makers to address the problem of Asthma in the state of Maine. Members from both public and private institutions participated in the daylong summit, as well as healthcare professionals, business and media consultants. The Maine Asthma Council members agreed to focus their efforts in four areas: education, data, sustainability, and finance.

With support from partners and members, the Council secured funding from the Federal Centers for Disease Control and Prevention

for the establishment of a Maine Asthma Prevention and Control Program (commonly called the Maine Asthma Program). The Program was mandated into legislation in 2001 and was housed in the Bureau of Health. The Bureau of Health underwent a name change in 2004 and is now called the Maine Center for Disease Control and Prevention. The Asthma Program resides in the Division of Chronic Disease, which serves as the convening organization for the Council. Working with the Asthma Program, the Council and its workgroups are responsible for meeting the agreed upon goals and objectives. The Council plays a major role in providing oversight and guidance to the activities conducted by the Maine Asthma Program.

Some of the Councils achievements include:

- Securing funding for the establishment of the Asthma Program.
- Publication of the first Public Health Action Plan for Asthma in Maine.
- Bringing public and private partners from all across the State together to address Asthma issues.
- Working collaboratively to pass legislation allowing students to carry inhalers and rescue medication in school.
- Developing and revising the Asthma Action Plan for school-aged children.
- Establishing a Healthy Homes collaborative with key partners.

Recently, the Council created workgroups to address Asthma in three priority areas: Schools, Homes, and Workplaces. In the near future, workgroups will be formed to address other critical areas such as outdoor air. These evolving workgroups, through their various activities, focus on education and outreach.

Moving forward, the Council will use evidence-based mechanisms and systems as opportunities to implement solutions to address the more intricate problems of Asthma. The Council meets quarterly, with most of its workgroups meeting monthly. The strength of the Council is demonstrated by the extensive partner network and the

efforts of the Council's workgroups. Those efforts are evaluated yearly in collaboration with the Maine Asthma Program. These evaluations give the Council a clear direction. Evaluation results are shared with Council members on an ongoing basis.

The Maine Asthma Council, continues its mission to enhance the quality of life for Maine people affected by Asthma; by providing the structure for partners to collaboratively address Asthma priorities identified in this plan.

MAINE STATEWIDE ASTHMA PLAN 2009 - 2014

OVERARCHING GOALS

- 1) Increase the proportion of people with current Asthma who report that they have received self-management education.
- 2) Reduce Asthma disparities among affected populations.
- 3) Decrease hospital admissions and emergency department visits for people with Asthma.

These three overarching goals work in concert with the Healthy Maine 2010 Asthma Objectives.

Healthy Maine 2010 Asthma Objectives

1. Reduce the number of school and workdays missed due to Asthma.
2. Reduce the number of emergency department visits due to Asthma.
3. Reduce the number of hospitalizations due to Asthma.
4. Increase the proportion of persons with Asthma who receive formal education.
5. Establish a surveillance system for tracking Asthma.

Operational goals, objectives, and strategies are based on examination and analysis of data collected through surveillance and tracking systems that have been in place since 2002, and through contributions from partners.

Please note that the settings for interventions have been adopted by the Maine Asthma Council as a result of the Asthma Policy Project - a partnership between the American Lung Association and the Centers for Disease Control and Prevention- and results of State specific surveillance data. These priority settings cut across populations so all people with Asthma can be reached regardless of age, socioeconomic status, geographic area and other factors.

The settings are:

- 1) Asthma Awareness
- 2) Disparate Populations
- 3) Health Care Management
- 4) Healthy Homes
- 5) Outdoor Air
- 6) Asthma Friendly Schools
- 7) Workplaces
- 8) Evaluation
- 9) Surveillance

The following symbols are used throughout the goals, objectives, and strategies to link each back to the three overarching goals:

- (H) - Reduction of hospitalization usage
- (D) - Decrease disparities
- (SM) - Increase in self-management

1 ~ ASTHMA AWARENESS

The importance of raising public awareness of the burden of Asthma in Maine is threefold. First, it is essential that all Maine people, especially those diagnosed with Asthma, understand that proper

management of the disease allows high quality of life. Second, it is critical to know that proper care will lower the costs associated with Asthma. Third, Asthma, left untreated, can lead to major medical complications, loss of productivity, and school absenteeism.

Raising awareness of Asthma and its impact on everyday life can be accomplished by engaging policy makers, business and community leaders in addressing the following critical Asthma issues that require policy work:

- Reducing outdoor pollutants and irritants
- Eliminating secondhand smoke in all public places
- Guideline-compliant evidence-based care for Asthma patients
- Insurance reimbursement for Asthma Education

The Maine Asthma Council and its statewide partners will attempt to raise awareness of not only the burden of Asthma, but also the barriers to achieving well-controlled Asthma such as: limited access to care and/or medication, language and cultural differences, and inadequate Asthma education. Through heightened awareness of these barriers, action steps can be developed and interventions can be specifically focused.

GOAL I-MAINE PEOPLE WILL HAVE ACCESS TO INFORMATION REGARDING THE BURDEN OF ASTHMA AND THE STEPS TO TAKE TO REDUCE THAT BURDEN.

Objective 1) Increase the number of Asthma related fact sheets currently produced by the Maine Asthma Council. (SM)

Objective 2) Increase the level of participation by Maine Asthma Council members at community events such as local health fairs and home shows. (SM)

Objective 3) Increase the proportion of health providers, policy makers, business and community leaders who are aware of the direct and indirect costs associated with Asthma. (H)

Objective 4) Develop an online electronic collection of Asthma resources, facts, and information that will be available on the Maine Asthma Council web site. (SM)

2 ~ DISPARATE POPULATIONS

A National Institutes of Health working group defined health disparities as differences in the incidence, prevalence, mortality, and burden of Asthma and related adverse health conditions that exist among specific population groups in the United States. These population groups may be characterized by gender, age, ethnicity, education, income, social class, disability, geographic location, and sexual orientation.

Maine's population is nearly 97% white, although there are people of different races and ethnicities living throughout the state. For example, racial and ethnic minorities account for 7.8% of the City of Portland's population. Washington County has the highest percentage of racial minorities in Maine (6.5%) with 4.4% of its population identifying themselves as Native American. Hispanics are the largest Maine minority representing 1.2% of the population. Since 1999, several thousand refugees have settled primarily in the southern part of the state.

Socioeconomic data tells us that in 2005, over 60% of Maine's 1.3 million residents live in a rural area, compared to 21% nationwide. Adults and children on MaineCare (Medicaid) have higher Asthma prevalence than individuals with other types of insurance. Adults with lower family income or educational attainment are more likely to report having current Asthma. Non-white adults have a higher prevalence of current Asthma than white adults.

Adults on MaineCare (Medicaid) were more likely to report current Asthma than those with other insurance or those who were uninsured. ⁵Children enrolled in Head Start in Maine were more likely to receive treatment for Asthma than for any other health condition.⁶

Further data shows residents of Northern Maine have higher rates of Asthma-related hospitalizations and emergency department visits compared to those who live in Southern Maine.

The rate of Emergency Department visit rates per 10,000 are presented in Figure 4. Aroostook and the Downeast district located in the most Northern and Northeastern section of the state show the highest Emergency Department rates for all age-groups.

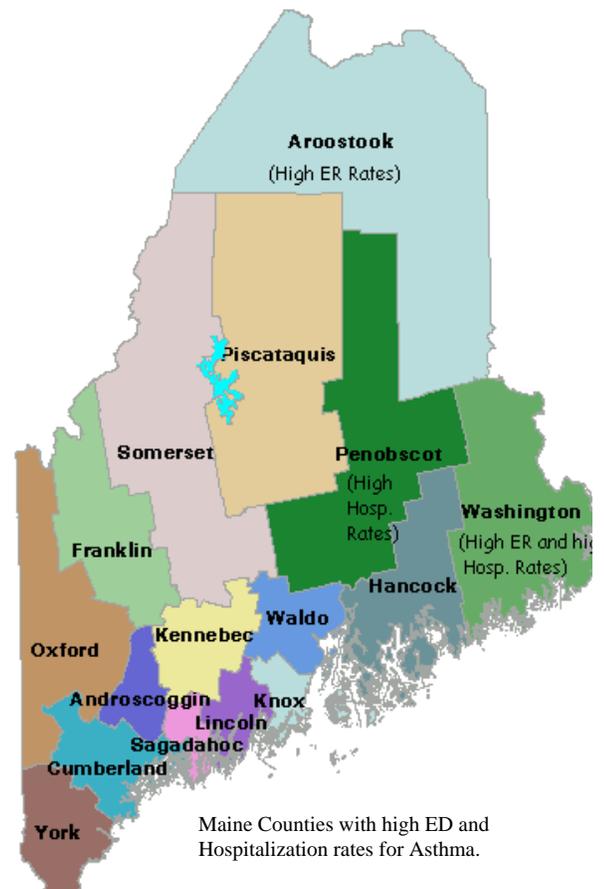
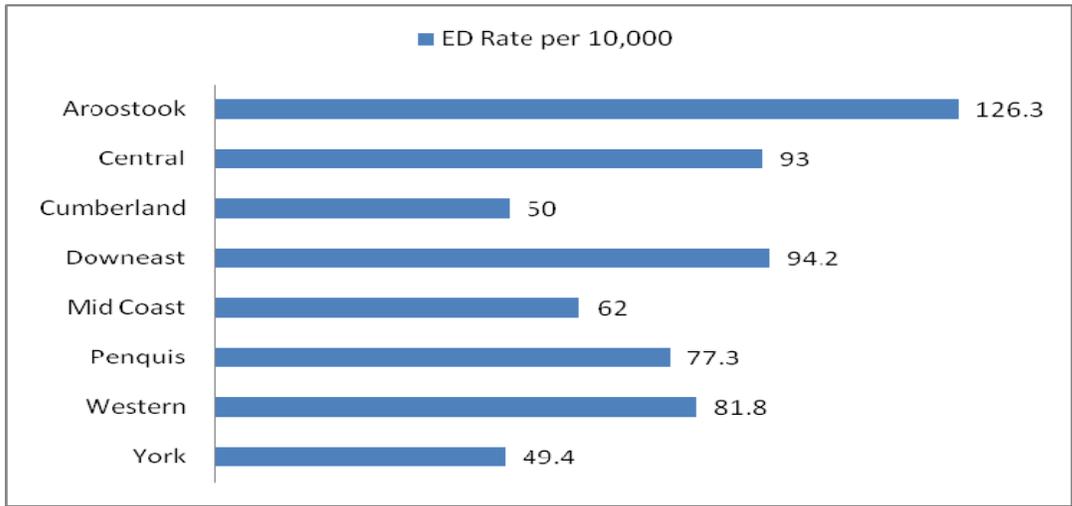


Figure 4. Age-adjusted Asthma Emergency Department Visit Rates by Public Health District



Due to their small numbers in terms of Maine population, data on Asthma among Native Americans is limited. It is generally known that Asthma prevalence among the Native American population is high, as is the need for Asthma education and outreach. In 2008 EPA Region 1's Asthma Program Team awarded a Healthy Communities Grant to The Houlton Band of Maliseet Indians (Littleton, Maine). The EPA Region 1 Asthma Program Team supports Asthma education and reduction of environmental factors to address the problem of Asthma in New England. The grant awarded to The Houlton Band of Maliseet Indians will help fund The Asthma Healthy Homes (AHH) Initiative, a three-year comprehensive Asthma intervention program which includes;

- Asthma training by an HRH Asthma Educator.
- Outreach and education on environmental trigger identification and avoidance techniques.
- Asthma self-management to ensure healthy homes for children and families of the Houlton Band of Maliseet Indians (HBMI) tribe in Maine.
- Collaboration with School Health Advisory Committee to identify Asthma educational needs.

- Collaboration with the Maine Center for Disease Control and Prevention Asthma Program Manager to explore partnership opportunities with the Maine Asthma Council.

Based on available data, The Statewide Plan will address the needs of underserved populations.

GOAL II - INCREASE THE HEALTH OF MAINE PEOPLE WITH ASTHMA WHO LIVE IN GEOGRAPHIC AREAS OF THE STATE WITH HIGH ASTHMA RATES AND LOW SOCIO-ECONOMIC STATUS.

Objective 1) Increase the proportion of parents with children in Head Start and child care centers who are informed about Asthma self-care management resources for their children. (D) (SM) (H)

Objective 2) Decrease the rate of emergency department visits and hospital admissions for Asthma in Washington County through increasing guideline-compliant care and knowledge of self management techniques. (D) (SM) (H)

Objective 3) Reduce the rate of emergency department visits for Asthma in Aroostook county through increasing guideline - compliant care and increasing knowledge of self-management techniques. (D) (H) (SM)

Objective 4) Decrease the rate of hospitalizations for Asthma in Penobscot County through increasing guideline-compliant care and increasing knowledge of self-management techniques. (D) (H) (SM)

Objective 5) Increase the percentage of Federally Qualified Health Centers in Maine that are informed by the Maine Asthma Program of Asthma guideline-compliant care and patient taught self-management techniques. (SM) (D) (H)

Objective 6) Increase the percentage of Tribal clinical staff and school staff within the Aroostook Band of Mic Macs, the Houlton Band of

Maliseets, the Penobscot Tribe and the Passamaquoddy Tribe who are informed of Asthma guideline-compliant care via resources provided by the Maine Asthma Program to the Tribal Health Liaisons. (D) (SM)

Objective 7) Increase the proportion of Tribal members with Asthma living on the reservation who are informed about their triggers and how to control them. (D) (H) (SM)

Objective 8) Increase the number of culturally and linguistically appropriate Asthma self-management resources that will be available to existing minority health programs, the NAACP, and other pertinent community based groups for distribution to the refugee and immigrant communities. (D) (SM)

Objective 9) Decrease rates of Asthma-related emergency department visits in adults over the age of 65 through the use of self-management techniques provided by the Maine Asthma Program. (SM) (H)

3 ~ HEALTH CARE MANAGEMENT

It is generally known that evidenced-based care can reduce Asthma morbidity and mortality. Effective Asthma education programs targeted to high risk patients can result in health care cost savings, as well as gains in productivity through improved quality of life and decreased absenteeism.⁷

The Institute of Medicine reports that Asthma patients who receive self-management education and regular follow-up with a health care professional reported a reduction in hospitalizations and emergency department visits and fewer work days lost.⁸ The November 2002 issue of *Journal of the American Medical Association* states that there are two essential elements that define self-management education: (1) patients learn problem solving skills useful in identifying problems from their point of view, and use action plans to find solutions; and (2) these skills are applied to three aspects of chronic illness: medical, social and emotional.⁹

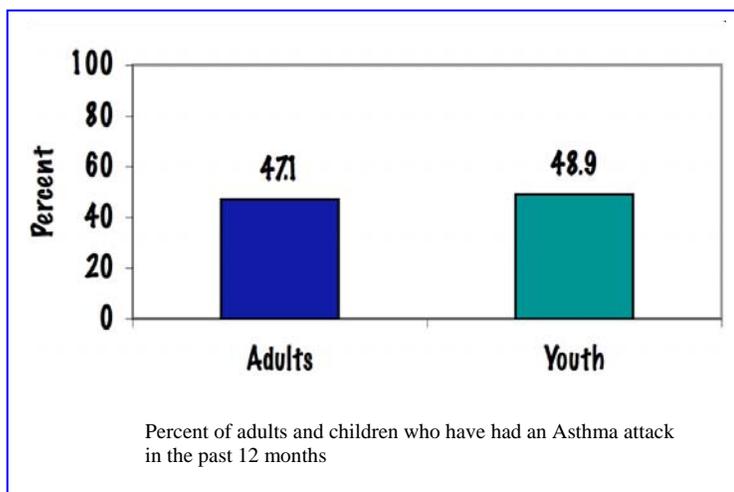
The October 2002 issue of the *Journal of the American Medical Association* describes the financial savings realized, when such measures are employed, by decreasing costly emergency department visits. The authors compared the \$85 cost for self-management education to the \$628 cost for an avoidable emergency department visit. A group involved in a self-management program had 73% fewer emergency department visits and 84% fewer hospitalizations. Finally, a home-based education program for low-income children who were previously hospitalized saved \$11 for each dollar spent to deliver education.¹⁰

The financial facts coupled with improved quality of life make a strong argument to:

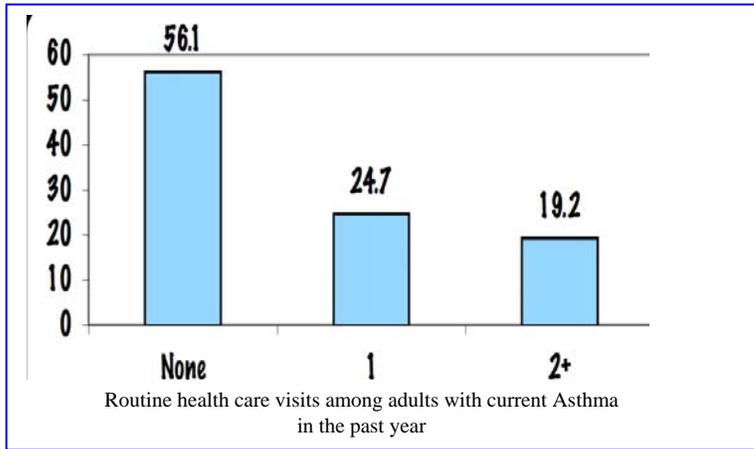
- employ the latest guidelines
- train and reimburse Asthma Educators and
- provide self-management education for people in Maine with Asthma at every opportunity

For Maine we know that⁵:

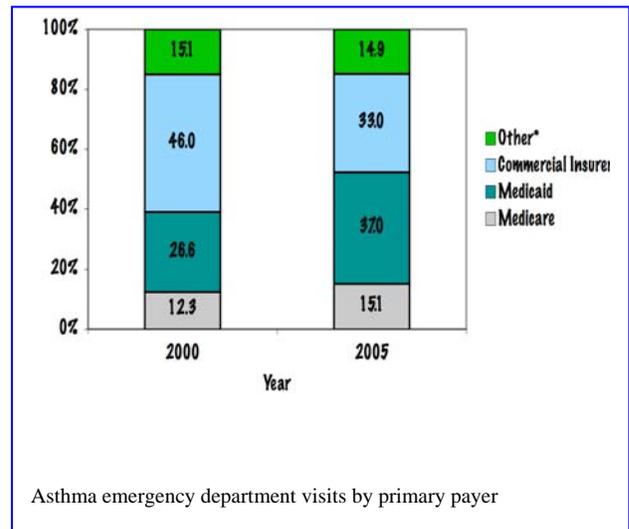
- Each year in Maine, nearly 50% of adults and children, who currently have Asthma, experience an Asthma attack.



- Only 20% of Maine adults who currently have Asthma reported having had the recommended two or more routine physician visits in the preceding 12 months.



- 40% of Maine’s kindergarten and 3rd grade students who have Asthma had not received a written Asthma action plan, according to the Maine Child Health Survey.
- A high number of daytime and nighttime symptoms are reported in both adults and children who have Asthma.
- Over 8,000 emergency department visits and over 1,000 hospitalizations occur in Maine each year due to Asthma, resulting in an estimated \$4.1 million for emergency department visits¹¹.
 - Children under the age of five have higher rates of emergency department visits and hospitalizations than any other group.
 - Those 65 years and older have high hospitalization rates, relative to other age groups. Between 1999 and 2005, hospitalization rates increased in this age group only. Rates declined or remained stable in all other age groups.¹²



In addition to educating patients and their families, there is also a need to increase medical provider knowledge and use of guideline-compliant care. Medical care can be enhanced by self-management that employs understandable Asthma action plans for all with diagnoses of Asthma.

GOAL III- DECREASE THE NUMBER OF HOSPITAL ADMISSIONS AND EMERGENCY DEPARTMENT VISITS FOR ASTHMA BY INCREASING GUIDELINE-COMPLIANT CARE AND PATIENT AND FAMILY SELF-MANAGEMENT. (H) (SM)

Objective 1) Increase the percentage of pediatricians in Maine who indicate using the following;

- self-care management information and tools
- guideline-compliant tools based on the NHLBI, NAEPP EPR3 from the Maine Asthma Program and partners. (H) (SM)

Objective 2) Increase the proportion of Maine's primary care providers who indicate using the following:

- information from the Maine Asthma Program and partners about the importance of Asthma self-management and guideline-compliant care as issued by the NHLBI, NAEPP. (H) (SM)

Objective 3) Increase the number of Health Care professionals who have had training through the American Lung Association's Asthma Educator Institute or have obtained National Certification. (H) (SM)

Objective 4) Increase the proportion of school nurses who have received Asthma training provided by the Maine Asthma Program, the Maine Asthma Council's Schools Workgroup and partners. (H) (SM)

Objective 5) Increase the proportion of schools and primary care practices who effectively use the revised, school age Asthma Action Plan as a self-care management tool. (H) (SM)

Objective 6) Increase accessible Asthma self-management supports (in concert with other chronic disease supports), available in the community by partnering with 211, local Healthy Maine Partnerships, and other statewide partners. (SM)

Objective 7) Reduce hospitalizations by working with medical providers, insurers, and large employers to redesign the formula for payment of Asthma education and access to care. (H)

Objective 8) Increase access to information regarding guideline-compliant care for providers, insurers, and employers . (H)

4 ~ HEALTHY HOMES

Americans spend about 90% of our time indoors. Of that 90%, about 65% is spent in our homes. That large percentage makes home a place where people with Asthma have the greatest exposure to triggers that can exacerbate their Asthma and cause an attack. Triggers vary from person to person and include allergens and irritants. Some commonly found in the home are pet dander, dust mites, and mold. Some common irritants found in the home are cigarette smoke, second- and third-hand smoke, wood smoke, dust, and strong odors.

In the U.S. one-third of housing units are occupied by renters; 25% of all housing units are in multi-unit buildings. In Maine, renters occupy 26% of housing units. Housing stock in Maine is some of the oldest in the nation. In fact, 27% of Mainers live in homes built prior to 1940. Thirty-seven percent of renters are living in buildings built before 1940.

The best way to prevent attacks, reduce triggers, and manage Asthma is to provide information to landlords, tenants, and home owners

about potential triggers in indoor environments. Code enforcement officers, home health care workers, inspectors and many others who regularly enter people's homes as part of their jobs also need to be aware of potential Asthma triggers. Maine is at the forefront in enactment of housing policies that offer renters clean indoor air and smoke-free living options.

Learning proper home maintenance to avoid Asthma triggers is important for the health of everyone. By identifying and eliminating Asthma triggers, people with Asthma will live a fuller life.

GOAL IV- ASSURE MAINE PEOPLE WITH ASTHMA HAVE ACCESS TO THE INFORMATION AND RESOURCES THEY NEED TO REDUCE ASTHMA TRIGGERS IN THEIR HOMES.

Objective 1) Increase the proportion of landlords who are aware of how to prevent, reduce, and manage Asthma triggers in their rental facilities by providing training for 50% of Maine's Public Health Districts through the Maine Asthma Council's Homes Workgroup. (SM)

Objective 2) Compile and distribute information for home owners, landlords, and tenants on the Maine Asthma Program Website that will help identify, prevent, reduce and manage common home Asthma triggers. (SM) (H)

Objective 3) Develop partnerships with officials in the designated health districts who enter homes in the performance of their jobs. Train them in identification and remediation of residential environmental Asthma triggers. (H) (SM)

Objective 4) Increase the awareness of Maine's Asthma Council and educational efforts with a carefully designed Healthy Homes Outreach Plan. The Plan, based on current data, will focus on who we need to reach, what our message should be, how best to deliver the message, and how to evaluate the effects of the effort. (SM)

5 ~ OUTDOOR AIR

Researchers studying outdoor air pollution report that Asthma exacerbations are one of the most frequently identified health effects of poor outdoor air. For example, one national study found that children who live close to interstate highways are more likely to have a history of Asthma than children who do not.¹³

The Environmental Protection Agency sets the national standards for six outdoor air pollutants:

- 1) Ozone
- 2) Particulate Matter
- 3) Sulfur Dioxide
- 4) Nitrogen Oxide
- 5) Lead
- 6) Carbon Monoxide

These pollutants are monitored and reported¹⁷.

GOAL V- MAINE PEOPLE WILL HAVE ACCESS TO THE INFORMATION, TOOLS, AND RESOURCES TO PROMOTE OUTDOOR AIR QUALITY PRACTICES AND REDUCE AIR POLLUTION.

Objective 1) Work with collaborators to identify and establish a measure that may be enacted to clean outdoor air in Maine. (H)

Objective 2) Create partnerships (with DEP, Tribes, hospitals and others) to enhance the measurement of outdoor air pollutants in Maine by defining measurement techniques, and advocate for enhancement. (H)

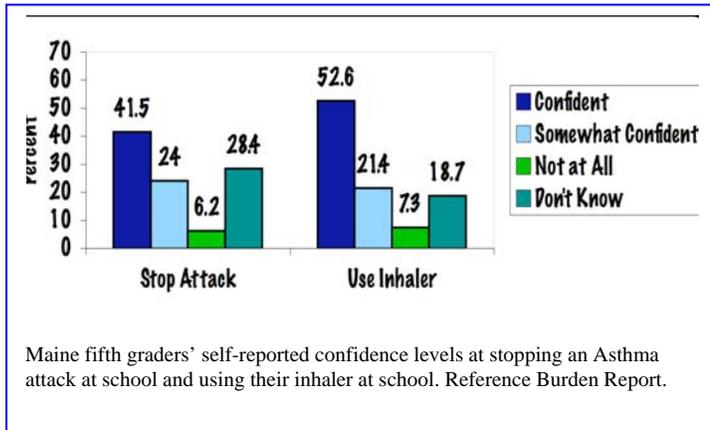
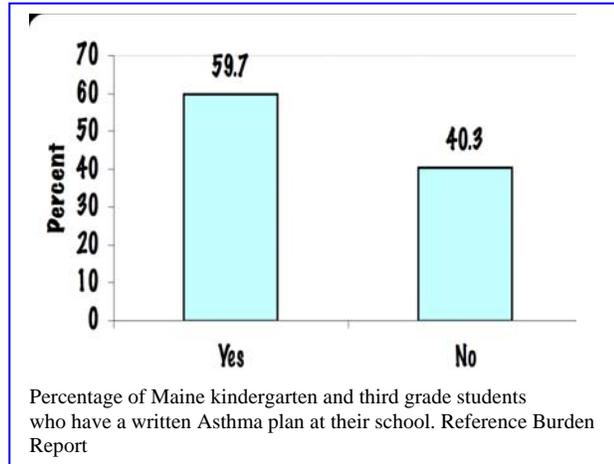
Objective 3) Increase effective use of existing communication tools to inform a larger proportion of Maine people who are informed about outdoor air alerts issued by the Maine Department of Environmental Protection. (SM)

6 ~ ASTHMA FRIENDLY SCHOOLS

Nationally, Asthma is the most common cause of school absenteeism. In 2003 children aged 5 to 17, and reporting at least one Asthma attack, missed 12.8 million school days due to the disease¹⁴

In Maine we know that:

- 40% of Maine's kindergarten and 3rd grade students with current Asthma had not received a written Asthma action management plan, according to the Maine Child Health Survey.¹⁵



- Roughly 40% of Maine 5th graders with current Asthma reported being "confident" that they could stop an Asthma attack at school. Only 6% reported being "not at all confident," and 28% reported that they "didn't know."

Among those with current Asthma, just over 50% of Maine fifth graders reported being "confident" of their ability to use their inhaler at school. Nearly 20% responded that they "did not know" how confident they felt using their inhaler at school.

- About 60% of kindergarteners and third graders with current Asthma had to limit their normal activities due to Asthma in the past year; 47% of fifth graders with current Asthma had to limit normal activities due to Asthma in the past year.

- Sleep disturbances due to wheezing were reported for nearly 60% of kindergarteners and third graders with current Asthma.
- 60% of children with current Asthma in kindergarten and third grade and 44% of fifth graders with current Asthma reported sleep disturbances due to dry cough. ¹⁶

GOAL VI- EVERY CHILD WITH ASTHMA WILL BE ABLE TO ATTEND SCHOOL AND PARTICIPATE IN SCHOOL ACTIVITIES.

Objective 1) Train school staff, faculty, coaches, and club advisors in Maine schools in the signs, symptoms, and treatment of Asthma and how to respond to a student who is having an Asthma attack utilizing resources provided by the Maine Asthma Program, the Maine Asthma Council's Schools Workgroup and partners. (SM)(H)

Objective 2) Increase the percentage of school nurses who have the tools made available by the Maine Asthma Program and the Maine Asthma Council's Schools Workgroup to address Asthma, including clinical and educational resources. (SM) (H)

Objective 3) Ensure that Maine schools will have committees and tools to improve indoor air quality. (SM) (H)

Objective 4) Increase the school nurse to student ratio in Maine from 1:700 to 1:500 as recommended by the National Association of School Nurses. (SM) (H)

Objective 5) Provide information to school-aged children with Asthma and their families via resources made available by the Maine Asthma Program and the Maine Asthma Council's Schools Workgroup. (SM) (H)

Objective 6) Provide guidance to Maine Schools to include protocols addressing use of the Maine Department of Environmental Protection Air Quality Alerts to guide outdoor activity. (SM) (H)

Objective 7) Track student absenteeism due to Asthma (H) (SM)

Objective 8) Identify and reduce Asthma absenteeism of students in schools whose populations are disproportionately affected by Asthma. (D) (SM) (H)

7 ~ WORKPLACES

Asthma and Asthma symptoms may be caused by or aggravated by exposures within the workplace. Workplace exposures are estimated to be responsible for 15% of all Asthma cases among adults in the United States.¹⁷ More recent research has estimated workplace related Asthma symptoms as high as 29%.¹⁸ Workplace exposures can also worsen existing Asthma symptoms, even in people whose Asthma does not originate from occupational exposures.¹⁹ Asthma is the 4th greatest reason for people to miss work.²⁰

Asthma triggers that can be found in the workplace include: dust, wood dust, animal or fish parts, chemicals and paints are common triggers. Nationally, secondhand smoke is a significant Asthma irritant in the workplace setting. Maine has enacted strong workplace and public place smoking laws, however, many employers have not created nor posted the mandatory signs that enforce these laws. Awareness and enforcement of the law is an ongoing process.

Maine is unique and fortunate to have the Maine Occupational Research Agenda (MORA), a group modeled after the federally recognized National Occupational Research Agenda. MORA meets regularly to keep occupational Asthma and workplace exposures a priority for policy makers, community leaders, and researchers.

GOAL - VII INCREASE ATTENDANCE AND PRODUCTIVITY OF WORKERS WITH ASTHMA.

Objectives 1) Provide information to employers with 50 or more employees about the cost and management of Asthma. (SM) (H)

Objective 2) Provide information in workplaces with 50 or more employees to increase the number of employees with Asthma or at high risk for Asthma, who have access to information to identify and decrease their exposure to workplace Asthma workplace triggers. (H) (SM)

Objective 3) Provide resources to occupational medical providers about occupational Asthma and workplace exposures that will assist in making a definitive diagnosis of occupational Asthma and the ability to instruct patients on how to manage their Asthma. (H) (SM)

Objective 4) Increase the proportion of primary care providers who receive educational resources from the Maine Asthma Program or the Maine Asthma Council's Workplace Workgroup about diagnosing, referring, and treating occupational Asthma. (H) (SM)

Objective 5) Increase access to occupational asthma information for employees with or those at risk for developing work-related asthma. (D) (H) (SM)

8 ~ EVALUATION

A comprehensive five year evaluation plan for the Maine Asthma Plan will be developed to examine how the various intended activities in the MAP are carried out and whether or not these activities result in the intended outcomes - contributing to a meaningful way to reduce the burden of Asthma in Maine. The 6-Step CDC Program Evaluation Framework will be applied to; guide strategic choices in developing an evaluation plan; assist in the overall evaluation of MAP; and, ensure evaluation results will be used for continuous improvement of the program.

GOAL VIII COMPLETE A COMPREHENSIVE FIVE-YEAR EVALUATION PLAN FOR THE MAP FUNDING PROPOSAL AND PROVIDE ON-GOING EVALUATION SUPPORT FOR IDENTIFIED INITIATIVES AND ACTIVITIES.

Objective 1) Complete the comprehensive five-year evaluation plan for the Maine Asthma Program.

Objective 2) Complete annual program evaluation for the Maine Asthma Program.

Objective 3) Provide evaluation technical assistance to the Maine Asthma Plan, including program-specific and interdepartmental across multiple chronic disease programs at Maine CDC.

9 ~ SURVEILLANCE

Asthma surveillance includes ongoing systematic collection, analysis, and interpretation of asthma-related data for use in planning, implementation, and evaluation of public health practice. Asthma surveillance data will help direct and inform Maine Asthma Council activities as well as provide information to stakeholders, organizations, businesses and Maine communities describing the physical and economic burden of asthma on Maine's population.

GOAL VIII: PROVIDE COMPREHENSIVE SURVEILLANCE ACTIVITIES TO SUPPORT THE WORK OF MAINE ASTHMA PROGRAM.

Objective 1: conduct key surveillance functions to collect, analyze, interpret and disseminate Maine Asthma Data.

Objective 2 Evaluate new and existing data sources for surveillance attributes and conduct in-depth data analysis to better characterize the burden of asthma in Maine's population.

10 ~ MAINE ASTHMA COUNCIL

The Maine Asthma Council and its statewide partners will attempt to continue to raise awareness of not only the burden of Asthma, but also the barriers to achieving well-controlled Asthma. Raising awareness of Asthma and its impact on everyday life can be

accomplished by engaging policy makers, business and community leaders in critical Asthma issues, of which some may require policy work.

GOAL VIII: DEVELOPMENT, MAINTENANCE AND SUPPORT OF THE MAINE ASTHMA COUNCIL AND ITS WORKGROUPS.

Objective 1) Increase participation, have a regular meeting schedule and responsibility of Maine Asthma Council will move to Maine Asthma Council Membership.

Objective 2) Maine Asthma Council Workgroups will continue to function, grow by 10% and opportunities for new workgroups will be assessed.

Objective 3) Maine Asthma Council members will be able to communicate amongst themselves by use of an established list-serve.

CONCLUSION

Maine Asthma Prevention and Control program staff, the Maine Asthma Council, and partners diligently worked to produce this *Statewide Maine Asthma Plan*. A roadmap for future activities has been created through careful attention to facts and the special needs of the people of Maine. A solid direction exists for meeting the overarching goals of decreasing hospital admissions and emergency department visits, increasing the proportion of people with current Asthma who report that they have received self-management education, and reducing Asthma rates among disparate populations.

The *Statewide Maine Asthma Plan* could not be implemented without the dedicated work of the Maine Asthma Prevention and Control Program staff, the Maine Asthma Council, and its committed membership that serves on the council's three workgroups:

- Homes
- Schools
- Workplaces

The Maine Asthma Council intends for this *Statewide Maine Asthma Plan* to be a living document. Analysis of Asthma surveillance data, assessment of interventions, and other factors that affect support for Asthma in the state of Maine will be the basis for Plan review.

The Maine Asthma Council would like to acknowledge the participation of the following individuals who represent vast sectors of the state and cross-cut age, culture, geographic, and socioeconomic boundaries and positively affect the life of **ALL** Maine people with Asthma.

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References

- ¹ <http://www.cdc.gov/Asthma/faqs.htm>, retrieved 4-09
- ² American Lung Association: Asthma in Adults Fact Sheet
- ³ NHLBI, (2004) Morbidity and Mortality: 2004 Chart Book on Cardiovascular, Lung and Blood Diseases. Retrieved July 30, 2007 from http://www.nhlbi.nih.gov/resources/docs/04_chrtbk.pdf
- ⁴ BRFSS Prevalence Trend Data
- ⁵ The Burden of Asthma in Maine, 2008. Maine Center for Disease Control and Prevention, Division of Chronic Disease. Maine Department of Health and Human Services.
- ⁶ The Maine Head Start Report 2009.
- ⁷ Hoppin, P., Jacobs M. *Investing in Best Practices for Asthma: A Business Case for Educational and Environmental Interventions*. New England Asthma Regional Council. April 2007.
- ⁸ IOM, *Prioroty Areas for National Action: Transforming Health Care Quality*, Washington, DC: National Academies Press; 2003.
- ⁹ Bodenheimer, Thomas MD, Lorig, Kate RN DrPH, Holman, Halsted MD, Grumbach, Kevin MD. Patient Self-Management of Chronic Disease in Primary Care, *Journal of the American Medical Association*, Nov. 2002, Vol. 288, No. 16.
- ¹⁰ Bodenheimer, Thomas MD, Holman, Halsted MD, Grumbach, Kevin MD. Improving Primary Care for Patients with Chronic Illness. The Chronic Care Model, Part 2. *Journal of the American Medical Association*, October 16, 2002 – Vol. 288, No 15.
- ¹¹ ED-cost Northeast (2003 AHRQ)
- ¹² The Burden of Asthma in Maine, 2008. The Maine Asthma Program, Maine Center for Disease Control.
- ¹³ Gauderman WJ, Avol E, Lauermann F. Kuetzer RA, Luttinger D, et al. Childhood Asthma and Exposures to Traffic and Nitrogen and Nitrogen Dioxide. *Epidemiology*. 2005
- ¹⁴ CDC,. National Center for Health Statistics. *Asthma Prevalence, Health –Care Use and Mortality: United States, 2003-05*. January 2007.
- ¹⁵ The Burden of Asthma in Maine, 2008. The Maine Asthma Program, Maine Center for Disease Control
- ¹⁶ Ibid.
- ¹⁷ American Thoracic Society. Occupational Contribution to the Burden of Airway Disease. *American Journal of Respiratory and Critical Care Medicine*. 2004;169:873-81
- ¹⁸ Sama SR, Milton DK, Hunt PR, Houseman EA, Hennenberger PK, Rosiello RA. Case by case assessment of Adult Onset Asthma Attributable to Occupational Exposures among Members of a Health Maintenance Organization. *Journal of Occupational and Environmental Medicine*. 2006;48(4):400-7.
- ¹⁹ American Thoracic Society. Occupational Contribution to the Burden of Airway Disease. *American Journal of Respiratory and Critical Care Medicine*. 2004.
- ²⁰ Morbidity and Mortality Weekly Report, Surveillance for Asthma, U.S. CDC, 2002

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