



# STRATEGIC ASTHMA PLAN FOR PENNSYLVANIA

*2015-2020*



AMERICAN LUNG ASSOCIATION IN PENNSYLVANIA,  
PENNSYLVANIA ASTHMA PARTNERSHIP AND  
THE PENNSYLVANIA DEPARTMENT OF HEALTH

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# EXECUTIVE SUMMARY



Asthma is a complex disease that requires a multi-faceted approach to reduce the burden it places on the residents of Pennsylvania. Currently, there is no known cure for asthma. Research on the causes of asthma and on interventions to prevent asthma in high risk populations is evolving. Greater support for relevant science and strategic focus on opportunities to prevent new cases of asthma is important, but the greatest need for reducing the burden of asthma in Pennsylvania is among people who already have the disease.

**T**he creation of the 2015–2020 Strategic Asthma Plan for Pennsylvania will serve as the framework for a comprehensive statewide strategic asthma plan or a “wish list” for the commonwealth. This Strategic Asthma Plan for Pennsylvania acknowledges that many factors affect a person’s asthma: the quality of health care they receive; the environmental exposures in the home, school, child care or work environment; the air they breathe; and their own individual behaviors.

To truly reduce disparities in asthma outcomes and improve the quality of life for all people with asthma, we need to take comprehensive action on multiple levels (individual, family, community and society) and in multiple settings (health care clinics, homes, schools, child care settings, work and outdoors).

In addition, the five-year strategic asthma plan will help the commonwealth to:

- Improve the quality of life for all Pennsylvania residents who have asthma;
- Reduce disparities in asthma outcomes between distinct population groups;
- Prioritize statewide activities;
- Facilitate collaborations with nontraditional partners;
- Consider opportunities without barriers, such as financial, political and social barriers; and
- Define future steps based on changing economic conditions each fiscal year.

The goals, objectives and strategies listed in this strategic plan represent the collective opinion of the lead partners and others who were involved in the drafting of the plan for what is needed and achievable to address asthma in the next five years. The strategic plan attempts to draw on the unique opportunities present in Pennsylvania and highlights the ongoing work of its partners.

## STRATEGIC ASTHMA GOALS FOR PENNSYLVANIANS

**Enhance Asthma Surveillance to Inform Asthma Prevention and Control Efforts in Pennsylvania**

**Improve Asthma Management for Pennsylvania Residents**

**Reduce Exposure to Environmental Factors that Cause and/or Exacerbate Asthma in Pennsylvania**

**Increase Capacity of the Statewide and Local Partnerships to Implement the Strategic Plan for Asthma in Pennsylvania**

## WHAT IS ASTHMA?

**A**sthma is a chronic inflammatory disease of the airways. Airways become constricted with swelling and excessive mucous production, making it difficult to breathe. Symptoms of asthma are wheezing, coughing and chest tightness. Sometimes the symptoms become so severe they result in an asthma attack that requires immediate medical treatment. Asthma affects individuals differently, resulting in differing severity, symptoms and responsiveness to treatment. When not treated, asthma can cause disability and even death.

The development of asthma relies on a complex interaction between genetics and environmental exposures.<sup>1</sup> The environment also plays a critical

role in the worsening of asthma symptoms once a person develops asthma. For the most part, the evidence base on effective interventions for preventing asthma is weak. Occupational asthma is the only area where primary prevention has been found effective.<sup>2</sup>

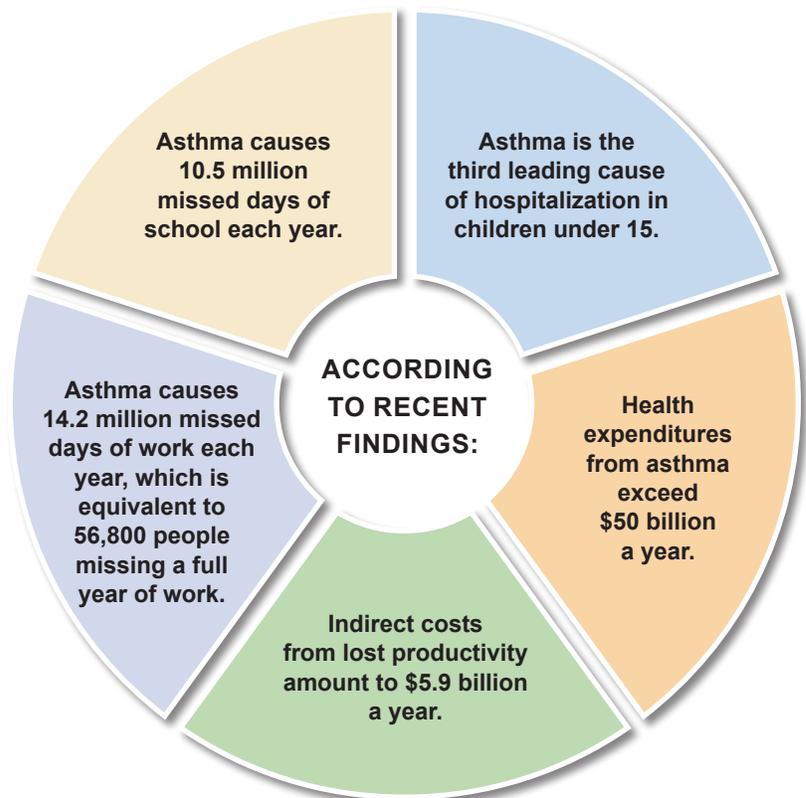
However, asthma can be controlled with proper assessment and monitoring, patient education, control of environmental and other factors contributing to asthma severity, and pharmacologic treatment.<sup>3</sup>

All people with asthma should be able to lead full and active lives. This plan seeks to support Pennsylvania residents in that goal.

## BURDEN OF ASTHMA IN THE UNITED STATES

**T**oday, over 25 million Americans are currently living with asthma. Asthma prevalence has doubled in the past 30 years. Asthma is a lower respiratory disease that is the third leading cause of death in the U.S. and Pennsylvania. The burden of asthma is characterized by the numbers of asthma-related hospitalizations, emergency room visits, deaths, school days missed and other factors such as activity limitations.

According to National Ambulatory Medical Care Survey data, asthma was responsible for over 14 million physician office visits and 1.8 million emergency department visits in 2010. Low income populations are more likely to have asthma; U.S. data collected in 2012 revealed 11.6 percent of children on Medicaid or other public insurance are presently experiencing asthma, and 16.1 percent of adults (18–64) on Medicaid are experiencing asthma.



# BURDEN OF ASTHMA IN PENNSYLVANIA



According to the 2012 survey results of the Behavioral Risk Factor Surveillance System (BRFSS), Pennsylvania’s statewide asthma statistics are as follows:

<b>2012 ADULT LIFETIME ASTHMA PREVALENCE (18 AND OLDER)</b>	Lifetime asthma prevalence for Pennsylvania adults 18 and older was approximately 14%, or about 1.2 million adults.
	Lifetime asthma prevalence for non-Hispanic African-American adults was 17% compared to non-Hispanic white adults at approximately 13%.
	About 16% of females have been diagnosed with asthma compared to about 11% of males.
<b>2012 ADULT CURRENT ASTHMA PREVALENCE (18 AND OLDER)</b>	Current asthma prevalence for Pennsylvania adults 18 and older was approximately 10%, or about 877,000 adults.
	Current asthma prevalence for non-Hispanic African-American adults was 13% compared to non-Hispanic white adults at approximately 9%.
	About 13% of females reported currently having asthma, and this percentage was higher compared to about 7% of males.
	Adults with less than a high school education had a significantly higher percentage of current asthma at 16% compared to adults with a college degree at 8%.
<b>2012 CHILD LIFETIME ASTHMA PREVALENCE (UNDER AGE 18)</b>	Lifetime asthma prevalence for Pennsylvania children under age 18 was approximately 15%, or about 410,000 children.
	Non-Hispanic African-American children had a lifetime asthma prevalence of about 17% compared to about 12% for non-Hispanic white children.
	Male children had a lifetime asthma prevalence of about 17% compared to about 12% of female children.
<b>2012 CHILD CURRENT ASTHMA PREVALENCE (UNDER AGE 18)</b>	Current asthma prevalence for Pennsylvania children under age 18 was approximately 10%, or approximately 274,000 children.
	Non-Hispanic African-American children had a current asthma prevalence of about 13% compared to 8% (95% CI: 7-9) of non-Hispanic white children.
	Male children had a current asthma prevalence of about 12% compared to about 8% of female children.

In 2012, over 20,081 inpatient hospitalizations were due to asthma as a primary diagnosis; approximately 15.7 inpatient admissions per 10,000 Pennsylvania residents had asthma as the primary discharge diagnosis. In addition, the following 2012 statistics were documented on the Pennsylvania Department of Health Asthma Fact Sheet.

- Children under 5 years old had the highest rate of hospitalizations for asthma at 43.8 per 10,000.
- Children between 5–9 years of age had a rate as high as 24.1 per 10,000.
- In the older age groups (65+) the rate was 21.6 per 10,000.
- Charges for inpatient hospitalizations (not including physician charges) due to asthma were approximately \$517,983,943.00.
- The average charge for each asthma hospitalization was \$26,375.00.
- The average length of stay for each asthma hospitalization was 3.22 days.

## MORTALITY RATES IN PENNSYLVANIA

- The total number of deaths and age-adjusted mortality rates increased from 2010 to 2012. In 2010, there were 126 deaths due to asthma. In 2011, there were 129 deaths, and in 2012, there were 145 deaths due to asthma.
- In a combined three-year period from 2010–2012, there were 400 deaths due to asthma, with a rate of 0.9 per 100,000 residents in the state of Pennsylvania.
- In 2010, of the 126 deaths due to asthma, 44 were males and 82 were females. In 2011, of the 129 deaths due to asthma, 46 were males while 83 were females. In 2012, of the 145 deaths due to asthma, 51 were males and 94 were females.
- In a combined three-year period from 2010–2012, females had a higher proportion of deaths due to asthma compared to males (65 percent vs. 35 percent). The age adjusted rates in females are higher than that of males, but this is not statistically significant.
- Blacks have consistently had higher death rates due to asthma than whites. The rates among blacks are approximately three to four times that of whites during the time period of 2010–2012.
- In the U.S., the asthma mortality rate presented in 2013 was 1.1 per 100,000. This is similar to the rates in Pennsylvania combined in a three-year block.
- The asthma mortality rate increases with age, with persons age 85 and older having the highest mortality rate. However, advancing age and other comorbidities such as chronic obstructive pulmonary disease (COPD), diabetes might be responsible for the high death rates in this group.
- Disparities in asthma death rates were observed with blacks having higher death rates than whites and females having higher death rates than males.



# 2015–2020 STRATEGIC ASTHMA PLAN FOR PENNSYLVANIA

## Goals, Objectives and Strategies

### GOAL 1

#### **ENHANCE ASTHMA SURVEILLANCE EFFORTS TO MORE ACCURATELY UNDERSTAND THE IMPACT OF ASTHMA IN PENNSYLVANIA**

Surveillance is the ongoing systematic collection, analysis, interpretation and timely dissemination of health data for use in public health practice. The ultimate goal is to inform actions that aim to reduce morbidity and mortality and to improve health. As the basis of a public health approach to prevention, surveillance is essential to planning, implementing and evaluating public health efforts. Accordingly, asthma surveillance data should help asthma prevention and control advocates and professionals working with affected populations to define public health priorities, plan effective interventions and develop policies to reduce the burden of asthma in Pennsylvania.

**BACKGROUND:** Main asthma data sources of Pennsylvania Asthma Surveillance System include:

**Pennsylvania Behavioral Risk Factor Surveillance System (BRFSS)** measures asthma prevalence (both lifetime and current) by an annual sample telephone survey of Pennsylvania adults and collects information regarding age, gender, race, county, ethnicity, income, education, etc. BRFSS is implemented by the Centers for Disease Control and Prevention (CDC) and is conducted in all 50 states, three territories and the District of Columbia.

**Bureau of Health Statistics and Research** provides asthma mortality data. Data are available statewide by county, age group, race/ethnicity and gender.

**Pennsylvania Health Care Cost Containment Council (PHC4)** provides asthma discharge data, such as length of stay, hospital charges, payment source, admission type, etc. Data are reported from annual reporting by Pennsylvania hospitals by patient home county code, sex, age and race/ethnicity.

**Bureau of Community Health Systems** provides the count of the total number of students with a medical diagnosis of asthma.

**Department of Human Services** provides asthma prevalence data; inpatient asthma hospitalization discharge data; office visits and emergency room (ER) visits by sex, age and county, as well as cost of medical service and medications.

The Department of Human Services provides the following Medicaid data:

- Medicaid: The data includes recipients with full Medicaid Assistance (MA). Asthma content includes: prevalence of current and persistent asthma, hospitalizations and office visits rates, emergency room, costs of asthma related services, and the percentage of Medicaid recipients with persistent asthma receiving appropriate medications.
- State Children's Health Insurance Program (SCHIP) provides data regarding children age 0–17 years. The data includes annual rates of ER visits: cost of hospitalizations, office visits, types of medications used (long-term controller medications versus rescue inhalers), and other asthma related services.

Children's Health Insurance Program provides asthma ER data visits and asthma hospitalization data by age, sex and county.

Lead Partners: Pennsylvania Department of Health, Division of Physical Activity and Nutrition  
Pennsylvania Asthma Partnership  
American Lung Association in Pennsylvania  
The Hospital Association of Pennsylvania  
Pennsylvania Health Care Cost Containment Council (PHC4)  
Society for Human Resource Management (SHRM®)  
The Pennsylvania College of Emergency Physicians  
National Association of Healthcare Advocacy Consultants – Local Patient Navigators  
Patient Billing Specialists  
Electronic Health Records Coordinators  
The Pennsylvania Association of School Nurses and Practitioners (PASNAP)

## A. Increase Standardization

### **STRATEGIES: Increase the utility of asthma data by adding hospitalization findings to Pennsylvania mortality report and make available to the public by 2020**

- I: Update protocols to access all relevant data as it pertains to asthma treatment and diagnosis
- II: Review, update if necessary, and adopt standardized definitions to be used for tracking progress (e.g., asthma-related Healthy People 2020 objectives, chronic disease, environmental health and occupational health indicators, the Pennsylvania State Asthma Plan)
- III: Review and update current methods of reporting and coding as it pertains to emergency room visits. Education tools for hospital personnel such as patient navigators, patient billing specialists should have the proper coding (ICD-9/ICD-10) as it relates to asthma diagnosis and treatment.
- IV: Conduct additional research of cross-checking health plans and the alignment of plans and coverage

## B. Enhance Analysis

### **STRATEGIES:**

- I: Expand current asthma surveillance to include additional analyses. Potential expanded areas to include:
  - Expand zip code level information related to asthma disparities by geography of residence, age group, education level, insurance status, industry and occupation, and country of birth
  - Analyze direct and indirect costs associated with asthma
  - Examine asthma management and control measures among older adults
  - Expand information about individuals with poorly controlled asthma
  - Expand information about medication use among individuals with asthma
  - Examine rates of inpatient hospitalization due to asthma using multiple diagnosis fields
  - Analyze the burden of asthma among populations with small sample sizes (e.g., rural areas, ethnic subgroups)

## C. Improve Resource Use

### STRATEGIES:

- I. Communicate importance of Joint Commission: Accreditation, Health Care, Certification (JCAHO), Pennsylvania Health Care Cost Containment Council (PHC4), and Healthcare Effectiveness Data and Information Set (HEDIS) measures reporting to all providers and health systems; monitor data sources for surveillance data
- II. Encourage Affordable Care Act referral, reimbursement and quality assurance measure reporting
- III. Expand question(s) to the YRBS to include information to capture missed school days
- IV. Include questions in the BRFSS Core Survey about the industry and occupation of the adult respondent to aid in the analysis of work-related asthma and environmental exposures
- V. Collect race and ethnicity data on the Pediatric Asthma Surveillance
- VI. Incorporate meaningful use (MU) and patient centered medical home (PCMH) new state health home standards to also include behavioral health MCO's and organizations; be inclusive of all age groups
- VII: Address the challenge of sharing collected data because of HIPAA regulations
- VIII: Evaluate current surveillance tools and make recommendations for improvement
- IX: Access to zip code level data
- X: Establish a system to ask work-related asthma questions through company-driven wellness programs
- XI. Establish a system to increase surveillance of causes and triggers of asthma (outdoor air pollution, other environmental factors, etc.)
- XII: Create a statewide asthma registry

## D. Improve Dissemination

### STRATEGIES:

- I. Distribute following Pennsylvania asthma reports to stakeholders and lead partners:
  - The Burden of Asthma in Pennsylvania Report
  - BRFSS report, annually
  - Pennsylvania State Asthma Plan
  - Pennsylvania Asthma Disparities Report
- II: Create communication plan for statewide educational efforts around asthma data

# GOAL 2

## IMPROVE PENNSYLVANIANS' ASTHMA OUTCOMES

Asthma is a chronic disease that can have a significant impact on the quality of life of the person with asthma and his or her family. Uncontrolled asthma can result in wheezing, coughing, shortness of breath, tiredness, stress, inability to work or go to school, and in some cases death. While we don't yet have a cure for asthma, asthma can be managed. With proper asthma management that includes avoidance of asthma triggers, a person with asthma can lead a full and healthy life. This goal focuses on the management of asthma in clinical and community settings. Even though asthma is a complex disease to manage, controlling asthma in Pennsylvania is an achievable goal.

**BACKGROUND:** In 2012, over 20,081 inpatient hospitalizations in the state of Pennsylvania were due to asthma as a primary diagnosis. Approximately 15.7 inpatient admissions per 10,000 Pennsylvania residents presented asthma as the primary discharge diagnosis. Children under 5 years old had the highest rate of hospitalizations for asthma at 43.8 per 10,000. Children between 5 to 9 years of age had a rate as high as 24.1 per 10,000. For the older age groups, 65+, the rate was 21.6 per 10,000. The approximate charges for inpatient hospitalizations (not including physician charges) due to asthma was \$517,983,943.00. In addition, the average charge for each asthma hospitalization was \$26,375, with an average length of stay for each asthma hospitalization being 3.2 days.<sup>6</sup>

Lead partners: Pennsylvania Department of Health  
Pennsylvania Asthma Partnership  
American Lung Association in Pennsylvania  
The Hospital Association of Pennsylvania  
Pennsylvania Health Care Cost Containment Council (PHC4)  
Pennsylvania Academy of Pediatrics  
Pennsylvania Coalition of Nurse Practitioners  
Pennsylvania Patient Navigator Network  
Society for Human Resource Management (SHRM®).  
The Pennsylvania Association of School Nurses and Practitioners (PASNAP)  
Association of Social Workers  
Employer groups

### A. Reduce Disparities Among Priority Population

**STRATEGIES: Reduce overall hospitalization rate while at the same time closing gaps between the priority populations in the state**

- I. Implement guidelines-based care as it relates to asthma
- II: Collect real-time data as it relates to asthma treatment and diagnosis
- III: Expand caregivers education efforts to include environmental triggers such as mold, environmental tobacco smoke (ETS) and pests
- IV: Reduce maternal smoking and ETS among pregnant women and infants

- V: Promote evidence-based asthma self-management education tools such as the “Guide to Community Preventive Services Community Guide,” from the Task Force on Community Preventive Services.

The Community Preventive Services Task Force recommends the use of home-based multi-trigger, multicomponent interventions with an environmental focus for children and adolescents with asthma, based on strong evidence of effectiveness in improving overall quality of life and productivity, specifically improving asthma symptoms and reducing the number of school days missed due to asthma.

Home-based multi-trigger, multicomponent interventions with an environmental focus for persons with asthma aim to reduce exposure to multiple indoor asthma triggers (allergens and irritants). These interventions involve home visits by trained personnel to conduct two or more activities. The programs in this review conducted environmental activities that included:

- Assessment of the home environment;
- Changing the indoor home environment to reduce exposure to asthma triggers; and
- Education about the home environment.

Most programs also included one or more of the following additional non-environmental activities:

- Training and education to improve asthma self-management;
- General asthma education;
- Social services and support; and
- Coordinated care for the asthma client.

- VI: Create a work group with the managed care providers and stakeholders to develop strategies that implement the best practices for asthma care that improves quality and decreases cost, which will work to remove all barriers to asthma treatment and care
- VII: Implement the “Optimal Asthma Care for Every Child In Pennsylvania” adopted in November 2013 by the Pennsylvania Chapter, American Academy of Pediatrics; work with insurers to promote and support optimal asthma care with appropriate resources, which would include:

- **Payment for asthma self-management education in the office (CPT code 94664)**  
Currently 94664 only includes education for use of an inhaler. Use of this code should be expanded to include payment for any aspect of asthma education, including reviewing asthma action plans, reinforcing correct use of inhalers/spacers, discussing environmental triggers and strategies to reduce them, and seeking appropriate coordinated care in the medical home on an urgent/emergent basis. There should be no limits on frequency of code usage.
- **Payment for home asthma environmental mitigation and education for high utilizers**  
This is not covered by any current CPT code but could be billed as a home health aide visit (99374, 99375, 99509) or as a home nurse visit depending on the level of need.
- **Smoking cessation counseling including the following options:** services through the plan, services through the office, and service through agencies that employ trained community health workers to implement secondhand smoke reduction practices in the home (CPT 99406).
- **Payment for spirometry at the same level of specialists (CPT 94014)**  
Currently the guidelines support spirometry by primary care physicians, but payment only covers the procedure, not interpretation.
- **Payment for care coordination for families of high utilizers (CPT 99487, 99488, 99489)**  
Studies show that there are many psychosocial issues that create barriers to optimal care, which can be addressed by care coordinators.  
  
Examples include housing issues, transportation, and barriers to effective communication.



- **Provision of two spacer/holding chambers every six months—one for home and one for daycare/school**

Most Medicaid managed care will cover two spacers, but it is not uniform across all insurers.

Managed care should facilitate delivery of devices in the medical home to improve effective education and compliance.

- **Payment for asthma management via virtual/telehealth visits (CPT 99441, -42, -43)**

This allows for the medical home care to be extended to school, home, vacation, daycare, etc.

CPT codes exist and RVU value will be assigned in the 2014 CMS RVU schedule.

- **Payment for after-hours/emergency codes to improve access to the medical home (CPT 99050, 99058)**

- **Payment for quality performance using standardized metrics**

Using well defined metrics in the public domain (PQRI/NQF) simplifies reporting requirements for practices.

MU standardized measures are already incorporated into EHR systems for ease of reporting.

This indirectly supports adoption of technology by pediatric practices who do not qualify for governmental incentives.

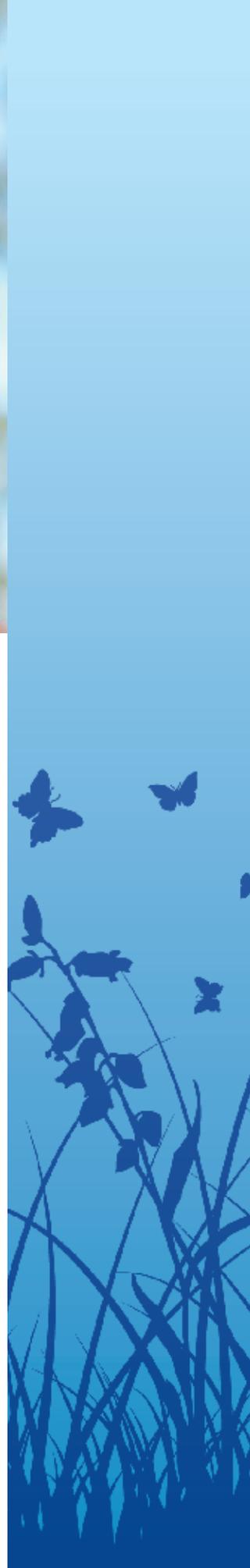
- **Payment for Medical Home recognition which provides coordinated and comprehensive care**

- **The overall goal** of all of these recommendations is to support and promote best practices for asthma care that is standardized among all payers and to remove barriers that prevent primary care providers from providing high quality asthma care.

VIII: Identify and document frequency of emergency room visits per patient

- Community Health Workers will provide peer support and education with the goal of increasing a patient's knowledge of what to do when an asthma exacerbation occurs using their action plans and decreasing emergency room usage.

IX: Promote the best practices that are effective in addressing the priority populations and in reducing asthma disparities for this population

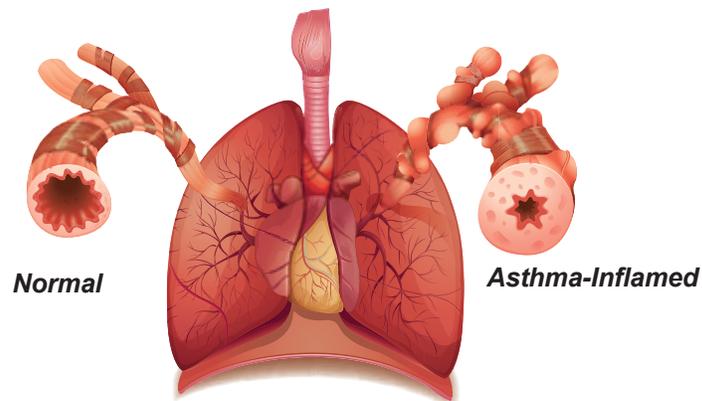


## B. Improve the Standards of Care

### **STRATEGIES: Focus on controlling asthma in Pennsylvania through improved assessment, monitoring and pharmacologic therapy**

- I: Lead partners will develop a strategy to address training gaps and needs of health professionals, including, but not limited to:
  - Increasing the number of community health workers trained on asthma and environmental interventions.
  - Reimbursing insurers for community health workers; in-home assessments/visits; cessation coverage; and certified asthma educators.
  - Incorporating asthma education training for the early childhood programs.
- II: Enhance asthma education by medical professionals to incorporate childcare staff, etc.
- III: Enhance partnership with pharmacists to train others in asthma medication and treatment
- IV: Create an on-line course for asthma diagnosis, treatment and tracking for health care professionals
- V: Adopt at least one additional measure of standard of care for the state on asthma and develop a system for tracking this measure over time through asthma surveillance
- VI: Provide additional training and technical support on the diagnosis and assessment of asthma for health care providers
- VII: Increase the number of ambulatory care practices that have access to spirometry and have been trained on the use of spirometry and reimbursement for the use of spirometry
- VIII: Improve the care coordination of patients with asthma between hospital and ambulatory care practices
- IX: Establish policies to review systems on working on the removal of barriers to care coordination between hospitals and ambulatory care settings
- X: Establish an inventory of asthma training programs available for health professionals in Pennsylvania
- XI: Create opportunities for health care providers and personnel working in asthma disease management programs and community settings to share knowledge, experiences and best practices in asthma care
- XII: Determine quality measures that are appropriate to asthma diagnosis, treatment and chart documentation

### **Asthma-Inflamed Bronchial Tube**



## C. Improve Environmental Factors that Exacerbate Asthma

**BACKGROUND:** Secondhand smoke is a known cause of lung cancer, heart disease, chronic lung ailments, such as bronchitis and asthma (particularly in children), and low birth weight births. It is estimated that 858,000 Pennsylvanians are exposed to secondhand smoke every year.<sup>7</sup> Six out of 10 Americans live in urban areas where air pollution can cause major health problems.

Integrating environmental management of asthma into clinical care can be difficult. Health professionals don't always know how to address problems outside the medical management of the disease. Addressing exposures in the home, school or work environment requires knowledge of community resources and state legal requirements that health professionals often lack. The Environmental Management of Pediatric Asthma, Guidelines for Health Care Providers, recommends that health professionals have the following core competencies: knowledge of environmental asthma triggers, identification of environmental triggers of asthma, environmental intervention and treatment, ability to counsel caregivers and pediatric asthma patients on the reduction of environmental asthma triggers, effective communication and patient follow-up skills, and advocacy.<sup>8</sup> In addition, local and state governments play a role in improving the environment by enforcing existing codes or laws that protect occupants of homes or buildings from harm.

### STRATEGIES:

- I. Increase providers' knowledge of the role of the home environment in controlling asthma and encourage providers to ask patients about the conditions of their home environment
- II. Increase the number of home visits conducted at the request of a health care provider
- III. Increase the number of people with asthma who receive the influenza vaccination
- IV. Promote smoking cessation and advocate for a Clean Indoor Air Act with no exemptions
- V. Provide an asthma tool kit for health care providers to use for diagnosing and treating work-related asthma
- VI. Create and adopt a standardized asthma action plan including the adoption of The National Asthma Education and Prevention Program (NAEPP) goal to enhance the quality of life for patients with asthma and decrease asthma-related morbidity and mortality. The NAEPP is administered and coordinated by the National Heart, Lung, and Blood Institute (NHLBI).

## D. Increase Sustainability of Asthma Care through Coverage and Reimbursement

### STRATEGIES:

- I. Provide options for more comprehensive coverage in Pennsylvania
- II. Promote voluntary coverage of in-home environmental assessments, education and interventions
- III. Promote policies that increase coverage for asthma services, medications and equipment consistent with the NAEPP Guidelines
- IV. Advocate with policy makers to promote policies that increase coverage
- V. Increase the demand for asthma services, medications and devices in insurance policies by major purchasers of health insurance

## E. Improve the Integration of Care Outside the Health Care

**BACKGROUND:** In 2010–2011, approximately 11.9 percent of school students enrolled in Pennsylvania schools (228,872 out of an average daily enrollment of 1,926,110) had asthma confirmed by physician.<sup>9</sup>

Uncontrolled asthma can result in school absenteeism and missed work for a parent of a child with asthma. Asthma is the leading cause of school absenteeism nationwide. Poorly controlled asthma can interfere with a child's development and learning. A critical component of asthma management in schools and child care settings is ensuring each child with asthma has a written asthma action plan. As mentioned in an earlier objective, the asthma action plan is part of asthma self-management. The action plan contains clinical individualized written instructions for daily management of asthma. It is an important tool of communication between the health care clinician and the school nurse or child care setting.

### STRATEGIES:

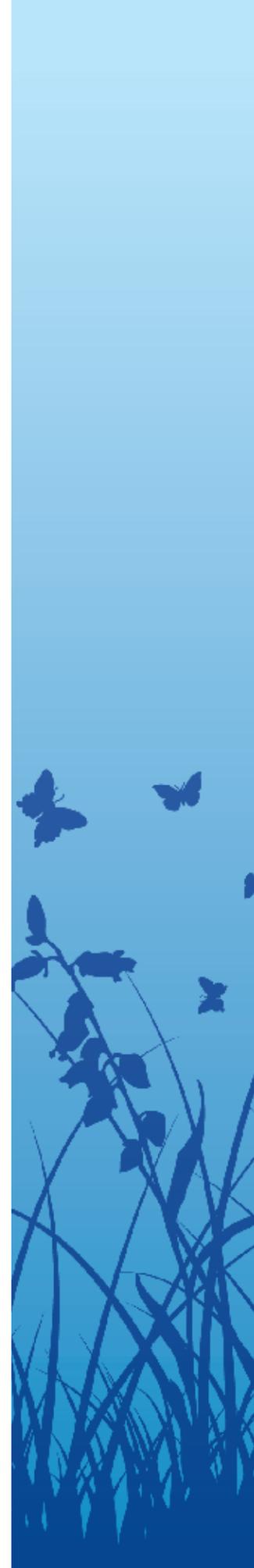
- I: Develop system for tracking number of children with asthma who have asthma action plans in the child care or Head Start settings
- II: Standardize Asthma Friendly Schools and child care settings
  - Epi pen training
  - Foster care providers training
- III: Recognize medicaid asthma educators (AE) and community health workers (CHW) as certified providers
- IV: Recognize asthma self-management plan nationally by the Centers for Disease Control (CDC)
- V: Improve the linkages between school nurses and health care providers
- VI: Identify and evaluate interventions that improve the communication between school nurse, pediatrician and student with asthma and disseminate findings
- VII: Increase the capacity of early education and child care settings to manage asthma
- VIII: Increase the number of child care sites that have received training in reducing environmental triggers of asthma and improving care for children
- IX: Employ health literacy and language appropriate communication tools





## F. Reduce or Eliminate Exposures

- I: Conduct a survey on the impact of green cleaning methods on the health of school staff and students and disseminate the results across the state
- II: Increase school districts, Head Start programs, and child care sites using green cleaning methods
- III: Advocate for policies that promote statewide or local use of green cleaning methods in school districts, head start programs and child care sites
  - Draft model environmental policies for child care settings and head start programs
  - Disseminate the model environmental policies to child care settings and head start programs
  - Assess the training needs of early education and child care sites and head start programs
  - Train child care sites, schools and head start programs on asthma and the environment
  - Evaluate the impact of increased indoor air quality policies on health outcomes for children with asthma
- IV: Increase the number of head start programs and child care sites that have indoor air quality policies for children with asthma
- V: Determine which schools already have environmental strategies in their wellness policies, what they are, and if they are being implemented
- VI: Develop sample language to include in wellness policies that include environmental assessments and environmental strategies to share with school districts
- VII: Reach out to school districts to raise awareness of environmental factors associated with asthma and promote model wellness policy



# GOAL 3

## IMPROVE ENVIRONMENTAL FACTORS THAT CAUSE AND/OR EXACERBATE ASTHMA IN THE COMMONWEALTH

**BACKGROUND:** Exposure to certain indoor and outdoor environmental factors can make asthma worse and in some cases, cause asthma. Pollutants, chemicals and allergens can all affect a person with asthma, depending on the person's sensitivities and the type of exposure. Less is known about the role of environmental exposure and the development of asthma, although research in this field is growing. Research has found that tobacco smoke, dust mites and certain occupational exposures can cause asthma for both young children and adult workers.<sup>10</sup> Work-related asthma (WRA) is broadly defined to include new onset asthma that is caused by exposures in the workplace and pre-existing asthma that is exacerbated by exposures at work.<sup>11</sup> Policy initiatives to promote changes in the workplace to reduce exposures to known asthma-causing agents are also needed.

Lead partners: Pennsylvania Department of Health  
Pennsylvania Asthma Partnership  
American Lung Association in Pennsylvania  
The Hospital Association of Pennsylvania  
Pennsylvania Health Care Cost Containment Council (PHC4)  
Pennsylvania Academy of Pediatrics  
Pennsylvania Coalition of Nurse Practitioners  
Pennsylvania Patient Navigator Network  
Society for Human Resource Management (SHRM®).  
The Pennsylvania Association of School Nurses and Practitioners (PASNAP)  
Association of Social Workers  
Women for a Healthy Environment

### A. Reduce Outdoor Air Pollutants

**STRATEGIES: Reduce the number of hospitalizations among children under 5 with asthma as primary diagnosis from 43.8 per 10,000 to 40 per 10,000 by 2020**

- I: Expand anti-idling legislation
- II: Create policy initiatives on a county level for county level emissions testing
- III: Promote the use of the EPA's Air Quality Flag Program which alerts organizations to the local air quality forecast and helps them to take actions to protect people's health, including those with asthma
- IV: Enhance emergency preparedness communication efforts to address health issues related to asthma

## B. Improve Air Quality in Child Care Settings

**BACKGROUND:** According to the Division of School Health, Pennsylvania Department of Health, 11.3 percent of Pennsylvania's school students in the 2008–2009 school year had asthma. The environment in which children live, learn and play can greatly affect their asthma. In the U.S., 30 percent of childhood asthma exacerbations (or asthma attacks) are believed to be due to environmental exposures.<sup>11</sup> Avoid outdoor activity, such as yard work or exercising, when ozone levels are high. If possible, use indoor air conditioning, which cools and dries the air during hot, muggy summer days. To avoid contributing to the problem, use public transportation, carpool and encourage others to limit activities that can contribute to outdoor air pollution.<sup>12</sup>

### STRATEGIES:

- I: Increase the capacity of local communities to improve school environment through training, monitoring and collaboration
- II: Determine the environmental triggers on the health of students and faculty
- III: Identify ways to reduce exposure to these environmental triggers
- IV: Educate school nurses and administrators on asthma and environmental issues in schools
- V: Promote and distribute materials statewide about how the Asthma Friendly School program is critical to the school settings
- VI: Train school personnel to summarize findings from assessment and identify the environmental triggers that cause or exacerbate asthma among students and staff in the schools. Examples include pest problems, poor ventilation, mold and moisture, and chemical exposures. If a school district has already completed an assessment, provide evidence-based results for promotion to other schools looking to become more an asthma friendly school.

## C. Improve Air Quality in Work/Home

**BACKGROUND:** Americans spend up to 90 percent of their time indoors. Therefore, indoor allergens and irritants can play a significant role in triggering asthma attacks. According to EPA research, exposure to dust mites, molds, pet dander and secondhand smoke can trigger asthma attacks.<sup>13</sup> Exposure to pests such as cockroaches can trigger asthma.<sup>14</sup> Under some circumstances, asthma can be caused by dust mites and secondhand smoke.<sup>15</sup>

The ultimate goal is to decrease asthma among Pennsylvania residents by reducing exposures at the work site that can cause or exacerbate asthma. A multi-pronged approach to reducing these exposures is needed. First, we need to better understand occupations and industries in which workers are at risk of developing WRA and the relevant exposures. We also need to conduct outreach to raise general awareness of the problem among employers, employees, environmental and advocacy groups, and communities, as well as health care providers. However, we must also proceed with steps to address known asthma hazards in workplaces such as auto body shops, schools, and manufacturing and health care facilities. In the next five years, Pennsylvania will continue to enhance efforts to increase worker, employer and community understanding of the role of the work environment in asthma and strategies to reduce risks. At the same time, some activities will target reducing hazardous exposures in the work environment and promoting safer alternatives.

## STRATEGIES:

- I: Pass legislation in support of a comprehensive Clean Indoor Air Act with no exemptions
- II: Raise worker and employer awareness of WRA and promote safe work practices to reduce asthma risks in targeted work settings
- III: Implement policy initiatives to decrease exposures to hazardous products in worksites
- IV: Advocate for policies that require the use of safer cleaning products in schools, state buildings and state universities
- V: Increase employer awareness of WRA through trainings, materials and outreach events, and collect information about worksite activities addressing asthma
- VI: Increase education efforts through schools and daycare settings about asthma triggers present in your home
- VII: Encourage and promote healthy homes training programs for health care providers, community based organizations, nongovernmental organizations (NGO), home health educators that provide in-home visits for prenatal care, etc.



# GOAL 4

## EXPAND ASTHMA FOCUSED PARTNERSHIP IN PENNSYLVANIA

**BACKGROUND:** This goal focuses on ensuring that Pennsylvania has strong, diverse, broad, and representative coalitions and partnerships on asthma. Partners helped develop this plan, and it's the partner who will implement the plan. The success of the strategic plan on asthma relies heavily on a strong statewide partnership to implement and coordinate the plan. It is essential that the statewide and local partnerships and coalitions across the state have broad membership that is inclusive and diverse. Diversity ensures that the partnerships have a representative process that includes the voices of those most affected by asthma. Inclusivity ensures that the partnerships have processes that enhance participation and ensure community participation in all levels of decision making. By replicating programs such as the Allies Against Asthma (Allies), a national initiative to improve asthma control for children and adolescents in communities across the country, diverse groups are joining forces to develop innovative approaches to manage asthma among children and adolescents.

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Pennsylvania Patient Navigator Network  
Society for Human Resource Management (SHRM®).  
The Pennsylvania Association of School Nurses and Practitioners (PASNAP)  
Association of Social Workers  
Employer groups

### A. Improve Coordination

#### **STRATEGIES: Increase the number of partners in the statewide collaboration who are actively involved by 2020**

- I: Establish traditional and nontraditional partnerships for implementation of the Comprehensive Strategic Asthma Plan for Pennsylvania. To include:
- Schools
  - Parents and caregivers of children with asthma
  - Medical providers
  - Public health and environmental agencies
  - Housing professionals
  - Community organizations
  - Local officials
  - Grassroots advocacy groups
- II: Address asthma as a priority in Pennsylvania through the Strategic Asthma Plan
- Facilitate a coordinated effort of diverse groups in a community to address issues of mutual interest
  - Widen spheres of influence throughout the commonwealth
  - Work to facilitate creativity and innovation in programs and services
  - Expand pool resources to address issues system-wide

# SUSTAINABILITY



**N**o single intervention can accomplish these goals in the commonwealth. Instead, multiple evidenced-based efforts aimed at addressing the clinical and environmental aspects of asthma are required to truly make a statewide change in the commonwealth. Primary prevention efforts – those that focus on preventing the development of asthma – will be implemented in the areas of occupational asthma and tobacco cessation where primary prevention has been shown effective. The majority of efforts are aimed at preventing disease complications for those with the diagnosis of asthma. All these efforts require coordination to be effective and avoid duplication. This strategic plan represents a coordinated approach that targets both clinical and environmental aspects of asthma. It relies on a strong surveillance system to inform its work.

The strategic plan is a living document that reflects the priorities of the partners and the opportunities available at the time of drafting. It spans the five years of 2015–2020. The plan builds on extensive work of its partners, and it reflects the current work of the partners to the plan and the collective vision of the work that needs to be done. However, it will be updated frequently to ensure that it continues to reflect the partners' priorities and state opportunities and add objectives of new partners. To accomplish the goals and objectives, the continued participation of partners is needed, along with the addition of new partners.

This is our new Pennsylvania roadmap to help every Pennsylvanian lead full and active lives whether they have asthma or not.

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# **STRATEGIC ASTHMA PLAN FOR PENNSYLVANIA 2015–2020**

**AMERICAN LUNG ASSOCIATION IN PENNSYLVANIA, PENNSYLVANIA ASTHMA PARTNERSHIP  
AND THE PENNSYLVANIA DEPARTMENT OF HEALTH**