

# CDC's National Asthma Control Program



## Asthma Self-Management Education and Environmental Management:

## Approaches to Enhancing Reimbursement



Most people can  
control their  
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Asthma costs our  
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per year.

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# Approaches to Enhancing Reimbursement

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PREPARED BY



# Contents

Executive Summary .....	1
Introduction.....	2
Lack of Reimbursement as a Barrier to Comprehensive Asthma Care.....	3
A Collaborative Approach.....	4
Asthma Program Reimbursement Efforts .....	5
Connecticut Department of Public Health .....	9
Illinois Department of Public Health .....	11
Maine Asthma Health Program .....	11
Massachusetts Asthma Prevention and Control Program .....	12
Michigan: Asthma Network of West Michigan .....	14
Minnesota Department of Health .....	16
Missouri Asthma Prevention and Control Program .....	17
Montana Asthma Control Program .....	19
New Hampshire Asthma Control Program .....	19
New Mexico Asthma Control Program.....	20
New York .....	21
North Carolina Asthma Program .....	24
Oregon Asthma Program.....	25
Pennsylvania Asthma Control Program.....	25
Rhode Island Asthma Control Program .....	26
Texas Asthma Control Program - Seton Asthma Center .....	27
Utah Asthma Care Pharmacy Program.....	28
Wisconsin Pharmacy Quality Collaborative (WPQC).....	28
Asthma Regional Council - Health Resources in Action.....	29
Summary of Challenges and Lessons Learned.....	31
Conclusions/Recommendations.....	31
Appendix A: Workgroup Members.....	34
Appendix B: Publications Produced by or for the Asthma Research Council.....	36
References and Resources .....	38
Abbreviations .....	38

## Executive Summary

This document is a resource for asthma program managers and partner organizations who are considering options for implementing or redesigning reimbursement mechanisms to increase access to evidence-based asthma management practices. It describes challenges and successes in detail, provides program contact information, and includes a list of actions that have led to enhanced and expanded reimbursement for asthma services.

Most people can control their asthma and live symptom-free. Some factors that can help people control their asthma include regular access to care, knowledge about how to use prescribed medications, and skills to modify the environment to reduce or eliminate exposure to allergens and irritants. These measures are reinforced by the most current, nationally-recognized guidelines developed by the National Asthma Education and Prevention Program (NAEPP) of the National Institutes of Health. Yet the latest research indicates that many people with asthma are not receiving care based on NAEPP guidelines, and many are not receiving regular asthma care. Meanwhile, asthma prevalence rates continue to climb, particularly among children, women, blacks, and low-income families.

A top priority of the CDC National Asthma Control Program (NACP) is helping people manage their asthma better. To this end, NACP convened a workgroup of Program grantees with a wide range of experience in developing strategies to improve reimbursement for asthma self-management education and environmental management. These factors are known to substantially improve patients' ability to manage their disease. Through a series of webinars conducted between July and December 2011, workgroup members convened to identify the challenges and solutions for stimulating positive reimbursement practices.

Some of the challenges identified by workgroup members included:

- a lack of certified asthma educators and other non-physician providers with specific asthma training;
- low reimbursement rates for asthma services delivered by billable providers;
- difficulty engaging third-party payers in the reimbursement dialog; and
- complexity of federal reimbursement regulations for Medicaid including different local or state codes to identify services, procedures, or supplies.

Factors contributing to success in overcoming these and other challenges included

- conducting gap analyses of reimbursement practices and coverage of benefits for asthma services;
- recognizing certified asthma educators as billable providers;
- demonstrating cost-savings through pilot projects and evaluations; and
- partnering with strong asthma champions who can engage decision-makers.

# Asthma Self-Management Education and Environmental Management:

## Approaches to Enhancing Reimbursement

### Introduction

Asthma is a chronic inflammatory disorder of the airways characterized by episodes of reversible breathing problems due to airway narrowing and obstruction. The most current data from the U.S. Centers for Disease Control and Prevention (CDC) show that the number of people diagnosed with asthma increased by 4.3 million from 2001 to 2009, most significantly among Black children. In 2009, there were 479,300 asthma-related hospitalizations, 1.2 million visits to outpatient clinics, 1.9 million emergency department (ED) visits, and 3,388 deaths associated with asthma, resulting in approximately \$56 billion in health care expenditures nationwide (CDC, 2011).

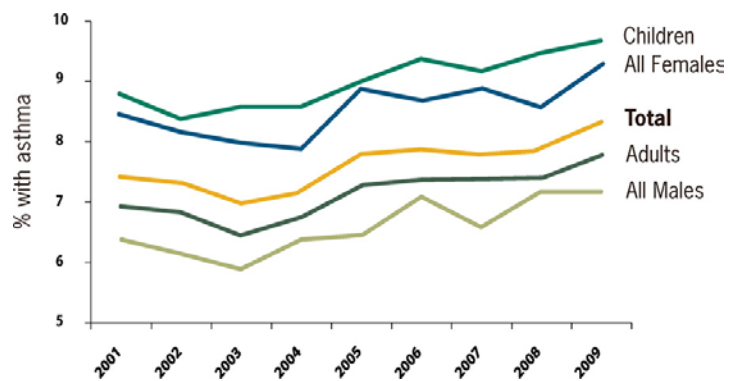
The [Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma](#) is

the most current set of evidence-based guidelines for the diagnosis and management of asthma. The *Guidelines* were developed by an expert panel commissioned by the National Asthma Education and Prevention Program (NAEPP), coordinated by the National Heart, Lung, and Blood Institute (NHLBI) of

the National Institutes of Health (NIH). They are based on a rigorous search of the literature and weight the evidence from randomized controlled trials, observational studies, and panel consensus. The NAEPP Guidelines describe four broad components of quality asthma care:

1. Assessment and monitoring;
2. Control of factors contributing to asthma severity (assessment and modification of environmental triggers);
3. Pharmacotherapy; and
4. Education for partnership in care.

Figure 1. Asthma by Age and Sex US, 2001-2009



Percentages are age-adjusted. Source: National Center for Health Statistics, 2010.

Greater access to affordable medical care is important in order to address the growing number of people with asthma in the U.S. Without adequate insurance coverage, people with asthma will be less likely to seek care until their asthma symptoms become severe. Those who seek care as a result of uncontrolled asthma are likely to be at greater risk for asthma-related complications and may have a heightened impact on ED utilization, hospitalizations, and health care costs.

## ASTHMA SELF-MANAGEMENT EDUCATION

### Teach and Reinforce:

- o self-monitoring to assess level of asthma control and signs of worsening asthma (e.g., peak flow monitoring and assessing symptom frequency);
- o using a written asthma action plan;
- o taking medication correctly (Inhaler technique and use of devices);
- o avoid environmental factors that worsen asthma;
- o agree on treatment goals and address concerns;
- o encourage education at all points of care: clinics, emergency departments, hospitals, pharmacies, schools and childcare centers, and other community settings, and patients' homes;
- o provide instructions for daily management (long-term control medication), environmental control measures, and managing worsening asthma (how to adjust medication; know when to seek medical care); and
- o involve all members of the health care team in providing/reinforcing education, including physicians, nurses, pharmacists, respiratory therapists, and asthma educators.

### Trigger Reduction Components:

- o determine exposures, history of symptoms in presence of exposures, and sensitivities;
- o advise patients on ways to reduce exposure to those allergens and pollutants. Multifaceted approaches are beneficial; single steps alone are generally ineffective. Avoid exposure to tobacco smoke;
- o consider allergen immunotherapy; consider treatment of co-morbidities that may worsen asthma (e.g., gastroesophageal reflux, obesity, obstructive sleep apnea, rhinitis and sinusitis, and stress or depression); and
- o consider inactivated influenza vaccine for all patients over 6 months of age.

—NAEPP Guidelines (full report 2007)

## Lack of Reimbursement as a Barrier to Comprehensive Asthma Care

The cost-effectiveness of asthma education and environmental management is well-supported in the literature (CDC, 2009). Providing these services generally results in fewer costly trips to emergency departments and fewer hospitalizations. The Community Preventive Services Task Force, an independent, nonfederal, uncompensated body of public health and prevention experts, recommends “home-based

multi-trigger, multicomponent interventions with an environmental focus for children and adolescents with asthma, based on evidence of effectiveness in improving overall quality of life and productivity.”

Yet reimbursement for these services by public and private insurers tends to be less comprehensive than for asthma assessment and pharmacotherapy, the two other NAEPP Guideline components. Recognizing this gap, CDC, NIH, and others have called for policies and practices that promote improved reimbursement for asthma services, including:

- reimbursement for educational sessions conducted by health care providers both within and outside of the clinical setting;
- Reimbursement for long-term control medicines, education, and services to reduce asthma triggers that are often not covered by health insurers; and
- Elimination of co-payments for inhaled corticosteroids and other medicines prescribed to keep asthma attacks at bay.

As currently designed, some reimbursement mechanisms may themselves act as barriers to effective asthma management. For example, reimbursement following a clinician-centered model means that services provided by clinicians (e.g., physicians, nurse practitioners, and physician’s assistants) tend to be covered, but services provided by non-clinicians, such as certified asthma educators (AE-C), are generally not covered.

#### AVERAGE COSTS FOR HEALTH CARE UTILIZATION FOR ASTHMA

Emergency department visit (adults and children): \$691  
Hospital stay for asthma (adult): \$9,261  
Hospital stay for asthma (child): \$7,987

— Agency for Healthcare Research and Quality.  
*Healthcare Cost and Utilization Project (HCUP).2006.*

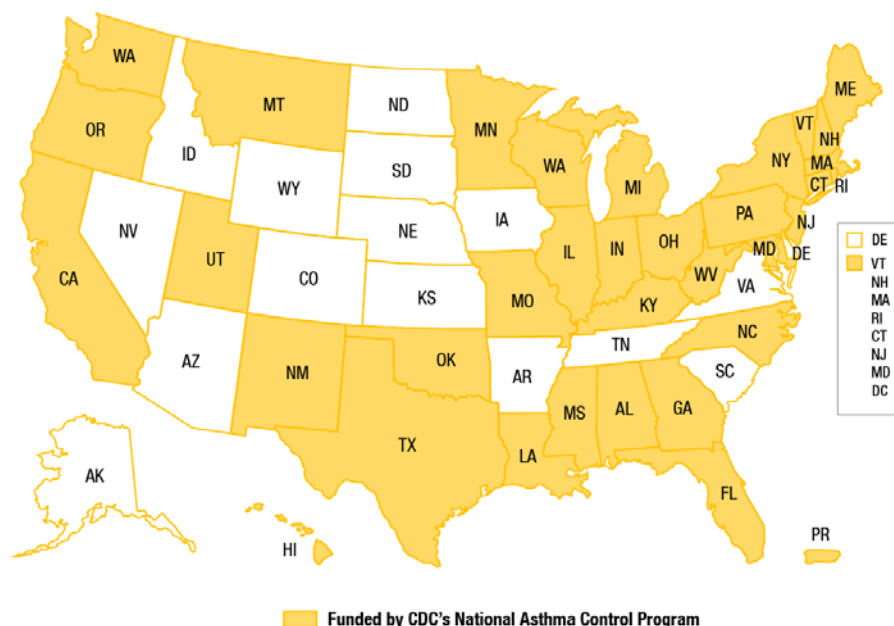
For Medicaid patients receiving asthma care, Medicaid reimbursement rates (known as “capitation rates”) may be problematic. Providers may be reluctant to accept new Medicaid enrollees if capitation rates are set too low, leaving these patients with few options for affordable, consistent asthma care. Alternatively, providers who do accept such patients may feel pressure to treat a higher volume of patients for shorter durations. In addition, this may provide an incentive to clinics to offer services that attract the sickest patients to increase their reimbursement. These factors may ultimately undermine upstream efforts to improve asthma management practices.

## A Collaborative Approach

CDC established the [National Asthma Control Program](#) (NACP) to improve the quality of life for people living with asthma by reducing the number of deaths, hospitalizations, ED visits, school days or workdays missed, and limitations on activity due to asthma (i.e., asthma burden). To accomplish this, NACP funds 34 states, the District of Columbia, Puerto Rico, and four non-governmental organizations to help them improve surveillance efforts, train health professionals, and educate individuals with and about asthma. CDC’s partnerships with state health departments are vital. NACP works with grantees and non-grantees to network, share information, and provide technical assistance.



Figure 2. CDC's National Asthma Control Program Currently Funded Grantees



Many NACP-funded programs and their partner organizations have expressed an interest in learning how to enhance and expand reimbursement for asthma services. In response to this need, CDC convened a workgroup comprised of representatives of asthma program grantees and partner organizations with a wide range of experience in designing and implementing strategies to improve reimbursement practices (see [Appendix A](#) for workgroup members). Through a series of webinars conducted between July and December 2011, workgroup members convened to:

- provide a forum for sharing information regarding efforts to enhance and improve reimbursement;
- facilitate discussion, stimulate ideas, and bring issues and challenges to light; and
- capture best practices and lessons learned about efforts to enhance and expand reimbursement.

This document was developed with asthma peers for asthma peers and summarizes the information gathered by the workgroup. It provides a resource for asthma programs and partner organizations who are considering options for implementing or redesigning reimbursement mechanisms to increase access to evidence-based asthma management practices. The document includes information about the background, activities, challenges and successes of asthma programs; steps to improved reimbursement practices; and program contact information. The program approaches and reimbursement efforts vary, based on each state's unique needs.

## Asthma Program Reimbursement Efforts

The term "program" is used generically throughout this report to encompass NACP-funded programs, as well as several coalitions, health plans, providers, and other stakeholders that comprise a network of asthma partners committed to enhancing reimbursement for education and environmental management.

This section describes not only programs' efforts to improve reimbursement, but the successes and challenges experienced during design and implementation of these efforts.

The workgroup's discussions underscored the programs' range of experience in exploring the reimbursement issue, as depicted below. Some programs are at an early, exploratory phase to better understand the range of services that may or may not be covered by Medicaid and private insurers, as well as the complex language of medical claims billing and coding. Other programs are collecting data through pilot studies and other methods to quantify the benefits of asthma education and environmental management to their patient populations, and some programs have closely studied the issue and documented a robust business case for reimbursement.

Figure 3. Range of Program Activities to Enhance Reimbursement

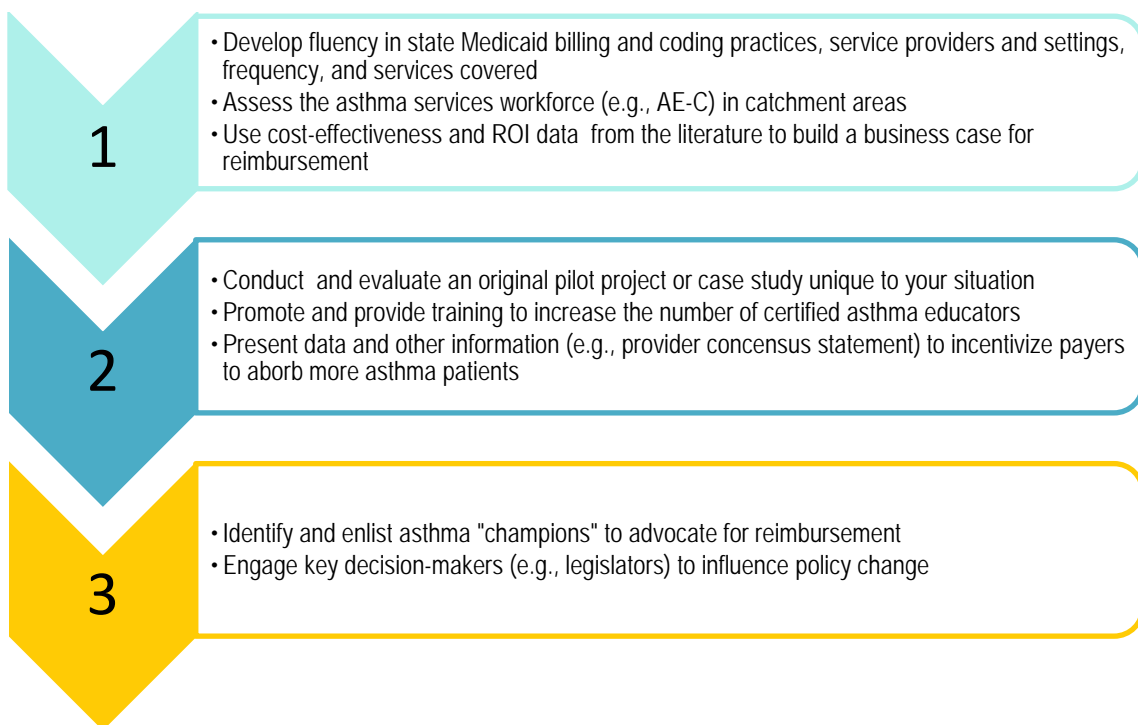


Table 1 summarizes the key dimensions of many programs included in this report. Following Table 1 are detailed descriptions of each of the programs, with emphasis on efforts to obtain reimbursement for self-education and environmental management. The report also features "spotlights" on specific programs, health plans, and providers that have successfully implemented best practices for asthma management and continue to realize the benefits, both in terms of cost and improved health outcomes. These "spotlights" serve as additional examples asthma programs may find useful in designing successful, innovative approaches to support reimbursement of evidence-based asthma services.

Table 1. Selected Asthma Program Reimbursement Efforts

● STATE ASTHMA PROGRAM CURRENTLY FUNDED BY NACP

STATE/ORGANIZATION/ PROGRAM	PAGE	PUBLIC INSURANCE (I.E., MEDICAID)	PRIVATE INSURANCE (HMO/MCO, ETC.)	ENVIRONMENTAL MANAGEMENT	SELF-MANAGEMENT EDUCATION	COST-SAVINGS/ROI	CERTIFIED ASTHMA EDUCATORS	PHARMACISTS/ MEDICATION THERAPY MANAGEMENT	HEALTH POLICY AMENDMENT	MEDICAL HOME CONTEXT	SPECIFIC AT-RISK POPULATION TARGETED
<b>Connecticut Department of Public Health ●</b>	9										
Putting on AIRS		◆		◆	◆	◆					
Asthma Advisory Council				◆	◆	◆				◆	
<b>Illinois Department of Public Health ●</b>	11	◆		◆	◆						
<b>Maine Health AH! Asthma Health Program</b>	11	◆	◆		◆	◆	◆				
<b>Massachusetts Asthma Prevention and Control Program ●</b>	12	◆	◆	◆		◆					
Reducing Ethnic/Racial Asthma Disparities in Youth (READY) Study				◆	◆	◆					
Asthma Disparities Initiative			◆	◆						◆	◆
Bundled Payment Pilot			◆	◆	◆	◆		◆			◆
<b>Asthma Network of West Michigan</b>	14	◆	◆	◆	◆	◆	◆	◆		◆	
<b>Minnesota Department of Health ●</b>	16	◆	◆	◆	◆	◆	◆	◆			
Medication Therapy Management		◆					◆	◆			
Reducing Environmental Triggers of Asthma (RETA)				◆		◆	◆				
<b>Missouri Asthma Prevention and Control Program ●</b>	17	◆	◆	◆	◆	◆		◆			
Cost Analysis from Claims Data		◆		◆	◆	◆					
School-based Self- management Education				◆	◆	◆		◆			

STATE/ORGANIZATION/ PROGRAM	PAGE	PUBLIC INSURANCE (I.E., MEDICAID)	PRIVATE INSURANCE (HMO/MCO, ETC.)	ENVIRONMENTAL MANAGEMENT	SELF-MANAGEMENT EDUCATION	COST-SAVINGS/ROI	CERTIFIED ASTHMA EDUCATORS	PHARMACISTS/ MEDICATION THERAPY MANAGEMENT	HEALTH POLICY AMENDMENT	MEDICAL HOME CONTEXT	SPECIFIC AT-RISK POPULATION TARGETED
Pharmacist Asthma Encounter Management								◆			
<b>Montana Asthma Control Program</b> ●	19			◆	◆		◆	◆			
Pharmacy Asthma Clinic Project						◆	◆	◆			
Montana Asthma Home Visiting Project					◆	◆	◆				
<b>New Hampshire Asthma Control Program</b> ●	19	◆		◆	◆						
<b>New Mexico Asthma Program</b> ●	20		◆		◆		◆				
<b>New York State Department of Health</b> ●	21										
Healthy Home Environments for New Yorkers with Asthma			◆	◆	◆						
Expanded Medicaid Coverage for Asthma Self- Management Training		◆					◆		◆		
<b>North Carolina Asthma Program</b> ●	24										
Environmental Assessment Program		◆		◆	◆	◆					
<b>Oregon Asthma Program</b> ●	25	◆			◆						
<b>Pennsylvania Asthma Control Program</b> ●	25	◆		◆	◆						
<b>Rhode Island Asthma Control Program</b> ●	26				◆	◆	◆			◆	
Home Asthma Response Program		◆	◆	◆	◆	◆					
R.I. Association of Certified Asthma Educators					◆		◆				

STATE/ORGANIZATION/ PROGRAM	PAGE	PUBLIC INSURANCE (I.E., MEDICAID)	PRIVATE INSURANCE (HMO/MCO, ETC.)	ENVIRONMENTAL MANAGEMENT	SELF-MANAGEMENT EDUCATION	COST-SAVINGS/ROI	CERTIFIED ASTHMA EDUCATORS	PHARMACISTS/ MEDICATION THERAPY MANAGEMENT	HEALTH POLICY AMENDMENT	MEDICAL HOME CONTEXT	SPECIFIC AT-RISK POPULATION TARGETED
Chronic Conditions Workforce Collaborative					◆	◆	◆				
Texas Asthma Control Program/Seton Asthma Center	27				◆	◆					
Utah Department of Health Asthma Program	28										
Asthma Care Pharmacy Program					◆	◆		◆			
Wisconsin Pharmacy Quality Collaborative	28	◆	◆		◆	◆		◆			
Asthma Regional Council	29	◆	◆	◆	◆	◆	◆		◆		

Best practices that implement the National Asthma Education and Prevention Program (NAEPP) Expert Panel Report-3 (2007) provide the clinical framework for shifting the focus of asthma management to the lower cost diagnosis, prevention/patient self-self-management and monitoring venues and reduce the occurrence of acute care at the highest cost level

–Connecticut Asthma Advisory Council, May 2011

## Connecticut Department of Public Health

Connecticut developed and utilized several key pieces of information to create a compelling argument for statewide coverage of asthma education and environmental management.

### PUTTING ON AIRS PROGRAM

To reduce adverse asthma-related events and improve overall asthma control, the Connecticut Department of Health developed Putting on AIRS (Asthma Indoor Risk Strategies). This in-home asthma program focuses on patient and family self-management education and recognition and elimination of environmental and other asthma triggers. Initially the program targeted children from birth through age 18, but the program has since expanded to all ages. Patients are referred to the program by clinicians,

hospitals, school nurses, Medicaid MCOs, and through self-referral. The Department covers costs with funding from NACP.

A registered sanitarian conducts home visits to assess the home for triggers and recommends ways to reduce or eliminate them. A registered nurse (RN), respiratory therapist (RT), or health educator (AE-C) provides patients self-management education and reviews medications. The educator also requests a written treatment plan from a provider or follows the prescribed treatment plan.

A program analysis demonstrated significant improvement in quality-of-life indicators compared to those indicators measured before enrolling in the AIRS program. These indicators include reduced frequency of inhaler use, plus declines in ED visits (85%), asthma-related physician visits (67%), and days absent from school or work (62%). A net savings of \$26,720 per 100 patients was estimated at six months follow-up.

### ASTHMA ADVISORY COUNCIL

To demonstrate the potential cost savings of a patient-centered preventive approach to asthma management, the Department's Asthma Advisory Council developed a three-year cost comparison case study. The study follows a 10-year boy with asthma and allergies on two parallel pathways of care. Pathway one follows the current high-cost acute care model, and pathway two follows a preventive care model incorporating self-management education and home visits.

While pathway one involves fewer primary care visits overall, it results in a greater number of ED visits and hospitalizations due to asthma exacerbation and medication non-compliance, as well as indirect costs associated with missed work and school. In pathway two, the patient sees both a primary care physician and an AE-C. The AE-C teaches him how to use asthma controller medications and control or eliminate asthma triggers in the home and develops an asthma action plan. Asthma control is regularly assessed and medications adjusted accordingly. The estimated per month cost of pathway one is almost \$1,000 compared to an estimated \$120 per month in pathway two.

The Asthma Regional Council (ARC) also formed a workgroup that met with Connecticut state legislators to share results of interventions and current research on cost savings or return on investment (ROI). The workgroup provided legislators information about reimbursement for preventive self-management patient education for chronic diseases (beginning with asthma) that save money while improving asthma control and quality of life.

Legislators supported reimbursement for preventive self-management patient education and connected Council members with Medicaid committees to provide input as Connecticut Medicaid restructuring began. Connecticut Medicaid launched the single payer Administrative Services Organization to implement a Primary Care Medical Home statewide on January 1, 2012. Workgroup members continue to participate on individual subcommittees and continue to promote the need for reimbursement for patient self-management education.

### PROVIDER CONSENSUS STATEMENT

A provider consensus statement was developed by partners, based on a model developed by the Massachusetts Asthma Program. The statement describes asthma prevalence in the state, disproportionately affected subpopulations, and asthma-related costs. It set the stage for recommendations to insurance payers, promoting the financial support and reimbursement providers

need to make sustainable improvements in asthma care using a Primary Care Medical Home model. Provider professional associations, provider practices and individual practitioners have endorsed the consensus statement.

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## Illinois Department of Public Health

The Illinois Department of Public Health (IDPH) Asthma Program partnered with the state's Lead Program to support the Illinois Lead Environment Asthma Prevention Program (LEAPP). A three-year grant awarded by the IDPH Lead Program and NACP grant support funded the program. LEAPP is a joint effort between Southern Illinois University at Edwardsville (SIUE) Community Nursing Services and the East Side Health District, East St. Louis. Children eligible for program services must have an asthma diagnosis or blood lead level of two micrograms per deciliter or greater. LEAPP then assigns specialized nurses to conduct home and health assessments, provide patient education, and inform families about managing overall health.

Medicaid provides reimbursement for the LEAPP program. SIUE Community Nursing Services bills Medicaid for the asthma portion, which includes asthma education and spirometry (diagnostic breathing exam). The East Side Health District bills for lead-related services such as lead testing. The Asthma and Allergy Foundation of America donates supplies, such as mattress covers and demonstration materials. A grant to the East Side Health District supplements the elimination of lead and pests. LEAPP is currently focusing on improving patient compliance and creating greater awareness of the program.

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## Maine Asthma Health Program

Maine Health's AH! (Asthma Health) Program works to assess and prioritize community needs for asthma care, as well as needs for education and self-management for Maine residents living with asthma. The program provides one-on-one educational visits at its facility for patients and families, emphasizing the family's role in supporting asthma self-management skills. The AH! Program also provides hands-on tools and educational sessions for providers in hospital and private outpatient settings.

Members of healthcare organizations receive public "report cards" through the Clinical Improvement Registry as motivation for providing quality care, and practices receive financial incentives for meeting key asthma quality measures on their report cards.

As a result of this twelve year program, Maine Medical Center has seen a significant reduction in pediatric asthma ED visits, from 22% of patients pre-education to 5% post-education. In addition pediatric asthma hospitalizations have been reduced from 25% of patients pre-education to 0% post-education. These results are seen annually and represent a savings of \$275,000 in healthcare costs over the course of one year for the pediatric population.

The program successfully receives reimbursement from third-party payers including Medicaid through a facilities charge (S9441—asthma education, non-physician provider, per session). The AH! Program

recovers costs ranging from \$54-\$148 per visit under this non-provider professional code, and negotiates reimbursable amounts annually. For the 10 to 400 patients per year whose payer denies coverage, the AH! Program has developed a relationship with Maine Medical Center's billing department, which waives the fees. Of the approximately \$120,000 billed out in annual fees, \$75,000 are recovered.

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### ASTHMA RETURN ON INVESTMENT (ROI) CALCULATOR

The Asthma ROI Calculator, developed for the Agency for Healthcare Research and Quality (AHRQ), is a tool for exploring potential financial returns from quality improvement and disease management programs for populations diagnosed with asthma.

With this tool, state health policymakers, state Medicaid managers, private health plan officials, and others can examine what the research implies about cost savings from improving asthma care. The Calculator is based on evidence from 52 studies and is available free of charge through the AHRQ website <http://statesnapshots.ahrq.gov/asthma/>

## Massachusetts Asthma Prevention and Control Program

The Asthma Prevention and Control Program (APCP) has focused on sustaining asthma clinical care, in particular home visits by community health workers (CHW), through activities aimed at increasing the voluntary coverage by insurers. APCP focuses not only on increasing coverage for asthma services, but also on ensuring state infrastructure exists to support increased coverage when available. APCP's strategies result from discussion with insurers and providers about the need for increasing and sustaining these services.

APCP has also partnered with the five New England Asthma Programs on increasing coverage for recommended asthma care and has conducted some of these activities jointly with Connecticut, Rhode Island, Maine, and Vermont, with the technical assistance of the Asthma Regional Council of New England (ARC).

Several Massachusetts insurers cover CHW in-home asthma education and assessment on a limited basis, and recently Massachusetts Medicaid developed a bundled payment pilot for high-risk pediatric asthma patients. Other insurers have expressed a willingness to reimburse if APCP can demonstrate either a ROI or the cost effectiveness of the intervention.

### REDUCING ETHNIC AND RACIAL ASTHMA DISPARITIES IN YOUTH (READY) STUDY

APCP currently is conducting this five year research project, which is funded by a grant from the National Institute of Environmental Health Sciences and the Housing and Urban Development Healthy Homes Technical Studies Program. The READY study is a collaboration between the Massachusetts Department of Public Health, Boston Medical Center, and Baystate Medical Center, based on a model developed by



Seattle-King County (Washington) Health Department. This study addresses the challenge of effectively integrating home-based environmental and educational interventions delivered by CHWs into the clinical practice to reduce disparities in asthma outcomes.

The READY study aims to reduce asthma disparities for black and Hispanic children, and could potentially serve as a model for other health care sites. It focuses on addressing common triggers found in many low income homes, improving communication with health care providers and raising expectations for a child's level of functioning with asthma. At the end of study in 2014, APCP will conduct a cost analysis of this intervention looking at cost effectiveness and ROI from both the societal and insurer perspectives. APCP will use cost data and methodology supplied by MassHealth (Massachusetts Executive Office of Health and Human Services program that provides comprehensive health insurance or helps to pay for private health insurance for commonwealth residents) to ensure its analysis reflects the cost to insurers of asthma care.

### ASTHMA DISPARITIES INITIATIVE (ADI)

The Asthma Disparities Initiative is an effort to coordinate individual health education, home assessments, and asthma management efforts with local systems and policy change to reduce asthma disparities for black and Hispanic children in priority communities.

This initiative funds CHWs and two community health centers to conduct in-home asthma education, home assessment, and trigger avoidance education for families with children who have uncontrolled asthma. The Initiative also funds two asthma coalitions in the same communities to work with Head Start programs, schools, and boards of health to improve indoor air quality through systems change.

The evaluation of this initiative focuses on the question, "How has the coalition-CHW model bridged the gap between families and providers?" This evaluation will help APCP understand the support needed by the community health center to integrate CHWs into medical practice and connect families to resources in the community. APCP will use this information to develop necessary infrastructure to support clinics in integrating CHWs into their practice.

### ASSESSING GAPS IN COVERAGE

Partnering with the ARC and the New England Asthma Programs, APCP assessed the gaps in insurance in Massachusetts. The report found widespread variation in asthma reimbursement policies among insurers. It also showed that reimbursement did not necessarily align with recommended evidence-based practices, especially asthma self-management education and home environmental assessments.

In 2012, ARC held a summit for payers to present its findings and explore areas for enhanced and expanded coverage. At this summit, several insurers cited a willingness to increase coverage but a lack of infrastructure to enable easy access to home interventions. They requested the state provide standardized training for CHWs, develop methods for evaluating their skill level, and develop a state-wide referral system. Based on this discussion, APCP is developing the infrastructure.

### BUILDING STATE INFRASTRUCTURE

To build the infrastructure in Massachusetts, APCP hired Boston Public Health Commission (BPHC) to develop and conduct a CHW Asthma and Healthy Homes training program. BPHC also provided quarterly support meetings and ongoing technical assistance to CHWs.

In addition, APCP has hired a consultant to develop an evaluation method for CHWs and explore a potential statewide referral system to support the 2010 Massachusetts CHW certification law. This landmark legislation established a certification board at the Department of Public Health, which met for the first time in summer 2011.

### BUNDLED PAYMENT PILOT

The Massachusetts legislature passed Outside Section 154 as part of the budget process in 2010. This law requires MassHealth to demonstrate a bundled payment pilot for high-risk pediatric patients with asthma. The bundled payment was created to cover currently uncovered services such as home environmental assessments, in-home environmental education, and durable medical equipment.

MassHealth partnered with an advisory board to develop the pilot and received approval from the federal Center for Medicare and Medicaid Services to launch it. APCP assisted MassHealth by providing information about its CHW intervention, sharing home visiting protocols and analysis plans, and assisting with pilot development. Once the pilot begins, APCP will train the pilot CHWs and provide ongoing support to the intervention as needed.

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## Michigan: Asthma Network of West Michigan

The Asthma Network of West Michigan (ANWM) was formed in 1994 in response to growing concern over pediatric asthma morbidity and mortality and is now a registered 501(c)(3) nonprofit. The current program focuses on children and adults with moderate to severe asthma, primarily in families with low incomes. ANWM case management services for these population groups include home visits, school in-services, physician care conferences to obtain a written asthma action plan, and medical social worker visits to assist families with psychosocial barriers to asthma management.

In 1999, ANWM conducted a pilot program with 34 school-aged children with moderate to severe asthma, providing home-based education, environmental assessments and resources to reduce exposures to asthma triggers. The program demonstrated significant reductions in hospital admissions and length-of-stay, a cost savings of \$55,000 from one year to the next in facility charges. After two years of the pilot program, ANWM took their data to Priority Health, the largest payer in west Michigan, and asked them to refer their most at-risk patients to the pilot for case management for a one year trial period. The one year demonstration was successful and Priority Health agreed to enter into an agreement with the program.

Under this contract—the first known between a grassroots coalition and a health plan—Priority Health agreed to reimburse home asthma education visits at the standard Medicaid rate for a skilled nursing visit. Home visitors can be either registered nurses (RNs) or respiratory therapists (RTs), and are all AE-Cs—a certification ANWM subsidizes. ANWM provides home-based education, home environmental assessments, and resources to reduce exposures to environmental asthma triggers.

Utilization data show reductions in ED visits for commercial members from 72 visits per thousand patients in 2002 to 40 in 2006 and for Medicaid members from 250 to 189. Savings over time for members is estimated at \$1.7 million, and the long-term ROI for Priority Health is 2.1:1.

Five of Michigan's largest payers now reimburse for home-based education and environmental assessments. Each patient is allowed six-18 separate reimbursable visits to provide necessary asthma management education to their caregivers in various locations. An analysis conducted in 2003-2005 showed case-managed individuals experience 60% fewer emergency department visits, 66% fewer hospitalizations, and 46% shorter length of stay for hospitalized patients.

In 2008 a community collaborative in Grand Rapids called "First Step" approached ANWM to provide case management and asthma education services in a pilot study of children with Priority Health Medicaid coverage. The pilot incentivized some private pediatricians to absorb more Medicaid patients to increase their reimbursement rates. The pilot also allowed ANWM unprecedented access into the medical home and subsequent development of "dashboards" (indicators) on provider performance. The dashboards tracked not only utilization of service but provision of flu shots, asthma action plans, asthma control test scores, and six-month asthma follow-up visits.

In 2010, clients who received asthma services through the Children's Healthcare Access Program (CHAP), the medical home pilot in Kent County which referred asthma patients to ANWM, experienced 38% fewer emergency department visits and 38% fewer hospitalizations compared to rates before receiving CHAP asthma services.

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## PROGRAM SPOTLIGHT: Managing Asthma through Case-Management in Homes (MATCH)

Based on the model developed by the Asthma Network of West Michigan, the MATCH program is an in-home asthma case management program for children and adults with severe or difficult-to-control asthma. Services are reimbursed by Medicaid and some commercial health plans, which contract with MATCH programs in various Michigan communities. MATCH incorporates several program components to deliver a holistic approach to asthma management:

- social worker home visit/consultation for psychosocial intervention;
- physician care conferences (joint consultation with patient, primary care provider, and case manager) to make or update the asthma action plan;
- AE-C case manager service provider;
- asthma action plans for all patients; and
- case-manager visits to school or daycare as appropriate and work visit if requested by client.

Providers, health plans, nursing staff, allied health professionals, and individual families can refer patients to a MATCH program.

The number of people with asthma living in communities with a MATCH program more than doubled from 93,838 in 2007 to 216,916 in 2010. This program reduces asthma hospitalizations by 66% among those served.

Michigan Department of Community Health

## Minnesota Department of Health

Minnesota is examining reimbursement in several ways, including conducting an ROI demonstration project, obtaining reimbursement for services provided by local public health nurses, and through Minnesota's Medicaid program for services provided by pharmacists and AE-Cs.

Local government public health nurses in some areas of the state have been trained to provide asthma home visits. In certain cases, depending on the specific services provided, they may be eligible for reimbursement through managed care public programs.

The Minnesota Medicaid Program reimburses for Medication Therapy Management (MTM). MTM is an in-depth, one-on-one pharmacist review of all medications (prescription, over the counter, herbal, and nutritional) to ensure the current drug therapy is both safe and effective.

In Minnesota, community pharmacists and pharmacists employed by health systems or provider groups are providing MTM to people with asthma through collaborative practice agreements. These agreements allow pharmacists to manage a patient's drug therapy according to a written protocol between an individual pharmacist and the patient's health care provider.

The Medicaid program also reimburses AE-Cs. The Minnesota Health Care Program manual outlines specific guidelines for services provided by an AE-C. Guidelines include the reason for the education, the appropriate medical codes, eligible providers, and billing directions. Several health plans in Minnesota will reimburse clinics for asthma education provided by AE-Cs to their Medicaid Program members.

### REDUCING ENVIRONMENTAL TRIGGERS OF ASTHMA (RETA)

The Minnesota Department of Health (MDH) Asthma Program partnered with Pediatric Home Service, a provider of home health care to medically-fragile children, to conduct a demonstration project in homes of children with asthma, called Reducing Environmental Triggers of Asthma (RETA). A key objective of the study was to demonstrate the ROI for reimbursement for environmental interventions.

The project measured cost savings associated with reduced numbers of unscheduled office and hospital visits resulting from family-specific education and home visits conducted by an AE-C. These efforts, coupled with provision of various trigger reducers (e.g., dust mite or allergen proof pillow and mattress encasements), resulted in an approximate cost savings of \$1,960 per patient over a 12-month period.

Several Minnesota agencies have received grants to implement asthma home visiting projects similar to RETA, based in part on the evaluation results from the RETA demonstration project. For example, in 2007 Washington County Public Health and Environment received a grant from Medica Foundation for asthma home visiting, and the American Lung Association of Minnesota received a grant from Minnesota's UCare fund. In addition, the MDH received a grant from the Beverly Foundation to expand the RETA program to other geographic areas (rural, suburban and tribal reservation) and to train local governmental public health nurses to conduct the home visit.

Following these successes, the MDH Asthma Program was awarded other grants. The program has received EPA funding to develop an online training ([www.retahome.org](http://www.retahome.org)). And the program received an HUD grant to expand the asthma home visit program to five metropolitan jurisdictions using public health

nurses to conduct the home visits. MDH Asthma Program also encourages health plans to provide asthma home visits to both their public and commercial members.

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## Missouri Asthma Prevention and Control Program

The Missouri Asthma Prevention and Control Program (MAPCP) is cultivating statewide partnerships. The program seeks to better understand and use health care cost data to enhance and expand reimbursement for evidence-based asthma services. MAPCP also formed the Missouri Asthma Coalition (MAC) to help provide comprehensive asthma management services following NAEPP guidelines.

The Missouri “enviro-clinical” approach includes developing and implementing strategies to secure reimbursement from public and private insurers including asthma education and trigger reduction. This approach coordinates clinical and environmental services to benefit the person with asthma and deliver cost-savings to the health care system.

### COST ANALYSIS OF ASTHMA IN MISSOURI CHILDREN

MAPCP has determined the extent to which inappropriate use of asthma medication drives up costs. Analysis of Missouri’s Medicaid (MO HealthNet) data shows that costs for childhood asthma among Medicaid enrollees rose 38.6% from 2008 to 2010. Further, health care provider prescribing patterns for asthma medications do not appear to be aligned with national guidelines.

An analysis of pharmacy dispensing patterns among MO HealthNet children with asthma reveals an accelerated use of expensive leukotriene modifiers in the past few years-- now 25% higher in Missouri than the United States. The analysis also shows that inhaled corticosteroid use among MO HealthNet children is approximately half of the national benchmark. Guidelines-based use of medications, based on accurate assessment of asthma severity and control, can return millions of dollars of savings to MO HealthNet and taxpayers

Data from claims show that improved asthma care and the resulting health improvements reduce healthcare costs. Specifically, MO HealthNet children with persistent asthma who achieved guideline-based care standards (e.g., self-management education, medications) had an average cost of \$5,454 less per beneficiary per year in comparison to children with persistent asthma who did not receive guideline-based care (\$12,516 vs. \$17,964). Experts say that self-management education was the critical lever for behavior change, improving both medication adherence and trigger avoidance.

### BUILDING A WORKFORCE TO DELIVER REIMBURSABLE SERVICES

In recent years, Missouri has focused on building the capacity to deliver evidence-based services to improve asthma care outcomes.

- MAPCP and its partners have trained more than 1,000 individuals including physicians, medical office staff, hospital-based health care workers, pharmacists and school nurses.
- The University of Missouri Asthma Ready® Program and MAPCP are training school nurses under a program called *Teaming Up for Asthma Control*. Through this program school nurses conduct

asthma assessments, deliver key self-care education messages, and conduct home environment assessments.

- As part of another MACPC project, environmental specialists meet quarterly with families to review self-management behaviors and environmental conditions. The project has shown a reduction of 20-50% of the identified adverse behaviors or conditions. This program currently operates at a cost of \$200 per participant per year, which is substantially less than the cost of one emergency room visit for asthma.

### SCHOOL-BASED SELF-MANAGEMENT EDUCATION SERVICES IN KANSAS CITY

In the fall of 2012, a Kansas City coalition launched a comprehensive community-based initiative, in which school nurses employed by three participating school districts deliver standardized asthma self-management and care coordination services. These 3 districts educate approximately 3,200 children with asthma (27,011 total students). This joint venture is supported by Children's Mercy Hospital, Truman Medical Center, Kansas City Quality Improvement Consortium, Kansas City Local Investment Commission, Missouri School Board Association, and the Kansas City Asthma Coalition.

The intervention uses asthma control assessment information to focus evidence-based interventions, including home environment assessments and medication adherence monitoring, on high-risk children. Health plan claims data from health plans (e.g., MO HealthNet and commercial insurers) measure cost effectiveness of this initiative using appropriate control group comparisons.

### REIMBURSING PHARMACISTS FOR ASTHMA ENCOUNTER MANAGEMENT

MAPCP and its associated partners collaborated to produce the Pharmacist Asthma Encounter Management Application, a 75-minute web-based training program. The program prepares pharmacists to provide standardized education related to asthma medication problems in the community pharmacy setting. When a pharmacist fills a prescription for a MO HealthNet beneficiary, an automated analysis of administrative paid claims occurs. An algorithm then prompts the pharmacist to counsel patients on specific medication knowledge, skills and adherence issues tailored to the customer. The pharmacist receives reimbursement for the delivery of counseling/education services in addition to the standard fees paid for dispensing the medication.

### UNDERSTANDING BILLING AND CODING

Working with the leadership of [Asthma Ready Communities®](#), MAPCP is committed to understanding the details of billing and coding for asthma self-management education and environmental services. The Asthma Ready team maintains a detailed list of codes for reimbursement and their usability with major health plans statewide, including MO HealthNet. This list has led to improved reimbursement and better health plan coverage.

For example, MO HealthNet removed policy barriers, allowing patients to obtain asthma equipment (e.g., spacers, peak flow meter) directly through their primary care provider's office. When Health Care USA, (the largest managed Medicaid health plan in Missouri), announced reimbursement for CPT codes 99402 and 99401 in clinical settings (see table below), MAPCP and its partners developed tools to facilitate qualification of health care providers to bill for services under these codes. In addition, MO HealthNet recently approved an initiative to open a new CPT code for in-home trigger reduction services.

Table 2. Missouri CPT Codes for Selected Asthma Care Services

CPT CODE	CLINIC VISITS TO ASSESS ASTHMA SEVERITY AND CONTROL
99402	30 minute asthma education session (initial clinic visit)
99401	15 minute asthma education session (subsequent follow-up visits for asthma – Preventive medicine counseling and/or risk factor reduction intervention(s) provided to an individual
94664	Inhalation instructions – Demonstration and/or evaluation of patient utilization of an aerosol generator, nebulizer, meter-dosed inhaler or IPPB device
<b>Self-management Education</b>	
98960	Education and training for patient self-management by a qualified, non-physician health care professional using a standardized curriculum, face-to-face with the patient (could include caregiver/family) each 30 minutes, individual patient.
<b>Pharmacist Medication Therapy Management Service(s)</b>	
99605	Medication therapy management service(s) provided by a pharmacist, individual, face-to-face with patient, initial 15 minutes, with assessment, and intervention if provided; initial 15 minutes new patient
99606	Initial 15 minutes with established patient
99607	Each additional 15 minutes (list separately in addition to the primary service) Use in conjunction with 99605, 99606

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## Montana Asthma Control Program

Since 2008, the Montana Asthma Control Program (MACP) has sponsored the Certified Asthma Educator Initiative offering training courses to more than 300 health care providers in the state. During this time the number of AE-Cs in the state has increased from 7 to 31.

In October 2009, the MACP submitted a proposal to the state's largest private insurer, Blue Cross Blue Shield of Montana (BCBSMT), to reimburse for asthma education by AE-Cs. The Physician Advisory Committee for BCBSMT responded with a request for more evidence of the effectiveness and cost benefit of asthma education.

Since this time, the MACP has funded two initiatives that include robust evaluation components to provide this evidence. The Pharmacy Asthma Clinic project uses pharmacists who are AE-Cs to manage asthma patients in community pharmacies. And the Montana Asthma home visiting Project provides home asthma education to children with uncontrolled asthma.

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## New Hampshire Asthma Control Program

The New Hampshire Asthma Control Program, in collaboration with other Asthma Regional Council members, has been working on aligning reimbursement for comprehensive asthma services with best practices, consistent with the 2007 NAEPP Guidelines. In contrast with similar efforts in CT, MA, and RI,

New Hampshire has put efforts to conduct pilot studies on hold until the state Medicaid office completes its two-year transition process from fee-for-service to managed care.

As Medicaid was beginning this process, at the request of the state director of the Division of Public Health Services, the Asthma Control Program submitted a number of recommendations. The recommended health outcome indicators include the prevalence of child and adult asthma among Medicaid clients, reductions in the rates of emergency department visits and hospitalizations, reductions in the rate of readmissions, and an increase in the percent of Medicaid clients with well-controlled asthma.

Recommended standard of care performance measures apply to 90%-100% of Medicaid clients and generally involve the services recommended by the 2007 NAEPP guidelines, including an asthma diagnosis, assessment for severity, patient education sessions with an AE-C, and home assessments for trigger reduction. However, the request for proposals for managed care services later released did not include these recommendations. Whether they will be included in the finalized contract for services is uncertain.

New Hampshire is waiting to see if the other New England states' asthma programs are able to make progress in this area. In the meantime the Asthma Control Program will work with several public health partners to implement other home visiting initiatives that incorporate best practices. These partners, whose patient populations also include Medicaid recipients, are Maternal and Child Health, Special Medical Services, Healthy Homes and Lead Poisoning Prevention, and Chronic Disease.

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## THE COMMUNITY GUIDE

The Community Preventive Services Task Force finds that home-based multi-trigger, multicomponent interventions with a combination of minor or moderate environmental remediation (e.g., use of pillow and mattress allergen impermeable covers, use of air filters, application of integrated pest management practices) with an educational component provide good value for the money invested based on:

- improvement in symptom-free days, and
- savings from averted costs of asthma care and improvement in productivity.

<http://www.thecommunityguide.org/asthma/multicomponent.html>

## New Mexico Asthma Control Program

In an assessment of medical provider perceptions of asthma in Lea County, NM, physicians specifically recommended self-management education for patients as a means to improve patient asthma-related health outcomes. In 2010 the New Mexico Asthma Program partnered with Nor-Lea General Hospital



(NLGH) and University of New Mexico Project ECHO (Extension for Community Healthcare Outcomes) to explore ways to implement a patient asthma self-management education program in a clinic-based setting.

The team chose a self-management education program modeled after the Asthma Outreach Program, which the CDC Community Guide lists as a potentially effective [community-based intervention](#). The program content for self-management education was based on NAEPP guidelines, specifically, that health professionals and others trained in asthma self-management education implement and teach asthma self-management programs; key messages and essential skills of self-management be introduced in the first asthma self-management education session; and subsequent sessions be adjusted to meet the patient (NAEPP, 2007).

In the clinically-based NLGH Asthma Self-Management Education Pilot RNs and an RT provided administrative and translation assistance to an AE-C, also a practicing RT. Hospital physicians identified and referred pediatric asthma patients to the program, held once each week from March 1 to August 31, 2011. Initial visits lasted 90 minutes and follow-up visits were scheduled for 30-60 minutes, depending on patient need. Second visits were scheduled two-to-four weeks after the initial visit and a third follow-up visit was scheduled three months after the second visit, unless otherwise needed.

A program evaluation showed that a clinically-based asthma education program can be sustained if health maintenance organizations (HMOs) reimburse for education services provided. In the NLGH program, claims were submitted for 61 of the 68 (90%) patient encounters using CPT code 98960 for asthma education. One-fifth (20%, n=12) of these claims received payment, 67% (n=41) were denied, and 13% (n=8) were pending as of November 2011. All filled claims received the full amount requested for reimbursement or \$80, which was 80% of the cost of the asthma education visit. Three plans reimbursed 100% of claims, whereas three other plans and Medicare rejected 100% of claims.

Program staff used claims data in the program evaluation of the NLGH Self-Management Education Program to identify which health plans did not reimburse for asthma education and to determine the reason for denials, Program staff reported their findings to one health plan carrier to determine not only why the claims were denied, but also to work toward improving reimbursement rates in the future. Staff will present this information to the New Mexico Council on Asthma for further discussion and review.

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## New York

The New York State Department of Health (NYSDOH) is undertaking a number of activities to facilitate reimbursement efforts. These activities include a pilot project targeted to high-risk populations and collaboration with the state's Medicaid office to expand and align asthma services with NAEPP Guidelines.

### HEALTHY HOME ENVIRONMENTS FOR NEW YORKERS WITH ASTHMA (HHENYA)

In Western New York, the State Department of Health collaborated with four major health plans and the Erie County Healthy Neighborhoods Program to design and implement a pilot program to integrate environmental management into routine asthma care for patients with poorly controlled asthma. The HHENYA program provides in-home services, including home assessments, education, supplies, and

referrals, to address environmental and other problems identified during the visit. The program targets participants using payer referrals, hospitalization and emergency department visit rates, and measures of low socioeconomic status.

The program is currently operating in select ZIP codes in Buffalo, New York, where asthma hospitalization rates exceed county and statewide averages. Among 28 children and 27 adults who completed a three to six month revisit, results so far show statistically significant improvements in;

- environmental conditions (dust accumulation, mold/mildew, plumbing leaks);
- self-reported asthma self-management (knowing personal asthma triggers and trigger avoidance strategies, feeling asthma is controlled, using peak flow meter, using controller medication daily, decreasing use of quick relief medication); and
- self-reported asthma morbidity (fewer days with worsening asthma and missed school/work/day care).

Future analyses will include a larger sample, additional morbidity measures, a comparison group, cost data, qualitative data, and a longer follow-up period using health care utilization data.

New York has engaged a Medicaid redesign team that is developing a plan to overhaul the state Medicaid structure, including recommendations for addressing health disparities. These include the proposed expansion of Medicaid reimbursement to include coverage for home-based services for individuals with asthma. This is a preliminary step, but the recommendation has reached the governor's office and the Department of Health has been asked to develop a proposed implementation plan. The plan will use the HHENYA pilot and other models throughout New York State that provide these services.

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#### POLICY CHANGE TO EXPAND MEDICAID COVERAGE TO ASTHMA SELF-MANAGEMENT TRAINING

As a result of a joint effort by New York's State Education Department, public health partners, community-based coalitions, providers, AE-Cs, and others, the 2008–2009 NYS Executive Budget amended the social services law to require Medicaid coverage of asthma self-management training (ASMT) and diabetes self-management training.

Several key factors contributed to the policy change.

- First, a gap analysis of asthma care benefits conducted by the NYSDOH revealed a lack of reimbursement for individual and group stand-alone asthma education across all insurance programs. The NYS Asthma Program, with partners within the NYS Office of Health Insurance Programs, delivered a joint message to public health and legislative officials about the gap in coverage of education as a stand-alone, billable service. NYSDOH officials supported these discussions.
- Second, the governor's 2007 political agenda focused on prevention and delivery of quality healthcare. At the same time, Medicaid reimbursement to support investments in primary care changed significantly.
- Third, to demonstrate the need for these changes to specifically address asthma, the Asthma Program used AHRQ's Prevention Quality Indicators on 'poor asthma control' and need for patient education. According to these indicators, NY ranked 39<sup>th</sup> among states for preventable hospital admissions due to asthma.

To help implement this policy, the Asthma Program worked with the state's Office of Health Insurance Program to educate the public on the benefit of asthma education. The two programs jointly conducted an informational web series in the summer of 2010. The Department posted the presentation from this series on its public website and disseminated it widely through electronic mailings. In October 2011 the state's Medicaid telemedicine benefit was expanded to include reimbursement for ASMT provided by qualifying AE-Cs.

To improve patient access to ASMT services, offices or clinics that do not directly offer those services may refer patients to Medicaid-enrolled practitioner offices or clinics that employ or contract with AE-Cs. Eligible providers include New York State-registered or certified physicians, pharmacists, physician assistants, RNs, registered nurse practitioners, or RTs who are AE-Cs. However, the policy's professional licensures exclude many current AE-Cs, including those who are medical social workers or licensed practical nurses.

The NYSDOH Asthma Program worked with the State University of New York Center for Health Workforce Studies to address this potential obstacle to optimizing the Medicaid benefit and to identify opportunities for current AE-Cs to participate in the ASMT reimbursement program. Together they conducted an [analysis of the AE-C workforce which](#) included stakeholder interviews, a survey of all AE-Cs in New York, and a survey of providers of asthma services.

Completed in December 2011, the analysis indicates the supply of AE-Cs in New York is not sufficient to meet the need for ASMT services in the state (see Appendix C for additional details). The Asthma Program has noted a number of positive changes since the policy was implemented, including steadily increasing numbers of AE-Cs, increasing integration of AE-Cs into clinical settings, and increased enrollment of AE-Cs into the Medicaid billing system.

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## PROVIDER SPOTLIGHT: Woodhull Medical and Mental Health Center

The Woodhull Medical and Mental Health Center (Woodhull) participates in a comprehensive asthma control program as part of the North Brooklyn Health Network. Woodhull takes a multi-faceted approach to improving asthma care in one of the nation's highest-risk communities for asthma by educating and training health care providers, community organizations and schools.

The program trains doctors, nurses and hospital residents with its Physician Asthma Care Education program (aligned with NAEPP Guidelines), and utilizes a modified electronic health record to ensure that all of Woodhull's providers deliver Guidelines-based care.

In partnership with Rutgers University, Woodhull provides schools ground-breaking education on environmental triggers that includes distributing checklists and diagrams showing how to eliminate common triggers. Woodhull also addresses patients' home environments, distributing environmental control products such as allergen-proof pillow and mattress covers free of charge. In addition, Woodhull has renovated the emergency department with a state-of-the-art asthma treatment room, which offers patients assistance with their paperwork while they begin treatment.

The results of Woodhull's work are captured in its Asthma Registry: The number of visits to the pediatric asthma clinic more than doubled between 2008 and 2009. This increase corresponded to a 58 percent reduction in asthma-related ED visits and a 67 percent decrease in hospitalizations.

In 2012, the U.S. EPA awarded Woodhull the National Environmental Leadership Award in Asthma Management.

## North Carolina Asthma Program

Part of the North Carolina Asthma Program's mission is to increase public awareness of the need for supportive policies and healthy environments. Program partners who are also members of the Asthma Alliance of North Carolina have been successful in their home visit efforts. One such effort is the Environmental Assessment Program, a partnership between the Community Care of Wake and Johnston Counties and the Wake County Environmental Health Division to identify and address in-home environmental asthma triggers.

Local hospital discharge records, emergency department visits, and health care provider referrals identify Medicaid recipients with poorly controlled asthma. A staff member from the Environmental Health Program accompanies a community care nurse into the patient's home. The team conducts an assessment of asthma triggers (e.g., dust, mold, roaches), provides education on asthma management and trigger control, and gives a limited scope of supplies needed to remediate triggers.

Community care nurses also follow up with the families after the assessment and provide written reports of the findings and recommendations to the family, primary care provider, and landlords (with permission from the family). Based on the success of an initial pilot phase (2006-2008), the current program began in September 2008. Since then, teams have conducted over 300 assessments. One-year pre- and one-year

post-intervention data for 174 home visits show program savings exceeding \$141,000 and an average of \$799 per patient in cost savings.

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## Oregon Asthma Program

To increase access to evidence based self-management education for low-income Oregonians with asthma, the Oregon Asthma Program (OAP) partnered with Oregon's Medicaid program to explore reimbursement for [Stanford Chronic Disease Self-Management Program](#) (CDSMP) workshop participation.

The Oregon Health Services Commission approved CDSMP as a billable service in winter 2011. Research conducted by Stanford University indicated this workshop would reduce emergency room visits and hospitalizations. The policy change allowed non-physician, licensed health care professionals with a Medicaid provider number to bill for managed care and fee-for-service for providing the CDSMP workshop for enrollees with asthma. However, the policy change was rescinded before it went into effect due to budget concerns related to billing rates for Federally Qualified Health Centers.

The OAP is now focusing on opportunities related to Medicaid health system transformation, which replaced the current managed care organizations with Coordinated Care Organizations (CCOs) under global budgets during 2012. The OAP has provided input on the importance and cost effectiveness of including self-management education as a covered service for Medicaid members with chronic conditions within CCOs.

The program also provides training and technical assistance to local and regional program delivery partners to support inclusion of CDSMP within the new CCO structure. In addition, the OAP is working with a contractor to create a state business plan to sustain self-management program delivery systems and financing, which will likely include reimbursement as an option.

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## Pennsylvania Asthma Control Program

The Pennsylvania Asthma Control Program (ACP) is in the early stage of exploring approaches to ensure that asthma care providers at all levels are reimbursed for the services they provide. Data indicate that the state's Medicaid program does not reimburse for these services. ACP will focus first on home visits and/or comprehensive self-management education services not currently reimbursed by non-physician providers.

The Department of Health Diabetes Prevention and Control Program (DPCP) is already pursuing a similar strategy regarding Diabetes Self-Management Education (DSME). DSME is accredited by the American Association of Diabetes Educators. In addition, the American Diabetes Association recognizes DSME programs and facilitates reimbursement through Medicare, Medicaid, and some commercial payers.

The Department of Health is taking steps to further understand how to enhance reimbursement for DSME (by determining why services are currently underutilized and how to identify state capacity to deliver DSME services). The Department plans several additional activities, including developing a communication strategy with provider networks to improve DSME use by Medicaid providers and Chronic Care Initiative providers.

The Department is working with Medicaid to track payment information on patients receiving DSME services, to promote diabetes prevention services to Medicaid MCOs and other payers; and to conduct ROI studies to further support DSME services reimbursement.

ACP will first tackle the challenge of developing new relationships with third-party reimbursement payers. An infrastructure similar to that for diabetes should be developed to link payers and certifiers such as the [National Asthma Educator Certification Board](#).

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## Rhode Island Asthma Control Program

The Rhode Island Asthma Control Program is undertaking a number of activities to facilitate reimbursement of asthma services statewide, including conducting pilot studies and growing the AE-C workforce.

### HOME ASTHMA RESPONSE PROGRAM

As a pilot effort of HARP, Rhode Island has recruited 31 families to participate in a healthy housing program that included three home visits between April–October 2011. The pilot’s objective was to improve asthma outcomes and reduce preventable health care use among children 2–6 years of age in the city of Providence. After one year, the program had a retention rate of 29 out of 31 families. HARP will examine hospitalization data for these families from one year before the program began to one year after its completion. The program recruited an additional 70 families to participate in HARP through September 2012.

The 24 HARP Advisory Committee members provide input and feedback on the program development, implementation, and evaluation. Of the 24 members, seven represent the major commercial health plans in the state and RI Medicaid. Currently, the RI Asthma Control Program is working with the Neighborhood Health Plan of Rhode Island, which insures about 60% of the state’s Medicaid patients, to develop an in-house asthma home visiting program for their patients based on results of the HARP pilot.

### RHODE ISLAND ASSOCIATION OF CERTIFIED ASTHMA EDUCATORS

Rhode Island Association of Certified Asthma Educators (RIACAE), established in 2007, holds an annual meeting and has subcommittees that advocate for asthma issues, including reimbursement for asthma education services. RIACAE is working to build a capacity for resources that providers need for patient care and patient self-management. The association is represented on the Chronic Conditions Workforce Collaborative (CCWC), convened by the RI Department of Health in 2010.

## CHRONIC CONDITIONS WORKFORCE COLLABORATIVE

The Chronic Conditions Workforce Collaborative (CCWC) is the statewide leader in developing approaches for incorporating self-management of asthma and other chronic diseases into health plans and for improving reimbursement for these services. CCWC markets these approaches to providers and patients. The Rhode Island Department of Health is currently developing a pilot that provides services at the neighborhood level in a high-risk area of Woonsocket, a city with limited health care and services and a high poverty rate. This pilot provides an educator the opportunity to spend a significant amount of time with each patient (about one hour per visit) and providers for regular follow-up contact from a Peer Navigator.

Peer Navigators are skilled and experienced in navigating the health care system and have been trained to help patients address social barriers to wellness. Each patient will work with the Peer Navigator to access the following evidence-based and/or best-practice services: Certified Diabetes Outpatient Educator sessions, Cardiovascular Disease Outpatient Educator sessions, AE-C sessions, and Living Well Rhode Island workshops.

The Peer Navigator will also coordinate care and provide resources to address the social determinants of health, such as transportation, housing, education, and other issues. The CCWC is developing a business plan for payment for services provided by the workforce that can be presented to health centers, health plans, and other providers. Outcomes from the proposed pilot will be included in the business plan as an important demonstration of the value of CCWC services.

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## Texas Asthma Control Program - Seton Asthma Center

The Seton Asthma Center was originally a pilot program for children treated in the emergency department of Austin's Children's Hospital, but it now serves patients of all ages. The Center provides asthma education in various forms and locations depending on the patient's needs. The Center's case management workers, all registered RTs, promote improved patient self-management in bilingual patient education sessions.

The Center offers private and group sessions in the patient's home, school, or workplace; in the Seton clinic; or through its mobile "Care-a-Van" clinics that provide asthma care to uninsured and indigent students. Services provided in these sessions vary based on the needs of the patient, but can include disease/case management, in-home environmental assessment, training on medication use and peak flow meters, and development of asthma action plans. They may also include coordination of asthma and COPD care among various caregivers, assistance with healthcare funding, and assistance finding a primary care physician.

Through its education efforts, the Center has seen a 75% decrease of asthma-related ED visits and an 85% decrease for inpatient visits since 2004 in its served population of more than 2,000 patients. A recent study also showed that in fiscal year 2006, the Center serviced 631 families in the Austin, TX, area, resulting in a network savings of \$475,000 in hospital usage compared to the previous year.

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## Utah Asthma Care Pharmacy Program

Studies of pharmacy-based education directed toward understanding medications and teaching inhaler and self-monitoring skills show the potential of using community pharmacies as a point of care for self-management education (Bunting, 2006). The Utah Department of Health Asthma Program and the University of Utah College of Pharmacy designed a program that will give the pharmacist an active role in providing asthma services to patients. Based on recommendations from the 2007 NAEPP guideline, the pharmacist:

- Provides reinforcement of self-management techniques at regularly scheduled appointments.
- Provides face-to-face, individualized education sessions with the patient on the disease process, elements of control, inhaler technique and trigger avoidance.
- Provides comprehensive education on asthma and continued reinforcement of self-management techniques to assist patients in taking personal ownership of their treatment plans.
- Provides reinforcing education sessions throughout the year at one, three, six, and 12 months.
- Addresses quality of life issues with each patient.

Once implemented, the [Asthma Care Pharmacy Program](#) will provide pharmacists the infrastructure to participate in asthma education and play a more active role among the health care team. A pilot of the program was completed in 2010 and the data, including estimates of cost-effectiveness, are currently being reviewed. The intent is to use results from the pilot to facilitate reimbursement for education service provided by the pharmacist.

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## Wisconsin Pharmacy Quality Collaborative (WPQC)

The Wisconsin Pharmacy Quality Collaborative (WPQC) is a group of health care payers and pharmacists formed to develop a new model of ways payers and community pharmacies can work together to provide pharmaceutical products and services to patients. Since 2008, WPQC has partnered with the Wisconsin Asthma Coalition to focus on improving medication management to reduce hospital admissions due to medication misuse.

Under this program, patients deemed to have a chronic condition receive pharmacy services at two different levels, depending on what their payer covers. Level One includes actions taken by pharmacists while on the job, including nebulizer or inhaler instructions, focused adherence interventions, optimization of dosages, and assistance with formulary issues. Level Two services are “comprehensive medication review and assessment services” and include private appointments to review patient medications and provide education and training for proper use.

Training requirements for participating pharmacists include explanation of program background, incorporation of quality-based network requirements, review of asthma clinical guidelines, and audio visual examples of the comprehensive medication review and assessment process. Since the pilot



program was launched, 23 participating pharmacies have performed a variety of patient intervention services (for asthma and other conditions). In 2009, pharmacy intervention services resulted in an annual overall ROI of 2.5:1 for the participating insurance plans. In 2010 the largest private insurer in Wisconsin, United Healthcare, contracted with WPQC, joining three other payers including Wisconsin Medicaid.

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## Asthma Regional Council - Health Resources in Action

In 2000, responding to high pediatric asthma rates in New England, regional administrators of the U.S. Department of Health and Human Services, Environmental Protection Agency, and Housing and Urban Development founded the Health Resources in Action (HRiA) - [Asthma Regional Council](#) (ARC). One focus of the ARC is encouraging health care payers to better align their reimbursement policies and asthma management programs with evidence-based best practices.

Beginning in 2007, ARC started investigating environmental and clinical factors related to asthma. The Council is currently promoting financing for asthma self-management education as well as environmental assessments and interventions in the home. ARC has focused on engaging providers, payers, policymakers, patients, and purchasers of commercial insurance to evaluate programs, educate people, and elevate the issues.

ARC has developed a number of tools for public use related to the issues of asthma education and reimbursement. One tool includes an updated business case for healthcare payers showing the ROI and cost-effectiveness of asthma programs (ARC, 2010). In February 2011, U.S. Health and Human Services Secretary Sebelius cited ARC's *"Investing in Best Practices for Asthma: A Business Case"* in a guidance letter sent to all governors regarding Medicaid cost-savings opportunities.

ARC has also produced a business case for employers and purchasers, which includes an analysis of absenteeism related to asthma and the cost that this represents for employers. A checklist for health care purchasers accompanies the business case. Additional ARC publications can be found in [Appendix B](#), including a provider consensus statement used by member states to garner support for reimbursement from the provider community.

The tools developed by ARC have helped attract the attention of policymakers and payers. Recently, New Hampshire Medicaid announced its shift from a fee-for-service system to a managed care system, and asked ARC to testify about the cost savings and ROI opportunities of this change.

Connecticut Medicaid also announced that it would be moving to an administrative services organization. ARC met with Connecticut asthma champions to give them data tailored for their state, which was used in meetings with policymakers.

The research literature, affirmed by case studies, should prompt us to ask:

How can we afford not to give people with asthma access to programs that hold promise for reducing symptoms and costs?

—Asthma Regional Council, 2010

Finally, the Massachusetts legislature passed a bill that included a non-funded line item for Medicaid to cover a bundled asthma home visiting program, using many of ARC's tools demonstrating ROI. In all of these situations, ARC has convened leaders, promoted business cases, and conducted background research to promote positive policy changes.

ARC has held monthly conference calls with its state partners since 2009 to share best practices and lessons learned about asthma care and reimbursement in an informal setting. These calls have shown that all states involved operate differently, but with a common goal.

In 2010, ARC held a symposium targeting health plans throughout New England and focusing on reimbursement. A few of the collaborating states have conducted surveys among employers. Results of the surveys show that the vast majority of major employers use a third-party organization to review claims data from their employees. These data are then used to re-negotiate contracts for higher reimbursement rates.

Currently, ARC is working on a limited research project on billing claims mechanisms and medical billing codes to assess the strategies for reimbursement for asthma services from healthcare providers. Results are not final, but preliminary findings show no universal billing codes for asthma education or environmental assessments and interventions. Also, services are not systematically covered, and most systems with set services are designed based on the services that can be reimbursed.

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## PLAN SPOTLIGHT: L.A. Care Health Plan

L.A. Care Health Plan established the comprehensive disease management program LA Cares About Asthma® in 2003. The program is designed to improve member self-management through education, empowerment, monitoring and member input and communication.

On a monthly basis, LA Cares About Asthma® identifies health plan members with asthma and provides them a variety of educational materials and tools to help them control and manage their disease. To include all community members, the program ensures that linguistically and culturally appropriate materials are available for all potential enrollees.

LA Cares About Asthma® also partners with several community-based organizations to expand its reach and depth to serve individuals most in need. Two successful partnerships are an in-home visitation program with Long Beach Alliance for Children with Asthma in the Los Angeles South Bay area and specialist referrals with Harbor-UCLA Medical Foundation Inc offered to high-risk members with asthma throughout Los Angeles County.

In 2012, the U.S. EPA awarded the L.A. Care Health Plan the National Environmental Leadership Award in Asthma Management.

## Summary of Challenges and Lessons Learned

Workgroup members identified a number of barriers encountered on the road to enhanced reimbursement for asthma education and environmental management services.

### **Difficulty engaging third-party payers**

- Private and public health insurers may be reluctant to enter into discussions with health departments, asthma coalitions, or other asthma partners about potentially spending more resources on asthma without robust evidence of effectiveness and cost-savings over time.
- Accurate cost information is a crucial aspect of the policy change process and must include detailed and specific estimates of cost to deliver programs within the existing delivery system.
- In some cases, private health plan constraints on the disclosure of provided services make identifying specific covered services challenging.

### **Public health insurance (i.e., Medicare and Medicaid) challenges to reimbursement**

- Medicaid reimbursement varies from state to state and may use different local or state codes for services, procedures, or supplies. Workgroup participants underscored the need for both state and federal changes affecting billing codes (e.g., expanding coverage under existing codes, adding new billing codes).
- Some medical practices do not accept Medicaid beneficiaries due to low reimbursement rates. Most Medicaid-covered children in Kent County, MI, for example, receive care at Federally Qualified Health Centers or at teaching hospitals. These locations often become overwhelmed with patients, causing delays in care and making same-day appointments for acute health needs difficult to obtain. As a result, emergency department use remains quite high.

### **Different quality of services among providers**

- Certification by the National Asthma Educator Certification Board may be considered the standard for asthma education, but certification can be expensive to maintain.
- Reimbursement for these services often is not available or is very low. Moreover, many states have an insufficient number of AE-Cs who can provide services.

## Conclusions/Recommendations

Recent data from the report *National Surveillance of Asthma: United States, 2001–2010* show that asthma prevalence is at an all-time high and continues to disproportionately affect specific demographic groups, including children, women, Blacks, and those reporting income below the federal poverty level.

The NAEPP Guidelines are the standard for asthma care and provide a solid foundation for policies and practices that cost-effectively improve outcomes for people with asthma. Unfortunately many people with asthma still are not treated according to evidence-based recommendations. Some of these individuals may not receive routine primary care services and may not have an established health care provider. Without proper asthma management, many individuals may experience uncontrolled symptoms and may then need to rely upon the emergency department to provide urgent or emergency care. Treating uncontrolled asthma, rather than managing it, is simply not a sustainable health care model.

The good news is that a number of asthma control programs and their partners have taken action to dramatically change the picture of asthma management and control in their communities by enhancing and expanding reimbursement for asthma services that follow NAEPP Guidelines. They have developed an understanding of high-risk populations and built or restructured programs that reduce costs and improve the quality of life for people living with asthma. Findings stemming from NACP Workgroup discussions show that the road to effective reimbursement strategy is not typically linear. Many factors affect a program's ability to enhance coverage and uptake, not least of which is the strength of its partnerships with coalitions and asthma champions.

Below is a list of actions identified by workgroup members that can help to design and implement successful reimbursement policies and practices:

**Gather data**

- Conduct a gap analysis of reimbursement practices and coverage of asthma care benefits.
- Couple these data with local asthma surveillance data, AHRQ's Prevention Quality Indicators data, or other asthma datasets to characterize the extent to which better care is needed.
- Use hospital discharge data, emergency department data, health provider referrals, and pharmacy dispensing data to understand the populations most likely to benefit from asthma education and environmental management.

**Build capacity**

- Support capacity building efforts to ensure an adequate distribution of AE-Cs, community health workers, respiratory therapists, and pharmacists with specific training in asthma education and environmental management. These healthcare providers can often deliver and be reimbursed for services at much lower cost than physicians.

**Learn about insurance billing and coding**

- Develop a solid understanding of Medicaid billing and coding for asthma education and environmental management, including the types of providers who can be reimbursed in various settings.
- Build relationships with the personnel responsible for billing and coding. In some cases a code already exists for particular services and providers. In other cases a program, working with its partners, may want to build a case for the adoption of a new or modified code.

**Develop ROI data for third-party payers**

- Optimize funding from NACP, EPA, HUD, and other grant sources to conduct studies demonstrating the cost-effectiveness of self-management education and environmental management practices. In many cases these studies are relatively simple in design and can be tailored to other programs' needs and characteristics.

**Learn from asthma program evaluations**

- Use evaluations of established asthma programs to approach payers about the benefits of reimbursing for asthma services, to build provider consensus, to stimulate policy change, and to showcase particularly effective approaches that can be tailored to your program.
- Consult CDC's listing of potentially effective interventions to design and test asthma interventions in a variety of settings (e.g., home, schools, physician offices).

- Review published ARC best practices for in-home environmental services based on a review of several asthma control program initiatives.

### **Increase support for your program**

- Cultivate relationships with asthma champions.
- Develop a portfolio of easy-to-understand information including
  - Background on asthma burden in your state or locality (e.g., prevalence, costs of asthma-related hospitalizations and ED visits, disproportionately affected populations).
  - Results from pilot projects and other demonstrations of money saved when evidence-based guidelines are implemented.
  - Provider-payer consensus statement.

### **When you have successfully secured, improved, and enhanced reimbursement, promote the benefits and increase the use of asthma education and environmental management services using**

- stakeholder meetings
- teleconferences
- workshops
- webinars, and
- web-based materials.

### **Motivate other third-party payers to enhance coverage and improve overall asthma control by demonstrating cost-savings and improved health outcomes**

- Increasing coverage can improve access to high quality, evidence-based services.
- More people with asthma will seek care and learn the skills needed to manage it.
- Improving asthma care will help slow and potentially reverse the current trend in asthma morbidity and mortality.

## Appendix A: Workgroup Members

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CDC's National Asthma Control Program within the National Center for Environmental Health would like to acknowledge the following workgroup members for their efforts in the development of this resource:

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## Appendix B: Publications Produced by or for the Asthma Research Council

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All of the following publications are available online at [www.asthmaregionalcouncil.org](http://www.asthmaregionalcouncil.org)

Investing in Best Practices for Asthma: A Business Case (2010)

<http://hria.org/urls/?BestPractices>

Living with Asthma in New England-(with DHHS Reg. I) (2010)

<http://hria.org/urls/?LivingWithAsthma>

Asthma: A Business Case for Employers and Health Care Purchasers (2010)

<http://hria.org/urls/?AsthmaBusinessCase>

A Value and Quality Insurance Checklist for Asthma (2010)

<http://hria.org/urls/?AsthmaChecklist>

Insurance Coverage for Asthma: A New England Gap Analysis (2010)

<http://hria.org/urls/?AsthmaInsuranceCoverage>

The Role of Pest Control (IPM) in Effective Asthma Management (2009)

<http://hria.org/urls/?IPMAsthmaManagement>

Healthy Homes Needs and Resource Assessment Report -- New England (2009)

<http://hria.org/urls/?HealthyHomesNeedsAssessment>

What the Health Sector Needs to Provide Best Practices in Asthma: A Perspective from Providers (2008)

<http://hria.org/urls/?HealthSectorNeeds>

Healthy Homes Building Guidance (updated 2008)

<http://hria.org/urls/?HHBuildingGuidance>

Simple Steps to an Asthma Friendly Home- A home inspection checklist (2008)

<http://hria.org/urls/?SimpleStepsChecklist>

IPM Policy Options for Residential Real Estate (2008)

<http://hria.org/urls/?IPMPolicyOptions>

IPM Toolkit: A Guide for Managers and Owners of Affordable Housing Developments (2007)

<http://hria.org/urls/?IPMToolkit>

A Case for Smoke-free Housing (2007)

<http://hria.org/urls/?SmokeFreeCase>

Integrated Pest Management in Multi-Family Housing (2006)

<http://hria.org/urls/?MultiFamilyIPM>

Integrated Pest Management: A Real Solution to Pest Problems (2006)

<http://hria.org/urls/?IPMRealSolution>

Stop Pests in Your Homes (Multi-lingual training DVD) (2006)

<http://hria.org/urls/?StopPests>

READ THIS Before you Design, Build or Renovate (2006)

<http://hria.org/urls/?ReadThis>



Child Asthma in New England (2004)

<http://hria.org/urls/?ChildAsthma>

Adult Asthma in New England (2003)

<http://hria.org/urls/?AdultAsthma>

Enhancing Asthma Management Using Environmental Interventions: A Review of the Role of Health Departments (2006)

<http://hria.org/urls/?EnhanceAsthmaMgmt>

Improving Asthma Management by Addressing Environmental Triggers: Challenges and Opportunities for Delivery and Finance (2004)

<http://hria.org/urls/?ImproveAsthmaMgmt>

Choosing Flooring for Affordable Housing: Healthier and Cost Effective Options (2003)

<http://hria.org/urls/?FlooringOptions>

Property Maintenance for a Healthy Home (2003)

<http://hria.org/urls/?PropMaintenance>

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## Abbreviations

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AE-C	Certified Asthma Educator
CDC	Centers for Disease Control and Prevention
ED	Emergency Department
HMO	Health Maintenance Organization
MCO	Managed Care Organization
MTM	Medical Management Therapy
NACP	National Asthma Control Program
NAEPP	National Asthma Education and Prevention Program
ROI	Return on Investment
RN	Registered Nurse
RT	Respiratory Therapist





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