

A Collaborative Approach for Addressing Asthma in Connecticut 2013-2018

State of Connecticut Department of Public Health



STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH



Jewel Mullen, M.D., M.P.H., M.P.A.
Commissioner

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Office of the Commissioner

Dear Reader:

The Connecticut Department of Public Health (CT DPH) is pleased to present a new asthma plan, *A Collaborative Approach to Addressing Asthma in Connecticut 2013 – 2018*. According to the *Burden of Asthma in Connecticut 2012 Surveillance Report*, asthma is a disease that affects the lives of more than 335,000 individuals in Connecticut. No segment of society is unaffected; but children, females, Hispanics, non-Hispanic Blacks and residents of Bridgeport, Hartford, New Haven, Waterbury and Stamford are disproportionately affected by asthma in Connecticut.

The new Plan is an important step in the mobilization of individuals, communities and organizations throughout Connecticut to improve the prevention, diagnosis, and management of asthma and its many burdens. Members of the Asthma Advisory Council have contributed to development of the new Plan. Due to the expansion of partnerships and current health care changes, the plan was revised to reflect the current health care landscape to meet the needs of Connecticut residents.

The Plan represents a coordinated Call to Action with an overarching goal to reduce morbidity and mortality due to asthma using a public health approach. The Plan identifies seven goals that address: 1) surveillance; 2) clinical services and management; 3) health system change; 4) communication; 5) environment; 6) education and outreach; and 7) evaluation. The Plan focuses on populations that bear the highest asthma burden. The Plan is designed to guide state agencies, community partners, healthcare providers and policy makers in implementing interventions and initiatives recommended by the Asthma Advisory Council to reduce the burden of asthma for Connecticut residents. A crosscutting approach aligns interventions and initiatives with the Department's Coordinated Chronic Disease Program and Community Transformation Grant.

The CT DPH extends its appreciation to those who served on the Asthma Advisory Council and contributed their time and expertise to the development of this Plan. As Commissioner of CT DPH, I am proud to move forward public health initiatives that address asthma in our state.

Sincerely,

A handwritten signature in black ink that reads "Jewel Mullen".

Jewel Mullen, M.D., M.P.H., M.P.A.
Commissioner





Connecticut Asthma Advisory Council



Dear Reader:

The Asthma Advisory Council (AAC) of Connecticut is a collaborative group that involves multiple partners from public and private sectors. The AAC members and workgroup members that were brought together to revise the statewide asthma plan have knowledge, expertise and an interest in decreasing the asthma burden and improving health outcomes for individuals with asthma in Connecticut.

The Plan revision workgroup members and the AAC have defined the Plan priorities based on the National Asthma Education Prevention Program's (NAEPP) Expert Panel Report 3 (EPR3) guidelines for asthma care and current interventions along with available resources in Connecticut.

The AAC members will again take a leadership role in conjunction with the Connecticut Department of Public Health's Asthma Program to support and guide Plan implementation.

The AAC and the Asthma Program staff extend a sincere thank you to all individuals who contributed their time and expertise to revise the Connecticut Statewide Asthma Plan. Together, our collaborative efforts defined in this new Plan can decrease hospitalization and emergency department visits and improve the daily lives of individual with asthma in Connecticut.

Sincerely,

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Asthma Advisory Council

The members of the Asthma Advisory Council (AAC) represent a diverse group of individuals from the medical, pharmacy, public health, and consumer sectors involved in asthma care, prevention, and management. We gratefully acknowledge the members of the AAC for their time and effort spent revising the plan.

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Abbreviations

AAC	Asthma Advisory Council
AAP	Asthma Action Plan
ACBS	Asthma Call Back Survey
AE-C	Asthma Educator-Certified
AHEC	Area Health Education Council
AIRS	<i>Putting on AIRS</i> Program
ALA	American Lung Association
ARC	Asthma Regional Council of New England
ASO	Administrative Service Organization
BRFSS	Behavioral Risk Factor Surveillance System
CT AAP	American Academy of Pediatrics, Connecticut Chapter
CAP	Connecticut Asthma Program
CCEJ	Connecticut Coalition for Environmental Justice
CCDP	Coordinated Chronic Disease Program
CCMC	Connecticut Children’s Medical Center
CDC	Centers for Disease Control and Prevention
CEU	continuing education unit
CHA	Connecticut Hospital Association
CHIME	Connecticut Health Information Management Exchange
CHW	Community Health Worker
CMS	Centers for Medicare and Medicaid Services
CNA	Connecticut Nurses Association
CPT	Current Procedural Terminology
CSIERT	CT School Indoor Environmental Resource Team
CT AAP	CT American Academy of Pediatrics
CT DPH	Connecticut Department of Public Health
CTG	Community Transformation Grant
DEEP	Connecticut Department of Energy and Environmental Protection
DSS	Connecticut Department of Social Services
ED	Emergency Department
EHR	Electronic Health Record
EPA	U.S. Environmental Protection Agency
EPHT	Environmental Public Health Tracking
EPR3	Expert Panel Report, 3 rd Revision
GIP	Guideline Implementation Panel
GIS	Geographical Information System
HEDIS	Healthcare Effectiveness Data and Information Set
HP 2020	Healthy People 2020
HITE-CT	Health Information Technology Exchange of Connecticut
HUD	U.S. Department of Housing and Urban Development

HUSKY	Healthcare for Uninsured Kids and Youth
IAQ	indoor air quality
LAMPP	Lead Action for Medicaid Primary Prevention
LHD	Local Health Department
MATCH	Mobilize Against Tobacco for Connecticut's Health
MOA	Memorandum of Agreement
NAECB	National Asthma Education Certification Board
NAEPP	National Asthma Education Prevention Program
NCQA	National Committee for Quality Assurance
OIISS	Occupational Illness and Injury Surveillance System
OSHA	Occupational Safety & Health Administration
PCMH	Person-Centered Medical Home
RFP	Request for Proposal
SBASS	School-based Asthma Surveillance System
SDE	Connecticut State Department of Education
SEPT	Strategic Evaluation Planning Team
SWAHEC	Southwest Area Health Education Center
TfS	Tools for Schools
UCHC	University of Connecticut Health Center
UCONN	University of Connecticut

State Asthma Plan at Glance

Surveillance

Improve the Connecticut asthma surveillance system to provide data on high-risk populations, disparities, and trends that guide program initiatives.

Clinical Services and Disease Management

Improve asthma control, diagnosis, and coordinated management of care.

Health Systems Change

Support and promote health system policies and practices to improve asthma care.

Communication

Increase knowledge about the burden of asthma and awareness of statewide activities to address asthma.

Environment

Promote and maintain healthy environments where Connecticut residents live, work, learn and play.

Education and Outreach

Improve asthma control among Connecticut residents through community education and outreach.

Evaluation

Evaluate program activities and intervention to inform areas for improvement that will enhance asthma management and control efforts statewide.

The State Asthma Plan is a roadmap to guide the program and its stakeholders to improve asthma control and to achieve the long-term goals of decreasing emergency department visits and hospitalizations for asthma. This new Plan integrates current resources and builds on the past and current work and accomplishments of the Asthma Program and its partners. Surveillance data have identified specific populations that bear the highest asthma burden. Accordingly, these populations at highest risk for uncontrolled or poorly controlled asthma will be the focus of interventions.



Executive Summary

The mission of the Connecticut Department of Public Health (CT DPH) Asthma Program is to reduce asthma associated morbidity and mortality and to improve the quality of life for Connecticut residents living with asthma.

Asthma is a chronic disease of the respiratory system that is characterized by reversible obstruction of the airways and airway hyper-responsiveness to a variety of stimuli. Asthma is a potentially life-threatening chronic disease, yet

with proper medical care and patient self-management, it can be effectively controlled. Asthma is one of the most common causes of avoidable hospitalization. Poorly-controlled asthma can result in costly acute care visits, reduced quality of life, and activity limitations. Nationally, asthma is one of the most common chronic diseases and a leading cause of disability in children.

United States - For the period 2008–2010, average annual current asthma prevalence was higher in children aged 0–17 years (9.5%) than in adults aged 18 and over (7.7%) (Moorman, Akinbami, Bailey et al., 2012).

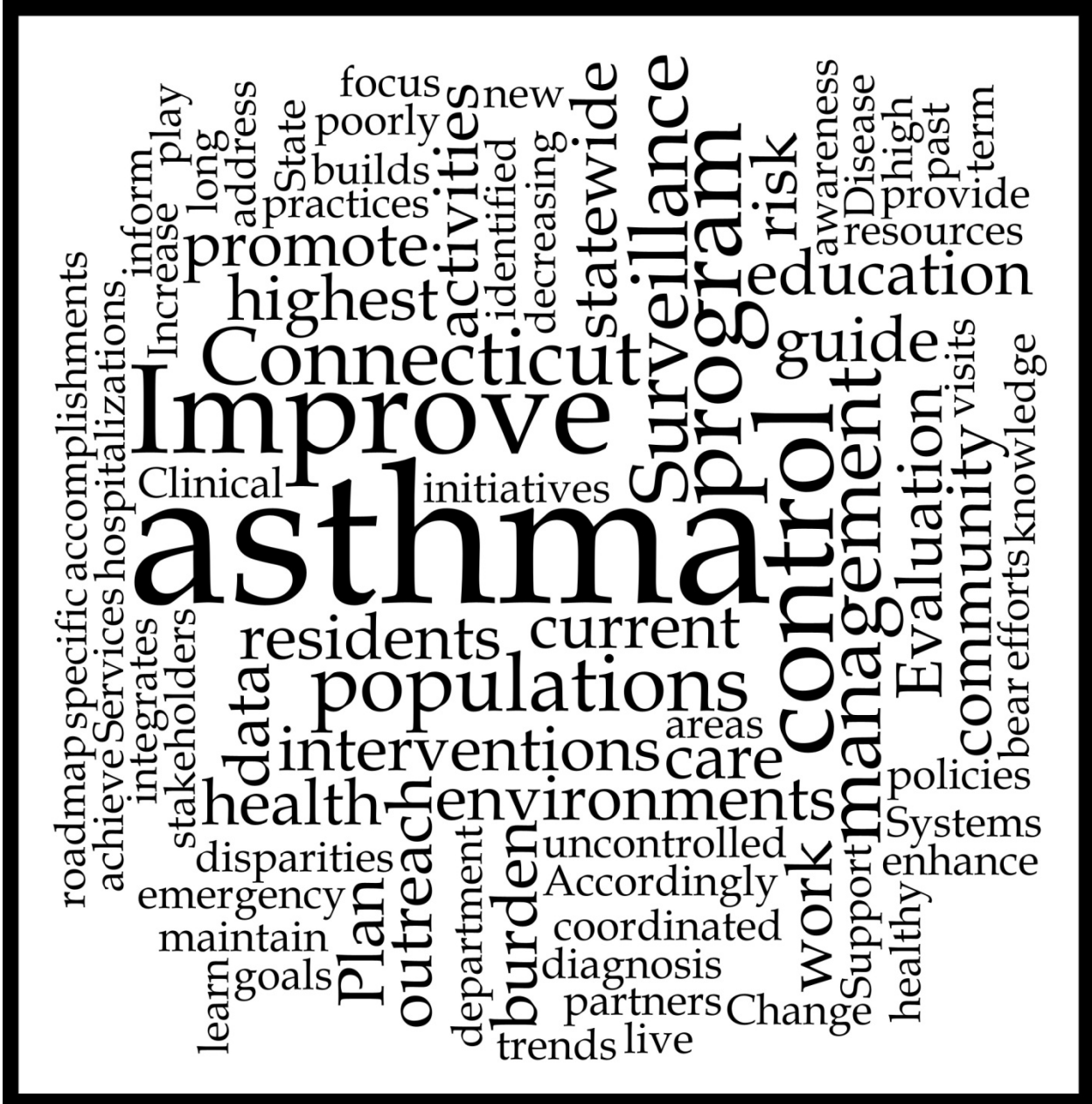
Connecticut - Approximately 246,100 (9.2%) of Connecticut adults and approximately 89,300 (11.3%) of Connecticut children (0 – 17 years old) had asthma according to 2010 Behavioral Risk Factor Surveillance System (BRFSS) data published in *The Burden of Asthma in Connecticut - 2012 Surveillance Report*. Asthma affects all people; however, certain population subgroups are disproportionately affected. Based on asthma prevalence, hospitalization, emergency department visits, and mortality data, the following population subgroups have been identified as priorities for asthma intervention in Connecticut: 1) children; 2) adult women; 3) the elderly (65+ years of age); 4) Hispanics of any race; 5) non-Hispanic Blacks; 6) residents of low socioeconomic status; and 7) residents of urban areas.

This new Connecticut State Asthma Plan (Plan) builds on the implementation of past plans since 2003 and incorporates internal and external opportunities that were not available or included in the 2009 – 2014 Plan. Healthcare reform, new leadership within CT DPH and the integration of chronic disease programs within the department offer opportunities to share resources and benefit from expertise to improve asthma care in Connecticut.

This Plan serves as a guide for other state agencies, healthcare providers, community partners and stakeholders in implementing activities to reduce the burden of asthma in Connecticut.

Data Guide Our Direction

The 2012 surveillance report identified population subgroups that bear the highest asthma burden. Interventions, outreach, education, and system changes will focus on long-term outcomes that address healthcare utilization and health disparities for these populations.



Introduction

What is Asthma?

Asthma is a potentially life-threatening chronic respiratory disease that can make it difficult for a person to breathe. Symptoms are characterized by intermittent airway narrowing and airflow obstruction that cause repeated episodes of wheezing, coughing, and shortness of breath. There is no cure for asthma, but asthma symptoms can effectively be controlled by identifying and avoiding factors that “trigger” an asthma attack and by taking asthma medications as prescribed.

Poorly controlled asthma can result in emergency department (ED) visits, hospitalization, missed school and work days, interrupted sleep, and activity limitations. The exact cause of asthma is not known, but both genetic and environmental factors are thought to play a role in its development and expression as a disease.

Approach

The mission of the Asthma Program is to reduce asthma-associated morbidity and mortality, decrease asthma disparities, and improve the quality of life for people with asthma in Connecticut. The long-term aim is to reduce hospitalization and unnecessary ED visits due to uncontrolled asthma.

For the last four years the CT DPH Asthma Program’s statewide Asthma Advisory Council (AAC), and partners from across the state and New England have met and discussed the urgent need for action to decrease the burden of acute asthma care, improve asthma symptom control, and decrease costs of asthma in Connecticut.

A consensus statement was developed, endorsed by the medical community, and shared with policy and decision makers by AAC members. This consensus statement grew out of discussions among clinicians, Medicaid Managed Care Organizations, and members of professional provider associations to create a document that summarizes the financial support and reimbursement that providers need in order to make sustainable improvements in asthma management in Connecticut. The Consensus Statement stressed the need for a Person-Centered Medical Home (PCMH)¹ model approach to improving asthma care.

These consensus recommendations are grounded in the following principles which are well established in the literature and supported by public health surveillance:

- Asthma is a chronic disease with disparate burdens that needs to be addressed in the context of an appropriate health care delivery model that values preventative care, as opposed to the current acute care model with its high cost and poor outcomes. Populations that suffer

¹ Throughout the remainder of this document, the acronym PCMH will be used to refer to both Person-Centered Medical Home and Patient-Centered Medical Home due to their similar meaning and context.

disproportionately from asthma include children, low-income people, some minorities, and the elderly.

- Best practices, described in the 2007 National Asthma Education and Prevention Program (NAEPP) Expert Panel Report, provide the clinical framework for shifting the focus of asthma management to the lower cost diagnosis, prevention/patient self-management, and monitoring venues to reduce the occurrence of acute care at the highest cost level.
- Reimbursement for patient self-management education, addressing home environmental triggers, and smoking cessation are key factors in prevention that are not supported in the current healthcare delivery model.
- Best practices can occur in a variety of settings, but would be most effectively carried out in a Medical Home for patients with asthma.
- The Chronic Care Model, which identifies “change concepts” for elements of the health care system essential to high-quality chronic disease care and encourages patients to take an active role in their care, is a useful framework for effective management of asthma that works well within a Medical Home.

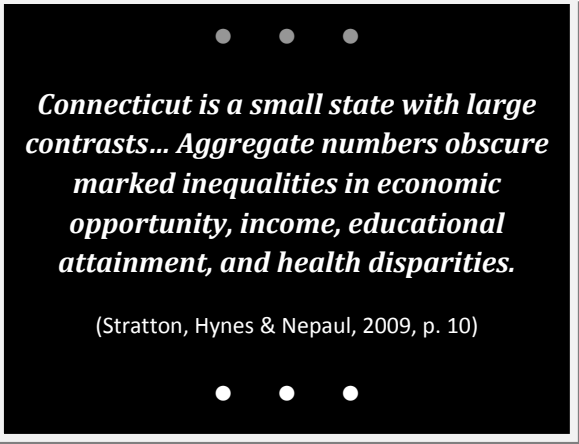
In light of the Affordable Care Act, systems change is underway – Connecticut has already undergone some important changes identified in the Chronic Care Model described above. First, As of January 2012, Connecticut Medicaid has been restructured under a single Administrative Service Organization (ASO) which administers medical benefits for all of the State’s Medicaid beneficiaries. Second, numerous programs and initiatives at the federal and state level are supporting the adoption of the PCMH model. Third, internal coordination and integration of chronic disease programs within the CT DPH has taken place to improve chronic disease management and preventive care through the Community Transformation Grant and the Coordinated Chronic Disease grant from Centers for Disease Control and Prevention (CDC).

Several components of the PCMH Model are directly aligned with current Connecticut Asthma Program (CAP) initiatives:

- Patient self-management education puts the patient in a central role with the provider for decision making;
- Treatment decisions are based on best practice guidelines;
- Care coordination and clarifying roles and responsibilities ensure the patient receives appropriate care; and
- Linking patients to community resources.

Connecticut Sociodemographic Profile

Connecticut is a densely-populated state with higher household income and fewer families living below the federal poverty level compared to the nation as a whole. However, analysis of data from the 1990 and 2000 censuses demonstrated that the lowest income levels, highest poverty rates, greatest population densities, and highest concentration of racial and ethnic minorities are in the cities of Bridgeport, Hartford, New Britain, New Haven, New London, Waterbury, and West Haven (Levy, Rodriguez & Villemez, 2004).



Connecticut is a small state with large contrasts... Aggregate numbers obscure marked inequalities in economic opportunity, income, educational attainment, and health disparities.

(Stratton, Hynes & Nepaul, 2009, p. 10)

According to the U.S. Census 2010, the median age of state residents is 40 years, males account for 51.2% of the population, and 71.2% of inhabitants are classified as non-Hispanic Whites. Compared to the nation, Connecticut had: higher median household income; a greater percentage of foreign-born residents who were from a European country; a higher percentage of persons aged 25 years and older who were graduates of high school or had completed higher degrees; and a larger percentage of occupied housing units which were heated with oil or other fuels (excluding gas).

Framework for Planning

The first Connecticut State Asthma Plan was published in 2003 and was revised in 2009. Establishment of a 15-member Asthma Advisory Council (AAC) to guide implementation of the Statewide Asthma Plan was formed in 2004. The AAC continues to be our strongest partner.

Members of the AAC were selected based on the following criteria: a former member of the Asthma Task Force that drafted the initial Plan; a representative with expertise on asthma issues from each of the Asthma Workgroups (clinical management, public education, professional education, and the environment); and individuals that bring statewide geographic representation and diversity to the Council.

The role of the AAC is to advise and make recommendations on asthma-related matters. AAC member responsibilities are to: assist CT DPH in working with local communities to implement the recommendations of the Statewide Asthma Plan; review and evaluate the implementation of the Plan; and serve on the Council for at least one 1-year term, with potential for reappointment.

The current AAC includes partners from several CT DPH programs, other state agencies, community-based organizations, local health departments, health care providers, schools, insurance providers, local asthma coalition members, academia, health care institutions, consumers, and others with environmental expertise.

This revised Plan was developed using data from CT DPH (deaths, hospitalizations, school-based asthma surveillance, and work-related disease), Connecticut Hospital Association - CHIME (hospitalization and

emergency department data), the Behavioral Risk Factor Surveillance System (BRFSS), Medicaid managed care data from the Connecticut Voices for Children, and expertise of the CAP, the AAC members and others.

The revised goals, objectives, and activities were established using data, trends, and the best available information through CAP, the AAC and chronic disease internal partners.

The CAP has worked collaboratively with state, regional, and local partners on asthma control issues for many years. The CDC Cooperative Agreement, *Addressing Asthma from a Public Health Perspective*, enabled the CAP to strengthen relationships with existing partners and work with new partners in chronic disease toward the common goal of decreasing the number of hospitalizations and ED visits for asthma.

CAP chose the mid-point of our five-year Plan to assess whether the direction and goals were still pertinent to the current needs. Discussion with the AAC led to agreement that the 2009 Plan was lacking key elements, so Plan revision began in December 2011 with the AAC members. Objectives were drafted to reflect CAP's current work. Also, objectives were added to support reimbursement for patient education, the PCMH, and systems change.

Vigorous internal and external reviews by the AAC and others informed this new Connecticut Asthma State Plan that covers 2013 – 2018. A complete list of partners that contributed to the Plan can be found in the Acknowledgements section.

Current Activities

- *Easy Breathing Program* – Educates medical providers in the appropriate diagnosis and medical management of asthma patients based on national best practice guidelines.
- *Provider Consensus Statement* – Endorses reimbursement to providers for following the NAEPP and the National Committees for Quality Assurance's PCMH Guidelines.
- *AAP* – Electronic and paper versions of the AAP in English and Spanish for health care providers to complete and give to their patients as part of patient education.
- *Five Cities Fact Sheet* – Presents data about the disproportionately higher rates of asthma morbidity, mortality, and asthma-related charges in Connecticut's five largest cities (Bridgeport, Hartford, New Haven, Stamford, and Waterbury).
- *Putting on AIRS (AIRS)* – An in-home asthma education and environmental home assessment program provided by a Certified Asthma Educator (AE-C) and a Sanitarian. Current AIRS partners are: Northeast District Department of Health, Naugatuck Valley Health District, Milford Health Department, and Ledge Light Health District.
- *Tools for Schools (TfS)* – Designed by the Environmental Protection Agency (EPA) to improve the indoor environment in school settings. The Program educates school teaching, custodial, and maintenance staff to identify indoor air quality (IAQ) problems in their schools and to take corrective action to address the problems and improve IAQ. This program has been successfully implemented statewide.

- *The Lead Action for Medicaid Primary Prevention (LAMPP)* – In collaboration with AIRS, provides in-home patient asthma self-management education and a Healthy Homes Assessment with possible remediation activities funded through LAMPP by the Department of Housing and Urban Development (HUD).
- *The Asthma Regional Council of New England (ARC)* – Provides funding over the next three years from the Centers for Medicare and Medicaid Services (CMS) Innovation Grant to support two partners in a Connecticut Medicaid referral/treatment pilot. These partners will provide patient self-management education and an in-home assessment (if needed) that will include a Community Health Worker (CHW). This pilot project, conducted in collaboration with ARC and Connecticut Medicaid, intends to make a convincing case to Connecticut Medicaid to reimburse for patient self-management education by an AE-C through demonstrating return on investment.

Next Steps

The AAC played a crucial role in the development of this plan and CAP envisions that partnerships with the AAC and beyond will play a key role in the implementation of this plan. The successful execution of many activities listed in this plan requires an engaged and active group of partners.

CAP's goals, objectives, and activities were chosen to align CAP activities underway that support a PCMH care model and to build capacity for the program to effectively respond to health systems changes underway in Connecticut and nationwide. The Affordable Care Act offers an important opportunity to integrate best practice standards of care for chronic diseases and asthma specifically, through broader partnerships with providers, care coordinators, and health systems.

CAP will focus on the quality of care within a PCMH framework and promote adherence to the NAEPP guidelines as follows:

- Promoting reimbursement for asthma patient self-management education that addresses home environmental triggers and smoking cessation as key factors in prevention.
- Supporting partnerships between primary care providers, families, and the community for care delivery within and outside of the medical practice in a variety of settings.
- Promoting and developing a broader team of well-trained care providers, including nurses, certified asthma educators, respiratory therapists, environmental counselors, and community health workers.
- Coverage for pharmacologic therapy and durable medical equipment that is not cost prohibitive to the patient and is accompanied by written treatment plans or Asthma Action Plans.
- Shifting from an acute sick care model to a preventative/chronic disease management model that can reduce asthma-related cost and improve health and quality of life.

The CAP is committed to decreasing the burden of asthma in Connecticut through program activities and collaboration with stakeholders. Surveillance data and evaluation will be the basis for program activities and inform community and healthcare organizations that are helping people with asthma to breathe more easily and enjoy more productive lives.

Asthma in Connecticut

Burden of Asthma

The Connecticut Department of Public Health Asthma Program conducts asthma surveillance activities to identify at-risk populations and monitor trends in asthma rates across the state. The Program describes the burden of asthma for the state in *The Burden of Asthma in Connecticut - 2012 Surveillance Report* (Nepaul, Peng, Kloter, et al., 2012).

- In 2010, approximately 89,300 (11.3%) of children and 246,100 (9.2%) of adults in Connecticut suffered from asthma.²
- Between 2000 and 2010, the current prevalence of asthma in Connecticut adults increased 17.9% (7.8% to 9.2%).³
- In the United States in 2010, 8.2% or 18.7 million adults (U.S. Department of Health and Human Services, 2012) and 9.4% or 7 million children (Bloom, Cohen, & Freeman, 2011) had asthma.
- Since the year 2000, asthma prevalence in Connecticut adults and children has been higher than national prevalence rates.
- BRFSS data demonstrate that from 2005 to 2010, the current prevalence of asthma in Connecticut children increased 7.6% (10.5% to 11.3%).
- In 2009, there were 5,146 hospitalizations and 24,239 ED visits attributed to asthma.⁴
- In 2009, there were 50 asthma deaths in Connecticut. Asthma deaths during 2005 – 2009 among residents of Bridgeport, Hartford, New Haven, Stamford, and Waterbury occurred at a rate of 18.9 per 1,000,000 compared to 8.3 per 1,000,000 for the rest of Connecticut.⁵
- Adults with asthma in Connecticut reported they were unable to work or do their usual activities for approximately 303,366.5 days annually because of asthma.⁶
- School-aged children in Connecticut missed approximately 59,814 days from school or day care each year due to asthma.⁶
- From 2000 to 2009, non-Hispanic Black children had the highest annual rates of asthma hospitalizations across all other child and adult race/ethnicity groups.⁴
- Hispanic adults had 5.2 times the rate of asthma hospitalizations as non-Hispanic White adults from 2005 to 2009.⁴
- From 2000 to 2009, Hispanic children had the highest asthma ED visit rates of all race/ethnicity subgroups. Non-Hispanic Black children experienced the second highest asthma ED visit rates for that time period.⁴
- Between 2005 and 2009, the asthma ED visit rate for Hispanic children increased 50.9% .⁴
- 54% of people with asthma limited their usual activities because of asthma.⁶

² 2008 – 2010 Behavioral Risk Factor Surveillance System (BRFSS)

³ 2000 – 2010 BRFSS

⁴ 2009 Connecticut Hospital Information Management Exchange (CHIME)

⁵ Connecticut Death Registry

⁶ 2007 – 2009 BRFSS

- 66% of people with asthma had asthma that was not well or very poorly controlled.⁶
- 10.2% of adults with asthma smoked.⁶
- 22.3% of children with asthma lived in a household with at least one adult who smoked.⁶
- 19.6% of obese children also had asthma.⁶
- 40.1% of people with asthma did not have a routine checkup during the past year.⁶
- 65.7% of people with asthma have never been given an AAP.⁶
- Of the 2,741 children enrolled in Healthcare for Uninsured Kids and Youth (HUSKY) A who had asthma ED visits in 2007, only 24.4% received follow-up care within two weeks of their ED visits in accordance with national treatment guidelines.⁷

Quality of Care

CAP surveillance data from the Behavioral Risk Factor Surveillance System and the Asthma Call-back Survey (ACBS) (2007-2010) indicate that patients' self-reported asthma care does not seem to adhere to the National Asthma Education Prevention Program (NAEPP) guidelines.

BRFSS data show that two-thirds of individuals with asthma in Connecticut reported their asthma was not controlled, over half had to limit their activities due to asthma, and two thirds of individuals with asthma never received a written Asthma Action Plan (AAP).

Management and Control

Asthma can be managed with appropriate medication, avoidance of environmental triggers, and use of an AAP. Asthma medications include: bronchodilators which ease the constriction of muscles that surround the airways; anti-inflammatories which reduce airway swelling and mucus production; and formulations that combine a bronchodilator with an anti-inflammatory agent. Long-term asthma control medications are used regularly to decrease airway inflammation and mucus production. Asthma rescue medications are used during attacks or before exercise.

Asthma triggers include traffic air pollution, tobacco smoke, pet dander, mold, dust mites, and cockroach allergen. Because of the nature of the triggers, both individual-level and community-level action must be taken to reduce exposures to triggers. Asthma education addresses individual-level strategies (e.g., no tobacco smoke inside the home, keep pets outside of the bedroom) that persons with asthma or their caregivers can use to reduce the persistence of allergens in their environment. At the community-level, enforcement of housing regulations can help to decrease the presence of certain triggers that are associated with inadequate housing (e.g., mold, rodents, and cockroaches).

An AAP is a key component of asthma management. The NAEPP Expert Panel recommends that the health care provider for a person with persistent asthma develop a written AAP for the patient to educate and guide patient self-management at the first signs of symptoms of an asthma attack.

CAP activities and interventions have been selected to address these issues and will continue to improve compliance through promotion of best practice standards of care. To improve care coordination within

⁷ Connecticut Voices for Children

the Connecticut PCMH Model being implemented statewide, collaboration and integration will be ongoing among CT DPH chronic disease programs to promote chronic disease self-management efforts.

Economic Impact

- Connecticut hospital discharge data reveal that in 2009, the charges for hospital (inpatient and ED) care for asthma in Connecticut was **\$112,854,345**.⁴
- Public insurance was the payment source billed for 73.8% of asthma hospitalizations and 60% of asthma ED visits in 2009.⁴
- The rates of asthma ED visits for the five largest Connecticut cities exceeded that of the rate for the rest of the state in 2009. The combined rate of asthma ED visits per 10,000 in the year 2009 in Connecticut's five largest cities was 156.4, almost three times that of the rest of the state.⁴
- Three out of four (74.5%) asthma hospitalizations among residents of the five large cities were billed to public funds (Medicaid or Medicare), compared to about half (52.7%) among residents from the rest of Connecticut.⁴
- Two out of three (64.5%) asthma emergency department visits by residents of Connecticut's five largest cities were charged to public funds, compared to about two out of five (40.2%) by residents from the rest of Connecticut.⁴

Healthy People Objectives for Asthma

Healthy People provides a science-based, systematic approach to health improvement and sets the agenda for nationwide public health activities. The activities presented in this plan align with the following *Healthy People 2020* asthma objectives:

- RD-1. Reduce asthma deaths;
- RD-2. Reduce hospitalizations for asthma;
- RD-3. Reduce emergency department visits for asthma;
- RD-5. Reduce the proportion of persons with asthma who miss school or work days;
- RD-6. Increase the proportion of persons with current asthma who receive formal patient education; and
- RD-7. Increase the proportion of persons with current asthma who receive appropriate asthma care according to National Asthma Education and Prevention Program (NAEPP) guidelines.

The CAP tracks Connecticut's progress toward meeting asthma-related Healthy People objectives by analyzing mortality, hospitalization, emergency department (ED), and Behavioral Risk Factor Surveillance System (BRFSS) data. Table 1 presents information on the progress that Connecticut has made from 2005 to 2009 toward achievement of three targets associated with the *Healthy People 2010* asthma objectives. Please note that information was not available to measure all of the objectives at the state

level. In comparing the 2001 – 2005 reporting period to the 2005 – 2009 reporting period, decreases in the five-year average mortality rate were observed among children less than five years of age, 15 – 34 year olds, 35 – 64 year olds, and persons aged 65 years and older. Among children 5 – 14 years old, the five-year average mortality rate increased 23.8% from 2.1 per million to 2.6 per million. Asthma hospitalization indicators increased across all three age groups. ED visit indicators also increased; however, there was a 6.1% decrease in the five-year rate of asthma ED visits among persons > 65 years old.

Table 1. Connecticut Progress for Healthy People 2010 Asthma Targets⁸

Objective	Age Group	HP 2010 Target	Connecticut (2005 – 2009)	% Change from 2000 – 2005
24-1. Reduce asthma deaths.	< 5 years	0.9 per million	0.9	-52.6%
	5 – 14 years	0.9 per million	2.6	+23.8%
	15 – 34 years	1.9 per million	3.4	-12.8%
	35 – 64 years	8.0 per million	10.4	-8.0%
	≥ 65 years	47.0 per million	41.7	-16.3%
24-2. Reduce hospitalizations for asthma.	< 5 years	25 per 10,000	33.9	+5.6%
	5 – 64 years	7.7 per 10,000	11.9	+16.7%
	≥ 65 years	11 per 10,000	21.8	+4.8%
24-3.Reduce hospital emergency department visits for asthma.	< 5 years	80 per 10,000	150.1	+16.6%
	5 – 64 years	50 per 10,000	71.6	+15.9%
	≥ 65 years	15 per 10,000	18.5	-6.1%

The next Connecticut asthma burden report will address progress on achieving *Healthy People 2020* asthma objectives.

⁸ Nepal et al., 2012: p. 142

Logic Model

Figure 1. Connecticut Asthma Program Overarching Logic Model

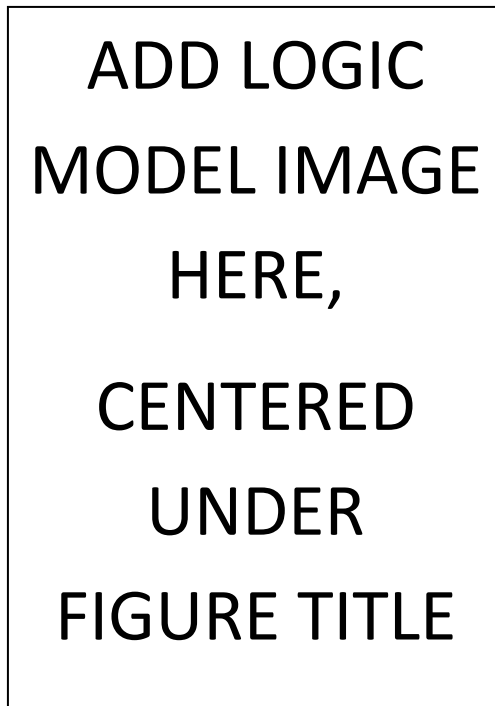
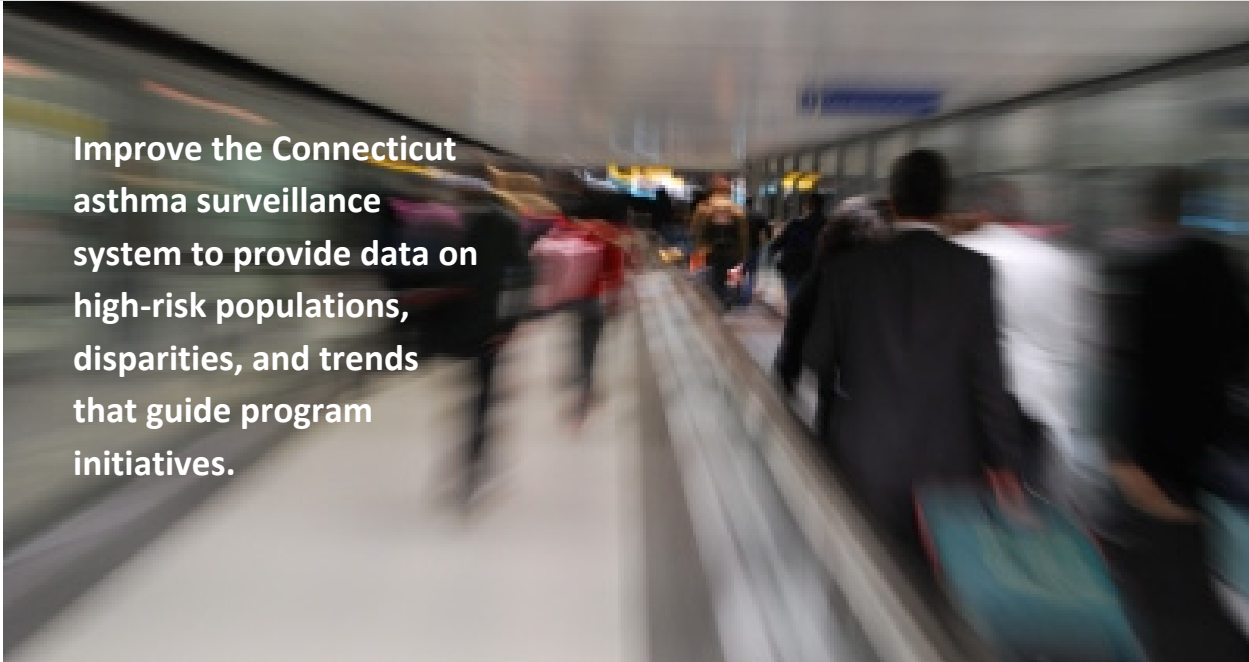


Figure 1 is the overarching CAP logic model based on current activities and the objectives outlined in this statewide asthma plan. As the model shows, investments made by partners in the form of funding, data, expertise, time, and other resources are used to conduct activities in five priority areas: surveillance; communication; training; partnerships; and evaluation. These activities are aligned with short term and intermediate-term goals, which will lead to achievement of the long-term goals of the CAP and its partners. Assumptions of the model are: 1) all inputs are present during the plan period; and 2) activities are related to each other and as such, the priority areas will sometimes intersect.

Goal #1 - Surveillance



Improve the Connecticut asthma surveillance system to provide data on high-risk populations, disparities, and trends that guide program initiatives.

Objective 1: By 2018, secure a minimum of one new data source that will enhance description of the asthma burden.

Data Source: Identified new data source

Responsible Parties: CAP, DSS, SDE, and HITE-CT

Activities:

- Identify relevant databases maintained by DSS and SDE.
- Pursue new data sharing agreements with DSS and SDE.
- Revise the CT DPH Medicaid Memorandum of Agreement (MOA) requesting Medicaid data.
- Participate in discussions about an All Payer Claims Database.
- Participate in discussions regarding the HITE-CT at CT DPH.

Objective 2: Continue annual collection and analysis of data from the seven existing data sources through the year 2018.

Objective 2.1: Continue collection and analysis of BRFSS asthma prevalence data through the year 2018.

Data Sources: BRFSS Core Asthma module

Responsible Parties: CAP and CT DPH BRFSS Coordinator

Activities:

- Coordinate with the State BRFSS Coordinator to ensure that the BRFSS Core Adult Prevalence, Random Child Selection, and Child Prevalence modules are conducted each year.
- Generate estimates of lifetime and current asthma prevalence on an annual basis.

Objective 2.2: Continue collection and analysis of Adult and Child ACBS data through the year 2018.

Data Sources: BRFSS ACBS

Responsible Parties: CAP and CT DPH BRFSS Coordinator

Activities:

- Coordinate with the State BRFSS Coordinator to ensure that the Adult ACBS and Child ACBS are conducted each year.
- Annually generate estimated measures of asthma: symptoms; comorbid conditions; trigger reduction; related lost productivity and activity limitation; control; medication use; related health care utilization; related alternative and complimentary care; and education.

Objective 2.3: Continue to collection and analysis of asthma hospitalization and ED visit data through the year 2018.

Data Source: CHIME Data

Responsible Parties: CAP, CT DPH Family Health Epidemiologist, CT DPH Office of Health Care Access, and the Connecticut Hospital Association (CHA)

Activities:

- Request and obtain from the Connecticut Hospital Association additional years of hospital discharge data.
- Collaborate with the CT DPH Office of Health Care Access and Family Health Section to streamline the internal CT DPH process for obtaining hospital discharge data.
- Generate hospital admission rates for primary and secondary asthma diagnoses on an annual basis.
- Generate annually ED admission rates for primary and secondary asthma diagnoses.

Objective 2.4: Continue collection and analysis of SBASS data through the year 2018.

Data Sources: School-based Asthma Reporting Forms (SBASS forms)

Responsible Parties: CAP, CT School Nurse Supervisors, and SDE

Activities:

- Collect SBASS forms submitted by school nurse supervisors.

- Generate asthma prevalence estimates for the reported grades on an annual basis.
- Identify quality improvement measures for the new Teleform scanned data input using optical character recognition.

Objective 2.5: Continue analysis of OIIS data through the year 2018.

Data Sources: OIIS data and *Occupational Disease in Connecticut* prepared by University of CT Health Center for the State of Connecticut Workers' Compensation Commission

Responsible Parties: CAP, University of CT Health Center-Occupational Health, State of Connecticut Workers' Compensation Commission, and CT DPH Occupational Health

Activities:

- Request and obtain OIIS data from the CT DPH Environmental & Occupational Health Assessment Section.
- Generate the frequency of reported work-related asthma cases on an annual basis.

Objective 2.6: Continue analysis of asthma mortality data through the year 2018.

Data Source: Connecticut Death Registry

Responsible Parties: CAP and CT DPH Office of Vital Records

Activities:

- Request and obtain additional years of mortality data from the CT DPH Office of Vital Records.
- Generate annually the rate of asthma-related deaths.

Objective 3: Through 2018, publish annual reports of data analyses to inform CAP activities, meet the state legislative data requirement and make information about the asthma burden available to stakeholders.

Data Sources: BRFSS, ACBS, CHIME Data, Hospital Discharge data set, SBASS, OIIS, and CT Death Registry

Responsible Party: CAP

Activities:

- Release asthma surveillance reports in 2014 and 2017.
- Release SBASS reports in 2013 and 2016.
- Release at least one factsheet or surveillance brief each year.

Objective 4: Through 2018, monitor Connecticut’s progress toward meeting *Healthy People 2020 (HP 2020)* asthma objectives.

Data Sources: CT Death Registry, CHIME, Hospital Discharge data set and ACBS

Responsible Party: CAP

Activities:

- Update progress on *HP 2020* asthma targets in 2014 and 2017.

Goal #2 - Clinical Services and Disease Management



Improve asthma control, diagnosis, and coordinated management of care.

Objective 1: By 2013, increase from 2 to 4 the provider educational activities on the GIP from the NAEPP.

Data Sources: CAP-Easy Breathing, DSS Medicaid, and CMS Innovation grantees

Responsible Parties: CAP, CT Children's Medical Center (CCMC) Easy Breathing Program, Bridgeport Hospital medical clinic, DSS, and American Academy of Pediatrics CT Chapter (CT AAP)

Activities:

- Fund trainings from CCMC pediatric Easy Breathing and adult Easy Breathing Programs at Bridgeport Hospital to increase asthma diagnosis, treatment, education, and patient care coordination competency among providers and medical residents.
- Collaborate with hospitals to provide at least one annual professional development opportunity such as Grand Rounds.
- Collaborate with Connecticut DSS Medicaid to establish care delivery tracking measures that align with NAEPP Guidelines.

- Develop electronic patient education and clinical asthma tools such as AAPs for Electronic Health Records (EHR) integration.
- Promote resources on environmental exposures and training opportunities to providers on the CTAAP and other professional associations' websites.
- Identify gaps in Connecticut Medicaid provider educational resources and offer appropriate resources to Medicaid providers.
- Promote allergy testing of children with persistent asthma to licensed healthcare providers.

Objective 2: By 2014, increase from 1 to 2 the provider educational outreach initiatives on reportable, work-related asthma.

Data Source: CT DPH OIISS and CAP Actions

Responsible Parties: CAP and CT DPH Occupational Health Section

Activities:

- Collaborate with CT DPH Occupational Health Unit and professional associations on work-related asthma outreach efforts and awareness to providers.
- Disseminate provider reporting forms and other resources for mandatory work-related asthma reporting.

Objective 3: By 2014, increase from 5% to 25% the percentage of school aged children with a current AAP on file at school.

Data Source: SBASS

Responsible Parties: CAP, Professional Healthcare Associations (e.g., CT AAP), Funded Asthma Regions Coordinators and SDE

Activities:

- Develop a press release for dissemination of 2012 revised AAP to the clinical, school and healthcare community.
- Request professional medical associations place the revised AAP on their websites as a resource.
- Provide technical assistance on the use of the revised AAP's.
- Collaborate with Connecticut SDE to require use of an AAP for all asthma medication authorizations.
- Link funded AIRS Regions to school nurses and providers to improve compliance.

Objective 4: By 2014, increase from 30% to 50% the percentage of asthma self-management education received by patients for those with asthma.

Data Source: BRFSS, AIRS data, CMS Innovation grant, and DSS/Medicaid data

Responsible Parties: CAP, AAC, DSS, Professional Healthcare Associations, ARC, Middlesex Hospital and Hamden Children’s Medical Group

Activities:

- Examine tools that measure efficacy of asthma education materials given to patients in collaboration with AAC members, DSS/Medicaid, and provider professional associations.
- Develop patient education tools with DSS/Medicaid for tracking education provided to patients during ED and hospital visits for possible integration into DSS/Medicaid performance tracking measures.
- Examine and post decision support tools for providers to include in their care the provision of appropriate asthma education.
- Collaborate with the ARC-CMS Innovation patient self-management education pilot sites, DSS/Medicaid, ARC, Middlesex Hospital and Hamden Children’s Medical Group.
- Continue funding the Putting on AIRS Program to offer patients self-management education.
- Support DSS/Medicaid PCMH and Health Neighborhood concept.

Objective 5: By 2014, increase from 61 to 85 the number of AE-Cs in Connecticut

Data Source: NAECB list of CT AE-Cs

Responsible Parties: CAP, ALA, CT insurance payers, DSS, and AE-C Networking Group

Activities:

- Promote Connecticut’s American Lung Association’s (ALA) Asthma Educator Institute for the AE-C preparatory workshop to sit for the certification exam.
- Facilitate the CT AE-C Networking Group to increase awareness and number of Certified Asthma Educators in Connecticut.
- Conduct outreach to insurance providers, clinicians, and DSS/Medicaid to promote benefits of the AE-C role.
- Conduct AE-C survey.

Objective 6: By 2014, produce and disseminate the school nurse asthma training curriculum.

Data Source: CT Train web-based training site

Responsible Parties: CAP, SDE, school nurses, and CAP/AAC evaluation team

Activities:

- Collaborate with Connecticut SDE to identify sites to pilot web-based training.
- Develop an evaluation tool to capture feedback on specific components.
- Promote the School Nurse training curriculum statewide.

Objective 7: By 2014, increase the collaboration from 1 to 3 with the CT DPH chronic disease programs to promote patient education that is aligned with best practice standards of care.

Data Sources: CAP and CCDP activities

Responsible Parties: CAP, CT Medicaid Sub-Committee members, AAC and CCDP programs

Activities:

- Collaborate with chronic disease programs to share tools/documents that promote and educate partners, legislators and clinical staff that patient education is part of comprehensive care.

Goal #3 - Health Systems Change



Support and promote health system policies and practices to improve asthma care.

Objective 1: By 2014, increase from 2 to 5 the number of resources to inform AAC policy efforts.

Data Sources: Peer-reviewed literature, gray literature, white papers, and meeting activities

Responsible Parties: CAP, AAC Advocacy work group, insurance payers, CT DPH Chronic Disease Programs (CCDP), DSS and CCMC Easy Breathing

Activities:

- Disseminate current health systems data to the AAC Advocacy work group members.
- Complete a literature review of evidence-based environmental trigger and exposure assessments that improves asthma control.
- Produce health briefs targeting insurance payers, legislators, and key stakeholders to support system changes.
- Disseminate evidence-based outcome data on reimbursed patient self-management education cost savings.
- Collaborate with other CT DPH chronic disease programs to support proposed certification standards and reimbursement codes for patient education for chronic diseases.
- Promote Medicaid tracking measure of asthma severity to medications prescribed to determine if and how many clinicians are prescribing appropriately.
- Collaborate with CT DPH/DSS Committee regarding Medicaid billable services provided by local health departments.

Objective 2: By 2015, develop a CT DPH legislative proposal to mandate AAP as part of comprehensive care for students.

Data Source: CT DPH CAP legislative proposal

Responsible Parties: CAP, SDE, CT AAP, CT DPH Office of Government Relations, and National Association of School Nurses (NASN)

Activities:

- Conduct an evidence-based AAP school mandate literature review supporting improved health outcomes.
- Collaborate with the SDE and NASN to garner feedback and support for proposal.
- Submit proposal for approval and selection to the CT DPH Commissioner and Connecticut Legislature.
- Monitor legislative progress and comment as appropriate.
- Collaborate with the SDE to outline implementation and evaluation action steps.

Objective 3: By 2014, increase from 1 to 2 policy efforts to decrease exposure to environmental tobacco smoke

Data Sources: Legislative proposals raised and commented on by CT DPH

Responsible Parties: CAP, CT DPH Tobacco Program, MATCH Coalition, and CT DPH Healthy Homes

Activities:

- Collaborate with the Mobilize Against Tobacco for Connecticut's Health (MATCH) Coalition and the Tobacco Prevention and Control Program to support raised legislative proposals that establish smoke-free housing in multi-unit dwellings in Connecticut through the appropriate internal CT DPH process.
- Collaborate with the MATCH Coalition and the Tobacco Prevention and Control Program to expand the Clean Indoor Air Act and propose legislation to ban smoking in both indoor and outdoor public areas.
- Promote adoption of the smoke-free housing policy recommended by Connecticut Healthy Homes as a resource for landlords.

Objective 4: By 2014, increase from 0 to 1 a Healthy Homes legislative proposal to adopt the International Property Maintenance Code to fill gaps in the Connecticut Public Health Code and Connecticut General Statutes to improve housing issues since Connecticut does not have a property maintenance code like other states.

Data Source: Connecticut General Statutes

Responsible Parties: CAP and CT DPH Healthy Homes

Activities:

- Continue participation on the Healthy Homes Systems Change Work Group.
- Conduct a literature review linking health outcomes to living conditions.
- Collaborate with CT DPH Healthy Homes to draft a fact sheet based on literature review and disseminate to all partners.

Objective 5: By 2014, promote from 1 to 3 recommendations for patient education through collaboration with CT DPH CCDP.

Data Sources: CAP and CCDP activities for patient education delivery and reimbursement

Responsible Parties: CAP, DSS, and CCDP

Activities:

- Continue current asthma patient education reimbursement by Certified Asthma Educators dialogue with DSS/Medicaid and other insurance payers.
- Collaborate with CCDP to align and draft patient education policy needs based on asthma work already done.
- Support CCDP programs to engage their partners in systems change that promotes patient self-management education for all chronic diseases.

Objective 6: By 2014, increase efforts from 3 to 7 that support reimbursement of AE-Cs to provide patient education.

Data Sources: AIRS, CT DPH CCDP, AAC Advocacy Workgroup, ARC CMS grant, AE-C network, CT Area Health Education Center (AHEC), ALA training list, School Nurse curriculum access statistics, and DSS/Medicaid claims data

Responsible Parties: CAP, Funded asthma regions, DSS, CCMC and Bridgeport Hospital Easy Breathing Programs, CT local health departments, and Office of Health Reform and Innovation

Activities:

- Monitor and report data outcomes from AIRS home visits referred by DSS/Medicaid.
- Develop an Easy Breathing and Putting on AIRS pilot project that measures patient outcomes between provider adherence to Expert Panel Report 3rd revision (EPR3) guidelines, self-management education and as needed home visits.
- Promote linkages between PCMHs and existing CAP interventions such as Easy Breathing and AIRS.
- Continue to engage DSS/Medicaid to fund an AE-C patient education reimbursement pilot monitored by CAP for cost savings, improved patient outcomes, and return on investment.
- Define at-risk patients that need a home environmental assessment in collaboration with DSS/Medicaid.

- Link DSS/Medicaid and local health departments (LHD) who currently deliver direct community services.
- Participate in discussions with Office of Health Reform and Innovation, Office of State Comptroller, and Health Insurance Exchange on issues related to AE-C and home environmental assessment reimbursement.

Objective 7: Through 2018, continue to support the roles of Community Health Workers in asthma care in Connecticut.

Data Sources: Area Health Education Centers (AHEC) CHW survey and AHEC trainings

Responsible Parties: CAP and AHEC

Activities:

- Support initiatives that are actively engaged in defining the role of CHWs in asthma care.
- Identify and disseminate asthma-related workforce development training opportunities that support CHWs.
- Survey clinical settings for use of CHW.
- Promote use and reimbursement for CHWs in multiple settings.

Objective 8: By 2014, include the six NAEPP identified GIP measures having the most significant impact on asthma care and patient health in all outreach, education and interventions as follows:

- Adopt the use of inhaled corticosteroids for persistent asthma;
- Adopt the use of written Asthma Action Plans;
- Promote provider initial assessment that covers impairment and risk to determine level of therapy;
- Assess level of asthma control at each visit;
- Plan follow-up visits at periodic intervals to assess control and modify treatment as needed; and
- Review exposure to allergens and irritants and provide strategies to reduce exposure.

Data Sources: CAP-AIRS, Easy Breathing, CMS Innovation Grant, CAP outreach and education to providers and insurance payers, and DSS/Medicaid

Responsible Parties: CAP, DSS, funded asthma regions, CCMC and Bridgeport Hospital Easy Breathing Programs, ARC, and CMS Innovation Grant participants

Activities:

- Promote and/or include as appropriate the implementation of all six GIP measures in CAP and CMS Innovation Grant interventions.
- Collaborate with ARC on measures to collect for CMS grant to measure impact.
- Collaborate with Medicaid to define and capture measures that can capture adhere to GIP.

Goal #4 - Communication



Objective 1: By 2014, complete at least 5 initiatives that provide targeted asthma outreach and education.

Data Source: CAP projects

Responsible Parties: CAP, AAC, SDE, CT Schools Indoor Environment Resource Team (CSIERT), funded asthma regions, CT AAP, and CT hospital EDs

Activities:

- Develop communication plans for CAP activities that specify target audiences, messages, and dissemination strategies.
- Collaborate with SDE to provide updates to school nurses and support educational opportunities for school nurses including but not limited to the school nurse web-based curriculum.
- Disseminate in collaboration with CSIERT, appropriate outreach materials to school districts across Connecticut about asthma related to school environments and opportunities available to benefit student and staff respiratory health by improving overall environments.
- Use social media and webinars to conduct outreach and provide education to a variety of audiences.

- Participate in the regional asthma coalition's World Asthma Day and May Asthma Awareness Month activities including hospital grand rounds, legislative breakfasts, radio interviews, press releases, and school activities.
- Collaborate with CT AAP to identify asthma training curricula, templates and educational resources and post on the CT AAP web site in the Resources for Providers Section.
- Revise the Putting on AIRS forms and database to include the Asthma Control assessment and summary of assessment.
- Examine current ED asthma discharge practices and identify gaps concerning discharge instructions, educational resources provided to patients, and use of decision-making software within electronic health records.
- Report ED gap analysis findings and develop and disseminate resources to improve patient outcomes after discharge from the ED.

Objective 2: By 2014, update 3 existing and identify 2 new outreach and/or educational resources.

Data Source: CAP resource inventories/updates

Responsible Parties: CAP, AAC, and funded asthma regions

Activities:

- Biannually, update the Asthma Program website and cross reference and cross link with the chronic disease programs websites.
- Conduct an annual statewide inventory of internal and external asthma interventions and resources for electronic statewide distribution.



Objective 1: By 2013, increase from 2 to 3 the Healthy Homes concepts that can be integrated into home interventions.

Data Source: CAP actions

Responsible Parties: CAP, CT DPH Healthy Homes, LHDs, housing code officials, LAMPP, and funded asthma regions

Activities:

- Coordinate with CT DPH Healthy Homes initiative on integrating Healthy Homes concepts into existing asthma interventions.
- Promote Healthy Homes certification training offered by CT DPH Environmental Health Section to local health department staff and housing code officials.
- Link HUD-funded CT Children’s Medical Center’s LAMPP environmental assessment program with asthma community interventions (e.g. AIRS).

Objective 2: By 2015, increase from 1 to 2 the number of publications developed and/or disseminated that discuss the correlation between health outcomes and living conditions.

Data Sources: BRFSS and CAP intervention data

Responsible Parties: CAP, funded asthma regions, CT DPH Healthy Homes, LAMPP, and ARC's CMS innovation grantees in Connecticut

Activities:

- Support home environmental assessment interventions.
- Collect and analyze home intervention data that address and decrease acute care visits, improved quality-of-life, cost savings and return on investment.
- Conduct a literature review of evidence-based best practices related to linking asthma health outcomes to housing conditions.
- Produce and distribute fact sheets on the impact of unhealthy living conditions to health outcomes.
- Disseminate *“Connecticut Building Standard Guidelines Compliance Manual for High Performance Buildings August 2009”* and *“Guidelines for Alteration, Renovation, or Construction Activities in Occupied Buildings”* through Healthy Homes partners, housing code officials and local health departments.
- Disseminate the US Environmental Protection Agency's 2011 guidance *“Healthy Indoor Environment Protocols for Home Energy Upgrades”* through Healthy Homes partners, housing code officials and local health departments.

Objective 3: By 2014, increase from 0 to 1 outreach efforts to promote school bus anti-idling.

Data Source: CAP actions

Responsible Parties: CAP, DEEP, CSIERT, and SDE

Activities:

- Distribute Connecticut DEEP and Tfs anti-idling campaign resources to school superintendents in collaboration with CSIERT.
- Include the anti-idling law and resources in the school nurse web-based training.

Objective 4: By 2015, analyze asthma, Environmental Public Health Tracking, and Geographical Information System (GIS) linked data to examine the outdoor environmental impact on asthma.

Data Sources: Environmental Public Health Tracking (EPHT) data and CHIME data

Responsible Parties: CAP, CT DPH EPHT Program, Connecticut Coalition for Environmental Justice, CSIERT, and Yale School of Public Health

Activities:

- Collaborate with CT DPH Environmental Public Health Tracking Program to design project.

- Engage Connecticut Coalition for Environmental Justice to provide existing community data on outdoor environmental health impact.
- Identify data sources available for the project.
- Produce and disseminate findings in document format.

Objective 5: By 2013, recruit a minimum of 2 or more new AAC members with environmental and occupational health expertise to provide input, resources and guide interventions in collaboration with CSIERT and CAP Programs.

Data Sources: CAP actions and CT DPH Occupational Health Reports

Responsible Parties: CAP, DEEP, CT DPH Occupational Health Unit, AAC, University of Connecticut Health Center Occupational Health, and Yale Occupational Medicine Program

Activities:

- Identify a representative from DEEP and CT DPH Occupational Health Unit and invite as members on the AAC.
- Obtain DEEP resources and updates for future collaborative projects.
- Engage CT DPH Occupational Health to develop joint projects to increase work-related asthma reporting.

Objective 6: By 2015, increase by 44 and/or 5% from 2012 baseline of 880, the number of schools that adopt maintenance and cleaning practices that reduce exposure to environmental asthma triggers, irritants, and asthmagens.

Data Source: CSIERT

Responsible Parties: CAP, CSIERT, CT Boards of Education, and SDE

Activities:

- Collaborate on the development of the “shiny and smelly does not necessarily mean clean” school maintenance outreach campaign with CSIERT.
- Collaborate with CSIERT to identify and support their priorities for IAQ policies.
- Promote CSIERT’s school indoor air quality, green cleaning and the CT high performance school law campaign to re-engage audiences.
- Promote TfS beginner, advanced and refresher trainings.
- Integrate the National Institute of Occupational Safety and Health’s dampness assessment tool into TfS trainings.
- Collaborate with CSIERT to identify monitoring and reporting efforts by Boards of Education to the State Commissioner of Education on the condition of its facilities and on actions taken to implement its IAQ program every two years per CT General Statutes.
- Include TfS and green cleaning resources in the school nurse web-based curriculum training resource.

Objective 7: By 2016, increase from 0 to 3 the inclusion of outdoor air quality information into existing interventions.

Data Sources: CAP actions/documents

Responsible Parties: CAP, funded asthma regions, CT DPH CCDP, and CT DPH Occupational Health

Activities:

- Include outdoor air quality information in the School Nurse Curriculum addressing the link between poor air quality and asthma symptoms.
- Include air quality educational resources to the Putting on AIRS Program.
- Identify and link community-level efforts for improving air quality to currently funded interventions.
- Identify and disseminate educational resources that support primary, secondary, and tertiary interventions.

Objective 8: By 2014, increase the number of outreach efforts from 3 to 5 that reduce exposure to environmental tobacco smoke.

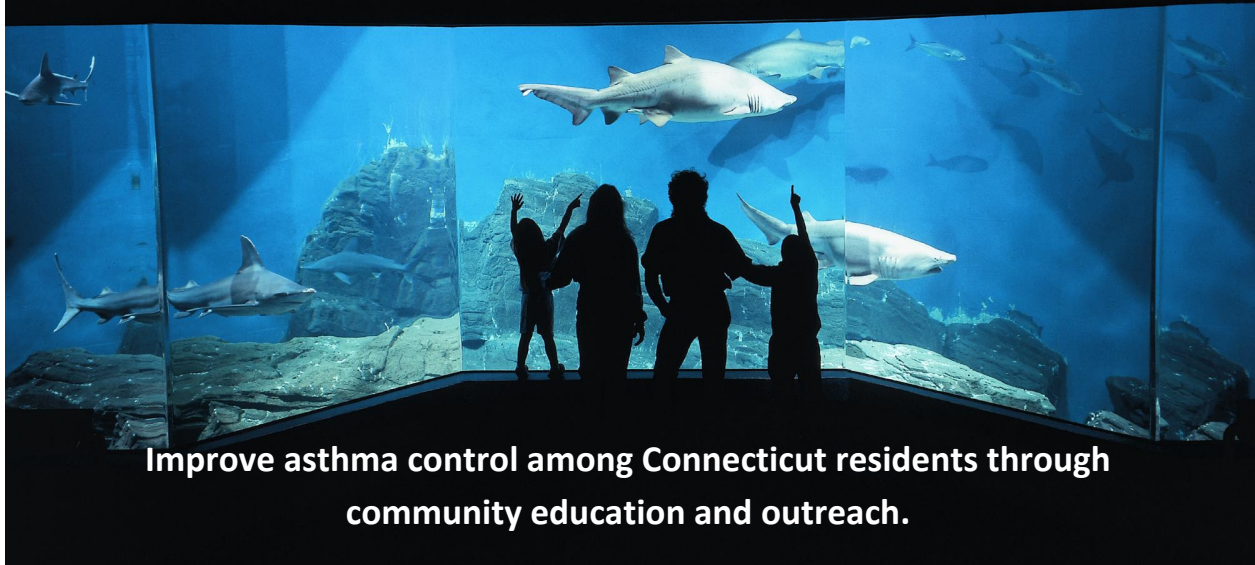
Data Sources: CT DPH Tobacco Request for Proposals (RFPs) and list of resources

Responsible Parties: CAP, CT DPH Tobacco Program, CT DPH Healthy Homes and provider professional associations

Activities:

- Publicize CT DPH Tobacco Control and Cessation Program's funding opportunities for cessation services and funded cessation providers to asthma contractors and partners.
- Circulate Connecticut Medicaid billable Current Procedural Terminology (CPT) codes for cessation services to healthcare providers and professional associations.
- Develop an electronic cessation resource tool kit in collaboration with CT DPH Tobacco Program.
- Disseminate the CT DPH Tobacco Program's *Landlord's Guide to Smoke-Free Housing* booklet to local health departments and Healthy Homes specialists.
- Disseminate environmental tobacco smoke exposure and cessation education resources to clinicians.
- Engage provider professional associations to post resources on their web sites.

Goal #6 - Education and Outreach



Objective 1: By 2013, complete a pilot of the School Nurse Curriculum web-based training.

Data Sources: CAP pilot sites and evaluation results

Responsible Parties: CAP, CT DPH Planning Unit staff, SDE, and school nurses

Activities:

- Upload the curriculum onto the CT TRAIN website and test functionality.
- Draft learning objectives and test questions for the curriculum and CEU application.
- Develop a survey for comments and feedback on the curriculum.

Objective 2: By 2014, increase from 2 to 4 the number of outreach and training opportunities to the professional non-clinical community.

Data Source: CAP actions

Responsible Parties: CAP, CT Coalition for Environmental Justice (CCEJ), CT DPH Genomics Unit, CT DPH Healthy Homes, and CSIERT

Activities:

- Continue funding the CCEJ Asthma Awareness Program to continue their speakers' bureaus and media campaigns in Bridgeport, Hartford and New Haven.
- Collaborate with AHEC to promote the CHW and link interested parties to AHEC for AHEC trainings.

- Collaborate with the CT DPH Genomics Unit to develop training for CHWs in how to gather a complete health history.
- Attend the annual Coordinators of Health and Physical Education and CT Association for Health, Physical Education, Recreation and Dance meetings to disseminate the *Illinois Department of Public Health's Coaches Packet* to teachers and coaches.
- Identify resources for non-clinical school staff for the asthma training module to be added to the school nurse web-based curriculum module.
- Promote CT DPH Healthy Homes certification training to local health departments and housing code officials.

Objective 3: By 2013, reengage and increase from 8 to 15 the number of AAC members that can commit to active participation.

Data Source: AAC membership list

Responsible Parties: CAP, AAC, and CCDP

Activities:

- Redefine the roles and responsibilities of AAC members and CAP.
- Restructure the AAC into an Executive Committee, work group members and ad hoc members.
- Form specific work groups from AAC members tasked with specific projects to implement state plan activities (e.g., a CAP strategic evaluation plan, school nurse curriculum).

Objective 4: By 2013, Identify two, standard measures of intervention outcomes across the New England asthma home-visiting programs and asthma education reimbursement to describe the impact of asthma services across New England states.

Data Source: ARC/NE Asthma Managers documents

Responsible Parties: CAP CDC-funded New England State Asthma Program Managers and ARC/CMS funded pilot's sites

Activities:

- Participate on monthly conference calls with ARC and NE Asthma Managers to inventory existing program activities aligned with best practices.
- Identify and share quality improvement measures being used by each partner state's insurance payers.
- Share ARC/NE Asthma Program Managers' documents developed with payers, legislators and partners.
- Provide collaboration and technical support to CT-funded CMS grantees funded through ARC.



Goal #7 - Evaluation



Evaluate program activities and interventions to inform areas for improvement that will enhance asthma management and control.

Objective 1: By December 2012, re-form the strategic evaluation planning team (SEPT).

Data Source: CAP activity log

Responsible Party: CAP

Activities:

- Define participation requirements of strategic evaluation planning team members.
- Identify partners (i.e., internal and external stakeholders) who can contribute to the evaluation planning process.
- Review key evaluation concepts in *Learning and Growing through Evaluation*.

Objective 2: By May 2013, update the strategic evaluation plan.

Data Source: CAP activity log

Responsible Parties: CAP, AAC, SEP Team members, CCDP and internal and external partners

Activities:

- Review the existing strategic evaluation plan and update objectives based on the revised state asthma plan.
- Identify evaluation projects.

Objective 3: Complete all scheduled evaluation projects by September 2015.

Data Sources: CAP activity log and evaluation project reports

Activities:

- Develop individual evaluation plans.
- Conduct evaluations.
- Report findings.

Objective 4: Communicate regularly with program staff and stakeholders about evaluation activities through September 2015.

Data Sources: CAP activity log and newsletters

Responsible Party: CAP

Activities:

- Distribute quarterly by e-mail *Evaluation Update*, a newsletter that summarizes evaluation activities, findings, and tips.
- Publish newsletters in December, March, June, and September.

Objective 5: Ensure application of evaluation findings to ongoing and future CAP activities through September 2015.

Data Source: CAP activity log

Responsible Parties: CAP, AAC and SEP Team members

Activities:

- Discuss evaluation findings and potential applications with Program Coordinator.
- Monitor how lessons learned from evaluation are applied to CAP activities.

Objective 6: Provide technical assistance with asthma-related evaluation to program staff, the AAC, and Putting on Airs staff through September 2015.

Data Source: CAP activity log

Responsible Parties: CAP, stakeholders to be determined, AIRS staff and AAC

Activities:

- Share information on evaluation learning opportunities with internal and external stakeholders.
- Consult with CAP staff members and stakeholders who are doing surveys, interviews, or other types of clearly defined evaluation activities.

Conclusion

This new Plan is a continuation of program work that includes current and new goals and objectives that will be undertaken over the next five years. This asthma plan belongs to more than just the CAP. It represents the commitment of engaged partners throughout the state to provide resources and complete activities according to an established timeline with measurable objectives to reduce the burden of asthma. The plan's priority focus is populations that bear the highest burden of asthma.

A Strategic Evaluation Plan is currently being revised to better measure success and effectiveness across specific aspects of the CAP. Evaluation efforts will help to focus limited resources in areas where they can have greater impact. Evaluation will quantify effectiveness and reveal intended and unintended outcomes to inform audiences for system and policy change. In conjunction with the evaluation of specific interventions and program activities, practices that inform performance management (e.g., recording meeting minutes, monitoring project timelines) will be incorporated into CAP work activities.

There are current collaborations and linking of interventions between funded asthma interventions that will be strengthened. The Easy Breathing Program and the Putting on AIRS Program are coordinating efforts to establish Easy Breathing referrals from participating providers to reinforce the PCMH Model. AIRS is also leveraging funds with the HUD-funded Lead Action for Medicaid Primary Prevention (LAMPP) Healthy Homes initiative to conduct joint asthma home-based environmental assessments. Meeting the LAMPP criteria for home remediation is an additional incentive for participating in the AIRS Program and the Healthy Homes initiative. A more comprehensive Healthy Homes approach during AIRS patient education visits broadens the environmental assessment and educates the patient beyond asthma triggers. The EPA Tools for Schools Program is promoted through the AIRS Regions to local schools in all outreach and education; school nurses are the AIRS referral source in many of the regions.

The AAC will be one of the driving forces for systems change related to asthma care with several AAC members also involved in the Coordinated Chronic Disease Plan implementation and CTG activities. For the first time, key internal and external program partners are aligned and aware of the work being conducted across programs and can be efficient in addressing chronic disease prevention and control not just for asthma, but for chronic disease overall.

This Plan addresses the needs of Connecticut residents with the highest asthma burden through implementation of interventions focused on: clinical management and professional education; public awareness; patient education; and the environment. Together, the CAP and its partners will work to implement the Plan, monitor progress toward objectives, and evaluate how effective it is at helping Connecticut residents breathe a little easier.



Appendix A: References

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Appendix B: Photographic Credits

Pages v, 12, 18, and 45. Word clouds. Generated at <http://www.tagxedo.com>.

Page 10. Volage, J. (Photographer). "West Wharf." Acquired August 6, 2012.

Page 25. artur84 (Photographer). "Passengers Motion." Retrieved July 31, 2013, from: <http://www.FreeDigitalPhotos.net>.

Page 29. "Man with Inhaler." Retrieved January 15, 2013, from <http://www.FreeDigitalPhotos.net>.

Page 33. Nualpradid, S. (Photographer). "Baby with nebulizer." Retrieved January 15, 2012, from: <http://www.FreeDigitalPhotos.net>.

Page 37. Gregson, R. (Photographer). Untitled. Retrieved August 6, 2012 from: Connecticut Office of Tourism.

Page 39. Martin, C. (Photographer). "Black boy and truck." Retrieved January 15, 2012, from: <http://www.FreeDigitalPhotos.net>.

Page 43. Gregson, R. (Photographer). "Mystic Seaport." Retrieved August 6, 2012 from: Connecticut Office of Tourism.

Page 46. Martin, C. (Photographer). "Black mom and child at playground." Retrieved January 15, 2012, from: <http://www.FreeDigitalPhotos.net>.

Page 47. Gregson, R. (Photographer). "Wadsworth Athenaeum." Retrieved August 6, 2012 from: Connecticut Office of Tourism.

Page 50. Volage, J. (Photographer). "Mill Road barn fall." Acquired August 6, 2012.



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