REDUCING ASTHMA DISPARITIES BY EXPANDING THE AVAILABILITY OF HOME ENVIRONMENTAL INTERVENTIONS

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WHAT IS THE BURDEN OF ASTHMA?

MORE THAN **6 MILLION** children ages 0 to 17 in the United States have asthma.

That's **1 in 12** children.

ASTHMA *in the* **UNITED STATES**
An Important Public Health Challenge

The prevalence among black, non-Hispanic children is **13.4%** COMPARED TO **8.6%** among all children.

Black children have higher rates of emergency department visits and mortality.

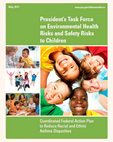
Poor and minority children are disproportionately affected.

POVERTY LEVEL

10.5% of children living below the poverty level have a greater burden of asthma.

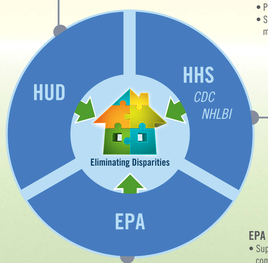
Source: 2014 National Health Interview Survey Data: www.cdc.gov/asthma/nhis/2014/table4-1.htm

THE FEDERAL GOVERNMENT'S ROLE



Federal agencies recognize the need to leverage multiple systems at all levels (national, regional and local) to effectively address asthma disparities and ensure that all children have access to comprehensive asthma care. The **Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities**, released in 2012, is one of the actions the federal government has taken to reduce asthma disparities. The Action Plan, developed by a federal interagency working group under the auspices of the President's Task Force on Environmental Health Risks and Safety Risks to Children, outlines strategies to reduce barriers to implementing guidelines-based asthma care; enhance local capacity to deliver integrated, comprehensive asthma care; improve capacity to identify the children most in need; and accelerate efforts to prevent the onset of asthma.

As part of this effort, the U.S. Department of Housing and Urban Development (HUD) has worked with the Centers for Disease Control and Prevention (CDC), the National Heart, Lung, and Blood Institute (NHLBI), the U.S. Environmental Protection Agency (EPA), and others to **expand access to in-home asthma care services**.



HUD
- Sponsor asthma summits focused on the value of housing interventions in homes of children with poorly controlled asthma
- Support grant programs funding healthy homes interventions
- Promote smoke-free multifamily housing
- Sponsor training on integrated pest management for HUD-assisted multifamily housing providers

CDC
- Lead work to develop standard measures
- Administer National Asthma Control Program for states (focus on coverage & reimbursement)
- Target asthma through 5|18 Initiative
- Partner with American Lung Association to track key elements of guidelin es-based asthma care in Medicaid programs

NHLBI
- Award grants to fund and assess community-based, integrated interventions (home, family, medical care, community)

EPA
- Support AsthmaCommunityNetwork.org, a national network of 1000+ community programs
- Recognize best practice approaches through the National Environmental Leadership Awards in Asthma Management for community programs, health care providers and health plans
- Provide technical assistance to support communities and health payers with sustainable financing through cooperative agreements with the National Center for Healthy Housing and America's Health Insurance Plans
- Sponsor asthma summits

IN-HOME INTERVENTIONS WORK

The National Asthma Education and Prevention Program (NAEPP) Guidelines for the Management of Asthma cite four key components of comprehensive asthma care:

- Patient assessment and monitoring
- **Asthma self-management and education**
- **Environmental trigger reduction**
- Pharmacologic response

Of the four components of comprehensive care identified in the NAEPP Guidelines, neither **asthma self-management and education** nor **environmental trigger reduction** is consistently and effectively provided to people with asthma and their caregivers, and neither is typically covered by insurance. However, to reduce exposures that worsen asthma, in-home interventions are recommended as the most effective way to address these components.

The Guide to Community Preventive Services reports strong evidence that combining minor to moderate environmental remediation with an educational component provides good value for the money invested.[1] Individuals had—

- 21 fewer symptom-days per year
- 12 fewer school days missed annually
- A median decrease of 0.57 acute health care visits per year

Cost-benefit studies indicated that for every dollar spent on the intervention, the monetary value of the resulting benefits, such as averted medical costs or averted productivity losses, was $5.30–$14.00. The primary factors affecting program cost were—

- Level of intensity of environmental remediation
- Type of educational component (environmental or self-management)
- Professional status of and frequency of visits by the home visitor

EFFECTIVE INTERVENTIONS

Home-Based
- Includes at least one home visit by trained personnel to improve the home environment
- Examples: community health workers, clinicians, health care providers

Multi-Component
- Includes at least two components, including at least one environmental component
- Activities may include asthma-related education, self-management training, environmental assessment and remediation, social services, coordinated care

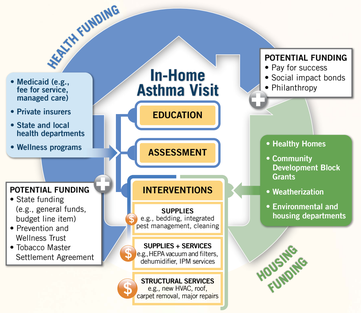
Multi-Trigger
- Targets two or more potential asthma triggers, including mice, cockroaches, dust mites, excess moisture and mold, household pets, tobacco smoke

[1]www.thecommunityguide.org/findings/asthma-home-based-multi-trigger-multicomponent-environmental-interventions-children-and

WHY FUND IN-HOME INTERVENTIONS AND HOW?

Research demonstrates that the health status of children with poorly controlled asthma symptoms can improve after respiratory health hazards in their homes are identified and corrected and in-home education on asthma management is provided. Unfortunately, multiple factors hinder action to provide such services, including the lack of established infrastructure (e.g., finance systems, service delivery components), awareness of the need, and collaboration among community members and agencies.

As a result, asthma program leaders pursue financing from Medicaid and private health insurers in addition to housing program funding and other sources to cover the costs of the full spectrum of in-home asthma care. This approach often is referred to as "**braided funding.**"

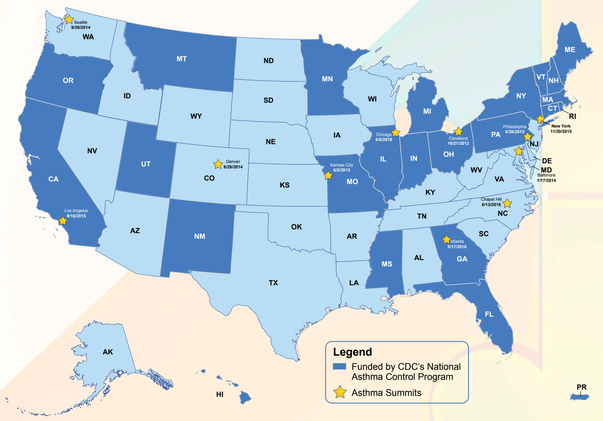


www.AsthmaCommunityNetwork.org/financing

The **business case** for health care systems in the United States to reduce asthma's toll on the lives of people with asthma and on the balance sheet is clear—improved asthma control and reduced need for urgent care, and a positive return on every dollar invested. Enhanced asthma management will be most effective when quality clinical care is supported by asthma education and the availability of and versatile funding for home-based services and supplies needed for mitigating environmental triggers in the home.

The Financing In-Home Asthma Care microsite within AsthmaCommunityNetwork.org focuses on delivering and paying for in-home asthma care to improve outcomes for children with poorly controlled asthma. This site explores new opportunities for financing created by health care policy changes and provides information on the work required to deliver effective and sustainable in-home asthma care.

ASTHMA SUMMITS: PROMOTING ACCESS AND SUSTAINABLE FINANCING



Asthma Summit Outcomes

Asthma summits, supported by HUD, EPA and CDC, have—

- Catalyzed action in the communities where they were held.
- Provided a platform for managed care organization representatives to explain to other insurers and Medicaid officials the business case for reimbursing for these policies (i.e., reduced costs and improved client health).
- Brought diverse community leaders together to create multidisciplinary interest groups that continue to pursue the summits' objectives following the meetings.

Kansas City, MO—The Kansas City summit was instrumental in creating momentum that ultimately led to the passage of state legislation that will cover the cost of home assessments and in-home asthma education in the homes of Medicaid-covered children with poorly controlled asthma. Under the bill, doctors can write a referral for two home visits with an asthma educator and two home assessments each calendar year.

Denver, CO—The Denver summit was successful in forging new relationships between several asthma programs and local environmental/health departments with capacity to do home assessments. Local advocates are continuing a dialogue on the issue with state Medicaid, and two pilot studies are underway conducting home assessments through state-funded grant programs.

Philadelphia, PA—Following the Philadelphia summit, the Philadelphia-based Health Care Improvement Foundation, with support from the Centers for Medicare & Medicaid Services (CMS), has formed an Accountable Health Communities model called the Southeastern Pennsylvania Community Health Collaborative, which consists of seven hospital systems and other public and private stakeholders. The Collaborative is creating a common Community Health Needs Assessment and Implementation Plan, with in-home asthma interventions as one of the components under consideration.

Los Angeles, CA—The core group that coalesced following the Los Angeles summit completed an inventory of California programs that provide in-home asthma education and interventions. They have met with state Medicaid (i.e., MediCal) representatives to discuss reimbursement in California and have drafted a State Plan Amendment for MediCal approval and submission to CMS.

Northwest Tribal Summit—Following this summit in Seattle, the Associated Tribes of Northwest Indians (ATNI) passed a resolution in 2015 to support the Summit's goals by advocating at the state level for reimbursement flexibility for non-clinical in-home asthma care in tribal communities. In 2016, the partnership began providing technical support to the Seattle Indian Health Board seeking to create a CHW-led in-home asthma visiting program.

Materials from summits are posted on EPA's Asthma Community Network website:
www.AsthmaCommunityNetwork.org/resources/conferences.

CASE STUDIES: IN-HOME ASTHMA CARE SERVICES IN ACTION

ASTHMA CAREPARTNERS PROGRAM, A PARTNERSHIP WITH FAMILY HEALTH NETWORK AND SINAI URBAN HEALTH INSTITUTE

Background

Since 2000, the Sinai Urban Health Institute (SUHI) and Sinai Children's Hospital (SCH) have partnered to reduce the burden of asthma on vulnerable Chicago communities. Utilizing community health workers (CHWs), or members of the community trained to deliver one-on-one asthma education and environmental trigger reduction counseling to families in their homes, the initiatives have focused on decreasing asthma-related morbidity and improving participants' quality of life. The cumulative experiences and lessons learned through this partnership resulted in the development of the Asthma CarePartners Program, a unique platform for addressing medical, social and environmental factors of asthma with coverage for services through Family Health Network, a not-for-profit health plan serving the Medicaid population.

Program Components

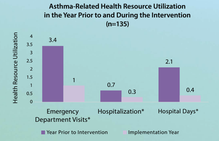
Visiting families in their home environment is more conducive to learning since participants are more comfortable and likely to ask questions. CHWs are able to observe the home environment and help to identify and address triggers, including mold, rodents, cockroaches and dust.

- CHWs make six visits during the 12-month intervention and conduct followup phone calls on non-visit months.
- Visits include asthma education, home environmental assessments, medical device training, and development and teaching of an Asthma Action Plan (AAP).
- ACT (Asthma Control Test) is administered monthly.
- Referrals for complex cases are available through an established partnership with Metropolitan Tenants Organization, a tenants' rights group.
- The program provides Healthy Home resources, such as asthma-friendly cleaning kits and supplies to control pests, dust mites, mold and other issues in the home.

Results

Results of the Asthma CarePartners Program are significant. Across program enrollees included in a 2016 evaluation, there was a statistically significant improvement in health care utilization, depicted in this figure in the year prior to and during implementation of the program. The program also shows significant improvement in symptom frequency and quality-of-life indicators at 6 and 12 months for adults and caregivers. This translates to cost savings and provides an incentive for continued investment by the health plan, Family Health Network. SUHI received EPA's National Environmental Leadership Award in Asthma Management in 2010.

Asthma-Related Health Resource Utilization in the Year Prior to and During the Intervention (n=135)



*Statistically significant difference ($p < 0.05$) found using Wilcoxon signed-rank non-parametric test.

Source: Presentation at North Carolina Forum on Sustainable In-Home Asthma Management, September 13, 2016.

For More Information

www.sinai.org/content/suhi-project-asthma-carepartners-program-current-phase

MULTNOMAH COUNTY (OR) HEALTH DEPARTMENT'S ENVIRONMENTAL HEALTH SERVICES

Background

A 2014 National Environmental Leadership Award in Asthma Management winner, Multnomah County (Oregon) has two successful asthma prevention programs that began as HUD-funded Healthy Homes demonstration projects. With data gathered from these programs demonstrating the effectiveness of in-home interventions and the return on investment, the county developed a business case for targeted environmental interventions for children with poorly controlled asthma. The County advocated for Oregon to receive approval from the Center for Medicare & Medicaid Services (CMS) to provide Medicaid reimbursement for targeted case management (TCM) for children with asthma. Oregon submitted and was granted a State Plan Amendment (SPA), which requested a waiver of certain federal requirements to enable reimbursement for community health workers (CHWs).

Program Components

Multnomah County's program performs "moderate environmental remediation" under the Community Guide definition, which states that activities may include providing and fitting mattresses and pillows with allergen-impermeable covers, installing small air filters and dehumidifiers, implementing integrated pest management, using professional cleaning services or equipment, and completing minor repairs for structural integrity.

- A multidisciplinary team, including a case manager (registered nurse, registered environmental health specialist or certified asthma educator) and a certified CHW, conduct home visits.
- Visits include environmental education and behavioral intervention, as well as supplies, such as vacuum cleaners, green cleaning kits and encasements.
- Referrals are made to community partners who assist with weatherization, minor repairs, structural integrity or relocation.
- CHWs use tablet computers during visits to record information, which is reviewed by the county health department and used for referrals.

Services are provided to Medicaid-eligible children in Multnomah and Klamath Counties who have poorly controlled asthma or environmentally induced respiratory distress. Case managers must meet minimum requirements per the approved SPA.

Evaluation Results

Evaluation of the in-home asthma interventions demonstrated—

- Reductions in emergency department visits and hospitalizations;
- Reductions in environmental asthma triggers; and
- Improved Asthma Control Test (ACT) scores.

Source: www.asthmacommunitynetwork.org/node/13910

For More Information

www.asthmacommunitynetwork.org/sites/default/files/TIERNEY_SecuringSustainableFundingForAsthmaHomeVisits-GreatLakes.pdf

The Multnomah County Environmental Health Policy Toolkit (multco.us/file/28498/download) offers advice for county governments and others seeking to secure Medicaid reimbursement and changes in housing code.