

# EXHALE Guide for Managed Care Leaders and Staff

Strategies to Help People with Asthma Achieve Better Health

The Centers for Disease Control and Prevention's (CDC's) National Asthma Control Program created this Guide to assist managed care leaders and staff in using CDC's EXHALE strategies to help people with asthma achieve better health outcomes.

## EXHALE

- Is a set of six strategies that each contribute to better asthma control.
- Can help both children and adults with asthma.
- Can have the greatest impact when multiple strategies are used together.

This Guide explains how managed care leaders and staff can use EXHALE strategies, individually or in combination, to help people with asthma achieve better health outcomes. Every person with asthma does not necessarily need every strategy.

Managed care leaders and staff have the power to increase the availability and quality of preventive care for people with asthma. Managed care leaders and staff can engage partners with the shared goal of improving the health of children and adults with asthma.



Centers for Disease  
Control and Prevention  
National Center for  
Environmental Health

# Welcome to EXHALE

CDC's National Asthma Control Program (NACP) and its partners help Americans with asthma achieve better health and improved quality of life. NACP developed EXHALE, a set of six strategies that each contribute to better asthma control.

## EXHALE strategies can improve health

EXHALE is evidence-based and can be cost-effective.

Each EXHALE strategy has reduced asthma-related hospitalizations, emergency department (ED) visits, and healthcare costs.



Managed care leaders and staff can use EXHALE to help people with asthma achieve better health

## What are the EXHALE strategies?



# EXHALE

### Education

on asthma self-management

### X-tinguishing

smoking and exposure to secondhand smoke

### Home

visits for trigger reduction and asthma self-management education

### Achievement

of guidelines-based medical management

### Linkages

and coordination of care across settings

### Environmental

policies or best practices to reduce asthma triggers from indoor, outdoor, or occupational sources

# The Role of Managed Care Leaders and Staff in Asthma Control

Managing a chronic condition like asthma can be affected by educational, environmental, behavioral, and social factors. Each person with asthma has a unique set of triggers that can cause them to experience symptoms.

Managed care leaders and staff can implement quality improvement interventions to improve the health of people with asthma. By using EXHALE, managed care leaders and staff can help children and adults with asthma take their prescribed asthma medications and avoid asthma-related hospitalizations and ED visits.

This Guide will explain how managed care leaders and staff can implement EXHALE-related interventions to improve the health of people with asthma.



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## Other EXHALE Guides are available for:

- Healthcare professionals.
- Healthcare system executive leaders.
- Medicaid and Children’s Health Insurance Program leaders.
- Public health professionals.
- People with asthma, their families, and their caregivers.
- Schools.

These Guides are available at:  
<https://www.cdc.gov/asthma/exhale/>

# How EXHALE Can Help Managed Care Leaders and Staff

Managed care leaders and staff have an important role in improving the health of people with asthma. EXHALE can help.

## How can EXHALE improve healthcare quality?

- **Reduce asthma-related hospitalizations and ED visits:** Each EXHALE strategy has reduced asthma-related hospitalizations and ED visits.
- **Improve asthma medication adherence:** Each EXHALE strategy has increased controller medication use and decreased rescue medication use, except for environmental policies or best practices to reduce asthma triggers from indoor, outdoor, or occupational sources.

*Using multiple EXHALE strategies together in every community can achieve the greatest impact.*

## How can EXHALE be used if resources are limited?

- **Analyzing claims data can help focus resources** by identifying people who can benefit from EXHALE. Examples are provided throughout this document.
- **Not every person with asthma will need every EXHALE strategy.** More resource-intensive services (such as home visits) can be focused on people at higher risk of asthma attacks.
- **Each EXHALE strategy has shown a positive return on investment,** by reducing asthma-related hospitalizations and ED visits.

## Asthma is common, costly, and controllable

- About 25 million Americans have asthma (1 in 13 Americans).<sup>1</sup>
- About 1.7 million ED visits and 189,000 hospitalizations are caused by asthma each year.<sup>1</sup>
- U.S. costs for asthma are over \$82 billion annually.<sup>2</sup>

ED visits, hospitalizations, and healthcare costs for asthma can be reduced with asthma control. **EXHALE can help.**

<sup>1</sup>CDC, Most Recent Asthma Data.  
[https://www.cdc.gov/asthma/most\\_recent\\_data.htm](https://www.cdc.gov/asthma/most_recent_data.htm).

<sup>2</sup>Nurmagambetov T, et al. "State-level medical and absenteeism cost of asthma in the United States." J Asthma. 2017.

# Examples of How Managed Care Leaders and Staff Can Use EXHALE

## **E**ducation on asthma self-management

Asthma self-management education (AS-ME) includes educating people with asthma and their families about how to use asthma medications correctly and how to reduce exposures to asthma triggers (such as cockroaches and mold).

Managed care leaders and staff can analyze claims data to identify people who could benefit from AS-ME (such as people with frequent rescue medication refills, ED visits, or hospitalizations for asthma) and:

- Refer people with asthma, their families, and their caregivers to existing AS-ME programs.
- Provide AS-ME through trained internal staff (such as certified asthma educators and community health workers).

Asthma programs in health departments can help people who want AS-ME or want to be trained in delivering AS-ME – their contact information is available at <https://www.cdc.gov/asthma/contacts>.

## **X**-tinguishing smoking and exposure to secondhand smoke

Cigarette smoke can trigger asthma attacks that require hospital or ED care. About 20% of U.S. adults with asthma smoke cigarettes.<sup>1</sup>

Managed care leaders and staff can:

- Conduct quality improvement activities that analyze claims data, identify people with asthma who smoke, and connect them to evidence-based cessation treatments, including cessation counseling (individual, group, or telephone-based) and cessation medications approved by the U.S. Food and Drug Administration.
- Increase availability, reduce barriers, and raise awareness of covered tobacco cessation treatments among their members and healthcare professionals.
- Encourage smokefree policies, which can support tobacco cessation and reduce exposure to secondhand smoke. More information is available in the section [Environmental policies or best practices to reduce asthma triggers from indoor, outdoor, or occupational sources](#).

<sup>1</sup>CDC, Percentage of People with Asthma who Smoke.  
[https://www.cdc.gov/asthma/asthma\\_stats/people\\_who\\_smoke.htm](https://www.cdc.gov/asthma/asthma_stats/people_who_smoke.htm).



# Examples of How Managed Care Leaders and Staff Can Use EXHALE (continued)

## Home visits for trigger reduction and asthma self-management education

Home visit programs can serve as care management programs for people at high risk for asthma attacks. Home visit staff can assess homes for triggers of asthma attacks (such as pests and mold), as well as provide AS-ME to reduce asthma triggers and improve medication adherence.

Managed care leaders and staff can analyze claims data to identify people who could benefit from home visits for asthma (such as people with frequent ED visits or hospitalizations for asthma) and:

- Refer people with asthma, their families, and their caregivers to existing home visit programs.
- Provide home visits through trained internal staff, using the [Home Characteristics and Asthma Triggers Checklist for Home Visitors \(English version\)](#) created by the CDC, the U.S. Environmental Protection Agency, and the U.S. Department of Housing and Urban Development (Spanish version [here](#); standardized home visit training in English [here](#)).

Asthma programs in health departments can help people who want a home visit for asthma or want to be trained in delivering home visits for asthma. Their contact information is available at <https://www.cdc.gov/asthma/contacts>.

## Achievement of guidelines-based medical management

Guidelines-recommended asthma medications can prevent hospitalizations and ED visits for asthma, but often these medications are not prescribed or taken appropriately.

Managed care leaders and staff can:

- Analyze claims data to identify asthma medication purchases that do not appear guidelines-based, and then consider one or more of the following interventions:
  - Notify the prescribing healthcare professionals.
  - Deliver AS-ME to the affected individuals with asthma (AS-ME has been proven to increase adherence to asthma medication).
  - Assess and address barriers to medication adherence among the affected individuals with asthma.
- Reduce barriers to using spacers with asthma inhaler medication – for example, by allowing people to obtain multiple spacers within one year (when prescribed) for use in various settings (for example, school or home) without a prior authorization process.



# Examples of How Managed Care Leaders and Staff Can Use EXHALE (continued)

## **L**inkages and coordination of care across settings

Coordinated care includes linking people to needed healthcare and social services. Numerous health insurance plans have helped people with asthma and reduced healthcare costs by using trained staff (such as case managers and community health workers) or contracts with community organizations to coordinate care for people with asthma.

Managed care leaders and staff can:

- Develop or strengthen partnerships with health departments, healthcare organizations, and schools to facilitate coordinated care for people with asthma and build synergy.
- Inform and help people with asthma, their families, and their caregivers register for local support services (such as transportation to medical appointments).



## **E**nvironmental policies or best practices to reduce asthma triggers from indoor, outdoor, or occupational sources

Managed care leaders and staff can inform partners about successful policies or practices that help people with asthma, including:

- [Home weatherization assistance programs](#) that provide loans or grants to low-income residents to repair or improve their homes, which can reduce asthma triggers in their homes (such as pests and mold).
- Smokefree policies, including:
  - Comprehensive smokefree policies that prohibit smoking in all indoor spaces of workplaces, restaurants, bars, and public and private multi-unit housing (including apartment buildings).
  - Smokefree rules that prohibit smoking in homes and vehicles.
- Modifying older diesel engines of school buses to run more cleanly to reduce air pollution.
- Eliminating, when possible, or reducing exposure to asthma triggers in the workplace.



# What EXHALE in Action Can Look Like: An Example

Health Care Service Corporation (HCSC) operates through Blue Cross Blue Shield® Plans in Illinois, Montana, New Mexico, Oklahoma, and Texas. HCSC has partnered with the American Lung Association of the Upper Midwest (ALAUM) to help children with asthma and their families in these five states.

HCSC analyzes its own medical claims data to identify outpatient clinics serving many people at high risk of asthma attacks. ALAUM invites these clinics to take part in a year-long learning collaborative and quality improvement program. Also, ALAUM provides home visits to children with poorly controlled asthma to deliver asthma self-management education and reduce exposure to asthma triggers.

This partnership has increased asthma controller medication use and decreased ED visits and hospitalizations for asthma. It has also realized a positive return on investment of \$2.40 per \$1 invested. HCSC's efforts were recognized in 2017 with a [National Environmental Leadership Award in Asthma Management](#) from the U.S. Environmental Protection Agency (EPA).

More information about this partnership is available at:

- [National Environmental Leadership Award in Asthma Management](#).
- [Rojanasarot S, et al., Enhancing guideline-based asthma care processes through a multi-state, multi-center quality improvement program, J Asthma, 2019.](#)
- [HCSC Healthy Kids, Healthy Families® Programs' 2017 Community Partner Listing](#).

Additional examples of EXHALE-related activities conducted by managed care organizations are available at:

- EPA's [National Environmental Leadership Award in Asthma Management](#).
- EPA's [A Systems-Based Approach for Creating and Sustaining Effective Community-Based Asthma Programs: Snapshot of Ten High-Performing Asthma Management Programs](#).
- America's Health Insurance Plans' [Next Generation Asthma Care: Integrating Clinical and Environmental Strategies to Improve Asthma Outcomes](#).

## Public health asthma control programs can be partners in using EXHALE

Some state, territorial, and local health departments have asthma control programs. These programs can support managed care organizations. For example, they may:

- Provide information on how asthma affects a state or community, how EXHALE can help a particular state or community, and how EXHALE-related activities can be carried out.
- Connect people with asthma to existing EXHALE-related programs, such as AS-ME or home visits for asthma.
- Convene partners to work together to help people with asthma.

Contact information for some state, territorial, and local asthma control programs in health departments is available at <https://www.cdc.gov/asthma/contacts>.

Health department programs and services vary. You can contact your state, territorial, or local health department to learn more about potential partnership opportunities to help people with asthma.

# Frequently Asked Questions

## Which AS-ME can people with asthma, their families, and their caregivers access online?

Examples of Online AS-ME for Patients with Asthma, Their Families, and Their Caregivers			
Name (Source)	Intended Audience	Language(s)	How to Access
<a href="#">Asthma Basics</a> (ALA)	Adults and children with asthma, their families, and their caregivers.	English, Spanish	Go to website (use hyperlink)
<a href="#">Asthma Care for Adults</a> (AAFA)	Adults with asthma and their caregivers.	English, Spanish	Go to website (use hyperlink)

AAFA, Asthma and Allergy Foundation of America; ALA, American Lung Association.

## Which resources can help managed care leaders and staff and others deliver home visits for asthma?

Examples of Resources That Can Help Managed Care Leaders, Staff, and Others Deliver AS-ME			
Name (Source)	Intended Audience	Language(s)	How to Access
<a href="#">Asthma Basics</a> (ALA)	School nurses, CHWs, and others who teach adults and children with asthma, their families, and caregivers.	English, Spanish	Go to website (use hyperlink)
<a href="#">Asthma Basics for Children</a> (AAFA)	Healthcare professionals who teach parents and teachers of young children with asthma.	English, Spanish	Go to website (use hyperlink)
<a href="#">Asthma Education for the Community Health Worker</a> (AAE)	CHWs who teach people with asthma and their families.	English	Go to website (use hyperlink)
<a href="#">Breathe Well, Live Well Training for Educators</a> (ALA)	Healthcare professionals, health educators, or CHWs who teach adults with asthma.	English	See note*
<a href="#">Kickin' Asthma</a> (ALA)	School personnel and others who teach children with asthma aged 11–16 years.	English	See note*
<a href="#">Open Airways for Schools</a> (ALA)	School personnel and others who teach children with asthma aged 8–11 years.	English, Spanish	See note*
<a href="#">Wee Breathers</a> (AAFA)	Healthcare professionals who teach parents of young children with asthma.	English, Spanish	Go to website (use hyperlink)
<a href="#">You Can Control Asthma</a> (AAFA)	Healthcare professionals who teach school-age children with asthma and their families.	English, Spanish	Go to website (use hyperlink)

\*Contact the American Lung Association at 1-800-586-4872 to access training and program materials. Kickin' Asthma and Open Airways for Schools are designed to be delivered as group AS-ME.

AAE, Association of Asthma Educators; AAFA, Asthma and Allergy Foundation of America; ALA, American Lung Association; CHW, community health worker.

Notes about this page: The information on this page is current as of August 2020. More information on some of these tools and other AS-ME tools is available at the Agency for Healthcare Research and Quality [Technical Brief on AS-ME packages](#).

## Frequently Asked Questions (continued)

### Which resources can help healthcare professionals and others deliver AS-ME? (continued)

The [National Asthma Educator Certification Board](#) is a voluntary testing program used to assess knowledge in asthma education. Certified asthma educators are typically licensed healthcare professionals (such as nurses or respiratory therapists) who obtain this certification, but others (such as community health workers) can also become certified if they have at least 1,000 hours of relevant experience and pass this test.

### Which medical billing codes have been used for AS-ME?

AS-ME: Medical Billing Code Examples	
Code	Brief Description
94664 (CPT)	Demonstration and evaluation of patient utilization of an aerosol generator, nebulizer, metered dose inhaler, or intermittent positive pressure breathing device.
98960 (CPT)	Education and training for patient self-management.
99401–99404 (CPT)	Preventive medicine counseling (individual).
99411–99412 (CPT)	Preventive medicine counseling (group).
99605–99607 (CPT)	Medication therapy management service(s) provided by a pharmacist.
S9441 (HCPCS)	Asthma education.

CPT, Current Procedural Terminology code; HCPCS, Healthcare Common Procedure Coding System code.

Reimbursement for these codes is not guaranteed. Some health insurance plans have reimbursed one or more of these codes. Documents describing use of medical billing codes for AS-ME have been identified from [California](#) and [Missouri](#). Links to medical billing codes for tobacco screening and cessation can be found on page 12 of this [document](#).

### Which medical billing codes have been used for home visits for asthma?

Home Visits for Asthma: Medical Billing Code Examples	
Code	Brief Description
95199 (CPT)	Unlisted allergy/clinical immunologic service or procedure.
G0299 (HCPCS)	Direct skilled nursing services in the home health or hospice setting.
S0315 (HCPCS)	Disease management program, initial assessment, and initiation of program.
S0316 (HCPCS)	Disease management program, follow-up/reassessment.
S8097 (HCPCS)	Asthma kit, including portable peak expiratory flow meter, instructional video, brochure, and spacer.
S9441 (HCPCS)	Asthma education.
T1017 (HCPCS)	Targeted case management.
T1028 (HCPCS)	Home environment assessment.

CPT, Current Procedural Terminology code; HCPCS, Healthcare Common Procedure Coding System code.

Reimbursement for these codes is not guaranteed. Some health insurance plans have reimbursed one or more of these codes. Documents describing use of medical billing codes for home visits have been identified from [Michigan](#) and [Missouri](#). Links to medical billing codes for tobacco screening and cessation can be found on page 12 of this [document](#).

# How Program Evaluation Can Help with EXHALE

Program evaluation can show how well EXHALE-related efforts help people with asthma and how these efforts can be improved. Managed care leaders and staff may be asked to participate in program evaluation conducted by the health department, or might opt to carry out evaluations on their own.

## Examples of questions that managed care leaders and staff can use for program evaluation include:

- Are people with asthma aware of and receiving the AS-ME and referrals they need to prevent asthma attacks?
- What barriers are healthcare professionals encountering in prescribing guidelines-based care to people with asthma?
- Is asthma care coordinated across healthcare organizations, schools, the health department, and other entities? What gaps exist?

Evaluation is a learning process that can be integrated into routine practices. Good evaluations are systematic, follow a standard framework (for example, the [CDC Framework for Program Evaluation in Public Health](#)), and involve the people who are working with or served by the program. More information and resources on program evaluation can be found at [https://www.cdc.gov/asthma/program\\_eval/default.htm](https://www.cdc.gov/asthma/program_eval/default.htm).

## EXHALE can address social determinants of health

Multiple EXHALE strategies can improve conditions in the places where people live, work, learn, play, and spend time.

For example:

- Strategies addressing asthma triggers (such as [Home visits for trigger reduction and asthma self-management education](#) and [Environmental policies or best practices to reduce asthma triggers from indoor, outdoor, or occupational sources](#)) can improve conditions in homes, schools, workplaces, and other settings.
- The strategy [Linkages and coordination of care across settings](#) includes connecting people with asthma to local support services that can improve housing conditions and reduce asthma triggers, such as [home weatherization assistance programs](#).



# Selected Resources Related to EXHALE

## Resources related to multiple EXHALE strategies:

- CDC's [EXHALE: A Technical Package to Control Asthma](#), which describes EXHALE and the supporting evidence in detail.
- CDC's [National Asthma Control Program Evaluation Resources](#), which has guidance on evaluating asthma programs.
- CDC's [6|18 Initiative: Control Asthma](#), which describes how CDC has worked with healthcare partners to improve health and control healthcare costs among people with asthma.
- CDC's [Tools for Asthma Control](#), which includes printable, electronic, and computer-based asthma action plans.
- American Lung Association's [Create an Asthma Action Plan](#), which includes English and Spanish asthma action plans.
- American Lung Association's [Asthma Guidelines-Based Care Coverage Project](#), which includes data on Medicaid coverage of asthma care [by jurisdiction](#) for all 50 states, the District of Columbia, and Puerto Rico.
- Center for Health Care Strategies' [Improving Asthma Care for Children: Best Practices in Medicaid Managed Care](#).
- Asthma & Allergy Foundation of America, St. Louis Chapter's [Subcontractor Provider Agreement](#), which includes contract language regarding the delivery of AS-ME and home environmental assessments.

## E ducation on asthma self-management

- American Lung Association's [Medicaid Coverage of Asthma Self-Management Education: A Ten-State Analysis of Services, Providers, and Settings](#).
- Agency for Healthcare Research and Quality's [Technical Brief on AS-ME packages](#), which describes the features of and evidence for some available AS-ME trainings.

## X -tinguishing smoking and exposure to secondhand smoke

- CDC's [6|18 Initiative: Reduce Tobacco Use](#).
- State Medicaid Coverage for Tobacco Cessation Treatments and Barriers to Accessing Treatments – United States, 2008–2018. DiGiulio A, Jump Z, Yu A, et al. MMWR Morb Mortal Wkly Rep 2020;69;155–160. DOI: <https://www.cdc.gov/mmwr/volumes/69/wr/mm6906a2.htm>.
- The [Million Hearts® Tobacco Cessation Change Package](#) has many tools and resources for clinical care.

\* Smokefree policies can support tobacco cessation and reduce exposure to secondhand smoke. Related resources are available under [Environmental policies or best practices to reduce asthma triggers from indoor, outdoor, or occupational sources](#).

## Selected Resources Related to EXHALE (continued)

### Home visits for trigger reduction and asthma self-management education

- [Home Characteristics and Asthma Triggers Checklist for Home Visitors \(English version\)](#) created by the CDC, the U.S. Environmental Protection Agency, and the U.S. Department of Housing and Urban Development (Spanish version [here](#); standardized home visit training in English [here](#)).
- CDC's [Strategies for Addressing Asthma in Homes](#), which includes core elements of home visits for asthma.
- National Center for Healthy Housing's [e-Learning: Building Systems to Sustain Home-Based Asthma Services](#), which includes free trainings and tools to build sustainable systems for home visits for asthma (registration required).

### Achievement of guidelines-based medical management

- National Asthma Education and Prevention Program's [Guidelines for the Diagnosis and Management of Asthma \(EPR-3\)](#).
- Center for Health Care Strategies' [Return on Investment Forecasting Calculator for Quality Improvement Initiatives](#).

### Linkages and coordination of care across settings

- National Association of State Boards of Education's [How Schools Work and How to Work with Schools](#), which includes practical steps for working with schools.
- American Academy of Pediatrics' [National Resource Center for Patient/Family-Centered Medical Home](#), which includes state-specific information on medical home initiatives and partners.
- Center for Health Care Strategies' [Return on Investment Forecasting Calculator for Health Homes and Medical Homes](#).
- [Neighborhood Navigator](#), an interactive tool that identifies community resources by zip code. Neighborhood Navigator is available through the American Academy of Family Physicians' The EveryONE Project®.

### Environmental policies or best practices to reduce asthma triggers from indoor, outdoor, or occupational sources

- CDC's [Health Impact in 5 Years Initiative](#), which includes [home weatherization assistance programs](#), [clean diesel bus fleets](#), and [comprehensive smokefree policies](#).
- CDC's National Institute for Occupational Safety and Health website on [work-related asthma](#).

**For more information, visit:**

<https://www.cdc.gov/asthma/exhale/>