

# ASTHMA TOOLKIT

Northwest Portland Area Indian Health Board

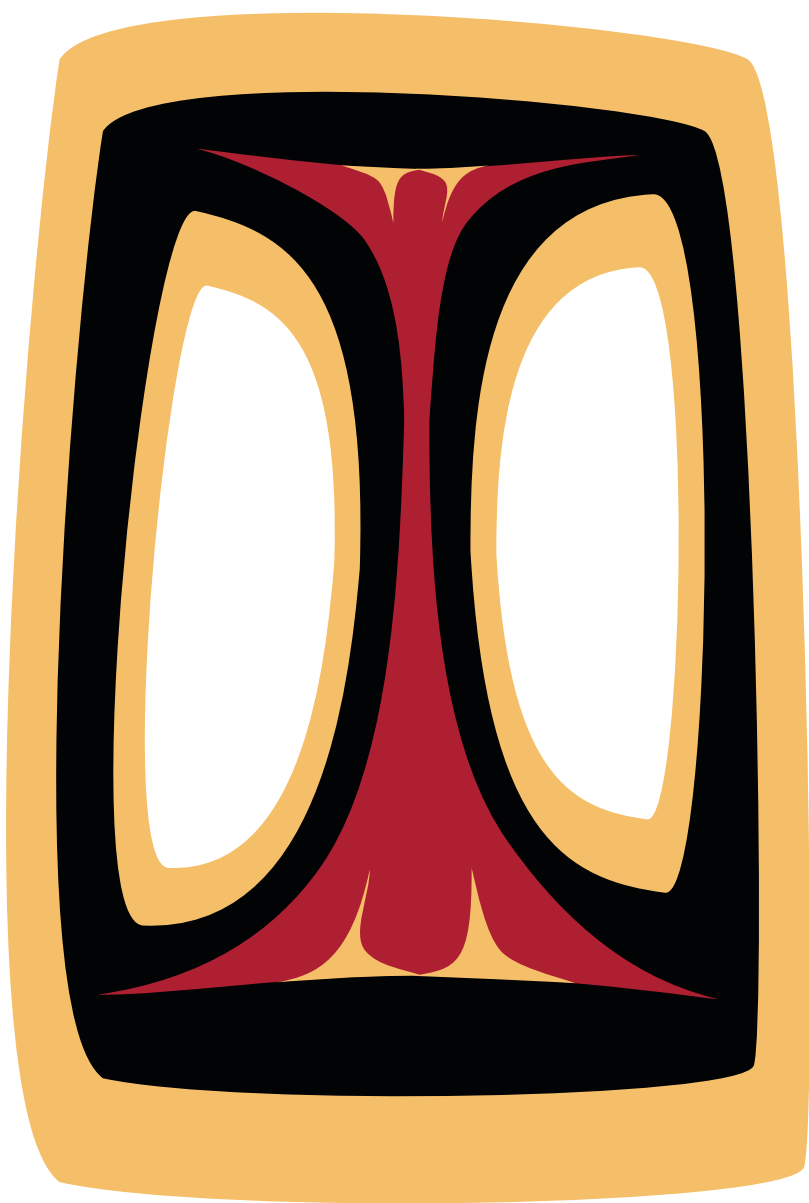


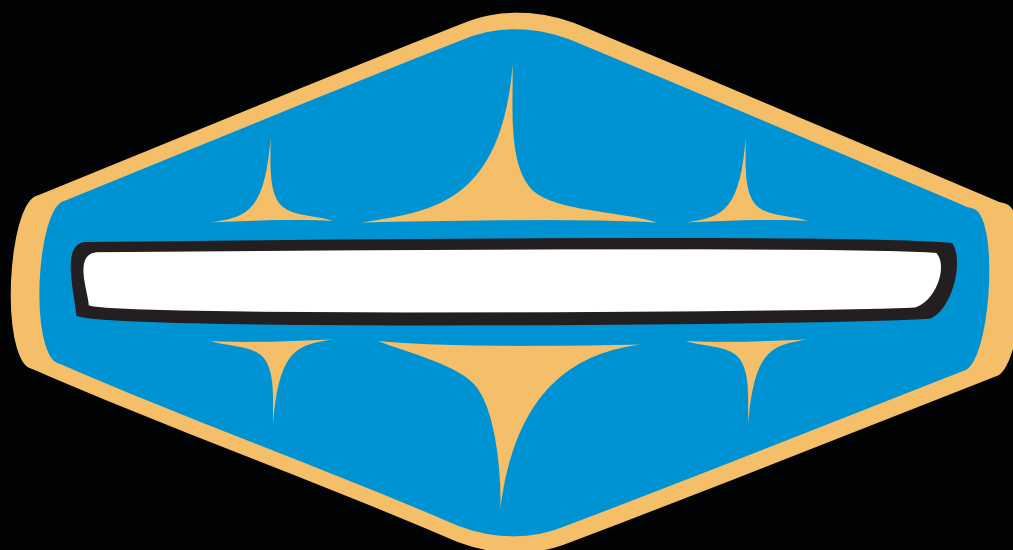
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The graphic designs in this toolkit were intentionally chosen to reflect the feelings and emotions of asthmatics experiencing their condition.

# TOOLKIT INTRO & FOREWORD

Although much of the country's public health efforts currently are focused on infectious disease threats, challenges related to chronic conditions have not gone away. For many chronic diseases, including asthma, the challenges may be increasing in size and scope. Nationally, asthma affects one in ten children under age 18 years, making it the most common chronic disease among youth. This high prevalence translates to a heavy public health burden, affecting not only patients but their families with interference in conduct of daily activities, missed days of school and work, and worry and concern. Many asthmatics express terror in not being able to breathe easily during acute flare-ups.

Childhood asthma is a chronic illness that brings potentially huge burdens into tribal families and tribal communities. Pediatric asthma poses a particularly heavy public health burden in Indian Country where the prevalence of asthma in American Indian and Alaska Native (AI/AN) children is estimated at 15.1%, as compared to the general US population of 9.5%. Data from one Northwest state clearly supports these national figures for tribal people.

At the time of preparation of this toolkit, Healthy People 2030 was published and as in past versions, asthma and asthma management were highlighted as chronic disease challenges. Unfortunately, the data that the document provides do not adequately address the age groups of concern to our toolkit, or to our ongoing community-based study of improvement of asthma management in tribal children and adolescents. Furthermore, some segments of the HP 2030 plan related to asthma remain unaddressed at the current time. Thus, we will not emphasize those guidelines in this version of our toolkit.





Healthy People 2020 includes eight national asthma objectives and calls for reductions in: asthma deaths; hospitalizations for asthma, emergency room visits for asthma, activity limitations among persons with asthma, and the proportion who miss school or work days due to asthma. Healthy People 2020 also calls for increases in: the proportion of asthmatics who receive formal patient education; the proportion who receive appropriate asthma care; and the number of states with a comprehensive asthma surveillance system for tracking asthma cases, illnesses, and disability at the state level. We at the Board want to do our parts by helping to meet or exceed these goals for tribal people in our region and beyond. To that end, we secured grant funding to pilot test a new strategy for improvement of asthma management in tribal youth. Our grant, originally conceived by an OHSU professor and Indian Health Service pharmacist, is part of our current asthma control plan for our member tribes. We also developed this toolkit that may be useful for other tribal organizations or tribes to develop their own programs. Due to COVID-19 pandemic we revised our protocol; these revised documents can be made available upon request.

In the original NIH grant proposal, we noted that clinical management of asthma is generally accomplished with appropriate medication and patient education. While best practices and guidelines are well defined, implementation widely varies in health care settings, and often is not coordinated in any structured way with home environmental assessment and reduction of environmental triggers. Pharmacy provided interventions and patient education, in addition to home visits conducted by nurses and community health workers, have demonstrated substantial improvements in symptom-free days and quality of life, as well as reductions in healthcare utilization in selected settings. Few data have addressed asthma management among AI/AN children in the Pacific Northwest, nor in most other parts of Indian Country. Our pilot study is designed to better quantify the public health impact of these interventions in tribal clinics and to determine how the intervention can be disseminated and sustained in multiple communities. Lessons learned about intervention components and delivery that are culturally relevant, valid, and reliable will be communicated to researchers, practitioners, and communities. We expect that our findings will have broad generalizability to tribal communities and clinics nationwide.

We have prepared this toolkit to help tribes or tribal organizations design and implement their own asthma control programs. You can use as much of this toolkit as you determine would be applicable to your needs. We consider the information in the public domain. As you search the web for additional resources (some of which we point out in links), you will find a wealth of information to assist you.

Childhood asthma is a chronic illness that brings potentially huge burdens into tribal families and tribal communities. Asthma education programs for pediatric patients and their parents/caregivers, combined with home visits to reduce exposure to asthma triggers, holds promise to increase symptom-free days and reduce urgent care utilization and costs. Enhancing existing pharmacy and environmental health structures of tribes is expected to be an acceptable and sustainable intervention of relatively low cost.





# CHAPTER 1

## PATIENT EDUCATION & CLINICAL RESOURCES

In this segment of the toolkit, we have provided examples of documents that you can use unchanged, or, that you can modify to be more relevant to your tribal population, clinic or hospital system / another provider system. We chose photos and graphic patterns that might be more relevant to the Northwest than to other parts of the country, and drew on the experience of our tribal partner to share their asthma action plan. While asthma management is certain to change over coming years, you may be able to incorporate future changes into your documents without too much elaboration. A new series of TV commercials indicates that asthma management options continue to broaden. Clearly, pharmaceutical companies and clinical researchers are trying to develop better and more efficient medications for asthma management. As you go through this section, you will see that we have developed materials that are aimed at both younger patients, and older asthmatic patients, as well as their caregivers. If your asthma management program eventually wants to describe new medications, new drug delivery techniques, new technology, etc., we applaud you and trust that you will make improvements to the documents we have included for your consideration.

As you search the web or other tools for information about asthma, asthma management, and education for patients and clinicians you will find many resources. A couple resources that we highly recommend are the [Minnesota State Dept. of Health](#) and [Asthma Toolkit for Louisiana Schools](#). In addition to the Children's Asthma Action Plan sample document we provide in this chapter, you will find another example of a children's Asthma Action Plan on page 26 of the [Asthma Toolkit for Louisiana Schools](#).

# DOCUMENTS & HANDOUTS

## **Child Audience**

Peak Flow Meter

Inhaler Comparison

Asthma Action Plan

## **Mature Audience:**

Peak Flow Meter

Asthma Need to Know

Asthma Action Plan

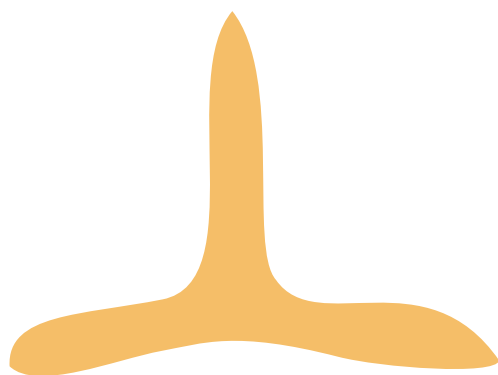
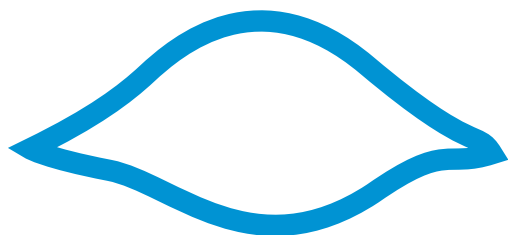
## **Peak Flow Readings Log**

## **Smoking Cessation**

## **Provider Audience: Asthma History Talking Points**







# CHAPTER 2

## STARTING YOUR OWN ASTHMA PROGRAM



We recognize that organizations are structured differently, serve culturally diverse patients, and would likely want to tailor an asthma control program to existing needs and systems. This chapter includes resources and documents to serve as a flexible template to create your own asthma control program.

We also acknowledge that the program we developed in the Northwest may not fit well into Northeastern tribes, but encourage other organizations to use any part of our program (modified or not) for their needs. Our experience is likely to mirror your own; start early, allow plenty of time for different voices to be heard, and do not be afraid of failure. Many parts of this toolkit were written after we removed the failed parts of our program, which we then hid from you!

One of the critical parts of your program or any program's success will be related to funding. While we hope that you have enough resources to invest in improvement of asthma management for your patients, you may need to campaign internally and even seek grant funds if your local efforts fail. You never know what you might catch unless you try. Good luck!

### **Documents & forms:**

- Recruitment Flyer
- Patient Flow Chart
- Asthma Home Visit Program Materials Checklist
- IHS Release of Information (ROI)
- Parental Consent
- Patient Assent
- Patient Information Sheet



## **ENHANCING CONTROL OF CHILDHOOD ASTHMA IN AI/AN COMMUNITIES HOME VISITING PROTOCOL FOR THREE VISIT MODEL**

### **Home environmental assessment process:**

**1. Patient agrees to voluntary home inspection** and a referral is sent to the Environmental Health or Community Health Specialist (or CHW) via EHR notification and/or by email or phone call from provider.

**2. Specialist contacts patient by phone, text, or email to:**

- > Inform them as to the amount of time that is required for the home inspection and asthma education
- > Review what will be done during the visit
- > If patient understands and agrees with service, date and time for inspection are set
- > If the patient is a minor, specialist requests the minor is present for assessment

**3. Initial home visit:** Specialist meets at patient's home. After introductions, the Specialist briefly reviews the steps for the visit.

- > Fill out the first visit form
- > Get permission to visually inspect the interior and exterior of home
  - >> Patient or parent is encouraged to be involved to discuss observations
- > Review:
  - >> observations and document corrections on form
  - >> environmental modifications/corrections with patient
  - >> asthma action plan and medication usage for proper technique
  - >> asthma home cleaning kits
- > Schedule 6 / 12 month follow-up visit
- > Transmit report and findings to health provider for review and submission to EHR (placement in patient's chart)

**4. Follow-up visits:** At least one week before home visit, specialist contacts the parent/caregiver of the patient to remind them of, and confirm the follow up home visit

- > Fill out second / third visit form.
- > Conduct environmental assessment
  - >> If on site: follow the steps listed above in item 3
  - >> If off site: conducting the environmental assessment by telephone or electronic platform such as Zoom, Facebook Messenger, lifesize cloud, Microsoft team, or other, follow the telephone script and modified protocol for telephone home visits





# CHAPTER 3

## DATA COLLECTION INSTRUMENTS

Data collection is an important step in the research process. For this pediatric asthma management study, the data collected includes patient demographic and asthma history data, healthcare utilization, medication utilization, including prescribed asthma medications, and data collected from three sets of instruments.

The instruments for collecting data include standard validated questionnaires and a standardized form used for interviewing the caregiver and recording environmental observations in the home environment. The selection of these instruments reflects the research aims and objectives.

### QUESTIONNAIRES

The questionnaire is a tool designed for the collection of quantitative data. It is widely used in research as it is a good research instrument for collecting standardized data and making generalizations. The study questionnaires and their purpose are listed below.

**ASTHMA CONTROL TEST** (one questionnaire for children aged 4 to 11, and another for children 12 to 17): Used to produce a measure or “score” to rate the patient’s level of control over their asthma.

**QUALITY OF LIFE SURVEY** (one for the caregiver, and the other for the pediatric asthma patient): Used to produce a measure of the perceived impact that asthma has on the patient’s and caregiver’s quality of life.

### STANDARD FORM – INTERVIEWS AND OBSERVATIONS

This study uses the three-visit model for Home Environmental Assessments, thus there is a separate form for each visit. Each home visit includes environmental health education in the home setting, systematic data collection through an interview with the caregiver(s) using structured questions, and a series of observation codes for collecting data from the environmental health assessment of the home.

Lastly, while you may not be planning on doing an actual research project on pediatric asthma management, you may nonetheless find the forms useful for monitoring patient progress, patient education, home environment modifications, etc.

# DOCUMENTS & FORMS

## **Asthma Control Test (ACT):**

Child (age 4-11)

Mature (age 12+)

## **Quality of Life (QoL) Questionnaires:**

Caregiver

Child/Pediatric

## **Home Assessments:**

Initial

6 Month Follow-up

12 Month Follow-up

## **Clinical:**

Asthma Peer Review

Chart Review Form

Clinical Pharmacist Focused Professional Practice Evaluation Summary (FPPE)

Ongoing Professional Practice Evaluation (OPPE)



# CHAPTER 4

## GREEN CLEANING KITS

Many cleaning supplies or household products can irritate the eyes or throat, or cause headaches and other health problems, including cancer. Some products release dangerous chemicals, including [volatile organic compounds \(VOCs\)](#). Other harmful ingredients include ammonia and bleach. Even natural fragrances such as citrus can react to produce dangerous pollutants indoors.

VOCs and other chemicals released when using cleaning supplies contribute to chronic respiratory problems, allergic reactions and headaches. Past studies link exposure to chemicals from cleaning supplies to occupational asthma and other respiratory illnesses.

Cleaning supplies and household products containing VOCs and other toxic substances can include, but are not limited to:

- > Aerosol spray products including health, beauty and cleaning products;
- > Air fresheners;
- > Chlorine bleach;
- > Detergent and dishwashing liquid;
- > Dry cleaning chemicals;
- > Rug and upholstery cleaners;
- > Furniture and floor polish
- > Oven cleaners

Source: <https://www.lung.org/clean-air/at-home/indoor-air-pollutants/cleaning-supplies-household-chem>



### **Green Cleaning Kit Waiver**

This lists all items in each green cleaning kit, and as well as a statement that relinquishes the organization of all liability

### **Items with Purpose and Function**

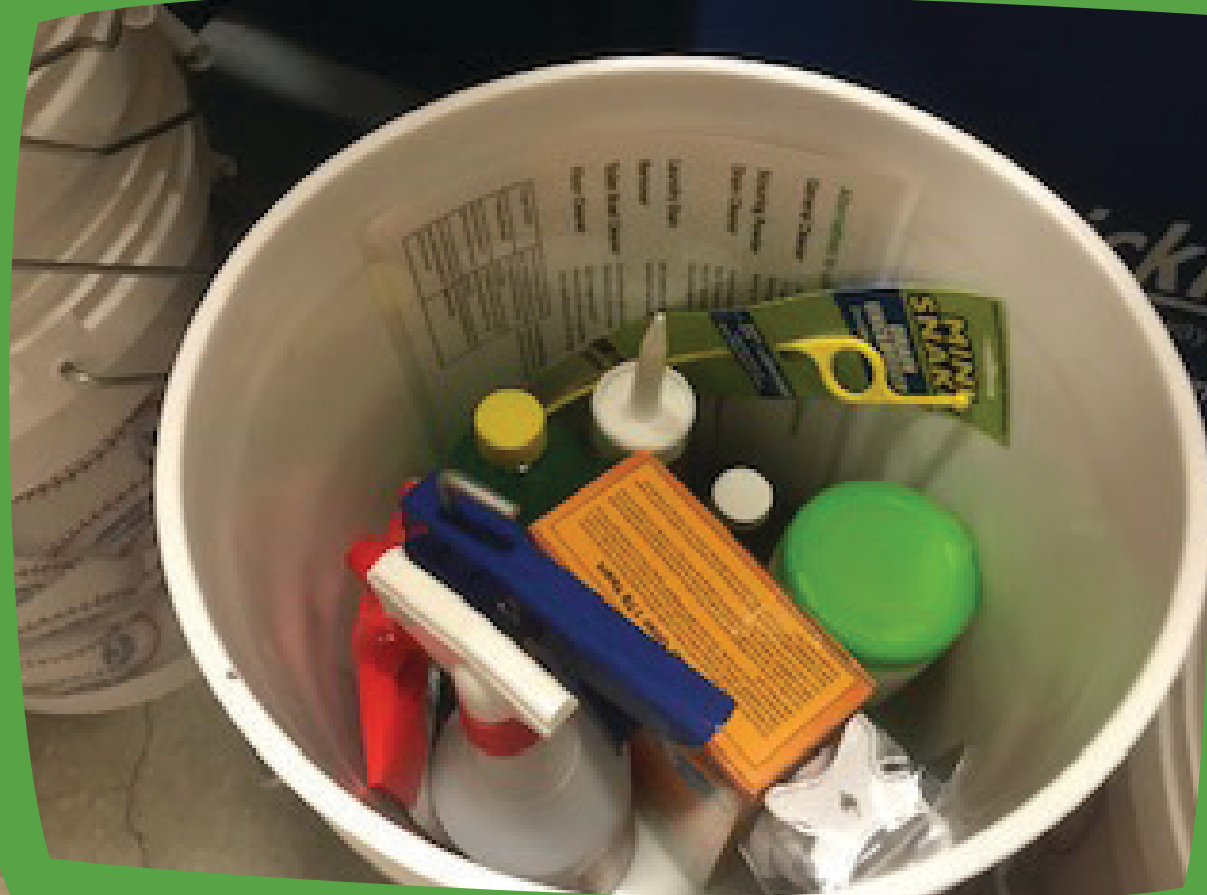
This lists what to use each kit item for

### **Bucket Photo**

This is a photo of the green cleaning kit bucket filled with the cleaning items

### **Alternatives to Cleaning Document**

This document shows where to find and what to use the green cleaners on, what to replace in your home with these green cleaners, and recipes to make homemad





**The creators of this document have used the green cleaning products we support in this chapter and have found them to work very well with no allergic responses of any type. We are confident that the products and equipment that we suggest for use in homes of asthmatics will 'do the job' while keeping asthmatic children and young people safe from common chemical triggers.**



# CHAPTER 5



# PROVIDER TRAINING

We have not lost sight of the fact that asthma is a very complicated disease. The field keeps evolving: new drugs come onto the market and new management guidelines and best practices are likely to come out soon. “Best practices” are proven programs or policies shown to be effective with a particular issue and specific population. We further recognize that clinicians, patients, parents/caregivers of asthmatic children, and community members can easily become confused about best practices with this challenging disease.

That being said, implementing effective interventions assures that key aspects of promising approaches are put into practice as intended and to meet local needs. Focused pharmacy clinics for patient self-management education and home environmental assessments for pediatric asthma patients have been classified as evidence-based best practices. In addition, they are recommended effective interventions by the CDC’s Community Preventive Task Force. Despite evidence indicating their effects, “best practices” are not always effective in new or different situations. The process of implementing effective interventions can help clinical and community programs combine their understanding of what has worked elsewhere. Clinical and community programs should also consider local conditions and opportunities to improve outcomes for a “real-world” impact.

Many factors are involved in implementing effective interventions. Adequate training of providers is critical to the adoption of any new or innovative intervention. Since perspectives on asthma and asthma management (clinician, patient, family caregiver, site coordinator) vary widely, we have included training for various key players including: clinical providers, providers who conduct home environmental interventions (community health workers, environmental health specialists, other health and environmental professionals), and site coordinators who will help assure the intervention is successfully implemented.

We were fortunate to have had the input of several local experts in developing these materials. You may have local expertise, as well, but if not we hope that you can use the PowerPoint and other training resources we have provided in this section of the toolkit.

**Site Coordinator Training:**

**Audience:** site coordinators who will help assure the intervention is successfully implemented

**Objectives are to assure understanding the following project activities and principles:**

- Participant Enrollment
- Program Planning
- Site Coordinator Responsibilities
- Data Protection and Tracking
- Home Assessment
- Protocol



**Clinical Health Training:**

**Audience:** clinical providers

**Objectives are to assure understanding the following project activities and principles:**

- > Components of Clinical Practice Guidelines
- Components of Assessment and Monitoring
- Healthy People 2020 Objectives:
  - Reduce Asthma Deaths
  - Reduce Asthma Hospitalizations
  - Reduce Asthma ER Visits
  - Reduce Activity Limitations Among Persons with Asthma
  - Reduce Proportion who Miss School or Work Due to Asthma
  - Understand the prevalence and disparities of Asthma among AI/AN



## **Community Health Training:**

**Audience:** providers who conduct home environmental interventions (community health workers, environmental health specialists, other health and environmental professionals)

### **Objectives are to assure understanding of the following project activities and principles:**

Identify asthma triggers in the home environment

- > Learn the most common asthma triggers
- > Learn the principles of a healthy home environment
- > Understand how exposure to triggers and the environmental condition of the home can lead to “attacks” for people with asthma

### **Conduct the Environmental Assessment**

- > Learn how to identify asthma triggers
- > Develop observational and inquiry skills to go beyond visual observation and identification of triggers
- > Understand how to use and fill out the “Tribal Asthma Home Visit Form” to conduct the environmental assessment

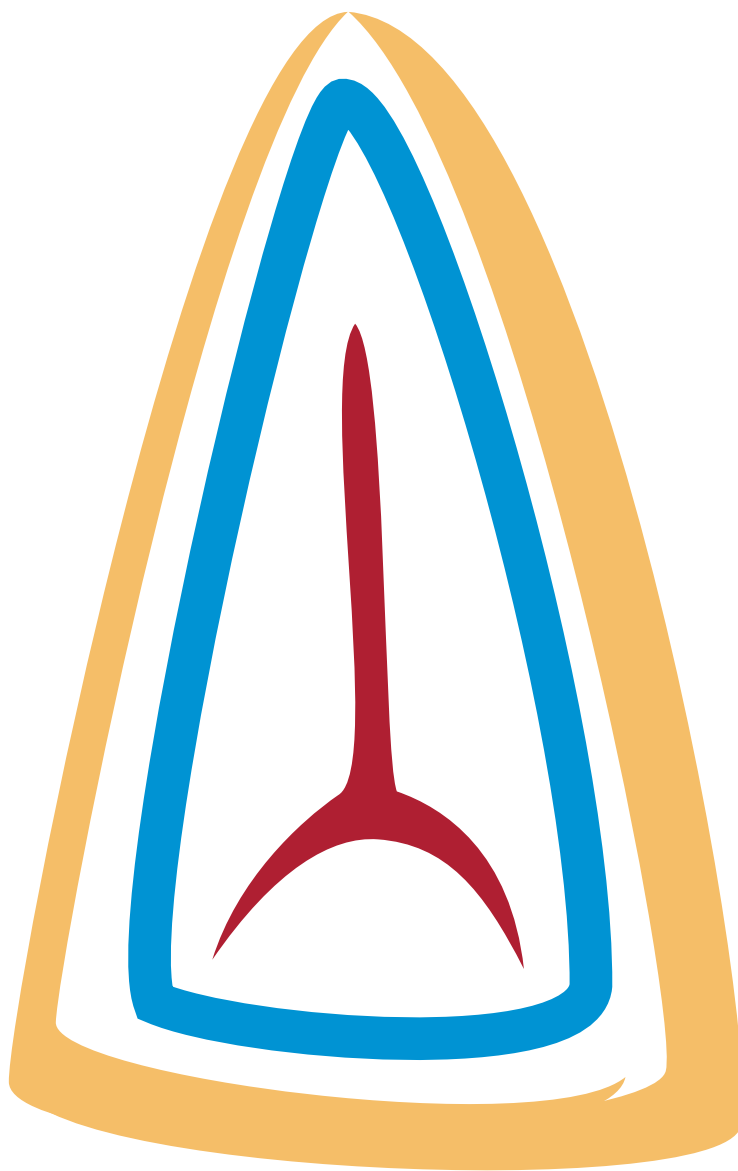
### **Reduce and eliminate the asthma triggers and environmental hazards in the home:**

- > Understand methods of evaluating home environmental assessment findings
- > Learn how to use risk models for prioritizing needs and corrective actions
- > Learn effective methods and environmental controls for preventing and mitigating hazards
- > Build upon knowledge gained in Lessons 1 & 2 on identification of triggers and evaluation of the home environment to present findings and write the Home Action Plan



# CHAPTER 6

## ADDITIONAL RESOURCES



## Web Resources

### **Allergy and Asthma Network Mothers of Asthmatics**

- > 1-800.878.4403, [www.aanma.org](http://www.aanma.org)

### **American Lung Association**

- > 1-800.LUNG.USA or 1-800.586.4872, [www.lungusa.org](http://www.lungusa.org)

### **Asthma and Allergy Foundation of America**

- > 1-800.7.ASTHMA or 1-800.727.8462, [www.aafa.org](http://www.aafa.org)

### **Asthma Community Network**

- > [www.asthmacommunitynetwork.org](http://www.asthmacommunitynetwork.org)

### **Centers for Disease Control and Prevention**

- > <https://www.cdc.gov/asthma/default.htm>

### **Community Preventive Task Force – The Community Guide**

- > <https://www.thecommunityguide.org/topic/asthma>

### **Department of Housing and Urban Development, Healthy Housing Program**

- > [https://www.hud.gov/program\\_offices/healthy\\_homes/hhi](https://www.hud.gov/program_offices/healthy_homes/hhi)

### **Environmental Protection Agency**

- > <https://www.epa.gov/asthma>

### **Minnesota Department of Health – Asthma**

- > <https://www.health.state.mn.us/diseases/asthma/>

### **National Center for Healthy Housing**

- > <https://nchh.org/>

### **National Heart, Lung, and Blood Institute – Guidelines for the Diagnosis and Management of Asthma**

- > <https://www.nhlbi.nih.gov/health-topics/guidelines-for-diagnosis-management-of-asthma>

### **National Institutes of Health, National Institute of Allergy and Infectious Disease**

- > <https://www.niaid.nih.gov/diseases-conditions/asthma>

### **National Institutes of Health, National Institute of Environmental Health Sciences**

- > <https://www.niehs.nih.gov/health/topics/conditions/asthma/index.cfm>

### **National Tribal Air Association**

- > <https://www.ntaatribalair.org/>

## Publications

- > *National Asthma Education and Prevention Program*. Expert Panel Report 3 (EPR-3): Guidelines for the Diagnosis and Management of Asthma-Summary Report 2007. J Allergy Clin Immunol. 2007 Nov;120(5 Suppl):S94-138. PMID: 17983880
- > Krieger JW, Takaro TK, Song L, Weaver M. *The Seattle-King County Healthy Homes Project*: a randomized, controlled trial of a community health worker intervention to decrease exposure to indoor asthma triggers. Am J Public Health. 2005 Apr;95(4):652-9. PMID: 15798126
- > *Krieger J. Home visits for asthma*: we cannot afford to wait any longer. Arch Pediatr Adolesc Med. 2009 Mar;163(3):279-81. PMID: 19255400
- > Krieger JW, Philby ML, Brooks MZ. *Better home visits for asthma lessons learned from the Seattle-King County Asthma Program*. Am J Prev Med. 2011 Aug;41(2 Suppl 1):S48-51. PMID: 21767735
- > Pett RG, Nye S. *Evaluation of a pharmacist-managed asthma clinic in an Indian Health Service clinic*. J Am Pharm Assoc JAPhA. 2016 Jun;56(3):237-41. PMID: 27156940
- > *Task Force on Community Preventive Services*. Recommendations from the Task Force on Community Preventive Services to decrease asthma morbidity through home-based, multi-trigger, multicomponent interventions. Am J Prev Med. 2011 Aug;41(2 Suppl 1):S1-4. PMID: 21767733
- > Juniper EF, Guyatt GH, Feeny DH, Ferrie PJ, Griffith LE, Townsend M. *Measuring quality of life in the parents of children with asthma*. Qual Life Res Int J Qual Life Asp Treat Care Rehabil. 1996 Feb;5(1):27-34. PMID: 8901364
- > Stelmach I, Podlecka D, Smejda K, Majak P, Jerzyńska J, Stelmach R, et al. *Pediatric asthma caregiver's quality of life questionnaire is a useful tool for monitoring asthma in children*. Qual Life Res Int J Qual Life Asp Treat Care Rehabil. 2012 Nov;21(9):1639-42. PMID: 22138965
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- > Subbarao, P., Mandhane, P. J., & Sears, M. R. (2009). Asthma: epidemiology, etiology and risk factors. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne*, 181(9), E181-E190. doi:10.1503/cmaj.080612.
- > Crocker DD, Kinyota S, Dumitru GG, Ligon CB, Herman EJ, Ferdinands JM, Hopkins DP, Lawrence, BM, Sipe TA, Task Force on Community Preventive Services. *Effectiveness of home-based, multi-trigger, multicomponent interventions with an Task Force Finding and Rationale Statement 4 environmental focus for reducing asthma morbidity: a Community Guide systematic review*. Am J Prev Med 2011;41(2S1):S5-32.

