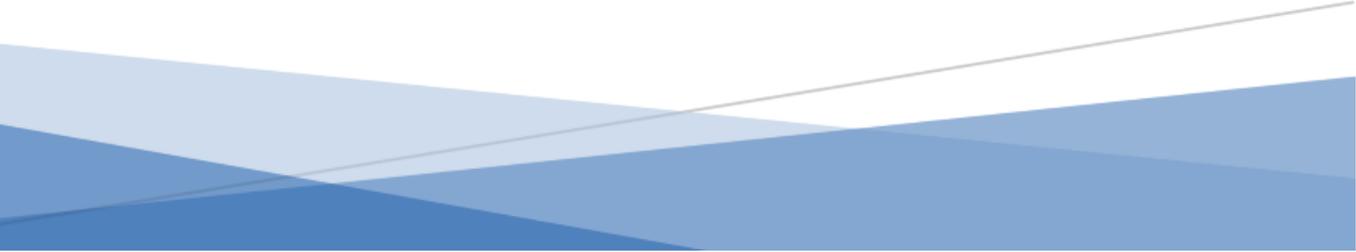




**Asthma Self-Management Education:
A Compilation of Selected Resources**

September 2016



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Introduction

This document was prepared for grantees supported by the Centers for Disease Control's (CDC) Funding Opportunity Announcement EH14-1404, Comprehensive Asthma Control through Evidence-based Strategies and Public Health – Health Care Collaboration, to use as a resource for identifying evidence-based asthma self-management education curricula. It is not meant to be comprehensive, but rather to highlight curricula that have been evaluated, are available in most states and ready for implementation.

Through its cooperative agreement, the CDC's National Asthma Control Program (NACP) seeks to expand access to comprehensive asthma control services. Grantees and their partners implement a variety of strategies designed to strengthen and expand asthma control efforts in homes and schools while linking with services offered by health care organizations.

One of these strategies is Self-Management Education. The purpose of this strategy is to educate people with asthma in self-management skills. The grantee may link with partners to provide asthma self-management education. Trainings should:

- Achieve the educational objectives and skills outlined in the National Asthma Education Program (NAEPP), Expert Panel Report 3 (EPR-3), [Guidelines for the Diagnosis and Management of Asthma \(2007\)](#)¹
- Use teaching methods and dose (number and duration of sessions) appropriate to the target population
- Prioritize reaching people with persistent or poorly controlled asthma

Self-Management Education

Self-management refers to the ability of patients to engage in behaviors and practices that help them gain optimum control over their disease. “Self-management education teaches problem-solving skills. It allows patients to identify their problems and provides techniques to help patients make decisions, take appropriate actions, and alter these actions as they encounter changes in circumstances or disease. Self-management education complements, rather than substitutes for, traditional patient education.”²

The Chronic Disease Self-Management Program (CDSMP) developed by Stanford University's Patient Education Research Center, defines chronic disease self-management programs as those that empower participants to develop skills necessary for medical, social role, and emotional management of chronic conditions. Thus, it involves not only knowledge transfer, but also training in and practice of disease management skills, as well as help with problem solving related to the chronic disease.

¹ National Asthma Education Program. Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma. Bethesda, MD: National Institutes of Health, National Heart, Lung, and Blood Institute; 2007. Available from: <http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf>. [Accessed April 4, 2016].

² Bodenheimer, T.; Lorig, K.; Holman, H., et al. “Patient Self-Management of Chronic Disease in Primary Care,” JAMA. 288 (19): 2469-2475, 2002.

Researchers at the University of Louisville, School of Medicine indicate that “self-management support goes beyond traditional knowledge-based patient education to include processes that develop patient problem-solving skills, improve self-efficacy, and support application of knowledge in real-life situations that matter to patients.”³

Essential Elements of Asthma Self-Management Education

In 2007, the National Asthma Education Prevention Program (NAEPP) released its third Expert Panel Report (EPR-3) on the [Guidelines for the Diagnosis and Management of Asthma](#). On page [97](#), the report lists the essential elements of asthma self-management education as:

- Asthma information and training in asthma management skills
- Self-monitoring (either symptom or peak flow-based)
- Written asthma action plan
- Regular assessment by a consistent clinician.

The following topics should be reinforced:

- Basic facts about the pathophysiology of asthma
- Correct usage of medications
- Techniques for monitoring symptoms
- Importance of avoiding triggers

Intensive Self-Management Education

CDC’s National Asthma Control Program (NACP) uses the term “intensive self-management education” to refer to programs that include key educational messages (see Appendix A) and communicate these messages in a culturally appropriate way, require individual practice and demonstration of knowledge and skills, and are tailored as much as possible to an individual’s underlying knowledge and beliefs about asthma. Intensive asthma self-management education includes all the elements of essential asthma self-management education, but provides more detail and repetition than may be possible in the context of a clinical visit. It should help individuals with asthma and their family members to set reasonable goals (using motivational interviewing techniques), practice and master mechanical skills (e.g. how to use an inhaler and peak flow meter), decision making skills (how to follow the asthma action plan, how to avoid triggers), communication skills (how to talk with your doctor) and assist with problem solving (e.g. communicating with relatives who may have different ideas about how to treat asthma). It should include all the topics listed in the NAEPP, EPR-3 guidelines on pages [121–136](#).

In its EPR-3 guidelines, the NAEPP lists the educational messages and skills that physicians should teach and reinforce at every opportunity to create a partnership in care. These messages should also be incorporated into health care provider’s intensive asthma self-management programs. (See Appendix A. “Key Educational Messages”)

³ Coleman, MT, and Newton, KS. Supporting Self-management in Patients with Chronic Illness, [Am Fam Physician](#). 2005 Oct 15;72(8):1503-1510.

Recommendations from the Guidelines for the Diagnosis and Management of Asthma, Expert Panel Report 3

Asthma self-management education is essential to provide patients with the skills necessary to control asthma and improve outcomes ([NAEPP, EPR-3, p. 93](#))

Healthcare/clinical Setting

“Asthma self-management education should be integrated into all aspects of asthma care, and it requires repetition and reinforcement. Patients should be educated at multiple points of care where health professionals and health educators may interact with patients who have asthma (Evidence A or B, depending on point of care). Strong evidence supports self-management education in the clinic setting (Evidence A).”⁴ ([NAEPP, EPR-3, p. 93](#))

“Evidence is now abundant that asthma self-management education is effective in improving outcomes of chronic asthma. Specific training in self-management skills is necessary to produce behavior that modifies the outcomes of chronic illnesses such as asthma. Expert care, with regular review by health professionals, is necessary, but not sufficient to improve outcomes. Patients must actively participate in their own care, which means consciously using strategies and taking actions to minimize exposure to factors that make asthma harder to control and adjusting treatments to improve disease control.” ([NAEPP, EPR-3, p. 96](#))

“Education for a Partnership in Asthma Care requires education for the patient or caregiver about asthma self-management as well as education for clinicians to enhance skills in teaching patients self-management and provide support to implement guidelines-recommended practices (education for clinicians is not addressed in this document). The ultimate goal of both expert care and patient self-management is to reduce the impact of asthma on related morbidity, functional ability, and quality of life. The benefits of educating people who have asthma in the self-management skills of self-assessment, use of medications, and actions to prevent or control exacerbations, include reduction in urgent care visits and hospitalizations, reduction of asthma-related health care costs, and improvement in health status. Other benefits of value from self-management education are reduction in symptoms, less limitation of activity, improvement in quality of life and perceived control of asthma, and improved medication adherence. Cost-analysis studies have shown that asthma education can be delivered in a cost-effective manner and that morbidity is reduced as a result, especially in high-risk subjects.” ([NAEPP, EPR-3, p. 96](#))

⁴ Evidence Category A: Randomized controlled trials (RCTs), rich body of data. Evidence is from end points of well-designed RCTs that provide a consistent pattern of findings in the population for which the recommendation is made. Category A requires substantial numbers of studies involving substantial numbers of participants.

Evidence Category B: RCTs, limited body of data. Evidence is from end points of intervention studies that include only a limited number of patients, post hoc or subgroup analysis of RCTs, or meta-analysis of RCTs. In general, category B pertains when few randomized trials exist; they are small in size, they were undertaken in a population that differs from the target population of the recommendation, or the results are somewhat inconsistent.

Points of Care Outside the Health System

“Evidence from randomized controlled trials suggest that asthma education can be delivered at multiple points of care other than the traditional health care settings of clinics, emergency departments, and hospitals. With the support of clinicians, educational interventions should also be provided in settings such as schools, pharmacies, and homes.” ([NAEPP, EPR 3, p. 111](#)).

See the EPR-3, Section 3, Component 2: [Education for a Partnership in Asthma Care](#) for additional details on asthma self-management education.

National Evidence-Based Asthma Self-Management Education Curricula

Based upon the NAEPP EPR-3 Key Educational Messages and other recommendations, criteria for asthma self-management education include, basic facts about the pathophysiology of asthma, correct usage of medications, techniques for monitoring symptoms, and the importance of avoiding triggers. The curricula listed below include these elements.

Curricula for Children with Asthma and their Parents/Caregivers

Several curricula for educating children with asthma and their parents/caregivers may be effective. Those that are available nationally are summarized in Table 1. More information on these curricula and ways to access them are included in Appendix B.

Table 1. Summary of Characteristics of Asthma Self-Management Education Curricula for Children with Asthma and their Parents/Caregivers

| | Wee Wheezers | Wee Wheezers at Home[©] | Wee Breathers[™] | Asthma Basics for Children | You Can Control Asthma |
|------------------------|--|--|--|--|---|
| Organization | Asthma and Allergy Foundation of America (AAFA) | Asthma and Allergy Foundation of America (AAFA) | Asthma and Allergy Foundation of America (AAFA) | Asthma and Allergy Foundation of America (AAFA) | Asthma and Allergy Foundation of America (AAFA) |
| Participant Age | 4 - 6 years old | < 7 years old | < 7 years old | Newborn–6 years old | 6-12 years old |
| Others Trained | <ul style="list-style-type: none"> • Caregivers • Parents | <ul style="list-style-type: none"> • Parents | <ul style="list-style-type: none"> • Child Care Providers • Parents | <ul style="list-style-type: none"> • Child Care Providers • Parents | <ul style="list-style-type: none"> • Parents |
| Settings | <ul style="list-style-type: none"> • Community | <ul style="list-style-type: none"> • Home | <ul style="list-style-type: none"> • Child Care Center • Home | <ul style="list-style-type: none"> • Child Care Center • Home | <ul style="list-style-type: none"> • Clinic • Community • Home • School |
| Sessions | <u>Parents/caregivers:</u> <ul style="list-style-type: none"> • 4 group sessions • 120 minutes per session <u>Children:</u> <ul style="list-style-type: none"> • 2 sessions with parents/caregivers | <ul style="list-style-type: none"> • 8 sessions • 90 minutes per session | <ul style="list-style-type: none"> • 7 sessions • 60 minutes per session | <ul style="list-style-type: none"> • 2 sessions | <ul style="list-style-type: none"> • 5 sessions • 10-15 minutes per session |
| Instructors | <ul style="list-style-type: none"> • Health Professional • Health Educator | <ul style="list-style-type: none"> • Health Professional | <ul style="list-style-type: none"> • Health Professional • Certified Asthma Educator | <ul style="list-style-type: none"> • Health Professional • Pharmacist | <ul style="list-style-type: none"> • Health Professional • Health Educator • Social Worker |
| Languages | <ul style="list-style-type: none"> • English • Spanish | <ul style="list-style-type: none"> • English | <ul style="list-style-type: none"> • English • Spanish | <ul style="list-style-type: none"> • English • Spanish (Parent Handbook) | <ul style="list-style-type: none"> • English • Spanish |

Curricula for Children and Adolescents with Asthma

The curricula listed below were developed for educating children or adolescents with asthma in the school setting and may be effective. Those that are available nationally are summarized in Table 2. More information on these curricula and ways to access them are included in Appendix C.

Table 2. Summary of Characteristics of Asthma Self-Management Education Curricula for Children and Adolescents with Asthma

| | Open Airways for Schools® | Kickin' Asthma | Power Breathing™ |
|------------------------|--|---|--|
| Organization | American Lung Association (ALA) | American Lung Association in California | Asthma and Allergy Foundation of America (AAFA) |
| Participant Age | • 8-11 years old | • 11-16 years old | • 11-19 years old |
| Setting | • School | • School | • School |
| Sessions | • 6 sessions • 40 minutes per session | • 4 sessions • 50 minutes per session | • 3 sessions, 90 minutes per session or 6 sessions, 45 minutes per session |
| Instructors | • ALA Certified Instructor/ facilitator | • ALA Certified Instructor/ facilitator • Nurse | • Facilitator |
| Languages | • English • Spanish | • English | • English |

Curricula for Adults with Asthma

The self-management education curricula listed below were developed for educating adults with asthma in a variety of settings and may be effective. Those that are available nationally are summarized in Table 3. More details are in Appendix D.

Table 3. Summary of Characteristics of Asthma Self-Management Education Curricula for Adults with Asthma

| | Breathe Well, Live Well® | Meeting-in-a-Box Presentation Series |
|------------------------|--|---|
| Organization | American Lung Association (ALA) | Asthma and Allergy Foundation of America (AAFA) |
| Participant Age | • Adults | • Adults |
| Settings | • Clinic • Community • Home • Workplace | • Community |
| Sessions | • 3 Modules | • 3 sessions • 1 hour per session |
| Languages | • English • Spanish | • English • Spanish |

Appendix A

Key Educational Messages: Teach and Reinforce at Every Opportunity

Basic Facts about Asthma

- The contrast between airways of a person who has and a person who does not have asthma; the role of inflammation
- What happens to the airways in an asthma attack

Roles of Medications: Understanding the Difference Between

- Long-term control medications: Prevent symptoms, often by reducing inflammation. Must be taken daily. Do not expect them to give quick relief.
- Quick relief medications: Short-acting beta-agonists relax muscles around the airway and provide prompt relief of symptoms. Do not expect them to provide long-term asthma control. Using quick-relief medication on a daily basis indicates the need for starting or increasing long-term control medications.

Patient Skills

- Taking medications correctly
 - Inhaler technique (demonstrate to patient and have the patient return the demonstration)
 - Use of devices, such as a prescribed valved holding chamber (VHC), spacer, nebulizer
- Identifying and avoiding environmental exposures that worsen the patient's asthma (e.g. allergens, irritants, tobacco smoke)
- Self-monitoring to:
 - Assess level of asthma control
 - Monitor symptoms and, if prescribed, peak flow
 - Recognize early signs and symptoms of worsening asthma
- Using written asthma action plan to know when and how to:
 - Take daily actions to control asthma
 - Adjust medication in response to signs of worsening asthma
 - Seek medical care as appropriate

Reference: National Asthma Education and Prevention Program. Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma. Bethesda, MD: National Institutes of Health, National Heart, Lung, and Blood Institute; 2007, p. 124. Available from: <http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf>. [Accessed April 4, 2016].

Appendix B

Descriptions of Asthma Self-Management Education Curricula for Children with Asthma and their Parents/Caregivers

| | | | | | |
|---|---|----------------|-----------------|---|--|
| Title: | Wee Wheezers | | | | |
| Organization: | Asthma and Allergy Foundation of America (AAFA) | | | | |
| Website: | http://www.aafa.org/page/asthma-allergy-education-programs-teach-patients.aspx#weewheezers | | | | |
| Description: | Wee Wheezers is designed for use by health professionals who teach parents of young children under the age of seven. It helps parents to recognize, prevent and appropriately manage their child's asthma symptoms; communicate effectively with their child's adult caregivers and physicians; and identify resources for information and support. The program consists of four, 2-hour small group sessions for parents. In the last two sessions, children join their parents and learn basic asthma management skills. Nurses or other health education providers with pediatric asthma management experience facilitate the sessions. | | | | |
| Content: | <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"><u>Parents</u></td> <td style="width: 50%; vertical-align: top;"><u>Children</u></td> </tr> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> • Basic concepts of asthma • Coping in crisis • Action plan-asthma management • Symptoms of an acute episode • Feelings/concerns • Symptoms prevention • Communication about asthma </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> Asthma physiology Early warning signs and triggers Belly breathing Asthma self-management Use of peak flow meters Use of metered dose inhalers Use of asthma medications </td> </tr> </table> | <u>Parents</u> | <u>Children</u> | <ul style="list-style-type: none"> • Basic concepts of asthma • Coping in crisis • Action plan-asthma management • Symptoms of an acute episode • Feelings/concerns • Symptoms prevention • Communication about asthma | <ul style="list-style-type: none"> Asthma physiology Early warning signs and triggers Belly breathing Asthma self-management Use of peak flow meters Use of metered dose inhalers Use of asthma medications |
| <u>Parents</u> | <u>Children</u> | | | | |
| <ul style="list-style-type: none"> • Basic concepts of asthma • Coping in crisis • Action plan-asthma management • Symptoms of an acute episode • Feelings/concerns • Symptoms prevention • Communication about asthma | <ul style="list-style-type: none"> Asthma physiology Early warning signs and triggers Belly breathing Asthma self-management Use of peak flow meters Use of metered dose inhalers Use of asthma medications | | | | |
| Materials: | <ul style="list-style-type: none"> • Instructor manual and video (for classroom viewing) • Companion video (for at-home viewing) • Masters of handouts for reproduction • Additional instructor and companion videos (English and Spanish) | | | | |
| Instructors: | <p>Health professionals (i.e. nurses, respiratory therapists, nurse practitioners, etc.) or others who have:</p> <ul style="list-style-type: none"> • Interpersonal skills with both parents and young children • Knowledge and experience with pediatric asthma management • Skills in group facilitation | | | | |
| Development: | Wee Wheezers was developed by a team of pediatric and pulmonary medicine specialists, psychologists, public health educators, and educational video specialists. | | | | |

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| Findings: | The original research study on Wee Wheezers (1996) indicated improvement on five outcome measures. There were statistically significant increases in three of the five: symptom-free days, decreases in parental sleep interruption, and improved parental knowledge about asthma management. |
| Publication: | Wilson SR, Latini D, Starr NJ, Fish L, Loes LM, Page A, Kubic P. Education of parents and infants and very young children with asthma: A Developmental Evaluation of the Wee Wheezers Program. <u>J Asthma</u> . 1996; 33(4):239-254. |
| Case Study: | For information on how a community hospital in Fort Hood, Texas successfully replicated Wee Wheezers, visit the CDC Web site at http://www.cdc.gov/asthma/interventions/wee_wheezers.htm |

| | |
|---------------|---|
| Title: | Wee Wheezers at Home© |
| Organization: | Asthma and Allergy Foundation of America (AAFA) |
| Website: | http://www.aafa.org/page/asthma-allergy-education-programs-teach-patients.aspx#weewheezershome |
| Description: | Wee Wheezers at Home© is an asthma education program designed for use by health professionals who teach parents of young children under the age of seven. It includes eight, 90-minute sessions conducted by a home visitor over a period of 8 weeks. Sessions are held in the home of the family in a one-on-one format or as a small group. Educational materials for families are tailored for a low-literacy adult (5th-grade reading level) and child audience. The program helps parents to recognize, prevent and appropriately manage their child's asthma symptoms; communicate effectively with their child's adult caregivers and physicians; and identify resources for information and support. It also helps children learn basic asthma management skills. |
| Content: | Lesson 1 – Introduction to Asthma and Program Overview Lesson 2 – Asthma Action Plan: Introduction Lesson 3 – Understanding Asthma Medicines Lesson 4 – Asthma Action Plan: Treatment of Asthma Symptoms Lesson 5 – Controlling Asthma Triggers Lesson 6 – Communicating about Asthma Lesson 7 – Review of Asthma Management Concepts Lesson 8 – Review of Communicating about Asthma |
| Materials: | <ul style="list-style-type: none"> • Introduction to Wee Wheezers at Home Manual • Manual For Home Visitors • Manual for Families and Children • My Triggers: A Coloring Book • Instructor Video (for classroom viewing) • Companion Video (for at-home viewing) • Master copies of handouts for reproduction • CD with all handouts, checklists, assessment forms, etc. in PDF files. |
| Instructors: | <p>Home visitors are health professionals (i.e. nurses, respiratory therapists, nurse practitioners, etc.) or others who have:</p> <ul style="list-style-type: none"> • Interpersonal skills with both parents and young children • Pediatric asthma management knowledge and experience • Knowledge of child development issues • Experience with low-literacy and low-income populations <p>In y</p> |

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|---------------|---|
| Development: | Wee Wheezers at Home© was adapted from Wee Wheezers for use with individual families. The language in the educational materials for families was adjusted to a 5th grade reading level. Content was distributed over eight lessons instead of the four in Wee Wheezers. |
| Findings: | Demonstrated an increase in symptom-free days and improved caregiver quality of life. |
| Publications: | <p>Brown JV, Bakeman R, Celano MP, Demi AS, Kobrynski L, Wilson SR. Home-based asthma education of young low-income children and their families. <u>J Pediatr Psychol</u>. 2002 Dec; 27(8):677-688.</p> <p>Brown, JV, Demi AS, Celano MP, Bakeman R, Kibrynski L, Wilson SR. A home visiting asthma education program: challenges to program implementation. <u>Health Education & Behavior</u>. 2005 Feb; 32(1):42-56.</p> |

| | |
|---------------|---|
| Title: | Wee Breathers™ |
| Organization: | Asthma and Allergy Foundation of America (AAFA) |
| Website: | http://www.aafa.org/WeeBreathers |
| Description: | Wee Breathers™ is designed for use by health professionals who teach families and pre-school-age children about the basics of asthma management. The curricula emphasizes the control of common indoor and outdoor environmental triggers that make asthma symptoms worse. It may be used with a single family during a home visit or with a group of parents in a community setting (e.g. child care center). |
| Content: | <p>Lesson 1 – Asthma Basics</p> <p>Lesson 2 – Asthma Triggers</p> <p>Lesson 3 – Controlling Asthma Triggers</p> <p>Lesson 4 – Asthma Medicines</p> <p>Lesson 5 – Asthma Action Plan</p> <p>Lesson 6 – Communicating with the Asthma Team</p> <p>Lesson 7 – Asthma Management Goals</p> |
| Materials: | <p>Program materials include seven, 1-hour lessons on key asthma management topics, an asthma trigger checklist for the home, an asthma trigger checklist for a child care center and an instructor’s guide. Materials are written at a sixth grade (or lower) reading level and are available in English and Spanish. Items may be downloaded from the AAFA website free of charge.</p> <ul style="list-style-type: none"> • <u>Instructor’s Guide</u>: Provides direction on using Wee Breathers™ with one family during a home visit or with a group of parents from the same child care center. Includes facilitation tips, information on the development of Wee Breathers™ and additional resources for instructors. • <u>Asthma-Friendly Home - A Checklist for Families</u>: An easy-to-read and easy-to-use checklist to help families to identify and control their child’s asthma triggers. It provides simple, low-cost actions to help parents either eliminate or reduce the child’s contact with asthma triggers at home. • <u>Asthma-Friendly Child Care–A Checklist for Providers</u>: A comprehensive and easy-to-use checklist for child care providers to identify and control asthma triggers in their child care center. Parents may use the checklist to evaluate if a child care facility is asthma-or allergy-friendly for their child’s asthma triggers. |

| | |
|---------------------|---|
| <p>Instructors:</p> | <p>Certified Asthma Educators or other health professionals (e.g., nurses, respiratory therapists, physicians or pharmacists) with experience in pediatric asthma management.</p> |
| <p>Development:</p> | <p>Wee Breathers™ is based on the Wee Wheezers at Home© program for home visitors. In creating Wee Breathers™, developers reorganized the curricula by topic area and expanded the asthma trigger control component for home and child care settings. The program was developed and reviewed by an advisory team of asthma education professionals. It was field-tested by experienced asthma educators during home visits and education sessions for small groups of families at child care centers.</p> |

| | |
|---------------|--|
| Title: | Asthma Basics for Children (ABC) |
| Organization: | Asthma and Allergy Foundation of America (AAFA) |
| Website: | http://www.aaafa.org/page/asthma-allergy-education-programs-teach-patients.aspx#asthmabasics |
| Description: | Asthma Basics for Children (ABC) is designed for use by health professionals who teach early childhood educators and parents of children (younger than 6 years old) how to manage asthma. Early childhood educators are also trained to set up an asthma program in a daycare center. |
| Content: | <ul style="list-style-type: none"> • <u>Session 1</u> What is asthma? Asthma symptoms and medications Talking to your doctor about asthma Asthma action plan • <u>Session 2</u> Introduction to asthma triggers Asthma in the home (parents only) or asthma in the Center (early childhood educators only) Communicating with child care centers/schools (parents only) or communicating with parents (early childhood educators only) Asthma empowerment and education What have we learned? |
| Materials: | <ul style="list-style-type: none"> • <u>Instructor's Guide</u>: Contains curricula for early childhood educators and parents, outlines, talking points, and activities. • <u>Early Childhood Educators' Handbook</u>: Describes how to create an asthma program at a child care center. • <u>Parent Handbook</u>: Covers the basics of asthma management and practical activities for preschool-age children. Handbooks are available in English and Spanish. |
| Instructors: | Health professionals such as nurses, respiratory therapists, physicians and pharmacists familiar with pediatric asthma management. |
| Development: | ABC was developed by a team of educators from Columbia University in collaboration with local asthma coalitions in New York State. |

| | |
|---------------|--|
| Title: | You Can Control Asthma |
| Organization: | Asthma and Allergy Foundation of America (AAFA) |
| Website: | http://www.aafa.org/page/asthma-allergy-education-programs-teach-patients.aspx%20-%20youcontrolasthma#youcontrolasthma |
| Description: | <p>You Can Control Asthma is for use by health professionals who teach children (ages 6 to 12 years old) and their families about asthma. It is designed to increase self-confidence of the children and provide them with the knowledge and skills needed to control their asthma. Modules address coping with challenges associated with asthma and creating a healthy home environment.</p> <p>Curricula consists of a set of low-literacy booklets that explain principles of asthma management through pictures, captions and activities. Booklets may be used alone or with the implementation guide in a formal program. The illustrations, messages, vocabulary and layout of the booklets have been tested extensively with children and adults with reading limitations.</p> |
| Content: | <p>Module I: Asthma and Asthma Attacks Module II: Asthma Triggers Module III: Peak Flow Meters Module IV: Medicines Module V: Decisions, School and Feelings</p> |
| Materials: | <p>Package contains an implementation guide for instructors and two sets of booklets (one for children and one families). All materials are available in English and Spanish.</p> <ul style="list-style-type: none"> • <u>Implementation Guide</u> - Includes lesson plans for five parent and five child modules. Provides examples of successful strategies for teaching families in clinics, communities, schools and homes. • <u>Booklets for Children</u> - Helps children make choices and feel in control of their asthma. Written at the third-grade reading level. • <u>Booklets for Families</u> -_Helps parents to assist their child to manage their asthma. Written at the fifth-grade reading level. |
| Instructors: | Trained health professionals such as nurses, respiratory therapists, health educators, or social workers. |

| | |
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| Development: | <p>You Can Control Asthma was developed to demonstrate the feasibility of using existing hospital and clinic staff to teach asthma education as an integral part of medical care. The program was first implemented in emergency departments where staff taught families and children how to successfully manage acute asthma episodes and follow through on referrals. Based on its initial success, staff decided to expand the reach of the program by offering it to families and children hospitalized for asthma.</p> <p>Booklets for children and their families were developed by a team of physicians, nurses and health educators from Georgetown University's Division of Children's Health Promotion in the Department of Family Medicine.</p> |
| Findings: | <p>Taggart (1991) - After completion of the in-patient hospital program, researchers found that:</p> <ul style="list-style-type: none"> • Children had statistically significant increases in knowledge of and expected response to early warning signs of acute asthma. They also had statistically significant increases in sense of personal control. (Health Locus of Control) • Parents reported increases in the use of asthma self-management techniques for acute episodes of asthma. • Program participants reduced their frequency of emergency room use. |
| Publications: | <p>Taggart VS, Zuckerman AE, Sly MR, Steinmueller C., et al. You Can Control Asthma: Evaluation of an Asthma Education Program for Hospitalized Inner-City Children. <u>Patient Education and Counseling</u>. 1991; 17: 35-47.</p> <p>Taggart VS, Zuckerman AE, Lucas S, Acty-Lindsey A, Bellanti JA. Adapting a self-management education program for asthma for use in an outpatient clinic. <u>Annals of Allergy</u>. 1987 March, 58: 173-178.</p> |

Appendix C:

Descriptions of Asthma Self-Management Education Curricula for Children and Adolescents

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| Title: | Open Airways for Schools® (OAS) |
| Organization: | American Lung Association (ALA) |
| Website: | http://www.lung.org/lung-health-and-diseases/lung-disease-lookup/asthma/asthma-education-advocacy/open-airways-for-schools/ |
| Description: | The American Lung Association’s Open Airways For Schools® is a school-based curriculum designed to teach children ages 8-11 years old (who have asthma) how to recognize and manage their asthma symptoms, avoid exposure to asthma triggers and make decisions about their health. Instructors use a fun and interactive approach for teaching asthma self-management skills. |
| Content: | The curriculum has six, 40-minute group lessons held during the school day. Teaching methods consist of a combination of group discussion, games, role play and stories to promote students’ active involvement in the learning process. Lessons cover basic information about asthma, recognizing and managing asthma symptoms, using medication, avoiding asthma triggers, getting enough exercise and doing well at school. |
| Materials: | Classroom kits contain a detailed curriculum guide, posters and activity handouts. Kits also have materials for the children to take home and share with their parents. All materials are available in English and Spanish. |
| Instructors: | Trained instructors (certified facilitators), include school nurses, other school personnel, parents, community volunteers, or others with an asthma background that are interested in working with children. Training for new instructors is available through a self-paced online course (five modules) and a skill-building workshop to enhance facilitation skills. |
| Development: | Open Airways For Schools® was developed by researchers at Columbia University, in collaboration with the American Lung Association. It was designed specifically to be delivered in schools. |
| Findings: | The initial study on effectiveness was conducted with a diverse group of 239 children from 12 elementary schools in parts of New York City where the rates of severe asthma were unusually high. Children who completed the program took more steps to manage their asthma, improved their school performance, and had fewer and less severe asthma episodes than those who did not participate. |

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| <p>Findings (cont.):</p> <p>Publications:</p> <p>Case study:</p> | <p>Parents of children participating in the program took more steps to help manage their children’s asthma. Other findings showed that children without asthma were more willing to help children with asthma. In addition, children with asthma supported one another.</p> <p>Evans D., Clark N., Feldman C., et al. “A School Health Education Program for Children with Asthma Aged 8-11 Years,” <u>Health Education Quarterly</u>. 14 (3): 267-279, 1987.</p> <p>For information on how elementary schools in a county in Maryland successfully replicated the program, visit the CDC Web site at http://www.cdc.gov/asthma/interventions/openairway.htm</p> |
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| Title: | Kickin' Asthma |
| Organization: | American Lung Association (ALA) in California |
| Website: | http://www.lung.org/about-us/local-associations/california.html |
| Description: | <p>Kickin' Asthma is a school-based, asthma self-management education program geared toward teens living in urban, low-income neighborhoods. These teens often have social and economic challenges, tend to have higher rates of asthma and are more likely to end up in the emergency department. Kickin' Asthma addresses needs of students 11-16 years old (6th–10th grade) who are too old for Open Airways for Schools®, but are not yet adults. The overall goal is to empower teens to take control of their asthma so they can grow up with the skills needed to manage their symptoms and live a full and active life.</p> |
| Content: | <p>The curriculum is organized into four, 50-minute sessions. Sessions are offered at school during the students' lunch period to avoid conflicts with academic classes. Topics include:</p> <ul style="list-style-type: none"> • Lung physiology and asthma basics • Triggers, symptoms, and warning signs • Medications • Emergencies, problem solving, and review <p>Each session also has optional modules for skits, games, videos, and role-playing scenarios allowing certain modules to be taught by either a health educator or peer educators.</p> |
| Instructors: | <p>Instructors are trained by the American Lung Association (ALA) to facilitate the sessions. They may be school staff members, nurses, parents, community volunteers, or anyone interested in helping teens learn how to take better control of their asthma.</p> |
| Development: | <p>Kickin' Asthma was developed jointly by ALA staff, Oakland Unified School District (OUSD) nurses and peer educators over a 3-year period. Kickin' Asthma is similar to Open Airways for Schools® except that it covers more advanced topics and offers participants opportunities to use learning styles that are more suitable for adolescents' level of cognition and awareness.</p> |
| Findings: | <p>In 2008, researchers conducted a study at OUSD to evaluate the effectiveness of Kickin' Asthma. Students completed baseline and 3-month follow-up surveys about symptom frequency, health care use, activity limitations and medication use. Between baseline and follow-up, students reported that they experienced significantly fewer days with</p> |

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| <p>Publications:</p> | <p>activity limitations, fewer nights of sleep limitations, and less frequent emergency department visits or hospitalizations.</p> <p>Magzamen S, Patel B, Davis A, Edelstein J, Tager IB. Kickin' Asthma: school-based asthma education in an urban community. <u>J Sch Health</u>. 2008; 78: 655-665.</p> |
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| Title: | Power Breathing™ |
| Organization: | Asthma and Allergy Foundation of America (AAFA) |
| Website: | http://www.aafa.org |
| Description: | Power Breathing™ is an education program designed for middle and high school students (11-19 years old) who have asthma. It consists of three, 90-minute sessions (or six, 45-minute sessions) that cover the basics of asthma, asthma control strategies and ways to manage asthma in social situations. It is designed for implementation in schools. |
| Content: | <ul style="list-style-type: none"> • Basic pathophysiology of asthma • Role of inflammation • Strategies for avoiding acute episodes • Ways to reduce or avoid exposure to triggers/irritants • Peak flow monitoring as part of the asthma management plan • Types of medications, how they work, and when they should be taken • Coping with concerns, fears, and barriers in asthma management • Communication with parents and care givers • Expressing personal wishes and hopes, with the expectation that these life goals can be achieved if asthma is properly managed |
| Materials: | <ul style="list-style-type: none"> • Manual and Implementation Guide • Facilitator Video • Parent Video • Board game • Reproducible handouts |
| Findings: | <ul style="list-style-type: none"> • Atherly A., et.al. (2009) (Overall evaluation of Power Breathing™) <p>Subjects in the intervention group reported a significant decrease in the number of days they experienced an asthma attack or had trouble breathing during a 2-week period. In contrast, subjects in the control group had an increase in the number of days experiencing an asthma attack or having trouble breathing during a 2-week period. The program cost approximately \$3.9 per asthma attack-free day gained, suggesting that Power Breathing may be a cost effective asthma intervention. Results also suggest that school-based asthma interventions that are properly implemented and administered are an appropriate use of societal resources.</p> |

Appendix D

Descriptions of Self-Management Education Curricula for Adults

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| Title: | Breathe Well, Live Well: An Asthma Management Program for Adults® |
| Organization: | American Lung Association (ALA) |
| Website: | http://www.lung.org/lung-health-and-diseases/lung-disease-lookup/asthma/asthma-education-advocacy/breathe-well-live-well/about-breathe-well-live-well.html |
| Description: | Breathe Well, Live Well® (BWLW) is an asthma self-management education curriculum for adults. Facilitators use materials in the BWLW curriculum guide to teach small groups of adults important skills to help them gain control of asthma symptoms and build support teams at home and work. BWLW may be implemented in a wide variety of clinical or community settings and is customizable to suit the needs of unique groups. In 2013, the ALA developed an extensive self-help guide as a companion piece for the curriculum. The guide allows adults the flexibility to review the educational materials individually or together with a health care provider/community health worker. |
| Content: | <p>The curriculum has three modules:</p> <ul style="list-style-type: none"> • <u>Orientation module</u>: Facilitator calls each of the program participants, provides a brief overview of the program and instructs participants to bring their peak flow meter, asthma action plan and the names of all their medicines to the next session. • <u>Workshop module</u>: Facilitator conducts a 4-5 hour intensive education session that covers understanding the pathophysiology of asthma; improving communication skills with healthcare providers; learning about asthma medicines; tracking asthma symptoms; using a peak flow meter; identifying and controlling asthma triggers; developing an asthma action plan and knowing what to do in an emergency. Facilitators use guided practice and feedback on inhaler and peak flow meter use, goal setting, and modeling to optimize learning and behavior change. • <u>Follow-up/reinforcement module</u>: Facilitator calls participants to determine if they have been able to implement skills learned in the workshop and to help resolve any problems. |

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| <p>Materials:</p> | <p>The Breathe Well, Live Well ® kit includes a facilitator’s guide; 10 participant workbooks; and standardized evaluation materials.</p> <p><i>Breathe Well, Live Well: The Guide to Managing Your Asthma at Home and Work</i> is also available for individual study. The Guide covers:</p> <ul style="list-style-type: none"> • Assessment and goal setting • Understanding asthma, flare-ups, triggers, and taking control • Building an asthma support team at home and at work • Taking asthma medicines • Using tools for daily self-management (using an Asthma Action Plan) • Following good health habits • Tear-out emergency phone number card and Asthma Action Plan <p>Materials are available in English, Spanish, print, eBook, or a combination print/e-book format through the Krames Patient Education website. Go to https://www.kramesstore.com and search for Breathe Well, Live Well®.</p> |
| <p>Instructors:</p> | <p>Training for new facilitators includes the completion of a full-day workshop conducted by a certified BWLW instructor. The workshop provides a thorough review of the curriculum, tips for working with adults, modeling appropriate skills to teach adults with asthma, identifying steps to deliver the program and collecting evaluation data.</p> |
| <p>Development:</p> | <p>In 2004, the ALA modified a clinic-based intervention (originally developed in the mid 1980’s at the University of Alabama at Birmingham Lung Health Center) and created a new community-based program called <i>Breathe Well, Live Well: An Asthma Management Program for Adults</i>®.</p> <p>The new program was pilot tested in six local ALA sites representing diverse communities across the country. ALA staff completed a formative evaluation of the program to determine the acceptability and feasibility of the program materials and implementation processes. They also collected preliminary data on the efficacy of the program to improve asthma self-management knowledge and practices. ALA launched BWLW nationwide in January of 2007.</p> |
| <p>Findings:</p> | <p>Results from the original clinic-based study (1987) showed that a comprehensive effort to improve self-management practices in adults with asthma can substantially improve adherence to treatment regimens.</p> |

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| Title: | Meeting-in-a-Box Presentation Series |
| Organization: | Asthma and Allergy Foundation of America (AAFA) |
| Website: | http://www.aafa.org/page/asthma-allergy-education-programs-teach-patients.aspx%20-%20meetinginabox%20-%20meetinginabox#meetinginabox Click on “Meeting in a Box Presentation Series” |
| Description: | Kits include more than 50 colorful slides; presenter’s guide and script; meeting coordinator’s guide; reproducible handouts; a sample peak flow meter and spacer; meeting sign-in sheet; meeting evaluation form; and information about AAFA. The English presentations available on CD include electronic files of all materials plus a PowerPoint document with the slides, script and handouts. Allow 1 hour for English presentation; 2 hours for Spanish. |
| Content: | <ul style="list-style-type: none"> • <u>Box #1: The ABC’s of Asthma</u> Provides definitions, anatomy and triggers for asthma • <u>Box #2: Getting the Most from Your Medications</u> Describes asthma medicines and when and why they work • <u>Box #3: The Tools of Asthma Management</u> Includes information on spacers, peak flow meters, inhalers and nebulizers • <u>Box #4: Asthma Management at School</u> Presents the basics from box 1-3, in addition to how to identify asthma emergencies at school, exercise-induced asthma and how to form a school management team. • <u>Box #5: Controle Su Asma-Reunion Al Instante (Spanish)</u> Covers asthma basics, data, definitions and goals of therapies, triggers, medicines and tools for asthma management. |