



RUSH CENTER FOR
Urban Health Equity

Community Health Worker Training Manual **PEDIATRIC ASTHMA**



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SECTION 2: PEDIATRIC ASTHMA **(Supplement to self-management core training)**

This curriculum is designed for CHWs who will work with families of children with asthma. The curriculum focuses on achieving asthma control. Versions of this curriculum have been used in three asthma intervention studies by the author. Delivery of the curriculum requires a solid foundation of asthma physiology, triggers, and medications. This manual does not contain sufficient information for someone without strong asthma knowledge to deliver the training. A clinician or a certified asthma educator (with clinician supervision) can deliver this curriculum. For our study, we contracted educators on smoking cessation and integrated pest management because these are specialized topics with well-developed curriculums.

Remember:

- Integrate self-management skills into each lesson.
- Self-management skills and content delivery require practice. Make sure that at the end of each day, trainees make a change plan for themselves using the self-management skills to address their own challenges. This plan may or may not involve the disease-specific content area.
- Be sure to review the change plans and disease-specific content areas when sessions resume.

Pediatric Asthma Topic	Time Needed
Asthma Basics	3 hours
Triggers	4 hours 30 minutes
Medications	2 hours 30 minutes
Asthma Outside the Home	45 minutes
Allergies	40 minutes

Lesson #1: Asthma Basics

Lesson Objectives

By the end of this lesson, trainees will be able to:

1. Identify who is at highest risk of asthma.
2. List several things that can cause asthma.
3. Describe what happens in the lungs with asthma and with asthma attacks.
4. List several symptoms of asthma
5. Discuss what is happening in the lungs to cause these symptoms.
6. Demonstrate ability to describe asthma physiology and symptoms in a role play.

Estimated Time Required

3 hours

Documents

1. PRE Knowledge /Competency Assessment
 - a. We did not create a pre/post assessment for this module but we recommend future trainings create one.
2. Asthma facilitator presentation (likely in power point)
 - a. Asthma prevalence and morbidity trends nationally and locally
 - b. Race/ethnicity disparities
 - c. Urban disparities
 - d. Define asthma. Describe spasm and inflammation.
3. Asthma Symptom Log worksheet
4. POST Knowledge /Competency Assessment
 - a. We did not create a pre/post assessment for this module but we recommend future trainings create one.

Materials

Large flip chart and/or whiteboard

Lung models

Large straws

Lesson Overview

Activity	Topic	Recommended Method(s)	Estimated Time	Documents/ Materials
1	PRE Knowledge /Competency Assessment	Assessment 	5 minutes	Pre-assessment
2	Asthma Experiences	Discussion 	10 minutes	
3	The Big Picture of Asthma	Facilitator Presentation 	20 minutes	Asthma presentation
4	Causes of Asthma	Brainstorm, Facilitator Presentation 	20 minutes	Large flip chart and/or whiteboard
5	Asthma Physiology	Facilitator Presentation, Activity 	20 minutes	Lung models, Large straws
6	Asthma Symptoms	Facilitator Presentation, Brainstorming 	30 minutes	Large flip chart and/or whiteboard
7	Self-Management Concepts as Applied to Asthma	Brainstorming, Facilitator Presentation, 	20 minutes	Large flip chart and/or whiteboard, Asthma Symptom Log worksheet

8	Role Play	Role Play, Discussion  	40 minutes	
9	Review of Main Messages	Review 	10 minutes	
10	POST Knowledge /Competency Assessment	Assessment 	5 minutes	Post-assessment

Content

1. PRE Knowledge /Competency Assessment

Distribute, complete, and collect Pre-Assessment



2. Discussion of Previous Asthma Experiences

Ask group what they already know about asthma.

Prompt about personal experiences with asthma, general reactions and thoughts



3. The Big Picture of Asthma

Prevalence

Morbidity and mortality trends

Disparities



4. Causes of Asthma

Brainstorm: "What causes asthma?" Differentiate between asthma the disease and attacks.

Causes of Disease

- a. Genetics (genetic/environmental interaction)
- b. Prematurity or birth trauma
- c. Maybe obesity
- d. Maybe some exposures such as toxic chemicals or certain allergens (cockroach)



Causes of Attacks

- a. Triggers
- b. Allergies
- c. Obesity

Other associations

- a. Mental health, stress
- b. Socioeconomic Status

5. Physiology of Asthma (use lung models to demonstrate)



Where are the lungs, what do they look like

What is spasm

What is inflammation

Straw exercise: Give everyone a straw. Have them pinch their noses shut and breathe only through straw for a minute. Then run in place while still breathing only through straw. Breathe normally. Have group talk about how they felt. (It is relatively easy when not moving but gets harder with exercise. Some people experience significant anxiety.) This is how people with asthma feel all the time when not controlled. (Be careful with trainees who have asthma or other respiratory problems, they may not be able to participate fully.)



6. Symptoms – Recognizing Asthma

Brainstorm: “What are the symptoms of asthma?”



Symptoms

- a. Cough, wheeze, fatigue (tired), tightness or pain in chest, breathing too fast, scared, can't do exercise or play, cold goes to the chest and won't go away



Refer back to physiology, discuss what is happening during symptoms (spasm, inflammation)

Brainstorm: “What is the Influence of stress on symptoms?”
(causal role, influence on recognition/reaction)



7. Self-Management Concepts as Applied to Asthma

Look at list of symptoms and consider physiology. Look at lists of self-management concepts. Ask “How can we apply self-management concepts to teaching about asthma symptoms?”



Examples:

- Self-monitoring: Use symptoms log
- Social support: Have teacher help monitor day symptoms



8. Role Play on Asthma Physiology & Symptoms



Work in pairs

Provide different scenarios (see examples)

In pairs, practice teaching basic asthma physiology and symptoms using self-management when possible.

When groups have had adequate time, reconvene full group to discuss techniques and observations



9. Review of Main Messages



Review asthma prevalence, causes, physiology, symptoms

Check for understanding

Answer questions

10. POST Knowledge /Competency Assessment



Distribute and have trainees complete

Review and collect

Lesson #2: Asthma Triggers

Lesson Objectives

By the end of this lesson, trainees will be able to:

1. List common triggers.
2. Describe how stress and culture influence triggers.
3. Discuss strategies to reduce tobacco smoke exposure.
4. Demonstrate the ability to apply integrated pest management techniques.
5. Demonstrate incorporation of a self-management skill around trigger reduction in a role play.

Estimated Time Required

4 hours 30 minutes

Documents

1. PRE Knowledge /Competency Assessment
 - A. We did not create a pre/post assessment for this module but we recommend future trainings create one.
2. We used handouts from local asthma organizations about mold, dust mites, and general indoor and outdoor triggers.
3. We created handouts on smoking cessation.
4. POST Knowledge /Competency Assessment
 - A. We did not create a pre/post assessment for this module but we recommend future trainings create one.

Materials

Large flip chart and/or whiteboard

The Safer Pest Control Project used a variety of materials for their integrated management discussion including caulk, steel wool, insecticides, and traps.

Lesson Overview

Activity	Topic	Recommended Method(s)	Estimated Time	Documents/ Materials
1	PRE Knowledge /Competency Assessment	Assessment 	5 minutes	Pre-assessment
2	Asthma Triggers	Brainstorm, Facilitator Presentation 	20 minutes	Large flip chart and/or whiteboard, Handouts on triggers
3	Interventions to Reduce Asthma Triggers	Brainstorm, Facilitator Presentation 	10 minutes	Large flip chart and/or whiteboard
4	Culture and Asthma	Discussion 	5 minutes	
5	Stress and Asthma	Discussion 	5 minutes	
6	Self-Management Concepts Applied to Asthma	Brainstorm 	20 minutes	
7	Role Play	Role Play, Discussion  	25 minutes	
8	Smoking Cessation	Facilitator Presentation 	45 minutes	Handouts on cessation

9	Integrated Pest Management	Facilitator Presentation 	2 hours	Variety of materials
10	Review of Main Messages	Review 	10 minutes	
11	POST Knowledge /Competency Assessment	Assessment 	5 minutes	Post-assessment

Content

1. PRE Knowledge /Competency Assessment

Distribute, complete, and collect Pre-Assessment



2. Asthma Triggers

Brainstorming: Ask “What are some triggers?” (Write on board and save for later use.) Make sure ultimately all indoor and outdoor triggers are listed.

Refer back to physiology, discuss what is happening when exposed to triggers (spasm, inflammation)



3. Interventions to Reduce Asthma Triggers

Brainstorming: “What can be done to reduce triggers? (Write on board and save for later use.) Make sure all major indoor routine interventions are listed.



4. Culture and Asthma

Group discussion: What is the role of culture in asthma?

Discuss culture-related behaviors (Example: specific cleaning products, candles, protective pets, hot/cold beliefs)

How to approach families: Discuss how families in the target group prefer to communicate about health information (Example: include whole family or just head of household, is authoritarian style preferred or would helping peer be better received, etc)



5. Stress and Asthma

Discuss how stress affects behaviors and asthma



6. Self-Management Concepts

Use trigger reduction ideas generated in Lesson 3

Brainstorm how to apply self-management concepts



7. Role Play

Work in pairs

Practice trigger reduction methods using self-management concepts

When groups have had adequate time, reconvene full group to discuss techniques and observations



8. Smoking Cessation

We had a guest lecture by a family physician who discussed different techniques for smoking cessation and resources CHWs can use.



9. Integrated Pest Management

We had a guest lecture from the Safer Pest Control Project (www.spcpweb.org) which explained integrated pest management and taught how to implement it.



10. Review of Main Messages

Overview of asthma basics: physiology and symptoms

Review major themes and takeaway points (what are triggers, smoking cessation, integrated pest management)

Check for understanding

Answer any questions



11. POST Knowledge /Competency Assessment

Distribute and have trainees complete

Review and collect



Lesson #3: Medications

Lesson Objectives

By the end of this lesson, trainees will be able to:

1. Compare reliever to controller medicines.
2. Discuss medication side effects.
3. Demonstrate proper technique for medication devices.
4. Describe how stress and culture influence medication usage.
5. Demonstrate incorporation of a self-management skill around medication technique or adherence in a role play.

Estimated Time Required

2 hours 30 minutes

Documents

1. PRE Knowledge /Competency Assessment
2. Medication pictures (worksheet , power point, or both)
3. We used instruction sheets on how to use and clean each type of inhaler from the CHEST Foundation, www.chestnet.org.
4. Medication log
5. POST Knowledge/Competency assessment

Materials

Large flip chart and/or whiteboard

Asthma devices (demonstration metered dose inhaler, spacer, spacer with mask, discus, symbicort)

Lesson Overview

Activity	Topic	Recommended Method(s)	Estimated Time	Documents/ Materials
1	PRE Knowledge /Competency Assessment	Assessment 	5 minutes	Pre-assessment
2	Asthma Medications & Their Categories	Brainstorm, Facilitator Presentation  	20 minutes	Large flip chart and/or whiteboard, Medication pictures
3	Why People Don't Take Medications	Brainstorm, Discussion  	20 minutes	Large flip chart and/or whiteboard
4	Self-Management Concepts	Brainstorm 	20 minutes	
5	Role Play	Role Play, Discussion  	20 minutes	
6	Asthma Devices	Facilitator Presentation, Activity, Peer Teaching   	50 minutes	-Asthma Devices - Device technique instruction handouts
7	Review of Main Messages	Review 	10 minutes	
8	POST Knowledge/Competency assessment	Assessment 	5 minutes	Post-assessment

Content

1. PRE Knowledge /Competency Assessment

Distribute, complete, and collect Pre-Assessment



2. Asthma Medications

Brainstorm: List all asthma medications. Write on whiteboard.



Brainstorm: “Let’s categorize these medications into different groups”. Help them to end up with three categories: Quick relief (rescue), controller, allergy)

Refer back to physiology and explain what medicines do (quick relief reduces spasm, controller reduces inflammation)



Brainstorm. “What are side effects of these medicines?” (Quick relief = fast heart rate, shaky. Controller = yeast in mouth.) It is important to say what is NOT a side effect such as addiction or obesity. Oral prednisone/prednisolone should be compared to inhaled corticosteroids.



3. Why People Don’t Take Medicines

Brainstorm why people don’t take medicines (write on board and save for later use). Some examples: Fear of side effects, forget, no time, don’t understand them, etc.



Role of Culture: Discuss culture-related behaviors related to medicine. What is the best way to approach families in this community about medicine. (For example, is the target population very open to medicines or do they prefer a more “natural” approach? Are they trusting of doctors?)



4. Self-Management Concepts

Using the list from Activity 3 about why people don’t take medicines, brainstorm how to apply self-management concepts.



5. Role Play

Work in pairs

Provide different scenarios

Practice teaching about ways to improve medication acquisition/adherence using self-management concepts

When groups have had adequate time, reconvene full group to discuss techniques and observations



6. Asthma Devices: Metered dose inhaler with and without spacer, discuss inhaler

Facilitator demonstration of technique steps

Activity : Practice using demonstration devices

Peer teaching: In pairs, teach each other how to use the devices.



7. Review of Main Messages

Overview of asthma medications

Review major themes and takeaway points (medication physiology and medication categories, when they need to be taken, medication technique)

Check for understanding

Answer any questions



8. POST Knowledge /Competency Assessment

Distribute and have trainees complete

Review and collect



Lesson #4: Asthma Outside the Home

Lesson Objectives

By the end of this lesson, trainees will be able to:

1. Discuss strategies for improving communication with health care providers.
2. List the rights of children with asthma in schools regarding medications, physical education, and services.

Estimated Time Required

45 minutes

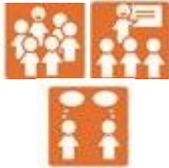
Documents

- Asthma Action Plan: We recommend the Asthma Action Plan used by your clinical partner or the school district
- School forms (disability form, school asthma forms for self-carry)

Materials

Large flip chart and/or whiteboard

Lesson Overview

<i>Activity</i>	<i>Topic</i>	<i>Recommended Method(s)</i>	<i>Estimated Time</i>	<i>Documents/ Materials</i>
1	Health Care Providers	Discussion, Facilitator Presentation, Brainstorm 	20 minutes	Asthma Action Plan, Large flip chart and/or whiteboard
2	Schools, and Their Roles & Responsibilities	Facilitator Presentation, Discussion, Brainstorm 	20 minutes	School forms
3	Review of Main Messages	Review 	5 minutes	

Content

1. Health Care Providers



Discussion: “What doctors have you liked or disliked? Why? What qualities did they have?” (write answers on whiteboard)

Discussion: What can/should doctors do for you? (facilitate to get to answers of general health, medicines, basic education, referral to specialists, asthma action plans)

Insurance Options: Explain coverage of medications, referrals, and trigger reduction with public insurance and private plans (copays, refill restrictions, access to allergists and pulmonologists, air purifiers, etc)



Brainstorm: “What are some ways to communicate better with your doctor?”

- Have lists of questions
- Keep a record of medication use
- Keep a record of medication symptoms
- Others...



2. Schools and their Roles and Responsibilities



Describe the roles of different personnel around asthma management: Principal, nurse, teachers

Describe what schools are allowed to do: self-carry laws, parent and physician forms, physical education, 504 plans

Brainstorm: “What are some ways to effectively communicate with your school?”



Discussion



3. Review of Main Messages

Review major themes and takeaway points (communication is important and there are specific ways to improve communication)



Answer any questions

Lesson #5: Allergies

Lesson Objectives

By the end of this lesson, trainees will be able to:

1. Review the role of allergies in asthma.
2. Explain the importance of medicine intervention for those with allergies.

Estimated Time Required

40 minutes

Documents

Medication pictures (handouts, power point, or both)

Materials

Allergy medication devices (nasal inhalers)

Lesson Overview

<i>Activity</i>	<i>Topic</i>	<i>Recommended Method(s)</i>	<i>Estimated Time</i>	<i>Documents/ Materials</i>
1	Allergies and Asthma	Review, Brainstorming  	15 minutes	
2	Allergy Medicines	Facilitator Presentation, Discussion  	20 minutes	Medication pictures, allergy medication devices
3	Review of Main Messages	Review 	5 minutes	

Content

1. Allergies and Asthma

Brainstorm: “What is an allergy?” “How do allergies affect asthma?” (allergies trigger asthma, can worsen asthma)



Tie back to physiology



Food versus environmental allergies

Allergy versus irritant (smoke, smells, weather, temperature are irritants but not real allergies)

2. Allergy Medications and Devices

Discuss main allergy medications and devices (antihistamines, singulair, inhaled corticosteroid nasal sprays)



3. Review of Main Messages

Review major themes and takeaway points (controlling allergies is important for asthma control, allergens are different than irritants)



Check for understanding

Answer any questions