

## Supplementary Online Content

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### **eAppendix.** HomeBASE Community Health Worker Protocols

This supplementary material has been provided by the authors to give readers additional information about their work.

**This online supplement contains the protocols used by the HomeBASE program, which concluded in 2011. We have revised and updated the protocols since this time. Current protocols are available at our website:**

<http://www.kingcounty.gov/healthservices/health/chronic/asthma/resources/tools.aspx>

## **HomeBASE Community Health Worker Protocols**

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## Educational Protocols

## Asthma Basics for Adults

### Background

- Asthma is a chronic disease. It is always present, though asthma symptoms, like coughing, wheezing, and trouble breathing come and go. Asthma stays in people's lungs all the time and people have it for many years. The potential for symptoms to return is always present. Asthma requires attention even when you feel well.
- It is important to pay attention to asthma. If not treated properly, it can limit your activities, affect success in work, interfere with family activities, and even lead to visits to the emergency room or death.
- There is no clear way to predict how asthma will affect you in the long-term. While some people with asthma may have fewer (or even no) symptoms when they grow older, others will continue to be affected for the long-term.
- There is no cure for asthma, but with proper treatment asthma can be controlled. Good control of asthma means:
  - Participating in work, play, physical activity and sports normally.
  - Living free from symptoms, day and night.
  - Being able to avoid serious episodes that lead to urgent clinic visits, emergency room visits, hospitalizations, missed school days, and missed work.
- Asthma affects the airways that bring air to the lungs. Triggers are things that affect the airways and bring on asthma symptoms. People with asthma have airways that are unusually sensitive to triggers. The triggers cause swelling and narrowing of the airways as well as increasing mucus production. These in turn block the airways, making it hard to get air in and out of the lungs, which causes asthma symptoms, like wheezing, cough, shortness of breath or chest tightness.
- Asthma medications work by decreasing the mucus and swelling and by relaxing the muscles which are tightening up and narrowing the airway. As a result, the medicines open up the airway.
- There are two main types of asthma medicines.
  - Take **controller** (sometimes called "daily preventive") medicines every day to prevent attacks. Think of them as a vitamin to keep asthma away. They need to be taken every day, even if you feel good. They decrease mucus and swelling.
  - Use **reliever** (sometimes called "rescue" or "quick relief") medicines when symptoms occur. They relax the airway muscles quickly. If you use reliever medicines more than twice a week, it means your asthma is not under control and you should talk to your nurse or doctor.
- Medicines need to be used with proper technique to be effective. A spacer/holding chamber helps make sure you get the medicines properly. Instruct in diskus use if appropriate.
- Triggers of asthma symptoms include pollen, dust mites, mold, cats, dogs, rodents, cockroaches, climate changes, cigarette and other types of smoke, strong odors, air pollution, emotions or stress, exercise, and colds and other infections.
- Asthma is not an emotional disease: emotions do not cause asthma. But for some people with asthma, strong emotions like crying or laughing can set off an asthma attack.

- Know what triggers set off your asthma and take action to keep them away from you.
- Monitor asthma by following symptoms and/or using a peak flow meter (explain what a peak flow meter is if necessary and let the client know you will talk about this more later). When symptoms or peak flow worsen, follow your action plan (explain, if necessary, that an action plan is a written set of instructions from your doctor or nurse which says what to do if asthma symptoms or peak flow get worse, and let client know you will talk more about this later). If they don't improve, contact your provider.
- If you continues to have frequent asthma symptoms, a change in his/her medications should be considered. Let your medical provider know about this and other concerns. Your provider must know about symptoms and what medication you are taking in order to prescribe the right medicine. Make sure the provider explains everything you want to know.

### **Assessment**

First time talking about Asthma Basics:

- Tell me what you know about asthma (that you've learned from your healthcare provider or asthma nurse. Listen or prompt for proper use of medicines, inhaler technique, action plan, triggers, self-monitoring and peak flow).
- What more would you like to know or understand better about asthma?
- How is your asthma doing?
- During the last 2 weeks, how many days or nights did you have any asthma symptoms, like wheezing, coughing, shortness of breath or chest tightness?
- During the past 3 months, how many times did you stay overnight in the hospital, or go to the emergency room, or have to go right to the clinic because of asthma that was getting worse?
- During the past three months, have you slowed down or not participated in usual activities because of asthma?
- Has your asthma interfered with your activities (like going to work or getting things done around the house) or those of the family? How?
- Are there any other ways in which your asthma has affected you?
- What are one or two things you'd like to see change about the way asthma now affects you?
- What are one or two things you would like to do now to help control your asthma better? Probe to identify priorities.

### **Educational Messages**

- Asthma is a chronic illness
- Asthma can't be cured, but it can be managed. Good control means no symptoms day or night, participating in all activities, no ER visits or hospitalizations or missed school.
- Important to pay attention to asthma. If not treated properly it can limit your activities, lead to ER visits, and even can cause death.
- Asthma affects the airways.
- Triggers cause narrowing, swelling, and mucus production in the airways.
- This swelling blocks the airways and it's hard to get air into and out of the lungs.
- This causes asthma symptoms: wheeze, cough, shortness of breath or chest tightness.
- There are two types of medications: controller (use daily) and reliever or rescue (use with symptoms). Good technique is essential.

- Know your triggers and keep away from them. Triggers include dust mites, mold, cats, rodents, roaches, cigarettes, etc.
- Monitor your asthma. Use a peak flow meter if appropriate. Follow your action plan.
- You and your provider are partners in keeping you healthy. If symptoms worsen, or do not improve, call your provider. A change in medication should be considered. Always keep follow-up appointments.

## **Actions**

### ***CHW***

- Review basic lung function and basic asthma physiology, showing diagrams to patient as needed, based on assessment of client knowledge.
- Assess level of control by reviewing asthma symptoms and number of urgent clinic visits, ED visits and hospitalizations in the past year.
- If asthma has led to any of the following, suggest that the client contact their doctor or nurse and let the CHW know.
- Persistent asthma symptoms (symptoms more than 2 days per week) Any ED visits/hospitalizations or 2 or more urgent clinic visits in the past 3 months.
- Slowing down and not participating in usual activities.
- Missing more than 5 days of school in the past three months.
- Disruption of usual activities.

### ***Participant***

- Develop an understanding of the changes in the lung that occur with asthma.
- Understand what a trigger is.
- Understand the two types of asthma medicines and the need to use daily preventive medicine every day.
- Understand what to expect from good asthma control.
- Understand that it is important to communicate with your medical provider and asthma nurse.

## **Follow-up Visits**

Assess at every future visit

- During the daytime in the **last 14 days**, how many days did you have asthma symptoms, such as wheezing, shortness of breath, or tightness in the chest, or cough? \_\_\_\_\_
- During the nighttime in the **last 14 nights**, how many nights did you wake up because of asthma symptoms, such as wheezing, shortness of breath, or tightness in the chest, or cough? \_\_\_\_\_
- How many asthma-related visits have you made to the doctor, hospital or emergency room since we last spoke?  
\_\_\_\_\_ doctor \_\_\_\_\_ hospital \_\_\_\_\_ ER
- How many days of work have you missed in the **last month**? \_\_\_\_\_
- Do you have any updates about your medication since we last spoke, such as changes in the medications, refills, running out of them, etc.?
- How does the participant look?

- Optional:
  - How many refills for your rescue medications have you made in the last year?
  - Progress on self-management goals \_\_\_\_\_

**Supplies**

CHW encounter form

**Education Handouts**

- What is Asthma, p. 4; My Asthma Clues, p. 7; Triggers, p. 13
- What is Asthma? (CHMRC)

**Referrals**

None

## Colds & Asthma Care

### Background

#### Asthma and colds

- Colds (viruses) are one of the most frequent asthma triggers for participants.
- It's very important to watch for asthma signs and symptoms at the first sign of a cold.
- Use a peak flow meter at the first sign of a cold to check on asthma control.
- Some providers will tell the parent to increase the dose of their controller medication at the first sign of a cold.
- The flu shot does not prevent colds, but it does prevent the flu, a more serious infection caused by the influenza virus. Participants with asthma should get a flu shot every year. People with asthma often get much sicker than other people if they get the flu because their asthma gets worse. All of their family members who are older than 6 months should also get a flu shot to prevent giving the flu to the person with asthma. (See information sheet on influenza.)

### Assessment

None

### Educational Messages

#### Colds

- A cold is an infection that can affect the nose, throat, sinuses, and ears. Colds are caused by viruses.
- Colds usually last 1-2 weeks.
- Symptoms include:
  - runny or stuffy nose
  - sometimes fever and sore throat
  - sometimes a cough, hoarseness, red eyes, swollen lymph nodes in the neck, headache, poor appetite, muscle aches.
- Colds are contagious. They can be spread by coughing, sneezing, and direct contact (being close to someone with a cold or hand to hand contact.)
- If you get a cold, the best thing to do is get plenty of rest, drink lots of fluids, and try to stay comfortable. There is no cure for a cold. Antibiotics do not help a cold.
- Watch for signs of bacterial infection: yellow drainage from the eyes, sinus pressure or face pain, or difficulty breathing. Call your doctor if you notice these signs or if you are worried about your participant.

#### **Prevention—keep your germs to yourself and keep the germs away:**

- Washing hands often and staying away from people with colds are the most important ways to keep your kids from getting sick.
- Cover your nose and mouth with a tissue or your sleeve when sneezing, coughing, or blowing your nose.
- Throw out used tissues in the trash as soon as you can.

- Wash hands frequently especially when you are sick or around someone who is sick.
- Keep hands away from face, especially eyes and nose. Viruses are spread by touching the nose or mucus of someone with a cold and then touching someone else.
- Try to stay home if you have a cough and fever.
- Don't share things like cigarettes, towels, toys, or anything else that might be contaminated with respiratory germs.
- Don't share food, utensils, or beverage containers with others.
- If asked to, use face-masks provided in your doctor's or clinic waiting room and follow their instructions to help stop the spread of germs.

### **What is a cold?**

The common cold is passed from person to person, usually by touching a person who has a cold, or touching something that that person has touched (like a door knob)—and then touching your mouth, nose, or eyes. Colds can also be spread in the air from sneezing and coughing.

Colds can occur at any time of year, but are more common during the winter months. The average participant has 5-7 colds a year, although children or preschool can have them more frequently.

The most important thing about colds is PREVENTION. Wash your hands after being outside of your home, and tell your children to do the same. Making sure that participants get enough sleep and eat well also helps to prevent colds. For young babies (less than 2 months) try to avoid contact with people who have colds, and try to avoid crowds and gatherings because someone almost certainly has a cold.

There is no "cure" for a cold. Our bodies fight off colds without any need for medicines. We cannot make a cold go away any faster with medicines, although some medicines can help relieve the symptoms. Antibiotics do not help colds. What we can do for participant is to make them as comfortable as possible and wait for the symptoms to go away.

### **Home Treatment**

Although many people use medicines to make themselves feel better when they have a cold, there are several things that you can do AT HOME that may be better than taking medicine:

- Have your participant drink lots of fluids, especially warm drinks or soup. Many participants lose their appetite with a cold, and may drink less as well. By encouraging them to drink more, you will help make the mucus thinner, and make them more comfortable.
- Use salt water drops to relieve stuffy nose if it interferes with eating or sleeping.
- A steamy shower or bowl filled with warm water (inhale the steam by standing over the bowl with a towel over the head) can also help relieve congestion. For a participant with asthma, do not use a humidifier.
- Use Vaseline (petroleum jelly) around your participant's nose to help prevent it from becoming sore.
- Help your participant get extra rest.

### **Over the Counter Medicines**

Most over-the-counter cold remedies or tablets are not necessary. Nothing can make a cold go away faster. Do not give leftover antibiotics for colds because they have no effect on viruses, and may be harmful. Especially avoid drugs that have several ingredients because there is a greater chance of side effects from these drugs.

### **When to Call Your Doctor**

- Call the doctor if your participant has any of the following symptoms:
- Difficulty breathing or is breathing fast.
- Fever that lasts for more than 2 days.
- Chills or fever over 39 degrees C (or 102 degrees F).
- Nasal discharge lasting more than 14 days.
- Earache.
- Eye discharge.
- Cough that lasts for more than 2 weeks or becomes worse, or barky.
- Headache or stiff neck.
- Sore throat that lasts for more than 48 hours.
- If your participant seems more sick than with a regular cold, or you are worried.

### **Why is hand washing so important?**

- Washing your hands and your children's hands is the best thing that you can do to stop the spread of germs. Germs—such as bacteria and viruses—are spread in many ways:
- Through contaminated water and food
- Through droplets in the air after someone sneezes or coughs
- Through dirty hands (that have picked up germs from somewhere)
- Through contaminated surfaces (that have been touched by hands that have germs on them)
- The moment that you finish washing your hands, you start to collect germs again by opening doors, and wiping faces. You cannot avoid collecting germs, but you can reduce the chance of spreading infection by knowing when to wash your hands.

### **When should I wash my hands?**

- before eating and cooking
- after using the bathroom
- after blowing your nose, coughing, or sneezing, or after touching used tissues or handkerchiefs
- after touching animals, including house pets
- after visiting or taking care of any sick friend or relatives

### **What is a good hand washing routine?**

- Wet your hands under running water. Warm water is best. (You can also use alcohol-based hand sanitizers.)
- Scrub your hands with soap for a count of five. If you want to be really safe, wash as long as it takes to sing Happy Birthday."
- Use hand lotion after washing your hands to prevent your skin from getting sore.

**Actions**

***CHW***

Encourage participant to go to doctor if symptoms become more severe.

***Participant***

Make appointment with doctor if symptoms persist.

**Follow-up Visits**

**Supplies**

Supplies given to participant

**Education Handouts**

Cover your Cough

How to Treat Your Participant's Cough or Cold at Home

**Referrals**

None

## COMMUNICATION WITH THE HEALTH CARE PROVIDER AND WORKING WITH THE HEALTH SYSTEM

### Key Messages

- The health care provider and you are a team. You must all work together to manage your asthma so you can stay healthy and active.
- Good communication with your provider is very important. If you are having a hard time communicating with your provider or getting appointments, your community health worker may be able to come to an appointment with you to help you talk to your provider about it.
- If you need an interpreter, ask for one when you make your appointment.
- Keep asking questions until you understand. Write down questions or problems you have for the provider before you go and take them with you to the clinic. Make sure you understand what the provider wants and when you need to follow up or come back to the clinic.
- If you have trouble remembering what your provider says, write it down.
- The right medicine is one of the main keys to asthma control. The health care provider can prescribe the right medicine only if s/he has information from you about ALL of your symptoms, how often s/he takes her medicine, and any problems s/he has with taking her medicine. Many decisions about your participant's treatment are based on the information you share with your health care provider.
- Take all of your medicines and action plan to every medical appointment.
- Schedule 1-2 asthma check-ups every year with your participant's provider when your participant is NOT sick to review asthma care and management. These visits will usually be longer than visits when you are sick, so you will have more time to discuss questions.

### Assessment

- Assess client's comfort level in communicating with participant's main medical provider. Review baseline interview questions related to patient-provider communication:
  - Does office staff at your participant's doctor's or health care provider's office or clinic treat you and your participant with courtesy and respect?
  - Do your participant's health care providers listen carefully to you and your participant?
  - Do your participant's health care providers explain about asthma in a way you and your participant understand?
  - Do your participant's health care providers spend enough time with you and your participant?
  - Do your participant's health care providers really look into how you and your participant try to manage his/her asthma on a day-to-day basis?
- Is the client comfortable communicating with the provider in English? If not, does the provider speak the client's first language fluently or is an interpreter always available? If an interpreter is used, ask how the client feels about working with the interpreter (e.g. does the client think the information is being translated accurately? Is confidentiality being respected? Is the interpreter available when needed, both in the office and on the phone?)
- Determine when the patient's last visit with their health care provider was. Participants with asthma should see the doctor or health care provider at least 1-2 times per year, and more often

if their asthma is not well controlled. Does the participant have a regular health provider who sees her/him at each visit?

- Ask if the client has experienced any difficulties in accessing his/her primary provider (e.g. long wait for appointment, unable to reach by telephone, transportation problems, paying for services, missing school or work to make appointments, etc.).

### CHW Actions

- Assess provider/client communication. (See “Assessment” section above.)
- Review key messages about communication with health care providers.
- Review “Living with Asthma—Patient and Parent Survey” as example of things the provider needs to know to help the participant manage asthma.
- If **communication difficulties** are identified:
  - Coach participant in developing effective communication strategies specific to the difficulty, using role plays.
  - Discuss any communication issues raised by the patient with the project nurse, after obtaining permission from the patient to do so.
  - If interpretation is an issue, let the project nurse know.
- Accompany the client to the provider visit if communication or trust is an issue. Serve as an intermediary and “cultural translator.” Discuss with project nurse before doing this.
- Reinforce and praise efforts made by the client to improve communication.
- If **access problems** are identified, help client develop specific strategies to address them and inform the project nurse. See background section for examples.

### Client Actions

- Keep regularly scheduled clinic appointments.
- See the provider for an asthma check-up at least once a year, and at a time when your participant is NOT having an asthma attack.
- Come to appointments prepared to share information about how your participant is doing with asthma management. Before each visit:
  - Write down problems and questions you have in trying to control your participant’s asthma.
  - Bring your participant’s asthma medicines.
- At each visit:
  - Make sure you get the information you need from the provider in a way you understand.
  - Ask the provider to please tell you and your participant exactly what to do.
  - If it is hard to remember what the provider is saying, ask the provider to write it down or write it down yourself.
  - Make sure you have a follow-up appointment or know when you need to make one.
  - Make sure you get prescriptions for any needed medicines.
  - Bring a support person to the visit if this will help you feel more comfortable and help you understand and remember what to do.
  - Work in partnership with health care provider to provide your participant with the best asthma care.

### Supplies

- Blank asthma action plan

### Education Handouts

- Tips for Talking to Your Participant’s Health Care Provider
- Living with Asthma Survey

- At the Next Visit I Need to Talk About . . .

### Educational Messages and Background Information

- Caring for your participant with asthma includes working in partnership with your participant's health care provider. Good communication between you and your provider is very important. You need information from the provider on how to care for your participant. Your provider needs information from you in order to make decisions on how to care for your participant.
- Your health care provider has expertise in treating adults with asthma. You know your participant best and whether the treatments are working, or if there are any problems with the treatments. **Many decisions about your participant's treatment are based on the information you share with your health care provider.**
- It is OK to be assertive when you communicate with your providers, that is, make sure that the provider understands your concerns and gives you the help you need.
- You are more likely to get what you need if you communicate with the provider in way that makes him/her feel respected and useful.
- To facilitate communication with your health care provider you can:
  - Write down your questions and concerns about asthma ahead of time and take your list to your participant's next appointment. This will help you remember all the things you want taken care of at the appointment.
  - Ask your health care provider for a written Action Plan, and make sure you get an adequate explanation of it. Having a plan will help you (and other people who take care of your participant) remember what to do if your participant's asthma gets worse.
  - Ask for clarification of treatment plans, medication side effects, warning signs of an asthma attack, and recommended activity levels.
- No question is too small to ask. Keep asking questions until you understand. Tell the provider if you don't understand something, and ask him/her to explain it in a different way. Ask the provider to write the information down. You can't do what the provider suggests unless you clearly understand it.
- Bring to your clinic visits all of the information your health care provider will need to evaluate and treat your participant. It's easy for either you or the provider to forget something important, so having this information will help you both remember. This important information includes:
  - How your participant has been feeling since his/her last visit, including the number of asthma flare-ups.
  - How often your participant has used albuterol or another quick-relief medicine in the past two weeks.
  - How often your participant has had daytime coughing, wheezing or shortness of breath in the two weeks before the visit.
  - How often your participant has been bothered during the night with coughing, wheezing or shortness of breath in the two weeks before the visit.
  - How often your participant has had to slow down or stop play because of asthma in the two weeks before the visit.
  - If your participant has gone to the hospital, emergency department or other health provider for asthma since the last clinic visits.
  - If your participant coughs or wheezes with exercise.
  - If there are other things that trigger asthma symptoms in your participant.
  - What specific medicines your participant takes, how much, and how often they are given. **Bring the medicines to the visit** so your provider knows exactly what medicines your participant is using.

- Whether your participant is having any problems with taking the medicines or experiencing side effects from them.
- If you have been having any problems in carrying out your asthma action plan or following the provider's advice.
- If you have a question about asthma that cannot wait until the next clinic visit, call your asthma nurse or call the clinic and ask to speak to a nurse.
- It is important for your participant to see the provider at least once or twice a year for an asthma check-up, even if your participant's asthma is doing well. This will let the provider make sure all your participant's treatments are correct and up-to-date.
- For clients who use interpreters:
  - You should expect that an interpreter is available for your regularly scheduled appointments.
  - Your appointment shouldn't be late or delayed because you have to wait a long time for the interpreter to arrive.
  - An interpreter or someone who speaks your language should be available when you telephone the clinic.

**Specific strategies to address access problems:**

<b>Problem</b>	<b>Things client can do</b>
No primary provider.	Request that clinic assign a single provider.
Can't make an appointment.	Call clinic to reschedule.
Inconvenient appointment times.	Request Saturday or evening appointments. If none available, ask for a telephone appointment.
Long wait for appointment.	Make appointments well ahead of time. Switch to another provider who has shorter waits. If your participant needs immediate attention, call the clinic and say you are coming in now. Write a letter to the clinic manager.
Visits or medicines cost too much/ can't understand bill.	First tell your provider. Then ask to speak with clinic social worker or manager.
Can't get transportation to clinic.	Speak with the social worker or tell your provider. See if a friend or family member can help. See if a cab voucher is available.
Not getting needed services or referrals.	Ask clinic staff to make an appointment for the service or arrange a referral.
Translator is not always available.	Ask to speak with clinic social worker or manager.

**Sources:**

NCICAS manual

## Getting Help During An Asthma Attack

### Background

None

### Assessment

Ask participant to describe what they do when they are having severe asthma symptoms.

### Educational Messages

- The most important things you can do during an acute asthma episode are:
  - Giving asthma medicine as directed (by the Action Plan).
  - Removing yourself from anything that is triggering symptoms.
  - Seeking medical help as needed.
- There are several things you can do to reduce your discomfort and symptoms during an asthma episode in addition to giving them medicine. These include:
  - Calming down. Anxiety about asthma sometimes makes the symptoms worse.
  - Reducing activity level if having moderate to severe symptoms.
  - Find a comfortable position. Provide privacy, because embarrassment can make it hard for them to focus on using medication/calming down.
  - Belly breathing.
  - Get a glass of water. A dry throat or dehydration can make symptoms worse because the airways may become more reactive.
- Remember, it is never wrong to call 911 if you think you cannot breathe.

### Actions

#### *CHW*

- Demonstrate “Belly Breathing”.
- Take participant through “Belly Breathing” exercise.
- Teach participant other relaxation techniques, including speaking in a calm voice, providing privacy, distraction (do a puzzle, play with gameboy, favorite video to watch).
- Review signs of asthma getting worse. These are signs that the participant is working hard to breathe.
  - Peak flow number does not get higher
  - Breathing is hard, noisy, and fast
  - The nose opens wide when participant breathes
  - Spaces sink in between the ribs or around the collar bones when your participant breathes in
  - Participant has trouble walking or talking
  - Face, lips, or fingernails turn gray or blue.

#### *Participant/Caregiver*

- Demonstrate understanding of “Belly Breathing” and other relaxation techniques.

- Practice “Belly Breathing” technique when well, so that it will be useful during an asthma attack.
- Learn when to reduce the participant’s activity level to help improve asthma symptoms.
- Describe signs that a participant is working hard to breathe.

**Follow-up Visits**

Instructions as needed

**Supplies**

Supplies given to participant/caregiver

**Education Handouts**

Handouts given to participant/caregiver

**Referrals**

None

## **Influenza and Flu Shots**

### **Information for CHWs to provide to Participants**

#### **Key Messages**

- People with asthma and other chronic conditions are more likely to develop complications if they get the flu.
- Anyone with asthma or other chronic illness should get a flu shot in October or November every year.
- All family members over 6 months of age should also get a flu shot. This will help to prevent spreading the flu to the person with asthma.

#### **Flu**

This information is taken from: <http://www.cdc.gov/flu/keyfacts.htm>

#### **A Guide for Participants**

##### **What is the flu?**

The flu (influenza) is an infection of the nose, throat, and lungs that is caused by influenza virus. The flu can spread from person to person. Most people with flu are sick for about a week, but then feel better. However, some people (especially young children, pregnant women, older people, and people with chronic health problems) can get very sick and some can die.

##### **What are the symptoms of the flu?**

Most people with the flu feel tired and have fever, headache, dry cough, sore throat, runny or stuffy nose, and sore muscles. Some people, especially children, may also have stomach problems and diarrhea. Cough can last two or more weeks.

##### **How does the flu spread?**

People that have the flu usually cough, sneeze, and have a runny nose. This makes droplets with virus in them. Other people can get the flu by breathing in these droplets or getting them in their nose or mouth.

##### **How long can a sick person spread the flu to others?**

Most healthy adults may be able to spread the flu from 1 day before getting sick to up to 5 days after getting sick. This can be longer in children and in people who don't fight disease as well (people with weakened immune systems).

A flu vaccine is the best way to protect against the flu.

##### **How can I protect myself from the flu?**

You can protect yourself by getting a flu vaccine. This is very important if the participant has a chronic health problem like asthma (breathing disease) or diabetes (high blood sugar levels).

**Is there medicine to treat the flu?**

There are antiviral drugs that can make the participant feel better. But these drugs need to be approved by a doctor. They should be started during the first 2 days that you feel sick. Your doctor can discuss with you if these drugs are right for the participant.

**What Can YOU Do?**

- Take time to get a flu vaccine.
- Take everyday steps to prevent the spread of germs. This includes:
- Clean your hands often and cover your coughs and sneezes

**How else can I protect myself against flu?**

Try to :

- Stay away from people who are sick
- Clean hands often
- Keep hands away from face
- Cover coughs and sneezes to protect others (it's best to use a tissue. Then, throw it away).

**What should I use for hand cleaning?**

Washing hands with soap and water will help protect you from germs. When soap and water are not available, wipes or gels with alcohol in them can be used (the gels should be rubbed into your hands until they are dry).

Consult your doctor and make sure you get plenty of rest and drink a lot of fluids.

**What can I do if I get sick?**

Call or take go to a doctor right away if you:

- has a high fever or fever that lasts a long time
- has trouble breathing or breathes fast
- has skin that looks blue
- is not drinking enough
- seems confused, will not wake up, does not want to be held, or has seizures (uncontrolled shaking)
- gets better but then worse again
- has other conditions (like heart or lung disease, diabetes) that get worse

**For more information about flu, visit [www.cdc.gov/flu](http://www.cdc.gov/flu)**

DEPARTMENT OF HEALTH AND HUMAN SERVICES • CENTERS FOR DISEASE CONTROL AND PREVENTION • SAFER HEALTHIER PEOPLE

† On September 19, 2007 the [U.S. Food and Drug Administration \(FDA\)](http://www.fda.gov) approved use of the nasal influenza vaccine LAIV (FluMist®) for healthy children ages 2-4 years old (24-59 months old) without a history of recurrent wheezing, as well as for healthy persons ages 5-49 years who are not pregnant. Previously, approval was for healthy persons ages 5-49 years who are not pregnant.

## Medication Adherence

### Background

- Many people with asthma do not take their medicines as prescribed, for a variety of reasons.
- Medicines work best when used as prescribed. If they are not used often enough and at the right dose, there is a good chance they will not work.
- Maintaining a non-judgmental attitude towards non-adherence is helpful in working with people living with asthma.

### Assessment

Understanding your beliefs and attitudes, daily schedule and situation, and keeping a non-judgmental attitude towards non-adherence are key.

- Ask in a non-judgmental way about how the participant is using asthma medicines. Use “how come” instead of “why” when asking about medication non-adherence.
- “Many people have a hard time using asthma medications regularly in the exact way the health provider has prescribed them.
- There are many reasons people have trouble with this.
- Does your participant have any problems in taking his/her medicines exactly as prescribed?
- How often do these problems come up?”
- If participant reports having problems, ask them what kinds of things make it hard to take the medicines as prescribed.
- Review the use of each prescribed medication, why it is being used and how often it should be taken.

### Educational Messages

- Good control of asthma means no symptoms and no limitations on activity.
- Adherence with taking medicines is a major factor in successfully controlling asthma.
- Adherence will give the participant control rather than asthma controlling them.
- Adherence can be improved by:
  - Ensuring the participant understands asthma and its treatment
  - Keeping medicines simple
  - Communicating with providers
  - Partnering with the participant
  - Understanding client concerns & barriers to adherence.
- The goal is to help the parent come up with strategies that they think will work to improve adherence.

## **Actions**

### ***CHW***

- Probe about not understanding correct use of medications.
  - When to use controller/preventive vs. reliever/rescue is particularly important.
- Ask about:
  - Cost
  - Getting to the pharmacy
  - Running out of medications and not having refills easily available
  - Concerns about side effects
  - Participant refusing or not liking the medicine
  - Having a hard time remembering or sticking to a schedule
  - Being too busy to take the medicine
  - Not having access to medicines when away from home
- Probe for other reasons or beliefs for not taking the medicine as prescribed, such as:
  - The participant does not need it because he/she feels well
  - Fear of participant becoming addicted to the medicine
  - Thinking the medicines don't work
- Ask, "What worries you most about your participant's asthma?" This will help to identify concerns.
  - Taking medicines correctly can be discussed as a way to address some of these concerns, such as missing school or sports.

If the initial assessment suggests that adherence is a problem, the following questions can help get a conversation going about factors that might affect adherence:

- How important is controlling your asthma when you consider everything else that is going on in your life?
- Do you agree with the diagnosis of asthma? Are there any questions/concerns you have about the diagnosis?
- How serious do you feel your asthma is?
- How do you feel about the medications prescribed?
- Are you concerned about possible side effects of the medications?
- Do you think these medicines work?
- Problem solve with client to find strategies that address factors contributing to non-adherence. [See non-adherence factors and strategies at end of protocol.]
- Ask the parent if they have has other ideas of things that might help.
- Check back with client in 1-2 weeks to see if adherence has improved.

### ***Participant***

- Have participant take medicines exactly as prescribed.
- Use strategies to increase adherence that address those specific factors contributing to lack of adherence.
- Check back with CHW by phone, if needed.

### **Follow-up Visits**

- Check technique and reassess adherence to medication
- Monitor progress & see if strategies are working

- If necessary, have client call back CHW to go with client to provider visit or have client speak with the project nurse.

### Supplies

Supplies given to participant

- Medication box

### Education Handouts

Handouts given to participant

- "The Goals: What you should expect when your asthma is under control"
- Action Plan

### Referrals

- To provider to encourage communication about identified medication concerns (e.g. understanding & simplifying medication plan, patient point of view, barriers to adherence)
- To pharmacist for questions regarding medications

### Additional Information

- How to go through the problem-solving process
  - Identify problem
  - Set goals
  - Increase awareness & educate
  - Explore options & brainstorm
  - Develop a plan
  - Review benefit & barriers to carrying out the plan

### Strategies based on specific non-adherence factors

Non-adherence factor	Strategies
Cost.	CHW contact project nurse or clinic social worker. Client can: <ul style="list-style-type: none"> <li>• Request samples from provider</li> <li>• Ask about free (indigent) medication program</li> </ul>
Difficulty getting to pharmacy.	CHW review transportation options. Client could consider alternate pharmacy.
Difficulty getting refills authorized.	CHW contact project nurse. Client can: <ul style="list-style-type: none"> <li>• Remind provider to refill medications at each visit</li> <li>• Ask how long the medicine will last when getting a prescription filled</li> <li>• Call at least 3 days before medicines run out</li> <li>• Use the same pharmacy so it can</li> </ul>

	<p>have refills ready</p> <ul style="list-style-type: none"> <li>• Have a reserve supply of each medicine.</li> </ul>
Too many medicines, taking medicines is too complicated.	<p>CHW discuss the possibility of simplifying the regimen with project nurse.</p> <p>Parent can talk to the provider about making things simpler, like using longer-acting medicines, which need to be taken only twice a day.</p>

<b>Non-adherence factor</b>	<b>Strategies</b>
Forgetting to take medications.	<p>Help participant take medicines at same time each day:</p> <ul style="list-style-type: none"> <li>• Link taking medicine to a daily activity (e.g. brushing teeth, eating a meal)</li> <li>• Mark on a calendar when medicine has been taken</li> <li>• Ask family members to remind the participant (e.g. parent can call the participant when not with him/her to remind about taking medicine).</li> </ul>

Cannot find medicines when needed.	Keep all asthma medicines in one place (e.g. a box) and put them back right after using them.
Being too busy.	Try to make taking medicine part of daily routine.
Not always having medicines around.	<p>Have extra inhalers so one is at:</p> <ul style="list-style-type: none"> <li>• Home</li> <li>• When leaving the home</li> <li>• At each of the other places where the participant spends a lot of time</li> </ul>
Concerns about side effects.	<p>Commonly used asthma medicines are safe.</p> <p>They do not affect the heart or other organs.</p> <p>Inhaled steroids in low to medium doses do not stunt growth.</p> <ul style="list-style-type: none"> <li>• They are not the same as the anabolic steroids sometimes used by athletes.</li> </ul>
<b>Non-adherence factor</b>	<b>Strategies</b>
Fears of addiction.	<p>Asthma medicines are not addictive.</p> <p>They can be decreased or stopped, by</p>

	the provider, without side effects, as long as asthma remains well controlled.
Not needing medication because participant feels well.	<p>Even if a person with asthma feels well, his/her lungs are still abnormally sensitive to triggers and prone to inflammation (swelling and plugging up with mucus).</p> <p>Daily preventive medicines:</p> <ul style="list-style-type: none"> <li>• Reduce this sensitivity</li> <li>• Reduce inflammation</li> <li>• Prevent asthma symptoms from returning</li> </ul> <p>If preventive medicines have been prescribed, it is necessary to use them daily even when feeling well. Stop taking them only if your provider says to do so.</p>
Thinking medicines don't work.	<p>Many studies have shown that taking daily preventive medicines can:</p> <ul style="list-style-type: none"> <li>• Reduce asthma symptoms</li> <li>• Prevent going to the emergency department or hospital.</li> </ul> <p>Parent can talk with provider if they thinks participant's medicine is not helping. Provider can figure out if a change in the dose or type of medicine is needed.</p>
Participant doesn't always like to take medicines.	<p>Explore why the participant is not taking medicine. Address concerns. Explain to the participant why the medicines are important. Explain to the participant how the medicines can make him/her feel better. Provide rewards to younger participantren for using medications. If participant doesn't like the taste</p> <ul style="list-style-type: none"> <li>• try rinsing the mouth or chewing sugarless gum after using.</li> </ul> <p>If using a pill and it is hard to swallow, try taking it with food or juice. Some pills may be crushed &amp; mixed with food – client should check with their Pharmacist.</p>

**APPENDIX:** Excerpt from National Asthma Campaign of Australia. Asthma Adherence: A Guide for Health Professionals.

[www.nationalasthma.org.au/publications/adherence](http://www.nationalasthma.org.au/publications/adherence). Accessed 5/16/02.

As we have stated throughout this guide, if you as a health professional are willing to modify your behaviour and role beyond the medical model towards a partnership approach to your relationship with your patient, this will positively affect the patient's adherence to treatment.

'... patients need to know less about the pathophysiology of their disease and more about integrating new demands into their daily routine ... (rather than to receive) ... standard presentations of medical facts and treatment rules which all ... asthmatics should know' (Mazucca 1982).

A commitment to partnership and a more equal relationship with your patient will foster communication and encourage the patient to take control of their self-management. This attitude should be based on a desire to understand the patient, their beliefs, their attitudes, their daily situation and schedule, and a non-judgmental attitude towards their non-adherence.

Treatment should be:

- Clinically effective
- Simple
- Convenient
- Inexpensive
- As free from side effects as possible.

(Meichenbaum & Turk 1987)

Focusing on the positive benefits of adherence, rather than the negative consequences of poor adherence, and devising practical strategies to address the impositions of treatment on the patient's life, will help to achieve a positive outcome. It is important to communicate to the patient that adherence will give them control, rather than asthma controlling them. If strategies or treatments have an unsatisfactory result, encourage the patient not to see it as a failure. Adverse reactions discourage adherence. Your attitude will help the patient to regard such incidents as learning experiences, rather than evidence that it's all too hard.

'In the past, the usual approach when discovering non-compliance is to attempt to persuade the patient of the error of their thinking and to try and communicate the intentions of the prescription and the importance of sticking to the regimen. Research strongly suggests that this approach has been of limited value' (Royal Pharmaceutical Society 1997).

We now know that the best approach when faced with non-adherence is to work with the patient towards a relationship based on knowledge and understanding, in which the patient's individual barriers can be discussed and addressed in an open, non-judgmental way that normalises non-adherence. As a health professional you know the medical and scientific reasons why your patient should adhere, but without communication, it is not possible to understand what leads your patient to adhere poorly.

Adherence can be promoted, identified and monitored by a collaborative approach to patient care by the asthma management team. Consider the strengths of the various members.

**Pharmacists** are in a unique 'front-line' position to assess and monitor a patient/client's adherence. Indeed the Australian Pharmaceutical Formulary states that 'the pharmacist must ensure as far as possible that the patient receives the required therapeutic effect of the drug'.

The pharmacist is an easily accessible and no-cost source of advice for the asthma patient. The pharmacist is likely to see patients on long-term treatment programs more regularly than their GP, and as we know, adherence decreases over time. Pharmacists can take these encounters as an opportunity to check or reinforce the patient's correct use of medications, provide education or advice, reinforce or clarify elements of the patient's management plan. If pharmacists see evidence of non-adherence or that the treatment plan seems unsuited to the patient they can refer them back to their GP for review.

**Asthma educators** are increasingly becoming valuable members of the asthma care team. Education is crucial to adherence, as well as to asthma management in general. More and more GPs are referring patients to asthma educators, who have the time and specific knowledge and skills to ensure patients understand their condition and their treatment.

Dr Jill Cockburn offers the following recommendations for best practice in addressing the use of adherence:

- Use appropriate overall interviewing skills
- Explore the patient's beliefs, offer solutions to barriers
- Use strategies to increase patient recall
- Reduce complexity of regimen
- Tailor medication regimen to patient's situation
- Use reinforcers, reminders, cues and feedback
- Elicit family support
- Monitor patient over time

(Cockburn 1997)

The relationship between **specialists and GPs** has significantly changed over the past five years or so with both groups of practitioners now working together more effectively. For non-emergency cases requiring specialist attention, there can be issues such as long waiting lists. Recently, the approach taken has been for the GP to contact the specialist for advice, and then administer treatment within the general practice setting.

The NAC has been a driving force behind collaborative efforts in managing asthma and facilitating discussion between professional groups. The team approach to managing asthma more effectively is already happening with the result that health outcomes for people with asthma have improved (National Asthma Campaign 1998). Our latest challenge, to improve levels of adherence, will benefit from continued collaboration and alliances between health professionals involved in the asthma management team.

In the next section you'll find practical suggestions to help you implement the following strategies in your work with people with asthma.

- ◆ Develop open, communicative, non-judgmental relationships with patients.
- ◆ Normalize poor adherence in dealings with your patient.
- ◆ Adopt a partnership approach to asthma management with your patient.
- ◆ Involve your patient in the planning process.
- ◆ Simplify treatment where possible, and strive to tailor treatment plans to your patient's preferences, needs and capabilities.
- ◆ Ensure that your patient understands their asthma and treatment.
- ◆ Collaborate with other health professionals to improve patient outcomes.
- ◆ Aim to build a partnership with patients for ongoing care.
- ◆ Encourage regular reviews and ongoing monitoring of adherence levels.
- ◆ Develop systems (such as reminders) to prompt patients on long-term treatment programs.

◆ **Use appropriate information-gathering skills.**

It is possible to facilitate better communication with your patients by:

- using skills such as open-ended questions at the beginning of the consultation.
- avoiding questions that elicit a yes/no response or that are judgmental in their tone.
- showing empathy and warmth and following up on the patient's verbal clues.

Such communication strategies will make it easier to assess possible non-adherence, and make it easier for the patient to discuss their individual issues and barriers to good adherence.

- ◆ Facilitate open discussions with your patient about adherence.
  - Your attitude and your manner will help your patient to be honest and realistic when you are discussing adherence to different treatments for asthma. It is important to be non-judgmental and to normalise poor adherence (remember, around 50% of patients don't adhere to prescribed therapy).
  - Ask questions that will elicit information about the patient's health beliefs, their attitude to their diagnosis and their willingness to make behaviour changes in order to better manage their asthma ([see tips](#)).
- ◆ Use reminders.
  - A number of prompts and reminders have been demonstrated to improve adherence:
    - Telephone or postcard reminders.
    - Individualized reminder charts.
    - Diaries.
    - Engaging family members and caretakers to provide reminders.
- ◆ Facilitate recall.

- Health practitioners, who use strategies such as repetition, giving specific advice, using written information, increase the recall of the patient. Knowledge of what to do is a prerequisite of adherence (Royal Pharmaceutical Society 1997).
- Improve patient recall by providing written education material and a written record of medication names and doses.
- ◆ Explain likely side-effects
  - One of the quickest ways to engender non-compliance with therapy is for a patient to experience side-effects about which they have not been forewarned. Discuss possible side-effects and suggest ways these can be minimized.

Factors that improve partnership:

- Body language
- Enquiring about patient's concerns
- Reassuring the patient
- Addressing immediate concerns of the family
- Interactive exchange
- Therapeutic regimen to fit patient's schedule
- Praise for correct management
- Eliciting patient's own goals
- Reviewing the long-term plan
- Helping the patient in advance

(Clark et al. 1995)

- Always provide an opportunity for patients to express any concerns about the medication. Unvoiced concerns about continued drug use are a prime reason for discontinuing appropriate self-management. Give a balanced explanation of the benefits/risks of the medications.
- ◆ Involve the patient in the planning process
  - One way to encourage regular review is to focus on short-term goals while highlighting the long-term objectives. Short-term goals set around patient priorities such as sporting participation or fewer days off school or work are more likely to be successful than physiological goals such as peak flow. Setting end points, where patients know that reaching a certain goal will result in changes to medication, may encourage regular review (Sawyer 1998).
- ◆ With older patients, remember that the number of medications prescribed increases with age. The more medications used, the less likely people are to adhere. As the numbers of medications prescribed increases with age, the elderly are particularly at risk (Australian Institute of Health and Welfare 1994). If possible, not more than 3-4 drugs should be given each day.
- ◆ Explain to the patient (or their parent/caretaker) that you are trying to make them more competent to manage the disease themselves - and that your role is as an adviser.
- ◆ Don't try to instruct patients in all aspects of asthma at one consultation - build their knowledge base over consecutive visits.
- ◆ Simplify medication regimens where possible.

- ◆ Use once or twice daily dosing whenever possible.
- ◆ Make sure the patient's Asthma Management Plan is in a written form that they can easily understand.
- ◆ Encourage patients to see you even when they're feeling well - adherence needs to be continually monitored over time.
- ◆ Emphasizing disease severity will not necessarily make patients adhere better; helping them realize just how good they might feel is more likely to be successful.

### Frequently Asked Questions

1. I know that gaining a better understanding of my patients, and their beliefs and attitudes towards asthma and its treatment is meant to be important, but how do I do it and where do I find the time?

While an individual discussion of these issues may appear to take more time, research shows that consultations that use the communication skills referred to in this guide can lead to better health outcomes, more satisfied patients and shorter consultations. More satisfied patients will be more likely to return for follow-up, more likely to be honest and open in discussions, and less likely to require emergency management of asthma.

2. What's the most reliable way of finding out if my patients/ clients are adhering?

The accurate measurement of adherence is difficult. Although electronic devices, for use with medications and peak flow meters, do exist these are unlikely to be of practical use in the clinical setting. However studies show that patient admission of poor adherence is believable. Efforts to normalize *poor* adherence, the use of open ended questions and an information rich questioning style are more likely to allow people to admit less than ideal adherence. This can then be a starting point for identifying barriers and developing strategies to improve adherence.

3. How much adherence is enough? Is absolute adherence necessary?

We don't really know the answer to these questions. Our decisions about what treatment to prescribe are guided by the results from clinical trials. These trials provide us with information on health outcomes for a particular dose of medication. We aim for 100% adherence with the treatment regimen but we don't really know whether there is a meaningful clinical difference between patients who are 100%, 95%, 90%, 85% and 80% adherent to the regimen. We do know that adherence is variable, and often poor, and the more we can do to enhance adherence the closer we should move towards the health outcomes demonstrated through clinical trials.

4. Surely treatment regimens allow for low adherence. Could improved adherence create problems?

The objective studies of adherence have all been exactly that, research studies. These show regularly that adherence is only about 50%. Therefore, participating in a clinical trial does not of itself result in good adherence, as was thought. Consistent with this knowledge, drug studies generally use a 'run-in' period where patients who are not adherent with monitoring can be identified and do not participate further. The clinical benefits of improving adherence far outweigh any possible adverse effects.

5. What is the most important thing I as a doctor / pharmacist / nurse / asthma educator can do?

The most important thing that you can do is to work in partnership with your patient. This means that adherence is an issue for both of you. Sharing the responsibility for good management and asking yourself, 'how can I best help my patient to follow their treatment plan' is an important

step. Ask the patient what aspects of their management concern them. These concerns may be personal or they may relate to you. Communicating and working together is the most important thing you can do.

6. Which is more important, explaining the medication or management plan better or actually simplifying the regimen?

Simplifying the regimen is likely to be more important in addressing adherence in the first instance. There is not much point to lengthy explanations about medications or plans if the regimen is too complex to deal with. The more frequent the dosing the less likely the drug will be taken. Also, different delivery devices can lead to confusion regarding best aerosol technique and result in poor drug delivery. Simplifying the regimen is an important first step, which can then be built on.

7. Why would people with asthma be more inclined to adhere if they are a partner in deciding how to manage their asthma?

As a partner in the clinical situation the patient is able to communicate their views, feelings, concerns and take an active role in the outcome of the consultation. The input from the patient is used to guide the treatment regimen and so they themselves have crafted a plan or course of action for their own use. Ownership and control are important factors in ensuring the success of a self-management plan.

8. In theory I believe in self-management and shared responsibility but many of my patients couldn't cope with it. What's the alternative?

Some patients may appear to cope better with a more authoritarian style of communication. An authoritarian style may also appear easier for you the health professional, especially if this is your usual practice. However, this style of communication is not helpful in identifying patients with poor adherence. An interactive and open communicative style should be our goal, given that this is more likely to elicit poor adherence, the starting point for improved asthma outcomes.

9. How do I get through to the person with asthma just how important adherence is for them? Encourage your patient to conduct their own clinical trial. Find out what health outcomes they would like to achieve and work out a course to accomplish these. It may just be that the patient has dropped themselves back to a level of adherence which provides them with the asthma control that they desire.

10. What skills do I need to develop? What do I need to know and understand?

Communication skills mentioned throughout this guide are likely to be of most benefit to enhancing adherence. Being able to get patients to feel comfortable enough to express their attitudes, beliefs and concerns about asthma is likely to be an important starting point for dealing with adherence.

11. How do I manage this notion of an asthma care team? How important is it really?

The asthma care team is an important concept in the management of asthma. Members of the asthma care team include the doctor, pharmacist, patient, nurse and asthma educator. Much greater results can be achieved by a coordinated approach and teamwork. Patients who are supported by the asthma care team have a number of resources on which to draw to assist them to manage their asthma and to achieve the control they desire. By working together we can assist each other and the patient to minimize the impact of asthma.

## Peak Flow Monitoring

### Assessment

- Check to see if peak flow monitoring is being done, and with correct technique. Watch patient as they do a peak flow reading.
- Assess patient motivation to monitor peak flow.
- Review numbers on peak flow monitoring chart.

### Educational Messages

#### What a Peak Flow Meter is and why it's important

- A peak flow meter is a tool that measures how well air moves out of the lungs (large airways). This is a measurement of how asthma is affecting the lungs.
- A peak flow meter can help with asthma management.
- During an asthma episode, the airways in the lungs begin to narrow slowly. The peak flow meter can be used to determine if there is narrowing in the airways, even before symptoms appear. It can provide an early warning that asthma is getting worse.
- A peak flow meter can help determine when to start asthma medicines in order to stop the episode quickly and avoid a serious asthma attack.
- A peak flow meter can be used intermittently around the time of acute asthma symptoms, at the onset of an upper respiratory infection, and during any acute episodes.
- The peak flow measurement varies by height, sex, and age.
- Measuring peak flows is one way of monitoring asthma. Keeping track of symptoms is also important. If symptoms are getting worse, even if peak flow remains good, it is important to take action based on the Asthma Action Plan.

#### Peak Flow Meter Technique

- Stand up.
- Slide button down to zero.
- Hold the meter so as not to block the button or the airflow.
- Take a deep breath.
- Place the meter in your mouth, close your lips around the tube and blow one time as fast and hard as you can in a single blow through your mouth (not your nose).
- Find your number by looking for where the button moved.
- Repeat 2 times.
- Write down the highest number achieved.
- 
- Peak flow monitoring measures airflow only in the large airways. It is highly effort dependent.
- Measurements can be falsely high or low. Falsely high measurements may occur with coughing, spitting, or allowing the tongue to get in the way of blowing. Falsely low measurements may occur with blowing too slowly (not hard and fast), not sealing the lips around the tube, blowing through the nose, or blocking the vent or button with a finger.

### **Recording Peak Flow Numbers/Diary**

- Some people like to check peak flow every day to keep track of how asthma is doing. If the peak flow starts dropping, this can be an early sign that asthma is getting worse. If you do this:
- Measure peak flow at the same time every day: in the morning before taking medicines or in the evening before taking medicines. Do three measurements each time.
- Write down the best (highest) measurement in a peak flow diary.
- Compare the number from today with the numbers from the past week or two. If the numbers are going down, ask your health provider what to do.
- Checking peak flow numbers when asthma might be getting worse is helpful for everyone with asthma.
- Measure peak flow when you are having asthma symptoms, an asthma attack or a cold to see how your asthma is affecting your lungs.
- Compare the number with your personal best number. If it's lower (i.e. less than 80% of the best number), then you need to take action before asthma gets worse.
- You can measure peak flow before you use your asthma medicines, and again afterwards to see if your medicines are helping.
- Personal Best Peak Flow Number is the highest peak flow number you can achieve over a 2 week period when your asthma is under good control (no asthma symptoms).
- Take peak flow readings every day for 2 weeks to determine your best measurement.
- Check in the afternoon or evening before using your bronchodilator.
- Record time and date and highest number achieved in your diary.
- Your health care provider will want the diary with the peak flow numbers to determine your personal best.

### **Understanding Peak Flow Meter Numbers**

- Peak Flow Zone System
- Green Zone (80% of personal best # / no asthma symptoms)
- All clear. Breathing is normal. Asthma is in good control. Go-ahead on all activities. Take medicines as usual.
- Yellow Zone (50-80% of personal best # / early warning symptoms)
- Caution. Signals the presence or beginning of minor symptoms. Slow down. An asthma episode may be starting. Your overall asthma may not be under control. You may need to increase your medicines or your health care provider may need to change your medicine plan. Refer to your Action Plan.
- Red Zone (<50% of personal best # / late warning symptoms)
- Danger/Medical Alert. Serious problem that needs immediate attention. Take rescue inhaler right away and call health care provider if peak flow reading doesn't increase and stay up. Refer to your Action Plan.
- 
- Knowing which zone you are in can help you make treatment decisions, and take action early to prevent or treat the problem before red zone emergencies.

### **Taking Care of Your Peak Flow Meter**

- To clean the Peak Flow Meter, wash with soap and water, rinse well, shake out excess water and dry on a clean towel.

**CHW Actions**

- Demonstrate peak flow meter use and observe use by patient.
- Assess when and how often client uses peak flow meter.
- Encourage use of peak flow meter if asthma symptoms are present, when a cold begins or during an acute asthma episode.
- Demonstrate how to record peak flows in diary.
- Review diary to see if diary is being used properly.
- Review entries in diary (or ask patient how peak flows have been doing if no diary available). If readings are frequently (more than twice a week) less than 80% of personal best, let the Primary Care Provider know.
- Demonstrate how to determine zone of peak flow measurement and assess client's understanding.
- Review care and cleaning of Peak Flow Meter.

**Participant**

- Use peak flow meter correctly.
- Use peak flow meter when having asthma symptoms, when a cold develops, or during an acute episode.
- Record peak flow numbers in diary.
- Bring diary to appointments.
- Determine your personal best peak flow number.
- Keep meter clean.

**Supplies**

- Peak Flow Monitor.
- Peak Flow Diary.

**Educational Handouts**

Title	Description/Publisher	Format	Language
"How to use a Peak Flow Meter" & "Taking Care of a Peak Flow Meter"	In: <u><a href="#">You Can Control Asthma: A Book for the Family</a></u> Developed by Georgetown University's Division of Children's Health Promotion	60 page booklet, pages 54-55	English Spanish

## Seeking Emergency Care

### Background

None

### Assessment

- Assess knowledge of when to seek emergency care.
- Identify patient's access to emergency care—phone numbers, addresses, and directions for both clinic and emergency room. Assess transportation availability.
- Review Action Plan.

### Educational Messages

- There are two types of situations in which immediate medical assistance is necessary:
- When your symptoms are sudden and very severe at the start, or whenever you see any of the late warning signs (RED zone of action plan).
- When symptoms persist even after you have take rescue medicine:
- You don't see any improvement after taking the rescue medicine.
- Your symptoms get worse between doses of rescue medicine given every 4 hours.
- If you are not sure what to do, call your health care provider.
- If you do need immediate attention, call your health care provider. Call 911 if you can't get through or if your participant is showing the late warning signs of a severe asthma attack. If your participant looks very sick, don't delay: call 911!
- Bring your action plan and medicines when you go to the clinic or emergency room.
- Hopelink provides free transportation for Medicaid recipients for Medicaid approved services. They can provide bus tickets and assistance with gas costs for your own car. Call at least 48 hours ahead for appointments. Urgent same day service (taxi) provided only if medically necessary and space is available. ASAP rides can take from 15 minutes up to 1 hour. Participant will be taken to nearest emergency room. One way service only provided—family must arrange for return transportation. Call 1-800-923-7433 and be prepared to provide PIC number from medical coupon or participant's name, birth date, and social security number.
- Refer to What Happens When You Call 911? training notes for specific information about what to expect when you call 911.

### Actions

#### *CHW*

- Review asthma warning signs.
- Assure knowledge of peak flow monitoring.
- Review Action Plan.
- Contact project nurse if client needs emergency contact phone information.
- Assure workable plan for transportation to clinic or emergency department is in place.

- Assure emergency information is recorded on “My emergency information” card and posted in visible location.

***Participant***

- Demonstrate knowledge of Asthma Warning Signs.
- Demonstrate correct peak flow monitoring technique.
- Know emergency phone numbers.
- Have transportation plan and backup.
- Post Emergency Information Card in an easy to read location.

**Follow-up Visits**

As needed

**Supplies**

- “My Emergency Information” card for posting.

**Education Handouts**

- “At the next visit I need to talk about:”
- Action Plan (copy to use as example if client does not have their own).

**Referrals**

None



## Using an Asthma Plan

### Background

- The Asthma Action Plan is a tool to help you manage your asthma with greater confidence.
- Once you are familiar with it, you will not need to refer to it every time. But it still should be reviewed at least once a year with your provider.
- Helps you work with your health care provider in planning care for your asthma.
- Provides a step-by-step plan of action that will help you remain calm and give you direction when your asthma worsens.
- The Asthma Action Plan can help to keep your asthma in good control.
- The Asthma Action Plan describes what regular medicines to use every day.
- The Asthma Action Plan includes actions to take when asthma symptoms or peak flows worsen, including what medicines to take and when to contact the health care provider or seek emergency care.
- The Asthma Action Plan can be used when seeking emergency care from a health care provider to let the provider know how your asthma is usually treated.
- Your health care provider should give you an Action Plan, and review it with you at least once a year to make sure it is up-to-date.

### Assessment

- Does the client have an Asthma Action Plan?
  - If YES, then continue with this protocol.
  - If NO, then inform project nurse and go over the benefits of the asthma action plan. Once plan is available, proceed with this protocol at next visit.
- Is the plan up-to-date (reviewed with the medical provider less than a year ago)?
- Where is it kept? Is it easily viewed and accessed?
- Review participant's use of current Asthma Action Plan.
- Is the plan understood by the participant? Review scenarios (see appendix) and see if participant knows what to do based on plan.
- How often does the participant consult the plan?
- Are there any problems following the action plan?
- When you used the plan was it helpful? Did you have problems following the action plan?

### Educational Messages

- An asthma action plan is a tool to help you manage asthma with confidence.
- It is important to know how to use it and to always refer to it when you are having asthma symptoms.
- It should be reviewed and updated at least once a year with the health care provider.
- Give a copy to anyone who cares for the participant and teach them how and when to use it.

- Always take it and your medicines with you when you go to the clinic or the emergency room so the provider will know what your primary care provider has recommended.

## **Actions**

### ***CHW***

- Review Action Plan with client and make sure it is understood.
- Discuss using both symptoms and peak flow (if appropriate) to monitor asthma.
- How to know when in yellow zone/red zone.
- Make sure participant OWNS early warning signs are included. Ask: “Is there anything you notice before you get asthma symptoms?”
- Using the participant’s action plan, have the participant practice recognizing what zone they are in and what they should do (see action plan scenarios in the appendix). If you don’t know their peak flow measures, use symptoms. If participant doesn’t have an action plan yet, use a blank one for practice using symptoms to identify what zone she is in.
- Encourage the participant to consult the plan regularly and whenever symptoms or peak flow worsen. Help client address barriers to use of plan.
- Encourage the participant to review the plan with the primary medical provider.

### ***Participant***

- Have an up-to-date Action Plan.
- Review Action Plan with your main health care provider and asthma nurse
- Keep the Action Plan where it is easy to see.
- Refer to Action Plan for what medicines to use everyday and what actions to take when asthma symptoms worsen.
- Provide copies of Action Plan to others caring for your participant.
- Keep peak flow/symptom diary if you find this useful and share it with your medical provider.

## **Follow-up Visits**

### **Supplies**

- Action Plan scenarios (see appendix).

### **Education Handouts**

None

### **Referrals**

None

## Appendix: Action Plan Scenarios

Using the participant's action plan, have the participant practice recognizing what zone s/he is in and what s/he should do. If you don't know her peak flow measures, use symptoms. Examples:

- 1) Cindy has started coughing more often and her chest feels scratchy. Her peak flow is 260.
  - What zone is she in? (yellow)
  - What should she do? (take two puffs of her rescue medicine)

She begins to feel better and her peak flow rises to 340. But then in a four hours, her cough returns and her peak flow is back to 240.

- What should she do now? (take two more puffs of her rescue medicine now and repeat every 4-6 hours, double her dose of controller medicine [take twice as many puffs each scheduled time], and call her medical provider).
- 2) Jose has been having more and more asthma symptoms over the past several days. He is now short of breath when he runs a little bit to catch the bus and is not sleeping well because of a cough. His peak flow is 160.
    - What zone is he in? (red)
    - What should he do? (take two puffs of his rescue medicine now, repeat again in 20 minutes and again in another 20, call his medical provider right away, and call the Participant's Consultation nurse if he can't reach his provider; if he starts feeling worse and hasn't gotten help over the phone, he should go to the emergency department or call 911).
  - 3) Darrick, whose asthma is usually well controlled, has been coughing last night. He checked his peak flow in the morning and it is 280.
    - What zone is he in? (Yellow)
    - What should he do? (Take 2 puffs of rescue medicine.)

He feels better and his cough goes away. He checks his peak flow later in the day and it is 350. His cough hasn't come back.

- Now what should he do? (Take 2 puffs of his rescue medicine every 4-6 hours for the 1-2 days, take double the number of puffs in the morning and evening of his inhaled steroid preventive medicine for the next week, and call his medical provider.

## Using an Asthma Action Plan Checklist

### Key Messages

- AAP is a tool to manage asthma with confidence.
- Know how to use it. Always look at it when symptoms occur.
- Review once/year with provider.
- Copies to all caregivers. Teach them how to use it.
- Take to ER with medicines.

### Assessment

- Does participant have AAP?
- Is it up to date?
- Where is it kept?
- Review use:
- Is it understood?
- How often do you refer to it?
- Any problem following it?

### CHW Actions

- Involve parent and participant in discussion if participant  $\geq 8$  years old.
- If no AAP, contact project nurse. Encourage parent to ask provider for one.
- Make sure it's easy to find.
- Review AAP use:
- Use both symptoms and peak flow to monitor
- How to know yellow and red zone
- Participant's own warning signs
- Encourage regular use. Address barriers to use.
- Copies to other caregivers needed?

Remind client to review AAP with provider regularly

## Warning Signs & Asthma

### Background

- Many participants have predictable feelings or symptoms for a long time before they actually have trouble breathing or have an asthma attack. It is important keep a lookout for these symptoms each day, since they can be early warning signs of asthma.
- Your Early Warning Signs are written down in the participant's Asthma Action Plan.
- The earlier you recognize your warning signs, the earlier you can start treatment. This may avoid the need for emergency treatment.
- If any warning signs occur, checking peak flow can give you more information about how bad the asthma is getting. Sometimes symptoms can appear mild, but peak flow can show that asthma is seriously out of control.
- The presence of early warning signs means that the participant is in the Yellow Zone of the Action Plan.
- Late Warning Signs mean that your participant is in the "Red Zone" and needs immediate medical care. They include:
  - Wheezing that gets worse even after rescue medicine has been given.
  - Breathing that gets faster even after rescue medicine has been given.
  - Difficulty breathing:
    - Nostrils flaring.
    - Pale skin/blue-gray color around lips. Increased coughing interfering with breathing.
    - Skin cold and sweaty.
    - Retractions of the muscles in the neck and between ribs.
    - Breathing fast
    - Grunting or wheezing.
    - Stomach muscles tense.
    - Difficulty walking or talking
- Using both peak flow and symptoms is the best way to assess the severity of asthma. The zone of the action plan is best determined by considering both symptoms and peak flow. If either indicates the red zone, then the participant is in the red zone. If neither is in the red zone, but one is in the yellow zone, then the participant is in the yellow zone.

### Assessment

- Determine if participant know their early asthma symptoms.
- Assess knowledge of late warning signs of asthma.
- Check to see if participant has action plan.
- Check to see if participant can use symptoms to determine zone of Action Plan and what to do in response to symptoms.
- Check to see if participant has peak flow meter and knows how and when to use it.

### Educational Messages

- Being aware of early symptoms and taking action early might prevent the need for emergency treatment

- If any warning signs occur, checking peak flow can give you more information about how bad the asthma is getting. Peak flow can show that asthma is more serious than symptoms indicate.
- The presence of early warning signs means that participant is in the Yellow Zone of the Action Plan.
- Late Warning Signs mean that participant is in the “Red Zone” and needs immediate medical care.
- Using both peak flow and symptoms is the best way to assess the severity of asthma.

## **Actions**

### ***CHW***

- If participant are unaware of early or late signs, help them identify the signs the participant usually shows when asthma is worsening. Contact the project nurse to let her know further education about signs is needed.
- Review how to use symptoms and action plan to figure out what to do to prevent asthma episode from worsening.
- Let project nurse know if the participant does not have an action plan.
- Provide a peak flow meter and instruct in use if participant does not have one.
- Make sure the participant understands that using both peak flow and symptoms is the best way to assess the severity of asthma. The zone of the action plan is best determined by considering both symptoms and peak flow. If either indicates the red zone, then the participant is in the red zone. If neither is in the red zone, but one is in the yellow zone, then the participant is in the yellow zone.

### ***Participant***

- Identify and learn to recognize participant’s early warning signs of asthma.
- Know the late warning signs.
- Know how to check breathing rate.
- Know what to do when early and late signs occur, based on Action Plan.
- Use the peak flow meter when any signs (early or late) of asthma occur.

## **Follow-up Visits**

As needed

## **Supplies**

- Peak flow meter.

## **Education Handouts**

- Is your participant better? (p. 9); Clues that an asthma attack is coming (p. 10)

## **Referrals**

None

## Environmental/ Trigger Control Protocols

## Cleaning Checklist

### Background

None

### Assessment

- The most important rooms to clean are your bedroom, the kitchen and rooms in which you use most.
- Clean up clutter
- Vacuum the floor and cloth-covered furniture and dust flat surfaces in your bedroom twice a week and in other rooms once a week
- Check for mold under and on back of toilet tank, on walls and in window tracks and remove it with bleach solution.
- Check how often bedroom, kitchen, and other rooms used by you are being vacuumed, mopped and dusted.
- Look at these rooms and see if there is visible dust, dirt, food debris or clutter.
- Look over bathroom and see if mold is present.
- Assess prior education received by parent and parent's knowledge

### Educational Messages

Cleaning the house is an important way to help with asthma stay healthy.

The goal of cleaning is to reduce or eliminate asthma triggers in the home. Cleaning can reduce dust mite allergens, control mold and mildew, and eliminate roach and rodent attractions (such as food spills). All of these can trigger asthma in sensitive in participants with asthma.

*The most important rooms to clean are your bedroom, the kitchen and rooms that you use the most.* Get your bedroom really clean first. Once the first big cleaning is done, it's much easier to keep it clean with two quick cleaning sessions each week.

After getting the bedroom clean, move on to the room(s) where participant spends most of his/her time. Clean each of these rooms once a week.

**Have a plan of attack-** Clean one room at a time, from left to right and top to bottom. Assign specific cleaning duties to specific days of the week.

Example:

- Mondays - Bedrooms
- Tuesdays - Living room/Family room
- Saturdays - Washing (including bedding covers)

Scheduling your housework helps to keep your job from becoming overwhelming. It also helps you to get things done regularly.

- **Start with a clean slate.** Get rid of everything you are not using, have never used, your family has outgrown, or that is broken or outdated. Eliminating a bunch of stuff to clean around makes it a lot easier to keep things organized.
- **Clean up clutter.** Clutter in the home is a great hiding place for dusts and pests. Having lots of stuff around also makes it harder to clean the floor and other surfaces. Pick up and put away anything that is out of place – on a daily basis. Do not wait for dishes, clothing, clutter, etc. to pile up. Organize everything from the kitchen to closets and other storage areas including your garage using baskets, and boxes. Cut down on time spent picking up your stuff by having specific places to store it.
- **Always vacuum or mop floors last.** Dirt from whatever you are cleaning or dusting above will just settle onto the floor again.
- Keeping dirt out of the house makes keeping the inside clean easier: use doormats and take off shoes when inside the house.

### **Cleaning the Participant bedroom:**

- The top priorities are vacuuming or cleaning floors, vacuuming cloth-covered furniture and dusting.
- If carpet is present, remove it (check with landlord). If this is not possible, vacuum two times per week.
- If hard-surfaced floors are present, dust or mop weekly.
- If area rugs are present, vacuum twice a week. Once every six months, take outside or to a place with a clean and hard surface, vacuum on back, set the rug aside and vacuum up the dust, lay the rug down again and then vacuum the front. Repeat this: clean the back and front one more time each.
- If upholstered furniture is present, remove it. If this is not possible, vacuum twice a week, including removing cushions and vacuuming in cracks and crevices.
- Designate a place where things should go and then pick up toys, clothes, books and place in designated space.
- Dust and wash surfaces such as window sills, baseboards dressers, tables using a damp cloth with warm, soapy water once a week or a cloth with micro-pockets which trap dust, such as a Pledge grab-it.
- If any mold or mildew is present, use bleach mixed in water (see below) to remove.
- If participant is sensitive to mites or pets, remove drapes if present. If this is not possible, vacuum once per week using vacuum cleaner with attachment. Wipe down outside of air vents and registers.

### **Cleaning the kitchen**

#### ***Daily***

- Clean off counters, sink and stovetop using warm, soapy water.
- Wipe up any spills on the floor.
- Clean off cutting boards with hot, soapy water (in the dishwasher if one is available).
- Store all food in sealed containers such as plastic or glass container with lids or plastic bags that seal tightly (such as Ziploc® bags).

- Take out garbage daily.

### ***Weekly***

- Sweep or vacuum and then mop floors and baseboards.
- Wash surfaces (cabinet doors, window sills, etc).
- Scrub sink.

### ***Monthly***

- Wash top of refrigerator.
- Vacuum window sills using vacuum cleaner attachment.

### ***Once or twice a year***

- Move refrigerator and stove and clean floors and walls.
- Clean inside of cabinets.

## **Cleaning the bathroom**

### ***Each week***

- Clean tile, tub, toilet and sink using baking soda and Murphy's oil soap®, baking soda or other mild soap.
- Check for mold under and on back of toilet tank, on walls and in window tracks.
- Remove mold/mildew from wall tile, window track and toilet with bleach solution.
- Vacuum or sweep, then mop floor.
- Wash shower curtains once a month in the washing machine.

## **Cleaning the other rooms (especially those where participant spends the most time).**

### ***Weekly***

- The top priorities are cleaning floors, vacuuming cloth-covered furniture and dusting.
- Floors: mop or dust hard surfaces or vacuum carpets and area rugs.
- Vacuum upholstered furniture, including removing cushions and vacuuming in cracks and crevices.
- Dust and wash surfaces such as window sills, baseboards dressers, tables using a damp cloth with warm, soapy water once a week or a cloth with micro-pockets which trap dust, such as a Pledge grab-it.
- If any mildew is present, clean with bleach mixed in water (see below).
- Vacuum blinds or drapes using vacuum cleaner attachment.
- Dust and clean outside of air vents and registers.
- Monthly:
  - Vacuum heavy drapes if unable to remove them.
  - Sweep or vacuum and then mop baseboards.

## **Cleaning Methods**

### ***Mopping***

A sponge mop with a changeable head is easy to use.

#### ***How to use the mop***

- Fill bucket or kitchen sink with warm water.
- Add 1 cup of vinegar to one gallon of warm water for vinyl floors.
- Add ¼ cup of Murphy's Oil soap to one gallon of warm water for wood floors.
- Wet mop head in prepared water.
- Use handle to wring mop as dry as possible
- Mop a small area, rinse mop, and repeat steps "5" and "6" until room is completed.
- Change water as needed. This will remove any dirt quickly without dulling the floor with soaps, and it requires no rinsing.

#### ***Alternative Cloth Method***

- Follow steps "1", "2", and "3" above
- Using a clean cloth, dip cloth into prepared water, wring until damp, wipe floor by hand.
- Use folded towel under knees for comfort and knee protection.
- Continue steps "7" and "8" above.
- When finished mopping, wash hands with warm water and soap.

### ***Mop Maintenance***

- Use clear water to rinse mop well and allow to air dry.
- Never store mop-head wet.
- Store handle where it will stay dry.
- Cleaning methods: removing mold and mildew
- Cleaning flat surfaces with mold growth
- Cleanable surfaces with mold growth should be washed with a detergent bleach solution.
- To make a bleach solution for cleaning up mold, mix:
  - 1 cup of bleach and
  - 1/4 tablespoon of liquid dish soap with
  - 4 cups of water

(To make larger quantities, you can mix 1 quart of bleach and 1 tablespoon of soap with 4 quarts of water). After cleaning, let bleach solution on the surface air dry. Do not rinse with plain water after cleaning with the bleach solution. Wear gloves when cleaning, and ventilate (open windows and turn on fans).

### ***Getting Mold Out of Sliding Window Tracks***

It's very difficult to get the mold out of the tracks. Use a "toothbrush" (grout brush) and scrub as much as possible. This can be followed by using a scraper or butter knife to push a cloth into the track and move it back and forth. Use a spray cleaner to help wash the loosened "stuff" and flush it out. Be sure the tracks don't overflow onto the wall. Most windows have small holes (they often get clogged) where the water is supposed to flow outside. Try to unclog them with a pin. After cleaning, apply bleach solution to help keep the mold from coming back. This will only work for a short time as long as water continues to accumulate in the tracks. Make sure to protect your carpet or floor by placing plastic below the window.

## Actions

### CHW

- Demonstrate cleaning techniques as needed.

### Participant

- Remove clutter and debris
- Vacuum or clean floor and furniture in participant bedroom twice a week and other floors and furniture once a week.
- Use correct vacuuming technique.
- Dust participant bedroom and play area twice a week and other rooms once a week.
- Clean (vacuum/dust and mop) kitchen floor and baseboards once week.
- Clean kitchen surfaces weekly.
- Keep food away from pests by washing counters daily, cleaning up spills and storing it in containers or sealed plastic bags.
- Clean up mold with bleach solution.

## Follow-up Visits

### Assessment

- Check how often bedroom, kitchen, and other rooms used by participant are being vacuumed, mopped and dusted.
- Look at these rooms and see if there is visible dust, dirt, food debris or clutter.
- Look over bathroom and see if mold is present.
- Check if more cleaning supplies are needed.

### Education

- Review cleaning protocols for bedroom, kitchen, and other rooms.
- Provide specific advice on cleaning any problem areas identified in assessment.

**The most important rooms to clean are the participant's bedroom, the kitchen and rooms in which the participant uses most.** Get the participant's bedroom really clean first. Once the first big cleaning is done, it's much easier to keep it clean with two quick cleaning sessions each week.

### Supplies

- Cleaning Kit
  - baking soda
  - Murphy's oil soap®
  - vinegar
  - spray bottle
  - heavy duty scrub sponge
  - yellow cleaning gloves
  - instructions on "How to use products" (Cleaning Recipes)
  - Mop
  - Pail (if needed)

**Education Handouts**

None

**Referrals**

Store Front – where these items are given away free through City funded project. May call to place order and then go and pick-up. (206) 684-7487.

## Cockroaches and Asthma

### Background

None

### Assessment

- Conduct this protocol if roaches are observed or reported at baseline, OR if participant is allergic to roaches.
- Ask participant if they have observed any roach activity.
- Observe if any roach activity, actual or droppings, is present.
- Assess prior education received by participant and assess their knowledge.
- Assess for participant's willingness to change behavior by eliminating cockroach attractants.
- Explain that because roaches are an asthma trigger, it is useful to know if they are present in the home, especially if the participant is allergic to roaches.
- Explain that even if you haven't seen roaches, they can be present.
- Explain that the next step is to see if roaches are in the home by setting up roach traps.
- Place roach traps.
- Reassess in 2 weeks to see how many roaches have been caught.
- If roaches are present, conduct roach elimination protocol.
- Give participant the cleaning checklist (attached) and discuss steps needed to prepare for the roach elimination visit.

### CHW Future Visits/ Assessment:

- Check to see if the home has been thoroughly cleaned.
- If any cleaning tasks remain, inform the parent that you will return when they are ready.
- Perform roach elimination protocol.
- After 3-4 months, repeat the assessment of roach activity by placing roach traps.
- If roaches are present, advise participant to prepare for roach elimination at the next visit.
- If roaches are detected, repeat the roach elimination protocol and:
  - review food handling and cleaning
  - check to see if all cracks are caulked and any remaining holes are plugged
  - check for leaky pipes and fixtures
  - replace bait smears with new ones
  - apply boric acid & seal cracks
- Once roaches are eliminated, inform the parent that the house needs to be thoroughly cleaned. This is very important in order to get rid of remaining roach waste. If roach waste remains in the environment, it can continue to set off asthma.

### Educational Messages

- Roaches are common indoor pests found in all types of homes. Many homes have roaches, no matter how clean they seem.

- Getting rid of roaches from the home can help control asthma, especially if your participant is allergic to roaches.
- The substances found in the shed cuticles of roaches, their feces, saliva, and eggs are allergens that can make asthma worse.
- It is important to figure out why there are roaches in the home and help get rid of them.
- Household members can take useful measures to reduce or totally eliminate roaches from a home. Important strategies include:
  - removing sources of water in the home
  - making food inaccessible to roaches
  - eliminating hiding places for roaches.
- The most important rooms to focus on are the kitchen, bathroom and the participant's play and sleeping areas.

## **Actions**

### ***CHW***

#### ***How to place roach traps:***

- Bait traps with peanut butter in the center of the trap.
- Traps must be placed against a wall and preferably in a corner.
- Locate near food or water sources, as described:
  - Kitchen
  - under sink
  - behind refrigerator
  - behind or beside stove
- Use 2-4 traps per room, as needed
- Use the Roach Bait Placement Form (see attached) and indicate the exact location of the traps so that if repeat trapping is necessary, the traps can be placed in the same location. Record identifiers and the date that the traps were placed.
- It is important for the parent to NOT move the traps! Use 2-4 traps per room, as needed.

#### ***Preparing for the roach elimination visit:***

- If the participant is an SHA tenant, refer them to the pest control supervisor at SHA-Impact Property Services.
- If the participant is a KCHA tenant, have them check with the building manager. If there is no resolution to their problem in a timely manner, consult with the project manager.
- If participant is a renter with a landlord who is trying to resolve the cockroach problem by bringing in a pest control service, advise the tenant to prepare for roach elimination as usual.
- Encourage participant to speak with the landlord about the pest control service and ask about whether the pesticides are approved in homes where participants are present. If participant is unable to do so, consult with the project manager.

For participants, follow the following steps:

- Ask participant to prepare for roach elimination.

- Explain that when the home is clean, the roaches will be more easily attracted to the bait and not to food sources.
- Explain that participant needs to do a thorough cleaning of their home so that roach bait can be used.
- Advise participant to wear gloves for the entire cleaning procedure.
- Give the cleaning checklist to the participant. Explain that it includes:
  - Mopping the kitchen floors with detergent
  - Scrubbing the kitchen surfaces with detergent solution, including stove top and counters
  - Vacuuming the carpeted floors
  - Scrubbing other hard floors and woodwork with detergent
  - Scrubbing walls and inside kitchen cabinets with detergent
  - Keeping the garbage in closed containers and taking out the garbage every night.
  - Advise parent to vacuum up any visible roaches just before the roach elimination visit.
  - Roaches can be vacuumed up with the crevice attachment.
  - Try to remove all traces of the roaches, including the eggs.
  - Use the crevice tool to vacuum any cracks to get the roaches.
  - After vacuuming, take the vacuum cleaner outside, remove the vacuum bag, seal it, and discard in trash. Take a damp cloth and wipe down the entire vacuum cleaner.
  - Continue to vacuum or otherwise kill any roaches that are seen.
  - Request that the stove and refrigerator be moved away from the wall before the roach elimination visit.
  - For gas stoves, move it out enough only to be able to reach behind.
  - For some stoves, if there is a bottom drawer, it is possible to reach behind the stove if the drawer is removed.
  - Advise parent to empty food cabinets before the roach elimination visit.
- How to perform roach elimination activities with the participant:
  - Identify leaky pipes and fixtures and suggest that the participant repair them or ask their landlord to do so.
  - Repair small holes by plugging around pipes with steel wool, foam and mesh.
  - Apply boric acid in cracks only and seal cracks.
  - Show the participant how to apply boric acid.
  - Together with the parent, apply boric acid inside the cracks with applicator such as the bulb syringe.
  - Together with the parent, use a caulking agent to seal up these cracks.
- Do the kitchen as the top priority, followed by bathroom, laundry area. These are areas with water, and attract thirsty roaches. Then do the participant's bedroom.

***How to apply roach baits:***

- Roach baits attract roaches and then the material in it kills them. Roaches die about 1-3 days after eating the bait and it usually takes 7-10 days to see reduced numbers of roaches after setting the baits.
- Show the participant how to apply abamectin smears and together apply 40-50 smears in the kitchen and apply 5 to 8 smears in each additional room as follows:
  - under kitchen sink
  - behind stove\*
  - behind refrigerator\*

- in upper kitchen cabinets
- in lower kitchen cabinets
- in cabinet above refrigerator
- in bathroom (behind toilet)
- additional 5 smears per room in bedroom, basement, living/TV room and other rooms in which activity has been observed or roaches trapped
- Place bait near food and water sources, but not in places where it will get wet.
- Keep bait out of reach of children and pets.
- Tell residents NOT to move baits.

\*Note: if it is not possible to get behind stove or refrigerator, sprinkle boric acid on folded cardboard or paper and slip the cardboard behind or under these appliances. Inform participant that boric acid is poisonous and that it should only be used in cracks that will be sealed or in places inaccessible to children.

### ***Participant***

- Water sources:
  - Repair leaky faucets and pipes.
- Food:
  - Store food in sealed containers.
  - Clean up food spills and crumbs immediately.
  - Encourage eating only at a table, such as in the kitchen or dining room, if possible.
  - Avoid bringing food into other rooms and eating in the bedroom.
  - Clean up dishes after use or place them in soapy water.
- Keep garbage in closed containers and take out garbage every night.
- Clean up grease on stove.
- Hiding places:
  - Eliminate clutter such as such as empty boxes, cans, bottles, bags, and newspapers.
  - Seal cracks in the walls.

### **Follow-up Visits**

See assessment

### **Supplies**

- Roach Traps (Roach Trapper with peanut butter bait)
- Long handled mirror with light
- 5-gallon hard-plastic containers for food storage
- Avert and applicator
- Boric acid and applicators such as bulb syringe and cardboard
- Caulk & caulk gun
- Foam and wire mesh, gloves, wire cutters, hammer, staples
- Roach Bait Placement Form

### **Education Handouts**

- Handouts given to participant

- Cleaning checklist for family to prepare for roach elimination
- “Roach Traps”

Roach Bait Placement Form

Participant:  
Date placed:

CHW:  
Date picked up:

<i>Location</i>	<i>Roaches</i>	<i>Notes</i>
Kitchen -		
Participant's bdrm – Closet top		
Participant's bdrm – Closet bottom		
Participant's bdrm – Near bed (1)		
Participant's bdrm – Near bed (2)		
Other bdrm – Closet		
Other bdrm – Near bed		
Bathroom – Under sink		
Bathroom – Behind toilet		
Living room -		
Living room -		

**Referrals**  
None

## Dust Control-General

### Background

- When dust is disturbed, it rises into the air. Once in the air, it can be breathed into the lungs.
- Cleaning can set off allergies and asthma by temporarily raising dust in the air. If the person doing the cleaning has allergies or asthma, they may want to use a dust mask (see dust mask protocol).

### Assessment

- Assess prior education received by participant for knowledge.
- Assess frequency of vacuuming, especially in participant's bedroom.
- Ask how vacuuming is going and if the participant has any questions on how to use the vacuum or the attachments.

### Future Assessment

- Ask participant to demonstrate vacuuming techniques. Observe vacuuming technique.
- Demonstrate how to vacuum, if needed.
- Ask if the client is using the dust sensor light to guide vacuuming. Is the light turning green? How long does it take?
- Assess if client needs help with vacuum maintenance. Topics include: use of the instruction book, checking to see how full the bag is, changing vacuum bags & cleaning the sensor plate by wiping with cloth.

### Educational Messages

- All homes have dust.
- Dust can contain allergens such as dust mites, animal dander and mold.
- Dust can also carry other substances that may harm a participant's health, such as lead, pesticide residue and other toxic chemicals.
- Dust can make asthma worse when it is breathed into the lungs.
- Controlling dust can be a very important way to help control asthma.
- Control dust by 2 strategies:
  - Don't let it get into the house (control track-in).
  - Get rid of the dust in the house by effective cleaning

### Actions

#### *CHW*

- Demonstrate: halogen light dust demonstration (instructions below).
- Ask client to try vacuum and all the attachments. Assess that they are using the proper technique.
- Educate/demonstrate vacuum use.
- Assure that client completes and encourage them to mail the warranty card.
- If caretaker has allergies or asthma, refer to Dust Mask Protocol.

### **Future Actions**

- Demonstrate how to check the belt. Advise checking the belt for tightness when changing bags and to replace the belt when they are broken or slack.
- Review the importance of cleaning both the secondary and final filters of the vacuum.
- Demonstrate how to clean the lens of the vacuum dust sensor.
- Demonstrate how to clean the agitator by removing and/or cutting strings and debris from around agitator.
- Change the vacuum belt at the one-year exit visit.

### ***Participant***

- Install and use doormat. Clean on both sides once a month.
- Remove shoes when entering house.
- Vacuum floors and furniture:
  - 2 times a week - participant's bedroom
  - 1 time a week - other floors and furniture
- Dust:
  - 2 times a week - participant's bedroom & main areas that are used
  - 1 time a week – other rooms
- Make sure your participant with asthma is out of the house (or at least the room) when you vacuum or dust, and for 20-30 minutes after you finish. This allows time for the dust and allergens, which may have gotten airborne during cleaning, to settle.
- Fill in and mail vacuum warranty card before end of visit.
- Maintain vacuum regularly.

### **Follow-up Visits**

- **Halogen light dust demonstration:**
- Ask client to walk or stomp on the carpet.
- Shine the light above surface of carpet to demonstrate that dust can be released from the carpet into the air.
- This demonstration may also be done by striking upholstered furniture.

### **To control track-in of dust:**

- Take shoes off as soon as you enter the door.
- Store the shoes near the doorway on a rack or on the floor.
- Use a commercial-quality doormat.
- The best mat is 2' x 3', is made of dense level-loop woven nylon pile, and has non-slip rubber backing. A piece of level loop or plush carpet is an option. Rubber or coco mats don't work well.
- Place the mat inside the doorway, or outside where it will not get wet.
- Wipe feet twice on the mat when entering.
- Make sure everyone, including kids, uses the mat.
- Vacuum the front and clean or vacuum the backside of the mat once a month. This is best done outside.

### **To get rid of dust in the house:**

- Dust :
  - 2 times a week - participant's bedroom & play area

- 1 time a week – other rooms
- Dusting can be done with a dust cloth but a Grab-It® cloth or a Swiffer® cloth can hold onto the dust without letting it disperse into the room. Use a damp dust cloth, a Grab-It® cloth or a Swiffer® cloth to dust vinyl or leather furniture.
- Dust articles in the room that are higher up from the floor before dusting articles that are at a lower level.
- Dusting before vacuuming will allow dust that has fallen to be picked up by the vacuum.
- Using correct vacuuming technique, vacuum floors and cloth-covered furniture:
  - 2 times a week - participant's bedroom
  - 1 time a week - other floors and furniture
- Clean rugs regularly (more on this another visit).

#### **Using a dust mop instead of the vacuum:**

- Never pick up the dust mop while mopping. That will release the dirt back into the air, and it will again settle on the floor.
- Take the mop outside when finished and shake it out to release the dust.
- Some people like to use a large wet mop with a terrycloth cover that is especially designed for hardwood floors instead of a dry dust mop. If you do, it works well if you wet the mop with a little dish soap mixed with water.
- Swiffers® or Grab-it® cloths and the floor-cleaning tool that is sold with them can be used to remove dust from wood floors.

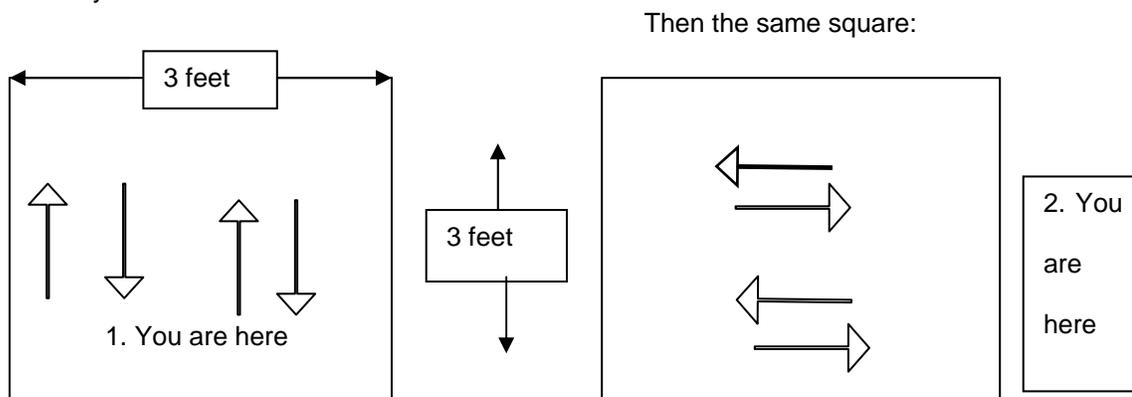
#### **About vacuums:**

- A low-emission vacuum is the best type for people with asthma because it has a special filter that keeps all the allergens in the dust collected by the vacuum in the machine.
- Regular vacuums allow some of the allergens to leak back out in to the air.
- It is still better to use a regular vacuum compared to not vacuuming at all. If you use a regular vacuum, you can use allergy-filtration, double-layer bags inside the vacuum. These will help cut down on the amount of allergens that leak out.
- It may take a lot of time to get the dust out of the house the first time, but once the house is clean, it's quicker and easier to keep it clean.
- Avoid vacuuming rug fringe, blind cords, string, yarn, coins, paper clips, gum, electrical cords (including one from vacuum cleaner).
- Never vacuum water, other liquids or wet objects.
- If the electrical cord gets caught in vacuum, turn off vacuum using switch, unplug immediately and release cord. If damaged, repair or replace cord.
- Unplug the vacuum cord at wall and pull only on plug, not on the cord. If plug comes loose from cord, replace it.
- Rewind the vacuum cord after each use.

#### **How to vacuum:**

- Turn the vacuum on and off by using the switch. Turning the vacuum off by pulling the plug out of the wall socket will leave the dirt finder light "on" and the battery will run down.
- The "Embedded Dirt Finder" indicator should be on "Hi" to get out high levels of dirt or ground-in dirt that may be underneath the carpet.
- Check vacuum bag before each use and replace bag when indicator is red or bag is filled to the dotted line on the bag.

- The vacuum is meant only for picking up dust. Pick up toys, debris and large pieces of trash before vacuuming. Don't use the vacuum to pick up large pieces of debris.
- Vacuum a 3 by 3 foot square in forward and back motion until green light comes on and stays on. Move the vacuum as follows:



- Go back and forth once over one strip, starting at the bottom of the square. Then move the vacuum over to the right and go back and forth over the next strip, until the whole area is covered.
- Start over again on the left and repeat the whole pattern until the green light comes on and stays on.
- When the entire area has a green light, move the vacuum to the side of the same square and repeat the pattern (at 90 degrees from the first pattern) until the green light goes on.
- Move to the next square area and repeat.
- If each square takes a long time to clean, you can work on one square at a time. It all does not have to be done at once. The areas nearest the door will take longest to clean, so you might start in the middle of the room. It is better to clean a small area well than to try to clean a large area and not get to the dust deep in the carpet.

#### Using the vacuum on area rugs:

- Use the carpet height setting appropriate to the type of carpet.
- Stand on one end of the rug to hold it in place. Move the vacuum with only forward strokes. Push down on the handle before reaching the edge of the rug to lift the vacuum off of the rug. This will keep the rug from being gripped by the vacuum.
- Avoid the fringe with the vacuum. To clean the fringe, use the dusting brush on the hose and vacuum parallel to the fringes.

#### Using the vacuum on hard floors (such as vinyl, linoleum or pergo®):

- Set the slide knob to HARD FLOOR and use the same cleaning pattern as for cleaning carpets. When moving the knob to change the height, make sure the vacuum handle is in the upright position.

#### Using the vacuum on hard floors (such as wood):

- Use a brush attachment to clean wood floors because the agitator in the vacuum can damage wood floors.
- Using the vacuum to dust:
- Use dusting brush hose attachment for books, tabletops, lamps, baseboards, fringes of area rugs, drapes.

- Make sure to close the cover over the hose tube. The vacuum must be in the upright position to use the hose attachments.

**Using the vacuum to clean furniture:**

- Use furniture nozzle, the small wide tool that does not have brushes.
- It is important to vacuum upholstered furniture weekly, especially items that the participant spends time sitting or lying on.

**Using the vacuum to clean cracks:**

- Use the crevice tool for getting between furniture cushions, behind bookcases and cabinets and at the carpet edge.

**Vacuum maintenance:**

- Use the instruction book if you have questions about how your vacuum works.
- Open the vacuum and inspect the bag after every hour of vacuuming or when the CHECK BAG indicator turns “red” Change the bag when indicator is “red” or dirt reaches dotted line on bag. A bag can get half full in an hour in a dusty room.
- Review the importance of cleaning both the secondary and final filters of the vacuum.
- Demonstrate how to clean the lens of the vacuum dust sensor.
- If string or other debris gets caught in agitator, turn off the vacuum and remove the debris by gently pulling it out or cutting it out.
- Replace vacuum belts each year.

**Supplies**

- Vacuum
- Extra Vacuum belt
- Vacuum bag - Note: Some clients may need more if really motivated.
- CHW may decide on how many bags to give -3 maximum.

**Education Handouts**

- Vacuuming technique
- Repair flyer
- PH-S&KC Poster “Please Take Off Shoes Here”

**Referrals**

None

## Dust Control – Mats and Vacuuming

### Background

None

### Assessment

None

### Educational Messages

- Educational messages given by CHW to participant
  - Control dust
  - control track-in
  - get rid of the dust
- Why?
  - Breathe into lungs
  - Dust can contain dust mites, dander, mold allergens, lead, pesticide residue

### Actions

#### *CHW*

- Assess prior education and knowledge
- 3 spot test. Record results.
- Halogen light dust demonstration
- Explain about vacuums
  - low emission
  - vacuum away from rug fringe, and coins
  - never vacuum water
  - unplug at wall
  - rewind cord
- Explain how to vacuum
  - use switch
  - dirt finder on Hi
  - check bag
  - pickup large debris before
  - vacuum 3 X 3 foot square
  - area rugs
  - bare floors
  - dust mops
  - dusting brush hose attachment
  - cleaning furniture
  - crevice tool
- Demonstrate how to vacuum
- Ask client to try vacuum and attachments

- Explain how to dust
- Dust mask protocol if appropriate
- Vacuum maintenance
  - instruction book
  - inspect bag
  - sensor plate
  - check belts
  - how to remove debris agitator

### ***Participant/Caregiver***

- Doormat: what kind, where, how to clean
- Remove shoes
- Vacuum and dust
- Two times/week in participant's bedroom and areas most used
- One time/week in other rooms
- Participant out while vacuuming and dusting
- Warranty card--fill in and mail
- Vacuum maintenance

### **Follow-up Visits**

- assess frequency of vacuuming and client questions
- using dust sensor light
- perform 3 spot test
- maintenance and instruction book
- check bag
- clean sensor plate
- belt
- how to clean agitator
- observe client vacuuming
- change belt at one year exit

### **Supplies**

- vacuuming
- repair flyer

### **Education Handouts**

None

### **Referrals**

None

## Dust Mites & Asthma

### Background

- The most important method for controlling mites is to use allergy control covers on mattresses and pillows.
- Dust mites are tiny creatures related to spiders and ticks. Their source of food is human skin scales and animal dander.
- The highest levels of mites are found mainly in dust found in the mattress and bedding material such as blankets, sheets, pillows, and bed covers.
- Washing bedding materials (sheets, pillowcases, blankets) weekly at a temperature of at least 130 degrees will kill dust mites. Many homes will not have water that is this hot.
- Wash bedding at a laundromat which does have hot water, OR
- Dry bedding outdoors on sunny days. It is best to lay sheets directly on a hard surface so that mites get hot and dried out, OR
- Use the hottest water available in the home. This is the least effective method, OR
- Dry bedding in a hot dryer for 30 minutes.
- Dust mites are also found in carpets, drapes, soft toys and upholstered furniture.
- Mites get their water from the moisture in the air so dust mites grow best in moist, humid places.

### Assessment

- Assess prior education received by client and client's knowledge.

### CHW Future Visits: Assessment

- Assess for presence of allergy control covers on mattress & pillow. Indicate in database if covers are not being used.
- Check to see if there are any problems with the mattress covers.

### Educational Messages

- Dust mites are the most important indoor cause of allergies that can trigger asthma.
- Getting rid of dust mites can be a big help in controlling asthma for people who are allergic to mites. In some cases, getting rid of mites can eliminate all asthma symptoms.
- Dust mites are found in every home in our area, no matter how clean the house.
- Use of allergy control covers on mattresses and pillows is the most important method for controlling mites.
- Keeping the moisture level in the house low (below 50% relative humidity) is also important for controlling the dust mite population.

### Actions

#### CHW

- Help client put allergy control covers on the mattress and pillow or verify that covers fit properly.

- Show how to clean off allergy control covers with sponge or damp cloth, or instruct how to vacuum the covers for the once a month cleaning.
- Review moisture control protocol. CHW Future Visits: Actions
- Check the home problem list for any mite-related issues to address:
  - high humidity
  - sources of moisture
  - presence of stuffed animals
  - upholstered furniture
  - insufficient vacuuming or dusting
  - insufficient washing of bedding materials

### **Participant**

- Put allergy control covers on the mattress & pillow.
- The allergy covers should be wiped off with a damp (not wet) cloth or vacuumed using the hard-edged attachment tool once a month.
- Wash bedding materials (sheets, pillowcases, and blankets) weekly in hot (130°) water. Return the temperature back to a safe 120° after washing bedding.
- Dry bedding materials in the dryer using the HOT cycle for at least 30 minutes.
- Dust participant's bedroom twice a week.
- Vacuum carpet or damp-mop hard floor in the participant's bedroom twice a week.
- Remove upholstered furniture from the participant's bedroom. Replace with wood, vinyl or leather furniture.
- If unable to change furniture, then vacuum upholstered furniture weekly.
- Avoid sleeping or lying on upholstered furniture or carpets.
- Use moisture control methods according to the moisture control protocol.

### ***Recommended Client Actions: Lower priority***

- Use fleece or other easily washable blankets to replace blankets/quilts/duvets that trap dust and are more difficult to wash.
- Wash covers only once a year or if soiled.
- Remove cloth-drapes, curtains and other window treatments from the participant's bedroom and use plastic or vinyl roller shades or blinds instead.
- If unable to remove drapes, vacuum them weekly.
- Store cleaned sheets in plastic bags to keep them from getting dusty.
- Remove carpets from the participant's bedroom. The next priority would be to remove carpets from other rooms, especially those that lie on concrete.
- Before taking up the carpet, check the condition of the underlying floor by lifting up a corner of the carpet.
  - If the client is a tenant, ask the client to check with the landlord/manager first before doing so. Be sure the client thinks it's reasonable to approach the landlord manager on this issue before proceeding

### **Follow-up Visits**

As needed

### **Supplies**

- Allergen control mattress & pillow covers

**Education Handouts**

- “Clear Your Home of Asthma Triggers” Environmental Protection Agency; EPA/402-F-99-005 (English, Spanish, and Vietnamese,)

**Referrals**

None

## Household Products Assessment

Conduct assessment only in homes in which toxins are present

### Background

- Some household chemicals can make asthma worse. These include lung irritants such as chlorine bleach and ammonia, solvent products, and products with strong fragrances or odors. It is best to eliminate these from the home.
- Provide participant with list of hazardous products present in home and instructions for disposal and alternatives.

### Assessment

- Review information from baseline questionnaire and walkthrough.
- Tour home and repeat (Chemicals and Irritants) section in the HEC to make a list of potentially hazardous products and where they are stored. Indicate in tracking system which products are present
- Ask participant about their use of these products. Assess prior education received by participant knowledge.
- Divide the products into higher priority and lower priority products.
  - Higher Priority products include banned products, pesticides labeled WARNING or DANGER, pesticide dusts, cleaning products containing bleach or ammonia (except for bleach solution used to eliminate mold), solvent products used once per week or more and any other products reported by participant to trigger asthma.
  - Lower Priority products include corrosive drain, oven, and toilet bowl cleaners; pesticide products not included in higher hazard group; solvent products used less than once per week; air fresheners; fragranced products; and volatile organic compounds (VOCs) other than solvents.
- Review status of toxic products identified during previous visit. Check if toxic product(s) have been disposed of properly and appropriate alternatives selected. Indicate in tracking system which products are present.
- Identify barriers to disposal, such as lack of transportation to HHW site.

### Educational Messages

- Some household chemicals can be hazardous to use or store in the home.
- Some household chemicals can make asthma worse. These include lung irritants such as chlorine bleach and ammonia, solvent products that are used frequently, and products with strong fragrances or odors. It is best to eliminate these from the home.
- Choosing less-hazardous products can help to make the home safer. If possible, avoid products marked DANGER or WARNING on the label or other products identified as high hazard. (Refer to summary table and protocol for safer alternatives to high hazard products)
- Dispose of high hazard products safely (refer to summary table and protocol for specific disposal instructions)

- Pesticides should be your last resort in solving home pest problems. Try to use non-chemical methods such as traps, barriers, or mechanical removal if possible.
- Provide participant with list of hazardous products present in home and instructions for disposal and alternatives. **(Use form included with the checklist to prepare list.)**
- All chemical products should be kept out of reach of children, either on higher shelves or in locked cabinets.
- Flammable products should be kept far away from the furnace, hot water heater, or other sources of heat or flame.
- Products containing chlorine bleach should not be mixed with other products.
- If hazardous products must be used, follow label directions regarding safety protection, such as goggles, gloves, and ventilation.
- Dispose of hazardous products properly. Call the Hazards Line (296-4692) for more information on how to dispose of hazardous products.

## **Actions**

### ***CHW***

- Educate on safe use and disposal of hazardous household products.
- Suggest safer alternatives to hazardous products.

### ***Participant***

- Remove hazardous products from home and dispose of safely or use a safer alternative.
- Avoid use of pesticides and use non-chemical methods to control pests.
- Avoid use of irritants which trigger asthma.
- Move flammable products away from fire or heat sources.
- Move hazardous products out of reach of children.
- Move hazardous products stored in unsafe containers to safe and labeled ones, or dispose of safely.
- Use proper safety methods when using hazardous products, such as wearing gloves and using adequate ventilation.
- Store hazardous products outside the home (such in a shed or garage).
- If you work with hazardous products at work, shower before coming home, change clothes, and wash work clothes separately.

## **Follow-up Visits**

- Education as needed

## **Supplies**

Supplies given to participant.

## **Education Handouts**

Handouts given to participant/caregiver

- Hazardous products list for participant

**Referrals**

- Hazards Line 206-296-4692 for information on disposal of hazardous products.
- Washington Toxics Coalition 206-632-1545 for information on safer alternatives.

**Education**

- Review information on disposal and safer alternatives for toxic products identified during visit six.

**Supplies**

- None

## P. CHEMICALS AND IRRITANTS

P1. Are there any of the following products used in the home?

A + O <Ask to look in closets, under sinks or other places that hazardous products might be stored>	
a. Bleach products other than laundry bleach ..... (e.g. disinfectants, mildew remover, tile cleaners)	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
b. Ammonia cleaners.....	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
c. Detergent product (Spic & Span, Mr. Clean).....	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
d. Oil-based paints and stains.....	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
e. Paint thinners and solvents.....	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
f. Paint removers.....	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
g. Cleaners (drain, oven, toilet cleaners with DANGER sign).	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
h. Air fresheners/purifiers.....	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
i. Adhesives (e. g. rubber cement, plastic glue, spray-on glue)	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
j. Spot removers.....	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
k. Spray lubricants.....	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
l. Furniture polish/spray.....	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
m. Permanent or whiteboard markers.....	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
n. Disinfectants (Lysol, Pinesol, etc.).....	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know
o. Pesticides (Specify).....	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No <input type="checkbox"/> <sub>9</sub> Don't know

Are there any:	P2	P3	P4
A + O	Flammable products stored near fire or heat?	Hazardous products within reach of children?	Damaged, rusting, leaking or open containers of hazardous products?
	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No	<input type="checkbox"/> <sub>1</sub> Yes <input type="checkbox"/> <sub>2</sub> No
If yes:			
What is the product?			
Where is it stored?			

P5. Are there any non-asthma medicines in the home accessible to children?

A <sub>1</sub> Yes Specify names of medicine \_\_\_\_\_

<sub>2</sub> No

P6. Is there a place to store chemicals that is separated from the living area so that fumes cannot get into the living space, such as a shed or detached garage?

A <sub>1</sub> Yes Specify location \_\_\_\_\_

<sub>2</sub> No

*P7. Does anyone do hobbies or crafts in the home?*

A <sub>1</sub> Yes Specify \_\_\_\_\_

<sub>2</sub> No

*P8. Are there members of the household who work with hazardous materials on the job?*

(such as asbestos, batteries, lead, mercury, paint or pesticides).

A <sub>1</sub> Yes <sub>2</sub> No Skip to P9 <sub>9</sub> Don't know Skip to P9

P8a. Before coming home, do they ?

P8b. Change clothes.... <sub>1</sub> Yes <sub>2</sub> No <sub>9</sub> Don't know

*P8b. Change shoes ...* <sub>1</sub> Yes <sub>2</sub> No <sub>9</sub> Don't know

P8c. Shower..... <sub>1</sub> Yes <sub>2</sub> No <sub>9</sub> Don't know

P8d. Are their work clothes laundered separately from the family wash?

<sub>1</sub> Yes <sub>2</sub> No <sub>9</sub> Don't know

P9. Do you ever store household chemicals in containers that are different from the original container without clearly labeling it?

A + O    <sub>1</sub> Yes    <sub>2</sub> No

P10. Do you use candles or incense?

A + O    <sub>1</sub> Yes    <sub>2</sub> No

P10a. ►► If yes, do you use scented or unscented candles?

A + O    <sub>1</sub> Scented (including incense)    <sub>2</sub> Unscented    <sub>9</sub> Don't Know

P10b. ►► If yes, how often do you use candles/incense?

A+ O    <sub>1</sub> At least weekly  
<sub>2</sub> At least monthly  
<sub>3</sub> At least yearly  
<sub>4</sub> Never  
<sub>9</sub> Don't know

## Summary of Hazard Level, Disposal and Alternatives for Household Toxic Products

Product	Priority Level	Disposal Method	Alternative
Chlorine laundry bleach	High	Use up or drain	Other cleaning products
Other bleach products (e.g. disinfectants, mildew remover, tile cleaners)	High	Use up or drain	Other cleaning products
Ammonia cleaners	High	Use up or drain	Other cleaning products
Oil-based paints and stains	High	HHW or use up	Latex, low VOC paint
Paint thinners and solvents	High	HHW or use up	Use latex paint to avoid use, odorless mineral spirits
Paint removers	High	HHW or use up	Water-based product
Drain cleaners (DANGER)	Lower	Use up or drain	Mechanical method
Oven cleaners (DANGER)	Lower	Use up or drain	Non-caustic cleaner
Toilet cleaners (DANGER)	Lower	Use up or drain	Non-corrosive cleaner or scouring powder
Air fresheners/purifiers	Lower	Garbage	Remove odor source
Adhesives (e. g. rubber cement, contact cement, plastic glue, epoxy glue, spray-on glue)	Lower	Use up or garbage if solidified/HHW if liquid and not water-based	Water-based adhesive
Spot removers	High	Use up or dispose (HHW if solvent)	Enzyme or detergent-based product
Spray lubricants	Lower	Use up or HHW	None
Permanent or whiteboard markers	Lower	Use up or garbage	Water-based or "low odor" markers. Crayons or grease pencils.
Pesticides (cancelled, suspended, such as 2,4,5-T, aldrin, chlordane, creosote, DDT, dieldrin, kepone, lead arsenate, lindane (most uses), mirex, pentachlorophenol, silves, and toxaphene)	High	HHW	IPM
Pesticides (danger/warning)	High	HHW or use up	IPM
Pesticides (dust)	High	HHW or use up	IPM
Pesticides (caution)	Lower	HHW or use up	IPM

Date: \_\_\_\_\_

Household address: \_\_\_\_\_

***List of Hazardous Products and What to Do About Them***

Product	Hazard Level	How to dispose of it	What to use instead

## Moisture & Ventilation

### Background

- Condensation on windows and walls is a sign of high moisture levels.
- Common sources of moisture in homes include:
  - Plumbing leaks (under kitchen sink or in bathroom)
  - Bathrooms and kitchens without adequate ventilation
  - Dryers not vented to the outside
  - Leaks in the roof, walls or windows
  - Dampness from crawl spaces
- If the kitchen or a bathroom does not have a fan or a window, an exhaust fan should be installed.
  - If possible, the fan should have a relative humidity rheostat switch, which is a switch that turns on the fan when the humidity goes above a set level.
  - Timers can be used with bathroom fans but not with kitchen fans.
  - Another option for bathroom fans is to use a fan that is always on at a low and quiet flow rate.
- To further reduce moisture allowed into the home, a vapor barrier should cover the entire crawl space.
  - Crawl spaces should be ventilated.
  - Any holes between the crawl space and home should be plugged (using steel wool and Easyfoam).
- A concrete floor can wick up water from the dirt beneath it. If the floor is to be covered with carpeting, a vapor barrier (non-porous plastic sheeting) should be placed between the carpet and concrete to prevent moisture from entering the carpet, making the carpet damp and encouraging mold growth.

### Assessment

The Home Environmental Checklist (HEC) detects five key signs of moisture-related problems;

- 1) condensation 2) ventilation issues 3) mold 4) water leaks and 5) water damage.
  - Assess prior education received by client and client's knowledge.
  - Conduct the remainder of the protocol only for homes with moisture related problems.
  - Assess the participant's readiness to approach ventilation and moisture management.

### Educational Messages

- Excessive moisture and humidity can cause problems for participants with asthma by helping mold, dust mites and cockroaches grow and multiply.
- Exposure to some molds, such as fungus or mildew, dust mites and roaches can cause asthma or can trigger asthma attacks.
- There are simple things that you can do to reduce the moisture level in your home.

## **Actions**

### ***CHW***

Work with the participant to help them take actions needed to reduce moisture in the home as noted in their action plans.

- To improve ventilation, advise the participant that opening painted-shut windows would be helpful. If the house was built before 1978, lead paint will be present. If this is the case, give the participant the handout on safely working when lead paint is present.
- Help the participant identify and remove water-damaged objects.
- Demonstrate how to mix up Murphy's Oil Soap solution and how to clean up mold on surfaces and in window tracks, as described in following background information.
- If the participant is a tenant:
  - Identify actions that the landlord should take, such as the installation of fans, venting of dryers to the outside, removal of water-damaged carpet, the installation of a vapor barrier under all carpet placed over a cement floor, and the installation of a vapor barrier in crawl spaces.
  - Discuss with the participant the best way to approach the landlord.

### **CHW Actions: Future Visits**

- Assess if the participant has been able to perform needed actions. Address problems by giving assistance on a case by case basis.
- If flooding or a leak dampens the carpet or other fabric, help the participant dry out those items. Air blowers may need to be rented for difficult situations. In such cases, consult with the project manager to make necessary arrangements.

### ***Participant***

- Use available ventilation, such as fans and opening windows, especially when cooking or showering and for 60 minutes after you are done.
- If the kitchen or a bathroom does not have a fan that vents outside, one should be installed.
- Clothes dryer should be vented to the outside, not into the attic or crawl space.
- Open all windows for 3 to 5 minutes to ventilate the home and remove stale air without cooling down the house. This should be done in the morning and the evening, if possible.
- Discontinue the use of humidifiers in all rooms, especially in the participant's bedroom.
- In instances where an asthmatic participant's bedroom has moderate to severe mold growth that cannot be controlled, move the participant to another room.
- If this is not possible, a room air filter (HEPA) can be used and left on all of the time, with the door to the room closed.
- Heat rooms to a minimum of 65° during the heating season. Try to keep all rooms within 2-3 degrees of each other.
- In cases of mild mold, clean the site weekly with Murphy's Oil Soap solution after the initial cleaning as described in the following background information.

- If you have a flooding problem or leak and carpet or other fabric gets wet, dry out immediately and call your outreach worker right away for help.
- Remove moldy or water-damaged materials and objects from the home, such as fabric-covered furnishings.
- If you are a tenant:
  - Identify actions that the landlord should take, such as the installation of fans, venting of dryers to the outside, removal of water-damaged carpet, the installation of a vapor barrier under all carpet placed over a cement floor, and the installation of a vapor barrier in crawl spaces.
  - If mold is moderate to severe, work with the landlord (a Public Health Environmental Inspector may be able to help you) to have this fixed.
- Homeowners should prioritize the above projects that they may wish to undertake.

### **Follow-up Visits**

#### **cleaning mild cases of mold and mildew: cleanable surfaces:**

- Wash with a detergent-Murphy's Oil Soap solution. To make a solution for cleaning up mold, mix:
  - Murphy's Oil Soap
  - 4 cups of water
- After cleaning, let the solution that is left on the surface air dry. Do not rinse with plain water after cleaning with the Murphy's Oil Soap solution.
- Wear gloves when cleaning, and ventilate the area by opening the windows and turning on fans.
- If there are on fans or windows in the area, keep the doors open and open other windows in the home.

#### **Mattresses: mild cases of mold and mildew:**

- Wipe down the mattress with the above mixture, let dry and then encase the mattress in a zippered allergy control mattress cover.

#### **Window frame tracks: mild cases of mold and mildew:**

- Use a "toothbrush" or grout brush to scrub as much mildew from the tracks as possible.
- Then use a scraper or butter knife to push a cloth into the track and move it back and forth.
- Use a spray cleaner to help flush the loosened "stuff" out. Be sure the tracks don't overflow onto the wall.
- Most windows have small drainage holes to the outer side, which often get clogged. Try to unclog the drain holes with a pin.
- After cleaning, apply a layer of the Murphy's Oil Soap solution and let it dry there to help keep the mold from coming back.
- Clean bathroom, kitchen, or other surfaces at risk for mold growth (such as surfaces where mold has been removed or those that are damp) weekly with Murphy's Oil Soap-detergent solution. This can prevent mold problems from starting or returning.

#### **Flooded and floors, walls and other items:**

- Immediately dry all wet objects.

- Dry carpet by lifting it off of the floor and drying the underlying surface if possible.
- Turn up the heat in the room. If possible, use air blowers to circulate air until all dampness is gone. Note that air has to go outside or things don't dry.
- Work with your landlord to have a hard surface floor installed (this is best) or to replace water-damaged carpeting if the carpet has not dried out within 48 hours.
- If items stay wet for more than 48 hours, water damage is probable. Get rid of all moldy and water damaged materials from the home, especially carpeting and fabric-covered furnishings.

### Supplies

- Murphy's Oil Soap
- Gloves
- Brush to clean window tracks, if needed

### Education Handouts

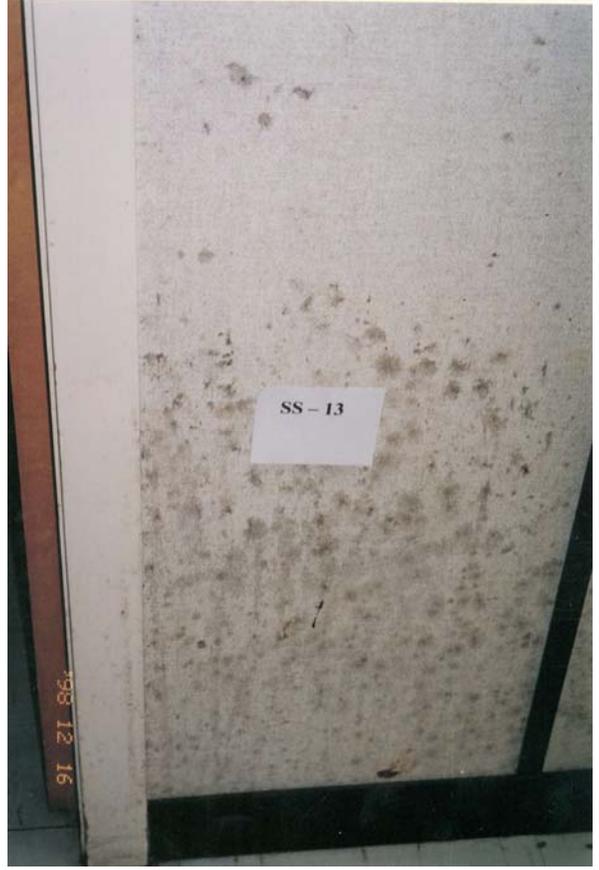
- "A Brief Guide to Mold Moisture and Your Home" EPA 402-K-02-003"
- Lead Paint Can Poison: Protect Your Family When You Repair or Remodel"
- Lead Safe America: U.S. Department of Housing & Urban Development

### Referrals

- Refer to Public Health - Seattle & King County Environmental Health staff for significant mold problems where:
  - area of mold is greater than 10 sq. ft. (any intensity) **OR**
  - area of mold is greater than 5 sq. ft. but less than 10 sq. ft. and of high (3) intensity



**Slight**



**Moderate**



**Severe**

From H-II

## Pets and Asthma

### Background

### Assessment

- If participant is allergic to cats, dogs or rodents, ask if any pets are in the house and what kinds. Indicate in tracking system that pet is present.
- Ask how much time each dander-producing pet spends in each room.
- Assess prior education received by client and client's knowledge.
- Ask if any things are done to reduce exposure to pet dander.

### Educational Messages

- All warm-blooded pets, including dogs, cats and birds, produce substances that can trigger asthma (allergens).
- These allergens include dander (flakes from the hair or skin), as well as substances in the saliva, feces and urine.
- Because your participant is sensitive to these allergens, having an animal in the house can make asthma worse. The skin test showed that your participant is sensitive to (topic).
- Allergens from cats (and possibly dogs) are found even in homes with no pets, although at lower levels. Even these levels can cause problems for people who are allergic to these animals.
- The best approach is to remove the pet from the home.
- If this is not acceptable (and usually it is not), suggest keeping the pet out of the participant's bedroom and play area at all times. Also, keep the pet outdoors or in the basement/utility room at night. Keep the door to the bedroom closed.
- Suggest that no new warm-blooded pets be introduced. Fish are fine. Reptiles (like snakes, iguanas and other lizards) are also OK for kids 5 years and older. Everyone should wash hands with soap and water after handling the reptile because they carry a bacteria called Salmonella. Because younger kids are not as good at washing up, reptiles aren't a good choice for them.
- A HEPA air filter can help remove pet allergens from the air. People who have pet allergies should consider using one, especially in the bedroom.
- Vacuuming can reduce the amount of pet allergen in the home, even if there are no pets in the house. You can also use a sticky lint roller brush to remove pet hair from furniture.
- You may want to consider draping a pet blanket on your pet's favorite spot and toss it in the wash as needed (at least once a week).
- Removing carpet, drapes and cloth-covered furniture can also help, because these trap the triggers that come from pets.
- It is not essential to wash pets, although this may help with allergies to dogs (but not cats).

**Actions****CHW**

None

**Participant**

- Remove pet or keep pet out of participant's bedroom and other heavily used areas.
- Use a HEPA air filter to remove pet allergens from the air.
- Pay special attention to vacuuming: vacuum participant's bedroom and cloth-covered furniture used by participant twice a week and other rooms and cloth-covered furniture weekly.
- Use a sticky lint roller brush to remove pet hair from furniture if vacuuming doesn't get it all.
- Drape a pet blanket on your pet's favorite spot and toss it in the wash as needed (at least once a week).
- Remove carpet, drapes and cloth-covered furniture, because these trap the triggers that come from pets.

**Follow-up Visits**

Ask if any pets are still in the house and what kinds. (If any allergen-producing pets present, repeat pet protocol. Indicate in tracking system that pet is present).

**Supplies**

- HEPA air filters (if available)
- PAWS pamphlet on how to place your pet

**Education Handouts**

none

**Referrals**

PAWS (425-787-2500 extension 806)

## Rodents and Asthma

### Background

Conduct this protocol only in homes with rodent activity and if participant is allergic to rodents.

- Rodents are a persistent problem for garden communities (low-income housing) and may be found in other housing throughout Seattle.
- Rodents, especially mice, are found in homes more often during colder months, when they come inside to stay warm.

### Assessment

- Assess prior education received by participant and their knowledge.
- Ask participant if they have seen any evidence of rodent activity.
- Look for evidence of rodent activity (e.g. droppings in crawl spaces, under sinks).
- If rodent activity is present, record in database visit encounter.
- Assess for participant's willingness to change behavior by eliminating rodent attractants.

### CHW Future Visits: Assessment

- Ask participants if they have seen any evidence of rodent activity.
  - If none, reinforce successful efforts in controlling rodent access & limiting attraction of rodents.
  - If present, record in database visit encounter.
- Look for evidence of rodent activity (e.g. droppings in crawl spaces, under sinks). If present, record in tracking system.
- If rodents are still present, review protocol above. If it has been successfully implemented, discuss referral to pest consultant with project manager.

### Educational Messages

- The urine and perhaps hair of rodents, such as mice and rats, contain allergens that can make asthma worse.
- Reducing exposure to rodent allergens is an important strategy in helping to control asthma. This can be done in two ways:
  - Prevent rodents from entering the house.
  - Remove rodent attractants such as food, garbage, and clutter from both inside & outside of the home.

### Actions

#### *CHW*

If the participant is a Housing Authority tenant:

- Refer the SHA tenants to the pest control supervisor at SHA-Impact Property Services. If the participant is a KCHA tenant, have them check with the building manager. If there is no resolution to their problem in a timely manner, consult with the project manager.

**If the participant is a tenant:**

- Encourage the participant to ask the landlord to make some necessary changes as needed, such as:
  - Repair of large gaps and holes, repair of broken sewer pipes, and installation of screening
  - Remove outdoor rodent hiding and nesting places by cutting back bushes and removing yard debris. Rats often like to hide in ivy.
  - Eliminate outdoor rodent attractants such as open garbage or compost storage, food debris, and pet dung.
  - Install door sweeps or door shoes to block gaps at the bottom of doors, if necessary.
- Consult the project manager about a support letter from the landlord requesting specific actions, if the tenant so desires.
- Assist participant in excluding rodents from the home and in setting up rodent traps.

***Participant***

The following actions can help prevent a rodent problem from developing or recurring:

- Keep food away from rodents so they are not attracted to the home.
- Store food in sealed containers.
- Keep garbage in closed containers.
- Clean up dishes after use or place them in soapy water.
- Clean up food spills and crumbs immediately.
- Remove rodent indoor hiding places such as empty boxes, cans, bottles, bags, and newspapers.
- Remove outdoor rodent hiding and nesting places by cutting back bushes and removing yard debris. Rats often like to hide in ivy.
- Eliminate outdoor rodent attractants such as open garbage or compost storage, food debris, pet dung. Follow-up Visits

**How to assist participants to exclude rodents from the home:**

- Use clean steel wool, foam and mesh, or other appropriate materials to plug holes or gaps greater than ¼ inch diameter between construction materials and pipes or holes in walls.
- Install screens on vents that provide entry into the home (e.g. dryer vents, fan vents). Cover sharp edges of screening mesh with duct tape.
- Help participant set up rodent traps.

**How to set up rodent traps**

- Use glue boards in accessible areas.
- Participants may place snap traps in crawl spaces or other areas that are inaccessible to participantren.
- Apply bait such as peanut butter to traps.
- Place traps perpendicular to the wall, with bait end of trap against the wall.
- In areas with known rodent activity, 5-10 traps should be deployed. Place traps closely together, 3 traps per foot, in a row so that the rodents would have to step on the traps.
- Where rodent activity is not well known, traps can be spaced 10 to 20 ft. apart along suspected runways.

Upon retrieval, traps should be handled with gloves, sealed in plastic bags and disposed of in sealed garbage cans.

**Supplies**

- Flashlight and tools for CHW use
- Steel wool
- Foam
- Mesh
- Vent screens
- Traps: glue and snap types

**Education Handouts**

Handouts given to participant:

- “Rodents”; Local Hazardous Waste Management Program in King County
- “Unwanted: Rats are Dangerous” Public Health – Seattle & King County
  - Available in English Spanish and Vietnamese

**Referrals**

- Landlord as indicated
- Pest consultant as indicated.
- In cases of extreme infestation, where the above methods fail, CHW should consult with the project manager about obtaining help from a pest consultant

## Using a Dust Mask

### Background

None

### Assessment

None

### Educational Messages

#### Dust masks

The process of cleaning and vacuuming your home is very important to help your asthma, BUT it can produce a lot of dust. This dust is in the air and easily breathed for approximately twenty minutes after cleaning. This is why we ask that the people with asthma who live in the house not be present in the same room when such cleaning is being done. If the house cleaner has asthma, they, too can be irritated by the dust from cleaning. **A house cleaner with asthma or allergies should use a properly fitted dust mask when cleaning the home.** A proper dust mask worn over the mouth and nose by the person doing the cleaning can reduce this irritation and make cleaning safer. The mask does not completely prevent breathing in dust, but it reduces the dust you breath by at least 95%. You could still have an asthmatic attack from this amount of dust, but it will be less likely than if you do not use the mask.

#### How to use a mask:

It is important to use a mask that works! The inexpensive paper masks **do not** provide any protection from dust. A close-fitting mask with exhalation valves is needed. The mask should fit snugly over the face (beards generally prevent a snug fit). Exhalation should be felt through the colored button in the front-center of the mask and not around the edges of the mask. The mask should be used during cleaning and for about *twenty* minutes afterwards if the cleaner stays in the same rooms which were cleaned. After use, it should be air dried in the sun or a warm place and then sealed in a plastic bag between uses. Depending upon how dusty the job is, one mask should be usable for many cleanings. A dirty appearing mask should not be used.

#### How to fit and wear mask:

- Position on face so that silver band is placed over the bridge of your nose with wide part of mask around your chin.
- Place lower headband around head below your ears and fasten hook and catch together.
- Place upper headband around your head and above the ears and fasten.
- With your fingers tighten both straps and shape the silver nose band to your nose.
- *It is VERY important to have a tightly fitting mask.* To check the fit insert your little finger into hole in the bottom of the mask and push black rubber button to close exhale valve. Exhale normally while keeping this valve closed. Air should escape through the white filter in the front of the mask, NOT between your face and mask. If air escapes between

face and mask readjust straps and nose band. Recheck seal every 10-15 minutes of use.

**Care of the mask:**

- Clean mask after each week of use or if it appears dirty.
- Clean the white filter by brushing with a clean paint brush or old tooth brush.
- With a cloth dampened with water and a small amount of dish detergent wipe off plastic parts. Do not dampen or wipe the white filter.
- Wipe off any soap on plastic parts with a clean, damp cloth. Do not dampen white filter.
- Allow mask to air dry at room temperature.

**Storage and replacement:**

- Store mask in a plastic bag. Do not crush, bend or distort mask.
- Replace the mask if breathing becomes difficult due to plugging of the white filter.
- This mask is only safe for dust. It does not protect against toxic fumes or when oxygen levels are low.

**Actions*****CHW***

- Demonstrate proper fitting of mask
- Observe client fit mask

***Participant***

- Use mask when cleaning
- Fit mask properly
- Clean mask when dirty or after each week of use.

**Follow-up Visits**

Demonstrations as needed

**Supplies**

Supplies given to participant

Dust Masks

Examples of ineffective masks

**Education Handouts**

Handouts given to participant

**Referrals**

None