

## WOOD SMOKE AND ASTHMA

### STATEMENT OF THE PROBLEM

Wood smoke may smell good, but it is not good for healthy people and particularly for people with asthma. People who have asthma may experience health effects earlier and at lower smoke levels than healthy people. Children are more susceptible to smoke for several reasons: their respiratory systems are still developing; they breathe more air (and air pollution) per pound of body weight than adults and they're more likely to be active outdoors. (Source: Environmental Protection Agency [EPA])

### BACKGROUND

Smoke is made up of a complex mixture of gases and fine particles when wood and other organic matter burn. The biggest threat from smoke comes from particles (also called particulate matter). These microscopic particles get into the respiratory system as well as eyes and sinuses. Particle exposure has been linked to increased hospital admissions and emergency room visits. Short-term exposure to particles (hours or days) can cause asthma attacks. Long-term exposure can lead to reduced lung function. (Source: EPA 2008).

### ASSESSMENT

- Determine if the family burns garbage or cardboard, painted or pressure-treated wood, beach driftwood, plywood, particle board or any wood with glue on it, wet, rotted, diseased or moldy wood.
- If the family heats their home with wood, determine if they have a vented EPA certified wood stove. These stoves emit 60-80% less pollution.
- If the family uses a wood stove, determine if they have it cleaned and inspected annually.
- If the family uses a wood stove, do they burn clean, dry, well-seasoned hardwoods such as oak or maple? These woods produce less smoke and less pollution.

### EDUCATIONAL MESSAGES

- Wood smoke is harmful to people with asthma. It is more harmful to children than adults and is also harmful to the elderly and those with chronic conditions.
- Wood smoke contains harmful chemical substances such as carbon monoxide, nitrogen oxides, volatile organic compounds (VOCs), dioxin and inhalable particulate matter (PM). Some of the VOCs are irritating, toxic, and/or cancer causing. PM in the smoke is one of the biggest human health threats.

- A properly installed, correctly used EPA certified wood stove releases significantly less pollution into the environment. A fire that is burning properly produces little or no smoke from the chimney. More smoke means more air pollution.
- EPA certified stoves burn more cleanly and efficiently, save money, reduce the risk of fire and improve air quality inside and outside your home. EPA certified stoves come in different sizes depending on the amount of space needing heating.
- Pellet stoves burn a renewable fuel of ground, dried wood and other biomass wastes compressed into pellets. They are some of the cleanest-burning heating appliances available and deliver high overall efficiency. Pellet stoves do not require EPA certification.
- Gas stoves are designed to burn either natural gas or propane. They emit very little pollution and require little maintenance. EPA endorses gas stoves that are vented through an existing chimney or directly vented through the wall behind the stove.
- Decorative Fireplace Gas Logs also have low emissions because they burn either natural gas or propane.
- Masonry heaters (which look like a fireplace, but store heat within its masonry structure) do not currently require EPA certification because they are small and burn hot and produce far less smoke than a fireplace or non-certified wood stove.
- Wood stoves offered for sale in the state of Washington must meet a particulate emissions limit of 4.5 grams per hour for non-catalytic wood stoves and 2.5 grams per hour for catalytic wood stoves. **An EPA certified wood stove will have both a temporary paper label attached to the front and a permanent metal label affixed to the back of side of the wood stove.**

**ACTIONS**

CHW ACTIONS	CAREGIVER ACTIONS
<ul style="list-style-type: none"> <li>• Discuss the harmful effects of wood smoke.</li> <li>• Recommend that the caregiver check to see if their wood stove is EPA certified.</li> <li>• Inform caregivers they can find retailers of EPA certified wood stoves, fireplace inserts and other products in the Yellow Pages of the phone book.</li> </ul>	<ul style="list-style-type: none"> <li>• Take actions to reduce exposure to wood smoke inside and outside the home.</li> </ul>

**FOLLOW-UP VISITS**

As needed

## SUPPLIES

None

## EDUCATION HANDOUTS

- Pamphlet: “Health Effects of Wood Smoke”-Washington State Department of Ecology
- EPA website: Current list of EPA-certified wood stoves at <http://epa.gov/air/woodstoves/basic.html>

## REFERRALS