Indoor Air Quality

There is good news and bad news about indoor air: the bad news is that indoor air often contains higher concentrations of hazardous pollutants than outdoor air; however, the good news is that everyone can reduce indoor air pollution.

How can the air inside our homes be so bad for us?
Over the years, buildings have been made more airtight to conserve energy. A variety of methods have been employed to keep the hot or cool air from escaping from our homes: installing storm windows and insulation; applying caulk and weatherstripping to seal cracks and other openings; and heating our homes with kerosene, wood, coal, and natural gas. Unfortunately, when we trap in hot or cool air, we also trap in pollutants and sometimes generate more.

Why is this an issue?
On average, people spend about 90 percent of their time indoors. Sixty-five percent of that is spent at home. To make matters worse, those who are most susceptible to indoor air pollution are the ones who are home the most: children, pregnant women, the elderly, and those with chronic illnesses. Children breathe in 50 percent more air per pound of body weight than adults do. EPA studies have found that pollutant levels inside can be two to five times higher than outdoors. After some activities, indoor air pollution levels can be 100 times higher than outdoors.

What are the sources of pollutants?
There are many sources of pollutants in the home. Obvious ones are chemicals, cleaning products, and pesticides. Less obvious are pollutants caused by such simple tasks as cooking, bathing, or heating the home. Fortunately, there are easy steps that everyone can take to reduce the potential for indoor air pollution and to improve the quality of the air they breathe.

How do you know if the air inside your home is dangerous to your health?
Often, it is difficult to determine which pollutant or pollutants are the sources of a person's ill health, or even if indoor air pollution is the problem. Many indoor air pollutants cannot be detected by our senses (e.g., smell) and the symptoms they produce can be vague and sometimes similar, making it hard to attribute them to a specific cause. Some symptoms may not show up until years later, making it even harder to discover the cause. Common symptoms of exposure to indoor air pollutants include: headaches, tiredness, dizziness, nausea, itchy nose, and scratchy throat. More serious effects are **asthma** and other breathing disorders and cancer.

How does this affect children?
Children may be more susceptible to environmental exposures than adults and, because of their developing systems, particularly vulnerable to their effects. **Asthma** is a case in point. About 4.2 million children in the United States, and more than 12.4 million people

total, are affected by asthma each year. A recent study, published in the *American Journal of Respiratory and Critical Care Medicine* concluded that 65 percent of asthma cases among elementary school-age children could be prevented by controlling exposure to indoor allergens and **environmental tobacco smoke** (ETS). By controlling **biological contaminants** (e.g., dust mites and cat allergens), asthma cases could be reduced by 55 to 60 percent.