



THE COLLABORATIVE ON HEALTH AND THE ENVIRONMENT - WASHINGTON



RESEARCH AND INFORMATION WORKING GROUP

INDOOR ENVIRONMENTAL QUALITY

FACT SHEETS ON HEALTH AND ENVIRONMENT IN WASHINGTON

INTRODUCTION

There are many contaminants indoors, including toxic substances in house dust, radon and environmental tobacco smoke. Exposure to contaminants in indoor environments is especially important because most people spend about 90% or more of their time indoors.

Indoor air contaminants may come from many sources, including outdoor air. Sources unique to the indoor environment include emissions from building materials; paints and coatings; adhesives; furnishings; carpet and other floor coverings; cleaning products; combustion sources such as oil, gas, kerosene, coal, wood, and tobacco products; building materials and insulation; cabinetry or furniture made with certain pressed wood products; products used for hobbies; radon and pesticides used indoors.

INDOOR ENVIRONMENTAL QUALITY IN WASHINGTON STATE

Radon

- Radon gas causes lung cancer. Human exposure to radon comes through earth and rock beneath homes, well water, and building materials. The Environmental Protection Agency estimated that about 21,000 lung cancer deaths in the U.S. are caused by radon.¹
- Counties in eastern Washington tend to have a greater potential for high radon levels than western ones. About 400,000 Washington residents live in homes with high or very high radon potential.²
- The seven Washington counties with the highest potential for high radon levels are Clark, Skamania, Okanogan, Ferry, Stevens, Spokane and Pend Oreille.³

Tobacco Smoke

- About 12% of adults in Washington are exposed to environmental tobacco smoke at home and about 7% are exposed at work.⁴
- About 244,000 youth in Washington are exposed to secondhand smoke at home.⁵

House Dust

- Infants and toddlers are exposed to house dust that may contain lead, pesticides, PAHs (polyaromatic hydrocarbons), allergens and VOCs (volatile organic compounds). Biological and chemical pollutants in indoor dust and air can trigger asthma.⁶
- Carpet dust from nine homes tested in Seattle contained concentrations of cancer-causing PAHs from three to 290 micrograms per gram.⁷
- Dust collected from ten used sofas in Seattle averaged 229 micrograms of lead per gram.⁸
- The Master Home Environmentalist program⁹ is run by the American Lung Association of Washington and offers a free assessment of indoor environmental quality in private homes.¹⁰

COMPARING WASHINGTON STATE NATIONALLY

- Toxic flame retardants (polybrominated diphenyl ethers, or PBDEs) are used in thousands of household products. PBDEs accumulate in human tissue over a lifetime and have been shown to cause attention and memory problems in animal studies. PBDEs were found in the house dust of all ten homes studied across the United States in 1994. A home in Seattle had a level of 5,912 parts per billion, the third highest of the homes studied.¹¹
- 19.1% of adults in Washington smoke, compared with the national average of 20.6%. Utah has the lowest state smoking rate, with 10.5%, and Kentucky the highest, with 27.4%.¹²

SOURCES

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5 http://www.alaw.org/tobacco_control/secondhand_smoke/

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11 <http://www.ewg.org/reports/inthedust/summary.php>

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