

# Health Effects of Wood Smoke Exposures



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Wood smoke poses risks for healthy people who are physically active outdoors. Wood smoke contains gases and other respiratory irritants linked to allergies, inflammation of the throat and sinuses, or decreased lung function.<sup>21</sup>

## Short-term and immediate effects

Burning eyes and throat, sinusitis, bronchitis, pneumonia<sup>22</sup>

## Long-term effects

### *Chronic Obstructive Pulmonary Disease*

- Fine particulate matter is especially harmful to people with chronic obstructive pulmonary disease (COPD), increasing their hospital admission rates.<sup>23</sup>

### *Asthma*

- Currently, 19.2 million people (8.5 percent of adults) in the United States report that they have asthma.<sup>24</sup> New England states have some of the highest asthma rates in the country.

A nonprofit, public health and medical research funding organization, Health Resources in Action, produced a report entitled, *The Burden of Asthma in New England*. The report shows the very high and growing rates of asthma in both adults and children in the region. Asthmatic children are particularly sensitive to fine particulate matter and wood smoke.<sup>25</sup>

### *Cancer*

- OWFs emit a number of carcinogenic chemicals. Wood smoke contains benzene, formaldehyde, polycyclic aromatic hydrocarbons (PAHs) and dioxin. Fine particulate matter also increases the risk of cancer. Analysis of data from an American Cancer Society



cohort study found that for each 10  $\mu\text{g}/\text{m}^3$  elevation in fine particulate air pollution, the risk of lung cancer mortality increased by 8 percent.<sup>26</sup>

### *Cardiovascular Disease*

- Mortality and hospital admissions for myocardial infarction, congestive heart failure and cardiac arrhythmia increase with a rise in the concentrations of particulate and gaseous pollutants.

As concentrations of airborne particles increase, people with cardiovascular disease may experience increasing severity of symptoms, rates of hospitalization, and mortality.<sup>27</sup>

### *Carbon Monoxide Poisoning*

- The low-burning fires of OWFs emit larger amounts of carbon monoxide than high-combustion fires. Carbon monoxide exposure is not only an immediate health risk; continuous exposures, even at low levels, can lead to neurological effects.<sup>28, 29, 30</sup>

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