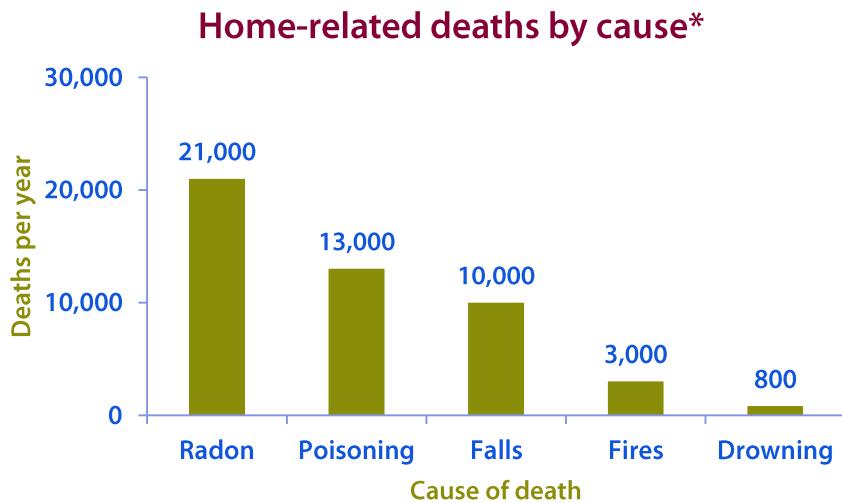


# Household Radon

Radon is a radioactive gas that occurs naturally in the environment and can cause cancer. Unlike better-known home hazards like asbestos and lead-based paint, many people are unaware of the danger of household radon exposure. Every year, radon is estimated to cause about 21,000 lung cancer deaths in the United States. The U.S. Environmental Protection Agency (EPA) estimates that 1 of 15 homes in the United States (as many as 1 of 3 homes in some states)—about 7 million homes—have high radon levels.

Radon exposure is thought to cause more deaths each year than other household dangers like poisoning, falls, fires, and drowning. Lung cancer caused by radon costs about \$2 billion in medical expenses and lost productivity each year.



\*Radon is thought to cause about 21,000 lung cancer deaths per year according to EPA's 2003 Assessment of Risks of Radon in Homes (EPA 402-R-03-003). The numbers of unintentional injury-related deaths in the home from other causes are estimates from the 2000–2008 National Vital Statistics System presented in: Mack KA, Rose A, Mickalide AD, Ballesteros M. Fatal unintentional injuries in the home in the U.S., 2000–2008. *American Journal of Preventive Medicine* 2013;44(3):239–246. doi: 10.1016/j.amepre.2012.10.022.

## What we know about radon

Radon gas occurs naturally in nearly all soil. It enters homes and other buildings through small cracks and holes in the foundation, where it becomes trapped and accumulates in the air. When people breathe in radon, it damages the lungs, which can cause lung cancer. According to EPA, radon is the leading cause of lung cancer among non-smokers and the second leading cause of lung cancer among smokers.

Most radon exposure occurs in the home, where people spend the most time. Because radon has no taste, smell, or color, a home must be tested to find out how much radon is in the air. There is no safe level for radon, but EPA and the Surgeon General recommend fixing homes that have levels at or above 4pCi/L.

Radon is found throughout the United States and can vary widely from one home to another. Homes with high levels have been found in all states. Home radon testing is simple and inexpensive. Many state radon programs offer free radon test kits, and there are inexpensive ways to fix and prevent high radon levels in homes.

### Radon policies can help communities

State, tribe, and territory policies can help communities identify and address radon. Testing is easy and inexpensive, and radon problems can be fixed.

For complete information, see EPA's *Radon Publications and Resources* page at [www.epa.gov/radon/publications-about-radon](http://www.epa.gov/radon/publications-about-radon).

## **What states can do about radon**

States play a vital role in protecting the public from harmful environmental exposures, including radon. The following state practices show promise in reducing household exposures to radon, and ultimately lung cancer deaths.

Monitoring the effect of state-based radon policies is vital to establishing best practices and helping states develop policies if they do not already have radon-specific laws. CDC's guidelines for program evaluation provide a framework for evaluating radon policies and programs.

### **Radon-resistant new construction codes**

Features that reduce household radon levels can be incorporated into new homes by adopting either the American National Standards Institute's Reducing Radon in New Construction standard or appendix F of the *International Residential Code*. Eleven states require radon-resistant features in new homes.

### **State licensing of radon professionals**

Reducing home radon levels requires specific knowledge, skills, and equipment. Properly installed radon reduction systems can reduce household radon levels by as much as 99%. Twenty-one states and the District of Columbia require licensing or certification of professionals who test and fix radon levels in homes. All states have a radon program that provides information to the public; states can require licensed radon professionals to report test results to the state radon program. Radon reporting helps states monitor and evaluate radon policies and programs.

### **Radon notification to home buyers**

About 4.5 million homes are sold in the United States each year. EPA recommends testing all homes for radon before they are sold. Ten states require home sellers to provide buyers with a disclosure statement about radon. Separate, well-crafted radon notifications give buyers information about radon risks and steps they can take to protect their family and the value of the home. States that enact notification laws should monitor the effect on home radon testing and mitigation.

### **Radon notification to renters**

About one-third of homes in the United States are rented. Three states require landlords to provide tenants with information about radon testing. Maine requires landlords to test residential buildings for radon every 10 years and fix any buildings with high radon levels.

## **What comprehensive cancer control programs can do about radon**

CDC's National Comprehensive Cancer Control Program (NCCCP) helps prevent and control cancer in the United States by supporting states' efforts to—

- Develop data-driven cancer control plans.
- Establish and convene statewide cancer-fighting coalitions.
- Implement and evaluate a state cancer control plan.

The NCCCP recognizes the importance of policies and activities that reduce exposure to cancer-causing agents. A state's comprehensive cancer control plan can align the priorities, goals, and activities of cancer coalitions with practices that reduce radon exposure and the risk of radon-induced lung cancer. Twenty-seven state cancer control plans include activities to reduce radon exposure.

### **More Information**

[www.cdc.gov/cancer/dcpc/prevention/policies\\_practices/radon/states.htm](http://www.cdc.gov/cancer/dcpc/prevention/policies_practices/radon/states.htm) • Twitter: @CDC\_Cancer  
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