NH DIVISION OF Public Health Services
Improving health, preventing disease, reducing costs *for all*
Department of Health and Human Services

NH ENVIRONMENTAL PUBLIC HEALTH TRACKING

January 2016

Spotlight: Radon Risk

AN OVERVIEW FOR NEW HAMPSHIRE RESIDENTS

Radon is a tasteless, odorless, colorless, naturally occurring, radioactive gas. It comes from the breakdown of uranium in rocks and soil. It can seep into homes through cracks in the foundation. Radon can also be found in well water and can be released into the air during showering, dishwashing, and laundry. In the U.S., the average level of indoor radon is 1.25 picocuries per liter (pCi/L), but samples collected in New Hampshire homes from 1988 to 2011 (n=25,476) suggest that 50% of homes have a concentration of 2.3 pCi/L or higher. According to the US Environmental Protection Agency (EPA), action should be taken when radon concentrations in air are 4.0 pCi/L or higher.

To better understand this important environmental health issue, the NH Environmental Public Health Tracking (EPHT) Program, in cooperation with the NH Department of Environmental Services (DES), evaluated trends in radon data across the State.

Health Risks Associated with Radon Exposure

Breathing air with elevated levels of radon can increase the risk of lung cancer. Nationally, radon is the second leading cause of lung cancer. The risk is greatest among smokers. Ingesting water with elevated levels of radon can also increase your risk of other cancers.

Radon in Air vs. Radon in Water

The primary route of exposure to radon is inhalation of contaminated air. However, radon can also be present in water. It is estimated that every 10,000 pCi/L of radon in water contributes 1 pCi/L in air. It is important that New Hampshire residents test their homes for radon (in both air and water), and take corrective action when necessary.

Reducing the Risk of Radon Exposure

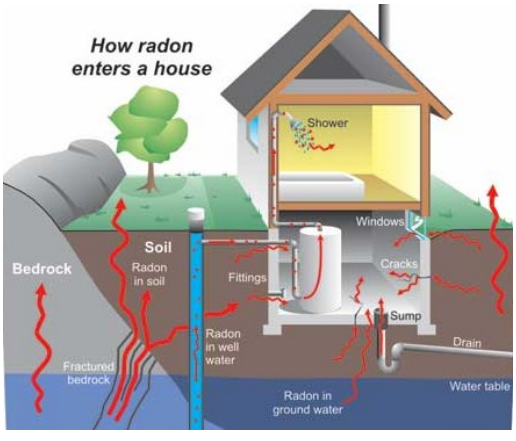
The EPA recommends testing for radon in air on the lowest level of living space. Action should be taken when radon in air is 4.0 pCi/L or higher. Radon levels in air can be reduced by installing a radon mitigation system. Costs for a radon mitigation system range from $1,000 to $3,000. Radon can also occur in private well water. Radon in well water can be removed with a water aeration system, which range in cost from $4,000 to $6,000. Consult a certified radon mitigation contractor for details.

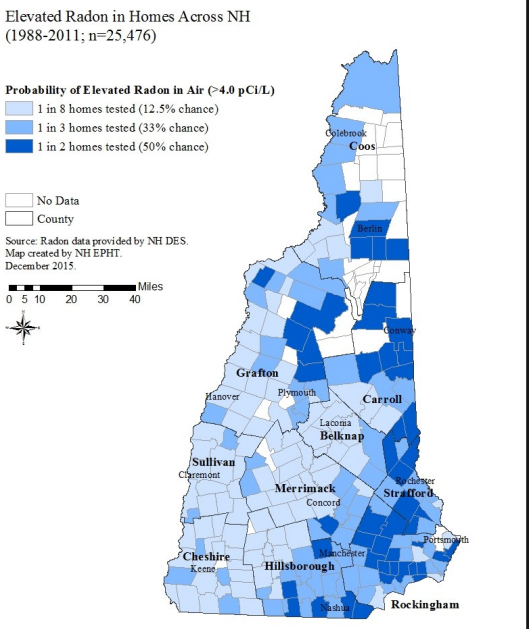
Smokers have a higher risk of dying from radon-related lung cancer than non-smokers.

Install a radon mitigation system if radon concentrations in air are 4.0 pCi/L or higher.

Quick Facts:

- 30% of homes tested in New Hampshire report elevated radon concentrations.
- Among homes with elevated radon, the median concentration varied by county ranging from 5.9-9.8 pCi/L.
- New Hampshire state law does not mandate testing for real estate transactions.
- Radon exists in air and water.
- The primary route of exposure is inhalation.
- Radon is the second leading cause of lung cancer.





Radon exposure risk is greatest in towns located in the southeastern and eastern regions of the State.

For more information on radon:

US Environmental Protection Agency
www.epa.gov/radon/

Locate certified radon contractors:

National Radon Proficiency Program
http://nrpp.info/

National Radon Safety Board
www.nrsb.org

*Since January 1, 2015, all radon mitigation contractors **must** be nationally certified.*

New Hampshire
HEALTHY HOMES
& Lead Poisoning Prevention Program

Summary of Radon Testing Behavior in New Hampshire

County	Number of Tests[b]	Number of Elevated Tests[c]	Percent Elevated	Median All Tests (pCi/L)	Median Elevated Tests (pCi/L)
BELKNAP	1,066	166	16%	1.4	6.0
CARROLL	1,418	586	41%	3.0	8.9
CHESHIRE	1,349	204	15%	1.3	6.4
COOS	1,487	585	39%	2.9	9.8
GRAFTON	2,406	521	22%	1.9	6.7
MANCHESTER	278	85	31%	2.5	7.6
MERRIMACK	2,810	631	22%	1.8	7.1
NASHUA	259	90	35%	2.7	7.5
HILLSBOROUGH[a]	5,421	1,727	32%	2.4	7.2
ROCKINGHAM	5,660	2,026	36%	2.7	7.3
STRAFFORD	2,347	960	41%	3.0	7.7
SULLIVAN	975	114	12%	1.3	5.9

[a]Estimates for Hillsborough County exclude Manchester and Nashua.
[b]Radon data accessed through cooperation with DES 1988-2011 (n=25,476).
[c]Elevated tests are defined as those greater than the EPA recommended level (4.0 pCi/L).

Summary Results

Approximately **30%** of the homes tested throughout New Hampshire (n=25,476) exhibit radon concentrations above the EPA recommended level of 4.0 pCi/L. Carroll and Strafford Counties have the highest percentage of homes with elevated levels. In these counties, half of the homes in Carroll County had concentrations of 8.9 pCi/L or higher, while half of those in Strafford County had concentrations of 7.7 pCi/L or higher.

Risk of elevated radon varies by town and within a town. Get your home tested. The map depicts the probability that a home will report a test result above 4.0 pCi/L, the EPA recommended action level. In general, southeastern and eastern regions of New Hampshire have the greatest number of towns with a high probability of homes having elevated radon levels.

It is important that all residents test for radon in air and well water.

For more information about the risk of radon exposure, visit the NH Environmental Public Health Tracking website.

https://wisdom.dhhs.nh.gov/EPHT

NATIONAL Environmental Public Health Tracking Program