Radon

DESCRIPTION

Radon is a colorless, odorless gas produced from the natural decay of uranium in the soil. Long-term exposure to radon can damage lung cells. Radon is the nation's second leading cause of lung cancer, causing 21,000 lung cancer deaths in the U.S. each year.[1] Radon may enter a home anywhere there is an opening to soil, including cracks in the foundation, floor drains and sump pumps. The levels of radon that can build up indoors vary by the amount of radon in the source material and its rate of entry into the building.

HOW WE ARE DOING

Two in five Minnesota homes have high radon levels. The Minnesota Department of Health recommends every home be tested for radon.[1] An average of 1,342 homes are tested every year in Ramsey County. Of those tested between 2010-2016, 66.9 percent were at or above the level which mitigation actions were recommended by the Environmental Protection Agency, 32.4 percent were at the level which mitigation actions were highly encouraged.

At 3.3 pCi/L, the average radon level in Ramsey County is more than two times higher than the average U.S. radon level (1.3 pCi/L), while in Minnesota overall it is more than three times higher (4.5 pCi/L).[2] Since 2009, all new home construction in Minnesota must be "mitigation ready," meaning that all the equipment necessary for a radon reduction system is built into the home.[3]

BENCHMARK INDICATOR

Healthy People 2020:[4]

1) Increase the proportion of new single-family homes constructed with radon-reducing features, especially in high-radon-potential area.
U.S. Target: 100 percent.

2) Increase the proportion of homes with an operating radon mitigation system for persons living in homes at risk for radon exposure.
U.S. Target: 30 percent.

DISPARITIES

Radon is present everywhere, and all Minnesota homes are at risk to some degree, based on air pressure between the home's interior and the exterior soil and the existence of entrance pathways. Because testing for and removing radon can cost several thousand dollars, those with limited financial resources are less able to avoid radon exposure in their homes.

RISK FACTORS

Radon can enter a building in a variety of ways regardless of whether it has a basement, is old or new, or is drafty or well insulated. Radon levels are usually highest at entry points and in the lower levels (like a basement), and during the colder months (when buildings are less likely to be open to the outdoors).

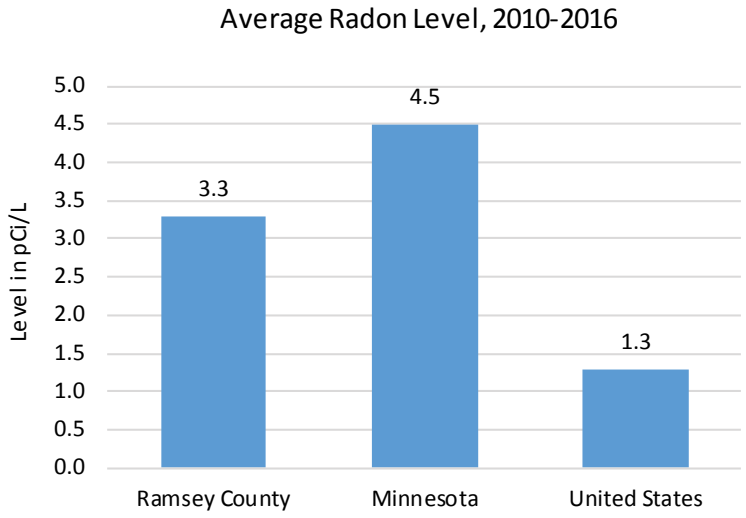
WHAT RAMSEY COUNTY GOVERNMENT IS DOING

Saint Paul- Ramsey County Public health sells inexpensive radon test kits to provide a "snapshot" of a resident's home radon level. Public health also educates residents on radon exposure, the importance of home testing and mitigation options for homes with elevated levels.

Information to note

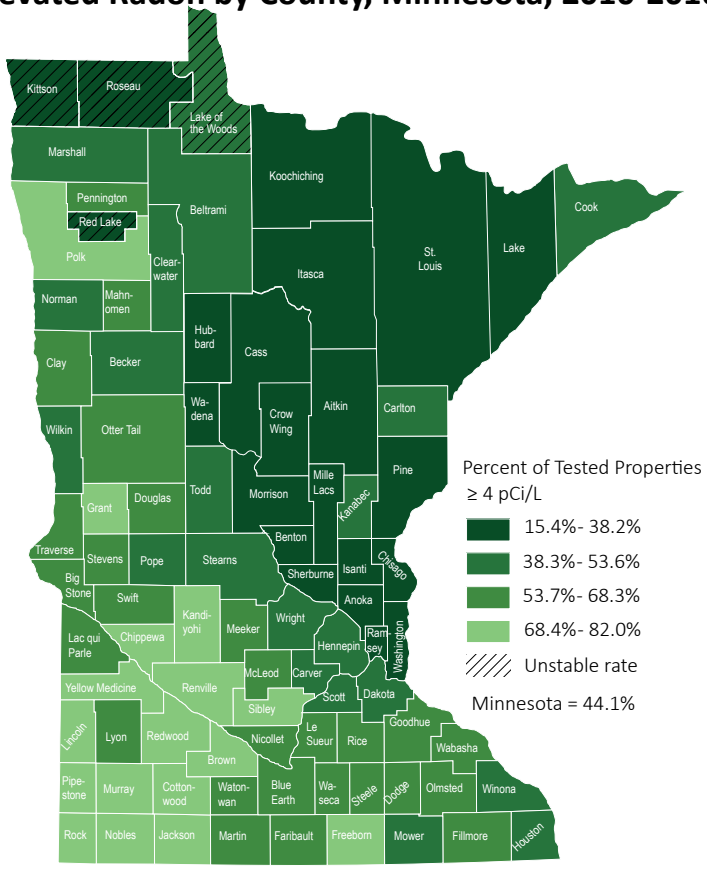
- 2 out of every 5 homes in Minnesota have high radon levels.
- Of the homes tested for radon every year in Ramsey County, about 32% have levels at or above 4 picocuries per liter (pCi/L).
- Average radon levels in Ramsey County are more than three times higher than the average Minnesota level.

[1] Radon in Minnesota homes. Minnesota Department of Health. http://www.health.state.mn.us/divs/eh/indoorair/radon/index.html. Accessed December 6, 2017.
[2] Comparing Minnesota and U.S. average radon levels. Minnesota Department of Health. https://apps.health.state.mn.us/mndata/radon_facts. Accessed December 12, 2017.
[3] Radon resistant new construction. Minnesota Department of Health. http://www.health.state.mn.us/divs/eh/indoorair/radon/radonresistant.html. Accessed January 25, 2018.
[4] Healthy People 2020. https://www.healthypeople.gov/2020/topics-objectives/topic/environmental-health/objectives. Accessed July 2, 2018.



Source: Minnesota Department of Health.[5]

Elevated Radon by County, Minnesota, 2010-2016



Source: Minnesota Department of Health Indoor Air Unit

[5] Minnesota Department of Health. https://apps.health.state.mn.us/mndata/radon_facts#mnavg https://cfpub.epa.gov/roe/indicator.cfm?i=27#1. Accessed July 2018.