

Radon Data Brief



2013 to 2018

DEPARTMENT

Elkhorn Logan Valley Public Health Department

*Vision: Healthy People
Living in Healthy
Communities*

*Mission: To promote
and improve health for
all residents of our four
county area.*

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Highlights

- Radon is dangerous gas responsible for about 21,000 deaths each year.
- Nebraska has a high statewide average radon level at 6.3 pCi/L.
- Over half of the radon tests in the state are above the action level of 4.0 pCi/L
- At least 70 of 93 Nebraska counties have an average radon level greater than 4.0 pCi/L, including Burt, Cuming, Madison, and Stanton counties; all of ELVPHD's service counties (based upon 2013 Nebraska County Average results).

Introduction

Radon is an invisible, odorless, and tasteless gas that is found in homes and can pose a serious health risk. Breathing radon gas is the second-leading cause of lung cancer behind smoking and is responsible for approximately 21,000 deaths each year in the United States. Radon levels are measured in picocuries per liter (pCi/L) and homes with levels above 4.0 pCi/L can increase the risk of developing lung cancer. The Elkhorn Logan Valley Public Health Department has worked to raise public awareness of radon and provide reduced-fee radon testing in area homes.

Methods

- ELVPHD distributed 247 short-term radon test kits during the 2017-2018 Radon test-kit distribution "season".
- ELVPHD put out newspaper, social media, and website articles to announce the availability of Radon kits as well as to inform the public about the dangers of Radon gas.
- Test results above 4.0 pCi/L were followed up with an educational mailing or email that included recommendations and a list of licensed radon mitigation professionals.

Results

During 2018, of the 247 test kits that were distributed in the ELVPHD service area, 167 were sent in to the lab for analysis for a return rate of 67.6%. The average levels by county are as follows:

- Burt County – 9.3
- Cuming County – 6.6
- Madison County – 9.8
- Stanton County – 12.2

In Figure 1, the results from the test kits ELVPHD distributed in 2018 are compared with the average county results using state level data from the most recent year (2013).

Figure 2 shows the comparison of ELVPHD test kit results by county over the past five years. The biggest difference from 2017 to 2018 was in Stanton County with a large increase in the average radon level. However, this is likely due to small sample size.

2018 ELVPHD RESULTS COMPARED TO STATE RESULT DATA (2013) - IN PCI/L

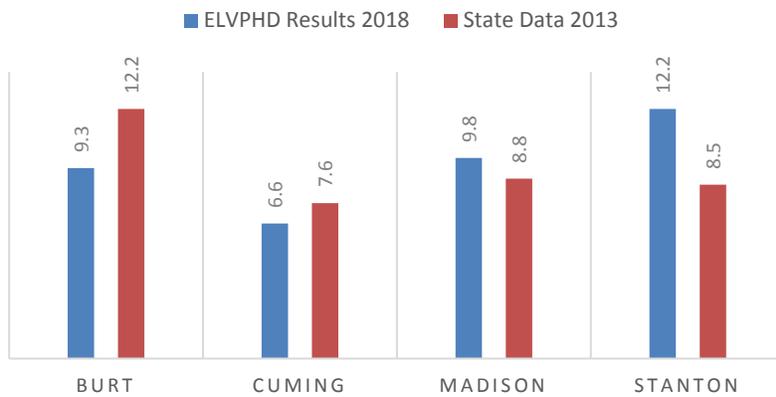
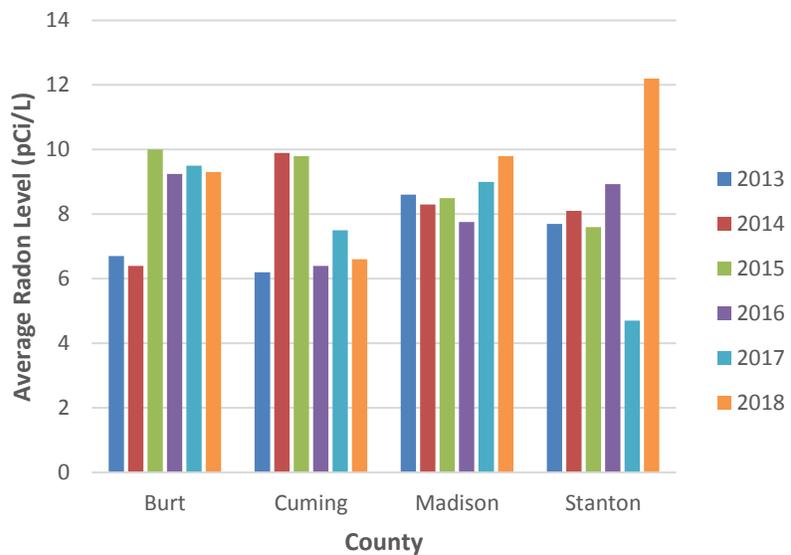


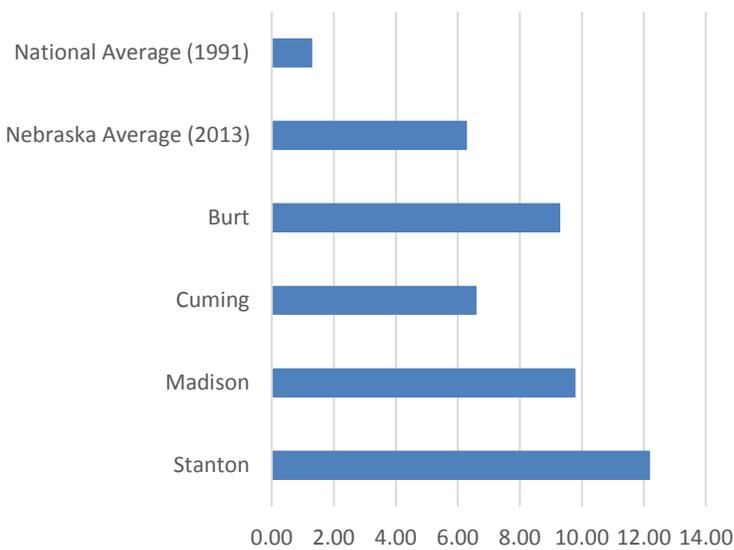
Figure 2: 2013-2018 ELVPHD Radon Results



Discussion

Each county's average is higher than the recommended level of 4.0 pCi/L. In Figure 3, the 2018 ELVPHD service area results are also compared with the national average radon level and the Nebraska statewide average. The national average is fairly low at about 1.3 pCi/L and is well within the accepted range, but the Nebraska average is high at just over 6 pCi/L. The most recent information shows that 70 of 93 Nebraska counties have an average radon level of at least 4.0 pCi/L which contributes to the high statewide average. The higher than average levels from the ELVPHD test kits and state data for the same area show that radon is a health risk in Burt, Cuming, Madison, and Stanton counties.

Figure 3: 2018 Radon Results, ELVPHD, Nebraska, U.S.



References

Nebraska DHHS:

The state data referenced when comparing average radon results comes from the Nebraska Department of Health and Human Services 2013 data (most recent). The number of radon tests conducted in each county to determine the state data is as follows:

- Burt: 359 tests
- Cuming: 397 tests
- Madison: 1,460 tests
- Stanton: 152 tests

<http://dhhs.ne.gov/publichealth/Documents/RadonCountyDataTable.pdf>

The Nebraska statewide average radon level of 6.3 pCi/L comes from a DHHS news release in January of 2013. This is the most recent that a statewide average radon level has been released.

http://dhhs.ne.gov/Pages/Newsroom_Newsreleases_2013_Jan_Radon2.aspx

EPA:

The recommended action level of 4.0 pCi/L comes from the Environmental Protection Agency. The national average radon level and number of lung cancer deaths caused by radon are also estimates from the EPA. This information can be found in the EPA's publication "A Citizen's Guide to Radon."

<http://www.epa.gov/radon/pubs/citgui>