[00:00:04.960] - EH Nexus Host
Hello everyone and thank you for joining today's episode of the Centers for Disease Control and Prevention's Environmental Health Nexus podcast, where we talk about environmental health topics. We are joined today by Dr. Adela Salame-Alfie, a senior health physicist at CDC's Radiation Studies section in the Emerging Environmental Hazards and Health Effects Branch. During this episode, we will discuss some important information about radon, the risk it poses, and why it is a communication challenge.

[00:00:37.540] - Adela Salame-Alfie, PhD
I am honored to have the opportunity to be here with you all.

[00:00:43.250] - EH Nexus Host
To start, could you share with us what is radon?

[00:00:47.090] - Adela Salame-Alfie, PhD
Sure. Radon is an other less and invisible radioactive gas that is naturally released from rock, soil, and water. Radon can get into homes or buildings through small cracks or holes in foundations and walls, and it can build up to unsafe levels. Over time, when we breathe in high radon levels, it can cause lung cancer. Many people don't know this, but any home or building can have cancer causing levels of radon in it, regardless of where it is located or whether it is new or old, drafty or sealed, or those that does not have any basement. The U.S. Environmental Protection Agency or EPA, has estimates that one in 15 homes have high radon levels.

[00:01:35.210] - EH Nexus Host
Who is affected by radon and why are we concerned about radon?

[00:01:40.150] - Adela Salame-Alfie, PhD
Well, everybody is potentially affected by radon. Radon is present everywhere, but the amount of radon that you're exposed to depends on many factors, including the level or concentration of radon in your geographical area, the type of building construction, and whether it has routes of entry for radon, such as cracks in the foundation. According to the EPA, radon is the second leading cause of lung cancer in the U.S. After smoking. The good news, though, is that you can prevent lung cancer from radon by testing your home and getting something called a radon reduction system if levels in your home are high.

[00:02:20.360] - EH Nexus Host
How can people reduce their risk of exposure to radon?

[00:02:25.420] - Adela Salame-Alfie, PhD
First, you need to find out the radon levels in your home. The unit used to measure radon is called a picocuri per liter. The EPA recommends you take action if your radon levels are more than four. So if your test results show more than four picocuries per liter, we recommend you get a radon reduction system. Let me explain the testing process in more detail. Even though radon gas is odorless and invisible, we can test the levels of indoor radon using very simple methods. If you decide to do your own testing, you can purchase a radon test kit from most hardware stores or through your state radon office. Here's an example of how a test would work. You would close the windows in your house and place a test kit on your bookshelf or another spot that would be undisturbed for two to seven days, such as the top of a bookshelf or a table in the basement or first floor if your house doesn't have a basement. After the testing is done, you just have to send the test kit to the laboratory in the prepaid, addressed envelope or box. The laboratory will send you back your results.

[00:03:39.910] - Adela Salame-Alfie, PhD
Now, if you prefer to have somebody else do the testing, we recommend you hire a certified radon testing contractor. For specific information on how to get test kits or to find a certified radon contractor, go to www.cdc.gov/radon.

[00:04:02.080] - EH Nexus Host

You mentioned that it is possible to reduce radon levels. Can you talk about what that entails?

[00:04:10.890] - Adela Salame-Alfie, PhD
Sure. If your test results are greater than four picocuries per liter, we suggest you find a certified radon mitigation contractor who can install a radon reduction system. A link to certified radon mitigation contractors is also available at www.cdc.com.gov/radon. A certified contractor will do more testing to find the places where radon is coming into your home. For example, you may have cracks in the foundation that let the radon in, or you may have something called a sump, which is a low area or small pit where water and chemicals like radon can collect. The contractor can install a radon reduction system to seal any cracks or close openings that allow radon to come into your home. For example, the contractor may install a sheet of heavy plastic as a gas barrier and may also install pipes and a fan to capture and divert the radon outside. It may sound complicated, but it's not. Certified radon mitigation contractors are usually able to install systems that reduce radon levels to below the action level of four picocuries per liter.

[00:05:27.660] - EH Nexus Host
That's great information. Why do you think it is important to raise awareness about radon?

[00:05:34.160] - Adela Salame-Alfie, PhD
Because radon exposure is preventable. But unfortunately, many people don't know that. If people know the risks, how to test, and if necessary, reduce radon levels in their homes, they can reduce the risk of developing lung cancer. Most people are unaware or have concerns about radon. Many people do not know about radon, its risks, how to test for it, and how to keep radon levels low at home. Because radon is not a visible threat and its risks are not immediate, it is easy to delay radon prevention and control measures, even for people who do know about radon. This situation makes radon a risk communication challenge.

[00:06:15.500] - EH Nexus Host
What is CDC doing to raise awareness?

[00:06:19.750] - Adela Salame-Alfie, PhD
CDC and many state radon programs communicate about radon throughout the year, but we increase efforts to raise radon awareness during National Radon Action Month in January. Over the last few years, CDC has chosen the last week of January to observe Radon Awareness Week. CDC shares messages, graphics, newsletters, and other communication resources that our partners can use to do further outreach. We have featured stories of lung cancer survivors who are nonsmokers but lived in a home with high radon. We promote resources for clinicians not only to educate them, but also to help them talk to their patients about radon. We also feature information about how to find average radon levels in your community. You can find information about radon awareness efforts as well as many resources at www.cdc.gov/radon.

[00:07:22.070] - EH Nexus Host
Is CDC partnering with other agencies to promote radon awareness?

[00:07:27.570] - Adela Salame-Alfie, PhD
Yes, we are. CDC's an active member of the leadership committee of the National Radon Action Plan or NRAP, led by the American Lung Association, which is a 12-member public-private workgroup. Other members include EPA, the Department of Housing and Urban Development, and partners representing health, radiation, energy, cancer, and radon industry science experts. One of the work groups focus areas is health equity. Radon is a potential risk for all communities. However, there is evidence that the benefits of radon risk reduction are not equally shared. Some households may not reap the benefits of risk reduction if they're experiencing poverty or have low awareness of risk or how to affordably reduce risk. Through this NRAP, we are reaching out and promoting resources. For example, there are low cost loans and other incentives aimed at renters and owners of multifamily housing, so they can test and mitigate homes or dwellings with high radon levels. You can find out more about HUD radon resources at www.hud.gov/healthyhomes.

[00:08:47.610] - EH Nexus Host
Thank you, Dr. Adela Salame-Alfie, Senior Health Physicist at CDC's Radiation Studies Section in the Emerging Environmental Hazards and Health Effects Branch for joining us today and sharing this wonderful information. Thank you all for listening to today's episode of the Environmental Health Nexus podcast. Stay tuned for our upcoming episodes, where we will continue to dive into all things environmental health.