

Video Transcript: [Radon Gas in Canadian Homes](#)

Interview Conducted: June 13, 2014

With: Kelley Bush, Radon Education & Awareness, Health Canada



Time Start	Speaker	Transcript
00:00:12,200	Rob Cornish	Hi. This is Rob Cornish here with Homexam and I'm speaking with Kelley Bush who is our Federal government's ..well.. one of our Federal government's representatives on Radon. Kelley, maybe you can tell us where you fit into the Radon picture in Canada?
00:00:13,833	Kelley Bush	Sure. Absolutely. So my name is Kelley Bush. I'm with Health Canada. And I'm with Health Canada's Radiation Protection Bureau. And my role at the Radiation Protection Bureau is the Head of Radon Education and Awareness. So my role day in and day out is to raise awareness about radon and to encourage people to take action to reduce their risk from radon exposure.
00:00:51,133	Rob Cornish	Maybe you can share with us what Radon is and why it's a health risk.
00:00:58,400	Kelley Bush	Radon is a naturally occurring gas, radioactive gas, that comes from the ground. It's everywhere. It comes from uranium in the ground. And when it escapes from the ground outside it gets diluted with the outdoor air. But when it finds its way into a home or a building it can accumulate to high levels.
00:01:15,233	Rob Cornish	How many deaths are attributable to radon in Canada each year?
00:01:23,166	Kelley Bush	Well first of all maybe I should start off by saying that the only known health risk associated to long term Radon exposure is an increased risk of developing lung cancer. And you're right Rob, Radon exposure is a very significant environmental health risk. But one that people can do something about. That they can take action to reduce their risk. Health Canada based on the research that we've done and the studies that we've done with regards to radon levels across Canada estimates that approximately 16 percent of lung cancers in Canada are radon induced. Which would equate to a little over 3 thousand lung cancer deaths a year
00:01:58,800	Rob Cornish	Well those are certainly serious numbers. Is this unique to Canada or is this a worldwide issue?
00:02:11,066	Kelley Bush	Absolutely not. It's not unique to Canada and we are not alone in raising awareness and having a national radon program. The World Health Organization, The Environmental Protection Agency out of the U.S, and a number of European countries as well all have radon programs were they're raising awareness about the issue and about the actions that people can take to reduce their risk. I think it's important to make sure people understand as far as homes are concerned, it's not a question of whether or not you have radon in your home. Everyone has radon in their home. It's in all buildings as well. Unless of course they live in a tree-house or a boathouse. If they building is touching the ground there is a certain amount of radon that's going to get in because radon is everywhere in the ground. The question is how much is in the home? Or how much is in the building? And the only way to know that is to test. But it's easy and inexpensive to test.
00:03:01,933	Rob Cornish	OK. What areas have the highest concentration in Canada? Where are we most at risk?
00:03:17,800	Kelley Bush	I get that question a lot. So what Health Canada has done as a part of our national radon program to get a better understanding of radon levels across the country is between 2009 and 2011 we did an across Canada residential radon survey were we tested 14,000 homes across the country And what we estimate is about 7% of homes have a high level of radon. And what this survey confirmed is that radon levels vary



		significantly across the country. So from a higher risk area, provincially Manitoba and New Brunswick as well as the Yukon and Saskatchewan all had fairly high percentages of homes that tested high. Manitoba and New Brunswick were in the 20% range. So 1 in 5 houses. But that being said, every single province had health regions or areas of high levels of radon varying between 3 or 4% up to 40 to 50%.
00:04:07,066	Rob Cornish	And what's the unit of measure? How do you know what your concentration of radon is in your house?
00:04:17,433	Kelley Bush	What started the national radon program was that we made a change to the Canadian guideline for radon in indoor air, We reduced the existing guideline from 800 becquerels per cubic metre to 200 becquerels per cubic metre. The decision to reduce the guideline was based on current scientific evidence that demonstrated there was a risk at lower levels that could be found in homes. Hence, the reason the change to 200. and with regards to a becquerel. What a becquerel is...is a unit of measure that scientists use that tells you the number of radioactive decays. And indicates the risk from a scientific measurement perspective.
00:04:58,433	Rob Cornish	OK. So there are services that you can engage to come in and measure the radon in your home?
00:05:07,666	Kelley Bush	<p>Yes. Absolutely. A part of the national program we have the component that I'm responsible for which is education and awareness but we also have a component that looked at technical operations and ensuring that we had the right research and information so that we could communicate effectively and the right messages to the Canadian public. And also we needed to make sure that if we are going out and telling Canadians that radon is a risk. And they should test. And they should mitigate. They should reduce the level in their home. Then we better make sure that there are services available.</p> <p>So one of the things that has happened through the development of our national radon program is the establishment of a Canadian certification organization called the Canadian National Radon Proficiency Program. And there are certified professionals for radon measurement and radon mitigation across Canada. With regards to testing there are two options. You can hire a certified measurement professional to come to your home and test. Or you can buy a do it yourself test kit and essentially do it yourself.</p> <p>Testing is not difficult. What Health Canada recommends and this is really important, is that you do a long-term test. That you test for a minimum of three months. And the reason for that is that radon levels vary quite significantly over time. The health risk from radon exposure is not immediate. It's long-term. So you want to have a good understanding of what your long-term annual average exposure is. And you are only going to get that if you do a three month test. So there are three month test kits, do it yourself test kits that are available across Canada in home improvement retailers. Through a number of the provincial lung associations and online as well. And as long as you are purchasing a long-term test kit then you can trust in the services you are getting from them.</p>
00:06:55,900	Rob Cornish	OK so that's that's not a fair amount of time to get those the results back once you get those results and if you discover that you've got unfortunately high levels of radon what can you do about that situation?



00:07:17,100	Kelley Bush	<p>Well, the first thing that we recommend is that you hire or you contact a certified mitigation professional. Because they are the best person to come into your home and look your unique characteristics of your home to determine the best and most cost-efficient way to reduce the radon level in a home.</p> <p>That being said, the standard method for radon reduction is called active sub-slab depressurization. Which is a lot of words for a fairly straight-forward mitigation solution. Which is a 4 inch PVC pipe that is put through your foundation floor, with a fan attached to it and it's piped outside. It's piped out either at roof-line or at ground level. And what that does is it draws the air and the radon from under your home and pushes it back outside before it gets in. It gets diluted outside and it reduces the amount of radon that's getting in to your home by 80 to 90%. It's been done for 20-30 years in the U.S. and many other countries. Its a very effective mitigation solution.</p>
00:08:17,866	Rob Cornish	<p>You're finding that's pretty effective I guess so it's dropping to the levels down within the areas where we wouldn't be concerned about to radon anymore in the home.</p>
00:08:30,166	Kelley Bush	<p>Absolutely. And the thing that's important, as our program's progressed what we've done is some public opinion research to say, Is what we're doing working? Are people hearing more about radon? Are people taking action on radon? And what we've seen is absolutely the level of knowledge about radon has increased. The level of testing has increased. Not as much as I would like. But it's going to take time. But there was some misunderstanding about mitigation.</p> <p>So it's really important to communicate that mitigation is easy. Having a radon reduction system installed in your home is not hard. Like installing a new furnace or installing a new air-conditioner. A typical radon reduction installation would be in the range of 1,500 to 3,000 dollars.</p>
00:09:24,300	Rob Cornish	<p>As a home inspector sometimes I see that the builder has actually roughed-in the radon mitigation. The pipe is already through the floor and you all you have to do if there is a problem is connect the fan and go. Is health Canada advocating more building developers to include that rough-in?</p>
00:09:48,800	Kelley Bush	<p>Absolutely. So again another thing we looked at as we advanced our national radon program is what's the best way to reduce the risk of radon exposure. And one of the important factors is taking into consideration how the home is built. To 1) reduce the amount of radiation that gets into it. And 2) to facilitate or make it easier to remove the radon if you have high levels.</p> <p>So we were quite active in trying to have some changes made to the building codes. And in 2010 the national building code Incorporated codes that require a sealed vapour-barrier to reduce the amount of radon that can get in. And a rough-in for a radon reduction system which you just mentioned. And the large majority of provinces have now have adopted this rough-in.</p> <p>There's a learning process that's going to take time. What we've discovered is initially the rough-in wasn't always necessarily being installed properly or in the right place. So we recognize that there's a need to educate and that's why we've been attending and participating in a number of home builder related conferences and training groups. Because we want to make sure they understand the value and the purpose of the rough-in. So that it's installed properly and its useful to the homeowner should they need it.</p>



00:11:02,933	Rob Cornish	I guess with the recent media coverage you're kind of enthusiastic that the word starting to get out there. What other steps do you think needs to happen for the public to just have this in their consciousness as they buy and dwell in their homes?
00:11:17,400	Kelley Bush	We need to work with all our stakeholder partners. We don't do this alone. We work with other levels of government. We work with lung associations, Canadian Cancer Society, Canadian Partnership for Children's Health and Environment. there's so many credible voices that are working with us to raise awareness about this. So we need to continue to repeat the message.
00:11:42,800	Rob Cornish	Thinking ahead here. If people are wondering at the time that they are building a home, whether there is a radon issue with that property. You mentioned long-term testing before, Are there shorter-term tests that can give a buyer an indication as to whether they're buying a problem or not ?
00:12:01,033	Kelley Bush	<p>That's a good question. Yes there are short -term tests as well as long-term. Health Canada doesn't encourage radon testing tied to real estate transactions. For the reason that a short-term test is not as accurate. You can have very high levels or very low levels for a couple of days. And so when you get the results of a short-term test it's not necessarily indicative of what you're being exposed to over a long-term.</p> <p>The other thing is that what we've learned from other countries that have had radon programs in place for a while and from the U.S. in particular where radon testing was tied to real estate transactions in a number of states is that the people doing the testing are the current homeowners who are moving out. If the levels are high they are also the ones that are also making the decision to mitigate. And they are hiring the mitigators to reduce the level in their home but they're not thinking of making the home a healthy and safe and happy environment to live in because they're leaving. They're thinking about the cost to mitigate. And what's that lead to is some mitigation solutions that weren't very effective long-term</p> <p>What we've done and what we encourage is that if you're thinking about radon when you're moving into a new home, test it after you've moved in. And if the levels are high reduce it at that point in time. We have seen in real estate some provinces or some municipalities where they've incorporated radon testing but long-term radon testing in a real estate and applied some requirements similar to when you buy a house and it has a pool and you buy the house in the winter and you say Ok. I want to be able to test the pool to make sure it actually functions. I want to hold some dollars aside if the pool doesn't work so that I can fix it. Similarly we've seen that done with radon testing as well but again we encourage people to test once they've moved into their home. And if they have to mitigate it. Like I said there's radon in every single house. You wouldn't not buy a house just because there was some radon in it. You would just buy a system to reduce it.</p>
00:13:59,166	Rob Cornish	So this has been at pretty good introduction to what the radon issues can be in residential housing are there other materials that Health Canada has available to consumers who won a know a little bit more about this issue?
00:14:19,966	Kelley Bush	Absolutely. So we have some great resources on our website. And it's simply http://www.hc-sc.gc.ca/ewh-semt/radiation/radon/index-eng.php
00:14:30,533	Rob Cornish	Great. Well I'll add a couple links at the bottom of this section and people can follow those to find more information. Thank you Kelley for giving us that information. Really appreciate it

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00:14:45,766	Kelley Bush	Thank you for helping me get the word out there. I really appreciate it as well.
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