

# Policy Measures to Address Radon in the Child Care Sector

## Briefing Note for Child Care Sector Leaders



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## Introduction

Child care professionals can lead the way towards greater radon protection for the children in their care and in their workplaces.

Radon is a naturally-occurring radioactive soil gas that can build up to harmful levels in indoor spaces. It is a known carcinogen and the second leading cause of lung cancer in Canada. You can't see it, smell it or taste it. Learn more at [www.reduceradon.ca](http://www.reduceradon.ca). Despite its known risks and the availability of testing and mitigation measures, most child care facilities in Canada are not tested. Health Canada recommends testing to ensure that radon levels are below the Canadian guideline<sup>1</sup> of 200 Becquerels per cubic metre (Bq/m<sup>3</sup>). The only way to know the radon level in a building is to test for it. Hence, testing is the first step for any indoor setting. The second step is mitigation if testing reveals above-guideline radon levels.

There are very few indoor settings in Canada where testing or mitigation is mandatory. Four possible legal or policy tools exist to address radon in child care settings. These include child care licensing rules, Building Codes, and the rules governing both occupational health and safety and public health. At present, most of these legal tools do not address radon or they are limited in scope. There is room for improving these policies and/or ensuring their effective implementation. In several provinces, radon testing of child care facilities provides useful lessons. Results point to the value of mandatory testing.

## What Can Child Care Organizations Do?

- Educate the child care sector in your province/territory about radon and its harmful effects.
- Network and strategize with partners in your region, such as your local Lung Association, researchers and others already advocating for radon protection and/or active in radon education.
- Advocate for change of child care laws and associated regulations to include radon testing and education in child care settings.
- Ensure effective implementation of existing rules that address Building Codes, workplace health and safety, and public health.

Four policy areas can be considered by child care professionals to address radon:

1. Provincial/territorial child care licensing regulations
2. Provincial/territorial Building Codes
3. Occupational health and safety laws
4. Public health laws

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<sup>1</sup> Becquerels per cubic metre is a measure of the concentration of radon in the air. More specifically, it is a measure of radioactive particles. Like all radioactive material, radon gas is unstable, giving off radioactive particles as it decays or disintegrates. A becquerel is a measure of the decay/disintegration of radon atoms in the air. One becquerel corresponds to one disintegration per second. Another way to measure radon — typically used in the United States — is in picocuries per litre (pCi/L). One pCi/L is equivalent to 37 Bq/m<sup>3</sup>.

The first of these is where **reform** would be most effective in terms of creating proactive change directly within the child care sector. For the other three, their **effective implementation** is probably most useful to the child care sector.<sup>2</sup>

## Provincial/Territorial Child Care Licensing Regulations

Licensing of child care facilities is a provincial or territorial responsibility. Within Canada, no provincial/territorial child care licensing laws address radon. Addressing radon (via either testing or mitigation if high levels are found) is not a condition of licensing and is not included in requirements for ensuring the health and safety of the children in care.

### The Existing Rules

As child care professionals know, regulations governing their sector address multiple aspects of administering and operating child care facilities. Common features include regulations for

- new or renewed licenses
- inspection, enforcement, and appeals
- administration and record-keeping
- staff credentials and conduct
- child care program features and delivery.

Within these laws or, in some cases, in the details of their regulations, are also multiple areas related to health and safety such as

- compliance with building and fire codes and rules about providing safe drinking water, proper ventilation, sanitation and plumbing/sewage disposal
- safety of indoor and outdoor spaces, equipment and toys
- nutrition and food safety
- communicable disease control and prevention.

Some but not all provincial/territorial licensing regulations also include

- cross referencing that requires compliance with other laws such as building and fire codes and public health rules
- bans on smoking
- rules about safe storage and use of insect repellants, toxic substances and cleaning products.

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<sup>2</sup> It is important to note that child care licensing rules, Building Codes, as well as the laws governing occupational health and safety or public health are under provincial/territorial jurisdiction. Hence, there is variation across Canada. This briefing note is drafted to be generally applicable across Canada. However, details of individual laws need to be consulted to ensure accuracy within each province/territory.

## Addressing Acute vs. Chronic Hazards in Child Care Licensing Regulations

Looking at the child care licensing regulations across Canada it is clear that child care facilities/programs are carefully regulated and for good reason. Note however that the regulations about health and safety seek to avoid or respond to **acute or immediate hazards**. But whether it is sanitation, food preparation, communicable diseases, or injuries, the regulations do not address **chronic hazards** like radon.

Exceptions might include those requirements to keep toxic or cleaning products under lock and key. But even these rules are mainly about avoiding acute poisoning. The closest we get to addressing chronic hazards are bans on smoking in child care centres/programs. Not all regulations have such bans but it is unlikely any regulated facility would allow cigarette smoking, at least not indoors.

Inspection and enforcement of these health and safety rules is often by public health officials either in a role designated by child care licensing laws or by the rules governing local public health departments. These officials are well placed to recommend radon testing as part of their general responsibilities. However, as discussed further below, they are unlikely to do so amidst their numerous other enforcement duties, although they could order a test in response to a complaint from either staff or parents.

## What About Other Jurisdictions?

Some US states require radon testing in child care settings. In at least four states (Illinois, Rhode Island, Iowa and New Jersey) child care centres must test for radon. If above-guideline levels are found, all but Illinois also require radon mitigation.<sup>3</sup> At the international level the World Health Organization has said that key elements of any national radon program should include radon control measures in any building where people spend a lot of time, including child care settings.<sup>4</sup>

## Opportunities for Reform of Child Care Licensing Regulations

Child care associations play a strong role in advocating for appropriate child care regulation. The challenge will be adding the chronic, but still very serious, risk of radon to the rigorous regulations already in place to address health and safety. Comparisons are useful to existing hazards that have only recently been recognized, such as carbon monoxide. Radon is a similarly invisible hazard. But installing carbon monoxide detectors has become commonplace. Indoor smoking bans help prevent acute harm such as avoiding asthma triggers in sensitive children. But the longer term/chronic health risk, as with radon, is lung cancer.

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<sup>3</sup> Find out more about programs in these four states and consider using them as examples when advocating for radon protection in your province or territory. Illinois: <https://www.illinois.gov/ready/Press/Pages/130103.aspx>; Iowa: <https://www.educateiowa.gov/sites/files/ed/documents/Current%20Radon%20Testing%20Requirements%20for%20Schools.pdf>; New Jersey: [http://www.state.nj.us/dep/rpp/radon/school/scldown/dc\\_guide.pdf](http://www.state.nj.us/dep/rpp/radon/school/scldown/dc_guide.pdf); and Rhode Island: <http://sos.ri.gov/documents/archives/regdocs/released/pdf/DOH/7047.pdf> and <http://www.health.ri.gov/healthrisks/poisoning/radon/for/schoolpublicbuildingandchildcarecenters/>

<sup>4</sup> World Health Organization (2009). WHO Handbook on Indoor Radon: A Public Health Perspective. Geneva, Switzerland. Zeeb, H and F Shannoun (Eds.)

## **Taking Action**

Your advocacy to get radon addressed in child care settings should recognize these distinctions in the existing regulations and across different health and safety issues. Be ready to address them. A good place to start is to work with your regulatory body first with radon education and then to seek law reform for mandatory radon testing as part of licensing. You should also think about advocacy for funding support to child care facilities needing radon mitigation due to above-guideline test results.

## **Provincial/Territorial Building Codes**

Rules about controlling for radon under provincial/territorial Building Codes will vary depending on the individual building. For child care facilities already in operation, there are no legal requirements in provincial/territorial Building Codes in Canada to test for radon or to do anything if high levels are found. One exception here is for child care centres/programs located in buildings subject to major renovations. Building Codes in most provinces and territories require a radon test as part of such renovation work. Where radon levels are above the federal government's guideline, radon mitigation (control and venting) equipment must be installed. A re-test must then confirm that radon levels are below the guideline.

Most Building Codes also require radon protection measures in the construction of new buildings. These can include barriers to prevent soil gas from entering the building foundation. Also, they often include "rough-in" requirements that make it easier to install radon mitigation equipment, such as a venting fan, if a radon test in the finished building reveals elevated levels. The Codes do not require a radon test after construction is complete. Testing is voluntary and is up to the building owner or occupants.

An important strategy for increasing radon protection is to ensure that child care professionals in your province/territory are aware of the potential applicability of current Building Codes (e.g., for new building and/or major renovations). While child care centres/programs are unlikely to be involved in new building construction, choosing to locate a facility in a newer building could be advantageous if modern radon rough-in features having been installed during construction.

If a child care centre/program undergoes a major renovation radon protection measures will be required during construction. You can ensure that these measures are effective by following up with a radon test after the work is complete, recognizing that under current rules such a test is not required. Consult with a radon professional while planning any renovation work to ensure that future mitigation work, should it be needed, can occur as easily and economically as possible.

### **Taking Action**

In all three of these cases — new construction, locating in a relatively new building, or undergoing major renovations — proper implementation of radon measures in Building Codes will be an important but incomplete part of addressing radon. Testing must also occur. Advocacy for changes to Building Codes is one strategy for ensuring such testing. A more direct and ultimately more comprehensive strategy is to seek a change in child care licensing rules to make testing of all child care facilities a condition of licensing, as described above.

## **Occupational Health and Safety Laws**

Child care programs are workplaces. Occupational health and safety (OHS) laws in Canada directly address radon only in Yukon. Otherwise, provincial and territorial OHS laws include general language about the right to safe workplaces. There are also the Naturally Occurring Radioactive Materials (NORM) Guidelines. These guidelines were developed by the Federal–Provincial–Territorial Radiation Protection Committee and they include radon protection measures for workplaces. They also apply to all workplaces in Canada except those in the nuclear fuel chain or facilities producing human-made radionuclides. Hence, they are relevant to child care centres.

### **Taking Action**

Pursuing greater protection in child care settings through a workplace safety angle is a potentially fruitful strategy. You can consider recommending to child care programs in your region that they raise radon as a concern with OHS officials. An obvious concern is the ability to pay for radon mitigation in the event of an above-guideline test result. This strategy should logically be combined with advocacy for funding to pay for radon mitigation should it be needed.

Unfortunately, there is confusion and uncertainty about the rules for controlling radon in workplaces, thus creating potential health risks for all workers. Some provincial and territorial compliance officials agree that the NORM Guidelines apply to workplaces but others deny that radon is an occupational health and safety issue. Such variability in enforcement means inconsistent worker protection.<sup>5</sup> And for both OHS laws and the pan-Canadian NORM Guidelines, they are complaint-driven. Workers must file a complaint about radon risk. OHS inspectors do not otherwise proactively test for it. With radon being odorless, tasteless and invisible, complaints and therefore inspections or any associated radon testing are unlikely.

## **Public Health Laws**

Provincial and territorial laws about public health give public health inspectors powers to investigate health risks. Given that radon is a known human carcinogen, such laws are, in principle, relevant although none in Canada currently explicitly address radon. Like OHS laws, actions are complaint-driven. Again, with radon being impossible to detect without testing, complaints tend to be rare. Were they to receive

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<sup>5</sup> Findings about this variation of opinion and its implications for worker health and safety is contained in: Dunn, B., and Cooper, K. (2014) Radon in Indoor Air: A Review of Policy and Law in Canada. Canadian Environmental Law Association. Available: <http://www.cela.ca/publications/radon-indoor-air-review-policy-and-law-canada>

complaints, such inspectors might order radon testing to be done and then order mitigation if results show high levels, but this has rarely if ever occurred in Canada.

As noted above, child care licensing regulations often designate local public health inspectors with the role of inspecting child care facilities. Even if staff or managers in child care programs have not raised radon concerns during inspections, they are within their legal rights to do so.

### **Taking Action**

As with workplace inspections, you can pursue greater radon protection in child care settings by raising radon concerns with your public health inspector. Again, ability to pay for any needed mitigation is a concern. Thus, advocacy for funding to pay for mitigation is important to include across all chosen advocacy strategies.

## **Recent efforts in Canada to address radon in the child care sector**

In several provinces, radon testing of child care facilities has provided some useful lessons with results pointing to the value of mandatory testing.

### **BC Interior**

In 2010, the BC Interior Health Authority initiated a voluntary program in which they asked all child care centres to test for radon. Outreach occurred via mail and email. Child care centre staff noted limited capacity to participate and less than half completed the test. Results showed elevated levels in over ten percent of facilities with a few at very high levels. Subsequently in May 2017, the BC Interior Health Authority informed all licensed child care facilities that it is requiring radon testing by all licensees and licence applicants. This new requirement is based on general language in existing legislation that requires licensees to protect children from harm.

### **Quebec: Outaouais and Laurentide Regions**

In Quebec, prior radon testing of schools in three regions of the province prompted the Ministry of Health and Social Services and the Ministry of Families to test child care centres. A voluntary testing program occurred in two of these regions. Four percent of tests showed elevated levels. Unlike in BC most child care centres participated. They were given free test kits, lots of guidance and support, and up-front assurance that the government would pay for radon mitigation if necessary.

### **Winnipeg: CPCHE–CCCF radon testing**

This study occurred in a small number of child care centres in Winnipeg. It focused on motivators, barriers and capacity of child care centre staff to test for radon and raise radon awareness among parents. As in BC, staff found it difficult to add something new to already busy schedules. They thought mandatory testing was needed.

“What I see in child care tends to be... people don’t take action unless they’re forced to, unfortunately. ... It’s like carbon monoxide detectors, right? We never had them before and then finally we were forced to

have them and so everybody got them. And meanwhile they're only like \$40 or \$50, and yet people didn't do that before it was made sort of expected of us. So... unless [radon testing] was made mandatory or there was some kind of assistance in ensuring that it was done, I think it would be unlikely to get done..., when it should be.”

## Yukon

In October 2017 the Yukon government announced it will make radon testing and mitigation a licensing requirement for new and existing child care centres and day homes in the territory.

## Alberta

In December 2017 the Province of Alberta approved the *Radon Testing and Awareness Act*, which requires child care programs to supply recent results of a radon test to receive or renew a license to operate. If radon levels exceed acceptable levels, the program must also present a plan to remediate before their license will be issued.

## Child care programs in federal buildings

Health Canada has tested many federally owned or regulated buildings across Canada. Located in six provinces and territories, about 100 of these federal buildings contained child care facilities. Results revealed about ten percent with elevated radon levels.

## What Can Child Care Programs Do?

### Test for radon!

Child care programs can take the initiative and conduct a radon test on their own. It is simple and inexpensive to do so (visit [www.takeactiononradon.ca](http://www.takeactiononradon.ca)). Child care programs can also ask an inspector (public health or occupational health and safety) about testing. An inspector must respond to complaints about radon and may order a test. They also have the authority to order mitigation. A below-guideline test result — likely in nearly 90% of child care centres across Canada — will provide peace of mind.

### Educate

Child care programs can also play a vital role in raising awareness about the importance of addressing radon among both staff and client families. CPCHE and CCCF have a suite of turn-key resources to help you do this (see [www.healthyenvironmentforkids.ca/collections/lung-cancer-reduce-risk-test-radon](http://www.healthyenvironmentforkids.ca/collections/lung-cancer-reduce-risk-test-radon) and [reducerradon.ca](http://reducerradon.ca) )

### Speak out

Child care professionals have an important voice. Their views are valuable for informing policy and regulations governing child care programs.

Existing health and safety rules protect children in care from **acute** hazards (e.g., falls, burns, poisonings). Make your collective voice heard about the need to add **chronic** health risks like radon to the work you already do in providing a safe and healthy environment for children.

**Advocate for radon testing as a condition of child care licensing**

Talk to colleagues and your facility inspector about modernizing child care licensing rules to include mandatory radon testing for all programs. Encourage and support your professional association to take a leadership role on radon advocacy at the provincial/territorial level. If testing were a condition of licensing, **all** children and staff would be protected and child care managers would have clear rules to follow.

**Advocate for funding to pay for radon mitigation**

Connect with provincial/territorial officials to find out about and advocate for funding to support radon mitigation for child care programs that test above the federal guideline.

**Celebrate your efforts and successes!**

CCCCF and CPCHE can help share your experiences in addressing radon, and thus foster exchange of ideas, strategies and initiatives among child care professionals and their associations across Canada.

**For more information contact:****Canadian Partnership for Children's Health and Environment**

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