Made-in-Manitoba Radon Action Plan

A comprehensive strategy to reduce radon-related lung cancer cases across Manitoba through targeted action in children's environments, improved accessibility, and better building practices.

Release Date: October 16, 2025

Implementation Plan

The success of the Made-in-Manitoba Radon Action Plan will require new stakeholder buy-in; as well as, Champions from within the existing radon community. The actions for change will require careful planning and execution, but should not be delayed in their implementation.

Action Definitions

Review: Assess current programs and policies with the intention of instituting change.

Fund: Secure financial instruments needed to impact change.

Leadership: Take initiative, go above and beyond, make a difference.

Educate: Interactions with stakeholders that improve awareness, testing and mitigation.

Timeline

The Made-in-Manitoba Radon Action Plan will be released in Fall 2025, as part of Radon Action Month. It is our mission to see progress on all issues within a 5 year period.

Supported by

Health Canada (HC)

Canadian Association of Radon Scientists and Technologists (CARST)

Canadian-National Radon Proficiency Program (C-NRPP)

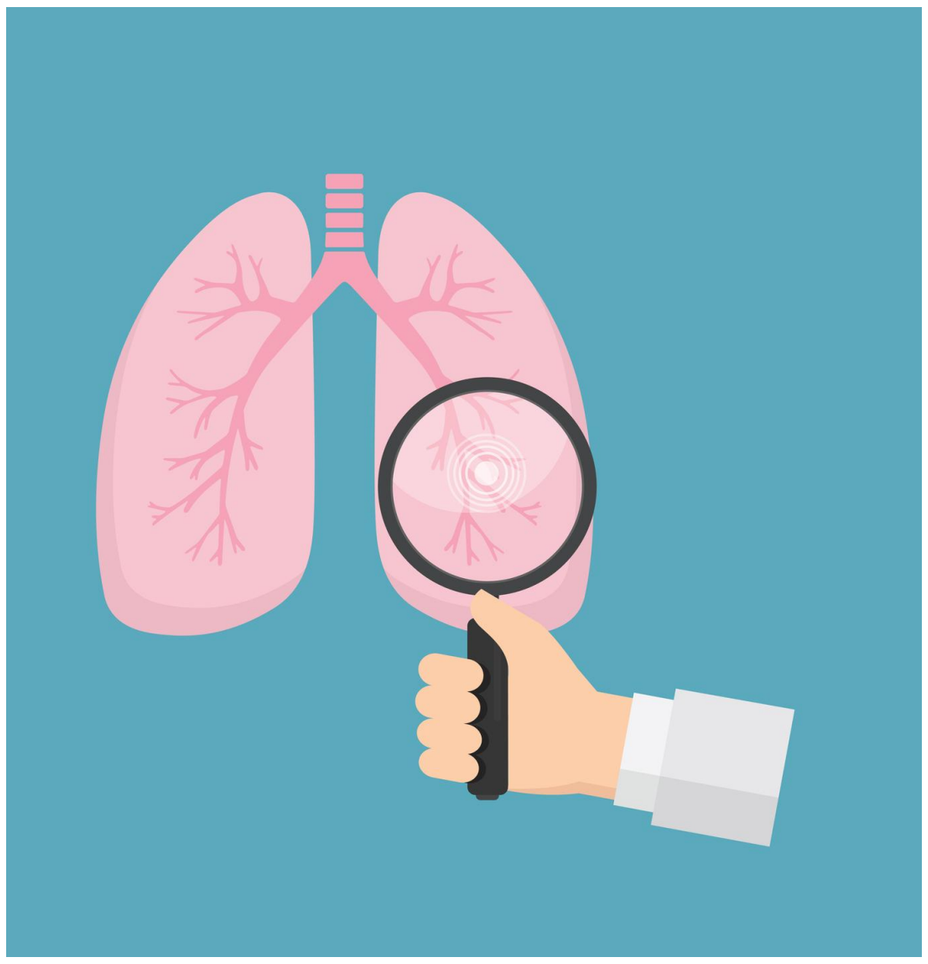
Manitoba Lung Association (MLA)

Take Action on Radon (TAOR)

Manitoba Radon Network

Radon Background

Radon is a radioactive gas that comes from the breakdown of uranium in soil and rock. It is invisible, odourless and tasteless. When radon is released from the ground into the outdoor air, it is diluted and is not a concern. However, in enclosed spaces, like homes, it can accumulate and become a lung cancer risk to you and your family.



Radon gas breaks down to form radioactive elements that can be inhaled into the lungs. In the lungs, radon continues to breakdown, creating radioactive particles that release small bursts of energy. This energy is absorbed by nearby lung tissue, damaging the lung cells. When cells are damaged, they have the potential to result in cancer when they reproduce.

RADON LEVEL	LIFETIME RISK OF LUNG CANCER	LIFETIME RISK OF LUNG CANCER IF YOU SMOKE
Under 100 Bq/m³	1%	12%
100-199 Bq/m³	1.5%	15%
200-599 Bq/m³	2%	17%
600 Bq/m³ and over	4%	26%

Based on scientific evidence and risk assessments the Canadian Guideline for Radon in Indoor Air was set at 200 Becquerels per cubic metre (Bq/m3) in 2007.

If your radon level is below 200 Bq/m³, it is within the Canadian guideline. Consider retesting within the next 5 years.

REDUCE LEVELS:
When your radon level is **200 Bq/m³ or more, take action to REDUCE radon levels within one year.**

It's possible to reduce high levels of radon using corrective actions. Health Canada recommends that:

- you take corrective action if the average annual radon level exceeds 200 Bq/m³ in the normal occupancy area of a building
- you take corrective action sooner, the higher the radon level is
- the corrective action should reduce the radon concentration as much as is practicable
- the construction of new buildings use techniques that minimize radon entry and will help remove radon after the construction is finished, if necessary

Manitoba's Radon Problem

While radon is found across Canada, levels in Manitoba are particularly high. Health Canada urges all homeowners to test, and mitigate if above 200 Bq/m3, their home for radon to protect the health of their family.

The Manitoba provincial government conducted research in Manitoba through the 1990s[i]. The research identified that informing homeowners in the province of the need to test their home for radon and reduce high levels should be made a priority, especially in and around Morden and Dauphin. We know that these are not the only Manitoba communities with an issue; the Cross-Canada Survey of Radon Concentration in Homes 2012 study conducted by Health Canada showed Manitoba was the second most radon-prone province in Canada[ii].

Further testing has continued to affirm this. The updated Cross Canada Radon Survey (2024)[iii] found 43% of homes in Manitoba exceeded the Canadian Guideline. The average radon measurement was 169 Bq/m3, both highest in the country, by a significant margin. Results by census division are provided in Appendix A of the report.

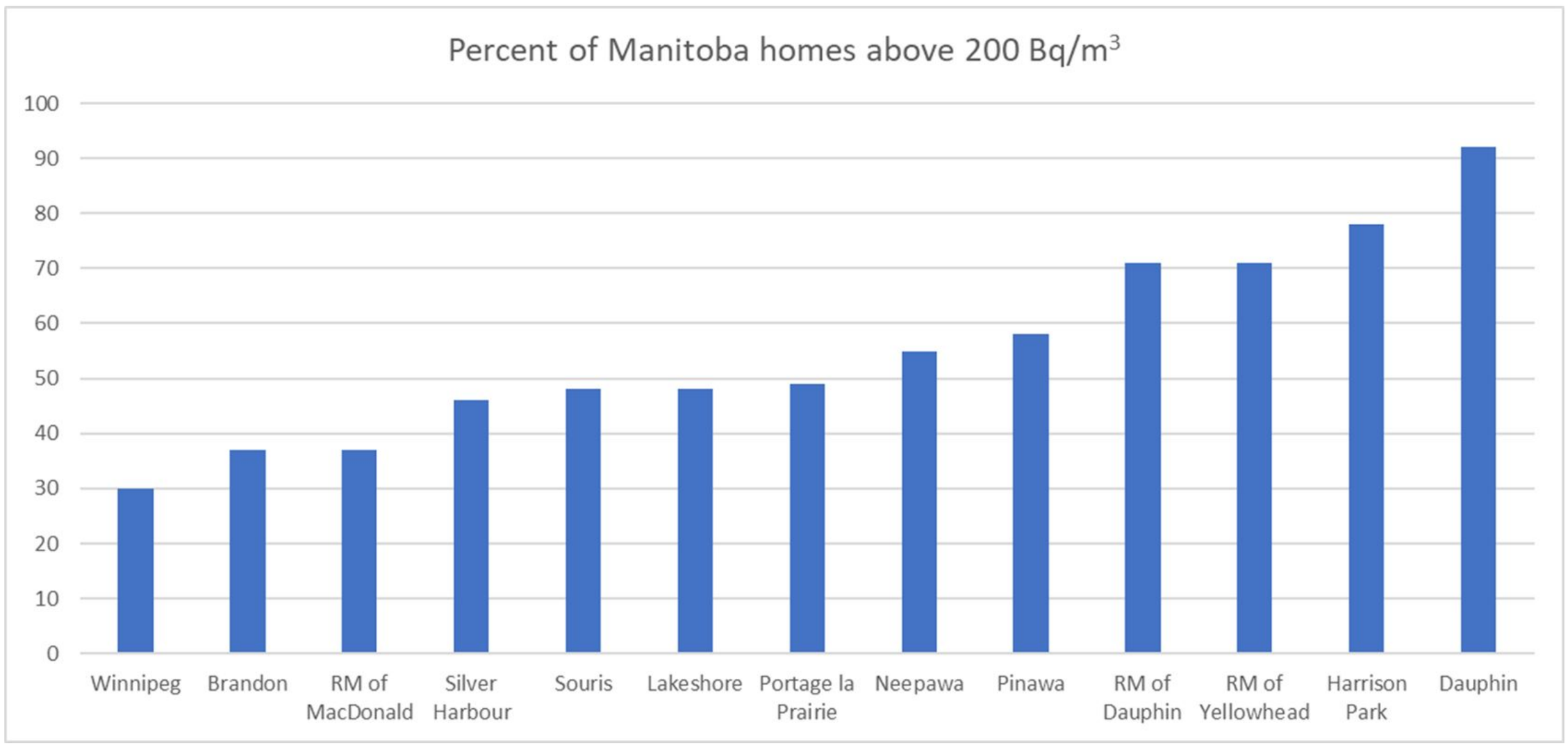
43%

Manitoba Homes
Exceed the Guideline

169 Bq/m^3

Average radon measurement in
Manitoba homes

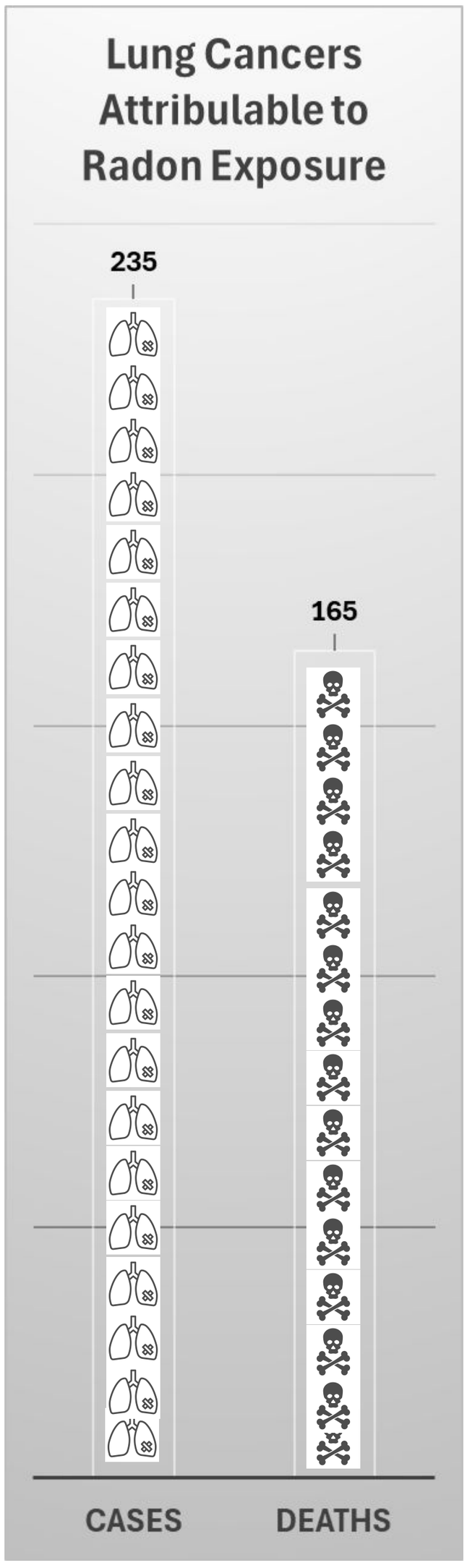
Additionally, the Take Action on Radon initiative has worked in 13 communities in Manitoba over the past 7 years, providing free radon tests to citizens, and the data has continually shown that many Manitobans are living with dangerously high levels of radon[iv].

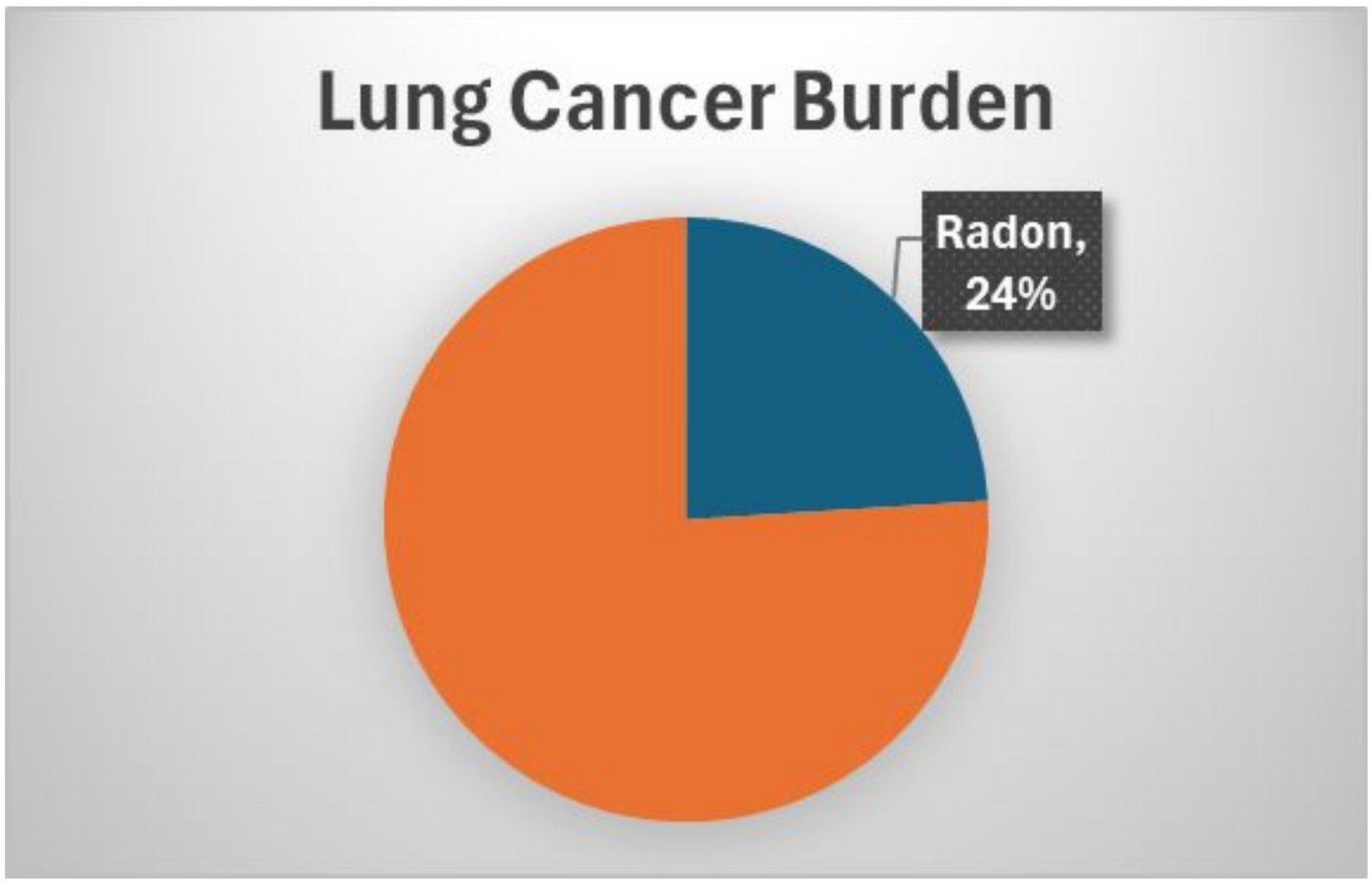


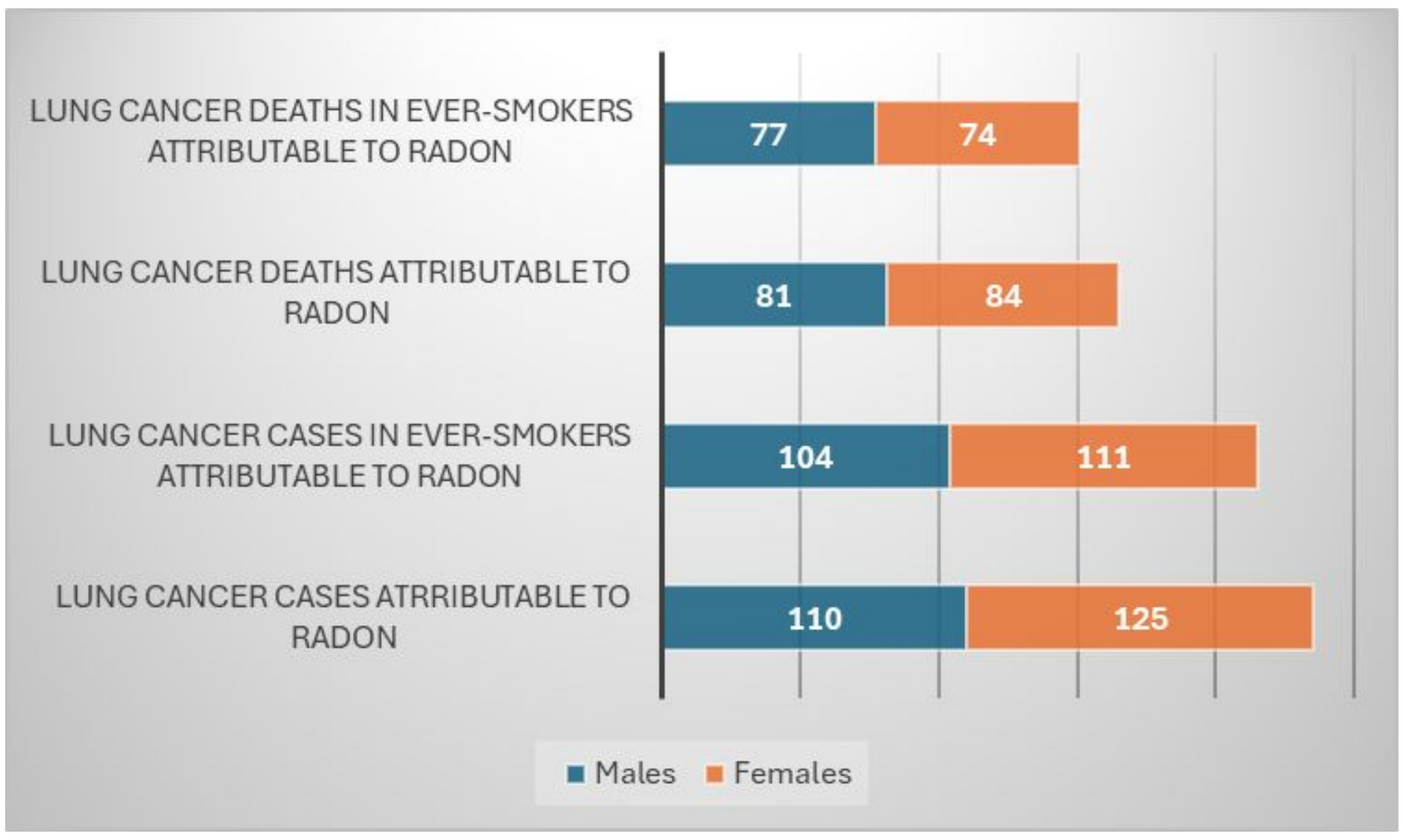
[i] Yuill, G. K. and Associations Ltd. A Survey of Radon Concentrations in Manitoba Outside Winnipeg. (1990, October 9)
[ii] Cross-Canada Survey of Radon Concentrations in Homes Final Report. 2012. Retrieved from Health Canada at: survey-sondage-eng.pdf
[iii]Cross Canada Radon Survey. 2025. Retrieved from Evict Radon National Study team at: crosscanadaradon.ca/survey/
[iv]100 Radon Test Kit Challenge. Retrieved from Take Action on Radon at: https://takeactiononradon.ca/resources/100-radon-test-kit-challenge/

Lung Cancer in Manitoba in 2024

Exposure to elevated levels of radon is the leading cause of lung cancer in those who do not smoke and increases the risk of lung cancer for those who do . Radon has been recognized as a lung cancer risk for decades. The population attributable risk in Manitoba is greater due to higher radon exposure than the national average. The following are calculated for Manitoba based on 2024 cancer data and the 2012 Cross-Canada Survey of Radon Concentration in Homes radon data.







[v] Bozat-Emre, S. (personal communication, August 19, 2025)

Made-in-Manitoba Radon Action Plan

Core Priorities

Stakeholders from across Manitoba came together in October 2024 to discuss priorities for reducing exposure to radon gas. Actionable ideas were discussed in Working Groups. The result is a Made-in-Manitoba Radon Action Plan (RAP) with three core priorities:

Children's Lung Health

Preventing radon exposure in early years provides a better platform for future health of Manitobans, and is expected to result in reduced economic burden of future lung cancer cases.

Awareness & Accessibility for All

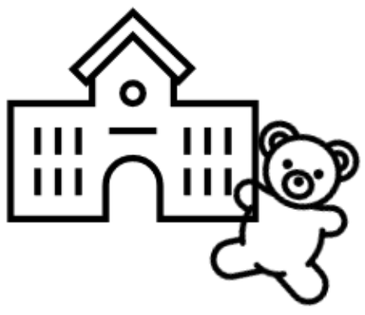
Removing barriers to action to increase health equity, so all Manitobans are protected regardless of their living situation or economic status.

A Better Built Environment

Improvements in energy efficiency, technology and comfort in our homes and buildings should not come with negative impacts to our health. We have proven methods to reduce radon entry for buildings in contact with the ground.

Goal: Reduce radon-related lung cancer cases in Manitoba.

Children's Lung Health: Child Care Facilities



If we want to reduce the lifetime risk for lung cancer for our Manitoba youth, then we need to require radon testing and mitigation for child care facilities.

Issue

Reducing lifetime exposure is important and so reducing children's exposure is important because it will reduce their exposure early in their life. Child care facilities is one of those locations where children may be exposed to increased radon levels. In Manitoba child care facilities are not currently required to test for radon or mitigate, if indicated. Although there has been some testing completed in this setting, there has been no provincial radon testing and mitigation program implemented to date.

Impact

There are nearly 40,000 child care spaces for children in Manitoba. Including nearly 23,000 funded by the non-profit sector for children under the age of 7[i]. There are also approximately 8550 people who work as early childhood educators and assistants in Manitoba who would be protected during work hours[ii].

Recommended Actions

Review

Review and update child care license requirements to incorporate radon testing and mitigation.

Add radon information to Government of Manitoba publications list for child care facilities.

Fund

Advance funding models that offer grants and/or tax credits for radon mitigation in child care facilities.

Leadership

Make radon test results freely available.

Educate

Provide education sessions and supporting resources for staff, boards and families on the health risk of radon exposure, including publications for Government of Manitoba website.

Send letters to parents and guardians to inform them of radon actions in the child care centre, and to encourage testing at home.

Provide information for public health inspectors to smooth implementation.

Target: Test and mitigate 100% of child care facilities by 2030.

Children's Lung Health: Child Care Facilities

Precedents

Alberta's *Radon Awareness and Testing Act*, SA 2017, c R-2.5[iii] (not yet in force) states:

> 3(1) Prior to a licence being issued or renewed for a child care program under Part 1 of the *Early Learning and Child Care Act*[iv)], the statutory director under that Act shall require an applicant to provide the statutory director with the results of a radon test completed within one year immediately preceding the submission of the application within the premises where the child care program will be provided.
>
> (2) If the results of the radon test completed under subsection (1) exceed the acceptable radon level prescribed by the regulations, the statutory director shall require the applicant to provide a plan to reduce the radon level in accordance with the prescribed standards.

British Columbia's Interior Health Authority ordered childcare facilities to test for radon in 2017. It relied on the *Community Care and Assisted Living Act*, S.B.C. 2002, c. 7511(3)[v] which empowers medical health officers to attach terms and conditions to a license and to revoke licenses if there is a risk to persons in the care of such facilities.

References

[i] Manitoba's second early learning and child care action plans. (2024, April 25). Retrieved from Government of Canada at: www.canada.ca/en/early-learning-child-care-agreement/agreements-provinces-territories/manitoba-canada-wide-2021/action-plan-2023.html

[ii] Early Childhood Educator (ECE) in Manitoba, Job opportunities in Manitoba. (2025, Sept 16). Retrieved from Government of Canada at: www.jobbank.gc.ca/marketreport/outlook-occupation/5196/MB;jsessionid=1BD5A62967CB5626629611B0C10646BC.jobsearch75

[iii] Radon Awareness and Testing Act, SA 2017, c R-2.5. Retrieved from CanLII at: https://canlii.ca/t/54wjk

[iv] Early Learning and Child Care Act, SA 2007, c E-0.1. Retrieved from CanLII at: https://canlii.ca/t/56hnj

[v] Community Care and Assisted Living Act, SBC 2002, c 75. Retrieved from CanLII at: https://canlii.ca/t/562md

Recommended Partners

Child Care Providers (Centres and Home-Based)

Manitoba Child Care Association

First Nations Early Learning and Child Care

Facility Maintenance Staff

Parents

Minister of Health, Seniors and Long-Term Care

Ministry of Education and Early Childhood Learning

Ministry of Families

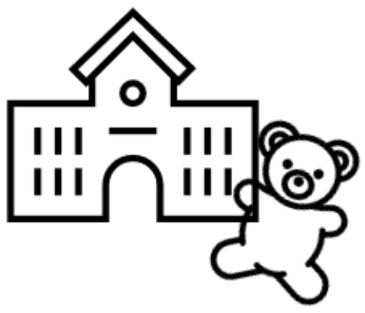
Public Health Inspectors

Workplace Safety and Health

SafeWork Manitoba

Assembly of Manitoba Chiefs

Children's Lung Health: Schools



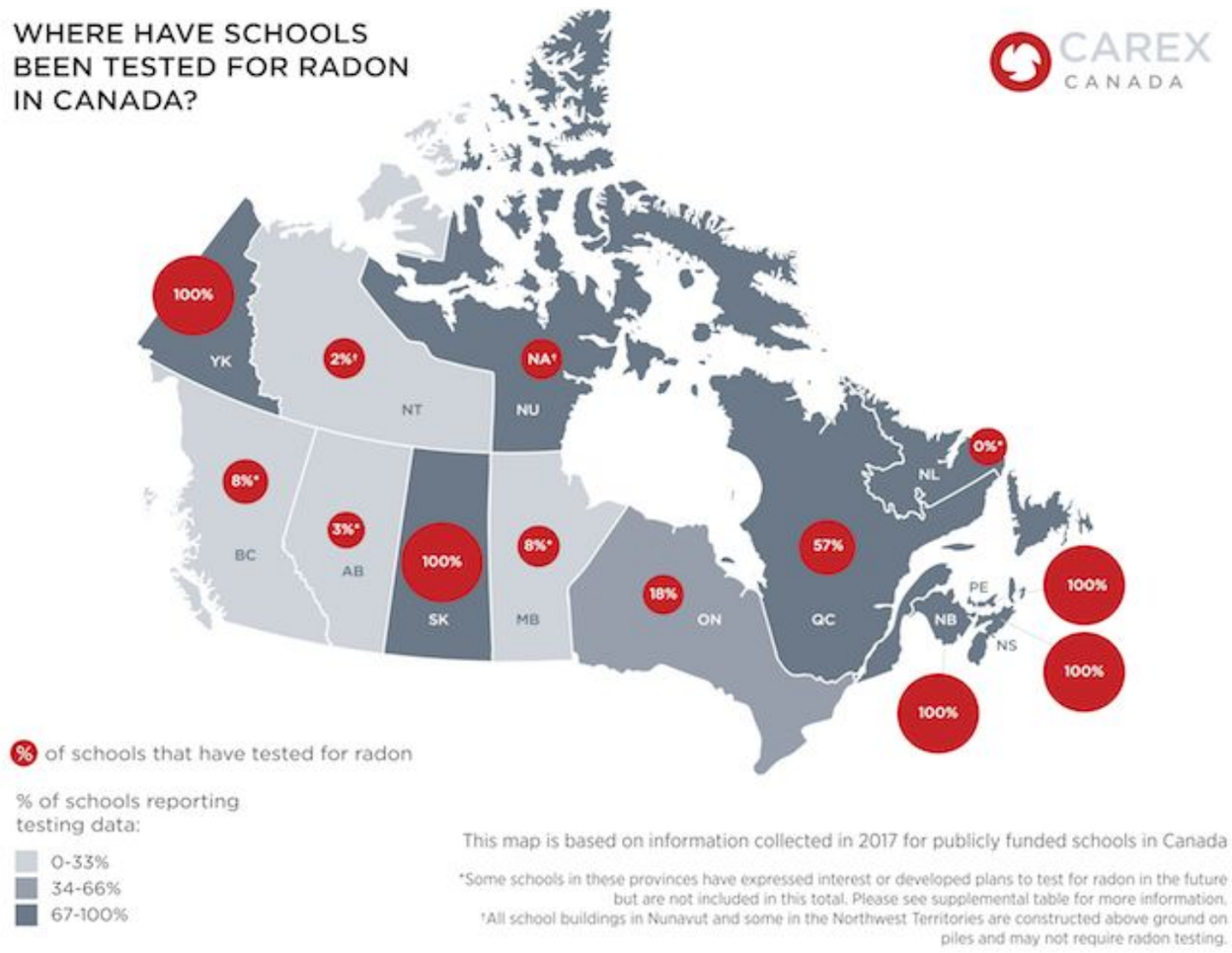
If we want to reduce the lifetime risk for lung cancer for our Manitoban youth, then we need to require radon testing and mitigation for schools.

Issue

Schools and education facilities are not currently required to test for radon or mitigate when above Guideline level. Records show only 8% of schools have been tested in Manitoba[i].

Impact

There are nearly 700 schools and education facilities in Manitoba, supporting approximately 190,000 students each year[ii]. There are 44,000 people working in the public schools, with two-thirds being women[iii].



Recommended Actions

Review

Review and update current occupational health and safety requirements to incorporate radon testing and mitigation .

Fund

Partners present pre-budget proposals for funding models that facilitate testing and mitigation programs.

Leadership

Make radon test results easily available.

Send letters to parents and guardians to inform them of radon actions in the school, and to encourage testing at home.

Educate

Provide education sessions and supporting resources for staff, boards and families.

Add radon information into school curriculum.

Target: Test and mitigate 100% of schools by 2030.

Children's Lung Health: Schools

Precedents

Quebec issued a department statement to strongly request testing in schools[iv].

Yukon – Testing, mitigation and follow-up testing completed. Also committed to re-testing if:

- there's work done on a school exterior, foundation or basement;
- seismic activity affects the school building;
- the ground or basement floors are renovated; or
- radon remediation work has been done in a school[v].

Norway not only requires radon testing and mitigation in schools but uses a stronger 100 Bq/m^3 action level than for homes (at 200 Bq/m^3)[vi].

References

[i] Radon in schools: A summary of testing efforts across Canada. (2027, Nov 27). Retrieved from CAREX Canada at: www.carexcanada.ca/radon_in_schools/

[ii] Education – K-12. Retrieved from Canadian Centre for Policy Alternatives – Manitoba at: www.policyalternatives.ca/wp-content/uploads/attachments/APB%202020%20lo-res%20Education%20K-12.pdf

[iii] Education Support Workers. (2025). Retrieved from Manitoba Government and General Employees' Union at: www.mgeu.ca/news-and-resources/the-latest/campaigns/education-support

[iv] Implementation of a radon measurement protocol and its communication plan by child care centre managers in Quebec. Retrieved from National Library of Medicine at: https://pubmed.ncbi.nlm.nih.gov/27763849/

[v] Learn about radon testing in Yukon schools. (2025, February 17). Retrieved from Government of Yukon at: https://yukon.ca/en/health-and-wellness/health-concerns-diseases-and-conditions/learn-about-radon-testing-yukon-schools

[vi] Norway Forskrift 16. desember 2016 nr. 1659 om strålevern og bruk av stråling. (2023, Oct 10). Retrieved from Lovdata at: https://lovdata.no/dokument/SF/forskrift/2016-12-16-1659

Recommended Partners

- Parents
- Superintendents
- Parents and Advisory Councils
- Manitoba Teachers Society
- Manitoba School Boards Association
- Parents and Advisory Councils
- Facility Maintenance Staff

- Ministry of Education and Early Childhood Learning
- Ministry of Families
- Minister of Health, Seniors and Long-Term Care
- Public Health Inspectors
- Workplace Safety and Health
- SafeWork Manitoba

Awareness & Accessibility for All: Renters

If we want to protect renters in Manitoba from the risk of lung cancer, then we need to specify radon testing and mitigation requirements in Tenancy laws.

Issue

Manitoba's residential tenancy laws do not specifically protect renters from radon exposure.

***The Residential Tenancies Act*, C.C.S.M. c. R119 Obligation to repair 59(1)**
During a tenancy, a landlord shall provide and maintain

(a) the rental unit and the residential complex; and

(b) the services and facilities expressly or impliedly promised by the landlord, whether or not included in a written tenancy agreement;

in a good state of repair, fit for habitation and in a state that complies with health, building and maintenance and occupancy standards required by law[i].

Impact

Housing data from 2018 cites 29% of Manitobans live in rental properties, equal to approximately 139,000 units[ii].

Attention to renters and social housing is important for ensuring action on radon supports health equity, and to ensure a healthy home environment for the tenants. Renters do not normally have the legal right nor the funds to conduct major repairs on buildings they do not own.

Recommended Actions

Review

Review and update current provincial requirements for providing safe and habitable rental unit to incorporate radon testing and mitigation.

Fund

Partners present pre-budget proposals for funding models that facilitate testing and mitigation programs.

Leadership

Change the standard tenancy agreement to include radon reported levels. (result, date and duration of test, location of units tested; and if mitigation occurred, what date)

Educate

Provide radon information sessions and resources for Residential Tenancies Board.

Provide radon information sessions for property management companies.

Post educational resources for landlords and tenants on Residential Tenancy Board website.

Target: Landlords test and mitigate rental units by 2030.

Awareness & Accessibility for All: Renters

Precedents

In 2015 Manitoba Housing and Renewal Corporation committed to testing and mitigation[iii].

Manitoba Housing Design Guidelines for Multi-Unit Affordable and Social Housing (November, 2017) include provisions for radon control[iv].

Saskatchewan Housing Corporation (SHC) has partnered with Lung Saskatchewan to test radon levels in SHC units across the province over the next 10 years[v].

In Quebec, radon was recognised to make an apartment unfit for occupation[vi].

References

[i] The Residential Tenancies Act, C.C.S.M. c. R119. (2025, October 7). Retrieved from Government of Manitoba at: web2.gov.mb.ca/laws/statutes/ccsm/r119.php

[ii] Winnipeg and Manitoba Housing Data – 2018. (2019, March). Retrieved from Canadian Centre for Policy Alternatives at: policyalternatives.ca/sites/default/files/uploads/publications/Manitoba%20Office/2019/03/Housing%20Data%202018_03.23.2019.pdf

[iii] Annual Report of the Department of Housing and Community Development. (2015, September). Retrieved from Government of Manitoba at: www.gov.mb.ca/housing/pubs/2014-2015-annual-report-web.pdf

[iv] Design Guidelines for Multi-Unit Affordable and Social Housing. (2017, November). Retrieved from Government of Manitoba at: www.gov.mb.ca/housing/pubs/procurement/design-guidelines-for-multi-unit-affordable-and-social-housing.pdf

[v] Saskatchewan Housing Corporation Partners with Lung Saskatchewan to Test Radon Levels in Units. (2024, March 1). Retrieved from Government of Saskatchewan at: www.saskatchewan.ca/government/news-and-media/2024/march/01/saskatchewan-housing-corporation-partners-with-lung-saskatchewan-to-test-radon-levels-in-units

[vi] Passez le mot sur vos recours si votre logement a du radon. (2021, March 1). Retrieved from Radio-Canada at: ici.radio-canada.ca/tele/la-facture/site/segments/capsule/346583/radon-locataire-locateur-proprietaire-bail-recours-test-jugement#:~:text=Interrogé%20par%20La%20facture%2C%20le,administratif%20du%20logement%2C%20Denis%20Morin.

Recommended Partners

- Property Management Companies
- Landlords Association
- Building Owners and Managers Association Manitoba
- Manitoba Professional Property Managers Association
- Manitoba Real Estate Association
- Manitoba Home Builders Association
- Manitoba Building Officials Association
- Manitoba Residential Tenancy Branch
- Ministry of Families
- Ministry of Labour and Immigration
- Public Health Inspectors
- Minister of Health, Seniors and Long-Term Care

Awareness & Accessibility for All: Financial Support

If we want to support homeowners in Manitoba in reducing their risk of lung cancer, then we need a financial support program for mitigation.

Issue

Although radon mitigation grants are available via Lungs Matter (Canadian Lung Association), only 18 Manitoba households used of the funds in 2024.

Although radon mitigation is a qualifying grant under Manitoba Hydro's Home Energy Finance Loan Program, only an average of seven mitigation systems were financed per year over the last decade.

Impact

Cost of mitigation is often cited for postponing radon mitigation. Public opinion research identified that only 27% of MB/SK survey respondents thought $2000-3000 was a reasonable price to reduce radon levels[i].

In follow-up surveys 34% of respondents agreed, "A government rebate of 15 percent of the cost of having the radon level reduced by a certified professional" would be very effective (in convincing people to have the radon level in their homes reduced)[ii].

Mitigation rates remain low according to: Residential Radon Mitigation Actions Follow-Up Study: Public Summary[iii]:

- Only 5% of the participants who had tested at or just below the guideline (150-200 Bq/m^3) reported taking steps to mitigate.
- About 29% of those who had radon levels of 200 Bq/m^3 or greater in the initial Health Canada studies reported taking steps to reduce the radon levels in their home (Figure 1).
- Approximately 39% of survey participants who tested above 800 Bq/m^3 (n= 92) and 43% of survey participants who tested above 1000 Bq/m^3 (n= 53) indicated they had mitigated.

Recommended Actions

Review

Review processes for existing financial support programs that include radon mitigation

Fund

Expand the Lungs Matter: Radon Mitigation Support | Canadian Lung Association[i] into a provincially funded program.

Consider new partners for on-bill financing options.

Target: Improve radon mitigation rates by 2030.

Awareness & Accessibility for All: Financial Support

Precedents

Nova Scotia Radon Reduction Grant Program provides financial support to low-income Nova Scotia households to mitigate their homes (up to $2,500)[iv].

Manitoba Hydro's Energy Finance Planprovides an on-bill financing loan for upgrades to gas and electrical systems and includes radon mitigation[v] .

After participating in Take Action on Radon's 100 Test Kit Challenge, the City of Vaudreuil-Dorion began selling radon detectors for just $5, including analysis and shipping. It will reimburse 50% of the cost of installing a radon mitigation system to a maximum of $500 per residence[vi] .

The Saskatchewan Provincial Government's Home Renovation Tax Credit allows homeowners to claim a 10.5% tax credit on up to $20,000 of eligible home renovation expenses. The eligible expenses include the cost of labour, professional services, and the building materials required for radon reduction measures[vii].

Recommended Partners

Manitoba Residential Tenancy Branch

Ministry of Families

Ministry of Labour and Immigration

Public Health Inspectors

Minister of Health, Seniors and Long-Term Care

Property Management Companies

Landlords Association

Building Owners and Managers Association Manitoba

Manitoba Professional Property Managers Association

Manitoba Real Estate Association

Manitoba Home Builders Association

Manitoba Building Officials Association

References

[i] 2013 National Radon Awareness Survey: Final Report. (2013, March 31). Retrieved from Libraries & Archives Canada at: epe.lac-bac.gc.ca/100/200/301/pwgsc-tpsgc/por-ef/health/2013/032-12/report.pdf?nodisclaimer=1

[ii] National Radon Awareness Survey 2023. (2023, March 20). Retrieved from Libraries & Archives Canada at: epe.lac-bac.gc.ca/100/200/301/pwgsc-tpsgc/por-ef/health/2023/094-22-e/report.pdf

[iii] Residential Radon Mitigation Actions Follow-Up Study: Public Summary. (2018, February). Retrieved from Health Canada at: www.canada.ca/en/health-canada/services/publications/health-risks-safety/residential-radon-mitigation-actions-follow-up-study.html

[iv] Nova Scotia Radon Reduction Grant Program. (2022). Retrieved from LungNSPEI at: www.lungnspei.ca/radonmitigationassistance

[v] Home Energy Efficiency Loan. Retrieved October 9, 2025 from Manitoba Hydro at: www.hydro.mb.ca/account/loans/home-energy-efficiency-loan/

[vi] Environmental Grants. (2025). Retrieved from City of Vaudreuil-Dorion at: www.ville.vaudreuil-dorion.qc.ca/en/environment/environmental-initiatives/environmental-grants

[vii] New Tax Credit Makes Home Renovations More Affordable. (2020, December 3). Retrieved from Government of Saskatchewan at: www.saskatchewan.ca/government/news-and-media/2020/december/03/new-tax-credit-makes-home-renovations-more-affordable

Awareness & Accessibility for All: Awareness Campaign

If we want to raise awareness of radon, then we need to support a campaign that reaches all Manitobans.

Issue

Conducting campaigns via earned media, or small-scale paid advertising, have limited impact.

Rural, Northern and Indigenous communities need equity-focused strategies.

Awareness is required to meet the goal of reducing radon-related lung cancer cases in Manitoba.

Impact

The National Radon Awareness Survey 2023 indicates media remains the most commonly cited source of information about radon. Though sources for radon information are generally similar by subgroup, mentions of the media are slightly higher in Quebec (57%) and Manitoba/Saskatchewan (59%)[i].

Men (49%) are more likely than women (39%) to have heard or seen something about radon through media sources. This is also true of the older age cohorts: Those age 45 or older (46%-53%) are more likely than those who are younger (28%-30%) to mention the media as a source for radon information.

Recommended Actions

Review

Recognize November as Radon Action Month in Manitoba.

Update the Priorities for Prevention document.

Fund

Develop an annual, dedicated, large-scale radon awareness campaign.

Support radon awareness initiatives by stakeholders.

Educate

Diversify partner messengers: (Public Health officials and providers, Education, Child Care, Rental Properties, Real Estate, Workplaces) to amplify the importance of steps required to provide equitable protection of lung health in all indoor environments.

Involve health professionals and other trusted voices who have no perception of conflict.

Include communication on testing and reducing radon through smoker cessation program.

Include social media campaigns.

Add an insert into land tax or utility bill mailings.

Continue annual postcard distribution.

Apply a risk communication approach that balances fear with the benefits of preventing lung cancer.

Target: Annual province-wide public education campaigns annually by 2030.

Awareness & Accessibility for All: Awareness Campaign

Precedents

2024 Take Action on Radon campaign included billboards, L-frames on major news broadcasts and public service announcements/commercials on traditional and social media.

Manitoba Lung Association completed a paid media promotion (news placements) for Radon Action Month (November) 2024, including the first time paying for a 'home page takeover' on the Winnipeg Free Press, Global News and CJOB radio web pages. With a modest budget of $8K Manitoba Lung Association was able to increase test kit sales by 600% during same time period compared to the previous year.

Yukon Radon Awareness Campaign[i]. The Yukon Housing Corporation, in partnership with Yukon Lung Association, Health Canada, and Yukon Health and Social Services delivered a radon awareness campaign that included free radon kits and testing in remote communities.

The Defibrillator Public Access Act[ii] was proclaimed into force on January 1, 2013. Under the Act, automated external defibrillators (AEDs) were required to be installed in high-traffic public places such as gyms, arenas, community centres, golf courses, schools and airports by January 31, 2014[iii].

West Nile virus Weekly Activity Reports | Health | Province of Manitoba[iv]: "The number of human WNV cases reported each year has ranged from zero in 2010 and 2011 to 588 in 2007. In 2023, a total of five human WNV cases were reported."

Public Health Ontario has completed an Environmental Burden of Cancer[v]. They determined over 90 per cent of all environmental cancer cases result from exposure to three main carcinogens, with radon ranking second behind UV radiation in sunlight.

References

[i] Take Action on Radon: Yukoners urged to test homes for radon this winter. (2021, November 22). Retrieved from Government of Yukon at: yukon.ca/en/news/take-action-radon-yukoners-urged-test-homes-radon-winter

[ii] The Defibrillator Public Access Act. (2011, June 16). Retrieved from Government of Manitoba at: web2.gov.mb.ca/laws/statutes/2011/c01011e.php

References

[iii] Defibrillators in Public Places. Retrieved October 9, 2025 from Government of Manitoba at: www.gov.mb.ca/health/aed/index.html

[iv] Weekly West Nile Virus Update. (2025, September 19). Retrieved from Government of Manitoba at: www.gov.mb.ca/health/wnv/update.html

[v] Environmental Burden of Cancer. (2025). Retrieved from Public Health Ontario at: www.publichealthontario.ca/en/data-and-analysis/chronic-disease/environmental-burden-of-cancer

Recommended Partners

All Manitoba Radon Network partners

Manitoba Public Health

Family Doctors

College of Physicians and Surgeons of Manitoba

Doctors Manitoba

Oncologists

CancerCare Manitoba

Canadian Cancer Society

Ministry of Education and Early Childhood Learning

Public Health Inspectors

Ministry of Health, Seniors and Long-Term Care

Professional Property Managers Association

Manitoba Real Estate Association

Manitoba Home Builders Association

Local builders

Building Owners & Managers Association Manitoba

Manitoba Association of Architects

Municipalities

Engineers Geoscientists Manitoba

Better Built Environment: Energy Efficiency

If we want to ensure energy efficiency programs in Manitoba do not increase radon exposure, then we need to include radon in building envelope processes and education.

Issue

Energy efficiency programs should not negatively impact indoor air quality; however, a systematic review of associations between energy use, fuel poverty, energy efficiency improvements and health found 9 out of 11 studies reported that energy efficiency thermal retrofitting in homes increase radon concentrations[i].

Impact

Current practices may be increasing lung cancer risk of homeowners participating in energy efficiency programs. The Efficiency Manitoba Home Energy Retrofit program guide does not currently mention radon or the potential to increase radon levels[ii].

Recommended Actions

Review

Create a mandate for Efficiency Manitoba to incorporate radon education into their strategic goals and programs

Pair energy efficiency and health protection. Protecting the environment does not have to come at the cost of human health. Implement Health in all Policies Framework (Health in All Policies - National Collaborating Centre for Healthy Public Policy[iii].

Fund

Include funding for radon mitigation within energy efficiency grant programs.

Leadership

Include health education in the mandate for Energy Efficiency

Educate

Efficiency Manitoba to include radon education and awareness messaging in program guides.
Provide education for energy advisors, including training from Canadian-National Radon Proficiency Program.

Educate homeowners.

Educate renovators.

Target: Include radon in all energy retrofit programs by 2030.

Better Built Environment: Energy Efficiency

Precedents

Radon and Energy Efficiency – BC Lung Foundation:

"The recognition that renovations can alter indoor radon levels needs to be translated broadly to Canadian building trades and science professionals, the construction industry, government energy efficiency leaders and energy auditors. A broader awareness program –and better government policies–are needed to ensure energy efficiency and climate action does not sacrifice health."[v]

Energy Savings Plus Health: IAQ Guidelines for Single-Family Renovations(US EPA):

Assessment Protocol 11.2 Pre- and Post-Upgrade Testing During Energy Upgrades Pre- and post-upgrade testing as part of an energy upgrade is strongly encouraged.

Minimum Action 11.1 If Pre- and Post-Upgrade Test Results Indicate a Potential Increase and Post-Upgrade Levels Are ≥ 4 pCi/L If radon levels after energy upgrades or renovation are ≥ 4 pCi/L AND higher than the radon levels before upgrades, install mitigation in accordance with ASTM 2121 or ANSI/AARST SGM-SF-2017[vi].

Efficiency Manitoba has a strategic goal to provide meaningful benefits to Manitobans[vii].

Recommended Partners

Efficiency Manitoba

Energy Auditors

Renovation Industry, including energy efficiency specialists

Red River College

Canadian Association of Consulting Energy Advisors

Building Owners & Managers Association Manitoba

Professional Property Managers Association

Manitoba Real Estate Association

Manitoba Home Builders Association

Manitoba Real Estate Association (Agents, Sales, Property Management)

References

[i] Wang, C., Wang, J., & Norbäck, D. (2022). A Systematic Review of Associations between Energy Use, Fuel Poverty, Energy Efficiency Improvements and Health. *International journal of environmental research and public health*, *19*(12), 7393. https://doi.org/10.3390/ijerph19127393

[ii] Home Energy Retrofit Program Guide. (2022, July). Retrieved from Efficiency Manitoba at: efficiencymb.ca/wp-content/uploads/Efficiency-Manitoba-Home-Energy-Retrofit-Program-Guide.pdf

[iii] Health in All Policies. (2025). Retrieved from National Collaborating Centre for Healthy Public Policy at: ccnpps-ncchpp.ca/health-in-all-policies/

[iv] The Efficiency Manitoba Act. (2017). Retrieved from The Legislative Assembly of Manitoba at: https://web2.gov.mb.ca/bills/41-2/b019e.php

[v] Radon and Energy Efficiency. (2025). Retrieved from BC Lung Foundation at: bclung.ca/lung-health/radon/radon-and-energy-efficiency/

[vi] Energy Savings Plus Health: IAQ Guidelines for Single-Family Renovations. (2025, August 15). Retrieved from United States Environmental Protection Agency at: www.epa.gov/indoor-air-quality-iaq/energy-savings-plus-health-iaq-guidelines-single-family-renovations

[vii] About Us. Retrieved October 9, 2025 from Efficiency Manitoba at: efficiencymb.ca/about/

Better Built Environment: Building Codes

If we want to protect occupants of our future housing stock, then we need to adopt radon control options for new buildings that will be effective in Manitoba's climate and use certified radon professionals.

Issue

The radon rough-in was adopted by Manitoba in 2012 are is still not being implemented correctly in all new builds as of March 2025. Rough-ins are consistently abandoned by certified radon professionals during installation of active radon mitigation systems due to improper installation. Upcoming changes to the National Building Code 2025 will include a full passive vertical radon stack terminating above rooftop, but there is concern about cost and effectiveness.

Based on experience active depressurization systems exhausting via sidewall are expected to cost less than a passive system terminating above rooftop,

The option to install a full active soil depressurization system with a fan exhausting via sidewall is already under consideration for 2030 National Building Code cycle and Manitoba should give consideration to adopting this in 2025.

Impact

According to Stats Canada, Building Permits, by type of structure and type of work statistics, over 8300 new housing starts were recorded in Manitoba in 2024[i].

Recommended Actions

Review

Discuss with provincial safety standards branch to investigate steps to require radon installation in new construction by a Canadian-National Radon Proficiency Program (C-NRPP) professional.

Ensure all radon pipes are properly labeled with clear information about future testing for radon.

Educate Stakeholders

Make training available for Building Officials on how to inspect an active and passive system in order to know how to approve it.

Engage builders in an advertising campaign to promote the benefits of an active radon system in their homes.

Provide information for housing manuals and labelling for new home buyers.

Leadership Opportunities

Conduct a case study on the cost and benefits in new construction to compare passive and active systems.

Investigate Including electronic radon monitoring in new construction..

Ensure all newly constructed buildings are tested for radon within the first three years.

As per the Canadian General Standards Board publication, *Radon control options in new buildings*, 5.3.2 An above-ground discharge from a short pipe near ground level at right angles to the wall (side-wall discharge) shall be favoured in cold weather areas[ii].

Target: Exceed radon Code provisions in new housing stock by 2030.

Better Built Environment: Building Codes

Precedents

British Columbia Building Code, 2024: An effective method for protecting houses from elevated indoor levels of radon is to incorporate a subfloor depressurization system consisting of a gas-permeable layer under a continuous and sealed air barrier, and a radon vent pipe with a fan that exhausts soil gases from the gas-permeable layer to the exterior of the home. A rough-in consists of a gas permeable layer, separated from the conditioned space, connected to a pipe that is ready for the installation of a fan[iii].

In Canada, the Canadian-National Radon Proficiency Program is already positioned to maintain national standards for radon professionals, and currently provides training, examinations, certification, registration and technical standards.

References

[i] Archived - Building permits, by type of structure and type of work, inactive. (2025, May 14). Retrieved from Statistics Canada: Building Permits, by type of structure and type of work

[ii] Radon mitigation options for existing buildings. (2023, January). Retrieved from Government of Canada at: publications.gc.ca/collections/collection_2024/ongc-cgsb/P29-149-012-2024-eng.pdf

[iii] Radon Rough-in Requirements. (2024, March 8). Retrieved from Building and Safety Standards Branch at: British Columbia Building Code, 2024

Recommended Partners

Manitoba Building Officials Association

Manitoba Home Builders Association

Municipalities, Building Inspectors

Architects

Engineers

Building Owners & Managers Association - Manitoba

Professional Property Managers Association

Manitoba Real Estate Association (Agents, Sales, Property Management)

Local builders

Appendix A: Manitoba Radon Test Results

The 2024 Cross-Canada Survey of Radon Exposure in the Residential Buildings of Urban and Rural Communities summarizes the findings of a multi-year project. This project was led by a consortium of researchers comprised of the Evict Radon National Study team (including researchers at the British Columbia Cancer Agency, University of Calgary, University of Saskatchewan, and Dalhousie University) in collaboration with the staff and researchers at CAREX Canada, the British Columbia Centre for Disease Control, and Health Canada's National Radon Program.

Census Division ID	Name of Census Division or Census Division Cluster	Census Division Province(s)	Number of Radon Readings	1 in X houses (%) are in this radon exposure category			**Geometric Mean Radon Level (Bq/m^3)**	Lower 95% Confidence Interval	Upper 95% Confidence Interval	Maximum Observed Radon Level to Date (Bq/m^3)
4602, 4601	Division No. 2, Division No. 1	MB	95	1 in 3 1 in 3 1 in 4	33.7 37.9 28.4	< 100 Bq/m³ 100-200 ≥ 200 Bq/m³	**129.3**	110.1	151.9	720
4606, 4605, 4604, 4603	Division No. 6, Division No. 5, Division No. 4, Division No. 3	MB	25	1 in 4 1 in 4 1 in 2	24 24 52	< 100 Bq/m³ 100-200 ≥ 200 Bq/m³	**221.9**	141.5	348.1	1763
4607	Division No. 7	MB	86	1 in 3 1 in 3 1 in 3	32.6 32.6 34.9	< 100 Bq/m³ 100-200 ≥ 200 Bq/m³	**144.7**	125.0	167.4	559
4608, 4615, 4616	Division No. 16, Division No. 15, Division No. 8	MB	59	1 in 12 1 in 6 (3 in 4)	8.5 16.9 74.6	< 100 Bq/m³ 100-200 ≥ 200 Bq/m³	**325.3**	259.5	407.7	1569
4610, 4614, 4613, 4612, 4617, 4618, 4609	Division No. 18, Division No. 17, Division No. 14, Division No. 13, Division No. 12, Division No. 10, Division No. 9	MB	175	1 in 8 1 in 4 1 in 2	12.6 22.3 65.1	< 100 Bq/m³ 100-200 ≥ 200 Bq/m³	**280.9**	241.0	327.4	3567
4611	Division No. 11	MB	392	1 in 3 1 in 3 1 in 3	32.4 33.2 34.4	< 100 Bq/m³ 100-200 ≥ 200 Bq/m³	**133.6**	121.6	146.8	1176

Census Division ID	Census Division Name	Census Division Province	Number of Radon Readings
1011	Division No. 11	NL	0
1314	Restigouche	NB	0
3551	Manitoulin	ON	0
4619	Division No. 19	MB	0
4620	Division No. 20	MB	0
4621	Division No. 21	MB	2
4622	Division No. 22	MB	3
4623	Division No. 23	MB	0
6101	Region 1	NT	0
6102	Region 2	NT	0
6103	Region 3	NT	0
6104	Region 4	NT	0
6204	Qikiqtaaluk	NU	0
6205	Kivalliq	NU	0
6208	Kitikmeot	NU	0

We did not have access to any long-term residential radon test outcomes for 4.4% (13 of the 293) census divisions and had insufficient data (<4 readings) for two census divisions that could not be clustered as they were bordered by areas with no data (tabulated to the LEFT). This group of census divisions is over-represented by those in more northern, less populated regions of Canada.

These census divisions should be considered high-priority areas for immediate radon test data collection, as well as the acquisition of any existing data from potential future partners. They will be areas of the ***highest priority to update in near-future versions of this report****.*

2024-Cross-Canada-Radon-Survey-Report-V23.pdf

For list of communities within census divisions see: map2mn-eng.pdf

Appendix B: Manitoba Population Attributable Risk from Radon Exposure Calculations

Formula: “(D_ever_smoker × PAR_ever_smoker) + (D_never _smoker× PAR_never_smoker), with D representing deaths or cases.

Data Inputs:

Data Inputs for calculation:

Metric	Males	Females
Lung cancer deaths, 2024	340	340
Lung cancer cases, 2024	460	510
Ever-smoker share among lung cancer cases*	0.95	0.90
Never-smoker share among lung cancer cases*	0.05	0.10
Ever-smoker, PAR	0.237	0.243
Never-smoker, PAR	0.270	0.267

Lung Cancer Cases in Manitoba, 2024

Sex	Smoking history	Total cases	Share	Cases by stratum	PAR	Attributable cases
Male	Ever-smoker	460	0.95	437	0.237	103.6
	Never-smoker	460	0.05	23	0.270	6.2
Male subtotal						**109.8**
Female	Ever-smoker	510	0.90	459	0.243	111.5
	Never-smoker	510	0.10	51	0.267	13.6
Female subtotal						**125.2**
All lung cancer cases - TOTAL		970				**234.9**

Calculation of absolute attributable lung cancer deaths and cases due to radon exposure

Lunk Cancer Deaths in Manitoba, 2024

Sex	Smoking history	Total lung cancer deaths	%	Deaths based on smoking %	PAR	Attributable lung cancer deaths due to radon exposure
Male	Ever-smoker	340	0.95	323	0.237	76.6
	Never-smoker	340	0.05	17	0.270	4.6
Male subtotal						**81.1**
Female	Ever-smoker	340	0.90	306	0.243	74.4
	Never-smoker	340	0.10	34	0.267	9.1
Female subtotal						**83.4**
All lung cancer deaths - TOTAL		680				**164.6**

This Plan is intended to support collaboration and informed action among Manitoba's governments, organizations, and communities working to reduce radon exposure. While each jurisdiction may adapt its own approach, the evidence and examples shared here show that meaningful progress is well within reach.

This plan is informed by current evidence and recognized best practices and is intended to guide coordinated action across Manitoba. It is not a regulatory or legally binding document but serves as a framework to support informed policy development and collective progress toward a healthier Manitoba.