



Vanguard Initiative to promote radon awareness among child care/early childhood professionals and the families they serve Project Report (Contract # 4500309323)

Presented to:

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1. Introduction

The Canadian Partnership for Children's Health and Environment (CPCHE) is a national partnership of environmental, public health, medical, legal, disability advocacy and child-centred organizations that, since 2001, have been working together across traditional boundaries to advance the protection of children's health from the risks posed by toxic chemicals and pollutants (www.healthyenvironmentforkids.ca). The Canadian Child Care Federation (CCCF), a CPCHE partner organization, is Canada's only national, charitable, non-profit, member based, professional early learning and child care organization, comprised of 18 provincial and territorial affiliate organizations (www.cccf-fcsge.ca). With members and affiliates from coast to coast to coast, CCCF has the capacity to reach more than 9,000 child care professionals through its networks and using its extensive social media and communications platforms.

From November 2013 to September 2014, with support from Health Canada, CPCHE and CCCF undertook a **Vanguard Initiative** in the child care sector with three interrelated objectives: (1) to increase child care professionals' awareness and action on radon in child care settings, (2) to engage child care professionals as trusted "key intermediaries" in sharing information on radon with families with young children, and (3) to demystify radon and radon testing among child care professionals by sharing radon information and the vanguard sites' experience via professional networks and conferences. The Vanguard Initiative involved recruitment of six child care facilities in Winnipeg who tested their facilities for radon, promoted radon awareness among client families, and shared their experiences and perspectives with others in their sector. Via this contract, CPCHE/CCCF also disseminated radon information to relevant professionals at conferences, through webinars, via online and print publications and using social media.

2. Background

In February 2013, as part of a CPCHE/CCCF project supported by Health Canada, CPCHE launched a new webpage on radon (www.reduceradon.ca) and an attractive, plain-language tip card on radon, within a broader suite of efforts to build awareness among families with young children about radon and the importance of radon testing in indoor environments where children spend time. These radon resources now form part of CPCHE's popular suite of Top 5 Tips resources that service providers are using with parents to build awareness and encourage simple actions to reduce children's exposures to hazardous substances/pollutants in the home. In February 2014, CPCHE and leading national partners, including Health Canada, launched a national 3-point campaign, "Home Safety for your Kids Sake: Check It Today" that promotes radon testing alongside the more familiar home safety messages of smoke detector and carbon monoxide detector installation. CPCHE's child care Checklist, published in 2010 in partnership with public health inspector associations, includes radon testing among the recommended actions to improve indoor air quality in child care settings.

The Vanguard Initiative utilized and promoted these existing efforts and resources, as well as the extensive radon information resources of Health Canada and other national entities, including the www.TakeActiononRadon.ca campaign.

3. Project implementation

The three main elements of project implementation were:

- Engaging six child care facilities in Winnipeg in activities designed to promote awareness and action on radon, including (1) facilitating the testing of the facilities themselves and (2) empowering the staff to promote radon awareness and home testing among the families they serve;
- Evaluating the experiences and perceptions of the participating staff; and
- Conducting targeted awareness-raising and education on radon for child care professionals via CCCFs continuing education (e.g., webinar series) and outreach platforms (e.g., *Interaction* e-magazine) and relevant professional conferences.

3.1 Engagement of Vanguard sites in radon testing and outreach

Recruitment

Using CCCF's FaceBook page and direct contact with child care professionals in the Winnipeg area, CPCHE/CCCF recruited six child care facilities to participate in the Vanguard Initiative, which fell within the stated target of 5-10 sites.

Orientation

On January 22, 2014, CPCHE (Erica Phipps, Executive Director) and CCCF (Don Giesbrecht, CEO) held a meeting, hosted by the Manitoba Child Care Association, with the key personnel from 4 of the recruited sites. A Health Canada representative (Erica Kalscics) also participated. Participants were provided with an overview of radon, its health effects, testing and remediation options, and available outreach materials, followed by an opportunity to ask questions and further discuss the Vanguard Initiative and radon more generally. Most of the participants had little to no familiarity with radon, and were eager to learn more. Erica Phipps briefed the additional two vanguard recruits by phone.

Following the initial orientation, CPCHE/CCCF sent a guidance package to each of the sites, which included information on testing for radon, an order sheet for requesting the appropriate test kits, and an order form for outreach materials (attached as <u>Annex 1</u>). To ensure proper protocol and accurate test results, the guidance provided to the vanguard sites on determining the number of test devices needed, and their proper deployment and collection, was a plain-language adaptation of the guidance that Health Canada developed and used for radon testing in public buildings.

Dissemination of radon test devices and outreach materials

In early March, Health Canada mailed the requested test devices to the vanguard sites. A total of 29 test devices were sent, along with duplicates for quality control per Health Canada's protocols. CPCHE arranged for the delivery of the requested outreach materials. Materials shipped to the sites for dissemination included:

- CPCHE Reduce Radon tip card: 100 English, 55 French
- Home Safety for your Kids' Sake: Check it Today campaign materials: 19 English and 3
 French large-format posters; 20 English and 2 French tear-off pads of 25 hand-outs each (i.e., 500 English/50 French); 10 Tagalog mini-posters
- Health Canada's *Radon: Is it in your Home?* Brochure: 282 English and 10 French
- Health Canada's *Radon: Reduction Guide for Canadians* booklet: 188 English, 10 French Most of the sites reported having used all or most of the materials that were provided to them.

Launch event

On February 13, 2014, one of the six sites, the Prairie Children's Centre, hosted a local event to mark the national launch of the *Home Safety for your Kids' Sake: Check it Today* campaign. The media release for the campaign, which highlights the Vanguard Initiative, is attached as <u>Annex 2</u>. At the local launch event, site staff displayed CPCHE and Health Canada radon materials, including the model radon house, as well as a special Valentine's Day heart-shaped version of the Home Safety for your Kids' Sake poster that CPCHE/CCCF created specifically for the event (see <u>Annex 3</u>). Health Canada representative Erica Kalsiscs and CCCF CEO Don Giesbrecht were on-site to help raise the profile of the initiative and to answer questions. The event was timed to coincide with morning drop-off, thereby increasing the number of parents/caregivers reached. Children from the centre were directly involved – they particularly enjoyed the brightly-coloured heart-shaped handouts and the radon house. Photos from the launch are featured on the Home Safety for your Kids' Sake campaign webpage at:

http://www.healthyenvironmentforkids.ca/campaign/2627/news

In advance of the launch event, the CPCHE Executive Director corresponded with Dr Susan Roberecki, Medical Lead - Environmental Health, Public Health and Primary Health Care Division, Manitoba Health, via email about the radon Vanguard Initiative and the upcoming local launch event.

Collection and analysis of test devices

In June/July 2014, four of the six sites returned their test devices to the Health Canada laboratory for analysis. One of the remaining sites reported not having deployed the radon tests and will be provided with a new set of devices for use in Fall/Winter 2014. The sixth site has not responded to email and phone requests for an update on the status of their radon testing: it is assumed that they were not able to deploy/complete the test.

Three of the four sites had levels below the Health Canada guideline of 200 bq/m3, and one was above. The Health Canada letter provided the sites with contextual information to aid them in interpreting their results, as well as information on remediation options in the event that elevated levels were detected. Prior to the receipt of their test results, the CPCHE Executive Director informed all of the vanguard sites that a local, certified radon mitigator had offered to provide a significant discount on remediation, should any of the sites require it. So far, none of the sites has asked CPCHE to be connected with this local radon professional. In the end-of-project survey, however, some sites did report appreciating having this option made available to them (see below).

3.2. Evaluation of the Vanguard Initiative

To support the evaluation of the Vanguard Initiative, CPCHE/CCCF conducted two online surveys, one near the start of the Vanguard Initiative and a second at the end, and end-of-project phone interviews with the lead site staff from the vanguard sites.

Initial online survey

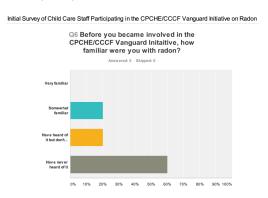
A first survey of the vanguard sites was conducted by SurveyMonkey in May 2014. Five of the six sites responded. The complete survey results (names omitted) are attached as Annex 4.

The survey revealed great diversity among the five sites: one is a home-based child care centre, one is in a church basement, one is in a school, one is in an apartment building and one is a self-standing facility. With the exception of the home-based facility, all are renting or leasing the

space. Children and staff spend all of their time in basement at two of the facilities, while a third reported that some of the children's time is spend in basement space.

Participants were motivated to participate in the Vanguard Initiative by their desire to learn more about radon (100%), to get their centres tested free of charge (80%), to protect the children in their care (80%) and to protect themselves and other staff (60%).

Prior to taking part in the initiative, the respondents reported low levels of existing awareness about radon. Sixty percent had never heard of radon, and only one reported being "somewhat familiar" (see Figure, Q6). Respondents reported that they had never had a client or colleague inquire or express concern about radon, and they guessed that the level of awareness among client families about radon would be relatively low. The majority expected that less than 10% of client families were aware



of radon. Despite their low levels of initial awareness, after they become involved in the project most felt that they had sufficient knowledge about radon to respond appropriately to parents' questions.

Respondents anticipated moderate levels of interest from client families, and a significant level of concern. One site anticipated that at least some of the parents/caregivers would cancel their child's enrolment at the centre if elevated levels were found. They felt that the cost of radon remediation would be challenging, but four of the five sites felt that their centre would find a way to cover the cost. All respondents to the initial survey felt that all child care facilities should be tested for radon, and that child care professionals have a role to play in sharing information on radon with families. Most felt that radon test results for the centre should be shared with client families

End-of-project survey

In August and early September, an end-of-project survey was conducted via Survey Monkey. Five of the six sites responded. The complete survey results (names omitted) are attached as Annex 5.

All respondents reported being glad to have participated in the Vanguard Initiative, and they rated the support (information, guidance, etc.) they received from CPCHE/CCCF as either excellent (n=2) or very good (n=3).

The four respondents who had completed the radon test reported that it was easy. A fifth site did not get the tests deployed in time prior to the onset of warm weather, and we have not been able to get confirmation from the sixth site about whether they deployed the test kits.

Three sites reported having received test results that fell in the acceptable range, i.e., below the Health Canada guideline. The site that reported being above the Health Canada guideline felt that their results were border line and thus not of concern. They do not plan to take any remedial action, and also reported that it is unlikely that they will share information on radon with client families in the future. Four of the sites said they would share their radon test results with client

parents/caregivers, while one (the site that reported levels above the Health Canada guideline) said they would not. Two respondents reported that it was helpful to have the name of a local certified radon mitigator who is willing to do the remediation at reduced cost, whereas two said it was not applicable to them.

Vanguard sites used multiple means of sharing information on radon with client families. Direct, personal approaches, including handing printed material directly to parents/caregivers and speaking with them one-on-one or in small groups, were reported as effective. Three of the respondents reported little to no interest expressed by parents/caregivers, and two reported moderate interest. As the staff had anticipated in their responses to the initial survey, parents/caregivers expressed some level of concern about radon, including in the home. Some also reported that parents/caregivers were appreciative that the centre was taking action on radon. Three of the five respondents said they would likely share radon information with client families in the future, whereas one said that would be "somewhat unlikely" and another reported that it would be "unlikely." When asked what would make it easier for child care professionals to share information on radon with families, one said "it was helpful the way things went," another suggested information to easily attach to an email and a third responded that online resources and more coverage in the media would make things easier.

Four of the five respondents said that all child care facilities should be tested for radon, whereas one marked "not sure." This is in contrast with the initial survey in which all five respondents felt that all centres should be tested. All felt that, among possible indoor health risks, radon is of very high (n=4) or medium importance (n=1).

When asked what would be an effective way(s) to ensure that all child care facilities are tested, all four respondents who answered the question said that making it mandatory and providing free test kits and analysis would be effective. One respondent also said that making it mandatory with an authorized agency coming on-site to do the testing would be an effective approach. Three responded that making it a routine part of child care licensing would be effective. The respondent from the home-based facility commented on the challenge of potential remediation costs for those operating home-based centres.

End-of-project interviews

End-of-project interviews were conducted by the CPCHE Executive Director with four of the six vanguard site staff members, while one participant responded to the questionnaire in writing. Transcripts of the interviews are attached as <u>Annex 6</u>. All of the respondents felt that their participation in the Vanguard Initiative had changed how they feel about their role as child care professionals, with all of them remarking in some way on their new awareness and appreciation of radon as an important health risk and the role they are able to play in reducing that risk.

"It certainly made me aware of a whole new risk that I had not really considered. I mean I had heard of radon before, but I had never really sort of moved that to my workplace." – *Vanguard participant*

"I wouldn't want to work in a centre that had it and didn't do anything about it. I wouldn't want to do that. I wouldn't work there. And I wouldn't put my children in the centre either." – Vanguard participant

"It's heightened my awareness and it's also heightened my concern. So I certainly would like to see it a little more prevalent in our community. You know, we worry about bleach, we worry about all

kinds of things, [radon is] just not something that had been on my radar at all." – *Vanguard participant*

"It opened my eyes to something I wasn't aware of, and made me think how I can change it." – *Vanguard participant*

All of the site staff reported that conducting the test was easy, and the guidance and information provided was good. They were all comfortable with the do-it-yourself approach to testing but felt that some centres would appreciate the option of having a professional come on-site to assist.

"The program was so easy to follow and do. There was nothing hard about it. Instructions were great, support for the program was even better!" – *Vanguard participant*

"If people were uncomfortable, they could maybe have the option of having someone come in to show them how to do the testing. I think people like having options. But it was very easy for me." – *Vanguard participant*

In terms of strategies for sharing radon information with client families, they stressed the need to "know your families" and choose the methods that best suit their needs. This reinforces the value of the "key intermediary" approach that CPCHE fosters: engaging front-line service providers in message delivery, with lots of opportunity for tailoring and selection, helps to ensure that health promotion messages are suited to the target audience. Multiple ways of information delivery was also considered valuable.

"I think you have to know your families and know what works best. Some people who maybe live in more affluent communities where there are people using more social media, or websites, or maybe texting and emailing. Maybe that would be a better route for them. But in my area, people don't have money. So maybe they don't have computers, maybe they don't have smart phones. So, we kind of need to stick to the paper..." – *Vanguard participant*

"I thought that was great that they came in other languages, especially Tagalog because we have a lot of ... Filipino families here." – *Vanguard participant*

"I think, small pieces of information given out over time. So, sort of, you know, continually giving them bits and pieces of information, you know, not just giving it all to them all at once. So, I liked my approach, in terms of, you know, a little blurb first in the newsletter and then some written information, and then an opportunity to even ask some questions at the AGM." – *Vanguard participant*

When asked what could be done to support action on radon in the child care sector, most responded by saying that awareness is lacking and needs to be promoted:

"I think getting people the information is the most important part, because like I said, I was not even really aware of it. I mean, I'd heard the word before, but I really didn't understand anything about it." – *Vanguard participant*

"I think a lot of people still don't know about radon. I know it been kind of touched upon in the media, on CBC and... But I still don't think a lot of centres know about it. ... I know there are some child care groups out there, the Child Care Federation and then there is one for Manitoba, as well, so it does have a lot of members in it, and I think that could be one way of putting it out there. And especially after, if you publish this...in *Interaction*, ... it's going to ... get the word out there. It's going to take some time, but..." – *Vanguard participant*

At the same time, they felt that a universal (mandatory) approach would be needed to achieve fulsome action on radon within the sector. Considering the potential need for remediation, many of the site staff expressed concern about their centre's ability to cover those costs.

"What I see in child care tends to be... people don't take action unless they're forced to, unfortunately. So, if it was part of our annual licensing, or if it was mandatory, or if the tests were provided to centres. ...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 you know meanwhile there're only like \$40 or \$50, and yet people didn't do that before it was made sort of expected of us. So... I think unless it 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 on a regular basis or, you know, when it should be. – *Vanguard participant*

"I feel it would be really good to have it mandatory testing in centres. I think it would be really important to do. And maybe even in schools as well, when centres are located in the school. I feel that would take a really long time to do but I think it is ...important. Especially if it is coming in through licensing times. I think that would be really neat to add that for us as a requirement. Because it's dangerous." – *Vanguard participant*

"I feel that all licensed daycares should be tested, if there is any way for our health to get better that would be great. The problem would be the cost of repairs. Many home providers do not have the funds for repairs and centres have budgets. Maybe the government could provide funding or discounts to get repairs done if required." – *Vanguard participant*

Discussion

The evaluation results affirmed a key premise of the Vanguard Initiative, which is that child care professionals, when informed of the important health risk posed by radon, can see a role for themselves as part of the solution, both in having their centres tested and by spreading the word among client families. Protecting the health of children is a key motivating factor. The evaluation feedback also revealed, however, that even a relatively simple additional task – in this case deploying the radon test devices – can be more than busy child care professionals are able to absorb. One (and more likely two) of the six recruited centres did not deploy the tests that were mailed to them. That lack of extra capacity – particularly considering the sites' suggestions that a mandatory approach is what would be needed to ensure that all child care centres are tested – point to the limitations of a sole focus on outreach and encouragement.

It is abundantly clear from the results of the Vanguard Initiative evaluation as well as the CPCHE/CCCF survey issued in 2013 that education is very much needed to increase familiarity with and basic knowledge about radon, its health effects, how to test and what to do if levels are high. In the 2013 survey of some 150 child care professionals, about half had heard of radon but did not know much about it, and nearly a quarter had never heard of it. In parallel to continued outreach and education, however, there is a need to also focus on systemic approaches and related policy decisions that will ensure that all children in child care in Canada are safe from unacceptable radon exposure levels, including exploration of mandatory approaches, such as linking radon testing to licensing procedures, as well as options to support/offset the cost of remediation.

3.3 Awareness raising and education on radon for child care professionals

CPCHE/CCCF is working to empower child care/early childhood professionals with information/knowledge on radon (1) so that they are better able to advocate for and conduct a

radon test in their centres and (2) so that they are equipped to share information on radon with their client families. Within the scope of this project, we conducted awareness raising and education via CCCF's continuing education and outreach platforms (webinars, *Interaction* print and online, Facebook, Twitter) and by tabling and presenting at relevant professional conferences.

Webinars

CPCHE/CCCF hosted a radon webinar in May 2014 that attracted more than 60 participants and featured presentations by Kelley Bush, Head, Radon Education and Awareness, Health Canada, and a presentation from Erica Phipps, CPCHE Executive Director, who provided an overview of CPCHE/CCCF efforts to promote radon action, including the Vanguard Initiative and the Home Safety campaign. CCCF received numerous emails from participants expressing their appreciation for the webinar. In response to unmet demand, CPCHE/CCCF decided to offer a second webinar on September 10th, 2014. There were nearly 100 registrants and over 60 participants in the second webinar, and a robust question-and-answer session that continued well past the one-hour timeframe scheduled for the event. The second webinar also featured commentary from Danielle Bedard, one of the participating Vanguard Initiative participants, about her experience with radon testing and outreach. As with the first webinar, numerous participants have emailed CCCF, CPCHE and Health Canada with positive feedback, further questions and/or requests for radon outreach materials. CPCHE has also received an expression of interest in a French-language webinar.

The PowerPoint presentations for both events are posted on the CPCHE website (under <u>Events</u>), and CCCF made a recording of the second webinar and sent it to an additional seven individuals who could not attend the webinar and also offered to provide it to anyone who is interested. The PowerPoint link was also sent out to all webinar registrants.

Interaction article and social media postings

CPCHE's Executive Director contributed a full-length feature article on radon and the Vanguard Initiative that will appear in the Fall print and online versions of *Interaction*. The announcement of the two webinars, which included a brief overview of radon and why it is of concern, was shared with CCCF's networks via the online version of *Interaction*.

CCCF disseminated the webinar announcements, the announcement of the February launch of the Home Safety for your Kids' Sake campaign and related news items on radon via CCCF's email database (3000 email addresses) Facebook site (1750 followers) and Twitter (800 followers).

Professional conferences

CPCHE/CCCF promoted radon awareness at a number of relevant professional conferences in 2014.

- The Early Years Conference 2014: Shaping Childhood: Factors that Matter, Vancouver, January 30 February 1, 2014. The CPCHE Executive Director promoted radon information and resources during the CPCHE workshop session on children's environmental health and via a display table at this large conference. A Health Canada BC region colleague helped staff the booth and answer visitors' questions.
- Health Nexus/Best Start Annual Conference, Toronto, ON, February 26-28, 2014. CPCHE's Executive Director gave a 90-minute workshop on radon for nearly 30 early years professionals at this popular annual conference that is attended by 300+ early years professionals from Ontario and across Canada. A Health Canada Ontario Region

representative participated in the workshop and was a valuable source of additional information and guidance. The workshop was extremely well received. CPCHE also hosted a display table at the conference, in conjunction with the adjoining Health Canada radon booth, and disseminated the Reduce Radon tip card as well as the new Home Safety for Your Kids' Sake campaign posters and tear-off sheets.

- Manitoba Child Care Association conference, Winnipeg, May 2014. Under an addendum to the present contract, CPCHE/CCCF was able to do a reprint of the *Home Safety for your Kids' Sake* and produce a special flyer on radon outreach specifically developed to raise awareness among the nearly 1000 participants at the annual conference of the MB provincial child care association. The flyer is attached as <u>Annex 7</u>. The CCCF CEO distributed approximately 800 copies of the flyer in person and at the CCCF display table during the conference, and disseminated Home Safety materials (approximately 300 posters in English and 30 in French, and approximately 100 English and 10 French of the tear-off pads of 25 sheets), and 400 English and 40 French of the CPCHE *Reduce Radon* tip card.
- Canadian Paediatric Society Conference, Montreal, June 2014. While not a specified deliverable under the present contract, CPCHE also tabled radon information, including CPCHE and Health Canada materials and the MacHealth continuing medical education course, at the CPS conference, in collaboration with a colleague from the Health Canada Quebec region. The booth was visited by an estimated 45-50 physicians and other attendees at the conference.
- CPCHE workshops for service providers. CPCHE also shared information and resource materials to an estimated 175 service provider practitioners and students at 5 training workshops on children's environmental health, organized by CPCHE with Health Canada support, at Bow Valley College (Calgary), Misrecordia Hospital (Edmonton), McGill University, Dawson College and University of Montreal (Montreal) in February/March 2014.

4. Key Project Outcomes

The Vanguard Initiative successfully demonstrated that child care professionals have a role to play in promoting action on radon, both in child care facilities and among young families. It contributed significantly to the "demystification" of radon among child care professionals, among the six participating sites as well as among dozens of early years professionals who participated in the webinars and the Best Start conference session, as well as those who visited the CPCHE booth at a conference and/or who read about radon and the Vanguard Initiative in *Interaction* or on CCCF's Facebook or Twitter. Familiarity among early years professionals with the CPCHE radon resources, the *Home Safety for your Kids's Sake* campaign, Health Canada's radon resources and the Take Action on Radon campaign was also increased and cross-linked. The anticipated further analysis and use of the evaluation results in a publication to be submitted to relevant peer-reviewed journal(s), in collaboration with a professor at Simon Fraser University, will further ensure that the lessons learned from this initiative can inform the efforts of those in a position to promote radon action and implement protective policies.

5. Observations and next steps

The Vanguard Initiative reaffirmed the *need for greater awareness and education on radon among child care professionals* and other service providers who interact with young families, as well as families themselves. The low levels of existing awareness about radon among the participating sites and the large response to the webinars point to the need for and interest in continued professional education and awareness raising.

Specific recommendations and ideas for additional actions on education and outreach that emerged from the project are:

- creation of an attractively formatted, plain language email flyer about radon that child care facilities could readily forward to their client families;
- a poster about radon testing in child care settings (e.g., for posting in child care centres, including use in facility newsletters);
- additional webinars, including a French-language webinar;
- provision of radon outreach materials (particularly those for the child care/early years sector)
 in additional languages beyond English and French;
- creative ways to engage children on the topic of radon, particularly in conjunction with a facility's radon testing.

The initiative also underscored the *need for parallel efforts to realize a more systemic and* universal approach to radon testing in child care settings, for the reasons cited in the evaluation discussion above. Child care professionals are already overtaxed with responsibilities and stressors – adding radon testing is likely to be more than many can absorb. And, at least according to this small sample of child care professionals who had gained direct experience with testing, a mandatory or licensing-based approach would be needed to ensure universal coverage of all facilities. It is notable that even among the sites that voluntarily signed up for this project because of their interest in doing so, only two-thirds were able to successfully complete the radon testing, which speaks to the limitations of a purely voluntary approach. In light of these observations, efforts should be made to explore and promote programs and policies for universal testing of child care facilities, for example, linking radon testing to licensing requirements or, as noted by several participants, taking a similar approach to the provisions put in place for the mandatory installation of carbon monoxide detectors. In this regard, it is interesting to note the frequency with which Vanguard Initiative staff mentioned the parallel with carbon monoxide detector requirements. This reflects not only the effectiveness of the Home Safety for Kids' Sake campaign in linking radon testing in people's minds with CO and smoke detector use, but may also present a useful entry point for initiating policy-relevant discussions within the child care sector and with relevant health and social services ministries.

As a next step, engagement of public health inspector professionals, who implement child care licensing requirements, would be beneficial. This could build on CPCHE's past track record of working with PHI associations during the development of the child care *Checklist* on ways to proactively improve the environmental health aspects of child care environments. Further engagement of the child care sector, including provincial/territorial chapters, in order to build awareness and foster political will, would also be beneficial next steps.

The Vanguard Initiative also revealed considerable concern among child care professionals about the potential cost of radon remediation, should it be required. The prospect of a large remediation cost would, it seems, be a reason that some centres would avoid conducting a radon test. Cost was particularly of concern for the home-based facility that participated in the initiative, but even the larger facilities reported considerable anxiety on this point. Thus, in addition to seeking ways to obtain universal testing of child care facilities, efforts are also needed to remove cost as a barrier to achieving acceptable radon levels in *all* facilities, not just those with the resources to cover it.

Annex 1: Guidance, Order Forms and Tracking Sheet provided to Vanguard Sites



CPCHE/CCCF Vanguard Initiative with the Child Care Sector to Promote Awareness and Action on Radon

Guidance for Vanguard Sites

Thank you for participating in this vanguard initiative. Your proaction and leadership will ensure healthier indoor environments for the children in your care, while helping to position the child care sector as a leader in fostering public awareness and action on radon in Canada.

The following outlines the actions to be taken in each of the three main components of the vanguard initiative, namely to (1) share information on radon with client families to encourage testing of their homes for elevated levels of radon; (2) conduct do-it-yourself radon testing in the child care facility; and (3) offer your perspectives, ideas and experiences gained via the project evaluation so that they can be shared with others in your sector.

We're here to help! At any point in the project, feel free to call upon CPCHE (Erica Phipps, erica@healthyenvironmentforkids.ca) and/or CCCF (Don Giesbrecht, dgiesbrecht@cccf-fcsge.ca) for guidance or assistance.

Part 1: Sharing information on radon with client families

- ✓ Let us know how many outreach materials you need and in what language(s) by filling out the attached <u>Outreach Materials Order Form</u> and emailing it to Erica (erica@healthyenyironmentforkids.ca)
- Share the outreach materials and information with client families. For example, you might:
 - * send home the "Reduce Radon" card and/or the "Home Safety for your Kids' Sake: Check it Today" flyer in the children's back packs or note totes;
 - * hand the materials directly to parents/caregivers at pick-up or drop-off time;
 - * put up the "Home Safety for your Kids' Sake" posters where parents are likely to see them:
 - * tack up a tear-off pad of the "Home Safety for your Kids' Sake" hand-outs on the centre's bulletin board so that parents can tear off a flyer and take it with them;

- * share the informational materials and discuss radon with parents and board members at an upcoming meeting;
- use email, Facebook or other electronic dissemination, if applicable, to share the information with client families or the broader community;
- * invite parents/caregivers to see first-hand the radon testing in progress at your centre.
- ✓ Keep track of how many resources you disseminate and in what way(s). Take note of the reactions and responses you receive from client families and/or any other experiences or learnings. These observations will be useful in the post-initiative survey (see part 3 below).

Part 2: Testing your centre

✓ Determine how many radon test kits you will need:

Count the number of rooms that are occupied several hours a day, such as learning/play					
	Count the number	of rooms that are	e occupied several	hours a day,	such as learning/play

Total number of test kits needed: (a + b)
Number of additional test kits (b)
If any of the rooms are greater than $200~\text{m}^3$ (2,153 square feet), order an additional test kit for each additional $200~\text{m}^3$ of area. For example, order 2 test kits for a room that measures more than $200~\text{m}^3$ but less than $400~\text{m}^3$, order 3 test kits for rooms measuring $400\text{-}600~\text{m}^3$, etc.
Number of rooms: (a)
areas and sleeping rooms (do not include bathrooms, kitchens, closets, laundry rooms, etc.). In most cases, the number of rooms will be the number of test kits you should order

- Email Erica with (1) the number of test kits you need and (2) the address to which the test kits should be mailed using the attached Radon Test Kit Order Form.
- Start the test by carefully following these instructions as soon as you receive the test kits:
 - Carefully open the resealable bag and remove the device. Keep the bag in a safe place, as you will need it later when returning the test device to the laboratory.
 - (2) Place a test device in each room to be tested. The test devices should be placed where they can be left undisturbed and unobstructed for the entire 3-month test period. Testing should be conducted in the fall or winter, when doors and windows remain mostly closed. Be sure that the test devices are out of the reach of children and are not located near drafts, vents, windows or doors, and are not placed on or near electronic or electrically powered devices (e.g., computers, TVs, radios). A good place to place the test device might be on top of a filing cabinet or bookshelf, ideally near an interior rather than exterior wall.

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Tips for proper placement of a radon test device:

- * The objective is to measure a representative sample of the air normally breathed by occupants. Do not hide the test device in a corner or place under an object.
- * Avoid placing the test device in air currents caused by heating, ventilation and air conditioning vents, doors, fans and windows. Locations near heat, such as over radiators, or in direct sunlight, should be avoided. Similarly, the devices should not be placed on or near electrically powered equipment or appliances.
- * Ensure sufficient distance (e.g., 20 cm) from other objects so that air can flow freely around the test device.
 - (3) On the Radon Test Device Tracking Sheet provided, record each room or area in which a test device has been placed, ideally identifying a room number but if room numbers do not exist, a description of the room (e.g., infants' room, play area) along with the serial number of the detector and the exact date and time the test device was deployed. The date and time should be entered in the column marked "Test Start Date/Time" using the date format shown in the example. Be sure to keep the Radon Test Kit Tracking Sheet in a safe place, as you will need it to record the Test Stop Date/Time at the end of the test when all the test devices are sealed into the mailing pouch and sent back to the laboratory for analysis.
- ✓ Stopping the test. At the end of the 3-month period, place all of the test devices back in the resealable bag that they came in. Seal the bag carefully and place it inside the mailing envelope provided. Record the exact date and time in the "Test End Date/Time" column of the Radon Test Device Tracking Sheet. Mail the devices via regular post.

Part 3: Sharing your perspectives, ideas and experiences

- ✓ Fill out the Radon Vanguard Sites Initial Survey by clicking on the link to the electronic survey webpage that will be sent to you by email in mid-February. The survey should be completed by the staff member who is most directly involved in the implementation of the vanguard initiative. Other staff members are also invited to complete the survey.
- ✓ Fill out the Radon Vanguard Sites Post-Initiative Survey. The link to this survey will be sent to you near the end of the project period, in mid- to late-May. This survey should be completed by the same person who completed the Initial Survey. Other staff members are also invited to complete the survey.
- ✓ Participate in an exit interview with CPCHE/CCCF via telephone in late May to share any observations, anecdotes or experiences that you think might be of interest to other child care professionals who may be considering how best to promote radon awareness and action with their client families and in their centre. These confidential telephone conversations will be individually scheduled at a time that is most convenient for you.

A Note on Confidentiality:

All of the input you provide via the pre- and post-surveys and/or the telephone interviews will be kept anonymous. We will not use the name of your facility or the name of staff members without express permission from the facility and, if applicable, from the staff member(s). If you grant us permission to showcase your efforts, you will be invited to review and approve all text and/or images prior to their use.

CPCHE/CCCF Vanguard Initiative to Promote Awareness and Action on Radon with the Child Care Sector

Outreach Materials Order Form

Please indicate the number of outreach material(s) you would like to receive and in which language(s). Return the form via email to erica@healthyenvironmentforkids.

Documents to b	e shipped to: (please print clearly)
Contact person:	
Organization: _	
Address:	
Phone number:	
Email address:	

Title of publication	Image	# English	# French	# other languages
CPCHE's "Reduce Radon" tip card	Radon			n/a
"Home Safety for Your Kids' Sake: Check it Today" poster (17" x 22" glossy)	Home safety Supplementary			n/a
"Home Safety for your Kids' sake: Check it Today" hand-out * English and French available in tear-off pads of 20 sheets, 6" x 8.5" format * Arabic, simple Chinese, Punjabi, Tagolog, Spanish available in 8.5 x 11" format	Home safety to put KIDS one Control of the Control State of the Control			
Health Canada's "Radon – Is it in your Home?" 8-page brochure	MISS PORTO			n/a
Health Canada's "Radon: Reduction Guide for Canadians" 34-page booklet	MOON P P P			n/a

Α

CPCHE/CCCF Vanguard Initiative to Promote Awareness and Action on Radon with the Child Care Sector

Radon Test Kit Order Form

Please indicate the number of radon test kits you require for your facility. **Return the form via email to erica@healthyenvironmentforkids** as soon as possible and not later than February 20th.

Number of radon test kits required:*	
* See document entitled "Guidance for Vanguard Sites" for guidance on how to determine the number test kits you will need. In most cases, it will be equal to the number of rooms in your centre where children and/or staff spend at least a few hours per day.	of
Radon test kits to be shipped to: (please print clearly)	
Contact person:	
Organization:	
Address:	
Phone number:	
Email address:	
Staff member responsible for deploying the radon test devices: (if different from the person named above)	
Name:	
Position/title:	
Phone number:	
Email address:	

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CPCHE/CCCF Vanguard Initiative to Promote Awareness and Action on Radon with the Child Care Sector

Radon Test Device Tracking Sheet

Location of test device (Room number or description, e.g., play area, nap room, etc.)	Test device serial #	Start date and time (e.g., Tuesday, February 18, 2014, 9:40 am)	Stop date and time* (e.g., Tuesday, May 20, 2014, 1:50 pm)

^{*} The test devices should remain deployed for at least 3 months.

6

Annex 2: Home Safety for your Kids' Sake - Check it Today Media release









Santé Canada



Aussi disponible en français: http://bit.ly/1ehFcY4

Embargo: 12 noon EST, Feb. 13, 2014

Contacts: Terry Collins, +1-416-538-8712, tc@tca.tc

Erica Phipps, +1-613-791-4248 (m); erica@healthyenvironmentforkids.ca

Advance interviews are available. Video: http://bit.ly/NkNNEg; images: http://bit.ly/1g7kDlC

Experts Add Radon Test to 'Must-Dos' for Home Safety — as Important as **Smoke and Carbon Monoxide Detectors**

Indoor exposure to radon gas is world's #2 cause of lung cancer

Winnipeg childcare centres' lead by example in radon awareness promotion

Pointing to startling statistics on lung cancer risks, child health and other experts in Canada are ramping up calls for families nationwide to test their homes for radon gas contamination.

Radon is a gas that comes from uranium in the ground. It can enter homes through cracks and gaps in the foundation and build up to harmful levels in indoor air.

On average, 1 in 15 Canadian homes (up to 1 in 5 in some provinces) have a high level of radon gas in the air. And at least one in 20 people living long-term in such a home can expect to develop lung cancer, even if they've never smoked tobacco.

A smoker's odds of lung cancer from living long-term in a high radon-contaminated house is 1 in 3.

"This is a national concern for the long-term health and well-being of our children that hasn't had the kind of attention it deserves," says Erica Phipps, Executive Director of the Canadian Partnership for Children's Health and Environment (CPCHE).

"Parents all know about the need to maintain a smoke detector and install a carbon monoxide monitor. But there's a third-point on the fundamental safe home checklist: Conduct a long-term (three months or longer) do-it-yourself radon test during the colder months when windows and doors are mostly closed, or hire a radon specialist to measure the radon level."

Partners with CPCHE in the new radon awareness campaign are Health Canada, the Canadian Association of Fire Chiefs, the Canadian Lung Association, and Parachute, a national charitable organization devoted to preventing injuries and saving lives.

"The dangers associated with house fires, CO poisoning and radon exposure are high but the preventive measures

are relatively simple," says J.P. Cody-Cox, Executive Director of the Canadian Association of Fire Chiefs. "We're encouraging parents to devote a couple of hours on a Saturday morning to getting these three items checked off the list – for their kids' sake."

Radon awareness, testing and child care

In Quebec, schools and child care facilities are required to test for radon.

CPCHE and the Canadian Child Care Federation are conducting a vanguard initiative to promote radon awareness and testing throughout the Canadian child care sector.

A small group of child care facilities in Winnipeg has been recruited to promote radon awareness and home testing among client families. They will also test their facilities for radon.

"Our sector is all about caring for kids. When I first learned about the health risks of radon exposure, I knew we needed to take action," says Don Giesbrecht, CEO of the Canadian Child Care Federation. "Child care professionals interact with young families every day. We're well-positioned to help make sure families are aware of radon and know how to test their homes. We can also safeguard kids by making sure they are not exposed to elevated radon during the hours they spend at the child care centre."

Radon is a radioactive gas formed by the breakdown of uranium in soil, rock and groundwater. The odourless gas seeps into homes through cracks and other openings in the foundation and can build up to harmful levels in indoor air. The radioactive particles can be breathed into the lungs, where they damage cells and potentially lead to lung cancer.



In enclosed spaces, radon gas can accumulate into a health risk: exposure is the leading cause of lung cancer after tobacco smoking, accounting for 16 per cent of lung cancer deaths, says Health Canada (http://bit.ly/1mKAerZ).

"As radon breaks down, it forms radioactive particles that can get lodged into your lung tissue as you breathe. The radioactive particles then release energy that can damage your lung cells. When lung cells are damaged, they have the potential to result in cancer. Not everyone exposed to radon will develop lung cancer, and the time between exposure and the onset of the disease can take many years."

"If you smoke or have smoked and your home has high radon levels, your risk of lung cancer is especially high," Health Canada says.

Canada's guideline for acceptable radon levels was lowered in 2007 from 800 to 200 becquerels per cubic metre (Bq/m³). This falls within the World Health Organization's recommended range of 100-300 Bq/m³. Higher levels within this range are considered acceptable if the ideal of 100 Bq/m³ cannot be achieved due to country-specific conditions.

An Ontario study last year (<u>http://1.usa.gov/1hAx5tY</u>) attributed 847 — some 13.6 % — of annual lung cancer deaths in the province to radon, adding that if all homes with readings $\frac{3}{3}$

above 200 Bq/m $\,$ were remediated, 91 lung cancer deaths could be prevented each year; 233

could be avoided if remediation was performed at 100 Bq/m.

Radon levels may vary from home to home depending on conditions of soil and the home's foundation, construction type, weather and air circulation.

"Because there are so many factors, it is not possible to predict the radon level in a home. The only way to know for sure is to test," says Barbara Mackinnon, a radon spokesperson for the Canadian Lung Association. "Radon is a major cause of lung cancer yet many people are not familiar with the risks or what to do. We're working in communities across Canada to raise awareness and facilitate access to test kits." To find out where you can purchase a low-cost radon test kit online, visit the <u>Take Action on Radon</u> website.

According to Health Canada, radon levels in most homes can be reduced by more than 80% for about the same cost as replacing a furnace, air conditioner or other common home repairs: on average \$1,500 to \$3,000 to seal a foundation, for example, or for a system to suction the gas away.

CPCHE's Phipps notes that making radon testing and remediation accessible to all families, including low-income tenants, is an unmet challenge. "As a society, we need to find ways to ensure all housing in Canada is free from elevated radon. This is important for reasons of equity. It is also a smart investment in the prevention of lung cancer, a costly and devastating disease."

Concentrations differ but radon is found Canada-wide — usually higher in areas with more uranium in underlying rock and soil.

A nation-wide Health Canada survey (http://bit.ly/1jy4xVz), involving almost 14,000 homes in 2009-2011, showed 6.9% had radon levels above the 200 Bq/m³ guideline.

The highest proportion of problem homes were those in New Brunswick and Manitoba, where more than 1 in 5 showed radon levels above 200 Bq/m³.

(From the Cross-Canada Survey, available in full at http://bit.ly/1jy4xVz).

Table 2: Percentage of Homes Tested with Radon Concentrations Below 200 Bq/m 3 , Between 200 and 600 Bq/m 3 , Above 600 Bq/m 3 and Above 200 Bq/m 3 for Each Province and Territory

Province/Territory	"Raw" Percentage of Homes with Radon Concentrations:					
	% Below 200 Bq/m³	% 200 to 600 Bq/m ³	% Above 600 Bq/m ³	% Above 200 Bq/m ³		
Alberta (AB)	93.4	6.0	0.6	6.6		
British Columbia (BC)	92.1	6.7	1.2	7.9		
Manitoba (MB)	76.3	21.1	2.6	23.7		
New Brunswick (NB)	75.2	18.7	6.1	24.8		
Newfoundland and Labrador (NL)	94.1	4.6	1.3	5.9		
Nova Scotia (NS)	91.2	6.3	2.5	8.8		
Northwest Territories (NT)	94.6	4.9	0.5	5.4		
Nunavut (NU)	100.0	0.0	0.0	0.0		
Ontario (ON)	91.8	7.3	0.9	8.2		
Prince Edward Island (PE)	96.5	3.5	0.0	3.5		
Quebec (QC)	89.9	9.0	1.1	10.1		
Saskatchewan (SK)	83.7	15.3	1.0	16.3		
Yukon (YT)	80.4	13.8	5.8	19.6		

Visit the campaign webpage via this link: www.healthyenvironmentforkids.ca.

The Canadian Partnership for Children's Health and Environment (CPCHE) is a multi-sectoral collaboration of organizations with expertise in issues related to children, health, public health and the environment. CPCHE partners have been working together since 2001 to protect children's health from environmental pollutants and toxic chemicals by moving children's environmental health issues into the minds of decision-makers, service-provider organizations, individual practitioners, parents and the public. www.healthyenvironmentforkids.ca.

Health Canada is the Federal department responsible for helping Canadians maintain and improve their health, while respecting individual choices and circumstances.

The Canadian Association of Fire Chiefs (CAFC) is the national public service association dedicated to reducing the loss of life and property from fire, and advancing the science and technology of the Fire and Emergency Service in Canada. CAFC is an in-dependent, non-profit organization with a voluntary membership, founded in 1909. www.cafc.ca

The **Canadian Lung Association** is a non-profit and volunteer-based health charity dedicated to its mission of promoting and improving lung health for all Canadians. The Lung Association works at the national, provincial and community levels to improve and promote lung health. www.lung.ca

Parachute is a national, charitable organization dedicated to preventing injuries and saving lives. Parachute, established in 2012, unites the former organizations of Safe Communities Canada, Safe Kids Canada, SMARTRISK and ThinkFirst Canada into one leader in injury prevention. Parachute's injury prevention solutions, knowledge mobilization, public policy, and social awareness efforts are designed to help Canadians reduce their risks of injury while achieving Parachute's vision of an injury-free Canada where Canadians enjoy long lives lived to the fullest. www.parachutecanada.org

* * * *

Backgrounder

1. Radon

What is radon?

Radon is a radioactive gas that is produced naturally from the gradual breakdown of uranium in rock and soil. Radon gas can move into homes and other buildings through cracks in the walls or floor of foundations, or through gaps around service pipes, window casements, floor drains, sumps and other openings. Soil gas infiltration is the most important source of radon in indoor environments. Other lesser sources can include well water and certain building materials.

You can't see, taste or smell radon. The only way to know the level of radon in a home or other building is to test for it. Do-it-yourself test kits are available at most hardware and home improvement stores and online. Testing can also be done by a radon measurement professional.

Health Canada has established a guideline of 200 Becquerels per cubic metre (200 Bq/m³) for radon in indoor air in dwellings. A Becquerel is a measurement of radioactive decay. The World Health Organization guideline is a range from 100- 300 Bq/m³, with higher levels in the range considered acceptable if the ideal of 100 Bq/m³ cannot be met due to country-specific conditions.

What are the health risks of radon exposure?

Being exposed to high levels of radon in indoor air increases the risk of developing lung cancer.

Long-term exposure to elevated radon is the second leading cause of lung cancer after smoking, and it is the leading cause of lung cancer in non-smokers.

According to Health Canada, radon causes 16 percent of lung cancer deaths in Canada.

The risk of cancer depends on the level of radon and how long a person is exposed to those levels.

Exposure to cigarette smoke combined with high radon levels significantly increases the risk of developing lung cancer. A person who has had long-term exposure to high radon levels has a 1 in 20 chance of developing lung cancer. When long-term exposure to elevated radon occurs together with exposure to cigarette smoke, the risk of developing lung cancer increases to 1 in 3.

Lung cancer is a deadly disease. It is the leading cause of cancer death for both men and women, and accounts for more than a quarter of all cancer mortality. Approximately 8 out of 10 people with lung cancer will die from it. On average, 70 Canadians are diagnosed with lung cancer every day, and each day, on average, 55 die from it. Lung cancer is rare in children. However, the effects of exposure to carcinogenic substances, such as tobacco smoke and radon, are cumulative - the longer a person is exposed, the greater their risk. Thus, preventing radon exposures during in childhood will reduce lifetime risk.

Research from Health Canada³ points to the importance of preventing childhood exposures to radon. A child exposed for just two years to radon concentrations of 8,000 Bg/m³ has the same risk of developing lung cancer as a person who has lived a lifetime in a home with radon concentrations of slightly above 200 Bg/m³.

Where is radon found in Canada?

Radon is found across Canada. Concentrations differ, but are usually higher in areas with more uranium in the underlying rock and soil. Health Canada conducted a Cross-Canada Survey of Radon Concentrations in Homes in 2009-2011, testing radon levels in a sample of nearly 14,000 homes. The results from this two-year study indicate that 6.9% of Canadians are living in homes with radon levels above the current radon guideline of 200 Bg/m³.

While the cross-Canada survey cannot be used to predict radon levels in an individual home or neighborhood, the results show that some jurisdictions have higher prevalence of homes likely to fall above the Health Canada guideline. In New Brunswick and Manitoba, for example, more than one in 5 homes is estimated to have radon levels above 200 Bg/m3. (The full report of the Cross-Canada Survey is available at: http://www.hc-sc.gc.ca/ewh-semt/radiation/radon/surveysondage-eng.php).

Radon concentrations will vary from one house to another, even if they are similar and next door to each other. The amount of radon in a home will depend on many factors including:

Soil characteristics: Radon concentrations can vary enormously depending on the uranium content of the soil. As well, radon flows more easily through some soils than others, for example sand versus clay.

Construction type: The type of home and its design affect the amount of contact with the soil and the number and size of entry points for radon.

Foundation condition: Foundations with numerous cracks and openings have more potential

The Lung Association. http://www.lung.ca/lung101-renseignez/statistics-statistiques/lungdiseasesmaladiespoumon/index e.php#lungcancer

3 Chen, J. Canadian Lung Cancer Relative Risk from Radon Exposure for Short Periods in Childhood

¹ Canadian Cancer Society. http://www.cancer.ca/en/cancer-information/cancertype/lung/statistics/?region=pe

Compared to a Lifetime. Int. J. Environ. Res. Public Health. 2013. 10, 1916-1926

entry points for radon.

Occupant lifestyle: The use of exhaust fans, windows and fireplaces, for example, influences the pressure difference between the house and the soil. This pressure difference can draw radon indoors and influences the rate of exchange of outdoor and indoor air.

Weather: Variations in weather (e.g., temperature, wind, barometric pressure, precipitation, etc.) can affect the amount of radon that enters a home.

Because there are so many factors, it is not possible to predict the radon level in a home; the only way to know for sure is to test.

How to determine the radon level in a building, and what should be done if elevated levels are found

Residents can test their homes for radon using a do-it-yourself test kits, available from many hardware and home building supply retailers, or online. A long-term test (minimum of 3 months) conducted during the winter season when windows and doors mostly closed is recommended. The test involves placing a small passive sampler on the lowest occupied level of the home or building and leaving it undisturbed for a minimum of three months. The unit should be placed on a secure surface (e.g., bookshelf or table) located away from heating or A/C vents, windows or doors. At end of the test period, the test unit should be sealed into the envelope provided and mailed to the laboratory for processing. Results are typically returned by mail or email within a few weeks.

If the radon level is above the Health Canada guideline of $200~\text{Bq/m}^3$, action should be taken to lower the radon concentration. If the levels are between $200-600~\text{Bq/m}^3$, Health Canada recommends taking action within two years to reduce the radon levels. If the levels are $600~\text{Bq/m}^3$ or higher, mitigation should be done within a year.

There are several ways to reduce radon levels in a home or building: installing a radon mitigation system, sealing up cracks and gaps in the foundation and/or increasing ventilation.

In most cases, installing a radon mitigation system will be the most effective means of bringing radon levels down to an acceptable level. **Sub-slab depressurization** (also called **active soil depressurization**) is the most effective and reliable radon reduction technique. This method involves installing a pipe through the foundation floor slab to the exterior of the building (either the roof or an outside wall) and attaching a fan that runs continuously to draw the radon gas from below the home and into the outdoors where it is quickly diluted.

A certified radon mitigation contractor should be used to conduct a radon mitigation. To find a certified mitigator, contact the <u>Canadian National Radon Proficiency Program</u> (C-NRPP) at 1-800-269-4174, the Canadian Association of Radon Scientists and Technologists (CARST) at <u>info@carst.ca</u> or Health Canada at <u>radon@hc-sc.gc.ca</u>.

It is important to retest the radon levels after the mitigation to be sure the levels have dropped below the guideline.

Comprehensive guidance on radon testing and remediation can be found in the new Health Canada publication *Radon – Reduction Guide for Canadians* available at http://www.hc-sc.gc.ca/ewh-semt/pubs/radiation/radon_canadians-canadiens/index-eng.php

At present, homeowners and landlords in Canada are not legally required to test for radon or to remediate if high levels of radon are found.

2. Smoke detectors

On average, 19 children aged 14 and under are killed by fire or smoke each year in Canada. Nearly 600 are hospitalized.⁴ Installing and maintaining smoke detectors (also referred to as smoke alarms) in the home are a proven way to prevent injuries and death from fires.

Experts advise installing at least one smoke detector on every storey of your home (including the basement) and outside each sleeping area. Detectors should also be installed in bedrooms if occupants sleep with bedroom doors closed. Because smoke rises, smoke detectors should be mounted on ceilings or high on walls. Smoke detectors mounted on the ceiling should be at least 4 inches away from the wall. Units mounted on walls should be no more than a 12 inches from the ceiling. It is important that smoke detectors be located away from doors, windows, ducts or vents that might interfere with the units' ability to detect smoke.

There are two types of smoke detectors. Choosing the right type of detector for each location in the home will help prevent nuisance alarms – a major contributor to the disabling and resulting ineffectiveness of smoke detectors. **Ionization smoke detectors** should be used in general living and sleeping areas. Ionization smoke detectors respond quickly to fast flaming fires, which generate a lot of heat but not necessarily a lot of smoke. **Photoelectric smoke detectors** are recommended for the kitchen area because they are less prone to nuisance alarms caused by cooking (e.g., burnt toast) or humidity (cooking or shower steam). Photoelectric detectors respond quickly to smouldering fires that produce a lot of smoke with less heat. See more at: http://www.parachutecanada.org/injury-topics/item/smoke-alarms1#sthash.BCtgnaTD.dpuf

3. Carbon Monoxide detectors

Carbon monoxide is a colourless, odourless gas that reduces the amount of oxygen in the blood. Low levels over long periods of time are dangerous, and high levels can cause unconsciousness and even death. Sources of carbon monoxide in the home include fuel-burning appliances such as furnaces, fireplaces, gas stoves and water heaters (especially those that are not properly vented or maintained); idling vehicles in attached garages; barbecues, grills, space heaters and other non-vented fuel-burning appliances that are designed for outdoor use; and tobacco smoke.⁵

Carbon monoxide is a leading cause of accidental poisoning deaths in Canada. An estimated 414 Canadians died of carbon monoxide poisoning between 2000 and 2007.

Installing a carbon monoxide alarm on each level of a home and outside every sleeping area is key to protecting lives and making homes safer. Without a carbon monoxide detector, it is

⁴ http://www.parachutecanada.org/injury-topics/item/smoke-alarms1

⁵ Health Canada. http://www.hc-sc.gc.ca/ewh-semt/air/in/poll/combustion/carbon-eng.php

⁶ Parachute. http://www.parachutecanada.org/policy/item/267#sthash.Hlz8FOao.dpuf

impossible to detect the presence of this dangerous gas, in any concentration, because it is colourless, odourless and tasteless. Symptoms of exposure, such as headaches and nausea, are often mistaken for the flu and either ignored or misdiagnosed.

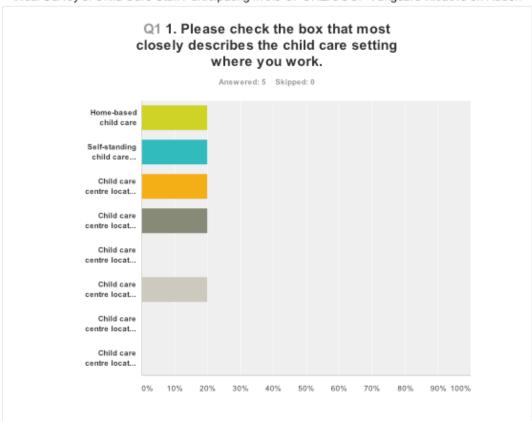
Two jurisdictions in Canada now require carbon monoxide detectors in all residences. Ontario and the Yukon both passed legislation in 2013. In both provinces, legislation requires the mandatory installation of carbon monoxide alarms in all homes that contain a garage or a fuel-burning device, such as a furnace or fireplace.⁷

⁷ Parachute http://www.parachutecanada.org/policy/item/267#sthash.Hlz8FOao.dpuf

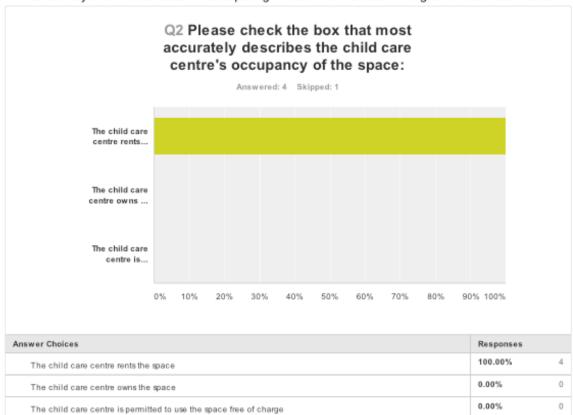
Annex 3: Valentine's Day version of *Home Safety for your Kids'*Sake campaign poster



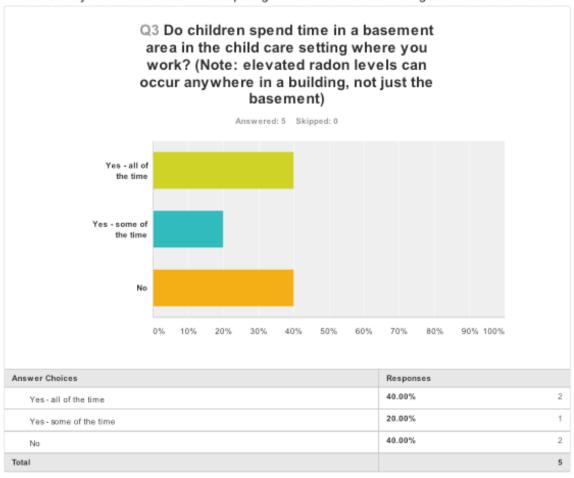
Annex 4: Initial Online Survey

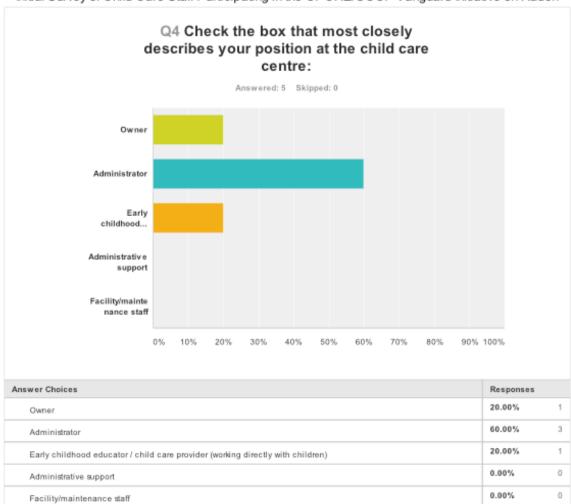


Answer Choices	Responses	5
Home-based child care	20.00%	1
Self-standing child care facility (i.e., the child care centre is the only occupant of the building)	20.00%	1
Child care centre located in a school	20.00%	1
Child care centre located in a church, synagogue, mosque or other house of worship	20.00%	1
Child care centre located in an office building	0.00%	0
Child care centre located in an apartment building	20.00%	1
Child care centre located in social housing	0.00%	0
Child care centre located in a community centre, club or other community building	0.00%	0
Total		5
	0.00%	

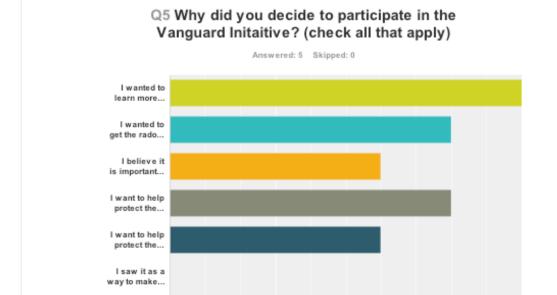


Total





Total Respondents: 5



I thought it would be an...

10%

20%

30%

0%

My supervisor asked me to

Answer Choices	Responses	
I wanted to learn more about radon	100.00%	5
I wanted to get the radon levels in our centre tested free of charge	80.00%	4
I believe it is important to inform families about radon	60.00%	3
I want to help protect the health of the children in our care	80.00%	4
I want to help protect the health of myself and other staff	60.00%	3
I saw it as a way to make connections with others	0.00%	0
I thought it would be an interesting experience	40.00%	2
My supervisor asked me to	0.00%	0
otal Respondents: 5		

40%

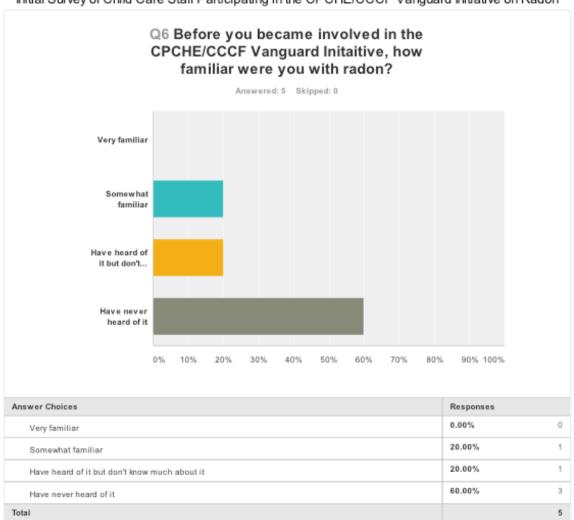
60%

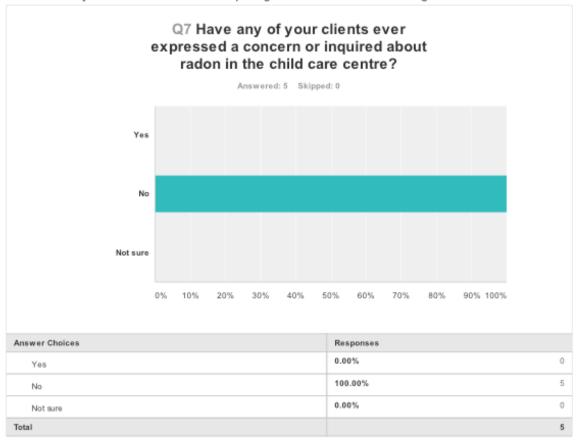
70%

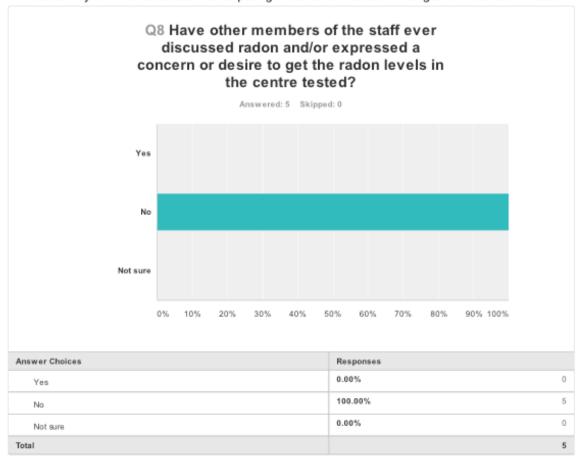
80%

50%

90% 100%

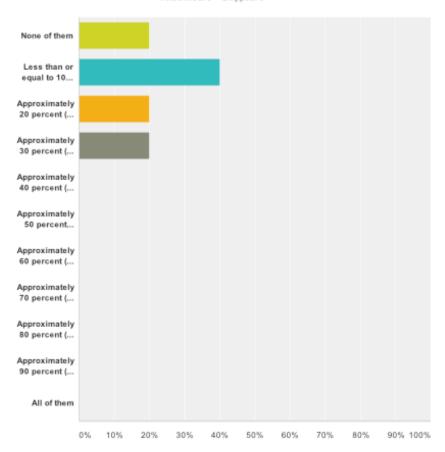






Q9 If you were to guess, what percentage of your centre's client families do you think are aware of radon, its association with lung cancer, and what to do to make sure levels of radon in indoor air are acceptable?

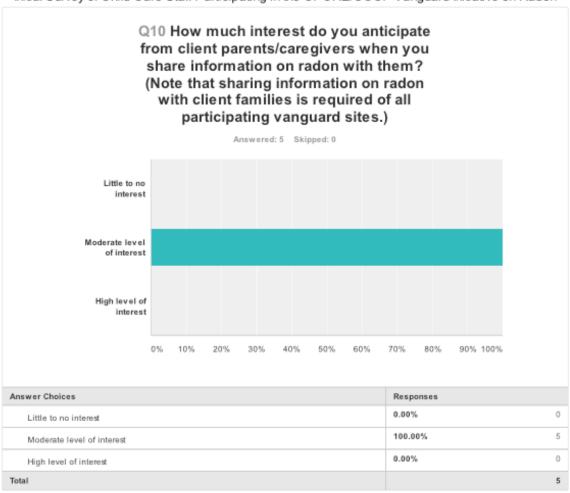
Answered: 5 Skipped: 0



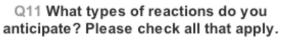
Answer Choices			
None of them	20.00%	1	
Less than or equal to 10 percent (approximately 1 in 10 families or fewer)	40.00%	2	
Approximately 20 percent (2 out of 10 families)	20.00%	1	
Approximately 30 percent (3 out of 10 families)	20.00%	1	
Approximately 40 percent (4 out of 10 families)	0.00%	0	

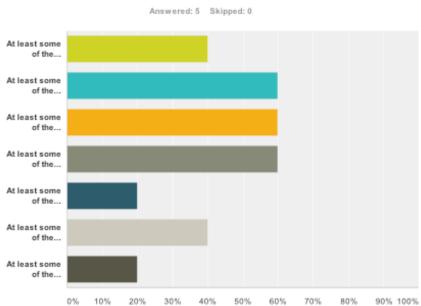
Initial Survey of Child Care Staff Participating in the CPCHE/CCCF Vanguard Initiative on Radon

Approximately 50 percent (half of the families)	0.00%	0
Approximately 60 percent (6 out of 10 families)	0.00%	0
Approximately 70 percent (7 out of 10 families)	0.00%	0
Approximately 80 percent (8 out of 10 families)	0.00%	0
Approximately 90 percent (9 out of 10 families)	0.00%	0
All of them	0.00%	0
Total		5



Initial Survey of Child Care Staff Participating in the CPCHE/CCCF Vanguard Initiative on Radon

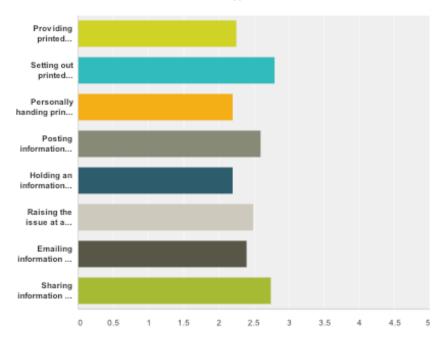




Answer Choices	Respons	es
At least some of the parents/caregivers will be alarmed and/or extremely concerned	40.00%	2
At least some of the parents/caregivers will be concerned about their child(ren) being exposed to radon in the child care centre	60.00%	3
At least some of the parents/caregivers will be concerned about their child(ren) being exposed to radon in general (including at home)	60.00%	3
At least some of the parents/caregivers will be appreciative that our centre is taking action on radon	60.00%	3
At least some of the parents/caregivers will ask to be informed of the centre's radon test results	20.00%	1
At least some of the parents/caregivers will ask how they can get their own homes tested	40.00%	2
At least some of the parents'caregivers will cancel their child's enrollment at the centre if elevated radon levels are found	20.00%	1
Total Respondents: 5		

Q12 Please rate the following methods of sharing information on radon with client families in terms of how effective (or ineffective) you believe they would be in encouraging families to take action on radon. Feel free to offer additional suggestions in the space provided.



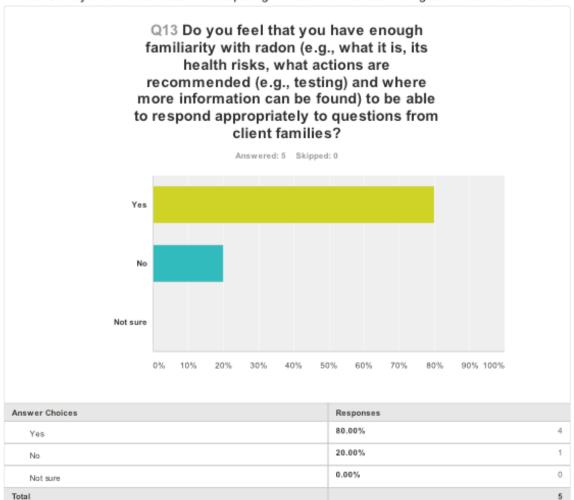


	Likely to be highly effective	Likely to be somewhat effective	Likely to be somewhat ineffective	Not likely to be at all effective	Total	Average Rating
Providing printed material via children's backpacks, agendas and/or note-totes	0.00%	75.00% 3	25.00%	0.00%	4	2.25
Setting out printed material at the centre for parents/caregivers to pick up	0.00%	60.00% 3	0.00%	40.00% 2	5	2.80
Personally handing printed materials to each family (e.g., at drop-off or pick-up time)	0.00%	80.00% 4	20.00 %	0.00%	5	2.20
Posting information (e.g., poster, bulletin board notice) in a visible location at the centre	0.00%	60.00% 3	20.00 %	20.00%	5	2.60
Holding an information session with interested parents/caregivers	20.00%	60.00% 3	0.00%	20.00%	5	2.20
Pairing the issue at a Parent Council or	0.00%	75.00%	0.00%	25.00%		

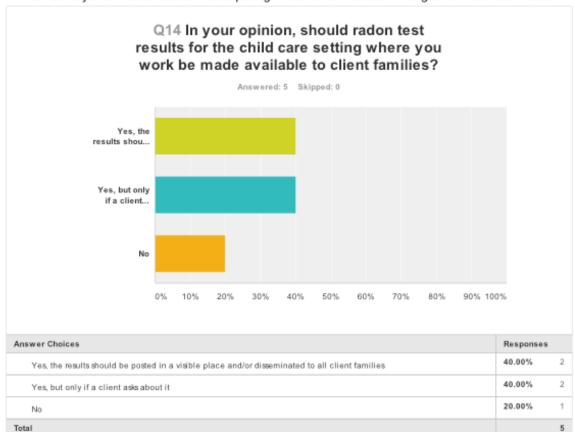
13/22

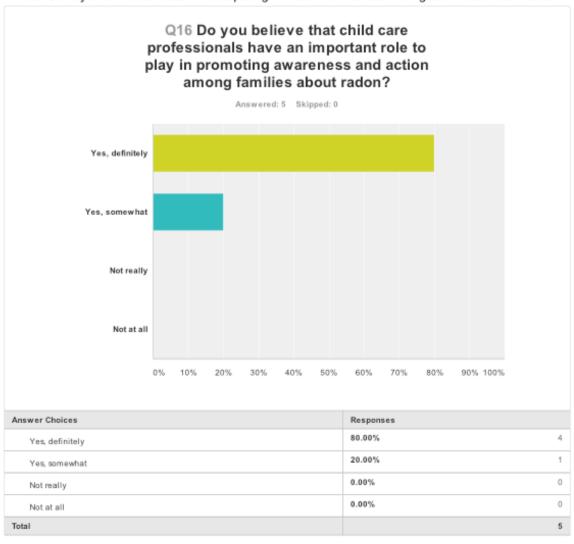
Initial Survey of Child Care Staff Participating in the CPCHE/CCCF Vanguard Initiative on Radon

Board meeting	0.00,0	3	0	1	4	2.50
Emailing information on radon to all parents/caregivers	0.00%	60.00% 3	40.00% 2	0.00%	5	2.40
Sharing information via the centre's social media (if applicable), e.g. Facebook, Twitter	0.00% 0	50.00% 2	25.00% 1	25.00% 1	4	2.75



Initial Survey of Child Care Staff Participating in the CPCHE/CCCF Vanguard Initiative on Radon



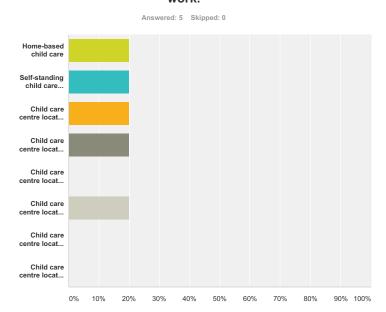


Annex 5: End-of Project Online Survey

End-of-Project Survey of Child Care Staff Participating in the CPCHE/CCCF Vanguard Initiative on Radon Awareness and Action (the "Vanguard Initiative")

SurveyMonkey

Q1 Please check the box that most closely describes the child care setting where you work.

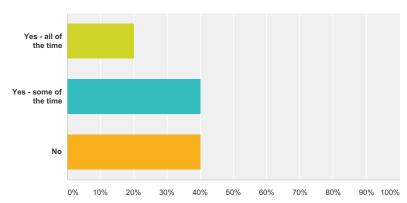


swer Choices	Responses	
Home-based child care	20.00%	
Self-standing child care facility (i.e., the child care centre is the only occupant of the building)	20.00%	
Child care centre located in a school	20.00%	
Child care centre located in a church, synagogue, mosque or other house of worship	20.00%	
Child care centre located in an office building	0.00%	
Child care centre located in an apartment building	20.00%	
Child care centre located in social housing	0.00%	
Child care centre located in a community centre, club or other community building	0.00%	
tal		

#	Other (please specify)	Date
	There are no responses.	

Q2 Do children spend time in a basement area in the child care setting where you work? (Note: elevated radon levels can occur anywhere in a building, not just the basement)



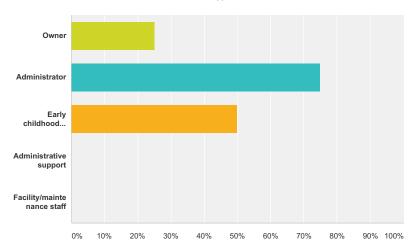


Answer Choices	Responses	
Yes - all of the time	20.00%	1
Yes - some of the time	40.00%	2
No	40.00%	2
Total		5

#	Comments (optional):	Date
1	Except when outdoors	8/7/2014 11:11 AM

Q3 Check the box that most closely describes your position at the child care centre:

Answered: 4 Skipped: 1

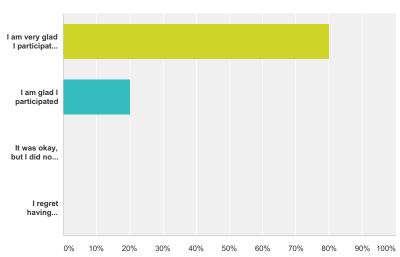


swer Choices	Responses	
Owner	25.00%	1
Administrator	75.00%	3
Early childhood educator / child care provider (working directly with children)	50.00%	2
Administrative support	0.00%	(
Facility/maintenance staff	0.00%	(
al Respondents: 4		

#	Other (please specify)	Date
1	Executive Director	8/7/2014 11:11 AM

Q4 Please select the option that most closely describes how you feel about your participation in the vanguard radon initiative:

Answered: 5 Skipped: 0

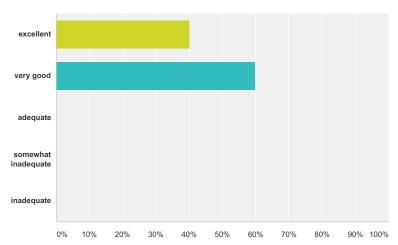


swer Choices	Responses	
I am very glad I participated – it was a valuable experience	80.00%	
I am glad I participated	20.00%	
It was okay, but I did not get much out of it	0.00%	
I regret having participated	0.00%	
al		

#	Comments:	Date
	There are no responses.	

Q5 How would you rate the support (information, guidance, etc.) that you received from CPCHE and CCCF during this project?



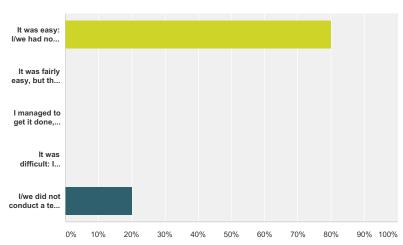


Answer Choices	Responses	
excellent	40.00%	2
very good	60.00%	3
adequate	0.00%	0
somewhat inadequate	0.00%	0
inadequate	0.00%	0
Total		5

#	Comments:	Date
	There are no responses.	

Q6 Please select the option that most closely describes your experience in conducting the radon test in your child care facility:

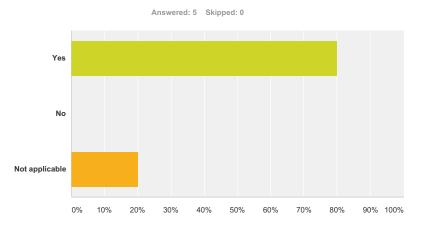




nswer Choices	Responses	
It was easy: I/we had no problems conducting the test	80.00%	4
It was fairly easy, but there was at least one thing that I/we found unclear or challenging	0.00%	0
I managed to get it done, but there were several things that I/we found unclear and/or challenging	0.00%	0
It was difficult: I/we encountered problems conducting the test	0.00%	0
I/we did not conduct a test at our facility	20.00%	1
otal		5

#	If you experienced problems or if there were things that were unclear or challenging, please describe them here:	Date
1	Didn't get the test kits out in enough time with the warmer weather and open windows,	9/2/2014 2:32 PM

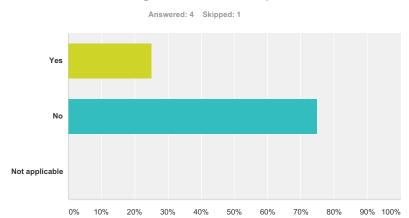
Q7 Did you receive your radon test results from Health Canada? This is the letter that you would have received in early summer with the radon level provided in Bq/m3.



Answer Choices	Responses
Yes	80.00% 4
No	0.00%
Not applicable	20.00 % 1
Total	5

#	Comments	Date
	There are no responses.	

Q8 If you answered yes to the preceding question, was your level above the Health Canada guideline of 200 Bq/m3?

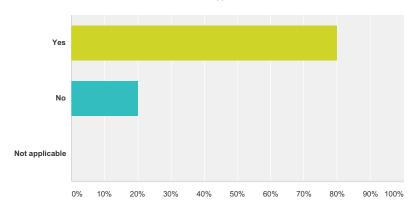


Answer Choices	Responses	
Yes	25.00%	1
No	75.00%	3
Not applicable	0.00%	0
Total		4

#	Comments	Date
1	it was boarder line so it wasn't a concern.	8/18/2014 2:18 PM

Q9 Will you share (or have you shared) your facility's radon test results with client parents/caregivers?





Answer Choices	Responses	
Yes	80.00%	4
No	20.00%	1
Not applicable	0.00%	0
Total		5

#	Comments (e.g., how were the results shared; if results not shared, what were some of the reasons)	Date
1	it was boarder line, so it's not a concern.	8/18/2014 2:18 PM
2	I have not at this point, but I do think it is a great thing to share, since we are in a church basement.	8/7/2014 11:11 AM

SurveyMonkey

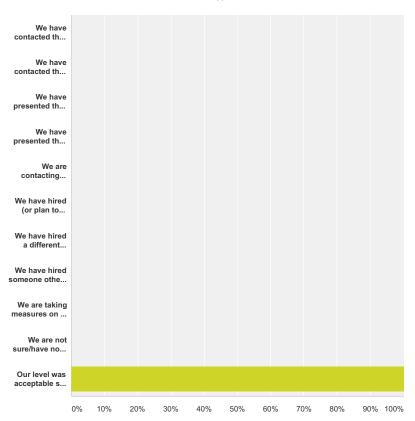
Q10 Optional: What was your radon test result? (this is the number presented in Bq/m3 that you would have received in the letter from Health Canada). Note: all responses will be kept anonymous and will not be linked in any way to your name or that of your facility.

Answered: 2 Skipped: 3

#	Responses	Date
1	31	8/11/2014 8:24 AM
2	It was 4	8/7/2014 11:11 AM

Q11 How are you and/or the management of the facility responding to this information (i.e., the radon level in your facility)?

Answered: 4 Skipped: 1



swer Choices	Respons	ses
We have contacted the landlord and requested that remediation be done, and have received a response. Please describe the nature of the response in the space provided below.	0.00%	0
We have contacted the landlord and requested that remediation be done, but have not yet received a response.	0.00%	0
We have presented the results to our Board and have received a response. Please describe the nature of the response in the space provided below.	0.00%	0
We have presented the results to our Board but have not yet received a response.	0.00%	0
We are contacting certified radon professionals to get quotes on remediation.	0.00%	0
We have hired (or plan to hire) the local certified radon professional who will do the remediation at reduced cost (i.e., the name provided to us by CPCHE/CCCF). In the space provided below, please describe what will be done.	0.00%	0

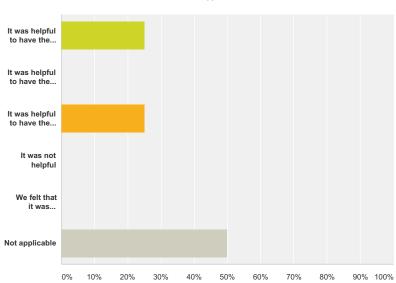
SurveyMonkey

We have hired a different certified radon professional to do a remediation. In the space provided below, please describe what will be done.	0.00%	0
We have hired someone other than a certified radon professional to do a remediation. In the space provided below, please describe what will be done.	0.00%	0
We are taking measures on our own. In the space provided below, please describe what you are doing and/or plan to do.	0.00%	0
We are not sure/have not decided how to proceed.	0.00%	0
Our level was acceptable so we are not taking any action	100.00%	4
		4

#	Other/comments:	Date
1	Did not complete testing	9/2/2014 2:32 PM

Q12 How important is it to have been provided the name of a certified radon professional who is willing to do the remediation at reduced cost?



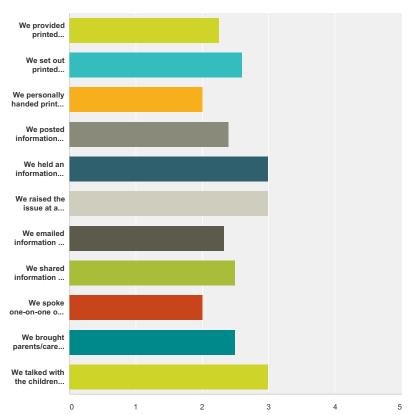


Answer Choices	Respons	ses
It was helpful to have the name of a local radon professional who is known to be qualified and competent	25.00%	1
It was helpful to have the name of a local radon professional who is willing to do the remediation at reduced cost	0.00%	0
It was helpful to have the name of a local contractor who is known to be qualified and competent and who is willing to do the remediation at reduced cost (i.e., both of the first two reasons)	25.00%	1
It was not helpful	0.00%	0
We felt that it was inappropriate for CPCHE/CCCF to provide us with the name of a local radon professional	0.00%	0
Not applicable	50.00%	2
Total		4

#	Comments	Date
1	It would be very helpful	9/2/2014 2:32 PM

Q13 Following are some ways in which child care staff could share information about radon with client parents/caregivers. Please rate the effectiveness of those that you used at your facility. Please check "N/A" for those that you did not use. If you used additional and/or different approaches, please describe them in the space provided.





	Effective	Somewhat effective	Somewhat ineffective	Not effective	N/A	Total	Average Rating
We provided printed material via children's backpacks, agendas and/or note-totes	20.00%	40.00% 2	0.00% 0	20.00%	20.00%	5	2.25
We set out printed material at the centre for parents/caregivers to pick up	0.00% 0	60.00% 3	20.00%	20.00%	0.00% 0	5	2.60

14 / 25

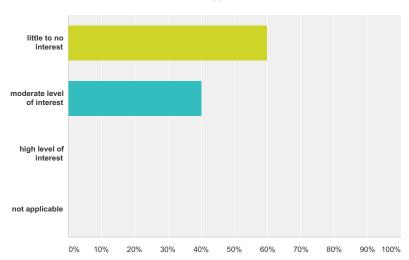
SurveyMonkey

We personally handed printed materials to each family	40.00%	0.00%	0.00%	20.00%	40.00%		
(e.g., at drop-off or pick-up time	2	0	0	1	2	5	2.00
We posted information (e.g., poster, bulletin board notice)	20.00%	40.00%	20.00%	20.00%	0.00%		
in a visible location at the centre	1	2	1	1	0	5	2.4
We held an information session with interested	0.00%	20.00%	0.00%	20.00%	60.00%		
parents/caregivers	0	1	0	1	3	5	3.0
We raised the issue at a Parent Council or Board meeting	0.00%	20.00%	20.00%	20.00%	40.00%		
	0	1	1	1	2	5	3.0
We emailed information on radon to all parents/caregivers	20.00%	20.00%	0.00%	20.00%	40.00%		
	1	1	0	1	2	5	2.3
We shared information via the centre's social media (if	20.00%	0.00%	0.00%	20.00%	60.00%		
applicable), e.g. Facebook, Twitter	1	0	0	1	3	5	2.5
We spoke one-on-one or in small groups with	40.00%	0.00%	0.00%	20.00%	40.00%		
parents/caregivers	2	0	0	1	2	5	2.0
We brought parents/caregivers into the facility to show	20.00%	0.00%	0.00%	20.00%	60.00%		
them the radon test devices	1	0	0	1	3	5	2.5
We talked with the children about radon and/or the radon	0.00%	20.00%	0.00%	20.00%	60.00%		
test devices	0	1	0	1	3	5	3.0

#	Other (please specify)	Date
1	I passed on information by hand outs, posters, and an email on the testing we were doing. Not one parent came to me to question or comment	8/7/2014 11:11 AM

Q14 How much interest did client parents/caregivers have when you shared information on radon with them?

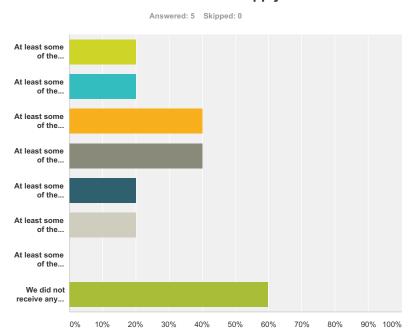
Answered: 5 Skipped: 0



Answer Choices	Responses	
little to no interest	60.00%	3
moderate level of interest	40.00%	2
high level of interest	0.00%	0
not applicable	0.00%	0
Total		5

#	Comments	Date
	There are no responses.	

Q15 What types of reactions did you get? Please check all that apply:

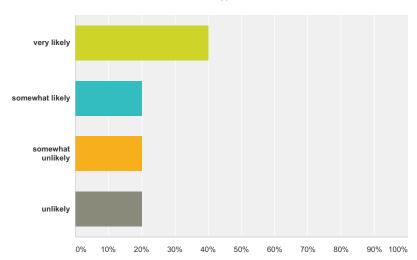


swer Choices	Respons	es
At least some of the parents/caregivers were alarmed and/or extremely concerned	20.00%	
At least some of the parents/caregivers were concerned about their child(ren) being exposed to radon in the child care centre	20.00%	
At least some of the parents/caregivers were concerned about their child(ren) being exposed to radon in general (including at home)	40.00%	
At least some of the parents/caregivers appreciated that our centre is taking action on radon	40.00%	
At least some of the parents/caregivers asked to be informed of the centre's radon test results	20.00%	
At least some of the parents/caregivers asked how they can get their homes tested	20.00%	
At least some of the parents/caregivers canceled their child(ren)'s enrollment at the centre because of concerns about elevated radon	0.00%	
We did not receive any reactions from parents/caregivers	60.00%	
al Respondents: 5		

#	Other reactions (please specify):	Date
	There are no responses.	

Q16 How likely is it that you (or others at your facility) will provide information on radon to client families in the future?





Answer Choices	Responses	
very likely	40.00%	2
somewhat likely	20.00%	1
somewhat unlikely	20.00%	1
unlikely	20.00%	1
Total		5

#	Comments	Date
	There are no responses.	

SurveyMonkey

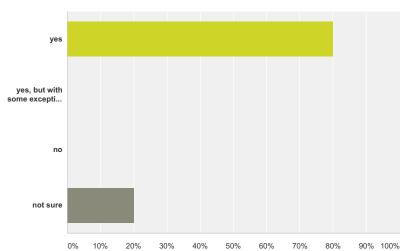
Q17 What would be helpful to make it easier for you and/or other staff to share radon information with client families? (e.g., materials, guidance, training, online resources, etc.) Please describe in the space provided. (Feel free to include comments and feedback on the materials and guidance provided by CPCHE, CCCF and Health Canada during the vanguard initiative.)

Answered: 4 Skipped: 1

#	Responses	Date
1	Information to easily attach to an email	9/2/2014 2:32 PM
2	n/a	8/18/2014 2:18 PM
3	Online resources, more coverage in the media.	8/12/2014 11:35 AM
4	It was helpful the way things went.	8/11/2014 8:24 AM

Q18 Do you think that all child care facilities should be tested for radon?



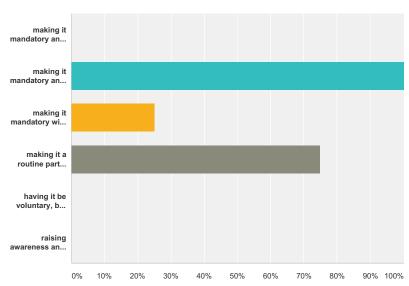


Answer Choices	Responses	
yes	80.00%	4
yes, but with some exceptions (please specify in the comment space below)	0.00%	0
no	0.00%	0
not sure	20.00%	1
otal		5

#	Comments	Date
	There are no responses.	

Q19 What would be an effective way to ensure that all child care facilities are tested for radon? (you may check more than one option)



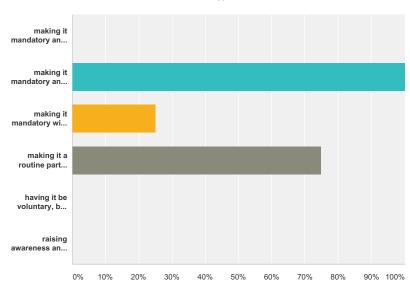


nswer Choices	Responses	
making it mandatory and letting centres purchuase their own test/service	0.00%	0
making it mandatory and providing free test kits and analysis	100.00%	4
making it mandatory with an authorized agency coming on-site to conduct the testing	25.00%	1
making it a routine part of child care licensing	75.00%	3
having it be voluntary, but providing free test kits and analysis	0.00%	0
raising awareness and providing guidance (e.g., through professional associations and conferences)	0.00%	0
tal Respondents: 4		

#	Other (please specify)	Date
1	funding is a big part of it, as home daycare providers we hardly make any income, so if we have the tests and the results come back to us, we would need funding to correct the problems if any.	8/18/2014 2:18 PM

Q19 What would be an effective way to ensure that all child care facilities are tested for radon? (you may check more than one option)



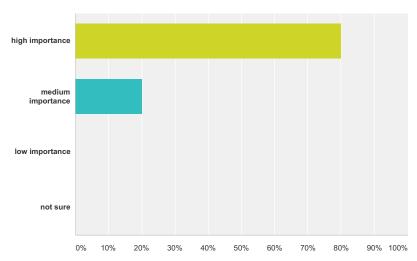


nswer Choices	Responses	
making it mandatory and letting centres purchuase their own test/service	0.00%	0
making it mandatory and providing free test kits and analysis	100.00%	4
making it mandatory with an authorized agency coming on-site to conduct the testing	25.00%	1
making it a routine part of child care licensing	75.00%	3
having it be voluntary, but providing free test kits and analysis	0.00%	0
raising awareness and providing guidance (e.g., through professional associations and conferences)	0.00%	0
tal Respondents: 4		

#	Other (please specify)	Date
1	funding is a big part of it, as home daycare providers we hardly make any income, so if we have the tests and the results come back to us, we would need funding to correct the problems if any.	8/18/2014 2:18 PM

Q20 Considering the range of health risks that can exist in indoor environments, how would you rate the importance of ensuring acceptable levels of radon in child care settings?





Answer Choices	Responses	
high importance	80.00%	4
medium importance	20.00%	1
low importance	0.00%	0
not sure	0.00%	0
Total		5

#	Comments:	Date
	There are no responses.	

Q21 Do you have any other thoughts, observations, questions or suggestions you would like to share?

Answered: 0 Skipped: 5

#	Responses	Date
	There are no responses.	

Annex 6: Transcripts of End-of-Project Interviews

Telephone Interview with Vanguard Initiative Participant, 12 August 2014

1. Did this project make you think or feel differently about the space where you work and/or your role as a child care professional?

Absolutely. Yes.

EP: Okay, do you want to elaborate in any way?

I think we, well myself personally, I kind of was under stress until those results came back. Because there was that whole thing of "what if?" what if we do have it? And I knew what we had to do next, but there is always that "what if?" Would we lose children, would parents be upset with us? There's all these questions. So when it did come and it was negative, we were very relieved.

EP: Yes, well I'm very glad to hear that that's how it ended up.

2. Tell me about the radon testing at your facility. What made it easy? What made it difficult? I think what made it really easy was there was very clear instructions given. It was very basic to put them up. They provided all, like the tape to do it... Just the instructions were very clear. So we put them up. The kids were very curious about it the first day, but then they sort of just forgot about it for the next three months. There was nothing difficult about it.

3. Is this do-it-yourself approach good, or would you prefer having someone come in to conduct the test for you?

I feel for myself it was really easy to do do-it-yourself. I feel I am a very proactive person, so I was able to do it. Umm.. if people were uncomfortable, they could maybe have the option of having someone come in to show them how to do the testing. It's always an option. I think people like having option, too, so... But it is very easy for me.

4. Tell me about when you received the letter from Health Canada with your radon test results. Did you feel that you had enough information to be able to understand the results and decide what to do?

Yes, and I think because our results were negative like, we didn't have to do anything. When we opened it and we read it, it showed us... Actually what was interesting about the results was that certain parts of our basement had a little bit... they were in the safe level but some were higher. We were just... kind of thought that was interesting that for some reason our stage area had more than any other area in the basement, so.... It was just interesting.

5. What approach or approaches did you take in sharing information on radon with client families?

Well we did that... um... It was right before Valentine's Day when we had Don and the other Erica come to our centre. And we had that presence in our locker room, and we were really able to give out that information. And especially at drop-off time, there was a lot of families that came in. And we had the little house set up with the radon test, and the kids were really interested in it. And then we were able to provide the outreach material in mailboxes and they

were able to take them home. And I guess because... they made that little heart-shaped one, the little poster, and that we printed on very colourful paper. The kids kept bringing them home with them because it was really pretty, so I guess some families got a lot more information than the others, but.... We were able to easily provide every family with the information.

6. What would you recommend to other child care professionals on how best to inform client families about radon?

Well, I think nowadays we have so much access to technology that, I guess a lot of. Well know that in our centre we're able to provide an emailing list, so we're able to send a mass email to all of our families. So there is options to it that way, we could do it the traditional way of putting it in mailboxes, in hard copies. I feel with this, the options, they're not limited. It is kind of just... what suits your centre best.

EP: And this isn't one of the interview questions, but just a follow-up on that. I your case, in this project you didn't use email, but if there was some simple message that was already pre-cooked, would that be something that you would prefer to have, in terms of just electronically forwarding rather than doing the paper, or...

It depends sometimes, like.... I am still trying to get used to this whole email thing, because you don't really know if they're actually going to read it or not. You know, so I feel that if I physically hand it to them... I know we are going to be typing up something, just sharing, you know, after this interview, just sharing the experience, the fact that our results came back negative. And I think that is something we're going to send out email-wise because it is not... I don't want to say it is not important, but... its' not... We do not have the radon in excessive amounts, so it's not something... Like, if they don't read it, it's okay.

EP: Just as a side point, whatever you write up, if that's something you feel you could share, a model for others...

Sure, yeah. I could forward that to you.

EP: That would be great.

7. Do you think child care professionals should routinely share information on radon with client families?

Oh, absolutely. Especially if they have it. I think they need to share that.

8. Do you (or your facility) plan to do so in the future?

If we were to have it?

EP: No, just in the future, like next year, would you be providing information to families on radon? This is again, more about encouraging families to test their homes.

Yeah, I think it is something that we could include. Kind of like a yearly reminder.

9. If other child care facilities were going to embark on radon testing and outreach, what could we do to make the process easier and more supportive for them?

I thought the whole experience was quite... It was very easy to access. If I had any issues, you responded quite quickly. Like very, very quickly. So, I don't think I would make any changes. I think it was really well done. I think a lot of people still don't know about radon. I know it been kind of touched upon in the media, on CBC and... But I still don't think a lot of centres know about it. So, I am not sure how to get that information out there. I did find out about this on

social media. I know there are some child care groups out there, the Child Care Federation and then there is one for Manitoba, as well, so it does have a lot of members in it, and I think that could be one way of putting it out there. And especially after, if you publish this, like you said, I think, in *Interaction*, in that one. You know its going to kind of get the word out there. It's going to take some time, but.... You know, we're six centes and we can kind of share it with other centres, and word of mouth.

EP: Allright, that's helpful. This is not a question but just a follow-up. You mentioned that it was helpful to have someone you could go to if you had questions. Do you see that as pretty important? You now, this is a more proactive project than providing information and hoping people will do it. I am just wondering your views on that. Is having a personal connection with somebody who is helping you through the process the first time, is that something that you would see as...

It was helpful. I think it was very helpful.

10. Do you have any other comments, ideas or suggestions?

I think just the only thing is to just getting the word out there about radon. Just having... I feel it would be really good to have it mandatory testing in centres. Especially in Winnipeg, like in some of our older buildings, I think it would be really important to do. And maybe even in schools as well, when centres are located in the school. I feel that would take a really long time to do but I think it is just as important. Especially if it is coming in through licensing times. I think that would be really neat to add that for us as a requirement. Because its dangerous. I wouldn't want to work in a centre that had it and didn't do anything about it. I wouldn't want to do that. I wouldn't work there. And I wouldn't put my children in the centre either.

Telephone Interview with Vanguard Initiative Participant, 12 August 2014

1. Did this project make you think or feel differently about the space where you work and/or your role as a child care professional?

Yeah, I think it did just because I really didn't now anything about radon before this. So it sort of made me think about how I need to get that information out to people because of the effects that it actually can have on children especially. So yeah, I think it made me sort of plan in the back of my head to, not just do it through this project, but to maybe do it on annual basis to share the information that I've learned. So that people can learn what they need to learn and hopefully protect themselves.

2. Tell me about the radon testing at your facility. What made it easy? What made it difficult? It really wasn't difficult. I think probably the most struggles I had was, I think – and I'm trying to remember now since it's been a while. -- but I had some confusion on... There was one that came in two bags and I wasn't sure if I was supposed to take it out of the first bag and not the second one. But other than that, I mean, it was completely easy. The directions were very good and the information was very clear. So I didn't really have any issues. It was quite simple.

3. Is this do-it-yourself approach good, or would you prefer having someone come in to conduct the test for you?

I think this was fine. But I could see the other way being good for some people. Especially, you know... I'm pretty good at like reading directions and following things. But if...for people who

are maybe too busy or maybe are not good at those types of things, it might be better for them. But I was certainly fine doing it myself.

4. Tell me about when you received the letter from Health Canada with your radon test results. Did you feel that you had enough information to be able to understand the results and decide what to do?

Well yeah, because my results were fine. So I think um, yeah. I just read the number and I knew it was well below the 200. And so I knew that was pretty much the end for us. I don't know if I would have felt differently if the number was over 200. But mine was fine, so...

5. What approach or approaches did you take in sharing information on radon with client families?

Um, so we ordered a lot of those, I guess, the tear-off sheets and the brochures and stuff, and ordered them in three different languages. Which was really nice, I thought that was great that they came in other languages. Especially like Tagalog - because we have a lot of, you know, Filipino families here. So we put those out on our parent table. And my site supervisor here put together a parent board, up in our sort of lobby entrance area, with just some of the information I had given her. She kind of took the main points and put a display together for parents to be able to see as they came and went. And I also did post the letter that I received from Health Canada with the results, and highlighted that. Yeah. So that's pretty much all we did.

6. What would you recommend to other child care professionals on how best to inform client families about radon?

Well, definitely accessing the information that you guys provided for us, in the different languages for whatever suits their facility... um... and posting that.

We're in an area where we don't get a lot of response from families to things like that. But, I always say, and I tell my staff this all the time, if even one person looks at it, that is one person who didn't before. So you, know, we kind of put that stuff out there anyway. So I think you have to know your families and know what works best. Some people, who maybe live in more affluent communities where there are people using more social media, or websites, or maybe texting and emailing. Maybe that would be a better route for them. But in my area, people don't have money. So maybe they don't have computers, maybe they don't have smart phones. So, we kind of need to stick to the paper side of stuff. So I think you have to know your families and what is the best way to connect.

EP: Just a follow-up question about the materials you used. It sounded like you used the Home Safety tear-off pads, in multiple languages. Did you also use the Health Canada brochure? It is sort of like a horizontal rectangle, you open it up, it's like a single fold brochure. I think it is orange on the cover. It is not available in the additional languages, so you might not have... I probably would have put it out. Like, whatever I would have requested did go out.

EP: Yeah, and I can check. I was just wondering, for my own purposes, for child care professionals in particular, whether the CPCHE-style stuff or the Health Canada stuff which is much more detailed about what radon is.

I think for our area, simpler is better. Like I said, it is really hard to get parents to read stuff at all. So, the simpler it is, and you know, the less writing that is in it, probably the better. Plus, we also have... we're in a community with, you know... where maybe a lot of parents wouldn't have completed high school. So, you know, the simpler it can be the better. You want to get those general points across and I think that's a success.

7. Do you think child care professionals should routinely share information on radon with client families?

Absolutely.

8. Do you (or your facility) plan to do so in the future? Yes, absolutely.

9. If other child care facilities were going to embark on radon testing and outreach, what could we do to make the process easier and more supportive for them?

Well, I think getting people the information is the most important part, because like I said, I was not even really aware of it. I mean, I'd heard the word before, but I really didn't understand anything about it. I think what I see in child care tends to be more like, people don't take action unless they're forced to, unfortunately. So, you know, if it was part of our annual licensing, or if it was mandatory, or if the tests were provided to centres. Sometimes money is a factor. 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 you know meanwhile there're only like \$40 dollars or \$50, and yet people didn't do that before it was made sort of expected of us. So I really think it... if you want to have ... there would be maybe the odd maybe centre here and there that would take it upon themselves to do it, but I think unless it 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 on a regular basis or, you know, when it should be.

10. Do you have any other comments, ideas or suggestions?

No. I think the process was really simple. I'm glad I did it. It's nice to hear, a great relief to know that we were good. So I mean again, so people who maybe did not have a good result, it might cause them some stress... But no, it was really easy to do, no issues at all and great information.

Because we've done the test, should we be doing them on an annual basis?

EP: You don't need to test your centre on an annual basis. Generally speaking – and this is kind of adapting from guidance for homes, but I think it would be quite similar for a setting like where you're working – maybe something like every five years. Unless there is a big change. Like if you get a new heating and air conditioning system in, or if they change the format of the space in some way, or if you get a new sump pump put in, or some sort of interference with the slab underneath the building. Any of those changes, I think I would retest if I were you, just, you know, anything that is changing the air flow or the potential for radon gas to come in from the surrounding soil. But otherwise, you may want to check back in every five years. But is definitely not something you have to do on an annual basis.

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Telephone Interview with Vanguard Initiative Participant, 25 August 2014

1. Did this project make you think or feel differently about the space where you work and/or your role as a child care professional?
Yes.

EP: Do you want to elaborate in any way about how?

It certainly made me aware of a whole new risk that I had not really considered. I mean I had heard of radon before, but I had never really sort of moved that to my workplace. And now I feel actually like that was not a very good thing. It should have been... It should have come to mind in terms of a risk for our children in the child care facility much quickly. And I am glad it did. It heightened my awareness definitely.

2. Tell me about the radon testing at your facility. What made it easy? What made it difficult? Well, we didn't actually do the radon testing. We thought... I thought that was being done. And you know, the reasoning was you know, I asked someone else to sort of take some ownership of that, and that wasn't able to... they weren't able to make that happen. So, unfortunately we were not able to do the testing. You know, I am hoping we are able to do that at some point, and certainly will... I will just take that on as my responsibility.

EP: Great. Was there any... do you have any sense of whether there was a particular barrier, or was it just one of those things that just didn't get done?

It was really just a timing thing. Yeah, there was... I was unable to... My intention always was that it was not going to be someone else's responsibility. And I had some staffing issues here that I needed to give some more attention to. And then, you know, the other person already has a pretty full job. So, it really was just about timing and making sure that it got done.

EP: Okay, because we're of course interested in knowing whether there was something about they way they're sent or the guidance or whatever...

Yeah, no. Nothing in that sense. Probably for me the biggest challenge that I was foreseeing was the location of the actual test kit, you know, understanding that it is not to be moved. We don't have a whole lot of flat surfaces around, and that's purposeful, 'cause you know they either tend to collect junk or dirt. You know, so I just really have to think about where I would like to put them so that they're not going to be moved a lot or disturbed.

3. Is this do-it-yourself approach good, or would you prefer having someone come in to conduct the test for you?

Well that of course would make life very simple, but um... I think by and large, the do-it-yourself approach is okay. It will certainly, I think it will exclude – I think if you look at doing it nationally or provincially, it certainly would be a barrier for, I would say, you know, I don't know, may be a third of the facilities would not be able to manage that. But no, I think it's doable. It's just, you know. People just have to commit to doing it. Myself included.

4. The next question is about getting the letter from Health Canada, so we'll skip that one for you. [Not asked: Tell me about when you received the letter from Health Canada with your radon test results. Did you feel that you had enough information to be able to understand the results and decide what to do?]

I have to tell you, the whole concept of the testing was a little anxiety producing for me. 'Cause I was... well, when I was invited to become a part of this project, my immediate question was "Well, what if it is too high? Like, what am I going to do? Almost like... Not that I want to stick my head in the sand over it, but if I don't know about it then I don't have to deal with it. So, you know, it was somewhat anxiety producing.

5. What approach or approaches did you take in sharing information on radon with client families?

I included some information about it in our spring newsletter. You know, first of all about the concept of radon, you know, just a brief little blurb and then that our centre was participating in the pilot project. We had the materials, like the printed materials, available at... we distributed them through parent mailboxes. I also had that available at

our Annual General Meeting which draws tends to draw a good proportion of families. So I was able to hand it to then as they came in the door. And that was probably the best pick-up. I could know that people were reading it and paying attention to it. So I think... I also...

we're also located within a school. So I was able to put both English and French in the... they've got an information area that is open to a large group of families. So that worked out very well.

EP: Great. Wonderful. Did you get any feedback at the AGM?

People were concerned as to why we were taking part. They wanted to know if we had a concern. And I was just able to inform them that we did not have any concerns, but when given the opportunity, we certainly wanted to participate. And many people were surprised to hear that Manitoba had such a high prevalence of radon. And certainly that was something new to me as well, so I was really glad to be able to share that information. I don't know if it resulted in anyone going out and buying a kit, but...

6. What would you recommend to other child care professionals on how best to inform client families about radon?

I think, small pieces of information given out over time. So, sort of, you know, continually giving them bits and pieces of information, you know, not just giving it all to them all at once. So, I liked my approach, in terms of, you know, a little blurb first in the newsletter and then some written information, and then an opportunity to even ask some questions at the AGM. So, I thought that worked very well.

EP: This is not one of the questions on my list, but we are wondering what the possibilities might be for this November, so if you have any advice about what we could be doing in the child care sector, following what you're saying about little bits continually coming out. We'll talk about this pilot initiative, but if there are other suggestions that we can "celebrate" Radon Action Month in November, things that you think might resonate with your colleagues... you know. Let me know if you've got any thoughts right now.

Well, you know, we do a lot of our communication via email. And I think many, many programs in Manitoba are doing that now. So even if there was something that was sent out that we could then forward to families, you know, it's quick and easy.

EP: That's a good idea. I've been wondering about that. Some of the centres are saying they do, and some are saying that their families are probably better served with paper. But yeah, something that is nicely formatted and in simple language that people could just pass on, that would be expedient.

Mmm hmm. Yeah.

7. Do you think child care professionals should routinely share information on radon with client families?

Yes, I do.

8. Do you (or your facility) plan to do so in the future?

Yes

9. If other child care facilities were going to embark on radon testing and outreach, what could we do to make the process easier and more supportive for them?

Hmm. Perhaps what would might have made a difference for me in not getting my test kits out, is...was... had someone followed up with me fairly quickly after that was expected to happen. I could have then remediated... you know, made that remediation at that time. Right. So, better to be a month late than not at all. Right. You know, then so my concern at that time was... I know we had talked about open windows and those kinds of thing. So by then I was getting to be, you know, into that situation. Which is why I never actually just went and put them out. I didn't want to have a false testing.

EP: And I am very glad that Health Canada is recognizing that and is willing to just do it this fall.

Yeah, and so... And I am not going to say that you didn't give me a reminder, but yeah, I think that would have been the...

EP: You mean, something like a more direct reminder...

Or something that I actually had to send in saying yes, I've located them in x, y, z places. 'Cause then I would have had to tell you exactly... It's hard to say "yeah I did it" when you want to know something that specific.

EP: Oh, okay. Good point. Okay.

10. Do you have any other comments, ideas or suggestions?

I don't think so. It really, it's been very... I certainly, like I said, it's heightened my awareness and its also heightened my concern. So I certainly would like to see it a little more prevalent in our community. As a... you know, we worry about bleach, we worry about all kinds of things, that's just not something that had been on my radar at all.

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Telephone Interview with Vanguard Initiative Participant, September 3rd

1. Did this project make you think or feel differently about the space where you work and/or your role as a child care professional? It certainly did.

EP: *Do you want to elaborate at all?*

It just made me realize the severity of radon in our areas and stuff. And so, yeah. I was really concerned about the children in the space. So um, I mean it worked out okay. But it really opened my eyes as to... Because I was never really aware of radon itself.

- 2. Tell me about the radon testing at your facility. What made it easy? What made it difficult? I think what... You know, it was very easy to do. I think the difficult thing was just getting myself motivated to get it done. As it sat on the corner of my desk. It of course was very easy, you just took them and set them somewhere and kept them in the same place. So., yeah. It was a lot easier than I anticipated.
- 3. Is this do-it-yourself approach good, or would you prefer having someone come in to conduct the test for you?

I think the do it yourself was fine. Like I said, the only thing was that, I think, like I said, I think I felt there was going to be a lot more involed in it. I was Like "oh my gosh, am I going to have time." But you know, there was really no time taken at all.

4. Tell me about when you received the letter from Health Canada with your radon test results. Did you feel that you had enough information to be able to understand the results and decide what to do?

I was very pleased when I got my survey back. When I got my results from Health Canada I was certainly was very pleased with their results. As I was ummm... Being situated in a basement, I was quite concerned about what our radon levels would be, and actually already thinking as to how we would be going about to try and work on this, then, to lessen the levels.

EP: Yeah, great. I know you don't need to do that, but is there anything you want to say about what approach you were planning to take? Did you have a reasonable path forward in the event that you had high levels?

You know what, I really didn't. I would have done, of course, I would have had to go to our landlord and discuss it with them. Which I had a feeling was going to be very difficult, because they had just done a fair amount of work here and knowing that this would be quite costly, also. So that was just....it was like, okay "I hope I don't have to go and talk to them about this." But I certainly was prepared to, though.

EP: That's good. This isn't on my list of questions, but I am just curious. Did you let the landlord know about your results? I wonder if they're interested in knowing.

You know and I have to tell you. I haven't. But it certainly is something that I should let them know about. So I think that's is a very good idea.

EP: They may be appreciative that their tenant has been proactive. Yeah. I will let them know actually.

5. What approach or approaches did you take in sharing information on radon with client families?

I had actually sent an email out to all our parents. We had received a fair amount of information and pamphlets when we went to our meeting. So I made sure those were all passed out and displayed at the centre.

6. What would you recommend to other child care professionals on how best to inform client families about radon?

I think just having them read the pamphlet to start off with. And um, even maybe finding... I know I didn't do that.. even finding some sites on radon and recognizing the importance of it. Because I don't think it's very well known, in the community or in Canada itself.

EP: So, when you say having them read the pamphlet, you're thinking having the child care professionals first educate themselves before trying to ...

You know what, certainly. Because, I mean, the parents are coming back to you with questions. We need to have... we don't have the answers, but we would certainly have somewhere for them to go to find those answers.

7. Do you think child care professionals should routinely share information on radon with client families? For example, about home testing, etc.

I don't see anything wrong with it. I mean if it's going to be tested the same way ours was. I mean, this was a little bit different, but I um... I know we were talking about that you certainly are able to purchase them, to do some testing in your home. And I think it would be an awesome idea. But I have to admit I haven't done it in my home. But I think it would be, especially with children involved.

8. Do you (or your facility) plan to do so in the future? Meaning, hand out radon information to your families

I certainly am. Especially to new families coming into the centre to let them know what we have done and what the levels have been.

EP: Great. And also, just a follow-up question on that: Would you also be handing them out the stuff about encouraging families to test their homes? 'Cause, in addition to doing the centre, part of the emphasis was let's get kids' homes tested.

Certainly, yeah. Pass along that information to them and then of course it kind of left in their hands at that point.

9. If other child care facilities were going to embark on radon testing and outreach, what could we do to make the process easier and more supportive for them?

Well, I don't know how much easier it could be made. Seriously. Once I did it, it really was very easy. For us, and the reason I went into it was because I read that it was free for us to do it. So, to me that was really a reason to do it, because being non-profit, there isn't a whole lot of money out there. So it's really nice to know that we are safe. So yeah, testing was very easy. And um, certainly if they were going to do this again, I certainly would yeah, tell them to do it. Because it just makes me feel better after it has been done. Like, I just feel much better about my centre after we got our levels back.

EP: Right. And if I am hearing you correctly, having the test be provided free of charge would certainly be a barrier-reducer for others? Yes, I certainly do believe that. Yes.

EP: Not that that's in the stars. There is nobody who is offering that up as of yet. Although I do think that in British Columbia there are a few public health regions that are doing that, providing test kits. But, by adn large, it still sort of on your own. This project being one tiny exception.

And you know, it is. It's just like, you know, we have our fire drills, we have our carbon monoxide. And so, I mean, I could see this becoming just a part of that. So that every centre would have it.

10. Do you have any other comments, ideas or suggestions?

Um, no. No, I'm just.... I am pleased now that I did take part in this. I know that at the beginning, and I did speak with you, that I was thinking "Oh, gosh, and I just don't have time, blah, blah." And after I read it, like I said, there was really nothing to it. I just had my dates here, remember to go pick them up at a certain time, put them in an envelope and send them away!

Interview with Vanguard Initiative Participant (participant expressed preference to respond to questionnaire via email) *Received September 3, 2014*

1. Did this project make you think or feel differently about the space where you work and/or your role as a child care professional?

Not really, it's my home and I love my home. It opened my eyes to something I wasn't aware of, and made me think how I can change it.

- 2. Tell me about the radon testing at your facility. What made it easy? What made it difficult? The program was so easy to follow and do. There was nothing hard about it. Instructions were great, support for the program was even better!
- 3. Is this do-it-yourself approach good, or would you prefer having someone come in to conduct the test for you?

Do-it-yourself is best for me, I live a very busy life with a home business and children.

4. Tell me about when you received the letter from Health Canada with your radon test results. Did you feel that you had enough information to be able to understand the results and decide what to do?

Yes there was lots of information provided. Resources and do-it-yourself solutions to lower your radon. My results were "normal". So I was happy with it.

5. What approach or approaches did you take in sharing information on radon with client families?

Each time I was provided information to share with my families I would put it in their child's back pack or hand it directly to the parents for them to do as they wished with it.

6. What would you recommend to other child care professionals on how best to inform client families about radon?

Yes I feel that all licensed daycares should be tested, if there is anyway for our health to get better that would be great. The problem would be the cost of repairs. Many home providers do not have the funds for repairs and centre's have budgets. Maybe the government could provide funding or discounts to get repairs done if required. Testing should be done every few years as buildings age.

7. Do you think child care professionals should routinely share information on radon with client families?

Yes providing families with brochures is enough. Many people don't know about Radon and the effects it can have on their health. To keep it information flowing a brochure to parents would be enough.

8. Do you (or your facility) plan to do so in the future?

If information was given to me to pass onto my families I would share it.

9. If other child care facilities were going to embark on radon testing and outreach, what could we do to make the process easier and more supportive for them?

This program is so easy to do and follow. Support sytems are in place and eduction is as well. There isn't much I'd do to change the program. It was a success for me.

<i>10</i> .	Do vou	have anv	other	comments.	ideas or	suggestions?
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Thank you for allowing me to participate as well for education me on Radon and it's effects!

Annex 7: CPCHE/CCCF Flyer for MB Child Care Association Conference







Radon: Ever heard of it?

It is **COMMON** in Manitoba and it causes lung cancer.



Find out what you can do.

Visit the CCCF booth for your free poster and hand-outs.

Avez-vous déjà entendu parler du radon?

Il est fréquemment retrouvé au Manitoba et il provoque le cancer du poumon.



Découvrez ce que vous pouvez faire.

Visitez le stand de la FCSGE pour obtenir votre affiche et vos documents gratuits.