Cross-Canada Survey of Radon Concentrations in Homes
Year 1 Interim Report



Cross-Canada Survey of Radon Concentrations in Homes Year 1 Highlights

Health Canada recently completed the analysis of the data from the first year of the Cross-Canada Survey of Radon Concentrations in Homes. This is a two year project to gather long-term (3-month or longer) indoor radon measurement results from across Canada. The goal of this study is to get a better understanding of radon levels so that we can better inform and help protect Canadians from the risks of long term radon exposure.

Over the two years of this study approximately 18,000 participants will be recruited via telephone. In the first year, approximately 9000 homes were randomly selected across all provinces and territories and a long-term radon test was conducted during the 2009/2010 fall and winter heating season. By sampling across the country as opposed to a few large cities, Health Canada will obtain a better estimate of the geographic distribution of radon levels across Canada. All participants from year 1 of the study have been informed of the specific radon results for their household and information on radon remediation was provided to those households with elevated levels.

While the radon levels in the vast majority of Canadian homes are below the current Canadian guideline of 200 Bq/m^3, first-year results indicate that approximately 7% of Canadian homes have elevated radon levels. The results from the first year of this study reinforce how important it is for Canadians to test the radon level in their homes.

The second year of the survey is underway and participant homes will be tested during the fall and winter of 2010/2011. The results from both years of testing will be released at the end of the project. All data from this study will be used to more effectively promote radon protection to those areas that are identified as most at risk.

Health Canada is working in partnership with a number of organizations to raise awareness about the risks from radon including the Canadian Lung Association, Canadian Cancer Society and the Canadian Medical Association.

Health Canada has developed a number of resources including brochures, facstsheets and guides to help Canadians learn about radon and how to protect themselves and their family by testing and reducing the level, if necessary. For more information visit www.healthcanada.gc.ca/radon.

Introduction

Radon is a radioactive gas found naturally in the environment. It is produced by the decay of uranium found in rocks and soil. Because radon is a gas, it can move freely through the soil enabling it to escape to the atmosphere or seep into buildings. Radon is invisible, odourless and tasteless, but can be easily measured.

In outdoor air the amount of radon gas is diluted and does not pose a health risk. However, radon that enters an enclosed space, such as a home or building, can sometimes accumulate to high levels. Prolonged exposure to high levels of radon is associated with an increased risk of developing lung cancer. It is estimated that about 10% of all lung cancers worldwide are related to radon exposure (WHO Handbook on Indoor Radon, pg. 16, 2009).

Health Canada collaborated with the Federal Provincial Territorial Radiation Protection Committee (FPTRPC) to review the health risk from exposure to radon and to revise the Canadian Radon Guideline. The risk assessment was based on new scientific information and was the subject of a broad Canadian public consultation in 2006. Based on the assessment and feedback from the consultation, the Government of Canada revised the guideline for exposure to radon in indoor air from 800 Bq/m^3 to 200 Bq/m^3 in June 2007.

The new guideline recommends the following:

- Remedial measures should be undertaken in a dwelling whenever the average annual radon concentration exceeds 200 Bq/m^3 in the normal occupancy area.
- The higher the radon concentration, the sooner remedial measures should be undertaken.
- When remedial action is taken, the radon level should be reduced to a value as low as practicable.
- The construction of new dwellings should employ techniques that will minimize radon entry and will facilitate post-construction radon removal, should this subsequently prove necessary.

Following the change to the Canadian guideline, Health Canada and the FPTRPC continued to work collaboratively to develop a program for the effective implementation of the new guideline. This National Radon Program consists of 5 components:

1) A National Radon Laboratory that was established in 2007 to support radon testing projects and provide expertise and advice to governments and the Canadian public;

2) Radon testing projects; which will assess the levels of radon in federal workplaces as well as residential levels across the country;

3) Development of a radon potential map of Canada. Data from Health Canada radon testing projects as well as aerial and land radiation surveys will be used in the development of a map of

radon rich areas across Canada and will assist governments in more effectively targeting their communication and outreach efforts;

4) Radon-related research projects designed to assess and reduce the health impacts from exposure to radon;

5) A public education and awareness program which focuses on homeowners, commercial building owners, the building industry and public health practitioners to raise awareness of radon and the potential health risks from exposure and to encourage Canadians to test for radon in their homes and take appropriate measures to reduce levels, if necessary.

The Cross-Canada Survey of Radon Concentrations in Homes, the subject of this report, is one of the projects Health Canada has underway as part of its National Radon Program.

Purpose

The purpose of the Cross-Canada Survey of Radon Concentrations in Homes project is to gather long-term (3-month or longer) indoor radon measurement test results from across Canada in order to:

1. Obtain an estimate of the proportion of the Canadian population living in homes with radon gas levels above the guideline of 200 Bq/m^3;
2. Identify previously unknown areas where radon gas exposure may constitute a health risk;
3. Build, over time, a map of indoor radon gas exposure levels.

The measurements were conducted during the fall and winter heating season when most homes maintain closed windows and doors and indoor radon levels tend to be highest.

The sampling included all Health Regions in Canada and will cover both rural and urban areas. “Health Region” is a term that generally applies to a geographic administrative area of responsibility for a hospital board or regional health authority, and which is ultimately defined by a provincial ministry of health. Because they are provincial administrative areas of responsibility, Health Regions are subject to change. Health Regions have become an important geographic unit by which health and health-related data are produced. Thus collection of radon measurement data by Health Region was deemed appropriate for this study.

Methodology

The study was designed to recruit 18,000 participants over two calendar years based on various qualifying criteria. Participants were recruited over the telephone by a contracted market research firm. Once they agreed to participate, recruits were then mailed a radon detector test kit and asked to deploy the detector in the lowest lived-in level of the home where someone spends at least 4 hours a day. Participants were asked to conduct a long-term test since radon levels

fluctuate in the short-term (hours to days). In order for results to be indicative of annual radon exposure, the test needs to be conducted for a period of at least three months.

The contracted market research firm was also responsible for following up with participants during the testing period. The initial follow-up was designed to make sure participants received their radon detector, installed it, and recorded the start date of the test. Follow-up was also conducted at the end of the test period to remind participants to end the test, record the stop date, complete the questionnaire, and mail-back the detector to the NRL.

After the detectors were analyzed, the NRL issued a results letter to each participant. Participants whose results were above the radon guideline of 200 Bq/m^3, also received a copy of the joint Health Canada/Canada Mortgage and Housing Corporation (CMHC) publication entitled "Radon : A Guide for Canadian Homeowners." The guide provides information about radon and in addition, describes how to reduce radon levels in the home.

Sampling Frame

The goal of the study is to recruit 18,000 participants over two years, 9000 being recruited each summer with measurements to be made in the 2009-10 and 2010-11 fall/winter (October to March) periods. As of 2007, there were 124 Health Regions in Canada, and the intent of the study was to sample homes in each of these Health Regions. Given that certain Health Regions have small populations a number of Health Regions were combined.

There were several qualifying criteria that were required to be eligible to participate in the study. Firstly, participants had to be the head of the household and 18 years of age or older. In addition, participants were required to be homeowners, and be living in their primary residence. Homes that were built on stilts or high-rise condo units that were above the second floor did not qualify. Finally, homeowners could not plan to be moving or plan to be away during the proposed timeline of the study (October to March) if they wished to participate.

Recruiting Statistics

There were 8966 participants initially recruited for year 1 of the study. A very small number of them, 23, withdrew very shortly after the recruitment phase but before the detector kits were mailed out. Thus 8943 participants were available to be mailed detector kits for year 1 of the study. Close to 100,000 calls were made by the contracted market research firm to achieve the target number of participants.

The vast majority of the Health Regions, 114 of them (94%), achieved at least 95% of their quotas for year 1 of the study. There were two Health Regions where recruitment was found to be extremely difficult.

Detector Mail Out

Detectors were shipped to participants in three waves of roughly 3000 detectors each in October and November 2009. This was conducted so that detectors would arrive back in a slightly staggered fashion, which would aid the process of analysis of detectors.

Detector Return Rates

Detector return rates by province and territory are shown below in Table 1. Return rates on a Health Region basis generally ranged from 60-90%.

Table 1: Returned detectors by province

Province	Participants	Returned detectors	Percentage Returned
British Columbia	1,195	882	73.8%
Alberta	756	517	68.4%
Saskatchewan	748	551	73.7%
Manitoba	760	558	73.4%
Ontario	2,668	1,865	69.9%
Quebec	923	747	80.9%
New Brunswick	520	392	75.4%
Nova Scotia	413	296	71.7%
Newfoundland and Labrador	480	356	74.2%
Prince Edward Island	70	55	78.6%
Yukon	137	102	73.8%
Northwest Territories	136	87	64%
Nunavut	137	66	48.2%
Total	**8,943**	**6,474**	**72.4%**

Roughly 4% of participants who had initially volunteered to participate in the study, subsequently declined to participate when they received their detector package. In the majority of these cases (75 %) the returned kits had no written explanations for declining to participate. In terms of the returned kits having explanations, the most prevalent reasons for declining to participate were due to upcoming renovations (11%), or because the participants were no longer going to be home during the fall/winter testing period (9%).

At the time of writing this report, roughly 6500 participants had returned their detectors to the NRL and roughly 6000 results had been reported. These 6500 completed tests represent roughly 75% of participants who were still active in the study. The return rate is quite reasonable, and demonstrates that Canadians are willing to participate in such a study to a significant degree.

Issues with the Testing Process

There were very few participants who had problems conducting their test. Only a small number of kits were returned by participants stating that they thought the test was too complicated. Those who required replacement items to be re-shipped to them represented 2% of participants overall. The most common items re-shipped to participants were the postage-paid return mailer (45%), the paper questionnaire (30%) and the zip-top bag (23%).

The vast majority of participants, roughly 95%, performed a long-term test (i.e., at least 90 days in duration). Only 3 % of participants conducted tests that were shorter than 84 days in length, and less than 0.1 % of participants conducted tests that were less than 30 days in duration. Participants who conducted tests shorter than 30 days were issued result letters but their results were not used in survey statistics. The average test length was 97.4 days and the median test period was 93 days.

Year 1 Results

A summary of Year 1 results in table format can be found in **Appendix 1**. The results demonstrate that radon levels vary widely across the country and that there are areas where indoor radon is more prevalent than in others. Manitoba (24.8%), New Brunswick (21.7%), Saskatchewan (16.4%), and the Yukon (15.9%) had the highest percentage of participant homes above the radon guideline based on the year 1 data. Conversely, Nunavut (0%), Northwest Territories (3.9%), and Prince Edward Island (4.5%) were lowest. It must be emphasized that these data are preliminary and the percentages may change once the second year of the survey is completed.

The results from Nunavut indicate that no radon results were found above the Canadian Radon Guideline; however, this was also noted in roughly 16% of all Health Regions sampled. This does not mean that radon will not be present at elevated levels in some homes in Nunavut and in these other Health Regions. At best this data is an estimate of the number of homes with levels above the Canadian Radon Guideline in any province/territory or Health Region. **The only way for a resident to know his/her home does not have high levels of radon is to test, regardless of location.**

Recommendations for Year 2

Despite the very high rate of compliance in year 1, an effort has been made to simplify and improve the documentation (instructions for the test and the questionnaire) for year 2 of the study. The changes were made based on feedback from NRL staff, and the contracted market research firm.

For example, there is now more emphasis placed on the items that need to be retained upon receipt of the detector package; the items are bundled together in the package as well to reduce the chance of items being thrown away or misplaced when the package is first opened; and there is also a sticker reminding the participants which items they need to retain for mailback at the end of the test period. Additional emphasis built into the year 2 detector documentation that stresses the need for participants to provide the test start and stop dates/times.

It is hoped that the number of incomplete tests will be reduced considerably in year 2 by: earlier and more frequent follow-ups; having the detectors shipped out in 2 waves in early and late October 2010; and having a slightly shorter time lag between recruitment and detector mail out.

Conclusions

The year 1 data indicates that there are several regions of the country where indoor radon is more prevalent. The current estimate of the percentage of Canadians living in homes above the 200 Bq/m^3 guideline based on the year 1 dataset is 7.4%. This percentage is slightly higher than the previous estimate of 5% of Canadians, but the current estimate is more geographically based and is also based on long-term (3-month) radon testing.

At the end of year 2 of the study, in 2011, the complete dataset will be analyzed and a complete analysis of the questionnaire responses will be undertaken to see if any correlations can be drawn between radon levels and home characteristics. The full dataset of the indoor radon concentrations will also be used to support the development of a radon potential map for Canada.

Appendix 1 – Year 1 Radon Test Results

A summary of the year 1 results is shown in the tables (Tables 2 to 3) below. Table 2 shows the percentage of participants in each province/territory with results below 200 Bq/m^3, between 200 and 600 Bq/m^3, above 600 Bq/m^3, and then above 200 Bq/m^3 (sum of the percentages between 200 and 600 Bq/m^3 and above 600 Bq/m^3). Note that these are a "raw" percentage, that is, the percentage does not consider the population of that region; it is simply the number of results in a concentration category for each province or territory divided by the total number of results for that province or territory multiplied by 100.

Table 2: **Year 1 Raw Radon Results by Province and Territory**

	"Raw" Percentage of Homes with Radon Concentrations:			
Province/Territory	Below 200 Bq/m^3	200 to 600 Bq/m^3	Above 600 Bq/m^3	Above 200 Bq/m^3
Alberta (AB)	93.3%	5.9%	0.8%	6.7%
British Columbia (BC)	92.6%	6.1%	1.3%	7.4%
Manitoba (MB)	75.2%	22.8%	2.0%	24.8%
New Brunswick (NB)	78.3%	15.6%	6.1%	21.7%
Newfoundland and Labrador (NL)	94.1%	4.7%	1.3%	5.9%
Nova Scotia (NS)	93.6%	4.9%	1.5%	6.4%
North West Territories (NT)	96.1%	3.9%	0.0%	3.9%
Nunavut (NU)	100.0%	0.0%	0.0%	0.0%
Ontario (ON)	92.6%	6.5%	0.9%	7.4%
Prince Edward Island (PE)	95.5%	4.5%	0.0%	4.5%
Quebec (QC)	91.7%	7.3%	1.0%	8.3%
Saskatchewan (SK)	83.6%	15.6%	0.8%	16.4%
Yukon Territory (YT)	84.1%	10.6%	5.3%	15.9%

Table 3 below shows the number of results and breakdown of raw percentages below 200 Bq/m^3, between 200 and 600 Bq/m^3, greater than 600 Bq/m^3, and finally above 200 Bq/m^3 in each Health Region. These are not population-weighted percentages.

Table 3: **Year 1 Raw Radon Results by Health Region**

Province or Territory	Health Region	Health Region Name	Number of Survey Participants	% Below 200 Bq/m^3	% 200 to 600 Bq/m^3	% Above 600 Bq/m^3	% Above 200 Bq/m^3
NL	1011	Eastern Regional Integrated Health Authority, Newfoundland and Labrador	45	95.6	4.4	0.0	4.4
NL	1012	Central Regional Integrated Health Authority, Newfoundland and Labrador	92	96.7	1.1	2.2	3.3
NL	1013	Western Regional Integrated Health Authority, Newfoundland and Labrador	92	92.4	6.5	1.1	7.6
NL	1014	Labrador-Grenfell Regional Integrated Health Authority, Newfoundland and Labrador	91	93.4	5.5	1.1	6.6
PE	1111	Prince Edward Island	44	95.5	4.5	0.0	4.5
NS	1201	Zone 1, Nova Scotia	42	95.2	2.4	2.4	4.8
NS	1202	Zone 2, Nova Scotia	49	98.0	2.0	0.0	2.0
NS	1203	Zone 3, Nova Scotia	46	89.1	8.7	2.2	10.9
NS	1204	Zone 4, Nova Scotia	45	97.8	2.2	0.0	2.2
NS	1205	Zone 5, Nova Scotia	41	92.7	4.9	2.4	7.3
NS	1206	Zone 6, Nova Scotia	43	88.4	9.3	2.3	11.6
NB	1301	Region 1, New Brunswick	51	90.2	7.8	2.0	9.8
NB	1302	Region 2, New Brunswick	37	91.9	8.1	0.0	8.1
NB	1303	Region 3, New Brunswick	52	82.7	9.6	7.7	17.3
NB	1304	Region 4, New Brunswick	28	75.0	21.4	3.6	25.0
NB	1305	Region 5, New Brunswick	53	73.6	20.7	5.7	26.4
NB	1306	Region 6, New Brunswick	54	66.7	14.8	18.5	33.3
NB	1307	Region 7, New Brunswick	82	73.2	23.2	3.6	26.8
QC	2401	Région du Bas-Saint-Laurent, Quebec	53	86.8	9.4	3.8	13.2
QC	2402	Région du Saguenay - Lac-Saint-Jean, Quebec	34	100.0	0.0	0.0	0.0
QC	2403	Région de la Capitale-Nationale, Quebec	47	89.4	6.4	4.2	10.6
QC	2404	Région de la Mauricie et du Centre-du-Québec, Quebec	27	100.0	0.0	0.0	0.0
QC	2405	Région de l'Estrie, Quebec	26	96.2	3.8	0.0	3.8
QC	2406	Région de Montréal, Quebec	27	92.6	7.4	0.0	7.4
QC	2407	Région de l'Outaouais, Quebec	26	100.0	0.0	0.0	0.0
QC	2408	Région de l'Abitibi-Témiscamingue,	32	96.9	3.1	0.0	3.1

		Quebec					
QC	2409	Région de la Côte-Nord, Quebec	50	100.0	0.0	0.0	0.0
QC	2410	Région du Nord-du-Québec, Quebec	105	97.1	2.9	0.0	2.9
QC	2411	Région de la Gaspésie - Îles-de-la-Madeleine, Quebec	53	71.7	22.6	5.7	28.3
QC	2412	Région de la Chaudière-Appalaches, Quebec	53	84.9	15.1	0.0	15.1
QC	2413	Région de Laval, Quebec	27	85.2	14.8	0.0	14.8
QC	2414	Région de Lanaudière, Quebec	27	92.6	7.4	0.0	7.4
QC	2415	Région des Laurentides, Quebec	31	90.3	9.7	0.0	9.7
QC	2416	Région de la Montérégie, Quebec	56	89.3	10.7	0.0	10.7
QC	2417	Région du Nunavik, Quebec	7	100.0	0.0	0.0	0.0
QC	2418	Région des Terres-Cries-de-la-Baie-James, Quebec	3	100.0	0.0	0.0	0.0
ON	3526	District of Algoma Health Unit, Ontario	38	94.7	5.3	0.0	5.3
ON	3527	Brant County Health Unit, Ontario	42	83.3	16.7	0.0	16.7
ON	3530	Durham Regional Health Unit, Ontario	43	100.0	0.0	0.0	0.0
ON	3531	Elgin-St. Thomas Health Unit, Ontario	38	92.1	5.3	2.6	7.9
ON	3533	Grey Bruce Health Unit, Ontario	34	76.5	23.5	0.0	23.5
ON	3534	Haldimand-Norfolk Health Unit, Ontario	47	95.7	4.3	0.0	4.3
ON	3535	Haliburton, Kawartha, Pine Ridge District Health Unit, Ontario	43	93.0	7.0	0.0	7.0
ON	3536	Halton Regional Health Unit, Ontario	42	100.0	0.0	0.0	0.0
ON	3537	City of Hamilton Health Unit, Ontario	45	95.6	4.4	0.0	4.4
ON	3538	Hastings and Prince Edward Counties Health Unit, Ontario	40	85.0	10.0	5.0	15.0
ON	3539	Huron County Health Unit, Ontario	44	90.9	9.1	0.0	9.1
ON	3540	Chatham-Kent Health Unit, Ontario	76	86.9	11.8	1.3	13.1
ON	3541	Kingston, Frontenac and Lennox and Addington Health Unit, Ontario	45	84.4	15.6	0.0	15.6
ON	3542	Lambton Health Unit, Ontario	73	90.4	9.6	0.0	9.6
ON	3543	Leeds, Grenville and Lanark District Health Unit, Ontario	51	86.3	11.7	2.0	13.7
ON	3544	Middlesex-London Health Unit, Ontario	46	97.8	2.2	0.0	2.2
ON	3546	Niagara Regional Area Health Unit, Ontario	48	95.8	0.0	4.2	4.2
ON	3547	North Bay Parry Sound District Health Unit, Ontario	47	97.9	2.1	0.0	2.1
ON	3549	Northwestern Health Unit, Ontario	88	85.2	11.4	3.4	14.8
ON	3551	City of Ottawa Health Unit, Ontario	29	93.1	6.9	0.0	6.9

ON	3552	Oxford County Health Unit, Ontario	48	93.7	4.2	2.1	6.3
ON	3553	Peel Regional Health Unit, Ontario	32	100.0	0.0	0.0	0.0
ON	3554	Perth District Health Unit, Ontario	41	92.7	7.3	0.0	7.3
ON	3555	Peterborough County-City Health Unit, Ontario	47	89.4	10.6	0.0	10.6
ON	3556	Porcupine Health Unit, Ontario	42	97.6	2.4	0.0	2.4
ON	3557	Renfrew County and District Health Unit, Ontario	42	90.5	9.5	0.0	9.5
ON	3558	Eastern Ontario Health Unit, Ontario	44	97.7	0.0	2.3	2.3
ON	3560	Simcoe Muskoka District Health Unit, Ontario	52	98.1	1.9	0.0	1.9
ON	3561	Sudbury and District Health Unit, Ontario	44	100.0	0.0	0.0	0.0
ON	3562	Thunder Bay District Health Unit, Ontario	50	90.0	8.0	2.0	10.0
ON	3563	Timiskaming Health Unit, Ontario	43	95.3	4.7	0.0	4.7
ON	3565	Waterloo Health Unit, Ontario	46	93.5	6.5	0.0	6.5
ON	3566	Wellington-Dufferin-Guelph Health Unit, Ontario	41	92.7	4.9	2.4	7.3
ON	3568	Windsor-Essex County Health Unit, Ontario	84	90.5	7.1	2.4	9.5
ON	3570	York Regional Health Unit, Ontario	47	100.0	0.0	0.0	0.0
ON	3595	City of Toronto Health Unit, Ontario	25	96.0	4.0	0.0	4.0
MB	4610	Winnipeg Regional Health Authority, Manitoba	29	82.8	17.2	0.0	17.2
MB	4615	Brandon Regional Health Authority, Manitoba	21	61.9	38.1	0.0	38.1
MB	4620	North Eastman Regional Health Authority, Manitoba	37	73.0	24.3	2.7	27.0
MB	4625	South Eastman Regional Health Authority, Manitoba	49	95.9	4.1	0.0	4.1
MB	4630	Interlake Regional Health Authority, Manitoba	47	68.1	31.9	0.0	31.9
MB	4640	Central Regional Health Authority, Manitoba	50	58.0	36.0	6.0	42.0
MB	4645	Assiniboine Regional Health Authority, Manitoba	46	54.3	41.3	4.4	45.7
MB	4660	Parkland Regional Health Authority, Manitoba	47	59.6	31.9	8.5	40.4
MB	4670	Nor-Man Regional Health Authority, Manitoba	92	82.6	17.4	0.0	17.4
MB	4685	Burntwood/Churchill, Manitoba	83	91.6	8.4	0.0	8.4
SK	4701	Sun Country Regional Health Authority, Saskatchewan	48	85.4	14.6	0.0	14.6
SK	4702	Five Hills Regional Health Authority, Saskatchewan	56	83.9	14.3	1.8	16.1
SK	4703	Cypress Regional Health Authority, Saskatchewan	45	68.9	28.9	2.2	31.1

SK	4704	Regina Qu'Appelle Regional Health Authority, Saskatchewan	25	72.0	20.0	8.0	28.0
SK	4705	Sunrise Regional Health Authority, Saskatchewan	45	66.7	33.3	0.0	33.3
SK	4706	Saskatoon Regional Health Authority, Saskatchewan	23	95.7	4.3	0.0	4.3
SK	4707	Heartland Regional Health Authority, Saskatchewan	45	80.0	20.0	0.0	20.0
SK	4708	Kelsey Trail Regional Health Authority, Saskatchewan	38	78.9	21.1	0.0	21.1
SK	4709	Prince Albert Parkland Regional Health Authority, Saskatchewan	47	93.6	6.4	0.0	6.4
SK	4710	Prairie North Regional Health Authority, Saskatchewan	46	91.3	8.7	0.0	8.7
SK	4714	Mamawetan/Keewatin/Athabasca, Saskatchewan	81	93.8	6.2	0.0	6.2
AB	4821	Chinook Regional Health Authority, Alberta	46	91.3	8.7	0.0	8.7
AB	4822	Palliser Health Region, Alberta	41	92.7	4.9	2.4	7.3
AB	4823	Calgary Health Region, Alberta	27	92.6	7.4	0.0	7.4
AB	4824	David Thompson Regional Health Authority, Alberta	45	91.1	8.9	0.0	8.9
AB	4825	East Central Health, Alberta	37	94.6	2.7	2.7	5.4
AB	4826	Capital Health, Alberta	23	95.7	4.3	0.0	4.3
AB	4827	Aspen Regional Health Authority, Alberta	93	91.4	7.5	1.1	8.6
AB	4828	Peace Country Health, Alberta	89	91.0	7.9	1.1	9.0
AB	4829	Northern Lights Health Region, Alberta	76	100.0	0.0	0.0	0.0
BC	5911	East Kootenay Health Service Delivery Area, British Columbia	46	78.3	17.4	4.3	21.7
BC	5912	Kootenay-Boundary Health Service Delivery Area, British Columbia	43	69.8	25.6	4.6	30.2
BC	5913	Okanagan Health Service Delivery Area, British Columbia	50	82.0	16.0	2.0	18.0
BC	5914	Thompson/Cariboo Health Service Delivery Area, British Columbia	51	96.1	3.9	0.0	3.9
BC	5921	Fraser East Health Service Delivery Area, British Columbia	40	97.5	2.5	0.0	2.5
BC	5922	Fraser North Health Service Delivery Area, British Columbia	43	100.0	0.0	0.0	0.0
BC	5923	Fraser South Health Service Delivery Area, British Columbia	29	100.0	0.0	0.0	0.0
BC	5931	Richmond Health Service Delivery Area, British Columbia	24	100.0	0.0	0.0	0.0
BC	5932	Vancouver Health Service Delivery Area, British Columbia	39	97.4	2.6	0.0	2.6
BC	5933	North Shore/Coast Garibaldi Health Service Delivery Area, British	23	95.7	4.3	0.0	4.3

		Columbia					
BC	5941	South Vancouver Island Health Service Delivery Area, British Columbia	45	100.0	0.0	0.0	0.0
BC	5942	Central Vancouver Island Health Service Delivery Area, British Columbia	52	100.0	0.0	0.0	0.0
BC	5943	North Vancouver Island Health Service Delivery Area, British Columbia	42	100.0	0.0	0.0	0.0
BC	5951	Northwest Health Service Delivery Area, British Columbia	88	93.2	4.5	2.3	6.8
BC	5952	Northern Interior Health Service Delivery Area, British Columbia	96	91.7	6.2	2.1	8.3
BC	5953	Northeast Health Service Delivery Area, British Columbia	81	90.1	8.7	1.2	9.9
YT	6001	Yukon	94	84.1	10.6	5.3	15.9
NT	6101	Northwest Territories	76	96.1	3.9	0.0	3.9
NU	6201	Nunavut	59	100.0	0.0	0.0	0.0