Monitor Introduction

This RRFSS Monitor provides information about the proportion of the population that has awareness about radon and its health effects, as well as the proportion of households that have been tested, or plan to test for radon. For information about radon, its health effects, and testing of your home, please refer to: http://chd.region.waterloo.on.ca/en/healthyLivingHealthProtection/radon.asp.

There were 799 adults aged 18 years and older in Waterloo Region included in this module in 2012/2013. The questions in this module were asked from September to December, 2012 and 2013 (cycles 12 and 15). Estimates are presented with 95% confidence intervals (CI) and appear in the following format: XX.X% (CI: XX.X-XX.X). Tests of significance were performed on the data and all statistically significant differences were determined by p-values less than 0.05.

This monitor specifically focuses on the combined results from 2012/2013, although any statistically significant differences between 2012 and 2013 are also noted.

Waterloo Region Fast Facts:
- 51.3% (CI: 47.5-55.1) of adults have heard of radon
- 7.0% (CI: 4.5-9.5) of households who have heard of radon, have had their home tested for radon
- 75.3% (CI: 70.9-79.7) of adults who have heard of radon, report radon can be harmful to your health
- 38.0% (CI: 32.1-43.9) of adults who have heard of radon, report radon exposure can cause lung cancer

Half of Waterloo Region adults have heard of radon

In 2012/2013, 51.3% (CI: 47.5-55.1) of Waterloo Region adults reported having heard of radon. This proportion did not differ significantly between 2012 and 2013 (48.1% (CI: 42.8-53.3) versus 54.7% (CI: 49.3-60.1)).

Significant differences existed by sex, level of education, and level of household income

Men were more likely than women to have heard of radon in 2012/2013 (57.8% (CI: 51.9-63.8) versus 46.7% (CI: 41.8-51.5)).

Similarly, adults who had completed post-secondary education were significantly more likely to have reported having heard of radon than adults with less than a high school education, and adults with a high school diploma (Figure 1). As well, adults who had some post-secondary education were significantly more likely to have heard of radon than adults with less than a high school education (Figure 1).
Figure 1: Per cent of adults who had heard of radon, by level of education, Waterloo Region, 2012/2013

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed post-secondary</td>
<td>61.0</td>
</tr>
<tr>
<td>Some post-secondary</td>
<td>58.3</td>
</tr>
<tr>
<td>High school diploma</td>
<td>38.8</td>
</tr>
<tr>
<td>Less than high school</td>
<td>28.6 E</td>
</tr>
</tbody>
</table>

xy, z ... Represent statistically significant differences between two proportions (%) with a p-value of less than 0.05, e.g., two proportions with an "x" next to them are statistically different from each other. An "E" denotes high sampling variability, and estimates must be interpreted with caution.

Overall, 63.4% (CI: 55.7-71.1) of adults who reported a household income of less than $100,000 had heard of radon. This proportion was statistically higher than all income groups except for the $70,000-$99,999 household income group (Figure 2); the highest income group has greater awareness of radon than the lowest income groups.

Figure 2: Per cent of adults who had heard of radon, by level of household income, Waterloo Region, 2012/2013

<table>
<thead>
<tr>
<th>Household Income</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100,000 or more</td>
<td>63.4</td>
</tr>
<tr>
<td>$70,000-$99,999</td>
<td>55.9</td>
</tr>
<tr>
<td>$40,000-$69,999</td>
<td>45.3</td>
</tr>
<tr>
<td>Less than $40,000</td>
<td>39.7</td>
</tr>
<tr>
<td>Don't know/Refused</td>
<td>47.7</td>
</tr>
</tbody>
</table>

xy, z ... Represent statistically significant differences between two proportions (%) with a p-value of less than 0.05, e.g., two proportions with an "x" next to them are statistically different from each other.
No significant differences existed by age group, or municipality of residence.

**Television and newspaper most common sources of information for hearing about radon**

In 2012/2013, **26.3%** (CI: 21.4-31.3) of Waterloo Region adults, who had heard of radon, had heard about it from watching television; the next most common source of information was the newspaper at **22.4%** (CI: 17.6-27.2) (Figure 3).

**Figure 3: Per cent of adults who had heard of radon, by source of information, Waterloo Region, 2012/2013**

*Respondents were allowed to provide multiple answers. An “E” denotes high sampling variability, and estimates must be interpreted with cautions. An “F” denotes unacceptable sampling variability, and estimates or conclusions based on these data will be unreliable and most likely invalid.

Only two in every five Waterloo Region adults identified that radon exposure can cause lung cancer

In 2012/2013, **75.3%** (CI: 70.9-79.7) of adults in Waterloo Region, who had heard of radon, correctly reported that radon can be harmful to your health. However, only **38.0%** (CI: 32.1-43.9) of adults in Waterloo Region, who had heard of radon, correctly reported that radon exposure can cause lung cancer, the only known health risk associated with long-term exposure to elevated levels of radon.
Less than 10% of Waterloo Region households have tested for radon

In 2012/2013, 7.0%\(^{E}\) (CI: 4.5-9.5) of Waterloo Region households who had heard of radon had tested their homes for radon, 81.3% (CI: 77.5-85.2) had not tested for radon, and 11.7% (CI: 8.5-14.8) did not know or refused to answer. These proportions did not differ significantly between 2012 and 2013. No clear reason for completing the testing was identified and reportable.

Of the households that had heard of radon, but had not tested for radon, 5.7%\(^{E}\) (CI: 3.8-7.6) report planning to do so, while 79.3% (CI: 76.9-82.6) do not plan on testing; 15.0% (CI:12.1-17.9) did not know or refused to answer.

The main reason reported for planning to test for radon was concern about the health risks of radon (54.8% (CI: 36.3-73.4)) while households not planning to test for radon listed several common reasons for not planning to test that are summarized in Figure 4.

Figure 4: Per cent of households who have heard of radon, have not tested and do not plan to test their home for radon, by reason for not testing, Waterloo Region, 2012/2013

*Respondents were allowed to provide multiple answers. An “E” denotes high sampling variability, and estimates must be interpreted with cautions. An “F” denotes unacceptable sampling variability, and estimates or conclusions based on this data will be unreliable and most likely invalid.

About RRFSS survey

Information here is presented from the Rapid Risk Factor Surveillance System (RRFSS). RRFSS is an on-going telephone survey occurring in participating public health units across Ontario. On a monthly basis, a random sample of approximately 100 adults aged 18 and older are interviewed regarding risk behaviours of importance to public health. The survey is conducted by the Institute for Social Research.
Analyzed questions (total weighted sample = 799)

- Have you heard about radon? (weighted n=788)
  - Where did you hear about radon? (weighted n=339)
    - Television
    - Newspaper
    - Word of Mouth
    - Print Materials
    - Internet/Website/Online
    - Radio
    - Passive Visual Media
    - Health Professional
    - Other
    - Don't Know/Refused
- Do you agree or disagree that radon exposure can...
  - ...be harmful to your health.
  - ...cause headaches.
  - ...cause asthma or other breathing conditions.
  - ...cause lung cancer.
- Has your dwelling been tested for radon? (unweighted n=195)
- Why did you test for radon? (unweighted n=14)
  - Someone in the dwelling smokes
  - Concerned about the health risks
  - Heard about the new Health Canada action guideline
  - Received a free test kit
  - Encouraged by a radon campaign
  - Knows someone that tested their dwelling
  - Other
  - Don't know/Refused
- Do you, or anyone in your dwelling, plan to test for radon? (unweighted n=388)
- Why do you plan on testing for radon? (unweighted n=19)
  - Someone in the dwelling smokes
  - Concerned about the health risks
  - Heard about the new Health Canada action guideline
  - Received a free test kit
  - Encouraged by a radon campaign
  - Knows someone that tested their dwelling
  - Other
  - Don't know/Refused
- Why do you not plan on testing for radon? (unweighted n=277)
  - Not important/Low risk
  - Don't know how to test
  - Cost
  - Lives above the second floor of an apartment building
  - Not the homeowner (rents or leases)
  - Time
  - Don't want to reduce property values
  - Other
  - Don't know/Refused

Analyzed indicators

- Per cent of (18+) who have heard of radon
- Per cent of adults (18+) who have heard of radon by information source
- Per cent of adults (18+) who have heard of radon and report radon exposure can be harmful to your health
- Per cent of adults (18+) who have heard of radon and report radon exposure can cause headaches
- Per cent of adults (18+) who have heard of radon and report radon exposure can cause asthma or other breathing conditions
- Per cent of adults (18+) who have heard of radon and report radon exposure can cause lung cancer
• Per cent of adults (18+) who have heard of radon and report radon exposure can cause other cancers besides lung cancer
• Per cent of adults (18+) who have heard of radon and report smoking can make radon exposure more harmful to your health
• Per cent of households who have heard of and tested for radon
• Per cent of households who have heard of and tested for radon by reason for testing
• Per cent of households who have heard of radon, have not tested for radon, but plan to test for radon
• Per cent of households who have heard of radon, have not tested for radon, but plan to test for radon, by reason for testing
• Per cent of households who have heard of radon, have not tested for radon and do not plan to test for radon, by reason for not testing

Important definitions and cautions
• All data were analyzed according to the RRFSS Manual of Operations. The superscript “E” denotes high sampling variability, and estimates must be interpreted with caution. The superscript “F” denotes unacceptable sampling variability, and estimates or conclusions based on these data will be unreliable and most likely invalid. The sample was weighted to reflect the number of adults in a household.
• A “module” in RRFSS is generally a self-contained group of questions on a specific public health topic. Generally, modules may be added or taken off the RRFSS every four month period (cycle) of the on-going survey system.
• Confidence intervals (an estimated range of values in which the true parameter likely lies) and coefficient of variation (a measure of the distribution of data points) were calculated using unweighted sample sizes and weighted estimates.
• Chi Square tests of significance were performed and statistically significant differences were determined by p-values less than 0.05.
• The survey was only administered in English, using a random digit dialing methodology and represents the behaviours, attitudes, and beliefs of adults in Waterloo Region.
• Responses which include “don’t know” and “refused” were generally removed from analysis when they represent less than 5% of the sample.
• Responses which include “don’t know” and “refused” were excluded from sub-group analyses.
• The “Townships” category includes Wilmot, Woolwich, Wellesley and North Dumfries.
• The category of “employed full-time” includes those who were employed full-time for wages or who were self-employed. The category of “employed part-time” included those who worked part-time because of family obligations or because they were retired or a student.
• The category of a “couple relationship” included those who were married, living with a partner, or common-law. The category of a “single relationship” included those who were widowed, separated, never married, or divorced.

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