Natural Exposure in Ireland: Our Experience of Risk Communication

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NEA Workshop on Stakeholder Involvement: Risk Communication
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Communicating radon risk in Ireland

Almost **500,000** people live in homes above the reference level of **200 Bq/m³**

300 people contract radon related lung cancer every year
Communicating radon risk in Ireland
Thrilled to host EPA briefing on radon in Oireachtas yesterday. Next week is Radon Awareness in Clare @EPARadiation

The Facts:
- One in six homes tested in Mayo have high radon levels
- Radon causes up to 250 lung cancer cases each year in Ireland
- Radon gas affects us all, but the risk is greater for smokers
- You cannot see, smell or taste radon gas
- A simple test can tell you whether your home is safe

Visit www.epa.ie or Freefone 1800 300 600

Home has radon dose equal to nine X-rays

Treacy Hogan
Environment Correspondent

A FAMILY home has been discovered to have 13 times the safe level of lung cancer causing radon gas.

The RPII has been running extensive campaigns in Sligo and Clare, with high radon counties urging people to test for the gas which is responsible for as many as 200 lung cancer deaths annually.

David Gannon, senior RPII selector, said: “The identification of this house is a further reminder that many people throughout the country are living with dangerous levels of radiation in their homes.

In a statement yesterday the Radiological Protection Institute of Ireland (RPII) said the household, who had checked for radon, took immediate action and had a radon sump installed under the home.

“Everyone needs to take this matter seriously and measure radon levels in their homes to ensure that they and their families are not at risk from the hazardous gas,”

Mr. Gannon also said that on the institute’s website www.rpii.ie anyone could search for their own address on an interactive map to see if their home or workplace was in a high radon area, and find out how to have a measurement taken.
1 in 6 Mayo people lives with a killer.

One in six Mayo homes has dangerous levels of Radon. It’s a naturally occurring gas, but it can cause lung cancer. Radon led to 195 deaths in Ireland last year.

It’s invisible and it has no smell or taste, so you won’t know it’s there. But a simple inexpensive test can tell you if your home is safe. Nobody should live with the risk of Radon.

Order your test now. Freephone 1800 300 600. Or go to www.epa.ie.

The Radon Test
What have you got to lose?

10,000 people in Co. Clare have had their homes tested for Radon. Have you?

Radon is a naturally occurring gas, which can cause lung cancer and is linked to some 250 lung cancer cases per year in Ireland. It is invisible and has no smell or taste, so you won’t know it’s there. A simple inexpensive test can tell you if your home is safe. Don’t let your family live with the risk of Radon.

Order your test now Freephone 1800 300 600 Or go to www.epa.ie

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Radon Campaigns 2010 - 2016
How effective were we?

- 75% aware of radon gas
- 56% aware of link with lung cancer
- 27% concerned about radon in their home
- 21% likely to test for radon
- 58% know to go to EPA for information
How were effective we?

- 5,000 homes tested
- 800 homes identified with high radon levels
- 80 with very high radon levels
Learning: High levels of awareness do not lead to action

- Typical response rate of 1% (where a kit costs €50)
- Typical response rate of 22% (where a kit is free)
- Cost is a barrier but there are much more significant barriers
- Where high radon is measured, typically only 1 in 5 homeowners remediate
- Why?
Health psychology review
We don’t act rationally to health threats

Radon risk communication is based on an assumption that individuals will act rationally in relation to the information.

We process information about a health threat using both our minds and our emotions.

And once our emotions get involved, we tend to respond defensively to information about health threats.
Recommendations

Be realistic about how much change can be achieved through risk communication

1. Make testing for radon “normal” and visible

2. Shift responsibility solely from the householder by bringing in more government regulation

3. Regulation needs to be supported by high quality information about risks

4. Information needs to be “stage matched” – messages should match their target audience
1. Making Radon “Normal” & Visible

https://www.youtube.com/playlist?list=PLFesobjWT1FhjQuTBjZFZv6zq4yPwE3B8
1. Radon Ambassadors
Making Radon “Normal” & Visible

10 THINGS TO KNOW ABOUT...
Showcasing the best in Irish scientific research – Series 4 coming soon!
1. Online Articles
making Radon “Normal” & Visible

lowering Co2 emissions, claims lobby group
Increasing wind energy is not the answer to decreasing the country’s carbon emissions, according to...
- Ireland to miss 2020 emissions targets and would need carbon tax of €70 per tonne...
- Ireland is worst country in Europe for taking action to tackle climate change

relentless rain takes its toll
Farmers fear they are the first Irish victims of climate change as a fodder crisis looms on the horizon because of incessant rain since July and a shortage of consecutive dry days.

State delays funding for new homes over social housing fears
The Government is refusing to approve State funding for one-in-six housing schemes because it’s not clear how many of the homes built will be ‘affordable’.
- FTSB claims that trackers restored to all are ‘baloney’
- More homeless than ever relying on shelter

We know the dangers but we’re still not testing our homes for radon
Ireland has one of the highest average indoor concentrations of radon gas in the world, with some of the highest levels of radon concentrations anywhere in Europe found in homes and workplaces here

Sinn Féin defies €35 cost of signed Gerry Adams’ book

Radon gas can seriously damage your family’s health
Radon is a cancer-causing gas that can be detrimental to the health of your...
1. The Media Making Radon “Normal” & Visible

Some 460,000 people at risk from cancer-causing radon gas

Scientists produce new map showing areas at risk from radon gas

© Tue, May 23, 2017, 13:05 | Updated: Tue, May 23, 2017, 18:12

Elaine Edwards

According to Trinity College scientists, one in 10 of the population is at risk from radon gas.

Up to 460,000 people in the State – one in 10 of the population – are at risk from unsafe exposure to indoor radon gas, which may cause lung cancer.

Radon levels in Wicklow home were equal to 56 X-rays a day

Environmental Protection Agency calls for people to test their homes for the gas

© Mon, Nov 20, 2017, 16:09

Dan Griffin

Residents of a house in Co Wicklow were exposed to a radiation dose which was equivalent to 56 chest X-rays a day because of the amount of radon in the area, the Environmental Protection Agency (EPA) has said.
Future work:
Making Radon “Normal” & Visible

CERTIFICATE OF RADON TESTING

This is to certify that

has been tested and found to have a level of radon gas below the reference level 300Bq/m³.

Testing was done in compliance with S.I. 30 of 2019 and the Safety Health and Welfare at Work Act (2005)

Testing was undertaken by ..................................
Name of company ............................................. (EPA Registered Radon Measurement Service)
Date of test report issued ........................................

Radon is a cancer-causing gas. For more information on radon visit www.radon.ie or Freephone 1800 300 600. Supported by the Environmental Protection Agency
2. More Regulation
Future work:
More regulation

2020 revision of the Building Regulations that require new homes to be protected from radon

Green Party launch a Bill to cut the impact of cancer-causing radon gas and improve rental housing standards
3. Supporting regulation with high quality information about radon risk

www.radon.ie

Free Phone 1800 300 600

radon@epa.ie
3. Supporting regulation with high quality information about radon risk

**Radon Day 2017:**
- Press release resulting in 7 interviews on local radio
- Advertisements on national radio
- Features on two TV shows
- Twitter @EPARadiation

**Radon Day 2018:**
- Research students presenting their work in a high radon area with a local man telling the story of the death of his family members from radon (supported by EPA)
- Interviews with radon ambassadors
- Press release
- Advertisements on national radio
- Twitter @EPARadiation
Future information campaigns: Targeted messages

Radon Day 2019:

- **Target audience 1**: Homeowners who have tested their homes but not yet remediated (approx. 80% of those that test).
- Pilot test to lend digital monitors through a library in a small town
- Launch will invite homeowners to an evening talk and allow them to borrow monitors for 3 weeks to confirm their high results
- Anecdotally, homeowners are much more likely to remediate once they have used a digital monitor

- **Target audience 2**: Estate Agents & those buying a home

- These targeted messages will be underpinned with press releases in local high risk areas highlighting local data
How do we measure effectiveness?

**Lagging indicators:**

- Provides information that may not be sufficiently timely to helpfully direct ongoing actions eg health outcomes for long latency diseases

**Leading indicators:**

- Give a real-time measure of progress towards reducing exposure
- They can then be used as reliable evidence that the long term objective will be achieved
# Lagging indicators

<table>
<thead>
<tr>
<th>No.</th>
<th>Metric</th>
<th>Metric Value(s)</th>
<th>Year measured</th>
<th>Repeat frequency</th>
<th>Proposed year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Population weighted national average indoor radon concentration</td>
<td>98 Bq/m$^3$ (Arithmetic mean)</td>
<td>2017</td>
<td>8 years</td>
<td>2025</td>
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<td></td>
<td></td>
<td>3 years arithmetic mean</td>
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<tr>
<td></td>
<td></td>
<td>8 years arithmetic mean</td>
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<tr>
<td>2</td>
<td>Geographic weighted national average indoor radon concentration</td>
<td>77 Bq/m$^3$ (Arithmetic mean)</td>
<td>2015</td>
<td>8 years</td>
<td>2023</td>
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<tr>
<td></td>
<td></td>
<td>51 Bq/m$^3$ (Geometric mean)</td>
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<td></td>
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<td>Mean for homes built Pre 98 vs post 98:</td>
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<td></td>
<td></td>
<td>86 Bq/m$^3$ vs 64 Bq/m$^3$</td>
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<tr>
<td>3</td>
<td>Radon awareness levels</td>
<td>75% with 21% likely to test their home</td>
<td>2017</td>
<td>3-5 years</td>
<td>2020</td>
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<td>4</td>
<td>Number of domestic radon tests</td>
<td>1327</td>
<td>Annual average for 2014 -to date</td>
<td>Annual</td>
<td>2018</td>
</tr>
<tr>
<td>5</td>
<td>Number of radon tests associated with conveyancing</td>
<td>To be established in 2018</td>
<td>N/a</td>
<td>Annual</td>
<td>2018</td>
</tr>
<tr>
<td>6</td>
<td>Remediation rate</td>
<td>22%</td>
<td>2015</td>
<td>5 years</td>
<td>2020</td>
</tr>
<tr>
<td>7</td>
<td>Rate of successful outcome for those who remediate</td>
<td>70% on first attempt</td>
<td>2015</td>
<td>5 years</td>
<td>2020</td>
</tr>
<tr>
<td>8</td>
<td>Radon remediation training course: No. of courses held and annual attendance</td>
<td>5 courses held (including 1 pilot) 87 attendees</td>
<td>2016</td>
<td>Dependent on scheduling of training course</td>
<td>To be decided</td>
</tr>
<tr>
<td>9</td>
<td>Radon prevention training course: No. of courses held and annual attendance</td>
<td>5 courses held (including 1 pilot) 78 attendees</td>
<td>2017</td>
<td>Annual</td>
<td>To be decided</td>
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Case study: financial support

- Feedback consistently says that cost is a reason for not taking action
- Research survey looking at providing financial incentives for radon testing and remediation
- 1400 invitations issued to randomly selected homes in parts of Co. Galway and Co. Roscommon
- Participants offered a free radon test and grant of 50% of the cost of remediation (max €500)
How did it work out?

1400 invitations

1136 delivered
(how many opened?)

232 participants

196 valid measurements

9 homes above 200 Bq/m³

3 homes fixed!
Next steps or is this as good as it gets?

Research with Behavioural economists from Economic Social and Research Institute of Ireland

Design a survey that tests different communications and measures the uptake rates

Implement in Q1 2020........
Thank you for your attention!