DEALING WITH POOR DRINKING WATER QUALITY IN PRIVATE WELLS: The Effectiveness of a Communications Strategy in Influencing Behavioural Change

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Overview

- Regulation of Drinking Water in Ireland
- Risk to Human Health
- EPA Action
- Implementation of the Strategy
- Assessment of Effectiveness
- Lessons Learnt
- Proposed Work
Public Water Supplies (Irish Water) – regulated by EPA

Private Regulated Supplies (community run, housing estates and commercial supplies) – regulated by City and County Councils

Private Wells (Exempted Supplies) – City and County Councils only required to ensure well owners are aware of risk and provide advice

170,000 single house wells
- E. coli incidents down >90% in public supplies
- EPA became the supervisory authority in 2007
170,000 private wells serving single households in Ireland

- Private wells are unregulated in Ireland (exempted supplies)
- Estimated that up to 30% have *E. coli*
- Ireland has the highest rate of VTEC in Europe
- VTEC cases are 4 times more likely where private well water consumed
- 100% increase in VTEC in 2012 (over 700 cases in 2013)
- Only 32% of private wells have some form of treatment
- 40% of cases the well water was not regularly tested
The aim is to improve awareness of the risks and to reduce the incidence of contaminated water reaching consumers taps

Purpose:

- **Target rural communities with private wells**
  Raise awareness and inform them of issues that directly affects them but they may not know about

- **Deliver in partnership with others**
  Communicate with the stakeholders whose members are directly affected private well issues
  Improve channels with stakeholders to get message out to the public

- **Creating awareness and enabling behaviour change**
Strategy Framework

- What do we want to achieve?
- Who can make it happen?
- What do they need to hear?
- Who do they need to hear it from?
- How can we make sure they hear it?
- What do we have/need?
- How do we begin?
- How can we tell if it is working?

**Goal**
- The goal of the strategy is to ensure that well owners:
  - Become aware of the risks to their private well water.
  - Check whether their water is safe to drink.
  - Take any necessary action to ensure their supply is safe and secure.

**Scientific Evidence**
- Health Protection Surveillance Center provided evidence of the increasing rate of VTEC illness in Ireland.
- VTEC patients were four times more likely to have consumed untreated well water.
- EPA reported that 30% of groundwater monitoring locations were contaminated by E.coli.
- A study by Hynd 2012 found that E.coli was found in 29% of private wells, that only 40% of well owners had their well water tested and that 68% of the supplies had no form of treatment.

**Stakeholders/Audiences**
- Local authorities
- National/international bodies
- Other key Departments and Agencies
- Service providers
- Environmental NGOs
- Public
- Media

**Key Messages**
- Private wells in Ireland are at risk of contamination.
  - Just because your water looks safe does not mean it is safe to drink.
  - Drinking contaminated water can cause serious illness.
  - It is important that your well is constructed and sealed properly.
  - Many private wells do not have any form of treatment, if contaminated then treatment may be necessary.
  - Visually check your well to make sure there are no sources of contamination nearby.
  - Test your well water once a year for microbial contamination, ideally after heavy rain.

**Channels**
- Meetings with stakeholder groups
- Presentations at national and EU meetings
- Dissemination of information to all stakeholders
- National, Regional and Newsletter articles
- Website redevelopment
- Web application
- Animations
- Press releases and regional articles
- National and local radio interviews and national TV programmes

**Metrics**
- Web Application usage
- Animation views
- Website hits
- Grant uptake
- Media interest
- Water testing rates
- Illness associated with water supplies
EPA resources

- Website
- Infographics
- Posters
- Animation
- Social media (Twitter, Facebook, YouTube)
- Web Application http://erc.epa.ie/water/wells
EPA Actions

- Dissemination of information through all stakeholders (>80,000 leaflets)
- Articles for EPA newsletter, Rural Water News, Groundwater Newsletter, EI newsletter, Sherkin Comment
- Presentations at Water Event, Environmental Awareness Officers Meeting, ENDWARE, UK Private Well meeting, IWRA (Edinburgh)
- Information stands at the Ploughing Championship, Young Scientist Exhibition, Environment Ireland
- Letter to all Drillers in telephone directory outlining the issues with poor construction plus a copy of the EPA Advice Note and leaflets
- Advertisement in Farmer’s Journal national newspaper
Working with others (1)

- In partnership with **health professionals**
  - Joint Press release with HSE on private wells
  - HSE Spokesperson
  - Dissemination of information through
    - Environmental health officers
    - General practitioners
    - Public Health doctors
    - Posters and leaflets in GP offices, health centres etc.
Working with others (2)

- In partnership with **local authorities**
  - Environmental awareness officers deliver messages to schools and local communities
  - Leaflet distribution to all offices, libraries etc.
  - Placing the posters in public places such as libraries, art centres etc.
  - Changing screensaver and background messages on public PCs in libraries etc. Example - “Clean Water is Vital for your Health. Is your Septic Tank a risk?”
Working with others (3)

- State Agencies and Voluntary Organisations
  - GSI
  - An Taisce
  - NFGWS
  - Farming organisations
  - Environmental NGOs
- Professional Organisations
- Industry Bodies
- Well drillers
So, did it work?
## Assessment of Metrics

<table>
<thead>
<tr>
<th>Metric</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>Awareness of campaign/risks to private wells</strong></td>
<td></td>
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<tr>
<td>Media interest</td>
<td>47 newspaper articles, 3 TV interviews, 21 radio interviews, Ear to the Ground and EcoEye (400,000 viewers)</td>
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<td>Animation views</td>
<td>850 views in YouTube</td>
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<tr>
<td>Newsletters/e-Zines</td>
<td>e.g. Sherkin Comment – 24,000</td>
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<tr>
<td>EPA website hits</td>
<td>10,000 unique page hits</td>
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<td>Web application usage</td>
<td>435 responses and 6692 hits</td>
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<tr>
<td><strong>Behavioural changes</strong></td>
<td></td>
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<tr>
<td>Grant uptake</td>
<td>13% increase in money re-cooped to LA</td>
</tr>
<tr>
<td>Well testing rates</td>
<td>23% increase in test numbers</td>
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Metric Assessment (2)

- Illness rates

![Illness rates graph](image-url)
New Desk Study Research

- Communicating Risk Based Enforcement (Relay_Risk) (2013-W-DS-12)
  - Currently examining ways to deliver risk based messages effectively in order to improve knowledge and promote behavioural change
  - Investigating the appropriate metrics in order to determine the effectiveness of the engagement strategies
  - The findings of this project will be published in mid 2015
    - Will inform further assessment and the development of future strategies
Proposed Work

- Joint Information Seminars for
  - Drillers
  - NGO’s
- Further meetings with AnTaisce
  - Green Homes
  - Green Schools
- Assessment of Metrics
  - Application of Research Project Findings
- Integration with the septic tank campaign
  - Information seminar for inspectors
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