



Communicating Risk

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- Focus Group Participants and Interviewees
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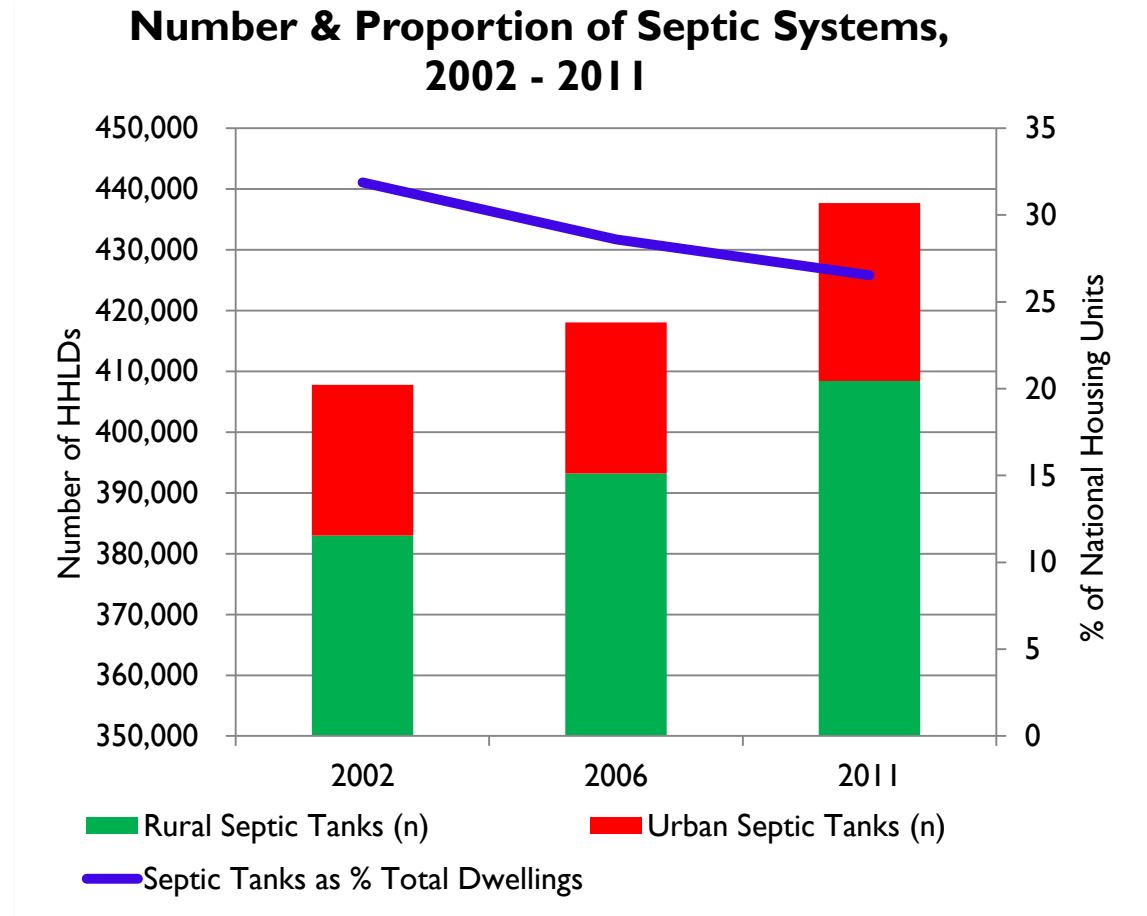
Relay Risk

A project concerned with examining communication of environmental *risks* (incl. contamination of groundwater) associated with *septic tanks*

Ireland's DWWTS Profile:

- 27% households rely on septic systems ($n=437,652$)*
- 68% rural households rely on septic systems*
- Risk of ground water & surface water pollution

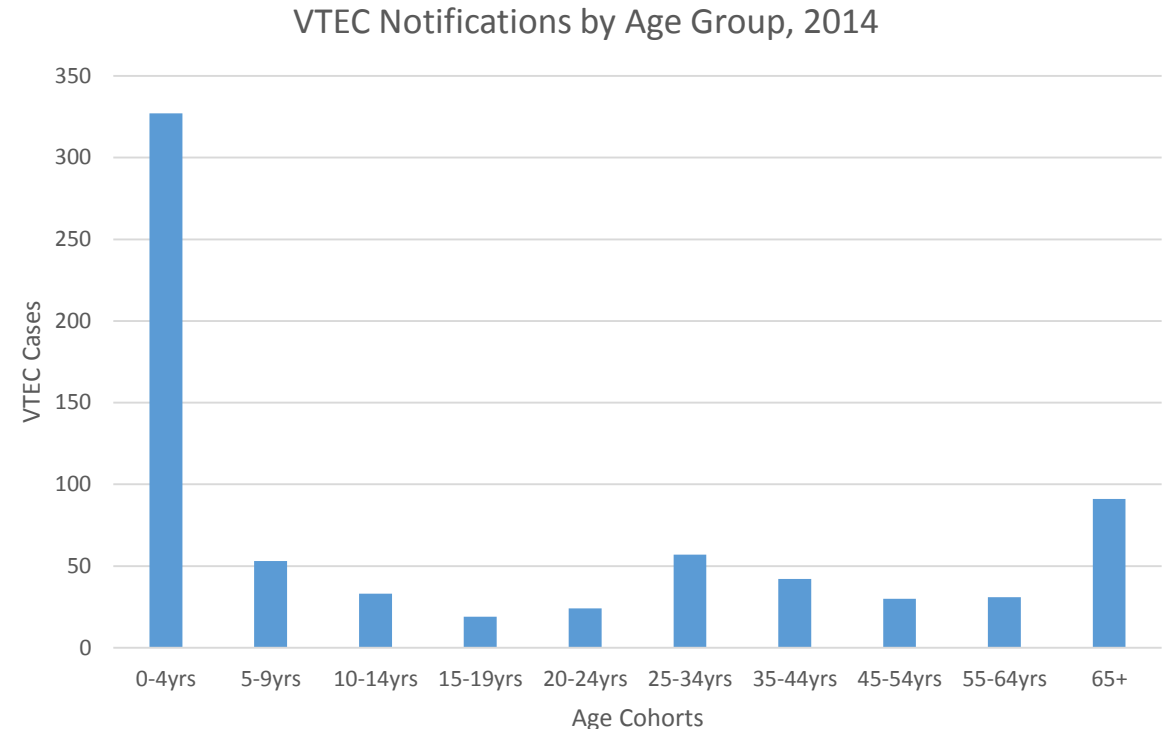
*Central Statistics Office, 2012



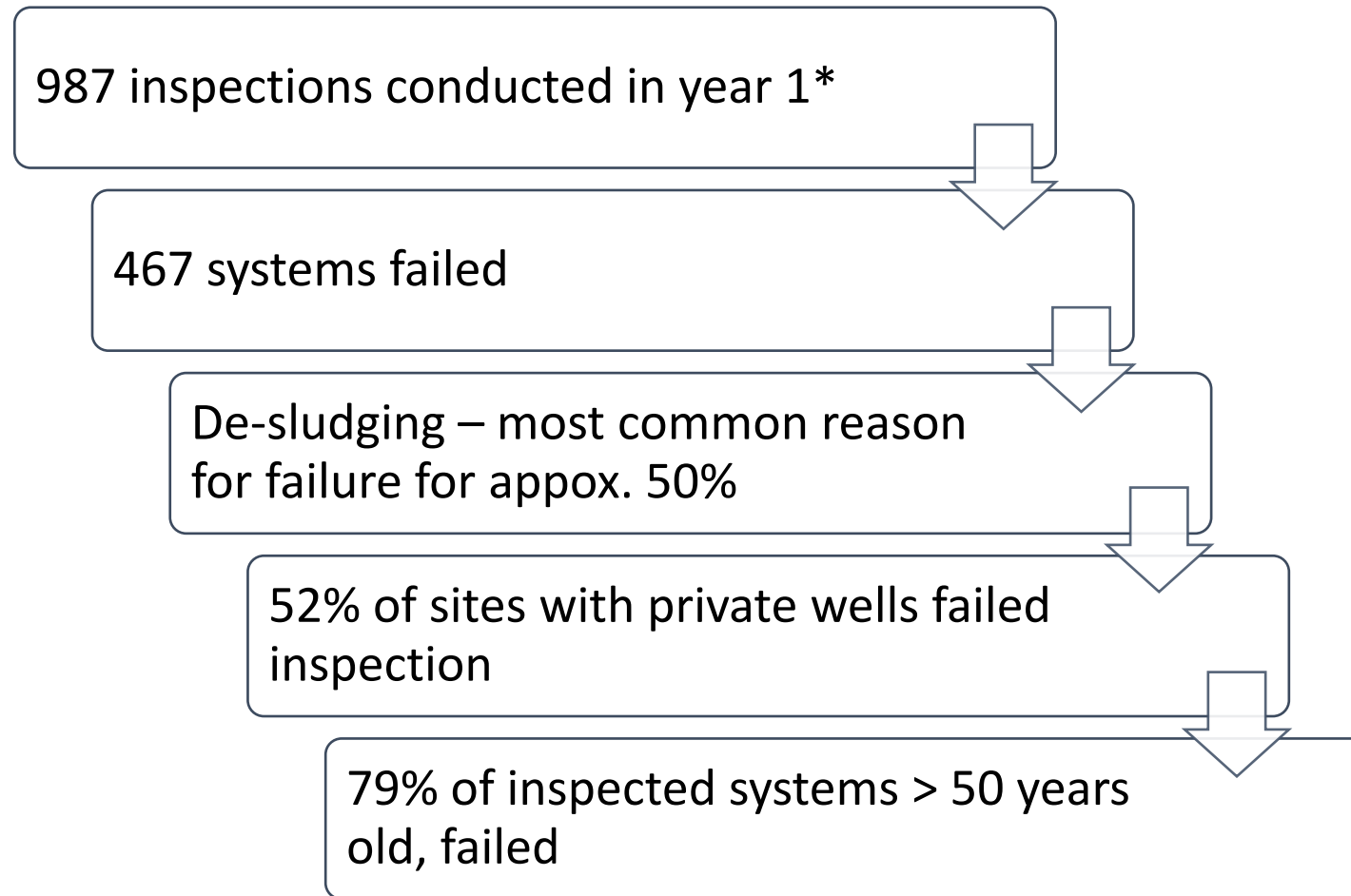
Water Quality Implications

- Groundwater – drinking source for 202,000 rural households
- High rate of Ecoli contamination of rural water supplies
- Highest crude incidence rate VTEC in European Union*
 - with potential for lifelong kidney problems
- One source is waterborne transmission associated with exposure to water from untreated or poorly treated private water sources

*Health Protection Surveillance Centre, 2012



National Inspection Plan



*EPA, 2015

- Why do so many households not undertake recommended maintenance behaviours?
- Is the risk to health not recognised?

What is risk?

- Risk is understood and interpreted in different ways; by experts; by lay people
- Think about these scenarios?
 - Car weaving over and back across motorway lanes at high speed;might say that was a risky manoeuvre
 - Weather forecast says that there is high risk of rain or hail today
 - A community opposes an industrial [chemical] plant as it is seen to be too risky

Risk

Is a construct typically comprising a combination of:

- probability (statistical likelihood), and
 - consequence (anticipated damage/impact)
-
- Such constructs helps people think about risk in a rational and purposeful manner for decision making (*risk as analysis*)
-
- BUT, people often act intuitively in response to risk i.e. an affective response to something whereby judgements are influenced by feelings (i.e. *risk as feeling*) – dread, fear, worry

Risk Perception

- Risk is perceived or interpreted differently by different people
- Their perception of risk can influence their behaviour
- It can act as a barrier to people behaving 'rationally'

Some key characteristics of risk perception

Benefits (benefit-risk tradeoff)

Voluntariness of exposure

Familiarity (old / new)

Man-made or technological

Personal control

Visibility (visible or hidden)

Trust in risk control

Identifiability of victims

Some factors influencing risk perception

- Individual interpretation and experience
- Socio-economic
 - age, gender, marital status, education, income, and housing tenure
- Geographical
 - distance or proximity to a hazard is a significant determinant of risk perception
 - elevation also shown to be significant for flood risk perception

Framing also influences perception

- Framing is a concept used to organise and interpret an event or issues.
- Individuals and organisations usually use previous experience as a framing device for both reasoning, making judgments and public communication.
e.g. framing as gain or loss outcomes and in terms of local or distant impacts can affect perceptions
- The media is more than just a source of information about risk; it helps shape public opinion and how issues are initially framed

No one-size-fits-all solution to problems of flooding

THE IRISH TIMES
Friday, January 15, 2016



Eoin O'Neill Opinion

The election is styming debate and feeding unrealistic expectations of what flood defences can achieve

Arising from the wettest December ever recorded in most parts, many of our rivers have spread across their flood plains, exposing people and properties to hazardous flooding.

While the damage and displacement is a source of extreme psychological and financial distress among affected families, when viewed unemotionally the scale of damage on an aggregate basis is not large by European standards and manageable from a national perspective.

Nevertheless, the increasing challenges associated with climate change mean that we now require a national discussion about how we, as a society, want to design our built environment and manage flooding within it, whilst recognising the constraints imposed by flood plains.

Unfortunately this debate is some way off occurring, with the electoral cycle fashioning the messages that people want to hear.

This was not the case during the coastal storms and flooding in 2014 when there were clearer messages that everywhere cannot be protected, that resources must be prioritised, and that consideration

must be given to coastal retreat and non-structural measures.

Albeit in an inland flooding context, the strength of these messages has shifted subtly over recent months. In the run-up to this flooding episode flood-risk management plans were described as being about combining structural (defence) and non-structural measures. However, the plans are now being framed more simplistically as ones that will generate "solutions", with heavy reference to the structural measures and with mixed messages about the idea of relocation as a policy measure.

This approach raises unrealistic expectations as to what is likely to be feasible or deliverable within a reasonable time horizon.

An approach solely reliant on flood defences no longer represents the optimal approach to managing flood risk, with combinations of measures across a catchment now evidenced as good international practice.

What should also be apparent is that communication about risk is important. Policymakers, politicians, and lay people may use the same words when speaking about the management of flood risk but in some instances they are talking about different approaches that have not been fully articulated.

Damages

Policymakers do not conceive of flood risk simply as a possible extreme flood event, but instead view it as the product of combining the likelihood of flooding and the anticipated damages.

So when politicians make assertions about emergent plans containing solutions to address flood risk along the Shannon, it is not unreasonable for the public to infer that a large body of flood defence works may begin in the short run.

However, it would be wise to reconsider carefully what has actually been said, taking account of non-structural measures that reduce damages.

Moreover, a risk-based approach helps. In terms of communities putting their

www.irishtimes.com/opinion/ireland-s-flood-problem-is-small-but-a-rethink-is-required-1.2497083

Ireland's flood problem is small but a rethink is required

Election is styming debate and feeding unrealistic expectations of what flood defences can achieve

© Fri, Jan 15, 2016, 02:21

Eoin O'Neill



Flood defences in Holland. Making space for floodwaters is the concept now being pursued by the Dutch because it affords greater protection by seeking to replicate natural processes.

Does media portrayal or framing of issues matter?

Editorials »

Queen Elizabeth's 90th birthday
Britain's monarch a continuing symbol of unity

Erosion of competitiveness threat
to economic recovery

National Competitiveness Council highlights costs of rents, borrowing and childcare as Ormaiztegui sets poor example on pay

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Una Mullally



Una Mullally:
Dublin is buzzing but where are the dance clubs?

John McManus



John McManus:
How does Joshua Molloy differ from the Supermarket Jihadi?

Fintan O'Toole



Stephen Collins



"Managing flood risk: we need to improve our communication and have a national debate"

Developmental Stages in Risk Management

- All we have to do is get the numbers right
- All we have to do is tell them the numbers
- All we have to do is explain what we mean by the numbers
- All we have to do is show them that they've accepted similar risks in the past
- All we have to do is show them that it's a good deal for them
- All we have to do is treat them nice
- All we have to do is make them partners
- All of the above

Source: Fischhoff, B., 1995. Risk perception and communication unplugged: twenty years of process. *Risk analysis*, 15(2), pp.137-145.

How risk is communicated

- Verbal or numerical statements, for example:
 - A scale of event or memory recall of event
 - Probability of occurrence in any given year (e.g. 1-in-100 year)
- OR
- Percent chance of occurrence in any given year (e.g. 1 per cent chance)

How risk is communicated matters; format depends on your audience.

Relay Risk

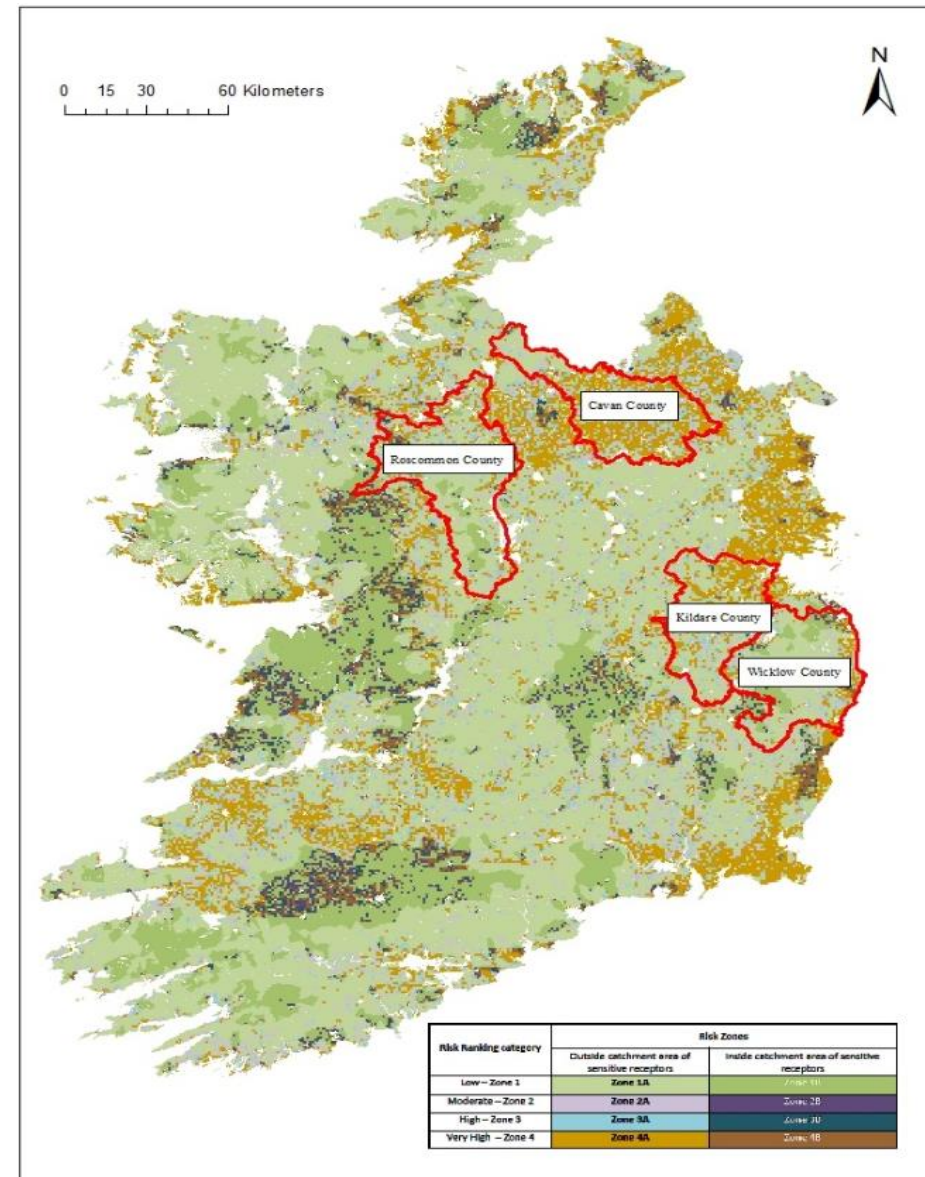
- A project concerned with examining communication of environmental *risks* (incl. contamination of groundwater) associated with *septic tanks*

Source: O'Neill E, Devitt C, Waldron R, Bullock C, 2016. *Relay Risk: Examining the Communication of Environmental Risk through a Case Study of Domestic Wastewater Treatment Systems in the Republic of Ireland*. EPA Research Report 167. Wexford: Environmental Project Agency. Available online.



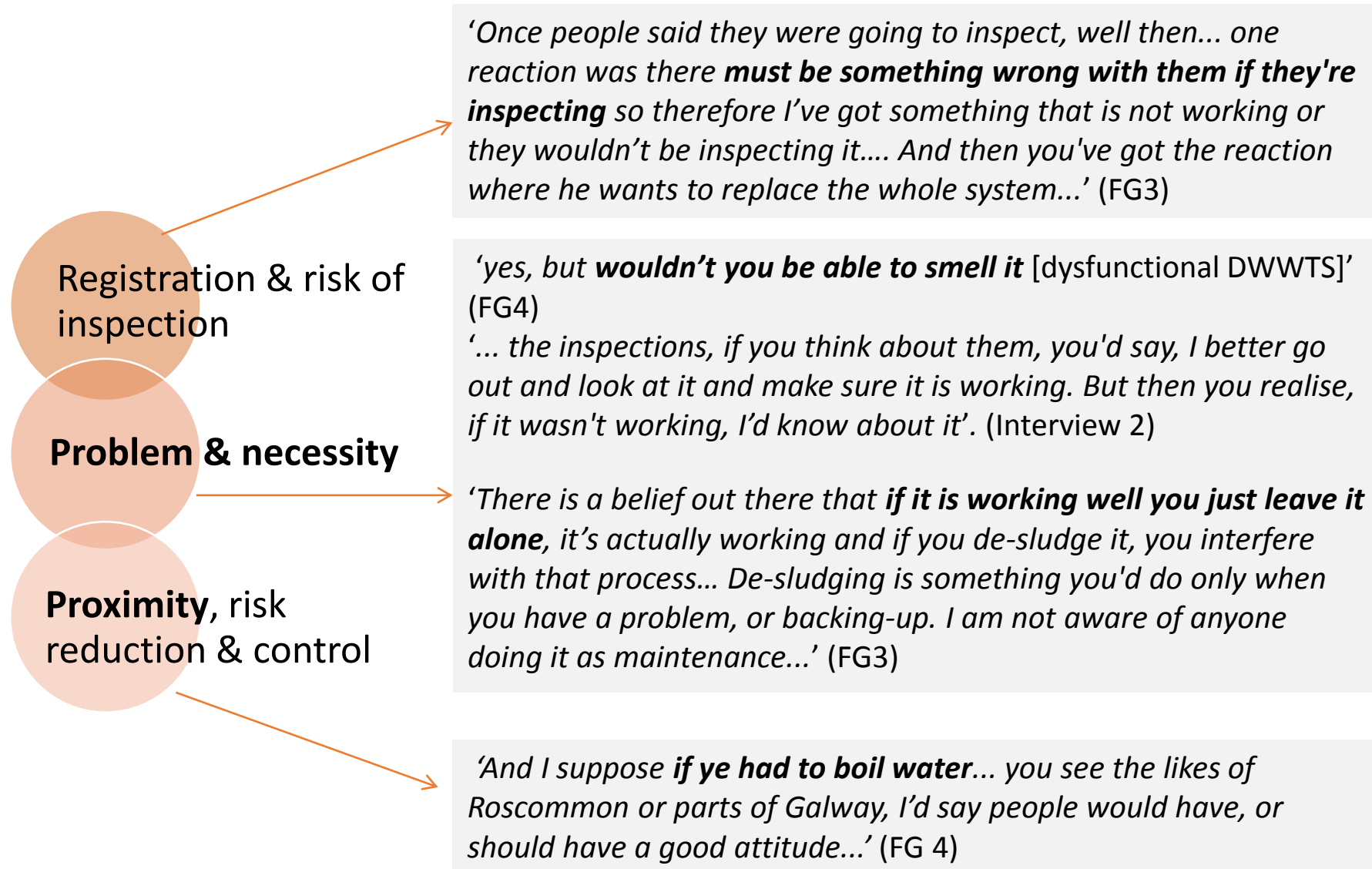
Qualitative methodology:

- Four Case Study locations
- Focus Groups
- Semi-Structured Interviews
- Thematic Analysis

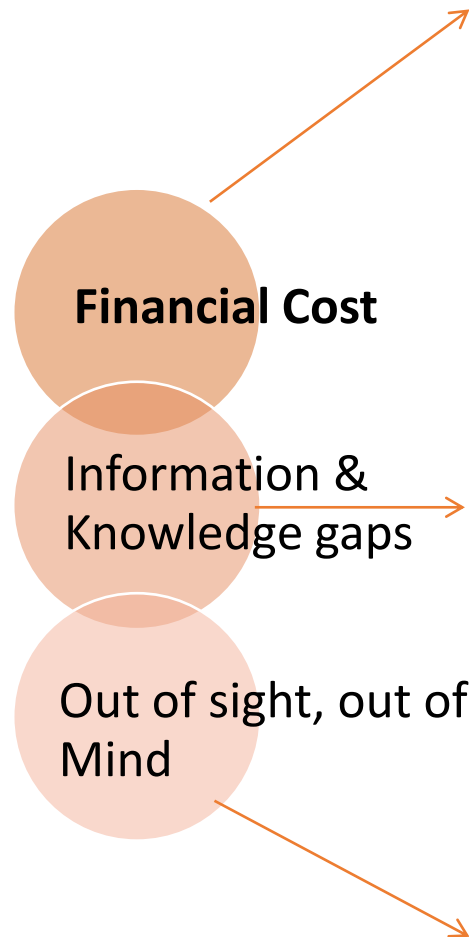


Map 1. Environmental Protection Agency risk ranking map for National Inspection Plan 2013 and Case Study Counties

Cues to awareness & action



Barriers & Beliefs



'cost to have them [DWWTS] de-sludged every year; it is a burden' (FG4)
'...if I was to put a cost on it, it would have been €1,000 to get the work and whole lot done' (FG2)

*'I'm not qualified to discern whether they [DWWTS maintenance issues] are serious or not...I have **never been informed of the criteria**' (FG1)*

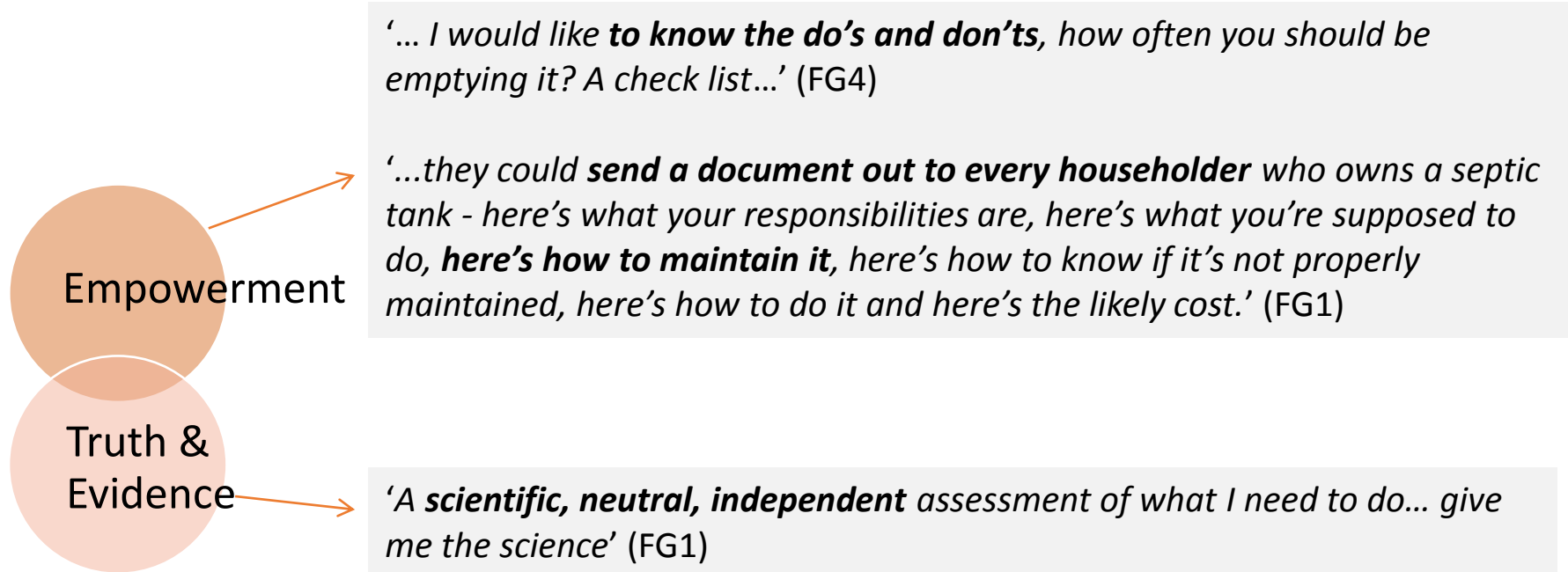
*'Yeah, information. I mean **no set of instructions** are given to people, once the septic tank goes in... To what should and what shouldn't happen'. (FG4)*

*'... it could be **people don't know** what shouldn't go into their tank... because its waste flushed down the toilet, apparently the worst thing for septic tanks is baby wipes... everyone may not be aware... a lot of people think - use it, throw it out' (FG4)*

*'I imagine for most people that it's very difficult to have a sense of the dangers of something when you **don't see it every day, and it really only registers on your radar when there is a problem**' (Interview 2)*

*'I never knew, I just thought that once you turn on, wash your hands whatever, you turn on your tap, whatever which soap you use, it's going down the plug hole, it will be alright... **Out of sight out of mind**' (FG4).*

Communicating Risk



Condt.

A Supportive message

*'Try to **encourage people**, it needs to be framed in an encouraging way, a positive rather than a negative...' (FG3)*

*'you can't go instilling fear in people, it just won't work that way... try to encourage people, its need to be framed in an encouraging way, a **positive rather than negative**' (Interview 2)*

Communicate the implications

*'...write an article in the local paper giving the pros and cons, the risks and **downsides of not maintaining your tank**' (FG2)*

*'... a focus that septic tank can have an impact on water quality in the whole community... and it's **in your health interest** to save yourself trouble' (FG3)*

Frequent,
Inclusive reach,
Local,
Approximate source of
delivery householders
can relate to.

Positively
framed health
messages

Communicating Risk



Evidence-based

Community engagement

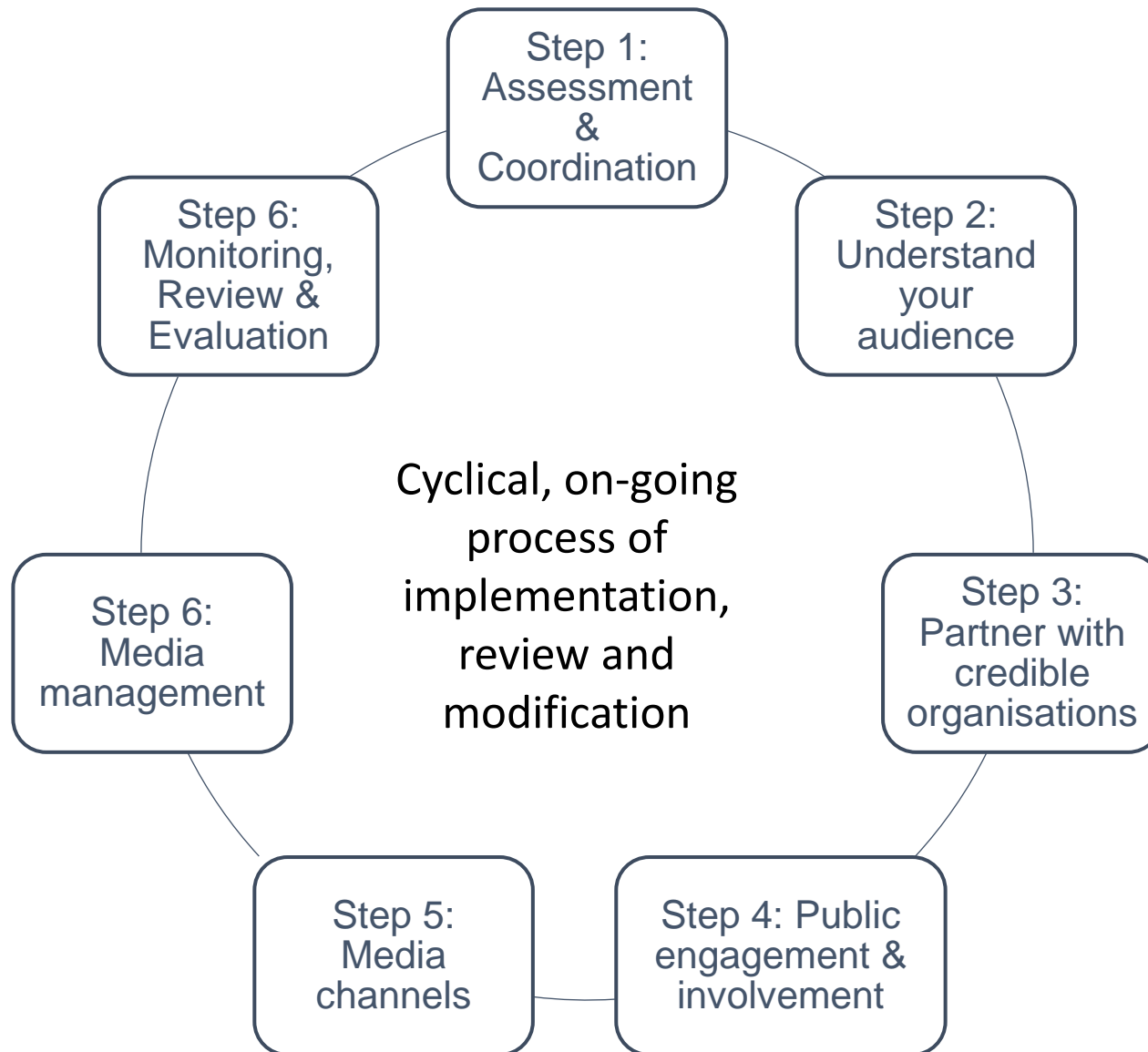
Know your audience

Partner with credible sources

Work with the media

Ensure truth, honesty & openness

Guidelines for Effective Risk Communication



Some final thoughts

- How risk is communicated matters
 - Who delivers the message – trust
- Perceptions matter – ‘hard science’ is not enough
- (Mis)Perceptions influence behaviour and actions
- Framing is important
- It is not easy to change people’s perceptions
 - Sustained engagement is required

Survey on Water Catchments and Septic Tank Systems

- The EPA is currently looking for feedback on how it and others communicate with the public regarding DWWTS. They are undertaking survey is designed to help improve communications:

<https://www.catchments.ie/wfd-consultations/>

Thanks for listening

Questions?

Possible Messages

<i>Regular maintenance of your septic tank system helps protect you, and your family's health.</i>	A positively framed message, it communicates the personal and family health implications, and what householders can do to reduce the risk. Seeks to expand understanding by reference to septic tank 'system'.
<i>More and more people are now maintaining their septic tank system - by doing so; you too can help protect drinking water in your community.</i>	Aims to target descriptive norms, that is, what society regards as normal behaviour, and moral norms - what we feel we ought to do. Positively framed.
<i>Everyone has a role to play in protecting drinking water sources. Do your bit by regularly maintaining your septic tank system.</i>	This message associates DWWTS with a sense of collective responsibility, targeting moral norms. The association is also made between DWWTS maintenance and drinking water quality.