

**Framing issues and structuring
deliberative conversation:
Reflections on minipublic
deliberations across three areas of
science and technology**

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In a nutshell ...



- Public deliberation proposed as a mechanism to foster public discussion and input for science policy
- How should particular deliberative forums be structured:
 1. to enable free discussion and consideration of diverse perspectives?
 2. to lead to meaningful policy input?

The Case for Public Engagement

- In general, democratic mandate:
- On broad level, all science is social activity
 - Funding decisions
 - Values associated with research directions
 - In laboratory (Gilbert & Mulkay, 1984)
- In particular, requires consideration of issues and whether they satisfy criteria of:
 - Lack of democratic input
 - Uncertainty of values to guide decisions, etc.

How to Obtain Public Input

- Typical social science methods (surveys, etc.)
 - Rely on measurement of existing values
- Problematic because of ...
 - Theoretical issues
 - Low public awareness
 - Complexity of issues

Why Public Deliberation

- Dialogue as opposed to one-way flow of information (Rowe & Frewer)
- Opportunity for reasoned debate (as opposed to top of the head responses or entrenched positions)
- Forum for engaging with different perspectives
- Opportunity to reach common ground

The Goals of Deliberation

... when people deliberate, they carefully examine a problem and arrive at a well-reasoned solution after a period of inclusive, respectful consideration of diverse points of view.

(Gastil, J. 2008. Political Communication and Deliberation. Los Angeles: Sage. p. 8)

Deliberation Defined

“ . . . deliberation is debate and discussion aimed at producing reasonable, well-informed opinions in which participants are willing to revise preferences in light of discussion, new information, and claims made by fellow participants. Although consensus need not be the ultimate aim of deliberation, and participants are expected to pursue their interests, an overarching interest in the legitimacy of outcomes (understood as justification to all affected) ideally characterizes deliberation.”

Chambers, S. (2003). Deliberative Democratic Theory. *Annual Review of Political Science*, 6, 307-326.

Structure of Deliberative Discourse

- Over the course of deliberation, participants:
 - Increasingly become more informed about the issue
 - Develop more confidence in the expression of their opinion
 - Increasingly take others' perspectives into account
- Explicit development of a group opinion
 - Consensus not always necessary
 - Different from studies that rely on aggregating individual opinions with large n

O'Doherty, K. (2012). Theorising Deliberative Discourse. In Kieran O'Doherty & Edna Einsiedel (eds.), *Public Engagement and Emerging Technologies* (pp. 133-147). Vancouver: UBC Press.

Implementation of Minipublics

- Human tissue biobanks
- Salmon genomics
- Bioremediation of RDX (soil microbial genomics)

Explosives and the Environment. A Public Deliberation. Have a question? Visit the [Contact Us](#) page to get in touch with us via email or phone.

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Explosives and the Environment. A Public Deliberation.

The state of environment is an important issue for many Canadians and citizens of British Columbia. Our daily activities have an enormous impact on our natural environment which effect our health, and the environment. One of the most pressing concerns today is the need to clean the toxic materials.

Canadian universities and research institutions are actively looking for new technologies to improve the state of the environment through the use of biotechnology. Biotechnology is a very broad field that includes such old techniques as are used in cheese and beer making as well as modern technologies used to produce genetically modified foods and new medicinal drugs. It also includes the use of naturally occurring or modified microbes for specific industrial and environmental processes.

A number of options are available for the protection and clean up of the environment and our health and wellbeing, including the use of new and emerging technologies. One of these options, bioremediation, involves using microbes to clean up and reduce the risks of toxic chemicals in the environment is possible, but it could pose certain risks as well.

Explosives and the Environment: A Public Deliberation

is an UBC research project at UBC that aims to learn more about the potential for environmental bioremediation of RDX through biotechnology. RDX is a toxic but highly effective explosive commonly used by the Canadian military in combat and training. RDX is also used in civilian operations like construction, avalanche control and mining.

In this project we are investigating how Canadians feel about the potential use of bioremediation for RDX explosives. This consultation will include discussions about the

Basic Template

- Recruitment of random, demographically stratified sample
 - Approx. 25 participants
- Present participants with range of relevant information and perspectives
 - Information booklet
 - Website
 - Expert speakers
- 4 days of in-depth deliberation
- Ask participants to deliberate about social and ethical implications of biobanks and come to reasoned conclusions
- Results used to inform ethics protocols of biobanks

Longstaff, H, & Burgess, M M. (2010). Recruiting for representation in public deliberation on the ethics of biobanks. *Public Understanding of Science*, 19 (2), 212–224.

Biobanks Events

- British Columbia (2007; 2009)
- Mayo Clinic (2007; 2008)
- Western Australia (2008; 2009)
- Tasmania (2012)
- California (2013)
- Oxford (2015?)

O'Doherty, K. C. & Burgess, M. M. (2013). Public Deliberation to Develop Ethical Norms and Inform Policy for Biobanks: Lessons learnt and challenges remaining. *Research Ethics*, 9(2).

Human Tissue Biobanking

- Use of tissue samples for multiple studies
- Increasingly important for biomedical research
- Specific research outcomes
 - Genetic markers for diagnosis
 - Differential drug responses
 - Environmental toxins



Burgess, M. M., O'Doherty, K. C., & Secko, D. M. (2008). Biobanking in BC: Enhancing discussions of the future of personalized medicine through deliberative public engagement. *Personalized Medicine*, 5(3), 285-296.

Biobanks: Ethical Concerns and Trade-offs

- Informed consent
- Privacy
- Return of results
- Data sharing and access
- Ownership of samples
- Commercialisation



Salmon Genomics

- Sequencing the salmon genome
- Salmon
 - 10% of landed value of BC fisheries: salmon
 - Fisheries and aquaculture GDP 600 million
 - Keystone; indicator; totem



O'Doherty, K. C., Burgess, M. M., & Secko, D. M. (2010). Sequencing the salmon genome: A deliberative public engagement. *Genomics, Society and Policy*, 6(1), 16-33.

Sequencing the Salmon Genome: A Deliberative Public Engagement

- Salmon Genetalk: Goals
 - Replicate public engagement design used for human tissue biobanking for non-human genomic science
 - Test this public engagement design for a topic known to be highly polarised and potentially divisive
 - Determine whether the design and implementation can produce practical policy advice.

Explosives, Genomics, and the Environment

- RDX:
 - High-impact explosive
 - Cheap, relatively safe to handle
 - Neurotoxin, possible carcinogen
 - Primary user is military
- Soil microbial genomics
 - Promising avenue for bioremediation



O'Doherty, K. C., MacKenzie, M. K., Badulescu, D., & Burgess, M. M. (2013). Explosives, Genomics, and the Environment: Conducting Public Deliberation on Topics of Complex Science and Social Controversy. *Sage Open, January-March*, 1-17.

Structuring the Conversation

- Open structure / no question structure
- Pre-formulated question structure
- 2 phase agenda formation and deliberation structure

O'Doherty, K. C. (2013). Synthesising the outputs of deliberation: Extracting meaningful results from a public forum. *Journal of Public Deliberation*, 9(1), Article 8.

Open Structure

- Adopted for biobank deliberation in response to criticisms of public engagement surrounding UK Biobank
- Participants encouraged to take the conversation in whatever direction they felt appropriate (also multiple presentation formats)

Pre-formulated Question Structure

- Issues and questions developed ahead of time based on:
 - Policy need
 - Knowledge of public discourse
 - Willingness to revise questions during deliberation process

O'Doherty, K., Hawkins, A., & Burgess, M. (2012). Involving Citizens in the Ethics of Biobank Research: Informing Institutional Policy through Structured Public Deliberation. *Social Science & Medicine*, 75, 1604-1611.

2 Phase Design

- Phase 1: develop agenda
- Phase 2: work towards conclusions on each particular issue



Explosives and the Environment: A Public Deliberation

The W. Maurice Young Centre for Applied Ethics
University of British Columbia



Lessons and Reflections

- In conducting a deliberative event, not every session needs to be (or even should be) “deliberative”
 - Movement between break out and plenary discussion needs to be sensitive to task repetition
- Consideration of project purpose
 - Policy or ‘transformative’?
- Some question structure is necessary
 - But, requires sensitivity to ‘not getting the framing right’
- “Open” structure best for highly upstream topics, but results may be very abstract

