



**CANADIAN ENVIRONMENTAL LAW ASSOCIATION**  
L'ASSOCIATION CANADIENNE DU DROIT DE L'ENVIRONNEMENT

**Re: September 30 – October 1, 2009**

**Workshop: Improving the Public Communication of Chemical-related Health Risks**

*Speaking notes for panel discussion – stakeholder perspectives on risk communication*  
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I'll begin with a story borrowed from a book called *Making Better Environmental Decisions* by Mary O'Brien.

Imagine a woman standing by an icy mountain river intending to cross to the other side. A team of four risk assessors stands behind her, reviewing her situation. The toxicologist says that she ought to wade across the river because it is not toxic, only cold. The cardiologist says that she ought to wade across the river because she looks to be young and not already chilled. Her risks of cardiac arrest, therefore, are low. The hydrologist says she ought to wade across the river because he has seen other rivers like this and he estimates that this one is not more than four feet deep and probably has no whirlpools at this location. Finally, the USEPA policy specialist says that that the woman ought to wade across the river because, compared to global warming, ozone depletion and loss of species diversity, the risks of her crossing are trivial.

(This is an example from the late 1990s when comparative risk assessment was all the rage in the US.)

The woman refuses to wade across. "Why?" the risk assessors ask. They show her their calculations, condescendingly explaining to her that her risk of dying while wading across the river is one in 40 million.

Still, she refuses. "Why?" they ask again, frustrated by this woman who clearly doesn't understand the nature of risks.

The woman points upstream and says, "Because, there's a bridge."<sup>1</sup>

Regardless of what you might think about whether there was effective communication here, the context, for her and for the risk communicators, was fundamentally different.

The risk assessors are evaluating the risks of one option: wading across the icy river. The woman is evaluating her alternatives. She doesn't care whether wading across the river will kill her or

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<sup>1</sup> O'Brien, Mary, *Making Better Environmental Decisions: An Alternative to Risk Assessment*. 2000. MIT Press.

not, because it doesn't make sense to her to even bother getting wet given the safer option available to her.

I want to focus my remarks on two assumptions that often arise in discussions about risk communication.

One assumption is that we just need to do a better job of risk communication for the public to understand. But like the woman needing to cross that icy river, she doesn't need or want that better understanding of a specific risk when she has an inherently safer option right in front of her. I can also guarantee that she'll object strenuously if forced to accept the single option of wading across the river.

I looked at a recent literature review<sup>2</sup> on risk communication done for the Treasury Board Secretariat. It describes an evolution of risk communication from "explaining, educating and persuading the public" to a process of building relationships and trust through open two-way dialogue, partnership, and shared decision-making. A caution is offered though. The author says this democratic model of risk communication is a normative ideal, and it is naïve if we don't also recognize that the power and persuasion of vested and strategic interests will continue to be an important part of risk management and communication. He describes the emerging challenge of risk communication as a need for government to create the conditions for the ideals of the democratic model to come to fruition.

In a more nuanced example, unlike the woman who could care less about the risk of wading across the icy river, when it comes to product labelling, people may want information they can't get. Last June, public interest groups sought mandatory product labelling for substances known to cause cancer or reproductive toxicity. Industry opposition was fierce and successful in terms of preventing this reform to the *Hazardous Products Act*. We were assured that risk assessment calculations have already sufficiently addressed the risk of toxic substances in products, and providing such information on the label would just confuse people. I think this is nonsense. That opposition was as much about loss of market share that could result from people reading labels and choosing inherently safer products than it was about the arguments we heard at the time which focused on the need to accept, without further information on product labels, the scientific results of risk assessment.

Another common assumption in these discussions is that experts can find a risk to be acceptable and effective risk communication will ensure the public understands it.

But the results of a risk assessment are rarely so clear cut. There is enormous uncertainty, particularly large gaps in the scientific evidence as well as controversy about how the evidence is evaluated. And like that risk message beside the icy river, risk communication messages are

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<sup>2</sup> Hill, S. Risk Communication Literature Review: Summary Report. undated. Prepared for the Risk Management Directorate, Treasury Board of Canada Secretariat. [http://www.tbs-sct.gc.ca/rm-gr/rc-cr/report-rapport\\_e.asp](http://www.tbs-sct.gc.ca/rm-gr/rc-cr/report-rapport_e.asp)  
Accessed: September 21, 2009.

routinely about a single issue; one chemical or maybe a group of chemicals – we've talked about two examples today.

But people put those messages into the context of their daily lives.

That context is a four-fold increase since the early 1980s in children with asthma and equally large increases in children with allergies. It is one-quarter of children with one or more learning or behavioural problems, with some of those problems contributing to enormous and chronic life challenges. That context is also huge numbers of people of all ages, facing cancer, including significant increases in the last 20 years of cancer in young adults.

I am fully aware that these are complex problems arising from the multiple and often interacting determinants of health. But at the same time as these health outcomes are increasing, people also know that evidence increases almost daily about associations between chemical exposures and these health outcomes in children and to cancer more generally.

And yes, people are emotional about these issues. It is hard to find anyone over the age of forty who does not have direct experience with a friend or family member with cancer. Learning disabilities, autism, ADHD, on the list goes; these are very difficult and yes emotional experiences that increasing numbers of children, are facing, and the boys are faring worse than the girls – by four to one for autism, for reasons we have yet to explain.

Even if not from personal experience, people see these changes in the world, and in their jobs, especially if they are teachers, child care workers, education assistants, nurses, doctors, social workers, those working in prisons, those helping people find housing, etc.

The way risk assessment is done, let alone risk communication, does not confront this reality with its focus on single chemicals.

People also feel a form of chemical trespass. They don't care if the phthalates and brominated flame retardants in their blood are bad for them or not, they don't want these chemicals in their kids. They did not sign up for the experiment to determine if small exposures are OK and their individual actions can rarely eliminate that exposure. That lack of control does lead to feelings of fear and mistrust but also to the need to act as a society.

The public response to high-stakes risk like cancer or brain damage, no matter how uncertain, may or may not be emotional misunderstanding, but it is almost always a desire for an inherently safer choice.

When people support a cosmetic pesticide ban, they also see such a law as baby-step number one, not as some sort of aberration of regulation that is a political response to emotion over science. No. Cosmetic pesticide bans enjoy such wide public support because they are an easy and logical choice. They remove unnecessary chemical exposures in a world of multiple exposures. People want more of this kind of precautionary regulation. And not just minimal steps like banning BPA in baby bottles. That regulation is more about scoring political brownie points

than about effectively eliminating BPA exposure where increasingly evidence shows that it probably matters the most – during fetal development in the womb.

To say that public mistrust of the assurances of risk communication is a problem of public misunderstanding does at least three things that any efforts to improve risk communication need to address. Too often, it glosses over the gaps and shortcomings in the scientific information especially the inability to assess toxicity of complex chemical mixtures. It often ignores early evidence of associations waiting instead for stronger evidence that must come from longer term, widespread exposure that is also often impossible to clean up. It also generally forgets or does not learn from the mistakes of the past (like lead in gasoline, asbestos, PCBs, DDT, PBDEs, etc etc).

In the short span of 10 minutes to address a large and complex topic, I'll conclude with saying that I think that what is often identified as a problem of the public misunderstanding the experts is equally a problem of experts misunderstanding, or working within a framework that does not allow broader understanding, of the reality of people's direct experience.

*“The earlier [potential as well as actual hazards in the environment] are identified and exposure to them minimized, the greater will be the impact on disease prevention. We should keep in mind that a positive finding in an epidemiology or clinical study is, in reality, a failure of preventive medicine policy.”*

George Lucier, September 2007 to Domestic Policy Subcommittee Oversight and Government Reform Committee “Will NIEHS’ new direction protect public health?”  
(<http://domesticpolicy.oversight.house.gov/documents/20070925143750.pdf> )