

The Chemical Industry and the Environmental Health Agenda:

A Risk Communication Discussion Paper

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The Chemical Industry and the Environmental Health Agenda: Communications Approaches and Options

Objective

As reflected in public opinion research and the popular media, the public is increasingly concerned about the impacts of chemical products on their health and the environment. The scientific community, fully supported by the chemical industry, is conducting extensive research to determine the nature of the risks to health from environmental contaminants. As concerns are raised and research results are revealed, the Canadian Chemical Producers' Association (CCPA) will need a clear strategy for managing its communications about the risks associated with chemicals.

This paper begins with four options for communicating risk. Each one has been used by industry at various points in time. The chemical industry operates according to Responsible Care[®], an ethic for the industry started in Canada over 20 years ago and now been adopted by 53 countries. The initiative has evolved during this period and will become a global commitment to sustainability by the industry. Our selected approach to risk communication is based on the Responsible Care ethic.

The final section is a discussion of the current context for risk communication in Canada, building on recent experiences relating to matters of chemicals and health. We must ask ourselves if the current approach to risk communication is acceptable in a knowledge-based society. Will our current approach to risk lead to the breakdown of our science based regulatory approaches and ultimately a loss of innovation; migration of knowledge workers and loss of investment? There are no prescriptions here, but rather, questions that need to be asked given the current risk communication paradigm.

Four Approaches

Talking about the linkages between the chemical industry and health is an exercise in risk communication. Risk communication expert Peter Sandman has defined *risk* in the form of an equation: Risk = Hazard + Outrage. Other definitions include:

- The probability of an event multiplied by its harmful consequences.
- Exposure to loss.
- Uncertainty that surrounds future events and outcomes.

Risk communication, by one definition that is relevant in this context, is:

the act of conveying or transmitting information between interested parties about (a) levels of health or environmental risks; (b) the significance or meaning of health or environmental risks; or (c) decisions, actions or policies aimed at managing or controlling health or environmental risks. Interested parties include government agencies, corporations and industry groups, unions, the media, scientists, professional organizations, public interest groups, and individual citizens.¹

Risk communication is difficult to do effectively. The “interested parties” often have differing issues and values. Public interest groups are increasingly media savvy, well funded, and technologically adept. The issues involved lend themselves to media sensationalism. The significance of scientific data can be unclear or subject to vigorous debate, and frequently even the validity of data is questioned.

An effective risk communication strategy must anticipate and address the challenges that confront the organization attempting to communicate about risk. Risk communication is not a substitute for effective risk management. However, poor risk communication can derail even the most comprehensive risk management efforts. Communication cannot compensate for the absence of thorough scientific research or reasonable risk reduction strategies.

The pages that follow describe four distinct approaches to risk communication. Option 4 is the model that offers the best opportunity for success – and that is closest in spirit to the principles of Responsible Care®. The other options have their attractions, however, and should be noted if only to identify their dangers.

¹ Covello, V.T, D. von Winterfeldt, and Paul Slovic. “Risk Communication: A Review of the Literature.” *Risk Abstracts* 3, 4 (1986): 171.

Option 1: Do nothing

Because communicating about risk is so complex and difficult, many organizations resist taking on the challenge at all. They use phrases such as “Let sleeping dogs lie” or “The Government should take the lead on this.” The danger, however, is that a third party, with very different interests and objectives, will dominate the communications field.

Douglas Powell and William Leiss suggest that dioxin producers took this stance in the 1980s when their product became controversial. In the book *Mad Cows and Mother's Milk: The Perils of Poor Risk Communication*, Powell and Leiss write:

...the risk information vacuum for dioxins was allowed to develop and then be filled by the perspectives of a single interested party (Greenpeace), whose views went virtually unchallenged in the public domain... The process of stigmatizing something like a chemical takes root and flourishes in the vacuum created by the absence of other information that is sufficiently clear and compelling to make a difference in the public mind.

In other words, a more active stance is required to ensure the public debate about a risk issue is based on an appreciation of more than one side of a story.

Option 2: Talk about the benefits

A second approach is to enter the debate vigorously, but with a narrow focus on the benefits of the product (or process or project) that may present the risk at issue. Proponents of this approach argue the public are either not interested in or not capable of understanding the intricacies of science and risk assessments.

There is nothing wrong with clearly stating benefits as an element of risk communication. In surveys taken with the general population, and in more focused research in plant communities, CCPA has found that people want to know about the products that are made by the chemical industry. They respond well to messages about the increased safety or other beneficial features of new materials. However, they cannot be fooled into ignoring their concerns about long-term health issues simply because the benefits of a product are obvious.

When it comes to discussing benefits, there should be a healthy separation between the risk communication and the benefits message. In this way, people are aware of the benefits of the industry (be they economic, social or other) and can factor this into their views of risk. Benefits of the industry or specific products cannot be a replacement for information about the risk issue.

In fact, a single-minded focus on benefits without any reference to risk can backfire by damaging two of the most important elements of successful risk communication – trust and credibility.

When the pesticide Alar was under attack in the 1980s for allegedly causing a relatively high risk of cancer, the manufacturer responded by lining up supporters of the product to talk about its benefits, rather than attempting to address concerns about the product. In the end, the manufacturer pulled the product from the market, having lost the battle in the public domain despite controversy within the scientific community about whether the product had negative impacts on health.²

Risk information often reaches the public through media reports that may not be complete or accurate, or by way of interest groups that spin the data to advance a particular argument. In *Mad Cows and Mother's Milk*, Powell and Leiss describe the potential for a risk information vacuum to arise “where, over a long period of time, those who are conducting the evolving scientific research and assessments for high-profile risks make no special effort to communicate the results being obtained regularly and effectively to the public. Instead, partial scientific information dribbles out here and there and is interpreted in apparently conflicting ways, mixed with people’s fears.”

² The Alar case is discussed in detail in the 1994 book *Risk and Responsibility* by William Leiss and Christina Chociolko.

Option 3: Inform the public

Rather than ignore issues raised by the public, interest groups or the media, effective risk communicators address them head-on.

Public opinion analyst Daniel Yankelovich writes, "One must acknowledge and directly address the public's preoccupations, whether they are rational or irrational, serious or trivial."

An organization's attempt to talk about risks as well as benefits can help the audience form a more rounded picture. It can slow the spread of rumours and counter the impression that the organization does not care about those affected by risk.

However, informing the public effectively is much easier said than done. Scientific experts tend to use language that is not understood by non-experts. Providing too much technical detail, even if it is explained clearly, can overwhelm or frighten people, rather than reassure them. The dispassionate presentation of risk information (e.g. "this product will result in an expected mortality rate of only x") can generate fear and public anger and even raise moral issues.

Comparing risks and benefits can be persuasive, if the same people who face the risks also receive the benefits. However, people may perceive a comparison as bribery (the community will receive x amount of tax revenue from the facility) or blackmail (the community will lose x number of jobs if you shut down our facility).

Beyond technical data

Furthermore, public concerns often cannot be addressed solely through technical risk data. Research shows an individual's concerns about a risk are usually higher if he or she has no control over the risk, if he or she has no choice about assuming the risk, if exposure to the risk is not shared fairly with others, or if the hazard would affect many people in one place at one time rather than the same number in many places over a longer period of time.

Other factors also influence the response to risk information. People tend to be less concerned about risks that are familiar to them than with exotic or unknown risks. The same is true of natural risks versus man-made ones. Some types of risk (e.g. a heart attack) are less feared than others (e.g. cancer).

People are more concerned about risks that are connected to a powerful event (e.g. water safety/Walkerton contamination, air travel/the World Trade Towers attacks) or a powerful symbol (e.g. a mushroom cloud). Emotionally powerful messages (e.g. better safe than sorry) can be more persuasive to many people than dry technical information.

The record, style and reputation of the organization managing and communicating a risk can also have a strong influence on how the public react to risk information. Are the organization and its leaders trustworthy and credible? Companies with powerful brands will have a bank of “trust capital” that they can draw upon in a crisis, whereas those with no capital will be less credible, and often “assumed guilty”. Similarly, the sources of data used to describe a risk may be more or less credible with the public, depending upon the spokesperson.

Trust and credibility can be damaged or lost if events prove that assurances about risks are untrue. The trust and credibility of the British government suffered significantly when a number of Britons died in the BSE crisis – shortly after its Ministers and senior officials insisted that British beef posed no risk at all to human health. The loss of trust and credibility led to the devastation of the British beef industry and a cost to industry and government of billions of dollars.

Peter Sandman’s advice is relevant here: “Stake out the middle, not the extreme. In a fight between ‘terribly dangerous’ and ‘perfectly safe’, the winner will be ‘terribly dangerous’.”

Informing the public is not a waste of time. As Peter Sandman has written,

telling the public what you’re doing is better than not telling the public what you’re doing. Seeking “input” and “feedback” is better still. But most public participation is too little too late: “After years of effort, summarized in this 300-page report, we have reached the following conclusions.... Now what do you folks think?” At this point it is hard enough for the agency to take the input seriously, and harder still for the public to believe it will be taken seriously.

According to Daniel Yankelovich, “American culture grossly overvalues the importance of information as a form of knowledge and undervalues the importance of **cultivating good judgment**. It assumes, falsely, that good information automatically leads to good judgment.”

Simply informing people does not constitute effective risk communication. This leads to the fourth option for communicating about risk.

Option 4: Establish long-term two-way communications

“Informing” people about risk is of limited use if it is done only sporadically and the flow of information is one way only – from the organization to the public. Communication implies a two-way flow of information, where the information exchanged can influence the behaviour of either party.

Communicating risk associated with health and chemicals is extraordinarily difficult. Tolerance for risk is very low when health is involved, particularly the health of children. The tendency to abuse the precautionary principle in decision-making is even greater than in other risk situations. Emotions inevitably run high.

In such an environment, communications must be extensive and ongoing to be effective. Trust and credibility are built on a foundation of personal relationships. The parties must not simply “inform” each other, but rather share a long-term commitment to obtaining benefits for society while managing risk responsibly. Those responsible for risk management must be accountable to the broader community for their performance.

Risk communication experts offer a number of suggestions for increasing the success of communication initiatives, such as:

- Communicate emotion. Talk not only about “facts” and scientific conclusions but also about relevant personal experiences. Share people’s dread about worst-case scenarios. Emphasize values over technical information.
- Communicate with care about comparative risks. Living next to a chemical plant may be much safer than driving a car to work every day, but the plant’s neighbours may not see it that way – they can control their cars, but not the plant.
- Use risk/benefit comparisons cautiously. Do not attempt to convince people that a risk is worth taking to achieve certain benefits. Ideally, separate discussion of the benefits from discussion of the risks, and let people draw their own conclusions about the balance.
- Address the concerns raised by the most alarmist members of society. Decisions are influenced by those who care the most about an issue.
- Be honest, open and accountable. Admit mistakes, and apologize for them.

Daniel Yankelovich, in his book *Coming to Public Judgment: Making Democracy Work in a Complex World*, argues that the public needs assistance to form considered judgments about important issues of public policy.

The public is not magically endowed with good judgment. Good judgment is something that must be worked at all the time and with great skill and effort. It does not exist automatically; it must be created.

On the issue of chemicals and health, the public is demonstrating a desire to learn more and to be able to make judgments. In the absence of this knowledge, the precautionary principle is likely to be used.

William Leiss says, "Good risk communication practice amounts to conducting a reasoned dialogue among stakeholders on the nature of the relevant risk factors and on acceptable risk management strategies."

This suggests that we need to engage with interested audiences, through information and dialogue and with some of these best practices in mind.

Responsible Care®

The kind of stakeholder involvement and dialogue implicit in the approach described above is intrinsic to the Responsible Care ethic. In particular, the Community Awareness and Emergency Response Code of Practice requires Responsible Care practitioners to design and implement extensive community outreach programs, based on openness and cooperation.

Responsible Care is currently transforming to a sustainability initiative for the broader chemistry value chain. This change will come with a more pronounced emphasis on communications: about risk, Responsible Care, products and operations.

Discussion

There is a significant level of fear about the unknown effects of chemicals. Perceived increases in cancers, allergies and behavioural disorders are often associated with exposure to chemicals in the modern world. Chemicals make a convenient scapegoat, with “man-made” chemicals being the biggest bogeyman. Yet any toxicologist or chemist will tell you that all chemicals are toxic and that all matter is chemical.

We live in a very different world and long gone are the days when government played the role of honest broker between science, industry and advocates. We live in an age of instant communication, which has a profound effect on the way we learn, the credibility of organizations and even the fears we have. The internet is a flea market of ideas with its newsgroups, blogs and self-published experts of every kind. It is open 24 hours a day, 7 days a week; always available to answer any question or concern and to confirm any suspicion.

There is a proliferation of advocacy groups now, each with their own distinct mission, market segment and focus. We need most of these groups to keep a balance in society. On many fronts, dedicated people risk their lives for causes they believe in or to expose wrongdoing. At the same time, advocacy has become a competitive business with a pressing need to bring in new donors, to demonstrate action and to gain mind share.

Then there is the political sphere- what some call “the vile art of politics”- and perhaps the most fickle dichotomy of all. In Canada, the profile of a leader is at once highly educated, knowledgeable and thoughtful. At the same time, the game is shallow, with an emphasis on retail-level announcements, short term gain and “gotchas”. Of course, public opinion polls are known to influence politicians. It is not uncommon to hear “but the polls on this are fantastic!” as the justification for new legislation. It is no wonder then, that there is a developing political reluctance to stand behind science. Scientists don't always recommend the most popular measures, or communicate in the same language as politicians.

Fundamental changes are occurring as a result of this new paradigm. There is an increase in the move to regulate hazards, rather than make decisions based on risk. The Ontario Toxics legislation is an excellent example.

And what about the public? We have become more and more technologically advanced and dependant, and yet, we have become more sceptical about science. We accept “natural” health products which have had little testing in favour of “pharmaceutical” products which have had years of testing.

Industry is in a difficult position within this new paradigm. Industry must rely on government: to invest in regulatory science so that decisions can be made; to

make those decisions quickly and efficiently so that competitive advantages can be maintained, and to stand behind those decisions publicly if necessary. Yes, they can advertise their products. However, industry cannot make false claims, as there are penalties for doing so. They cannot conduct biomonitoring of 12 people and then promote the findings as significant. Industry executives will not rappel from the CN tower or make outlandish statements to get their message out. Industry is regulated by and relies upon government and has been impacted greatly by government's withdrawal from its role as honest broker.

Advocacy groups are in the opposite position. They benefit from both the vacuum created by government's withdrawal and the new communication model. They can publish junk science without penalty. They get equal air time from journalists. They need to break down scientific decision making processes if they are going to have success with product bans and other visible signs of success.

Scientists and academics have a very big stake in communicating risk. After all, it is academics more than any other group that must defend evidence based decision making. Universities and research institutions stand to lose intellectual property, researchers, innovation and funding. Academics must play a role in ensuring that we learn from the many current examples, such as H1N1, and provide guidance for future risk communications.

So where do we go from here?

Government cannot go back to the way it was. Political realities have changed and while we must continue to fight for decisions that are based in our best scientific knowledge, we cannot expect politicians to behave differently than what their reality dictates. What is government's role in the new paradigm and how can we de-couple politics from science?

Advocacy groups play an important role and we as a society need them to challenge traditional thinking, expose corruption and advance causes. Over time, will the marketplace determine which ones are worth keeping?

Industry will continue to advocate investments into regulatory science- as the relationship between industry and regulator evolves. International pressures are growing as regulation is transferred between jurisdictions and company decisions are coordinated globally. What is the right approach for industry?

Society must develop good judgment- to demand excellence in science; accurate reporting; sound decision making and to be given the opportunity to input into those decisions. The public don't just need information; they need tools to help them to discriminate between different opinions, messages and facts. How can all stakeholders work together to cultivate good judgment by the public?