IN RISK COMMUNICATION

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Very often professionals find themselves in the position of having to explain health risks to the public. This is true not only of public health workers, such as health educators, nurses, and physicians, but also of others involved in the field. In the environmental health field, those involved in water safety, water quality, and water testing are often called upon to explain scientific findings and to translate risk assessment information to the public. Unfortunately in the area of environmental health, we most often explain risks about which experts may disagree or in which industries are involved, sometimes leading to anger and fear among community members. We also may be called upon to convince community residents to change their behavior to reduce risks. Aquiring a better understanding the concerns of the public will assist us in developing suitable risk communication messages.

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Many people consider the construction of a new chemical plant a potential threat to their drinking water. Photo courtesy of ExxonMobil Chemical

Outrage Factors in Risk Communication

It is common for technical experts to believe that everyone understands risk the same way they do, usually as the probability of an event occurring and the possible consequences of that event (magnitude). This perception, however, has been found to be untrue. In fact, the public often sees risk very differently than their technical colleagues. People tend to understand risk based upon the hazard that the risk might pose, as well as emotions that may be raised by the risk.

Slovic and others conducted a study about how lay people and experts rate risks (1979). They found that lay people were more likely to rank nuclear power as riskier than other hazards, not necessarily because of the number of deaths that it might cause, but because of qualitative aspects of the hazard, such as being seen as involuntary, uncontrollable, dreaded, and potentially catastrophic. The emotional factors that influence perception of risk have been referred to by Sandman as "outrage factors."

According to Sandman, risks that are thought to be involuntary, industrial, and unfair are usually perceived as more risky that those that are considered voluntary, natural, and fair. Therefore, community members may be very worried about possible chemical contamination of their water from nearby chemical plants, especially if they had no say in the citing of the plant, but less concerned about naturally occurring water contaminants. In addition, hazards that are exotic, memorable, and dreaded are considered more risky than those that are familiar, not memorable, and not dreaded.

This may explain why people are very concerned about risk from chemical plants, but don't worry about using the chemicals they keep under the sink. The chemical plant is strange, most of the residents of the community have probably never been inside, and they wonder what is really going on in there. On the other hand, they have used the chemicals under the sink for years; their mom used them too, so they don't seem very risky. In the U.S., waterborne risks are considered especially dreaded. Memorable events, like the chemical release at Bhopal, make a hazard seem particularly risky.

Risks that are catastrophic rather than chronic, not knowable rather than knowable, and controlled by others and not by the community, are also considered more risky.

Knowledge of these outrage factors and how they influence perception of risk has led Sand-man to conclude that, to the expert, hazard equals probability times magnitude, while to the public, risk equals hazard plus outrage.

Trust is also an important factor in risk communication. If the community does not trust the agency or the industry giving the message, the hazards will seem far greater than if they are receiving information from a trusted source.

Dealing with Outrage Factors

In working to explain risks to the public, it is important to be aware that these outrage factors exist. It is not enough to explain risks to the public, either in an effort to get them to worry about the risk and do something to protect themselves, or in an effort to get them to stop worrying and accept what the experts see as minimal risk. It is also important to listen to what community members are saying, to understand their outrage, and to try to work with them to make the situation as tolerable as possible.

For instance, as much as possible, communities should be involved in discussions and decisions about risk assessment, about citing of risky industries, and about solutions to decrease risks. Agencies should do what is necessary to build trust, including treating community members with respect and care, following through, and not making promises that cannot be kept. Sandman also recommends avoiding "secret" meetings, apologizing for past mistakes (while showing an effort not to make the same mistakes again), and showing genuine concern and compassion for the community.

Some suggest that well-trained risk communicators who understand community concerns and act in a way that wins over the community can use this knowledge to co-opt and trick communities into accepting risks that they otherwise would not accept. I do not advocate the use of risk communication to coerce communities to accept imposed risks that they do not want to tolerate or to stop activists in their tracks.

On the contrary, true communication between the expert and the public should lead to solutions that make the situation better for the community as much as possible. Understanding that the public may see risks differently than you do is basic to good communication, a kind of cultural competence if you will. Trying to really understand the feelings and fears of the public should lead agencies to become more involved in working together with communities, allowing them to have real input into decisions that are made, even if that means that the agency or company has to change their plans. In addition, understanding the outrage of communities will help experts better communicate the true risk to the public.

Practical Communication

To be effective at communicating risk, the most important thing is to build trust. In order to do this, your agency must act in a trustworthy way. If you have not done this in the past, Sandman recommends that you apologize, do what you need to do to repair the damage, and make an effort to regain trust. Because this can take a long time, Sandman also suggests becoming more accountable to your public. This would include involving them in decisions, being open and honest, even about the bad news, and planning studies of contamination or other risks in which it is impossible to cheat.

Involving communities in the development of studies or testing and in the analysis of data will allow them to monitor your work and to build trust again. Also, be open and honest about what tests you are doing and why and be proactive in reporting results, whether they are good or bad. Withholding information leads the public to believe that you have something to hide.

It is also important to acknowledge the fears and concerns of people in the community you serve. It is not helpful to tell people "it's nothing to worry about" when they are already worried. Acknowledge that they have legitimate concerns, and then involve them in working with you to find out how risky the situation is and how risk can be reduced.

Never compare an industrial risk with a natural risk, or a coerced risk with a voluntary one. This leads to more outrage and communities feeling that their concerns have not been understood or acknowledged.

It Comes Down to Two Things

In the end, good risk communication comes down to two things: genuine concern and caring. Over the course of my career as a public health nurse, a health educator, and now a faculty member, I have learned one very important lesson: People can tell when you really care about them. My attempts to be completely culturally competent have often failed, yet I have seen people respond to my concern for their well-being in spite of any cultural faux pas I may have committed. Remember that community residents know that you can never be perfect. They usually understand that society is never completely risk free. I think what they are looking for, in addition to your technical expertise, is true compassion and understanding.

For more information about effective risk communication, I bigbly recommend Peter M. Sandman's book: Responding to Community Outrage: Strategies for Effective Risk Communica-tion. 1993. Fairfax, VA: American Industrial Hygiene Association.

How to Order the Book

Ordering information can be found at *www. psandman.com* or write to 59 Ridgeview Road, Princeton, N.J. 08540-7601. You can also call (609) 683-4073 or e-mail *peter@psandman.com.*

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