How to Be an Effective Risk Communicator—Part I

At the 1995 Annual Meeting of the Society of Nuclear Medicine, the special committee on radiobiological effects of ionizing radiation (REIR) held a session focused on the importance of tailoring risk communication to best meet the needs of adversarial groups, government officials, patients, and broad-based coalitions. Kevin J. Donohoe, MD, A. Bertrand Brill, MD, PhD, David R. Brill, MD, James J. Conway, MD, Edward B. Silberstein, MD, Chris Whipple, PhD, compiled the highlights of their presentations into a two-part commentary. Part I explores the issues of communicating risk to patients and government officials. Part II, which will appear in next month's Newsline, explores communication with adversarial groups and broad-based coalitions.

Several recent journal articles have discussed the general concepts of communicating risk information, yet few have focused on communication with specific audiences. The general concepts should be kept in mind when communicating with any group, but tailoring the message to the specific audience is more likely to result in successful communication. For example, communicating risks about low-level radiation exposure to patients should be approached differently than communicating the same information to an adversarial group such as an environmental activist organization. The facts do not change, but the way the facts are presented, and the emphasis placed on specific issues, can mean the difference between dialogue and discord.

Physicians and physicists specializing in radiation therapy, radiology and nuclear medicine are often considered radiation experts and may be called upon to communicate information not only to patients, but to policy makers or environmental groups. If this information is not clearly and accurately conveyed, the consequences could be dire for the patient or the community. Important decisions may be based on inaccurate perceptions of the risks involved. Inaccurate perceptions abound when emotional topics such as radiation are discussed.

Many people familiar with ionizing radiation are aware of the public opposition to radioactive materials and radiation exposure. Despite evidence that the linear no-threshold model of cancer induction may not be applicable to low-level, low-LET radiation exposure, federal and state regulations restricting low-level exposure continue to increase[1-5]. The restriction on the use of radioactive materials has reached such an extent that in many circumstances it is no longer economically feasible to use these materials. Physicians and physicists educated in the use of radioactive materials should therefore take an active role in educating their patients and the public about the importance of radioactive materials and the history of their safe use.

Communicating with Government Agencies

Communicating with federal and state regulatory agencies is an important responsibility for radiologists, physicists, and nuclear medicine practitioners. Unopposed, regulatory agencies tend to over-regulate and unduly restrict important safe uses of radioactive materials. The public's demand for regulation of radioactivity is a very normal reaction to the misinformation they receive. Biased broadcast of risks of radioactivity and the relative dearth of information disseminated about the safe and beneficial uses of radioactivity add to public fear and distrust[6,7]. If the propitious use of radioactive materials is to survive, lawmakers need to understand both sides of the radiation debate.

Physicians and physicists familiar with radioactivity are ideally positioned to educate lawmakers about radioactivity. They maintain a high credibility with the public as well as with governmental officials, yet they cannot expect lawmakers to accept their recommendations merely on the basis of the credibility of their profession[6]. Preparation is essential for a session with lawmakers, otherwise individual and professional credibility will suffer if an opportunity to communicate with government officials is taken lightly.

Preparation should begin by getting to know government contacts before a meeting is dictated by a problem. This will allow a practitioner to establish himself or herself as an expert in the field. If the initial contact with a government official is dictated by adversarial circumstances, the lawmaker will more likely perceive others as inordinately biased if they present information favoring one side or another.

Once a problem arises, and a meeting has been arranged, preparation for the meeting should include investigation of the background knowledge of the lawmaker regarding the conflict. In many cases, the contact may be aware of the scientific or technical aspects of the conflict. Knowing this will prevent an overly simplified presentation which may be interpreted as condescending. Knowledge of the contact's position on the issue may also reveal agreement on several facets of a dispute, allowing for more efficient discussion of the main points of conflict.

Knowledge of the environment in which a lawmaker works will help provide an understanding of the lawmaker's position. Awareness of resources, such as staff or university affiliations used by the governmental contact, will help explain any biases brought to the table. These resources might also afford another avenue for disseminating information to the lawmaker, particularly if there is a history of limited availability. Inside information from a staff person or other resource can also be of great value.

If technical jargon, such as "rads" or "rems" is to be used, the terms should be clearly explained and made more familiar by relating them to common radiologic exposures. For example, computed transaxial tomography gives approximately 2.5 rads to the irradiated skin and about 1.5 rads to the midpoint of the body internally. This level of radiation exposure, as part of an indicated medical test, is accepted by the public.

When speaking with governmental contacts about a legislative concern, it is important to be familiar with pertinent

federal and local regulations. Just as it is easier for physicians to communicate with patients who have some knowledge of biochemical processes or pathophysiology, a lawmaker will have an easier time discussing low-level waste with someone who is aware of the laws and regulations (EPA, NRC, OSHA, FDA, DOT, etc.) already in place. A legislator is also more likely to respect the opinion of someone who is informed about more than his or her own agenda.

Once the preparation has been made and the meeting has begun, both physician and legislator should agree on the issue at hand. Mutual agreement about the dispute may seem elementary but can be very difficult. Both parties may identify the issue as the local nuclear power plant, when in reality the issue for the governmental contact is the health of the children in the district while the issue for the other party is the availability of a safe, clean source of electricity.

After the issue at hand has been agreed upon, a goal should be identified as well as a method to reach the goal[8]. These tasks present an opportunity to initially work on less confrontational tasks than the unresolved issue. This effort may begin the meeting with the sense of working together, rather than working from opposing sides.

For example, if the issue is the welfare of the voters in a district that is being considered for a low-level waste facility, an agreed upon goal would be to establish a cost-benefit analysis of the facility. This would include information about the environmental, health and financial risks and benefits of siting the facility in the area. To reach this goal, the logistics of performing the cost-benefit analysis should be considered, such as who will do the research and what is the source of the data.

A voting member from the area represented by the government contact should be present at any discussion, reinforcing the idea that the issue is important to the voters. To make the issue even more germane to the contact, local consequences of the decision should be emphasized. If low-level waste is the issue, the importance of local nuclear medicine facilities might be stressed. Strengths such as academic research projects or the local patient population served might also be emphasized. Discussing the "safe" and "effective" uses of radioactivity rather than the "risk" will emphasize the benefits of radiation exposure [9]. People are more willing to tolerate risk if they feel the activity will be highly beneficial[10].

Relating the medical benefits of radioactivity is of particular importance with congressional legislators. Many congressional staffers are under the age of 40. These staffers may have had little contact with the medical profession and therefore may not be able to relate to physicians or understand the devastating effects of an illness. Staffers of freshmen congressmen may also be overwhelmed by the many issues that they must assimilate during their first term. If the legislator has little personal familiarity with the medical field, it may be helpful to stress medical issues that are more timely or familiar, such as AIDS, breast cancer, Alzheimer's disease or Graves' disease.

Emphasizing the medical benefits will also help to distinguish low-level exposures from other issues. Someone familiar with nuclear medicine may have no problem separating low-level medical exposures from nuclear weapons, power plants or storage of high-level waste. On the other hand, a legislator with many issues on the table may be more likely to confuse all things "nuclear". It is important, therefore, that the point of the visit with the legislator is reiterated during the discussion, distinguishing it from other nuclear issues.

Once the benefits of radioactive materials have been addressed, economics should also be considered. This issue is difficult because economic considerations raise the concern that financial interests will be pursued at the expense of public health, particularly by those individuals that perceive themselves as adversely affected. Such individuals protest loudly because they feel their taxes are not being spent in their favor, and, importantly, because of involuntary exposure to alleged risks brought into their communities. To avoid friction with this vocal minority, many agencies attempt to address the concerns of all individuals. Even if the cost to save one life is in the billions of dollars, there are few agencies who would consider it acceptable to say the price should not be paid.

In an ideal world, there would be unlimited resources and energy to invest in protecting everyone. Unfortunately, however, resources are limited. We must be aware of the number of lives lost when limited resources are diverted from a more cost-effective use, such as perinatal care, to a less cost-effective use, such as decreasing low-level radiation exposure (which has not been shown to cause disease)[5,11]. If the goal is indeed to use limited health care resources to improve the quality of life for the greatest number of people, then we must consider economical issues such as cost-effective distribution of our resources.

At the conclusion of the session with a government contact, it is helpful to leave written documents reiterating the points made during the discussion. The material may consist of an outline of the points presented, copies of articles on the subject, a book discussing radiation effects, or some other concise, easy to read material that will remind the contact of the discussion. Included in the written materials should be a telephone number or address to contact for additional information.

Communicating Radiation Risk to Patients

Communicating with patients is often done in a one-on-one manner and is therefore more likely to be done in a friendly, courteous, trusting atmosphere than if the same information was communicated to a large group[12]. Patients are often a friendlier and more attentive audience than government officials, and certainly easier to talk with than adversarial groups with a confrontational mind set. The patient is in the medical environment because he or she chooses to be there. The patient feels as though he/she has a choice about the radiation exposure, and that the exposure has some benefit associated with it. In contrast, exposure to those outside of medical facilities is perceived as accidental, unnecessary or secondary to a waste product. In the medical environment, the patient is often alone and may feel more trusting than if in the midst of a group with a strong anti-nuclear opinion.

A receptive audience enables the nuclear physician to take a more relaxed approach to risk communication. The casual

nature of the discussion, however, does not mean the physician should not be the primary communicator. Patients educated by a nurse or technologist may not feel as comfortable or as reassured as they might if they had spoken directly with the physician. All other things being equal, the credibility and authority enjoyed by a physician may help to put a patient at ease. If a physician provides individual attention to the patient, the patient is more likely to be satisfied with the care received.

Providing the patient with enough information to make an informed decision is not as simple as citing the incidence of side effects. If the incidence is even available, it must be accompanied by further explanation of the consequences of the side effect. When the information is not available, one of the most difficult concepts to communicate is the importance of the knowledge gaps. This concept is of particular importance to the physician who is asked about the possibility of carcinogenesis from low-level exposures.

If the risk of carcinogenesis surfaces as a concern, some patients will expect a "yes"or "no"answer. Will this test cause cancer or won't it? It is not likely that there will ever be adequate data to definitively answer this question. For exposures encountered with many diagnostic studies, it is appropriate to mention that there is no direct evidence of harmful effect. If a patient is reluctant to accept increased risk, even if it is minimal, the patient may be thinking of only the risk involved, and not the benefits. Here again, it may help to point out that risks are assumed in everyday life because a benefit is expected. With the medical test, as with more familiar risks, the benefits are expected to far outweigh the risks. Any discussion of risks involved with a medical test should therefore include a discussion of the test's benefits.

After a brief explanation of the procedure, patient concerns or questions should be addressed. Once a question is asked, the physician should repeat the question so that the patient can see the question has been heard and understood. The concern or question should then be answered to the patient's satisfaction. Further questions should be elicited and answered until the patient understands the procedure and risks. This careful attention to making sure all questions are discussed is one of the advantages of a one-on-one discussion that cannot be expected when addressing a large group.

The setting in which the discussion takes place is important. It should be done in a private room with both parties sitting, so that the patient has the physician's undivided attention. Interruptions should be avoided. After the physician provides an initial overview of the procedure, the content of the discussion should be directed by the patient. A detailed explanation of radiation risk is seldom necessary. In most circumstances, radiation exposure is not a primary concern. A defensive, unsolicited discussion about the risks of low-level radiation exposure might only raise concerns that were not previously considered. Most patients understand the importance of diagnostic testing. They trust that only necessary tests will be ordered by their physician.

Lastly, it should be remembered that a patient has every right to refuse a test, no matter how unreasonable it may seem to the physician. The physician may feel the risk associated with the test is minimal; yet if it makes the patient unduly anxious, the benefits may not outweigh the harm.

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