The Human Side of Veterinary Medicine

The tough job of talking about risk

One of the roles of the scientific professional in today's society is to assess risk and to communicate what we know about the risk. As veterinarians, we do so, often without a second thought, when we consult with a client wishing to design a cost-effective herd health program on a dairy farm, talk to a pregnant employee expressing concern about waste anesthetic gases, work with a client who insists that there has been a lot of cancer in dogs this year, or counsel a grieving client who feels that the pet's death was attributable to a failure to prevent the fatal disease. Risk-bearing situations all share two features in common: the existence of hazard and the potential for outrage.

Hazard embodies the likelihood that a health problem will develop, and the severity and economic impact of the problem if it were to develop. Hazard is an estimate of how much harm is likely to be done by "x." Hazard is what scientific risk assessment is designed to estimate. It can be described in quantitative terms: incidence and prevalence, direct and indirect cost of disease, and various measures of communicability and preventability.

Outrage, on the other hand, reflects our emotional, less rational response to "x." It is one's subjective perception of hazard and the emotional response it creates. It is independent of any scientific measure of hazard, but is relevant and must be addressed. Attempts to ignore or suppress the normal human response to the unknown are usually counterproductive.

Several aspects of a risk situation can precipitate outrage. They relate to the observer's perception of his/her ability to control the situation at will, the observer's value system, and the sense of fear created by the threat. Several features of a threatening situation might elicit outrage.

The threat is imposed involuntarily—Until recently, cigarette smoking was an acknowledged but accepted health risk in our society. It was perceived as voluntary. Presumably the smoker could quit at any time. Recent studies popularized in the news media have educated the public about the physical and psychologic barriers to quitting as well as the hazards of secondhand smoke to nonsmokers and animals. These findings have changed the perception of smoking as a voluntary act by the smoker to one with important involuntary components.

The threat is imposed by "the system"—Hazardous material dumps, medical waste, and pathogens in the food supply have recently met with considerable political scrutiny. Food irradiation, an effort to control foodborne pathogens, has met much of the same public interest concern. There's a perception that somehow things have gotten out of hand. Public reaction is especially intense when the threat is the result of incompetence or indifference by those in power or who should know better. It is often played out by demand for more governmental regulation of the industries creating the perceived hazard. The degree of regulation is not necessarily related to actual risk, but to the combination of hazard (measured by the scientific community) and public outrage. Outrage is often exploited and intensified by the news media.

The threat is new or exotic—This component of outrage can be exemplified by the tremendous public concern about Borrelia burgdorferi infection (Lyme disease)—with diminished emphasis on Rocky Mountain spotted fever. Though B burgdorferi infection is a serious threat in many parts of the United States, it is seldom fatal in animals or man. On the other hand, Rocky Mountain spotted fever is an "old" problem. It is much more likely to result in hospitalization and death, but does not seem to have received as much public attention recently.

The threat is dreaded—This aspect of outrage has worked to our advantage in carrying out rabies prevention programs. Fact and myth in-
terttwine about the terrible consequences of rabies—21 shots in the abdominal wall, and all. Fortunately, hazard and public outrage seem to be reasonably well-balanced in areas of the United States where rabies is a threat. We seem to have considerably more difficulty in mobilizing public concern about other less dreaded but serious public health problems.

The threat is focused vs diffuse in space and time—Notice the difference in public reaction to the crash of a commercial airliner that kills 100 people and a national holiday death toll of 100 from auto accidents. Distance from the event is also relevant. There would be less outrage among farmers in the United States following an outbreak of African swine fever in Nigeria than one in Mexico.

I occasionally receive calls from veterinarians inquiring about clusters of unexplained diseases in their communities: seizures in dogs, dermatitis in staff members, unexplained deaths in cattle. Clusters can be especially urgent when they are found near a hazardous environment.

The threat is unfair—The death of children (or pups) is especially moving. One component of this emotion is that the victim "didn't have a chance"—was unable to defend against or act to prevent the demise. The pediatric patient's death also reflects a life cut short. (This is captured in the public health statistic called years of potential life lost.)

The threat is morally relevant vs morally neutral—The AIDS pandemic is the most obvious example of a threat associated with both hazard and outrage. The principal risk factors for AIDS in this country involve behaviors that may be morally unacceptable to many.

Moral and political battle lines are drawn.

Outrage associated with the death of a horse by starvation is considerably greater than that of a horse that died of colic. There is a strong moral component to animal cruelty. In such incidents, there is often a perception that additional cases are to be found and that swift community action is needed to prevent recurrence. This perception may not accurately reflect actual increases in the problem in the locality.

Some diseases and conditions "just happen" and are accepted as a fact of life—an acceptable risk. Others are seen as both diseases and evils. They take on aspects of punishment for wrongdoing, the consequence of wanton carelessness and abuse, or injustice in want of vindication.

Effective risk communication maximizes understanding and rational action and minimizes outrage. It is also responsive to the concerns of others, regardless of their scientific background. In my opinion, many societal factors influence the way we communicate risk information. These include the way we teach science in the schools and the way many people learn to perceive risk. Science is taught in a manner that emphasizes the deterministic aspects of nature, often to the neglect of stochastic (chance-related) models. Emphasis on strict cause and effect is certainly applicable in the physical sciences. This is less true in the biological sciences.

Many of us, myself included, were raised to accept a dual model of hazard: strict cause and effect and God-controlled. "You make your own luck." If something went wrong, someone (you) either messed up or it was God's will. Someone was to blame. The thought of life as a cosmic crapshoot was unacceptable, and it is unacceptable to many clients as well. The "his number just came up" approach is seldom an appropriate explanation for the death of a beloved pet. It would not help explain perceived clusters of disease either. But neither blame-fixing nor fatalism are effective approaches in addressing most hazards. Taking positive action is. Effective communication channels public energy into productive action. The following are a few suggestions for talking about risk:

- Encourage the client to take an active role in controlling and understanding risk. The more one feels empowered to control a bad situation, the less the hazard appears to be involuntary and inevitable.
- Frame the risk message in terms the listener understands. The most effective risk messages are those that self-consciously address the audience’s perspectives and concerns. Openness is the surest policy.
- Most people reject raw technical data. It is either too difficult to understand or is presented in a manner that does not address their concerns. Expressing the degree of exposure in picocuries or number of organisms, or outcomes in terms of number of cases per 100,000 individuals is not only confusing, but adds little to the understanding of the "real world" situation. It is often helpful to explain the magnitude of a risk situation by comparing it with an analogous situation. This is most effective and credible when using similar contexts and outcome criteria (eg, risks from flying vs driving to the same destination, likelihood of surgical success in a 6-month-old cat vs a 12-year-old cat). Inasmuch as valid quantitative risk data are seldom available, making relative or semiquantitative comparisons is more helpful.
• Explain available therapeutic alternatives and potential outcomes in plain language. Help clients formulate their own risk-benefit analysis. Client involvement reduces apprehension and increases the client's sense of control.

• Reduce complacency. Reeducate clients about the common "old" risks as well as the hot, new topics.

• When a client perceives a cluster of an uncommon disease in a herd or community, listen. Many clusters can be explained by the laws of probability (incidence/prevalence); many are spurious, but some are real. Even though clients may tend to resort to the "ecologic fallacy" first, one should systematically address all reasonable explanations. From a public health perspective, the perception of a cluster in a community may be as important as, or more important than, a real cluster.¹

• Use the word "cause" judiciously. Philosophers, scientists, attorneys, and the public use this "loaded" term in different ways.

• Be a good listener. Communication is a two-way process. A client’s or employee’s perception of risk often is colored by his/her world view, which may be radically different from our own. In a rush to wipe out ignorance by volunteering our opinion, we may alienate the client and increase outrage.

• Risk communication is interactive and is seldom the result of single encounters.² We collect risk information over time—from the news media, at school, out of technical journals, in the barber’s chair, or on the bar stool. Although a client’s perception of a risk situation may not be "scientific," it might have been hard-earned.

• When a real hazard exists, identify it. Examine the consequences of not acting.

Educate the client (or staff member) about the hazard. Help that person formulate a preventive strategy. Remember, action empowers.

• When an outcome appears to be unfair, it may well be. To deny our own outrage in such situations is stressful and contributes to professional burnout. Share in the client’s feelings. It may be therapeutic for both parties.

References

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JAVMA, Vol 202, No. 6, March 15, 1993
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