Some Threats to Laboratory Research Require an Unusual Antidote

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No one would question that a laboratory of any kind, but especially a high-containment laboratory, needs biosafety protocols, stringent waste disposal plans, and personal protective equipment in place before the laboratory goes hot. However, another essential and often missing laboratory tool is the media and risk communication plan. When the subject of communication planning is broached, few argue its necessity yet most believe that risk and media communication will "take care of itself" when needed.

Professionals who put themselves at some level of risk to advance knowledge about microorganisms may not realize that a real threat to their ability to pursue their work is, in fact, not an unfortunate exposure in the lab but a public drubbing for violating the community's trust. Moreover, extensive efforts often are in place to assure against occurrence of the former event, but little is done to protect against the latter. Understanding the driving forces that create mistrust among community members and the concomitant outcry to stop vital research is worthwhile. The antidote is taking tangible, proven protective steps before, during, and after an event occurs to allow private- or public-funded laboratory research to continue.

"It takes 20 years to build a reputation and 5 minutes to ruin it. If you think about that, you'll do things differently."—Warren Buffett

Reputation is like DNA. The organization's identity is expressed by the accumulation of individual events that are strung together. Like DNA's double helix, the good and the bad are inextricably connected, and activities that enhance or protect credibility should not be separated. An organization's reputation depends on the continuous and dynamic spiraling of two functions: identity enhancement and risk mitigation or response.

Enhancement involves every step in measuring, preserving, and growing credibility capital such as publicly recognizing laboratory successes, making research results easily understood by the community, and community engagement (i.e., bringing the lab's important achievements to the community through guest presentations). Risk mitigation and response involve monitoring for and assessing possible credibility threats to forestall them, or detect and respond to them if they do occur. It's about managing both threats and opportunities. Importantly, risk to an organization's reputation may arise from new initiatives or from inaction. Even strong, positive reputations must be actively managed for the long-term, based on both performance criteria and effective communication.

While communication alone can not protect an organization's credibility, maintaining the public's trust means fulfilling the stated and implied promises by combining one's best science with strong ethics and values. Public trust is built, enhanced, or restored, in part, through effective communication, especially when perceptions of mistrust occur.

Today, the definition of an organization is based much more on what others are saying about it in multiple electronic formats, including the Internet. Before the information age, the media served as a filter for information. Today, any individual has the power to define the organization in an electronic setting and that information can move across the world overnight. These new information outlets may have fewer checks and balances for accuracy and perspective. Traditional media have been increasingly overcome by new media, including bloggers, and in some cases new media are setting media agendas. Information no longer flows in a hierarchal fashion, but moves, instead, in elaborate and constantly changing horizontal networks. This changing environment requires new, deliberate communication choices, including grassroots outreach.

Risk Is Risky Because Perceptions Differ

The perception of risk is vitally important in understanding why the public becomes more or less upset by events. Not all risks are created equally. A wide body of research exists on issues surrounding risk communication (Clarke et al., 2006; Sandman, 2004; Seeger et al., In Press). The following emphasizes that some risks are more accepted than others.

- **Voluntary versus involuntary:** Voluntary risks are more readily accepted than imposed risks.
- **Personally controlled versus controlled by others:** Risks controlled by the individual or community are more readily accepted than risks outside the individual's or community's control.
- **Familiar versus exotic:** Familiar risks are more readily accepted than unfamiliar risks. Risks perceived as relatively unknown are perceived to be greater than risks

that are well understood.

- **Natural origin versus man-made:** Risks generated by nature are better tolerated than risks generated by man or institutions. Risks caused by human action are less well tolerated than risks generated by nature.
- **Reversible versus permanent:** Reversible risk is better tolerated than risk perceived to be irreversible.
- **Statistical versus anecdotal:** Statistical risks for populations are better tolerated than risks represented by individuals. An anecdote presented to a person or community, i.e., "one in a million," can be more damaging than a statistical risk of one in 10,000 presented as a number.
- **Endemic versus epidemic (catastrophic):** Illnesses, injuries, and deaths spread over time at a predictable rate are better tolerated than illnesses, injuries, and deaths grouped by time and location (e.g., U.S. car crash deaths versus airplane crashes).
- **Fairly distributed versus unfairly distributed:** Risks that do not single out a group, population, or individual are better tolerated than risks that are perceived to be targeted.
- **Generated by trusted institution versus mistrusted institution:** Risks generated by a trusted institution are better tolerated than risks generated by a mistrusted institution. Risks generated by a mistrusted institution will be perceived as greater than risks generated by a trusted institution.
- **Adults versus children:** Risks that affect adults are better tolerated than risks that affect children.
- **Understood benefit versus questionable benefit:** Risks with well-understood potential benefit and the reduction of well-understood harm are better tolerated than risks with little or no perceived benefit or reduction of harm.

When a laboratory is considering its public outreach and crisis planning, these qualities of a risk should be taken into consideration. The very nature of laboratory work increases the public's emotional response regardless of safety histories.

Crises Evolve

The crisis communication plan must be planned with the worst-case scenario in mind but actually begins to be implemented before a scenario plays out. An organization's crisis communication plan should be fully integrated into the overall emergency response plan for the organization. Understanding the pattern of a crisis can help professionals anticipate problems and respond effectively. For communication professionals, it's vital to know that every emergency, disaster, or crisis evolves in phases and that the communication must evolve in tandem (Reynolds et al., 2002; Reynolds, 2004). By dividing the crisis into phases, the communicator can anticipate the information needs of the media, stakeholders, and the general public. Each phase has its unique informational requirements. Movement through each of the phases varies according to the triggering event. Not all crises are created equally (Mitroff, 2004). The degree or intensity and longevity of an event will impact required resources and staff needed to provide risk information.

Pre-crisis Phase

The pre-crisis phase is where all the planning and most of the work should be done. Types of events that an organization may need to address can be anticipated. Reasonable questions can be anticipated, and preliminary answers can be sought. Initial communication can be drafted with blanks to be filled in later. Alliances and partnerships can be fostered to ensure that experts are speaking with one voice.

This is the phase during which an organization's credibility is established and maintained. Opportunities are assessed, pursued, and celebrated; connections with critical communities are made and nurtured. Challenges, which are not related to a real or potential crisis, are addressed. Facing organizational foibles and general reputational vigilance in non-crisis times is key to assuring effectiveness during a crisis (Alsop, 2004).

Initial Phase

In the initial phase of a crisis or emergency, people want information—now (Ripley, 2008). They want timely and accurate facts about what happened and where, and what is being done. They will question the magnitude of the crisis, the immediacy of the threat to them, the duration of the threat, and who is going to fix the problem. Communicators should be prepared to answer these questions as quickly, accurately, and fully as possible.

Simplicity, credibility, verifiability, consistency, and speed count when communicating in the initial phases of an emergency. The initial phase of a crisis is characterized by confusion and intense media interest. Information is usually incomplete, and the facts are dispersed. Recognizing that information from the media, other organizations, and within one's organization may not be accurate is important to understand. In the initial phase of a crisis, there is no second chance to get it right. An organization's reputation depends on what it does and does not say.

Crisis Maintenance

As the crisis evolves, one can anticipate sustained media interest and scrutiny. Unexpected developments, rumors, or misinformation may place further media demands on organization communicators (Brashers, 2001). Experts, professionals, and others not associated with the organization will comment publicly on the issue and sometimes contradict or misinterpret messages (Ulmer et al., 2007). Processes for tracking communica-

tion activities become increasingly important as the workload increases.

Resolution

As the crisis resolves, stasis returns, with increased understanding about the event as complete recovery systems are put in place. This phase is characterized by a reduction in public and media interest. Once the crisis is resolved, a response organization may need to respond to intense media scrutiny about how the event was handled. In this phase, there is an opportunity to reinforce positive messages while the issue is still current.

The Value of Earned Trust

Expect the public to immediately judge the content of an official emergency message in the following way: "Was it timely? Can I trust this source? Are they being honest?" Research shows that four basic elements establish trust and credibility: expressing empathy and caring, showing competence and expertise, remaining honest and open, and being committed. According to research, being perceived as empathetic and caring provides greater opportunity for your message to be received and acted upon (Sandman et al., 2004). In a crisis, the message should acknowledge the fear, uncertainty, or frustration being experienced.

The following basic tenets help to build confidence and trust in the facts and recommendations released:

- **Don't over-reassure. The objective is not to placate but** to elicit accurate, calm concern.
- **Acknowledge uncertainty. Offer only** what is known. The spokesperson should show concern and acknowledge distress. "It must be awful to hear that we can't answer that question right now…."
- **Emphasize that a process is in place to learn more. Describe that process in simple terms.**
- **Give anticipatory guidance. If the** spokesperson is aware of future negative outcomes, let people know what to expect (e.g., side effects of antibiotics).
- **Be regretful, not defensive. Say, "We are** sorry…." or "We feel terrible that…." when acknowledging misdeeds or failures from the organization.
- **Acknowledge people's fears.** Don't tell people they shouldn't be afraid. They are afraid and they have a right to their fears. Don't disparage fear; acknowledge that it's normal and human to be frightened.
- **Express wishes. Say,** "I wish we knew more." or "I wish our answers were more definitive."
- **Understand what is and isn't panic. Behaviors** described as panic are less common than imagined (Ripley, 2008). Panic doesn't come from bad news but from mixed messages and a belief that people have no control. If people are faced with conflicting recommendations and expert advice, they are left with no credible source to turn to for help. That level of abandonment opens the door to charlatans and poor judgment. Candor protects credibility and reduces the possibility of emotional panic, because the messages ring true.

The public will be listening for factual information, and some will be expecting to hear a recommendation for action (Clarke et al., 2006; Fischhoff et al., 2003; Reynolds et al., 2002). Get the facts right, repeat them consistently, avoid sketchy details early on, and ensure that all credible sources share the same facts. Consistent messages are vital. Inconsistent messages will increase anxiety and quickly torpedo the credibility of experts.

Three critical elements to an organization's management of a serious event include: speed of response, avoiding missteps during the crisis response, and asking for forgiveness when the organization is at fault (DiGiovanni et al., 2004; Fischhoff et al., 2003). It is best if crises that affect the organization's trust never occur, but when they do, it is likely not the crisis itself that harms reputation; it's the response to the crisis that harms the reputation, especially if an organization mishandles the early phases of an event. An organization can be forgiven when something goes wrong, but it won't be if it is perceived as not caring that things have gone wrong. Early and empathetic action may mitigate damage (Reynolds et al., 2005; Reynolds, 2006; Seeger, 2006). Unfortunately, most organizations are not structured nor are leaders committed to quick, caring action, making the best intentions fail before they even begin. The "risk smart" organization does not wait for an event to occur before considering its credibility in the community. The true antidotes to threats to the organization's credibility are strong community engagement and an integrated communication plan supported by leadership.

"A reputation once broken may possibly be repaired, but the world will always keep their eyes on the spot where the crack was."—Joseph Hall

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ABSA/OSHA Alliance Fact Sheets

New ABSA/OSHA Alliance Fact sheets have been prepared and posted on the ABSA and OSHA web sites. The "Zoonotic Disease" and the "Select Agent" Fact Sheets are excellent training resources for scientific and animal program staff as well as emergency responders. Introductory material is covered in "Biosafety Levels" and the "Principles of Biosafety" Fact Sheets.

EPA Settles with Nation's Largest Supplier of Hospital Disinfectants

On August 4, EPA Region 2 issued a statement regarding the Agency's recent settlement with, Lonza Inc., the nation's largest manufacturer of hospital disinfectants. Lonza has agreed to develop and implement a nationwide quality assurance program to ensure the effectiveness of the disinfectant products sold by Lonza and its distributors to hospitals and other consumers around the country.

In agreeing to develop and implement this supplemental environmental project (SEP) project, Lonza will evaluate whether or not the companies that formulate its products are doing so safely and legally. Lonza will inspect the production plants, interview key personnel, and review required documentation. Only those companies that are found to comply with all regulatory, quality assurance and manufacturing requirements will be permitted to continue to formulate Lonza's products. Lonza has until December 2009 to develop and fully implement the SEP.

EPA took this action and Lonza agreed to the SEP because some of the hospital disinfectant products sold by Lonza were not effective when tested by EPA. They include: Formula 158 Lemon Disinfectant, Fresh and Clean, and REV. Formula 158 Lemon Disinfectant and Fresh and Clean did not kill *Pseudomonas aeruginosa*, and REV did not kill either the *Pseudomonas aeruginosa* or *Staphylococcus aureus*, as claimed on the product labels. Both pathogens can cause infections that can be serious but are generally treatable with antibiotics.

Before any pesticide is sold in the United States, it must go through EPA's rigorous registration process, dictated by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). During this process, companies must provide toxicity, environmental, and other studies and information about the product to ensure that its proper use does not cause any negative human health or environmental effect. To obtain a registration for a pesticide product making public health claims (e.g., "kills germs," "stops E. coli"), EPA requires specific efficacy data to support the product's public health labeling claims for the patterns of use, and other data to support the product's safety. The manufacturer is responsible for ensuring that the product will perform according to claims on the label. EPA also works closely with the manufacturer to make sure the label instructions are as clear as possible.

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