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Do's and don'ts of communicating effectively about NEO hazards

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To ensure widespread public awareness and understanding, it is necessary for the near-Earth object (NEO) community to communicate effectively about NEO discovery and characterization and identification and tracking of potentially hazardous asteroids (PHAs). Scare tactics and misinformation are all too common in the public discourse about NEOs and PHAs. The NEO community can effectively neutralize fear-mongering and misinformation by following some basic rules of effective communication about science, technology and risks.

Rule No. 1: Be clear, concise, comprehensive, and correct. Always.
The goal of this rule is to earn public trust and avoid violating it. Research has shown that it is more difficult to regain trust than to build it in the first place. Toward building and maintaining trust, it is useful for organizations to select a few spokespeople who are skilled at communicating with non-expert audiences and committed to openness and transparency – that is, people who are trustworthy.

Rule #2: Acknowledge people's fears.
Effective communication about risks and hazards requires acknowledgement of people's fears. Ignoring or dismissing people's fears does not build trust, and it certainly does not dispel those fears. By explaining what we know, what we don't know, what we need to learn about NEOs and PHAs, we can engage citizens in the process of discovery.

Rule #3: Tell people what they can do in the face of risk and hazards.
When people feel helpless, they feel vulnerable and even fearful. Involving citizens in the process of learning about NEOs and PHAs and enabling them to participate in the process of mitigation planning will go far toward empowering them to make sound decisions.

Rule #4: Pay attention to rhetoric.

Words are the way we construct our social realities. Inflammatory language – such as “civilization ender” and “world destroyer” – fans people’s fears, toward no productive end. The common language of the military-industrial complex – for example, speaking of challenges in terms of “threat/response” – may not be especially useful in communicating with non-expert audiences about NEOs and PHAs. The NEO community would do well to avoid painting nightmare scenarios and also to avoid debunking. Rhetorical strategies are important. The strategy of debunking – put simply, “You’re wrong, I’m right, here’s why” – is not a useful way of engaging audiences and building trust. A strategy of accepting people’s fears, engaging them in dialogue, and promoting understanding is a more productive long-term strategy.

Background

Research in mass communication, science communication, risk communication and the psychology of risk, social studies of science, public understanding of science, the rhetoric of science, and journalistic practices yields many findings that are relevant to communication strategy and planning for NEO/PHA monitoring and risk mitigation. Scholars have explained how communication is contextual, contingent, situated, and symbolic as well as instrumental. They have shown how and why “the public” is not a monolithic audience. Studies have shown how conventional mass media and, more recently, social media play a key role in public discourse about science, technology and risk and examined other sources of information tapped by non-expert audiences Studies of journalists and scientists at work have explored the professional values and practices they employ in their professions and revealed how these values and practices differ and sometimes conflict. Communication researchers who have explored the interactions of scientists and journalists have found that while scientists most commonly criticize journalists for inaccuracy, what scientists call “inaccurate” is usually merely incomplete, or, more precisely, lacking some details that scientists consider critical and journalists consider expendable.

The most prevalent model of science communication to date is the cognitive-deficit model, which posits that effective science communication is a process by which knowledgeable scientists convey information they deem useful to ignorant non-scientists. This model has its historic roots in the propagandistic model of communication. Research has shown how and why the cognitive deficit approach to science communication is not the most effective method of conveying useful information to the public. Interactive science communication – a two-way rather than a one-way flow – enables members of the public to participate in the exchange of information and let scientists know what *they* consider to be useful information. Interactive communication also rests on the assumption that local and non-scientific knowledge can be valid knowledge. Participatory communication – a model originally developed by scholars of development communication) is more than a simple two-way exchange. It is a continuous process which acknowledges that science is, indeed, important to everyone and that everyone thus has a right to participate in the public dialogue about science.

The participatory communication model promises to be especially useful in risk communication, as dialogue is critical to building trust.

Successful communication about science, technology and risk is contingent upon a range of factors, including the social context in which it takes place. Communication strategy and planning for NEO monitoring and risk mitigation should rest on a model of communication as an ongoing, interactive process that occurs in specific social contexts and serves both instrumental and symbolic ends. This dialogic and contingent model:

- Acknowledges that communication involves complex networks of interacting exchanges (by means of mass media, social media, local media and other public channels as well as interpersonal networks and contacts);
- Assigns value to expert and local knowledge;
- Accommodates multiple perspectives, thereby contributing to the establishment and maintenance of social trust; and
- Enables public participation in decision making.

The NEO community would do well to involve more scholars of science and risk communication in the communication strategy and planning process, or at minimum draw on the resources of their scholarship.