

*FOOD MICROBIOLOGY  
AND FOOD SAFETY*

Timothy L. Sellnow  
Robert R. Ulmer  
Matthew W. Seeger  
Robert S. Littlefield

# Effective Risk Communication

A Message-Centered Approach



Springer

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## FOOD MICROBIOLOGY AND FOOD SAFETY SERIES

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**Part I**  
**Conceptualizing a Message-Centered  
Approach to Risk Communication**

## Chapter 1

# Introducing a Message-Centered Approach to Risk Communication

*The latency phase of risk threats is coming to an end. The invisible hazards are becoming visible. Damage to and destruction of nature no longer occur outside our personal experience in the sphere of chemical, physical or biological chains of effects; instead they strike more and more clearly our eyes, ears and noses.—Ulrich Beck, Risk Society: Towards a New Modernity (Beck, 1992, p. 55)*

In its most basic form, risk is the absence of certainty. If we are absolutely certain of the results an action will produce, that action has no risk. In reality, we rarely, if ever, have the luxury of absolute certainty. Uncertainty, therefore, is the “central variable” in the risk perception and communication process (Palenchar & Heath, 2002, p. 131). In the absence of certainty, we must calculate the likely outcome of our activities based on the available information. From this perspective, risk is neither good nor bad. Rather, risk is a fundamental part of life. The way we manage risk, however, has a profound impact on our quality of life. As Ulrich Beck (1992) notes in the opening quotation, we are evolving into a society with increasingly acute levels of risk.

Advancing technology, unprecedented globalization, and the insatiable demand for energy are factors, among many others, that continue to complicate human activity and in so doing increase our uncertainty and risk. Mitroff and Anagnos (2001) observe that, over the past century, 28 major industry accidents causing 50 deaths or more have occurred world-wide. Mitroff and Anagnos point out that “the most disturbing part of this statistic is that half” of these catastrophic accidents “have occurred in the past fifteen or so years” (p. 3). Similar increases can be seen in nearly all aspects of life. Rather than making life more predictable, growth in technology, services, and population have increased our risks.

Although levels of risk continue to expand in complexity and intensity, our objective in this book is certainly not to slow down science. Rather, as Scherer and Juanillo (2003) aptly note, “What is really at issue is whether we have sufficient space to understand and talk about the specific prisms through which both scientists/experts and the public view risk” (p. 222). By characterizing the systematic development of risk messages, this book offers an assessment of current risk communication strategies and recommendations for improving the access and accuracy of risk messages for the general public in all settings.

Chapter 1 begins with a definition of risk communication. We then establish the importance of interaction and consider the impact of multiple messages in risk communication. Finally, we introduce the perspective of interacting arguments as a means for understanding, evaluating, and improving risk communication.

Risk Communication	Crisis Communication
Risk centered: Projection about some harm occurring at some future date	Event centered: Specific incident that has occurred and produced harm
Messages regarding known probabilities of negative consequences and how they may be reduced	Messages regarding current state or conditions: Magnitude, immediacy, duration, control/remediation, cause, blame, consequences
Based on what is currently known	Based on what is known and what is not known
Long-term (pre-crisis stage) Message preparation (i.e., campaigns)	Short term (crisis stage) Less preparation (i.e., responsive)
Technical experts, scientists	Authority figure, emergency managers, technical experts
Personal scope	Community or regional scope
Mediated: Commercials, ads, brochures, pamphlets	Mediated: Press conferences, press releases, speeches, Web sites
Controlled and structured	Spontaneous and reactive

**Fig. 1.1** Distinguishing features of risk communication and crisis communication. From Seeger et al. (2003)

Distinguishing Between Risk and Crisis

The ultimate purpose of risk communication is to avoid crises. By recognizing the uncertainty of risk situations, we are better able to determine the wisest and safest course of action. The ultimate result of our inability or failure to recognize and act upon risk is crisis. Crises are catastrophic events resulting in physical, emotional, or financial harm. Although the terms risk communication and crisis communication are often used interchangeably, there are clear distinctions between them. As Fig. 1.1 demonstrates, risk messages emerge long before a crisis event occurs. In fact, the ultimate goal of honest and effective risk communication is to avoid a crisis event. Hence, risk messages are typically forward-looking in hope of reducing the likelihood of a crisis event in the long-term. The evidence used in risk messages is based on information from technical experts and is adapted for audience members to consider on a personal level. Like AIDS awareness campaigns, for example, many risk communication campaigns are carefully controlled and orchestrated. Conversely, crisis communication takes place during and in the wake of the actual event. Crisis responders focus their communication on the events at hand and on what must be done immediately to resolve or contain the crisis. Once the crisis has passed, communication shifts back to understanding what went wrong and how the risk of future crises can be limited. In short, crisis communication focuses on containing and recovering from a dangerous event. Conversely, risk communication seeks to influence behavior and policies so that a crisis situation can be averted.

A Working Definition of Risk Communication

Risk communication as an area of investigation “grew out of risk perception and risk management studies” (Heath & Palenchar, 2000, p. 134). The ultimate goal of risk

communication research is to “increase the quality of risk decisions through better communications” (Palenchar & Heath, 2002, p. 129). The need for such improvement is glaring. For example, government agencies have a long history of a “public information model of communication that stresses the one-way dissemination of information” (McComas, 2003, p. 166). This linear view of risk communication fails to solicit feedback from those who are asked to tolerate prescribed risk levels. Thus, in the linear view of risk communication, the potential for abuse or discrimination increases.

A notable turning point in this tendency to emphasize a one-way form of risk communication occurred in 1983 when the National Research Council (NRC) completed an extensive study of risk assessment by government agencies. The report, “Risk Assessment in the Federal Government: Managing the Process,” stressed that risk communication is a key component in the risk assessment process. Moreover, the report revealed a void in risk communication research. In response to this void, the NRC formed the Committee on Risk Perception and Communication. This committee published the influential book, *Improving Risk Communication*, in 1989. With this publication, NRC established risk communication as a “democratic dialogue” (1989, p. 21). Specifically, it proposed the following definition:

Risk communication is an interactive process of exchange of information and opinion among individuals, groups, and institutions. It involves multiple messages about the nature of risk and other messages, not strictly about risk, that express concerns, opinions, or reaction to risk messages or to legal or institutional arrangements for risk management. (p. 21)

This definition makes two influential contributions to our understanding of risk communication. First, it validates the interactive process of risk communication. Second, the definition recognizes that risk communication, by its nature, involves multiple and often competing messages. We discuss these two elements next.

### ***Interactive Process***

The most critical element of the National Research Council definition emphasizes that risk is an interactive process. The interaction occurs among all stakeholders in a risk setting. We define *stakeholders* as any persons or group of persons whose lives could be impacted by a given risk. Early views on risk communication paid little attention to stakeholder concerns or opinions. This limited view was based on a linear, unidirectional view of risk communication. Heath (1995) aptly captures the overly simplistic and biased consequence of viewing risk communication as the one-way dissemination of information. He explained that such a view perceives risk communication as “a linear, hypodermic communication process, whereby technical information can be injected into non-technical audiences” (p. 269). Williams and Olaniran (1998) also reject the linear view, arguing that risk communication cannot reach its potential to serve the public unless the communication exchange is viewed as “a dialogue instead of a monologue” (p. 393). Pursuing risk communication as an interactive process has the potential to make risk messages “increasingly effective