

# Evaluating the Success of Terror Risk Communications

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**T**ERRORISM HAS CREATED unprecedented choices for ordinary people. As individuals, they must decide how to protect themselves and their families. As citizens, they must decide which policies best serve the nation's desire for physical safety, economic vitality, civil liberties, and social cohesion. Without good information, people may find themselves living with choices that they do not understand or want. Feeling that they have been denied critical information further complicates an already difficult situation. If things go badly, having misunderstood the risks can intensify the attendant pain and regret. Citizens' dissatisfaction may extend to the leaders and officials who seemingly failed to meet their information needs, as has happened with other apparently mismanaged risks.<sup>1-6</sup>

Reducing these social risks means providing citizens with relevant information in a credible, comprehensible form. Doing so requires analytical research, to identify the risks most critical to citizens' decision making, and empirical research, to identify the current state of their belief.<sup>7-8</sup> Risk communications should focus on those facts that people most need to understand but have yet to learn. Just as citizens need information in order to respond effectively, policy makers need to understand citizens' beliefs, in order to create behaviorally realistic policies.

In a November 2002 survey of Americans, Blendon et al.<sup>9</sup> documented the mixed success of communications about smallpox. We report on a concurrent survey with a similar sample, embedding beliefs regarding smallpox risks in a broader set of issues and focusing on facts that are easily understood if communicated properly and that are critical to managing widely reported risks. If citizens have not learned these facts, then our risk communication processes have somehow failed to convey them in a salient, comprehensible, credible way. Because effective decision making requires recognizing the extent of one's understanding, we look at the strength of lay beliefs, as well as their general trend. People who confidently hold erroneous beliefs may not consult better-in-

formed sources before acting. They may also not be alert to signs of things going awry.

## METHODS

### *Sample*

Respondents were recruited through Knowledge Networks' nationally representative panel, whose members receive free WebTV and interactive Internet access in return for completing Internet surveys every week or two. The panel closely tracks the U.S. Census on key demographic variables, including age, race, ethnicity, geographical region, employment status, income, and education.<sup>10</sup> Methodological details appear at: <http://www.knowledgenetworks.com/ganp/>

Between November 15 and December 30, 2002, 869 randomly selected panel members were notified about the survey and given two weeks to respond. All had participated in a November 2001 survey, reported in Lerner et al.<sup>11</sup> Of the 869 panel members, 81.1% acknowledged receiving the invitation, 82.6% of whom participated (equal to 67.0% of those contacted). The final sample included 532 adults (259 males) and 50 teens (24 males). Mean ages were 45.8 (SD = 17.1, range = 18-92) and 16.0 (SD = 1.03, range 14-17), respectively. Self-reported race/ethnicity was 12.4% African-American/Non-Hispanic, 12.7% Hispanic, 5.3% Other/Non-Hispanic, and 69.6% White/Non-Hispanic. Demographics generally matched census figures. Weighting procedures adjusted sample statistics for discrepancies from representativeness.

### *Design*

Respondents evaluated seven statements about risks and responses (see Table 1), on a 4-point scale anchored at 1 ("strongly disagree") and 4 ("strongly agree"). These followed questions about the magnitude of various risks

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TABLE 1. RISK BELIEFS

<i>Belief statement</i>	<i>Mean</i>	<i>SD</i>	<i>Response distribution (%)</i>			
			<i>Strongly disagree</i>	<i>Slightly disagree</i>	<i>Slightly agree</i>	<i>Strongly agree</i>
Anthrax is easily spread from one person to another.	2.38	1.09	27.8	25.4	27.5	19.3
West Nile Virus is rarely fatal to people who get it.	2.46	.99	19.3	33.4	29.9	17.4
Smallpox vaccine works, even if you get it after you've been exposed, as long as it is before you get sick.	2.46	.81	12.1	37.6	42.2	8.1
If a dirty bomb went off, spreading radioactive material, you need to get away as fast as humanly possible.	3.50	.75	2.8	7.1	27.6	62.5
People will panic, rather than behave responsibly, if there is a "dirty bomb" spreading radioactive materials in their city.	3.13	.83	4.1	16.7	41.1	38.1
Ordinary citizens behaved responsibly during the 2001 attacks.	3.49	.69	2.1	5.0	34.8	58.1
If smallpox breaks out somewhere, we should quarantine the area.	3.34	.74	1.4	11.7	38.0	48.9

Scale anchored at 1 = strongly disagree; 4 = strongly agree.

and about respondents' views on "possible government policies," one of which concerned the kind of risk communication.

Prior to answering any question, half of the respondents were randomly assigned to an experimental manipulation that heightened a target emotion: *fear*, *anger*, or *sadness*. These respondents re-read a short passage that they had written in November 2001, describing aspects of the September 11<sup>th</sup> attacks that evoked the target emotion. They then viewed a picture and heard an audio clip, drawn from the national news media that pretests had shown to prime that emotion. Following the emotion induction, respondents completed the judgment tasks. The other half of the respondents went directly to the judgment tasks, without the emotion manipulation.

These manipulations significantly affected estimates of the magnitude of terror-related risks estimates.<sup>11,12</sup> However, there were no significant manipulation differences in the beliefs reported here, leading us to pool across experimental conditions.

Carnegie Mellon University's Institutional Review Board approved the research protocol.

## RESULTS

The first of the four policy items proposed was: "Provide Americans with honest, accurate information about

the situation, even if the information worries people." It was strongly supported by 65% of respondents and slightly supported by another 24.0%. The following results show how well this goal has been achieved.

The first three rows in Table 1 show failure to communicate easily understood facts, critical to managing specific risks. Many people had not learned that anthrax is not contagious, that West Nile Virus is rarely fatal, and that smallpox vaccination can be effective after exposure. Indeed, 19% of respondents strongly endorsed erroneous beliefs about anthrax and West Nile Virus (not a terror-related risk). Blendon et al.<sup>9</sup> found 42% of respondents endorsing a similar statement about smallpox.

Respondents strongly agreed with the statement: "If a dirty bomb went off, spreading radioactive material, you need to get away as fast as humanly possible." That could be true; however, under some circumstances, staying indoors would reduce dermal exposure and inhalation.<sup>13</sup> Unless citizens recognize this possibility, ahead of any incidents, authorities may have difficulty credibly recommending it under crisis conditions. People who confidently believe that they must evacuate immediately might just flee, without waiting or asking for advice.

That tendency to flee may be fed by the widely endorsed belief that "People will panic, rather than behave responsibly, if there is a 'dirty bomb' spreading radioactive materials in their city." Although consistent with seeing the need to evacuate immediately, this concern is

unfounded. In disasters, people rarely panic—unless they have lost faith in public authorities.<sup>14,15</sup> In fact, respondents very strongly endorsed the statement: “Ordinary citizens behaved responsibly during the 2001 attacks.”

An expectation of panic, coupled with uncertainty about the effectiveness of post-exposure vaccination, may underlie respondents’ strong endorsement of the statement: “If smallpox breaks out somewhere, we should quarantine the area.” Respondents in Blendon et al.<sup>9</sup> reported similar views: 67% would stay in their community if smallpox were reported; 91% if personally exposed. Most supported compulsory treatment and isolation—policies consistent with expecting less cooperative behavior from other citizens than from oneself.

Demographic variables (gender, education, race, political affiliation, distance from the World Trade Center—a surrogate for personal involvement with terrorism) revealed few statistically significant differences in these beliefs. Each of these demographic variables was, however, related to judgments of the magnitude of terrorism risks (reported in Fischhoff et al.<sup>16</sup>).

## DISCUSSION

Few respondents confidently endorsed three critical facts regarding emerging disease threats: the contagiousness of anthrax, the lethality of West Nile Virus, and the post-exposure effectiveness of smallpox vaccination. Nor did they recognize the possible effectiveness of sheltering in place following a radiological weapon attack.

A cluster of potentially serious misunderstandings surrounded public responses to crises. Respondents expected others to panic (“rather than behave responsibly”) following a radiological weapon attack and endorsing a smallpox quarantine, even though they believed that citizens had behaved responsibly during the 2001 attacks. Respondents in a concurrent study reported expecting to behave responsibly in a smallpox crisis,<sup>9</sup> while expecting less responsible behavior from fellow citizens.

Predictions of panic are not hard to find,<sup>13,17</sup> perhaps fed by disaster movie scenes of people running in the streets. However, research has found that panic is uncommon, unless people have lost trust in their own authorities.<sup>14,15</sup> The myth of panic may inadvertently represent a self-fulfilling prophecy and undermine emergency planning by eroding citizens’ confidence in social order. Citizens need to know how widely their commitment to cooperative behavior is shared.

Having a sample drawn from a nationally representative panel allowed us to look for demographic correlates of these beliefs. However, there were none, even though respondents’ estimates of the magnitude of terror risks did vary by gender, race, geography, and political affiliation.<sup>16</sup> Thus, effective risk communications about these

topics seem to have failed to reach the population as a whole, rather than just failing vulnerable groups.

Such communication failures may mean that these facts were (a) missing in messages reaching the public, (b) lost in the clutter of messages reaching them, or (c) communicated poorly. Although the communication of some risk information takes a special effort,<sup>7,8,18</sup> these specific facts should be easy to understand, with appropriate care given in their presentation. Thus, it appears that the professional community has somehow failed to develop and disseminate them in a clear, focused way. Achieving such communication would be consistent with respondents’ strong desire for “honest, accurate information. . . even if it worries people.”

This survey considered seven beliefs (six terror-related). Although critical to several prominent risks, these beliefs consider but a fraction of the facts that well-informed citizens need. A systematic communication program should begin with formal analyses identifying the core set of decision-critical facts and proceed to create, evaluate, and disseminate appropriate messages. Its success could be determined with a tracking survey, assessing public mastery of those facts.

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