Science and Practice of Risk Communication

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Flight Plan to Recovery
Airport Cooperative Research Program
Transportation Safety Board
May 28, 2020
People Face Stressful Decisions

Making ends meet
Doing their jobs safely
Taking care of loved ones at home
Taking care of loved ones remotely
Finding food, supplies, and medications
Supporting the vulnerable in their community
Interpreting health states
Navigating healthcare
Travel
...


Their Information Sources Are Imperfect

They may see biased, unqualified evidence. Their generally useful mental models may lead them astray. They may be confused by jargon and vague terms (“soon,” “likely”). They may have to decode non-scientists’ poorly informed, contradictory, or spun claims.
People Need to Know

How big the risks are
What causes (and reduces) them
How good the evidence is
What is likely to change,
in the world or in the evidence
Whom they can trust
Without That Knowledge

They have to guess, drawing on their own imperfect mental models. They are vulnerable to misinformation and disinformation. They will lose trust in those who failed to provide it.
Both Process and Content Matter

Process
Proactive: demonstrating concern.
Collaborative: reflecting shared fate.
Adaptive: responding to changing needs.

Content
Relevant: based on analysis of decisions.
Comprehensible: based on behavioral research.
Effective: based on empirical tests.
A Strategic Approach to Process

A Strategic Approach to Process

Focuses risk management on partner concerns
Responsive to inevitable surprises
Demonstrates partnership
Demonstrates senior leadership commitment
A Strategic Approach to Content

*Analysis*: What decisions do people face?
*Description*: How do people deal with those decisions?
*Intervention*: How can people be helped to make better decisions?
Some Applications

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<th>radon</th>
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<td>xenotransplantation</td>
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<td>smart meters</td>
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<td>HIV/AIDS</td>
<td>critical care medicine</td>
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A Strategic Approach to Content

**Analysis:** What decisions do people face?

**Description:** How do people deal with those decisions?

**Intervention:** How can people be helped to make better decisions?
Analyze Decisions Facing Partners

Summarize Relevant Evidence

Characterize Shaping Factors

# Standing Committee on Emerging Infectious Diseases and 21st Century Health Threats

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Standing Committee Consensus Reports

Illness severity severity in young adults
Effectiveness of social distancing
Data elements and system design in modeling
Surface stability and incubation (2)
Crisis standards of care
Bioaerosol spread
Homemade fabric face masks
Viral shedding
Laboratory testing
Previous NASEM Consensus Reports

Reusability of facemasks during an influenza pandemic
Crisis standards of care
Reusable elastomeric respirators
Airport public health preparedness
Public transit emergency preparedness
Infectious disease crises and global security

https://www.nap.edu/collection/94/coronavirus-resources
A Strategic Approach to Content

**Analysis:** What decisions do people face?

**Description:** How do people deal with those decisions?

**Intervention:** How can people be helped to make better decisions?
Basic Research on Communication

http://www.pnas.org/content/110/Supplement_3

http://www.pnas.org/content/111/Supplement_4

www.pnas.org/cgi/doi/10.1073/pnas.1805863115
Research on Pandemic Disease


Some Principles of Judgment

People are good at tracking what they see, but not at detecting sample bias.
People have limited ability to evaluate the extent of their own knowledge.
People have difficulty imagining themselves in other visceral states.
People have difficulty projecting non-linear trends.
People confuse ignorance and stupidity.
…
Some Principles of Choice

People consider the return on their investment in making decisions.
People dislike uncertainty, but can live with it.
People are insensitive to opportunity costs.
People are prisoners to sunk costs, hating to recognize losses.
People may not know what they want, especially with novel questions.

…
Cognitive Processes Interact with Social and Emotional Ones

Emotions can both cloud and focus thinking. Poor communications can needlessly increase anxiety. Poor communications can generate hostile emotions and undermine trust. Social pressure can lead people to act against their own best judgment.
Individual Differences

There appear to differ in decision-making competence, reflecting individuals’ life experiences and outcomes. Differences in decision-making style are important to recognize, but have proven hard to measure.

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Risk Communication at NASEM

Risk Communication at NASEM

http://www.nap.edu/catalog/6034/
http://www.nap.edu/catalog/21666/
https://www.nap.edu/catalog/24738
http://www.nap.edu/catalog/18870/
A Guide to Inexpensive, Scientifically Grounded Communication

http://www.fda.gov/AboutFDA/ReportsManualsForms/Reports/ucm268078.htm
Applying the Science Requires

Substantive expertise, to get the facts right
Ties with partners, to get the right facts
A process for rapid message testing
A strategic commitment to risk communication
A Proposal

Create a resource center to provide publication-quality support in developing communications.
-- quality assurance
-- economies of scope
-- common templates, terms, framing
-- extend organizations’ absorptive capacity
Two Introductions
