Message Mapping, Risk and Crisis Communication

Paper Presented at the World Health Organization Workshop on Bio-terrorism and Risk Communication, Geneva, Switzerland, October 1, 2002

Author:
Vincent T. Covello, Ph.D.
Director
Center for Risk Communication
29 Washington Square West, Suite 2A
New York, New York 10011
Tel.: 212-222-7841
Fax: 212-749-3590
Email: vincentcovello@ix.netcom.com

One of the most important tools available to a risk communicator is the "message map." As illustrated in template form in Figure 1, a message map is a roadmap for displaying detailed, hierarchically organized responses to anticipated questions or concerns. It is a visual aid that provides at a glance the organization's messages for high concern or controversial issues.

Developing and using message maps achieves several important risk communication goals:

(1) identifying stakeholders early in the communication process
(2) anticipating stakeholder questions and concerns before they are raised;
(3) organizing our thinking and developing prepared messages in response to anticipated stakeholder questions and concerns;
(4) developing key messages and supporting information within a clear, concise, transparent, and accessible framework;
(5) promoting open dialogue about messages both inside and outside the organization;
(6) providing user friendly guidance and direction to spokespersons;
(7) ensuring that the organization has a central repository of consistent messages;
(8) encouraging the organization to speak with one voice.

The process used to generate message maps can be as important as the end product. Message mapping exercises – involving teams of subject matter experts (e.g., scientists), communication specialists, and individuals with policy, legal, and management expertise – often reveal a diversity of viewpoints within an organization for the same question, issue, or concern. Gaps in message maps often provide early warnings of message incompleteness. As such, they represent opportunities for focused efforts by issue management teams. Message mapping exercises also may suggest or provide clues for needed changes in strategies, policies, or performance.

Seven steps are involved in constructing a message map. The first step is to identify stakeholders – interested, affected, or influential parties – for a selected issue or topic of high concern. Stakeholders can be distinguished further by prioritizing them according to their potential to affect outcomes and their credibility with other stakeholders.

For example, stakeholders in a crisis situation might include:

- Victims
- Victim families
- Directly affected individuals
- Emergency response personnel
- Public health personnel (local, county, state, national)
- Law enforcement personnel
- Hospital personnel
- Families of emergency response, law enforcement, and hospital personnel
- Government agencies (all levels)
- Politicians/Legislators
- Unions
- The media (all types)
- Legal professionals
- Contractors
- Consultants
- Suppliers/vendors
- Ethic/minority groups
- Groups with special needs (e.g., elderly populations, disabled populations, home bound)
- Health agency employees
- Advisory panels
- Non-government organizations
- Educators

- Scientific community
- Religious community
- Business community (e.g., tourism, food services, and recreation)
- Professional societies
- General public

The second step is to identify a complete list of specific concerns (SCs) for each important stakeholder group. Lists of specific concerns and questions are typically generated through research, including:

- media content analysis (print, radio, television)
- web sites
- document review, including meeting records, public hearing records, and legislative transcripts
- reviews of complaint logs, hot line logs, toll free number logs, and media logs
- interviews with subject matter experts
- facilitated discussion sessions with individuals that are intimately familiar with the issue
- focus groups
- surveys

Research indicates that more than 95 percent of the specific concerns that will be raised in a controversy, conflict, crisis, or high concern situation can be anticipated when the list of specific concerns is generated through a thorough and systematic analysis of stakeholder information.

The third step in message map construction is to analyze the lists of specific concerns to identify common sets of underlying general concerns (GCs). Case studies indicate that most high concern issues are associated with no more than 15-25 primary underlying general concerns. Figure 2 provides a sample list of general concerns. As part of this step, it is often useful to create a matrix or table that matches stakeholders with their concerns. The vertical axis of the table would list stakeholders (in priority order). The horizontal axis of the table would list concerns.

The fourth step in message map construction is to develop key messages in response to stakeholder concerns (general and specific). Key messages are typically developed through brainstorming sessions with a message mapping team. As noted above, the message mapping team typically consists of a

subject matter expert, a communication specialist, a policy / legal / management expert, and a facilitator. The brainstorming session produces message narratives -- usually in the form of complete sentences -- which are entered as key messages onto the message map. Alternatively, the brainstorming session produces keywords for each message, which are entered onto the message map. Keywords serve as an aid to memory. Each separate message should have no more than 1-3 keywords.

Key messages should be based on what the target audience:

(1) most needs to know
(2) most wants to know
(3) is most concerned about

Message development and construction by the message mapping team should be guided by the theories and principles of risk and crisis communication. For example, mental noise theory – one of the main theoretical constructs of risk and crisis communication – indicates that when people are upset they often have difficulty hearing, understanding, and remembering information. Mental noise can reduce a person's ability to process information by more than 80 percent.

The challenge for risk and crisis communicators, therefore, is to (1) overcome the barriers that mental noise creates; (2) produce accurate messages for diverse audiences; and (3) achieve maximum communication effectiveness within the constraints posed by mental noise.

Solutions to mental noise theory that guide key message development specifically, and message mapping generally, include:

- Developing a limited number of key messages: ideally 3 key messages or one key message with three parts for each underlying concern or specific question **(conciseness)**
- Keeping individual key messages brief: ideally less than 3 seconds or less than 9 words for each key message and less than 9 seconds and 27 words for the entire set of three key messages **(brevity)**
- Developing messages that are clearly understandable by the target audience: typically at the 6^{th} to 8^{th} grade readability level for communications to the general public **(clarity)**

Additional solutions include:

- Placing messages within the message set so that the most important messages occupy the first and last positions
- Citing third parties that are perceived as credible
- Developing key messages and supporting information that address important risk perception and outrage factors such as trust, benefits, control, voluntariness, dread, fairness, reversibility, catastrophic potential, effects on children, memorability, morality, origin, and familiarity
- Using graphics, visual aids, analogies, and narratives (e.g., personal stories), which can increase an individual's ability to hear, understand, and recall a message by more than 50 percent
- Balancing negative key messages with positive, constructive, or solution oriented key messages, employing a ratio of least 3:1
- Avoiding unnecessary, indefensible, or non-productive uses of the words no, not, never, nothing, none

The fifth step in message map construction is to develop supporting facts and proofs for each key message. The same principles that guide key message construction should guide the development of supporting information. Proof points are not necessarily included in the message map. Some may be held in reserve to support a particular message is challenged.

The sixth step in message map construction is to conduct systematic message testing using standardized message testing procedures. Message testing should begin by asking subject matter experts not directly involved in the original message mapping process to validate the accuracy of technical information contained in the message map. Message testing should then be done with (1) surrogates for key internal and external target audiences; (2) partners organizations. Sharing and testing messages with partners ensures message consistency and coordination.

The seventh, and final step, is to plan for the delivery of the prepared message maps through a trained spokesperson and through appropriate communication channels. For example, message maps can be used in to structure press conferences, media interviews, information forums and exchanges, public meetings, web sites, telephone hot line scripts, and fact sheets or brochures focused on frequently asked questions.

Guidelines for Using Message Maps

- Use one or all of the three key messages on the message map as a media sound bite.
- Develop one **over-arching message map** that contains the most important information that needs to conveyed; bridge to this message map frequently during interviews
- Present the sound bite in less than 9 seconds for television and less than 27 words for the print media.
- When responding to specific questions from a reporter or a stakeholder regarding a key message, present the supporting information from the message map in less than 9 seconds or 27 words.
- If time allows, present the key messages and supporting information contained in a messages map using the "Triple T Model": (1) Tell people what you are going to tell them, i.e., key messages; (2) Tell them more, i.e., supporting information; (3) Tell people again what you told them, i.e., repeat key messages.
- Stay on the prepared messages in the message map; avoid "winging it."
- Take advantage of opportunities to reemphasize or bridge to key messages.
- Keep messages short and focused.
- Be honest: tell the truth.

In conclusion, message maps are a viable tool for risk communicators. They ensure that risk information has the optimum chance of being heard, understood, and remembered. Importantly, they encourage agencies and organizations to develop a consistent set of messages and speak with one voice.

Figure 1: Message Map Template

Stakeholder: **Question or Concern:**		
Key Message 1	**Key Message 2**	**Key Message 3**
Supporting Fact 1-1	**Supporting Fact 2-1**	**Supporting Fact 3-1**
Supporting Fact 1-2	**Supporting Fact 2-2**	**Supporting Fact 3-2**
Supporting Fact 1-3	**Supporting Fact 2-3**	**Supporting Fact 3-3**

==========

Figure 2: A Sample List of General Concerns

==========

1. Health
2. Safety
3. Ecological/Environmental
4. Economic
5. Quality of Life
6. Equity/Fairness
7. Cultural/Symbolic
8. Legal/Regulatory
9. Basic Informational -- Who, What, Where, When, Why, How
10. Openness/Transparency/Access to Information
11. Accountability
12. Options/Alternatives
13. Control
14. Effects on Children/Future Generations
15. Irreversibility
16. Ethics/Morality
17. Unfamiliarity
18. Changes in the Status Quo
19. Voluntariness
20. Benefits
21. Expertise
22. Honesty
23. Listening/Caring/Empathy
24. Trust

Figure 3: Examples of Smallpox Questions

How contagious is smallpox?
Can everyone be vaccinated?
What are the signs and symptoms of smallpox?
Who's in charge?
Why is smallpox a good weapon?
What makes you think the strategies of the 60s and 70s will work today?
What's being done to prepare?
What kind of medical care will be available? Is there enough?
What resources will be used to identify and respond to an outbreak?
Could terrorists make a strain that you couldn't protect against?
Are enough resources available to care for smallpox patients?
Are laboratories able to quickly diagnose smallpox?
How do you know the new vaccine will work?
Isn't it true that smallpox has been known to be airborne in the past?
Can I get smallpox from water, mosquitoes, pets, or farm animals?
What are state and local health departments doing to prepare?
Is it true that the vaccine comes from aborted fetuses?
How are bio-terrorism funds being spent?
What do I do if I think I have smallpox?
Should people get vaccinated?
Is the vaccine licensed and approved? What does IND mean?
What is the government doing to make the vaccine safer?
Who will tell me when I need to get vaccinated?
Is there an adequate supply of medicines available to treat vaccine complications?
What are the alternatives to vaccination?
What should happen after I get vaccinated?
Why a plan now?

What does the plan say?
Why does the plan say what it says?
How do you know the risk is low? Are we already at risk?
How prepared are you in the event of a smallpox outbreak?
How do you know whether a smallpox threat is a hoax or not?
If I get sick from the vaccination, who will take care of my family, my pets?
Does the CDC recommend that I get smallpox vaccinations?
Can pets be vaccinated?
Are the smallpox vaccines licensed and approved? What does Investigational New Drug (IND) mean?
What are the differences between the different types of smallpox vaccine?
What is the CDC doing to make smallpox vaccine safer?
How long does it take for smallpox vaccination to protect against smallpox?
Are there people who cannot be protected by smallpox vaccination?
How do I keep the vaccination virus from spreading from my vaccination to other people?
Can the elderly and young people take the smallpox vaccination?
Who will tell me when I need to be vaccinated?
Can people with HIV/AIDS, kidney transplants, cancer, and other causes of weakened immune systems be vaccinated against smallpox?
How are complications of smallpox vaccination treated?
Is there an adequate supply of medicines to treat smallpox vaccination complications?
What are the alternatives to vaccination?
Will the new smallpox vaccine be safe?
What if terrorists released a genetically altered smallpox virus against which smallpox vaccine is not protective?
How safe is smallpox vaccine?
What are the side effects/problems of smallpox vaccination? Could smallpox vaccination make me very sick? Kill me?
Can everyone be vaccinated?

What if you cannot be vaccinated?
How effective is the vaccine?
How long does the protection from smallpox vaccination last?
Who is most at risk for complications from smallpox vaccine?
What should happen after vaccination?
How common are the side effects?
After someone has been exposed to smallpox, can vaccination protect them?
Will I be forced to be vaccinated?
What is the risk of getting smallpox?
What is the risk of smallpox being released in the United States or some other country?
Is there enough smallpox vaccine?
If I am vaccinated, can the vaccination spread to my family and friends?
Will non-citizens receive smallpox vaccine?
Who will take care of me if I get sick because of vaccination?
Where can I go to be vaccinated against smallpox?
Who will pay the costs of my smallpox vaccination and of care for any complications/side effects I get?
How will I know my vaccination is successful?
Why can’t I choose to be vaccinated if you have the vaccine?
Can vaccinated people infect unvaccinated people?
What is isolation?
What is quarantine?
Can I be forced to be in quarantine or isolation?
Who need to be in quarantine or isolation?
Who is in charge?
If someone becomes sick in quarantine, who will care for them? How good will medical care be?
In quarantine/isolation, will I be able to communicate with my family and friends?
What happens to non-citizens regarding quarantine and isolation?

What legal rights will I have in quarantine/isolation?
What happens to people who refuse to be in quarantine/isolation?
Can I get sick when I'm in quarantine/isolation?
What happens if someone dies in quarantine/isolation?
What happens to facilities after they are used for quarantine/isolation?
Can I bring my pets/ family/ friends with me into quarantine/isolation?
Who enforces quarantine and isolation?
How long do quarantine and isolation last?
What are the legal bases for quarantine and isolation?
How can this happen in the United States of America?
How will my bills be paid while I am in quarantine/isolation?
How will I get health care, water, food, other services while I am in quarantine/isolation?
Where will I be put in isolation?
Where will I be put in quarantine?
Under what circumstances will people be put in quarantine/isolation?
What if I want to be in quarantine/isolation?
Are there alternatives to quarantine/isolation?
How is quarantine/isolation done?
What is life like in quarantine/isolation?
Under what circumstances would quarantine or isolation be started?
If there is a quarantine/isolation facility near me, what can I do about it?
How will quarantine/isolation affect transportation -- airlines, buses, trucks?
What if there is a difference of opinion about quarantine/isolation between health and political leaders?
Is my job protected if I am in quarantine/isolation?
What about public utilities if I am in quarantine/isolation?
Will minority groups be treated fairly in regard to quarantine/isolation?
After release from quarantine/isolation, will people be able to go back to work?

What are the personal, family, job consequences for people in quarantine/isolation?
In quarantine/isolation, will special provisions be made for cultural, religious, and ethnic beliefs/values?
What is life like in quarantine/isolation?
Who pays for carrying out quarantine/isolation?
Who pays for lost wages, costs, etc. of people in quarantine/isolation?
How will this affect my activities of daily living, such as pet care?
What find of medical care will be available, will it be enough?

==========

Figure 4: Draft Sample Message Maps

You can use these examples to develop your own message maps for emergency risk or crisis situations. These sample maps are first drafts only and are part of an on-going federal government sponsored project being conducted with the assistance of the Center for Risk Communication. To be more complete, these sample maps would require a third level of detail: three proof points for each supporting fact.

Draft Message Map Stakeholder: General Public Question: How contagious is smallpox?		
Key Message 1	**Key Message 2**	**Key Message 3**
Smallpox spreads slowly **compared to measles or the flu**	**This allows** time to trace contacts **and vaccinate those people who have come in contact.**	**Vaccination within 3 to 4 days of contact will generally prevent the disease**
Supporting Fact 1-1	**Supporting Fact 2-1**	**Supporting Fact 3-1**
People are only infectious when the rash appears and they are ill	The incubation period for the disease is 10-14 days	People who have never been vaccinated are the most important ones to vaccinate
Supporting Fact 1-2	**Supporting Fact 2-2**	**Supporting Fact 3-2**
It requires hours of face-to-face contact	Resources for finding people are available.	Adults who were vaccinated as children may still have some immunity to smallpox
Supporting Fact 1-3	**Supporting Fact 2-3**	**Supporting Fact 3-3**
There are no asymptomatic carriers	Finding people who have been exposed and vaccinating them is the successful approach	Adequate vaccine is on-hand and the supply is increasing

Draft Message Map Stakeholder: General Public Question: Can everyone be vaccinated?		
Key Message 1	**Key Message 2**	**Key Message 3**
Only people possibly exposed to smallpox should be vaccinated	**Vaccination is safe for most people**	**Some people are more likely to experience side effects than others**
Supporting Fact 1-1	**Supporting Fact 2-1**	**Supporting Fact 3-1**
Focused vaccination is the strategy	The majority of people of all ages and races experience the expected reactions	Weakened immune systems
Supporting Fact 1-2	**Supporting Fact 2-2**	**Supporting Fact 3-2**
Anyone possibly exposed regardless of health status should be vaccinated	Normal reactions to the vaccine include fever, soreness, itching, and tiredness.	Skin conditions such as eczema
Supporting Fact 1-3	**Supporting Fact 2-3**	**Supporting Fact 3-3**
In those potentially exposed the benefits of vaccination out weigh the risks.	These reactions are a good sign that the vaccine is working	Not recommended for pregnant women

Draft Message Map Stakeholder: General Public Question: What are the signs and symptoms of smallpox?		
Key Message 1	**Key Message 2**	**Key Message 3**
High fever and too sick to move around	**The rash generally appears 2-3 days after the fever starts**	**The rash changes its appearance over 10-14 days**
Supporting Fact 1-1	**Supporting Fact 2-1**	**Supporting Fact 3-1**
Too sick for normal activities	When the rash appears the disease can be spread	The way the rash changes makes diagnosis easy
Supporting Fact 1-2	**Supporting Fact 2-2**	**Supporting Fact 3-2**
Can't spread the disease before the rash appears	Tests can prove the illness is smallpox	Healthcare workers are trained to diagnose smallpox
Supporting Fact 1-3	**Supporting Fact 2-3**	**Supporting Fact 3-3**
High fever is uncommon for chickenpox	Testing for smallpox is easy	Photos of smallpox are available on the CDC website

Draft Message Map Stakeholder: General Public Question: How contagious is smallpox?		
Key Message 1	**Key Message 2**	**Key Message 3**
Smallpox spreads slowly compared to measles or the flu	**This allows time for us to trace contacts and vaccinate those people who have come in contact.**	**Vaccination within 3 to 4 days of contact will generally prevent the disease**
Supporting Fact 1-1	**Supporting Fact 2-1**	**Supporting Fact 3-1**
People are only infectious when the rash appears and they are ill	The incubation period for the disease is 10-14 days	People who have never been vaccinated are the most important ones to vaccinate
Supporting Fact 1-2	**Supporting Fact 2-2**	**Supporting Fact 3-2**
It requires hours of face-to-face contact	Resources for finding people are available.	Adults who were vaccinated as children may still have some immunity to smallpox
Supporting Fact 1-3	**Supporting Fact 2-3**	**Supporting Fact 3-3**
There are no asymptomatic carriers	Finding people who have been exposed and vaccinating them is the successful approach	Adequate vaccine is on-hand and the supply is increasing

Draft Message Map Stakeholder: General Public Question: Can everyone be vaccinated?		
Key Message 1	**Key Message 2**	**Key Message 3**
Only people possibly exposed to smallpox should be vaccinated	**Vaccination is safe for most people**	**Some people are more likely to experience side effects than others**
Supporting Fact 1-1	**Supporting Fact 2-1**	**Supporting Fact 3-1**
Focused vaccination is the strategy	The majority of people of all ages and races experience the expected reactions	Weakened immune systems
Supporting Fact 1-2	**Supporting Fact 2-2**	**Supporting Fact 3-2**
Anyone possibly exposed regardless of health status should be vaccinated	Normal reactions to the vaccine include fever, soreness, itching, and tiredness.	Skin conditions such as eczema
Supporting Fact 1-3	**Supporting Fact 2-3**	**Supporting Fact 3-3**
In those potentially exposed the benefits of vaccination out weigh the risks.	These reactions are a good sign that the vaccine is working	Not recommended for pregnant women

Draft Message Map Stakeholder: General Public Question: What are the signs and symptoms of smallpox?		
Key Message 1	**Key Message 2**	**Key Message 3**
High fever and too sick to move around	**The rash generally appears 2-3 days after the fever starts**	**The rash changes its appearance over 10-14 days**
Supporting Fact 1-1	**Supporting Fact 2-1**	**Supporting Fact 3-1**
Too sick for normal activities	When the rash appears the disease can be spread	The way the rash changes makes diagnosis easy
Supporting Fact 1-2	**Supporting Fact 2-2**	**Supporting Fact 3-2**
Can't spread the disease before the rash appears	Tests can prove the illness is smallpox	Healthcare workers are trained to diagnose smallpox
Supporting Fact 1-3	**Supporting Fact 2-3**	**Supporting Fact 3-3**
High fever is uncommon for chickenpox	Testing for smallpox is easy	Photos of smallpox are available on the CDC website