WORLD HEALTH ORGANIZATION

Outbreak Communication

The Goal, Strategies and Controversies: Evidence[1] and Experience[2]

MAIN DOCUMENT

-- DRAFT --

Table of Contents

Introduction

What this document is

With this document, the World Health Organization begins an effort to focus the field of risk communication onto a single type of event, a disease outbreak. WHO's goal is to provide to its staff and member states risk communication guidance -- guidance that is based on evidence and filtered through experience -- so outbreaks can be controlled quickly with minimal damage to a nation's standing, economy and public health infrastructure.

This document is not a manual for designing communication plans, developing website and telephone hot-lines, or stockpiling pre-planned materials such as fact sheets, brochures, or radio spots. This information is available elsewhere.[3]

This document is intended to provide research and experiential evidence of risk communication, in support of WHO's goal of working with member states for communicating with various publics during disease outbreaks. The "publics" for this document are outbreak policy-makers, local populations who may or may not believe they are at risk, the international community including trading partners and other Ministries of Health.

Many of the recommendations here are "aspirational goals." Some of these recommendations may themselves lead to dilemmas that will be resolved differently by different policy makers, in different cultures, at different phases of an outbreak.

The purpose of providing evidence-based guidelines is to promote intentional, explicit, communication planning to help balance intuitive or reactive communications. Communication, then, should not be an afterthought but a critical feature of a complete outbreak response program, as vital to success as epidemiology or hospital infection control.

The usefulness and limitations of the evidence

Both the usefulness and the limitations of evidence-based and experience-based risk communication must be acknowledged from the start.

Even though there are more than 8000 risk communication articles in peer-reviewed journals,[4] and even though a great deal of research and field experience supports the recommendations which follow, risk communication is a young science, less than thirty years old.[5]

Hundreds of articles analyzing health promotion campaigns in developing countries provide a wealth of data about health knowledge, attitudes, and practices around the

world. But very little formal risk communication research has been done outside of western democracies.

Experimental risk communication research often looks at small numbers of variables, in the same way animal toxicology studies do. In actual situations, many more variables are operating at once. Across studies, important terms, such as "trust" and "speculation," are used inconsistently, making it hard to compare results. In actual case studies, communication is only one of many important variables, making it difficult to isolate its effect on outcomes.[6]

In spite of these fairly typical research drawbacks, experimental and experiential risk communication evidence consistently points in certain directions. Among other observations:

- Risk communication planning is most effective when it is integrated with risk analysis and risk management from the start.

- Informing and trying to involve various publics early in a crisis -- and being open and honest about what is known and unknown -- helps build trust and credibility, which are strongly associated with public acceptance of official guidance.

- Experience and experiments both show that confidence in "risk managers" is associated with lower levels of perceived threat.

- Experts are perceived as more credible and trustworthy when they respond to and validate their publics' concerns, empathize with their fears, and act as role models for realistic "human" coping behaviour.

- People's risk judgments are influenced by many factors other than just statistical data -- such as their values, emotions, group affiliations, socio-economic status, trust in institutions, and sense of control. Failing to consider these factors can lead to poor communication outcomes.

Despite the limits of this new field's knowledge-base, communicating with the public during an outbreak is an essential, even critical component of outbreak response. To develop outbreak communication plans, policy makers must use the best current guidance that limited evidence and limited experience can provide – as they do in many other areas of decision-making.

The outbreak communication guidance which follows is based on the best evidence that can be assembled and reviewed by the world's leading experts. This evidence-base [will be] assessed against the actual experience of outbreak responders and senior health officials from all continents. Thus this guidance is grounded in peer-reviewed research and filtered through global experience.

From Risk Communication to Outbreak Communication
Goals and Strategies

Risk communication as a field developed in the West in the late 1980's, largely in response to environmental controversies in which the danger was often (but not always) low or very uncertain. This period also corresponded to a time of decreasing public trust in science, technology, and government,[7] particularly in Europe but also in the U.S. This decreased trust was accompanied by increased public demand to have a say in environmental and technology policy.[8]

Risk perception research: how experts and the public define "risk"

As the public became more vocal, it became clear that the public and experts did not define risk the same way. With that insight, research into the public's views of risk began in earnest -- including important work on risk perception and mental models.

In the mid-1980's, Slovic, Fischhoff, and Lichtenstein produced seminal risk perception research showing how risk is systematically viewed differently by experts and nonexperts.[9] A 2003 article by David Ropeik and Paul Slovic provides a clear summary of this work and some of its implications for risk communicators.

Ropeik and Slovic describe some of the many factors that influence how non-experts assess risk: Who controls the risk? Is it imposed voluntarily? Is it dreaded? Does it especially affect children? Is it new and unfamiliar? Is it salient, due to recent or memorable events? Am I particularly vulnerable to this risk?

And then Ropeik and Slovic come to the pivotal relationship between trust and fear:

> "Research has found that *the less we trust the people who are supposed to protect us . . . the more afraid we'll be."* [10] [11]

The importance of learning more about specific "publics"

In addition to understanding how the public assesses risk in general, communication planners determined that they needed information about the public's beliefs, opinions, and knowledge about specific risks, compared with what mental models researchers call the "expert model" of the risk. They found it is usually difficult to change pre-existing beliefs. And *it is nearly impossible to design successful messages that bridge the knowledge gap between the expert and the lay public without knowing what the lay public thinks*.

Experts in the older field of health communication -- usually addressing serious health issues about which the public was complacent, ignorant, or in denial -- have long focused on the need to understand their publics, in order to craft messages that are likelier to change behaviour. Health communication leaders are now bringing this understanding to bear on the issue of emerging infectious diseases [12] as well as on such issues as early cancer diagnosis in various cultures.[13]

The focus on what message recipients know and think is increasingly of interest to risk communicators in trying to persuade technical experts to 1) revise the experts' view of the public as blank slates ready to accept the force of scientific argument, and 2) to study their target audiences' pre-existing knowledge, beliefs, cultural traditions, sources of influence, and feelings regarding specific risks.

Attending to public concerns became embedded in practice, and the older one-way model of transferring information (the experts "educating the public") began to give way to a two-way model of dialogue and public involvement. Eventually, national and international agencies began adopting definitions of risk communication which take seriously the need for public involvement in risk policy.[14]

From this context, evidence and experience, the global expert consultation [agreed] to the following:

Note added by Jody Lanard after the consultation:

This draft was reviewed and debated by the participants at the Singapore meeting.

Prior to the Singapore meeting, the rest of this page was left blank.

The **WHO Outbreak Communication Guidelines**, published early in 2005, are available on line at:

http://www.who.int/csr/resources/publications/WHO_CDS_2005_28/en/

The Singapore meeting report, **Outbreak Communication: best practices for communicating with the public during an outbreak**: **Report of the WHO Expert Consultation on Outbreak Communications held in Singapore, 21-23 September, 2004**, is now available at:

http://www.who.int/csr/resources/publications/WHO_CDS_2005_32/en/

As of June 2008, WHO is nearing completion of "Outbreak Communication 2" (working title), an outbreak communication planning guide, which will most likely be published within a few months.

The Goal for Outbreak Communication

Communication is an unavoidable and often prominent feature of any outbreak response and it should assume a central role in risk management. As part of risk management, *the over-arching communication goal during an outbreak is to communicate with the public in ways that build, maintain or restore trust.* This is best done by communicating rapidly and transparently by means and methods that acknowledge the public's preexisting mental models. If done effectively, outbreak communication will foster public resilience and guide appropriate public participation to support the rapid containment of the outbreak, thus limiting morbidity and mortality, and minimising the damage to a nation's international standing, its economy and its public health infrastructure.

Outbreak Communication Strategies

Risk communication strategies applicable to outbreak communication with the public can be grouped into four overlapping categories. Again, based on evidence and experience, the global expert consensus [agreed] on the four best strategies to achieve the outbreak communication goal.

1. Trust, credibility, accountability, honesty, and transparency
2. Message content issues – agreement and debate
3. Emotion, empathy, and compassion
4. Planning, public assessment, evaluation, message development, and internal communication.

1. Trust, Credibility, Accountability, Honesty, and Transparency

Two of the most important and difficult strategies in this category – and in all of crisis communication – are:

Inform and involve the public early.
Aim for total candour and transparency.

Others include:[15]

Provide information on a regular and frequent basis
Prevent information vacuums that can be filled by others.

Acknowledge and apologize for errors.
Work with other credible sources.
Acknowledge uncertainty.
Don't over-reassure.
Tell the public the kinds of things you are not going to reveal.

What determines trust and credibility? The following are some of the many factors outlined in a literature review by Renn and Levine.[16]

Positive factors:

Timely disclosure
Clear and concise
Unbiased
Sensitive to values, fears and concerns of the public
Acknowledgement of uncertainty
Use of metaphors
Positive information recorded in early part of message
Perceived as "expert"
Similarity with receiver

Negative factors:

Stalled or delayed reporting
Inconsistent updating
Inconsiderate of public perception
Too technical (implies they are [not?] telling) the absolute truth

Peters, Covello and McCallum[17] found that trust and credibility are dependent on perceptions of:

knowledge and expertise
openness and honesty
concern and care

These factors underlie many of the strategies in every category.

Dilemmas of aiming for total transparency and candour

Outbreak communication can never be totally transparent or completely candid. There are always reasons for holding some information back, or delaying its release. Total transparency and candour are, then, aspirational goals. In weighing where to draw the line (which may need to be changed at different phases of the outbreak), the difficulties must be acknowledged as well as the crucial reasons in favor of this strategy.

International outbreak responders report some unarguable reasons for withholding information at times. They may be foreigners serving at the pleasure of a host government. To enhance behind-the-scenes information flow, for the purpose of controlling the outbreak, they may have to keep more secrets, for a longer time, than they wish.[18]

Governments cite many reasons for withholding information. Often, they want time to develop information and recommendations for the public, in the hope of minimizing public alarm. At other times, they want to try to solve a problem on their own while it is small, to avoid the social, political, and economic disruption that domestic or international reactions can produce. Pride, embarrassment, and fear of being blamed can also lead to lack of candour.

There are many reported occasions when information release is delayed in order to inform certain groups first, so these groups can be ready to respond to public and media reaction to the news. Government leaders – local and national -- have expressed outrage at being blindsided and appearing "out of the loop" when given little advance notice about test results, travel advisories, case numbers, and other information.[19]

> [Recommendation: *Warn government ministries and the public in advance -- apologetically -- that political miscommunications will inevitably happen in the midst of fast-moving events*.[20] Apologise strongly after they happen, and acknowledge the difficult position it puts people in -- and warn that they are likely to happen again, but that as always, the main priority is saving lives.]

Clearly the ideal of candour and transparency may conflict with the widely promoted goal of "speaking with one voice." This can present a significant dilemma for institutions which pride themselves on both honesty and on finding consensus, and which may even consider absence of consensus a failure. Another dilemma: genuine expert disagreement may exist, and yet decisions cannot be delayed.

> [Recommendation: Find ways to broaden the consensus, and to communicate the need to make decisions while respectfully acknowledging expert disagreement and uncertainty, and help the public bear the anxiety this raises.]

Sometimes lack of candor is in the service of avoiding stigmatisation.[21] Sometimes lack of candour is based on doubts about public resilience. During the Avian Influenza outbreaks, some leaders said they withheld information to prevent public panic.

> [Recommendation: A difficult outbreak communication strategy, short of total transparency, is to acknowledge the public's wish for total transparency and candour, and also explain what kinds of information will be revealed and what kinds of information will be – sometimes just for a short period -- kept within the organisation, or managed between organisations behind the scenes, and why these decisions have been made. A dilemma: this can generate increased pressure from

media, and anger from the public. But it can also narrow the range of *potential* rumors: the public knows the boundaries of what is being withheld.]

Despite all these drawbacks, it is crucial to aim for transparency and candour – to support the domestic public's confidence in its leaders, and to build trust between nations. The factors at the top of this section underlie the consistent observation that *the longer officials withhold worrisome information, the more frightening the information will seem when it is revealed, especially if it is revealed by an outside source*. This pattern contributes to "a downward public trust spiral,"[22] which also reduces the public's acceptance of its leaders' outbreak management recommendations. There is no cost-free solution for these or any of the other dilemmas associated with risk communication recommendations.

Inform and involve the public early

For outbreaks, the purpose of adapting risk communication strategies is to help outbreak responders save lives, with as little socio-economic and political damage as possible. In this context, the recommendation to "inform early" is perhaps as much a medical recommendation (to help stop the spread of the outbreak) as it is an outbreak communication principle (to build credibility and demonstrate transparency).

The following arguments for "informing early" are from *Improving Dialogue with Communities: a Risk Communication Manual for Government*, chapter 3, in which public officials were interviewed about their experiences releasing information. Reasons why the overwhelming majority strongly favored very early release, even of preliminary uncertain information, included:[23]

- People are entitled to information that affects their lives.
- If you wait, the story may leak anyway. When it does, you are apt to lose trust and credibility.
- You can better control the accuracy of and the frame for information if you are the first to present it.
- There is more likely to be time for meaningful public involvement in decision-making if the information is released promptly.
- Prompt release of information about one situation may prevent similar situations elsewhere.
- Less work is required to release information early than to respond to inquiries, attacks, etc. that might result from delayed release.
- You are more apt to earn public trust if you release information promptly.[24]
- If you wait, people may feel angry and resentful.

- People are more likely to overestimate the risk if you withhold information.[25]

With respect to outbreaks, "inform early" is a recommendation fraught with obvious social, political, and economic ramifications. These include the fear that "crying wolf" too often will lead to "warning fatigue;"[26] concerns about the public's ability to tolerate stress and uncertainty; public anger if the early warning proves wrong but costly; and even public disputes when some local experts and political leaders deny or minimize the warning.[27]

The reality is that at the start of many outbreaks, decisions must be made while experts are short of facts. It is inevitable that WHO and member states will be criticized for issuing warnings too soon or too late, causing unforgivable economic upheavals or unforgivable loss of life, or both -- depending on the outcome of uncertain events.

Acknowledge uncertainty

When it comes to acknowledging uncertainty, even many dedicated "open and transparent" officials get nervous, and the evidence provides little help: the research on how the public reacts to uncertainty is limited, and mixed.

A 1994 study on uncertainty and health risk assessment showed that "agency discussion of uncertainty in risk estimates may signal agency honesty [or] agency incompetence for some people."[28]

After reading simulated news stories about government data on a hypothetical carcinogen in drinking water, with varied levels of uncertainty about the data, one subject said, "It bothers me when there are a lot of maybes and who knows." Another said, "I didn't think much of their ability to be precise." Many of the respondents were unfamiliar with the idea of uncertainty in risk assessment, and even in science. Some who were familiar with it nevertheless associated it only with "preliminary" data, expecting eventual resolution of uncertainty by a "competent" agency. They did mostly see the agency as honest for acknowledging the uncertainty.

Some of the focus groups in the study expressed approving surprise that the government would provide any unsought information at all -- demonstrating the research finding that defying negative stereotypes can help build trust.[17].

A follow-up study by Johnson in 2003 produced similar results. Johnson noted that "the effect of a belief that science concerns 'facts,' and thus cannot be uncertain, cannot be ruled out."[29] Clearly, the subjects did not like uncertainty. But Johnson and Slovic do not suggest that the subjects found it terribly distressing or unbearable. Johnson, Slovic, and others express the hope that by learning about uncertainty, eventually the public will develop more realistic expectations of experts and officials.

In the studies above, acknowledging uncertainty led some subjects to question expert competence. Case examples show this can go in other directions. Failure to

acknowledge early uncertainty during the U.S. anthrax attacks led to later accusations of incompetence, according to analysis by U.S. CDC officials: subsequent changes in official knowledge and opinions were seen as "mistakes." In the UK, the categorical over-reassurance by the Agriculture Minister that BSE could not be transmitted to humans led to profound loss of trust in government and science when he turned out to be wrong.

In crises, contrary to expectations, the media often downplay official statements that explicitly acknowledge uncertainty. Sources can carefully construct messages to reduce the chance of acknowledged uncertainty being turned into categorical reassurance by reporters. *Categorical reassurance that turns out wrong often leads to excessive alarm and increased mistrust.*

> {Recommendation: Use the "even though" message structure: "Even though there has been no confirmed human-to-human transmission, we can not completely rule it out in several cases." Also try: "So far,…" and "For now,…"}

2. Message content issues

There is emerging agreement about what actual information should – and should not -- be transmitted in crisis situations, as published plans from Canada, the U.S., Sweden, and Latin America show.[30] [31] [32] [33]

Most agencies build risk communication strategies for:

> Telling anxious people what officials want the publics to know about the crisis.
> Telling them what to do to protect themselves and others.
> Telling them what officials know and don't know, and what you are doing to learn more.
> Building trust and credibility.
> Being responsive to reporters' needs.
> Learning more about various publics' existing beliefs and knowledge.
> Listening and responding to public concerns.
> Showing empathy and compassion.
> Being transparent and honest.
> Aiming for message consistency.
> Aiming for message clarity and simplicity.
> Working with external sources, especially local "influentials," to help maintain consistency and build credibility.

There is abundant research showing that communicating with compassion contributes to the credibility and trustworthiness of sources [See section 3]. The section on communication planning and public assessment demonstrates the importance of learning more about message recipients [See section 4].

Experts have designed systematic, practical, and thorough guidelines for message development,[34] based on well-established social science research on such topics as information processing under stressful conditions, going back at least as far as Easterbrook's 1959 work on "the effect of emotion on cue utilisation."[35] [36] [37]

Debate about speculation

Most communication plans advise against speculation, without defining the term. Some plans specifically advise against "speculating" about worst-case scenarios, while others recommend being open about them. In practice, many officials use the injunction against speculation to refuse to answer relevant what-if questions, which they may even be discussing behind the scenes. This refusal conflicts with the goal of transparency.

Experience shows that the "speculation niche" will be filled one way or another – by responsible officials and experts and/or by fringe theorists, alarmists, and even by those denying that a problem exists.

Debates about "responsible" versus "irresponsible" speculation arise often amongst outbreak responders, and can usually be resolved by agreeing on the word's meaning. Communication planners should carefully articulate what they do and do not mean by "speculation" so it doesn't continue to be a cover word for holding back information.

> [Recommendation: If asked a question that is so far-fetched that it is not even worth considering, say so, and explain why. But if a question is actually part of outbreak responders' discussions, answering it honestly is "responsible speculation."]

Another variation on the speculation dilemma occurs when one official uses unfamiliar technical language to describe what might happen. Then another official makes it more vivid by using plain language. For instance, many officials spoke candidly about the chances of a pandemic arising from avian influenza outbreaks. But when a few officials said it was possible that millions of people could die, they were accused of "speculation," as if that wasn't what "pandemic" meant. *The injunction against speculation is often related to an official's fear of frightening the public,* even when the experts are themselves frightened about an unlikely but dire possibility.

It is notable that only potentially over-alarming statements are ever referred to as "speculation." Potentially over-reassuring statements – which may be equally inaccurate or premature – are never called "speculation."[38]

Debate about the "right" amount of fear

Practitioners from the converging fields of risk communication and health communication sometimes disagree about "allaying" versus "harnessing" people's fear.

Most risk and crisis communication plans place a strong emphasis on allaying people's

concerns before they have even had a chance to absorb the bad news. This attempt to short-circuit the learning process has the best of intentions (and is attractive to crisis managers), but does not exploit new knowledge about the precaution-motivating effect of the "right" amount of fear.[39] [40] [41] [42] [43]

Many risk communication strategies are based on untested assumptions that in a crisis, most people are already experiencing more fear than is useful to motivate precautions, and that the amount of fear is already impairing people's ability to process crucial information. The strategies based on these often inaccurate assumptions include: delaying announcements of outbreaks; reassuring prematurely or excessively; refusing to share what-if's and worst-case scenarios (usually under the guise of "refusing to speculate"); hiding anxiety-provoking expert disagreement; covering up errors or bad news; and repeating premature attempts to "allay fear." *Assessing the public's attitudes and feelings, and assessing officials' "mental models" about the public, is likely to lead to better message development based on a more accurate view of public resilience and ability to bear appropriate fear.*

> [Recommendation: Turn the tables on the trust issue by assessing how much trust officials have in the public and how much do they fear public criticism and why. As a communications planning exercise, explore how officials view the public and assess these attitudes with a community focus group -- of religious, political, educational and others regularly working with the public.]

3. Emotion, empathy, and compassion

Emotional elements contribute strongly to the trustworthiness of officials. In a study of public trust in the U.S. Department of Energy, Metlay found that public perception of the agency's fairness, caring, openness, and credibility were about four times as important as perception of the agency's competence in predicting public trust.[44]

"You" -- "I" -- "it" -- "Some people": From an interpersonal psychiatric point of view,[45] too much direct empathy from a stranger can sometimes be perceived as intrusive, and can generate defensive disavowal: "I know how frightened you feel." "No, you don't, you have no idea how I feel."

In cases where an official is talking directly to the public, in groups or via the media, it may be more respectful to say things like, "Some people feel skeptical about how useful hand-washing is," or "A lot of people tell me they are anxious in crowded shops," rather than: "I understand how scared you are." This gets the fear, or skepticism, or distrust into the conversation without accusing anyone of it. By the way, not many officials directly acknowledge public distrust, even when it is a dominant factor in a crisis: "I realize some of you doubt what we are saying...." But when distrust is a concern, it should be acknowledged, along with people's fears and hopes.

Another approach is to personalize *when it is true* the fear, skepticism, or other reactions that people are having: "My own lab tested the water after the contamination cleared, but even I was a bit nervous drinking from the tap at first."

To avoid intrusive assumptions about other people, it helps to decide how direct or indirect to be: you can go from "you" to "I'" to "some people" and even to "It" -- "It feels like there's a lot of fear in the room." The people who are fearful will feel more understood; the people who are not -- especially those in denial -- will not become more defensive.

Words to avoid in messages: "hysteria" "irrational" "panic"

Even if people are irrational or hysterical, it is not compassionate to tell them so. *There is no evidence that calling people hysterical or irrational leads to increased compliance, trust, or reduced anxiety*.

Most of the time people in a crisis are not irrational or hysterical. They are more often uninformed; unconvinced; distrustful; demanding and absorbing new information; appropriately frightened but not necessarily about the right facts; and bewildered.

There is *an inevitable* time lag between the presentation of new information about which officials are confident, and acceptance of that information by the public. The public not only needs to learn the information, they have to figure out how sure officials are each time there is an update; and how sure they are that officials are telling the public the truth. This is not the realm of "facts." This is largely the realm of value judgments, learning and credibility. Just as international officials want to verify lab results from unfamiliar local labs before judging them to be accurate, *the public needs time to judge official competence and honesty.*

Tolerate relatively harmless early over-reactions:
guidance from social cognitive theory

What looks to officials like public over-reaction is often one way people "personalise" and adjust to scary new possibilities. People are trying to figure out efficacious ways of dealing with the danger. The more respect officials can show for their efforts, the more likely they are to let those officials guide their efforts in a useful direction. This is a case for "modeling" and "vicarious rehearsal" guided by empathic leaders who reveal genuine human traits, teaching and demonstrating effective emotional and cognitive responses to the crisis. The concepts of modeling and vicarious rehearsal come from social cognitive theory (formerly called social learning theory).[46 47 48]

Empathy increases your chance of using the early "over-reaction" as a teachable moment. Showing contempt and disdain decreases your ability to lead the public past its initial reaction to more useful precaution-taking.

Social cognitive theory has long been important in the health communication field, and

known to risk communication experts. Some front-line communicators and officials do this intuitively -- but many have learned it as a skill, and know that it is teachable.

During the Avian Influenza outbreaks, a communication officer told the media, after an emergency meeting of experts in Bangkok, "Officials appeared shaken." This simple statement was one of the more humanizing things the world heard about officials dealing with the unprecedented outbreaks. It didn't suggest panic or incompetence, just intense involvement and genuine human worry, reflecting the true seriousness of the events.

This official was "modeling" a tolerable reaction, somewhere at the low end between *no* fear and panic.

When people seem to be over-reacting early on in a crisis, they are often going through an "adjustment reaction" -- they are temporarily hypervigilant, they are pausing, they are practicing for "what-if's", they are "trying on" the crisis using intuitive skills, similar to cognitive rehearsal[49], they are deciding which officials to trust, they are figuring out how competent the officials are -- they are paying an enormous amount of attention and trying to learn.

Officials often find all this public agitation hard to bear, and frequently try to change the subject, telling people that they are more likely to die from any number of other hazards rather than the crisis at hand. This is common but it is alienating. Experienced risk communicators recommend that health officials tell people about their risk of smoking and obesity after they are finished asking all their questions about the current crisis, and after they figure out whether they trust you or not. Officials can either handle it empathically and harness the teachable moment, or they can tell people they are more likely to get struck by lightning.[50]

Don't panic about panic

While disaster researchers and risk communication specialists accept the long-standing data showing that true panic is rare in western disasters,[51] [52] many officials, media commentators and others in the midst of crises see the public as regularly in or near a panic-state. On the part of officials, this is often manifest by the English statement, "There is no need to panic."

Hypotheses explaining the official overdiagnosis of panic include:
1. The fear that the public cannot bear bad news.[53]
2. The memorability of true panic events overshadows their statistically low probability.[54]
3. Officials feel panicky themselves at times, but disavow that feeling and project it onto the public.[55]

The over-diagnosis of panic by officials is phenomenologically identical to the public's similar over-estimation of the likelihood of low-probability events like shark attacks. The phenomenon is based on research showing that highly-memorable events are

perceived as much more frequent than statistics suggest. Nobel Prize winning psychologist Daniel Kahneman and Amos Tversky called this "the availability heuristic."[56] It has a prominent place in risk perception literature.

As with "speculation," it will help if officials – and the media – are pushed to define what they mean by "panic."

> [A very firm recommendation: *Never use the word "panic" unless you really mean it.* If reporters ask: "Do you think people are close to panicking," remember to avoid negative words when trying to avoid creating negative images in peoples' minds, and answer without repeating the word "panic." For example, "People are anxious, of course, but bearing up well, as the people of this village usually do."]

4. Planning and evaluating risk communication[57] [58]

In many ways, planning is practicing for the real thing. When it comes to planning and evaluating risk communication, the paths are well-marked but often ignored.

One of the most common, and most ignored, recommendations is: *Have a risk communication plan ready before you need it.* And corollaries to this are: Be ready to change your plan at all times to fit the evolution of the outbreak, and do continuous evaluation, no matter how formal or informal.

Designing a risk communication plan has a lot in common with planning and executing table-top exercises. It helps to do needs assessments; assessment of the target populations; goal-setting; scenario-building; skills assessments; crisis games; debriefing; and training. Lessons learned from previous exercises and actual outbreaks need to be incorporated into new plans. *Senior staff acceptance must be aggressively sought, especially regarding the need to include communication planning in all stages of outbreak management planning.* And just like dealing with the public, earlier is better.

Evaluation should be seen as part of planning from the start. One of the first steps in planning at the start of an actual event is: clarifying the communication goals, including the variables to monitor. This is part of the "formative evaluation" stage.

If the emergency is imminent, that usually means designing communication that leads to the rapid attitude, intention, and behavior changes (or maintenance) that are desirable -- the goal is "directive."

If the emergency is potential but inevitable, like Pandemic Influenza, you probably want people to learn about it so they can be part of planning (devoting more public resources; making political decisions about stockpiling drugs and increasing vaccine production capacity, etc): your goal is more "informative."

Then as the outbreak evolves, assess the goals ("process evaluation") and adjust

communication strategies as needed. And when the outbreak is over, do "outcome evaluation."

A more formal and expensive post-event evaluation is called "impact evaluation." It may be worth doing formal mental models work and impact evaluation for resource-intensive global or trans-continental planned health outreach efforts, but not for localised outbreaks when advance audience-specific communication planning is harder.

Public Assessment

Fields as diverse as public relations, advertising, political campaigning, military recruiting, and health and risk communication have learned the importance of "knowing your audience" and tailoring messages to them. There is a large literature describing informal low-budget "samples of convenience" public assessment tools; complex, expensive, labor-intensive modeling tools; and a mixture of methods such as formal questionnaires, surveys, and focus groups.

A sample of the kinds of things to learn about the public:

Before or at the start of an outbreak, find out what publics know, believe, and feel:

About the risk
About the potential precautionary measures
About sources of medical stigma.
About seeking medical help.
About the public health agency and local leaders.

Learn the demographics of the various publics to be addressed, including literacy, languages, religious and ethnic groups, socio-economic levels.

Find out what social influence networks are important in their communities, and what their "influentials" are saying.[59]

Find out what channels of information various publics prefer – such as television; print media; public meetings; leaflets; graphic displays.

A Proposal from the SARS Experience: A buddy system, coaching, and a virtual network of communicators

During SARS, WHO technical experts formed and honed a world-wide network of fellow experts, brainstorming with them on password-protected websites and through individual contact; bringing in outside experts and moving them around the field as needed; and keeping in touch throughout. These human resources, connected through technical means, are now prepared, experienced, and capable of responding even more quickly the next time they are needed.

A similar network of communicators can be formed to "shadow" the work of communicators in the hot spots of an outbreak -- headquarters, region, country, field.

These communicators can be drawn from such groups as:

- WHO communication staff who are not acutely involved in the outbreak.
- Communication personnel in country health agencies around the world.
- Retired medical and science journalists.
- Professional risk and health communication experts.

In between outbreaks, these people can maintain a virtual connection, sharing good and bad communication examples from their (and other people's) practice and study. During outbreaks, they can be mobilized as a group or as individuals to follow specific aspects of communication, and provide feedback to the frontline practitioners. Individual frontline communicators can draw on a specific "buddy" from the network to follow their work and provide feedback -- less publicly, and potentially more hard-hitting and critical. This can also permit good cultural matching when that is crucial.

During outbreaks, trained front-line communicators can be temporarily hired away, or seconded from, their home institutions. Pre-existing relationships with these people will aid their integration into the outbreak team.

Communication practitioners on the front lines of outbreaks have said they sometimes feel they are in an "information vacuum," so caught up and so busy that they have little perspective about the local impact of their work, or how the outside world sees them. Drawing on interested but less-stressed outsiders has been helpful to some, and others have expressed interest in this type of resource in the future.

A major common barrier to good risk communication planning:

Communication planning is usually led by agency communicators. But communication planning is often ignored by senior management (until the middle of a crisis that is). That's a problem. At many risk communication trainings for major events, senior management is entirely absent. This is always commented on by those present, who add that in times of crisis, senior managers with no risk communication training begin making communication decisions.

Because risk communication principles include some counter-intuitive notions about dealing with the public, it is a potential hazard to wait till the middle of a crisis to tell managers about the need to acknowledge more uncertainty, or empathise with the public's beliefs and fears, or about what "speculate" and "panic" and "transparency" might actually mean. *It is worth trying to recruit senior officials in advance, in small doses or large doses, to learn risk communication.*[60]

The hardest part: Remembering to use the guidelines in actual outbreaks

Researchers in the social sciences often comment on all the research evidence that is ignored by front line practitioners. As one social scientist lamented:

"Many call for empirically-grounded, theoretically-based behaviour change communication. Yet, time after time empirical research goes unused as message designers abandon the often difficult task of translating data into usable information, relying instead on inspiration, brainstorming, or intuition for designing health communications."[61]

Just as it will not usually be possible to commission formal mental models of publics, it will not usually be possible to do formal social science research on perceived threat, perceived response efficacy, and other characteristics of various publics during outbreaks. Analysing communication in other crises and keeping some of these research findings in mind are ways of informing message planning, and understanding the public.

Citations and comments

[1] The first draft of this evidence-based document was prepared by Jody Lanard, M.D., a WHO consultant to CDS/CSR and Review Group. Dr. Lanard has occasionally coauthored articles with risk communication consultant Dr. Peter Sandman, some of which are cited in this document. After submission, Dr. Lanard's draft document was reviewed and revised by WHO and then again by a panel of outside experts.

[2] An expert consultation involving a broad range of public health officials from all WHO regions further examined the document based on their outbreak experiences at an outbreak communications meeting in Singapore, 21-23 September 2004.

[3] See Appendix 9 for some online and other published communication plans and planning materials.

[4] Covello VT. Core Risk Communication Slides, PowerPoint presentation 2002 (http://www.healthlinks.washington.edu/nwcphp/pdf/april02color.pdf, accessed 20 August 2004).

[5] **Early risk communication guidelines on the road to outbreak communication**:

Six years after the 1976 dioxin release from a chemical plant accident in Seveso, Italy, the European Community first mandated that Member States inform the public and other Member States about major industrial accidents, with two statements that may be considered early "risk communication" guidelines.

The post-Seveso Directive: 1982

1. Member States shall ensure that persons liable to be affected by a major accident . . . are informed in an appropriate manner of the safety measures and of the correct behaviour to adopt in the event of an accident.

2. The Member States concerned shall at the same time make available to the other Member States concerned . . . the same information as that which is disseminated to their own nationals.

In 1991, Wynne and van Eijndhoven wrote that implementation of the directive "is still in its infancy....Eventually it will have to encompass insight into the difficulty of controlling such risks as well as reassurances about their control; and it will not be only in one direction from 'the authorities' outwards."

Wynne B, van Eijndhoven J. Risk Communication in Europe. In: Kasperson R, Stallen P, eds. *Communicating Risks to the Public*, Dordrecht, Kluwer Academic Publishers, 1991:15-34.

[6] Tang KC, Ehsani JP, McQueen DV. Evidence-based health promotion: recollections, reflections, and reconsiderations. *Journal of Epidemiology and Community Health*, 2003, 57:841-843.

> "Health promotion operates in an environment where numerous cultural, social, economic, and political factors interact. Given a complex context where the links among the elements of an intervention are interrelated, causality, more often than not, cannot be directly established . . . In practice, it is important to note that evidence alone cannot constitute effective practice, as is the case of evidence based medicine….[E]xternal evidence can inform, but can never replace, the expertise of individual practitioners."

[7] Laird F. The decline of deference: the political context of risk communication. *Risk Analysis*, 1989:543-550.

[8]Decades before social pressure on governments led to the study of risk communication, most science and technology innovations emerged from a "decide, announce, defend" policy, with little public input. Risk communication findings helped lead the way from this approach toward two-way dialogue between stakeholders, for many types of risk policy. WHO believes that these findings will be important for outbreak management as well.

> For a brief discussion of "decide, announce, defend" in Asian and Western countries, see: McHugh J. Asian regional conference on evolution of the system of radiological protection. *Journal of Radiological Protection*, 2002, 22:443-445.

[9] Slovic P et al. The psychometric study of risk perception. In: Covello VT, Menkes J, Mumpower J, eds. *Risk evaluation and management*. New York, Plenum, 1986:3-24.

[10]Ropeik D, Slovic P. Risk communication: a neglected tool in protecting public health. *Risk in Perspective*, Harvard University, 2003, 11 (http://www.hcra.harvard.edu/risk.html, accessed 8 August 2004). See article in Appendix 1.

[11]Slovic, P. Perceived risk, trust and democracy. *Risk Analysis*, 1993, 13:675-682.

[12] Freimuth V, Linnan HW, Potter P. *Communicating the* threat of emerging infections *to the* public. *Journal of* Emerging infectious Diseases, 2000 (http://www.cdc.gov/ncidod/eid/vol6no4/freimuth.htm, accessed 8 August 2004).

[13] Hoeman S Ku Y, et al. Health beliefs and early detection among Chinese women. *Western Journal of Medicine*, 1996, 18:518-533.

[14] **Some Agency Risk Communication Definitions**

FAO/WHO expert consultation on "The application of risk communication to food standards and safety matters" in Rome 1998:

> "Risk communication is the exchange of information and opinions concerning risk and risk-related factors among risk assessors, risk managers, consumers and other interested parties."

Codex Alimentarius:

> Risk communication is: "The interactive exchange of information and opinions throughout the risk analysis process concerning hazards and risks, risk-related factors and risk perceptions, among risk

assessors, risk managers, consumers, industry, the academic community and other interested parties, including the explanation of risk assessment findings and the basis of risk management decisions.".

Both cited in:
Reksnes HA. FAO/WHO seminar on acrylamide in food. Arusha, Tanzania 17 March 2003 (http://www.fao.org/es/ESN/jecfa/acrylamide/resknes/Resknes.htm, accessed 1 July 2004).

U.S. National Research Council:

"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 reactions to risk messages or to legal and institutional arrangements for risk management." In: *Improving Risk Communication.* U.S. National Research Council, Washington, National Academies Press, 1989.

[15]These recommendations are excerpted from longer lists in these articles included in the "Tools" section:

Covello VT. Lessons learned from the front lines of risk and crisis communication: 21 guidelines for effective communication by leaders addressing high anxiety, high stress, or threatening situations. Presented as part of a keynote address at the U.S. Conference of Mayors Emergency, Safety, and Security Summit, 24 October 2001, Washington.

Sandman PM, Lanard J. Adapted from: Risk communication recommendations for infectious disease outbreaks. Presented at the World Health Organization SARS Scientific Research Advisory Committee meeting, 20-21 October 2003, Geneva; and Crisis communication: guidelines for action. Training handouts. Fairfax, The American Industrial Hygiene Association, 2004 (http://psandman.com/handouts/AIHA-DVD.htm, accessed 13 August 2004).

Sandman PM. Dilemmas in emergency communication policy, U.S. Centers for Disease Control Emergency Risk Communication CDCynergy, 2003 (http://www.cdc.gov/communication/emergency/features/Dilemmas.pdf, accessed 8 August 2004).

[16] Renn O, Levine D. Credibility and trust in risk communication. In: Kasperson R, Stallen P, eds. *Communicating Risks to the Public*, Dordrecht, Kluwer Academic Publishers, 1991:175-218.

[17]Peters R, Covello VT, McCallum D. The determinants of trust and credibility in environmental risk communication: an empirical study. *Risk Analysis*, 1997, 17:43-54.

[18] Interviews with public health officials serving in eight countries.

[19] In a case study of communication during the U.S. anthrax attacks, Chess et al. discuss local officials' frustration at being told by state officials to hold back information sent from the national Centers for Disease Control, so that communication could be coordinated. "Consistency of messages, which shields disagreements from view, may obscure, rather than illuminate, the scientific process and policy decisions, according to one prominent public health official," they write.
Chess C, Calia J, O'Neill KM. Communication triage: an anthrax case study. *Biosecurity and Bioterrorism*, 2004, 2:106-111.

[20] This is an example of "anticipatory guidance" – telling people what to expect. It adds to credibility, and helps prepare people emotionally and cognitively for problems which may arise.

[21] In 2003, the U.S. CDC did not reveal where suspected and probable SARS cases were being treated, to avoid stigmatizing specific hospitals. This raises the dilemma that lack of candour can lead to increased rumours, possibly resulting in more stigma than candour would produce.

[22]Lofstedt R. How can better risk management lead to greater public trust in Canadian institutions: Some sobering lessons from Europe. Policy background paper for the Canadian Privy Council Office, 2003 (http://www.smartregulation.gc.ca/en/06/01/su-07.asp, accessed 8 August 2004).

[23] Hance BJ, Chess C, Sandman PM. Improving dialogue with communities: a risk communication manual for government. In: Covello VT, McCallum DB, Pavlova M, eds. *Effective risk communication: the role and responsibility of government and non-government organizations*. New York, Plenum Press, 1989:195-295.

[24] Lau J, Tsui H, Kim J. Monitoring community responses to the SARS epidemic in Hong Kong: from day 10 to day 62. *Journal of Epidemiology and Community Health,* 2003, 57:864-870.

> "Timely dissemination of accurate and comprehensive information would not cause panic, but would promote required prevention behaviours….In the [outbreak's] first phase, [precaution adoption rate] occurred in parallel with the increase in the number of new cases and the total number of reported cases. Transparency and timely dissemination of such data may therefore be very important in promoting preventive behaviours."

[25] In planning a level P4 lab in Lyon, WHO officials recalled a previous effort by a member state to site a P4 lab without significant public involvement. The member state's lab, built many years ago, is still not open because of community objections.

In Lyon, during the planning phase, WHO officials held a series of town meetings to address public concerns and seek support. A WHO official who participated in these meetings writes that "the lab opened on time (despite its high visibility on pilings above the Institute Pasteur), and there has been no anti-sentiment for the first five years of its operation.": See example of involving the public early – or of failing to do so – in Appendix 7, *Brief examples of outbreak strategies in action*.

[26] See research on false alarms in Appendix 6, A *few words about false alarms.*

[27] See examples of "inform and involve the public early" in Appendix 7, *Brief Examples of Outbreak Strategies in Action.*

[28] Johnson BB Slovic P. Presenting uncertainty in health risk assessment: initial studies of its effects on risk perception and trust. *Risk Analysis*, 1995, 15:485-494.

[29] Johnson BB. Further notes on public response to uncertainty in risks and science. *Risk Analysis*, 2003, 23:781-789.

[30] Communicating in a crisis: risk communication guidelines for public officials. U.S. Department of Health and Human Services, 2002 (http://www.riskcommunication.samhsa.gov/index.htm, accessed 8 August 2004).

[31] UK Resilience: Communicating risk. The Civil Contingencies Secretariat in the UK Cabinet Office (http://www.ukresilience.info/risk/index.htm, accessed 8 August 2004).

[32] Crisis Communication Handbook. Swedish Emergency Management Agency, 2003 (http://www.krisberedskapsmyndigheten.se/verksamhet/internationellt/crisis_communication_handbook_2003.pdf, accessed 8 August 2003).

[33]U.S. CDC/PAHO Risk communication self-instruction course. 2003 (http://www.cepis.org.pe/tutorial6/i/index.html, accessed 8 August 2004).

[34]Covello VT. Message mapping, risk and crisis communication: Invited paper presented at the World Health Organization Conference on Bio-terrorism and risk communication, 1 October 1 2002, Geneva.

[35]Easterbrook JA. The effect of emotion in cue utilization and the organization of behavior. Psychological Review, 1959, 66:183-201

[36] Jepson C, Chaiken S. Chronic issue-specific fear inhibits systematic processing of persuasive communications. Journal of Social Behaviour and Personality, 1990, 5:61-84.

[37] Much of the information processing research has been done with regard to soldiers, pilots -- and emergency medical professionals.

[38] Lanard J, Sandman PM. It is never too soon to speculate. 2003 (http://www.psandman.com/col/speculat.htm, accessed 8 August 2004).

[39]Witte K, Allen M. A meta-analysis of fear appeals: implications for effective public health campaigns. Health Educ*ation and Behavior*, 2000, 27:591-61.

[40] Witte K. Putting the fear back into fear appeals: The extended parallel process model. Communication Monographs, 1992, 59:329-349.

[41] Witte K. Generating effective risk messages: How scary should your risk communication be? Communication Yearbook, 1994, 18:229-254.

[42] Cocking L. Effective public health practice project summary statement, public health research, education and development program, Ontario, Canada, 2001.

[43] Nowak G. Planning for the 2004-2005 Influenza vaccination season: a communication situation analysis. U.S. Centers for Disease Control, 2004 (http://www.ama-assn.org/ama1/pub/upload/mm/36/2004_flu_nowak.pdf, accessed 10 July 2004).

[44]Metlay D. Institutional trust and confidence: a journey into a conceptual quagmire. In: Cvetkovich G, Lofstedt R, eds. Social Trust and the Management of Risk, London, Earthscan, 1999:100-116.

[45] Havens LL. *Making contact*. Cambridge, Harvard University Press, 1986.

[46] Bandura A. Social learning theory. Englewood Cliffs, Prentice Hall, 1977.

[47] Bandura A. (1989). Perceived self-efficacy in the exercise of control over AIDS infection. In: Mays VM, Albee GW, Schneider SF, eds. Primary prevention of AIDS*: psychological* approaches. Newbury Park, Sage, 1989:128-141.

[48] Pajares P. Overview of social cognitive theory and of self-efficacy. 2002 (http://www.emory.edu/EDUCATION/mfp/eff.html, accessed 2 July 2004).
This is a very brief and crystal clear summary of social cognitive theory.

[49] Meichenbaum D. Stress inoculation training: a twenty year update. In: Woolfolk RL, Lehrer, PM, eds. Principles and practices of stress management. New York, Guilford Press, 1993.

[50] Sandman P, Lanard J. "Fear is spreading faster than SARS" -- and so it should. In: *Safety at Work/Australia*, 2003, and online (http://www.psandman.com/col/SARS-1.htm, accessed 8 July 2004).

[51] Wolfenstein M. Disaster: A Psychological Essay. Glencoe, Free Press, 1957.

[52] Quarantelli EL. The sociology of panic. In: Smelser N, Baltes PB, eds. International encyclopedia of the social and behavioral sciences. New York, Pergamon, 2001:20-30.

[53] Clarke L. Panic: myth or reality*? Contexts*, The American Sociological Association, 2002 (http://www.contextsmagazine.org/content_sample_v1-3.php, accessed 13 August 2004).

[54] Tversky A, Kahneman D. Judgment under uncertainty: heuristics and biases. Science, 1974, 185:1124-1131.

[55] Sandman P. Beyond panic prevention: addressing emotion in emergency communication. In: CDCynergy Emergency Risk Communication, U.S. Centers for Disease Control, 2003, and online, 2003 (http://www.psandman.com/articles/beyond.pdf, accessed July 10, 2004).

[56] Tversky A, Kahneman D. op cit

[57] References to published health and crisis communication plans and planning guidelines -- some of them available online -- can be found in Annex 9.

[58] Suggestions for how to do informal rapid evaluation and public assessment are included in "Outbreak communication: evaluation and coaching."

[59] Graeff, J., Elder, J. and Booth E. *Communication for health and behavior change*. HealthCom project, Academy for Educational Development, funded by U.S. Agency for International Development. Jossey-Bass, San Francisco, 1993. A health communication project in a developing country aimed at encouraging mothers to use oral rehydration solutions for their dehydrated babies, rather than anti-diarrheal medicines. The young mothers seemed to be in agreement during the clinic visits, but reported poor follow-through. Health care workers then learned -- only by asking -- that older female relatives were among the most important "local influentials" – and they were discouraging young mothers from using oral rehydration rather than anti-diarrheals. Knowing this allowed health care workers to address it.

[60] After a serious communication problem during a crisis, one national agency signaled its new genuine interest in risk communication by having a widely-broadcast training, and it also arranged for at least eight of the most senior officials to work individually with risk communication experts for up to an hour. This not only helped them get trained fast; it also signaled to the rest of the agency, "we really mean this, and we will back you up when you do this." This agency now provides scores of good risk communication examples, although it has not yet been tested in a crucible like the one which launched its efforts.

[61] Witte K. Managing fear, giving hope: HIV/AIDS and family planning behavior change communication guidelines for urban youth. Addis Ababa, Ethiopia: JHU/CCP and Ethiopia National Office of Population. 2001 (http://www.jhuccp.org/africa/ethiopia/ethiopiareport.pdf, accessed 10 July 2004).