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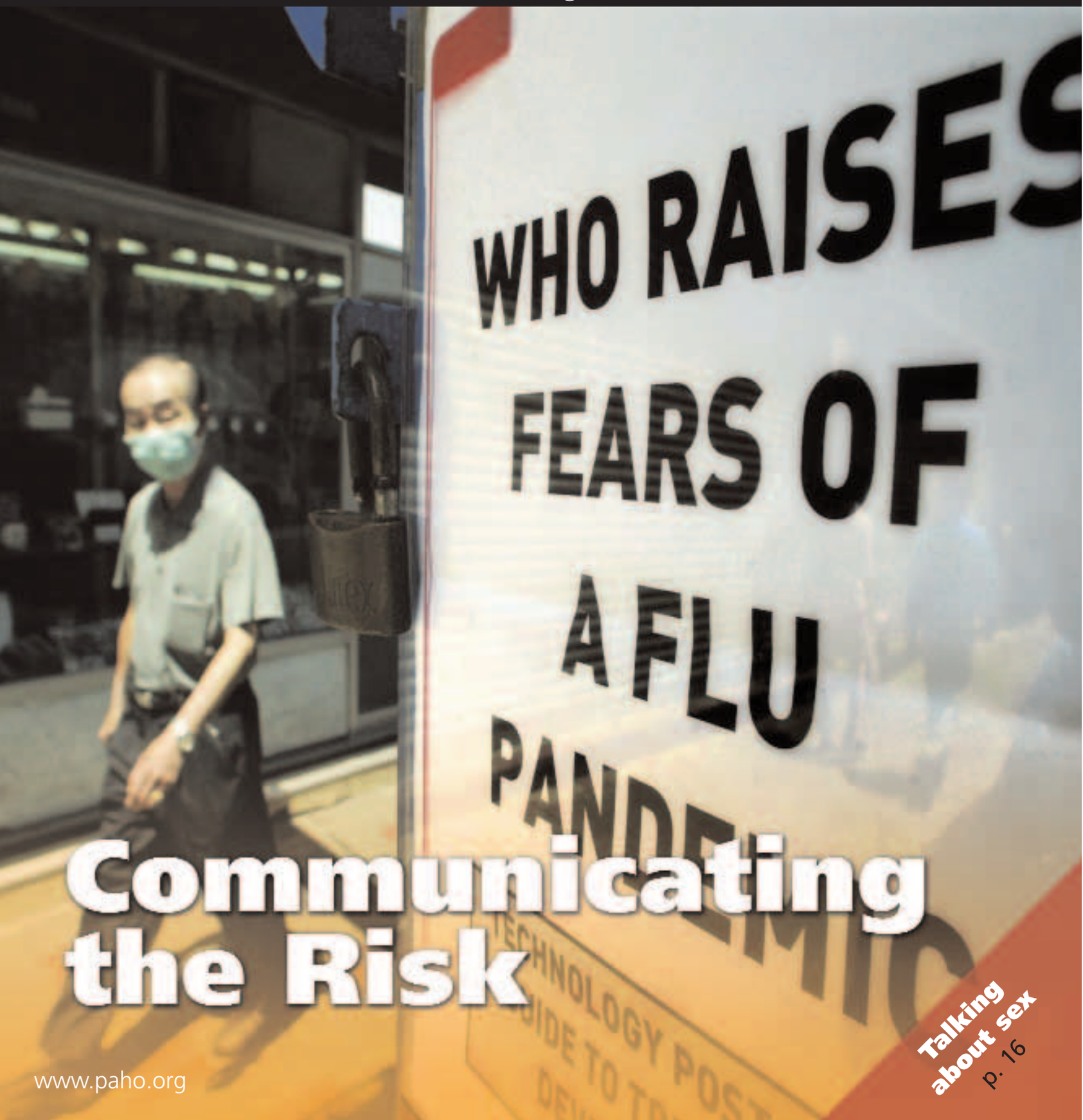

Communicating the Risk

Talking about sex p. 16

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First Word

Communication: risky business

What is it about risk communication that leads people to create lists of do's and don't's? In researching the topic earlier this year I came across scores of suggestions, recommendations, and advice from experts. In fact, a list of 26 recommendations I found comes from Peter M. Sandman and his wife Jody Lanard, who write a superb article about risk communication as it relates to bird flu in this edition of *Perspectives in Health.*

The recommendations vary, but those that strike me as the most curious are the ones that call on public health experts to involve the public. Apparently, even public health professionals need to be reminded of the essential role of the public in maintaining public health. But then again, risk and crisis situations evoke a host of contradictions for many in medicine and public health. They imply rapid response in the face of uncertainty, raising the alarm but also calming fears, and empathizing with public opinion even when it's misguided. All too often the medical profession's preferred response is: "It will be all right," and "Here's what's going to happen." In the case of most hazards and crises, no one really knows.

Risk communication is a growing area of expertise and a growing necessity in an increasingly unstable world. Post-September 11, 2001, the management of risks and crises and the communications integrally built into these processes can mean the difference between credible governance and chaos. Risk and crisis communication should be an integral part of governments' planning and preparation for everything from bioterrorism to Marburg hemorrhagic fever. In the latter, crisis communication has included everything from raising awareness of how to handle dead bodies to fear-assuaging explanations about the use of bio-suits. A good plan is flexible and builds on success—or error. It was during the Ebola outbreak in Africa during the 1990s when doctors learned that, to maintain trust, they had to allow family members to see the treatment they were giving and not hide patients behind screens.

That's why the lists come in handy. Lists of sins: Don't meet the media or the public unprepared. Lists explaining how to address the public: Always stay on message and acknowledge that you don't have all the answers. Even personal presentation guidelines: Watch your gestures and maintain eye contact.

As Sandman and Lanard point out, one thing the experts do know is that reaction to and perception of risks vary vastly. For example, natural disasters are scary but not as scary as those termed "man-made." Hazards to children are often considered much less acceptable than those to adults. Frequency and adaptability are key factors that influence how situations are perceived. Children living in war zones may not drop to the ground at the sound of bullets. Residents in earthquake-prone areas may not react in panic to a tremor.

A young man may have unprotected sex with several partners because he doesn't see the risk of contracting HIV/AIDS. And if he does, he may figure he can beat it with antiretrovirals. In such a case, the risk is high, the perception is low, and the response by public health officials should be to raise the alarm. On the other hand, in 2002 two snipers near Washington, D.C., randomly shot 16 people, killing 10 of them, over 47 days. They effectively had the entire metropolitan area in a panic. Yet probabilistically, people in the area were about twice as likely to be killed in a drunk-driving incident during the same period.

But people (that is, the public) want to believe and to trust those conveying information about risks and crises. They will accept that some answers may have to come later, but they want the information as soon as it is available. This means authorities cannot wait until they have "all the facts" before speaking with the public or the media. And experts must use their skills to ensure they have communicated (not just released information) and that their messages have been understood. This is the bottom line of good risk communication. Authorities' credibility rests on the line, and, once lost, it is awfully hard to regain.

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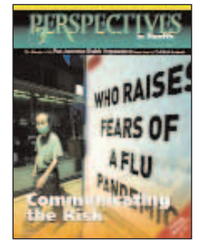

Front cover:
A man wearing a protective mask walks past a newsstand during an outbreak of SARS in Hong Kong in May 2003. The World Health Organization (WHO) warned that SARS could be a wake-up call for a potentially much more dangerous influenza pandemic.

Photo © Peter Parks/AFP/Getty Images

FAO photo

Bird Flu: Communicating the Risk

by Peter M. Sandman and Jody Lanard

Health authorities want to spread the word that avian influenza has brought the world perilously close to a new flu pandemic. But raising awareness about uncertain threats can itself be perilous. Two leading risk communication experts offer advice on how to sound the alarm.

Public health officials have a pandemic-size communication problem. Experts believe a deadly influenza pandemic is quite likely to be launched by the H5N1 avian virus that has killed millions of birds and dozens of people in Asia. They are more anxious than they have been in decades. But infectious diseases are unpredictable. H5N1 could disappear—as swine flu did in 1976—and "The Great Pandemic of 2___" could arise from a strain that doesn't even exist yet. Even if H5N1 does cause a human pandemic, it might weaken and produce only mild disease. So it's hard for officials to know how aggressively to sound the alarm. They don't want to be accused of needlessly frightening the public. They also don't want to be accused—later—of leaving the public underprepared for a disaster.

▲ Poultry await sale at a livestock market in Indonesia. More than 140 million birds have died or been destroyed in the Asian bird flu epidemic. Estimates of potential deaths from an eventual human pandemic range from 2 million to nearly 100 million.

Communication wouldn't be such a problem if it were possible to get ready for the next pandemic without talking to the public. It isn't. Health authorities want the public to be aware of this grave threat for three fundamental reasons: so people will prepare themselves emotionally and logistically; so people will help their schools, businesses, hospitals, and other organizations prepare; and so people will support the preparedness efforts of their governments. And there's a fourth reason: If and when a pandemic begins, people who have had time to get used to the idea are likelier to understand their risks, follow official advice, and take an active role in protecting themselves.

Officials don't want to be accused of needlessly frightening the public. They also don't want to be accused later of leaving the public underprepared for a disaster.

Health authorities know that too soft a warning just won't get heard; it's not easy to pierce people's apathy and squeeze yet another problem onto our already crowded lists of concerns. But they fear that too loud a warning could overshoot, provoking needless (or at least premature) fear and economic damage, perhaps even panic and an every-man-for-himself chaos. Authorities often miss the middle ground that can help build mutual trust: involving the public early, arousing an appropriate level of public fear, and helping people bear it.

Risk communication is a set of skills and understandings that can help health officials find and hold this middle ground. Our first paragraph above features several key risk communication approaches. It uses *responsible speculation*, it *acknowledges uncertainty*, it *shares dilemmas* about what to do, and it *does not aim for zero fear*. These and other risk communication

recommendations help build mutual trust, one of the overarching goals of the World Health Organization's (WHO) newly published outbreak communication guidelines. The threat of bird flu presents a timely—and urgent—case for looking at how risk communication works.

Before we introduce some of the fundamentals of risk communication, here is a primer on avian influenza—and why sounding the alarm isn't easy.

Flu again? Who cares?

Influenza has long been the neglected child in the infectious disease family. Every winter, tens of millions of people get the flu. Most are home, sick and miserable, for about a week. Some—mostly the elderly—die. We know the worldwide death toll exceeds a few hundred thousand people a year, but even in developed countries the numbers are uncertain, because medical authorities don't usually verify who actually died of influenza and who died of a "flu-like illness." People think of the flu as a minor nuisance. Even a major controversy like last year's contamination of half the U.S. vaccine supply provokes only a temporary blip in flu anxiety. For a few weeks people stood in line to get vaccinated (and were inaccurately seen as panicking by many harassed officials). By January there was vaccine left over, rationing was abandoned, and the authorities were back to urging everyone to go get a shot, please!

The factors that make a risk upsetting and the factors that make it dangerous are completely different. Actual mortality and morbidity often have little impact on how worried, frightened, or angry people are.

When some other disease like SARS or West Nile virus captures the headlines, authorities and columnists contemptuous of the "hype" often compare the new disease to influenza. Whatever we're "overly" worried about kills fewer people every year than the flu, they tell us. We're not worried about the flu. So why worry about this other thing?

There are good risk communication answers to this question. Compared with flu, SARS and West Nile virus are unfamiliar; there is more reason to wonder if the experts really know what they're doing and if they're telling all they know. A fundamental risk communication truth is that the factors that make a risk upsetting and the factors that make it dangerous are completely different. Mortality and morbidity statistics determine the technical seriousness of the risk. But they often have little impact on how worried, frightened, or angry people are. Think of that as "cultural seriousness," determined by factors like these: Is the risk voluntary or coerced? Familiar or exotic? Controlled by the people at risk or by others? (See sidebar p. 6.)

The annual flu is a perfect paradigm of a risk that is serious technically but not so serious culturally—the sort of risk that kills people but doesn't much upset them. It is familiar rather than exotic, and anything but memorable (especially since it has been so long since the last pandemic). It isn't voluntary, but in developed countries getting vaccinated against it usually is. It is chronic rather than catastrophic, reappearing every year like clockwork. It's not especially dreaded. Except for striking too many old people, it is undiscriminatingly fair. And there aren't very many flu controversies in a typical year—no battles over control or fairness, no issues of morality or trust or responsiveness. It is very, very difficult to get people really worried about influenza.

Not your ordinary flu!

In 1997, a child in Hong Kong died not of human flu but of bird flu, an avian influenza strain known to virologists as H5N1. Since then H5N1 has spread inexorably throughout Southeast Asia's bird population. It is a big problem for the poultry industry. So far it is only a small problem for human health. More than a hundred people are known to have caught H5N1 directly from birds. A couple of people are thought to have caught it from other people. But more than half of the confirmed cases have died. And a high percentage of the dead were young and otherwise healthy.

Because H5N1 has never infected humans before, people have no natural immunity to it, and there is not yet an H5N1 vaccine developed and approved for human use. The only thing protecting us from H5N1 is that so far bird flu is a hard disease for people to catch. But influenza viruses keep changing. They mutate. And they exchange genetic material with other flu viruses, a process called reassortment. All that's needed to launch a human health crisis is a mutation or reassortment that produces a new variant of H5N1 that transmits easily between people the way "regular" flu does. If that happens, we face a worldwide epidemic: a pandemic.

Most virologists fear an H5N1 pandemic will happen sooner or later. Many fear it will happen soon. The unprecedented and almost inconceivable worst case is a human strain as deadly as the current hard-to-transmit H5N1 strain, but as easily transmitted as the annual flu. That could literally end life as we know it. Not so dire but still worse than any pandemic in living memory: a strain that transmits easily and kills, say, 5–10 percent of its victims. (The granddaddy of flu pandemics, the Spanish flu of 1918–19, killed about 2.5 percent.) Do the math. The world population is 6.4 billion. A pandemic that struck 30 percent of the population and killed 5 percent of those it struck would cause 96 million deaths. An H5N1 vaccine could cut this number sharply—if scientists can develop one that works, if governments can license it, and if manufacturers can make enough of it. Those are big ifs, especially the last one; most of the world's poorer countries get virtually no vaccine against the annual flu now.

Even in the experts' best-case scenario—2–7 million deaths—a flu pandemic could slow travel to a trickle, lead cities to forbid inessential gatherings, and precipitate a worldwide depression. Preparing for it could include, among other things: national governments streamlining vaccine approval procedures; school boards deciding whether and how to close the schools for extended periods; businesses planning for the twin problems of absenteeism and presenteeism (sick people bringing the virus to work with them); hospitals stockpiling antiviral medications and personal protective equipment for staff; communities figuring out how to recruit and use volunteers to keep essential services running—including the all-important survivors of the first pandemic wave, who will be the only ones immune before a vaccine becomes available.

All of this information is publicly available. Most people have already heard a little about bird flu. But people face a host of other problems, and except for public health officials and poultry farmers, few are gearing up for action about H5N1. Yet.

Enter risk communication. Although people have always tried to figure out how to communicate about risks, the field of risk communication dates back only to the 1980s, evolving from health education, public relations, psychology, risk perception, and risk assessment. There are at least three kinds of risk communication:

- Precaution advocacy ("Watch out!"): How to alert people to serious hazards when they are unduly apathetic.
- Outrage management ("Calm down!"): How to reassure people about minor hazards when they are unduly upset.
- Crisis communication ("We'll get through it together!"): How to guide people through serious hazards when they are appropriately upset (or even in denial).

Bird flu risk communication is partly precaution advocacy and partly crisis communication. It's precaution advocacy if you're talking to Southeast Asian poultry farmers who haven't heard much yet about bird flu. It's crisis communication if you're talking to poultry farmers who are trying to figure out how to cope with this huge new threat to their flocks, their livelihoods, and potentially their lives. It will be crisis communication everywhere if and when the pandemic materializes.

Meanwhile, for most of us, it's precaution advocacy. Many infectious disease experts are as worried about H5N1 as they have ever been about any microorganism. They feel weirdly alienated when they try to explain their worry to spouses or friends—or the general public. They have convinced a few medical journalists, who then feel weirdly alienated when they try to explain their worry to their editors. Bird flu is way over there in Asia. H5N1 is still flu, and flu is still the sort of risk people don't take all that seriously.

The recommendations listed below are grounded in two convictions: that motivating people to start taking bird flu seriously should be a top priority for government health departments, and that risk communication principles provide the best guidance on how to do so. The world's governments will inevitably vary in the extent to which they agree. How aggressively will these recommendations be followed? How well will they work? Nobody knows yet.


FAO photo

▲ A Vietnamese mother cradles a portrait of her 4-year-old son who died of avian influenza in 2004. The family, from a village near Hanoi, had killed and eaten chickens that had the disease.


FAO photo

▲ A lab technician at Indonesia's Disease Investigation Centre checks for the avian flu virus in samples taken from poultry.

photo © Pornchai Kittiwongsakul/AFP/Getty Images

If you make a list of risks in order of how many people they kill each year, then list them in order of how upsetting they are to the general public, the two lists will be very different. There are risks that kill a lot of people without upsetting many—not just flu but food poisoning, smoking, overeating, not exercising, etc. And there are risks that upset a lot of people without killing very many.

Both problems frustrate risk experts and make them irritated with the public for being afraid of the "wrong risks." Risk communication experts can't completely cure this mismatch, but we can help the experts understand why the public so often seems to get it "wrong."

The core problem is definition. To the experts, risk means expected annual mortality (or morbidity). To the public, risk means much more than that. Let's redefine terms: Call the death rate (what the experts mean by risk) "hazard." Gather together all the other factors that make people frightened, angry, or otherwise upset about a risk and label them, collectively, "outrage." Risk = Hazard + Outrage. The public pays too little attention to hazard; the experts pay absolutely no attention to outrage. Not surprisingly, the two groups rank risks differently.

Risk perception scholars have identified more than 20 "outrage factors." Here are some of the main ones:

Voluntariness

A voluntary risk is much more acceptable to people than a coerced risk, because it generates no outrage. Consider the difference between getting pushed down a mountain on slippery sticks and deciding to go skiing.

Control

Almost everybody feels safer driving than riding in the passenger seat. When prevention and mitigation are in the individual's hands, the risk (though not the hazard) is much lower than when they are in the hands of a government agency.

Fairness

People who must endure greater risks than their neighbors, without access to greater benefits, are naturally outraged—especially if the differences are grounded in politics, poverty, or race. An unfair risk is a big risk. The same is true of countries that are forced to endure risks that other countries don't have to bear.

Trust

In a high-tech world, people often doubt their own ability to distinguish dangerous risks from insignificant ones. But we feel confident that we can tell trustworthy sources from those who distort or withhold information. So we use trust, credibility, and candor as stand-ins for hazard. Why "buy" a risk assessment from someone you wouldn't buy a used car from?

Responsiveness

Does the corporation or government agency that imposes the risk or tells you it's trivial seem concerned, or arrogant? Does it tell the community what's going on before decisions are made? Does it listen and respond to community concerns?

Morality

Some risks aren't just harmful; they're evil—and they remain evil even when they're not especially harmful. Talking about risk-benefit or risk-cost tradeoffs sounds very callous when the risk is morally relevant. Imagine a police chief insisting that an occasional child molester is an "acceptable risk."

Familiarity

Exotic, high-tech facilities provoke more outrage than familiar risks (your home, your car, your pot belly, the annual winter flu season).

Memorability

A memorable accident (Bhopal or Chernobyl, for example) can make some risks easy to imagine for decades—and that in turn makes those particular risks a bigger source of outrage and thus more risky as we have defined the term. A potent symbol can do the same thing: a drum of some chemical or, better yet, a leaking drum of chemical wastes.

Dread

Some illnesses are more dreaded than others; compare AIDS and cancer with, say, emphysema. The long latency of most cancers and the undetectability of most carcinogens add to the dread.

Diffusion in time and space

Hazard A kills 50 anonymous people a year across the country. Hazard B has one chance in 10 of wiping out a neighborhood of 5,000 people sometime in the next decade. Risk assessment tells us the two have the same expected annual mortality: 50. "Outrage assessment" tells us A is probably acceptable and B is certainly not. Catastrophic risks provoke a level of outrage that chronic risks just can't arouse.

These outrage factors are not distortions in the public's perception of risk; they are intrinsic parts of what we mean by risk. Since the public responds more to outrage than to hazard, risk managers must try to get people more outraged about serious hazards by appealing to outrage factors like the ones listed. Successful campaigns against drunk driving and passive smoking are two of many examples of raising public concern about serious hazards by feeding the outrage. Similarly, to decrease public concern about modest hazards, risk managers must work to diminish the outrage. When people are treated with honesty and respect for their right to make their own decisions, they are a lot less likely to overestimate small hazards.

There is a peculiar paradox here. Risk experts often resist the pressure to consider outrage when making risk management decisions, or even risk communication decisions. They disparage the "irrational" public and insist that "sound science" should wholly determine what they do and what they say. But we have decades of sound science indicating that voluntariness, control, fairness, and the rest are important components of people's definition of risk. When a risk manager continues to ignore these factors—and continues to be surprised by the public's response—it is worth asking just whose behavior is irrational.

1. Start where your audience starts

Telling people who believe X that they ought to believe Y naturally provokes resistance. You can't ignore X and just say Y-Y-Y-Y-Y. You can't simply tell people they're wrong. You've got to start where they are, with X, and empathetically explain why X seems logical, why it's widely believed, why you used to believe it too ... and why, surprisingly, Y turns out to be closer to the truth.

The biggest barrier to sounding the alarm about bird flu is that it's flu—usually seen as a ho-hum disease. It would help if people stopped calling every minor respiratory infection "a touch of the flu," but that's not going to happen. Empathy is the only answer. Instead of ignoring the fact that people think flu is minor, or berating people for thinking that flu is minor, acknowledge that even some public health authorities use the term "flu" in ways that minimize its seriousness. (A senior U.S. health official recently apologized for his wife's absence at an event by saying she was home with "a stomach flu"—a misnomer.) After making common cause with the public—"we have all ignored influenza for too long"—talk about how horrific the next flu pandemic may be compared with the annual flu.

2. Don't be afraid to frighten people

Fear appeals have had a bad press, but the research evidence that they work is overwhelming. Although people don't usually stay very frightened very long, getting them a little frightened for a little while motivates precautionary thinking and precautionary action (assuming some precautions are available).

Overconfident overreassurance is terrible risk communication. Paradoxically, people usually find it alarming.

There is one key exception. When people are already terrified, scaring them even more can push them into denial. For example, women sometimes avoid breast self-examination, not because breast cancer scares them too little but because it scares them too much. In places where bird flu is endemic, magical thinking and denial are already a problem. "I am not afraid of bird flu.... I would have been the first who died when the disease struck last year. But look, I am still healthy," a Thai chicken butcher from Roi Et province told the *Bangkok Post* in February 2005. The *Post* noted that the butcher wore "no protective gear except nylon gloves." For most of the world right now, though, apathy is the problem—not denial. We can't scare people enough about H5N1. WHO has been trying for over a year, with evermore-dramatic appeals to the media, the public, and Member States. Until a pandemic begins, there's little chance we'll scare people too much.

Research evidence won't protect you from criticism, of course. Fear appeals often provoke angry pushback from people questioning your motives or your competence, accusing you of "crying wolf" or provoking "warning fatigue" or panicking the public. That happened after WHO Western Pacific Regional Director Shigeru Omi said that, in a worst case, a bird flu pandemic could kill up to 100 million people (a well-justified estimate). Of course, there is a genuine downside to issuing warnings that turn out to be unnecessary. Although panic is unlikely and warning fatigue is temporary, there is some credibility loss, especially if the warnings were exaggerated or overconfident. But consider the alternative. Which is worse, being criticized for "unduly" frightening people or being criticized for failing to warn people?

3. Acknowledge uncertainty

When the first Thai bird flu outbreaks subsided in 2004, a senior public official said: "The first wave of bird flu outbreak has passed ... but we don't know when the second wave will come, and we don't trust the situation.... So the Public Health Ministry is being as careful as possible." This exemplifies two risk communication principles: acknowledge uncertainty and don't overreassure. (Thailand was initially too reassuring about bird flu, but not in this example.) During Malaysia's first outbreak, tests were pending regarding what strain of flu was killing the chickens. Senior veterinary official Hawari Hussein said, "We know it is H5, but we're hoping it won't be H5N1." This very brief comment not only acknowledges uncertainty; it also expresses wishes, another good crisis communication practice. Everyone shared Hussein's hope, but feared the worst.


photo © WPRO/WHO

▲ Shigeru Omi, regional director for WHO's Western Pacific Region, and spokesman Peter Cordingley brief reporters during a regional health ministers' conference on avian influenza in Bangkok, Thailand, in 2004.

Overconfident overreassurance ("the situation is under control, everything is going to be fine") is terrible risk communication. Paradoxically, people usually find it alarming. They sense its insincerity and become mistrustful even before they know the outcome. But overconfident warnings are also unwise. There is so much we don't know about H5N1. Will it ever achieve efficient human-to-human transmission and ignite a pandemic? If that happens, will it become less lethal in the process, or perhaps not lethal at all? How many people will it infect? How quickly will it spread? How long will it last? How much antiviral medication will be available in different parts of the world, and how well will it work? How long will it take for an effective vaccine to be available? Which countries and which people in those countries will get the vaccine first? How well will health care systems cope? How well will national and international economies cope? And how well will civil society cope?

Bird flu experts and risk communicators cannot answer these questions. But we can and should raise them, acknowledging our uncertainty at every turn.

4. Share dilemmas

Sharing dilemmas is a lot like acknowledging uncertainty. Not only are we unsure about what will happen; we're also unsure about what to do. Everyone finds this hard to admit. But dilemma-sharing has huge advantages:

- It humanizes the organization by letting the pain of difficult decisions show.
- It gives people a chance to make suggestions and be part of the process.
- It moderates the conflict between opposing recommendations.
- It reduces the outrage if you turn out to be wrong.

Officials who make difficult, debatable decisions look easy and obvious are colluding with people's passive desire to be taken care of by an all-knowing government. They then feel entitled to blame the government if things go badly. Dilemma-sharing does raise some anxiety at first, but it allies with the public's resilient, resourceful, mature side. This leads to better buy-in and better coping down the road.

The most important bird flu dilemma at the moment is stockpiling. If we stockpile H5 antigen or an H5N1 vaccine (once it exists), that may save millions of lives if a pandemic materializes. But a vaccine is no magic solution. We probably can't make and distribute enough vaccine for most of the world. And what if there is no pandemic? Or what if the virus mutates or drifts a lot, and the vaccine proves minimally useful? Is this really a good use of scarce health dollars, especially in developing countries? Maybe we should stockpile antiviral drugs. But they're expensive, and who knows how well they will work against the actual pandemic strain that arises? The worst response to the stockpiling dilemma is also the most tempting: Stockpile only a little vaccine and some antivirals and imply that you have enough. Some officials are already engaging in this kind of overreassurance. The risk communication answer: Share the dilemma and let the public help you decide.

5. Give people things to do

One reason sometimes given for not alarming the public is that there's nothing for people to do anyway. A Jan. 13, 2005, *Wall Street Journal* article quoted Canadian infectious disease expert Richard Schabas as saying: "Scaring people about avian influenza accomplishes nothing, because we're not asking people to do anything about it." But the error isn't scaring people. The error is failing to realize—and say—how much they can do to prepare.

Helping resolve government policy dilemmas is just the beginning. Thailand, for example, has trained almost a million volunteers to reach out to every village in the country to inform people about the risks and signs of bird flu and how to try to protect themselves and their flocks. Many companies, hospitals, schools, and local governments around the world are starting to plan for "business continuity" in the event of a pandemic. Even cognitive and emotional rehearsal—learning about H5N1 and thinking about what a pandemic might be like and how you'd cope—is a kind of preparedness and a kind of involvement. The WHO outbreak guidelines say: "If possible, representatives of the public should be brought into the decision-making process.... Risk communication messages should include information about what the public can do to make themselves safer."

Here are some other recommendations in brief:

6. Be willing to speculate—responsibly

Warnings are intrinsically speculations. Like hurricane forecasters, we have to offer both worst-case scenarios and likelier scenarios, always acknowledging that we may turn out to be wrong.

7. Don't get caught in the numbers game

Battles over how many people an H5N1 pandemic might kill are pointless. What matters is that flu pandemics are horrific, and for the first time ever we can see one coming and start getting ready.

8. Stress magnitude more than probability

The rationale for H5N1 pandemic preparedness isn't that we're sure it's coming, but how bad it could get. Overconfidence about risk probability is a mistake. Dramatic warnings about risk magnitude are more justified. (There are times when it's best to stress probability. But the uncertain prospect of a catastrophe should be about magnitude.)

9. Guide the adjustment reaction

Once people get past their apathy and start taking a new risk seriously, the normal response is an "adjustment reaction"—a temporary fearfulness, sometimes accompanied by misplaced or excessive caution. This is the teachable moment. Don't ignore it or ridicule it; guide it. Then we settle into the "new normal."

10. Inform the public early and aim for total candor and transparency

These are two of the hardest risk communication recommendations for governments to adopt. There are so many barriers—fear of damaging the economy, looking incompetent, turning out to be wrong, causing undue alarm. But the price of informing the public late, of covering up or minimizing the problem, is high: diminished credibility, just when you need it most to help your people through an influenza pandemic.

Most of these recommendations are counterintuitive. That's the toughest thing about risk communication: it contradicts what comes naturally to most authorities, especially when they're under pressure. And risk communication is itself an uncertain field. We think it improves the odds of a good outcome, but we can't guarantee a good outcome every time. Health authorities face tough choices as they plan how to talk to people about a possible flu pandemic, and one of those choices is: how much to let risk communication guide their choices.

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FAO photo

FAO photo

Governments face a host of policy dilemmas both before and during an outbreak. Good risk communication means sharing those dilemmas and letting the public help you decide.

▲ Technicians at Thailand's National Institute for Animal Health check poultry samples for avian flu virus.

▲ Workers burn chicken carcasses at a farm near Ho Chi Minh City, Vietnam.

FAO photo

Web Course on Risk Communication

An interactive, self-taught course on risk communication is available at the website of the Pan American Center for Sanitary Engineering and Environmental Sciences (CEPIS), one of 10 scientific and technical centers of the Pan American Health Organization (PAHO). The course covers the theory and methodology of risk communication and discusses strategies and effective interventions for target populations. It was developed by PAHO and the U.S. Agency for Toxic Substances and Disease Registry (ATSDR) with support from the U.S. Centers for Disease Control and Prevention (CDC). Students who finish the course successfully receive a certificate of completion. The course is available in English, Spanish, and Portuguese at www.cepis.ops-oms.org/tutorial6.