

# The risk communication challenges of mass animal destruction

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## Summary

Mass animal destruction strategies present a major risk communication challenge. While mass culling, stamping out, and depopulation may be scientifically and economically justified during emergency response to exotic disease incursions and eradication programmes, their use may be limited in the future due to public concerns over animal welfare, environmental contamination and unintended social consequences. To address this dilemma, official veterinary services must move from unidirectional communications strategies to active engagement of all potentially affected stakeholders. Case studies of recent disease outbreaks demonstrate the critical role that communications play in influencing public reaction to disease management strategies. An evaluation of these case studies provides support for the implementation of risk communication best practices: incorporating risk communications into the policy-development process, conducting pre-event planning, fostering partnerships with the public, collaborating with credible sources, meeting the needs of the media, listening to and addressing public concerns, communicating with compassion and empathy, demonstrating honesty and openness, acknowledging uncertainty and providing messages that give people meaningful things to do. Implementing the risk communication best practices requires veterinary services to move from a more technocratic approach to a participatory model where the potentially affected publics play an

active role in risk assessment and policy making.

## Keywords

Animal diseases, Culling, Depopulation Mass animal destruction, Public outrage, Risk communication, Stamping out.

## L'importanza della comunicazione del rischio nella distruzione di massa degli animali

### Riassunto

*Le strategie di distruzione di massa di animali rappresentano un punto critico nella comunicazione del rischio. Mentre eliminazione, stamping out e riduzione drastica della popolazione possono essere giustificate scientificamente e economicamente nel corso di risposte alle emergenze in caso di insorgenza di malattie esotiche e piani di eradicazione, il loro utilizzo potrà essere limitato in futuro a causa dell'interesse del pubblico verso il benessere animale, le contaminazioni ambientali e le imprevedibili conseguenze sociali. Per indirizzare questo dilemma, i servizi veterinari ufficiali devono muoversi da strategie unidirezionali di comunicazione per coinvolgere direttamente tutti coloro che sono potenzialmente interessati. Lo studio di casi di recenti epidemie dimostra il ruolo critico che ha la comunicazione nell'influenzare la reazione pubblica alle strategie di gestione della malattia. Una valutazione di questi studi fornisce un supporto per le migliori pratiche nell'applicazione della*

*comunicazione del rischio: incorporare le comunicazioni di rischio nel processo di politica e sviluppo, condurre la pianificazione prima degli eventi, incoraggiare la collaborazione con il pubblico, collaborare con fonti credibili, venire incontro alle necessità dei mezzi di informazione, ascoltare e indirizzare le preoccupazioni pubbliche, comunicare con partecipazione ed empatia, dimostrare onestà e apertura, riconoscere ed accettare incertezze e fornire messaggi che spieghino al pubblico le azioni significative da intraprendere. Implementare le migliori pratiche nella comunicazione del rischio richiede ai servizi veterinari di muoversi da un approccio più tecnocratico verso un modello di partecipazione dove il pubblico potenzialmente interessato svolga un ruolo attivo nella valutazione del rischio e nelle decisioni politiche.*

#### **Parole chiave**

Comunicazione del rischio, Distruzione di massa degli animali, Eliminazione animali, Malattie degli animali, *Stamping out*.

## **The dilemma of disease eradication**

Freedom from diseases of zoonotic, animal production and trade importance is the goal of the official veterinary services for most countries (13). Eradication of the key zoonoses (such as brucellosis and tuberculosis) and the classical animal disease scourges (such as foot and mouth disease [FMD], exotic Newcastle disease, classical swine fever [hog cholera], rinderpest and highly pathogenic avian influenza [HPAI]) represent successes in achieving a sound animal health status. Over the last century or more, mass animal destruction (also known as depopulation, stamping out and mass culling) has been the risk management strategy of choice for disease eradication programmes, especially for exotic disease incursions. However, mass animal destruction now faces increasing criticism. Scientists, consumers and farmers question its necessity, pointing to the economics of eradication, animal welfare concerns, implementation logistics, political ramifications and, importantly, unintended social consequences.

From the veterinary perspective, responding to an incursion of a rapidly spreading, contagious animal disease represents a Hobson's choice, a choice with two equally distasteful options. The first option, a stamping-out strategy, uses pre-emptive slaughter to strategically destroy affected and exposed animals in order to save the unaffected animals in the path of the epidemic and/or minimise the economic impact of the outbreak. The second option, treatment and supportive care, can be offered to affected and exposed animals while recognising that the disease will continue to spread and many more animals (and in the case of zoonoses, people) likely will get sick and suffer or potentially die before the epidemic runs its course, and the long-term economic impact is likely to be greater. Historically, official veterinary services have chosen the former strategy, mass destruction of at-risk animals to protect the rest of the population. In general, their logic has been that such actions have the greatest opportunity to control the outbreak and reduce the more substantial economic cost. Nevertheless, many if not most animal health leaders feel that mass animal destruction approaches may not be sustainable in the future, regardless of their scientific and economic justification (4).

## **The emerging importance of risk communication**

Catastrophic animal disease outbreaks and exotic disease incursions represent communication challenges. Humans have a particular affinity to both domestic animals and wildlife. Images of widespread animal suffering are evocative whether or not mass animal destruction approaches are employed in response. Personal stories of loss tug at people's sympathies, and the overall uncertainty of the scope and impact of the outbreak fosters fear and apprehension. The financial implications for farmers, communities and trade galvanise the attention of the agriculture and business communities. Information on the spread of the epidemic and the effectiveness of containment efforts become headline news while individuals

scramble to learn what they can do to protect their own pets, poultry, livestock and livelihoods. Media coverage of such mass culls may even feature dramatic film footage further sensationalising the event. The importance of communications during outbreaks is universally recognised.

The traditional role of communication in official veterinary services was unidirectional – the dissemination of information from governmental officials to internal and external audiences. Communication was recognised as vital for a disease eradication programme so that ‘each staff member and each member of the affected public knows well the goal of the programme’ (10). Public relations strategies were utilised to protect the reputation of the government and agricultural companies and influence public reaction to breaking news. Official statements, press releases and notifications were transmitted by letter, telegram or fax to the internal and external stakeholders most affected. Print media and radio were the major organs for disseminating news to the general public. In situations of high trust in government and/or widespread concurrence on the necessity and correctness of government action, this unidirectional communication approach was generally successful.

More recently, trust in government and in large agricultural companies has eroded significantly in many countries. In addition, the world’s population has become more urban and the public’s acceptance of the legitimacy of government actions directed at animal disease and zoonoses has decreased. Producers, processors, businessmen and consumers want a more active voice in formulating public policy. Changes in the public’s view of government have paralleled a revolution in information technology. Not only does satellite television make every viewer a witness to breaking news from anywhere in the world, but the internet offers detailed information and personal perspectives. The 1994 outbreak of the Hendra virus in Australian horses signalled a new era in official veterinary communication. News of the outbreak and its impact on animal and human

health spread globally via the internet list-serve ProMed several days ahead of official government reports of the new disease to the World Organisation for Animal Health (OIE: Office International des Épizooties). Unidirectional communications strategies for official veterinary services are no longer sufficient.

In light of the fundamental changes in communication technology and the public questioning of government decision-making and actions, the importance of two-way risk communication is increasingly recognised. Current animal and public health issues such as bovine spongiform encephalopathy (BSE), *Escherichia coli* O157:H7, bovine tuberculosis in cattle and wildlife, and HPAI present complex dilemmas. Risk communication has become an integral component of the formulation of successful risk management strategies for these complex situations where a high degree of uncertainty exists (7). Risk communication now is defined by the OIE (18) as ‘the interactive exchange of information on risk among risk assessors, risk managers and other interested parties’. In other words, risk communication comprises an ongoing set of activities for actively engaging all of the potentially affected stakeholders in the identification and characterisation of the risk before, during and after outbreaks. The World Health Organization (WHO) (14) has gone so far as to suggest that ‘communication expertise has become as essential to outbreak control as epidemiological training and laboratory analysis’.

Examination of recent government mass culling responses to animal disease illustrate the need for more effective risk communication strategies led by official veterinary services. Key lessons can be learned through these case studies concerning risk communication and mass animal destruction.

## **Bovine spongiform encephalopathy in Europe and America, 1988-present**

BSE was first described in 1986 as a new disease of cattle. Laboratory and epidemiological

investigations provided basic information about the spread of the disease (through contaminated feed). Subsequently, official veterinary services identified and implemented the necessary risk management strategies to stop the epidemic in cattle by banning ruminant-derived meat-and-bone meal from ruminant rations. Drawing on knowledge of other animal spongiform encephalopathies such as scrapie, scientists concluded that the disease was unlikely to affect humans. This deduction ultimately proved incorrect as a new human disease, variant Creutzfeldt-Jakob disease (vCJD), was linked to BSE in 1996. To date, more than 170 000 cases of BSE in cattle have been confirmed worldwide with many more cattle destroyed as a precaution (3). Most notably, in April 1996, the United Kingdom (UK) government decided to prevent all cattle over 30 months of age from entering the human food or animal feed chain. The policy resulted in the destruction of over 8 million healthy cattle as of September 2005.

An extensive judicial review of the government's handling of BSE and vCID in the UK, the Phillips Inquiry, reached a number of conclusions relevant to risk communication (8), as follows:

- 'The government introduced measures to guard against the risk that BSE might be a matter of life and death not merely for cattle but also for humans, but the possibility of a risk to humans was not communicated to the public or to those whose job it was to implement and enforce the precautionary measures
- The government did not lie to the public about BSE. It believed that the risks posed by BSE to humans were remote. The government was preoccupied with preventing an alarmist over-reaction to BSE because it believed that the risk was remote. It is now clear that this campaign of reassurance was a mistake. When on 20 March 1996 the Government announced that BSE had probably been transmitted to humans, the public felt that they had been betrayed. Confidence in government pronouncements about risk was a further casualty of BSE'.

The BSE story has emerged as one of the most poignant demonstrations of the fallacy of the uni-directional, technocratic model of risk communication that was the norm for official veterinary services when the disease was first discovered. Roberto Bertolini, Director of the Special Programme on Health and Environment of the WHO Regional Office for Europe, captured the lesson succinctly: 'the bovine spongiform encephalopathy saga has made painfully evident the limitations of risk communications as a one-way avenue, where information to the public about the risks they face comes after critical policy decisions have already been made' (1).

## Foot and mouth disease in the United Kingdom in 2001

The 2001 outbreak of FMD in the UK was controlled in 32 weeks through aggressive culling of animals on both affected farms and contiguous properties. While the scale of the epidemic was greater than the introduction of FMD into the UK in 1967-1968, containment of the outbreak was more effective than the response to the previous episode had been. Many hailed the 2001 British response as an overwhelming success, as the disease was eradicated and export markets reopened in less than a year.

Despite this apparent success, officials encountered a variety of criticism. Farmers objected to mass culling of unaffected animals. People from all walks of life expressed distaste and even outrage at the widespread media images of burning cow carcasses. Scientists complained that vaccination could have proved useful for controlling the disease spread and reducing the number of animals destroyed.

Overall, the government response led to over 6 million animals being destroyed at a direct cost to the public sector estimated at more than £3 billion (US\$5.9 billion) (2). Direct costs were not the only economic impact of FMD. Negative media images and the closure of many country footpaths contributed to significant reductions in tourism and rural

economies. Costs to the private sector were estimated to exceed £5 billion (US\$9.9 billion).

Ultimately the criticisms of the government's handling of the response outweighed the praise. A report by the UK Comptroller and Auditor General (2) published nine months after the end of the outbreak reached numerous conclusions that relate directly to the role of risk communication, as follows:

- **'The implications of vaccination could have been more fully considered.** ... At the height of the outbreak, the government accepted that there might be a case for a limited emergency vaccination programme... The necessary support of farmers, veterinarians, retailers and food manufacturers was not forthcoming, however, and vaccination did not go ahead.
- **Stakeholders were not formally consulted in preparing contingency plans.** Tackling a serious outbreak of animal disease requires effective co-operation among a number of government departments, including those responsible for the environment, public health, transport, the armed services, the countryside and tourism. Any strategy for dealing with the disease also depends for its success on the active co-operation of those closely affected. However, in preparing the national contingency plan and the veterinary instructions for foot and mouth disease, the Department had not formally consulted other key stakeholders...
- **The Department introduced a contiguous cull to help check the spread of the disease. This was hugely controversial.** ...These changes helped to control the disease... [but] The contiguous cull met considerable resistance from some farmers and others...
- **There were huge logistical problems disposing of millions of slaughtered animals.** ... Many carcasses were disposed of in March 2001 on mass pyres. But this generated negative images in the media and had profound effects for the tourist industry. Some 1.3 million carcasses were disposed of at mass burial sites but public protests and technical problems prevented greater use of some sites...

- **Communications and information systems were severely stretched during the epidemic.** The Department found it difficult in the crisis conditions to get its key instructions and messages across and to obtain good quality information from the field. At a national level, the Department engaged stakeholders positively from an early date. Locally, external communications were less satisfactory initially and on occasions the Department may not always have listened to local opinion...'

### **Avian influenza: HPAI H5N1 in South-East Asia and global spread 2005 to present**

Mass culling was used to eradicate highly pathogenic H5N1 during two epidemics in Hong Kong. In 1997, authorities culled more than 1.5 million birds in three days to contain the outbreak. Culling was used again in 2001 when the virus reappeared. Culling was considered to have played a significant role in successfully controlling both outbreaks.

The disease reappeared in South-East Asia in December 2003 and subsequently spread across central Asia, Europe and parts of Africa. This HPAI H5N1 strain is unique in regard to its virulence to humans. While the disease is not readily transmitted from birds to people, at least 265 people have contracted H5N1 with 159 deaths as of 12 January 2007 (16). All of the human cases have been directly or indirectly linked to sick birds. Mass animal destruction was the primary control strategy employed during the current outbreak. More than 200 million domestic birds have been destroyed since 2003.

Interviews with key actors from both public health and veterinary medicine yielded strong agreement that 'done right', culling poultry is the fastest way to limit spread of the virus (A. Becker, unpublished data). The same key actors made several comments germane to risk communication, as follows:

- An army-supervised cull in one country was described as 'horrible, traumatic, (and) damaging'

- 'There is a feeling that mass culling is a mistake, especially when it seems to extend indiscriminately into healthy birds. But there are also reports from some localities that voluntarily initiate a culling, because they believe it is the correct method of dealing with the virus'
- 'Cullers, farmers, and women and children are primarily affected by the culling; women and children are disproportionately affected. Nobody likes culling'
- Cultural differences affect risk perceptions. Part of the poultry marketing system in one country features 'dead yesterday' chickens at a discount.

Global coordination between the WHO, OIE, Food and Agriculture Organization of the United Nations (FAO) and the World Bank resulted in a joint programme to address avian influenza. This programme is built on six principles, namely: 1) control of source in birds; 2) surveillance; 3) rapid containment; 4) pandemic preparedness; 5) integrated country plans; and 6) communications (15). The communication imperative is listed last: 'To support all of the above, factual and transparent communications, in particular risk communication, is vital'. The WHO emphasises not only the accuracy of information, but transparency in terms of the way in which decisions are made.

## Understanding human response to mass animal destruction

Consumers in much of the developed world are completely insulated from the process by which animals are raised, slaughtered and converted into food. Past successes in animal disease eradication on a population level have raised the overall health status of livestock and poultry to a point where large-scale losses due to disease are unusual in the developed world. The global food system is so efficient that catastrophic animal disease in one part of the world often has no visible effect on the availability or price of that foodstuff in another part of the world. The average urbanite is several generations removed from direct involvement in food production. The popular

image of agriculture remains small family farms with every variety of livestock and poultry, each with a 'pet' name. Catastrophic animal disease is not a part of most people's memory or experience. In fact, catastrophic animal disease outbreaks are outside of the imagination of most members of the public.

Whether as a result of disease or its control through culling, the death of large numbers of animals evokes strong emotional reactions: sorrow, disappointment, disgust, anger and despair (P. Sandman, personal communications). While veterinary officials may be able to evaluate the situation dispassionately, most people's interpretation of the situation is driven primarily by their emotional reaction. When a rapidly spreading, virulent disease (such as HPAI H5N1) is introduced and large numbers of animals get sick and die, people are shocked and distraught at the suffering. When mass animal destruction is added as the preferred veterinary response, the public's negative reactions are intensified.

Furthermore, mass animal destruction is viewed differently depending on ethical paradigms. Utilitarian theory holds that the most ethical approach is that which maximises the good and minimises the bad. Actions are evaluated as good or bad according to the outcome. In contrast, rights-based theory evaluates actions as right or wrong, depending on how well they fit with moral rules. If someone (or some animal) has a right, then everyone has the duty to respect that right and not to take it away. The rights paradigm has been particularly popular with animal activists (12). Religion often can present another example of rights-based theory.

The ethical theory under which an individual or a group operates will influence their perspective about mass animal destruction. Official veterinary services have tended to view the world through a utilitarian viewpoint; mass animal destruction is the most effective approach, resulting in the fewest animals lost. The agricultural industry is also likely to support mass culling as an economic decision. At the same time, even though most veterinarians feel that animals have a right to healthy lives, they believe that the most

expeditious approach to protecting the entire population of animals is eradication. From a religious perspective, mass slaughter is clearly not an acceptable option for controlling bovine diseases in cultures where cattle are considered sacred. Cultural and ethical paradigms help frame both our intellectual and emotional response to mass animal destruction.

Use of mass animal destruction to control zoonoses, such as bovine brucellosis and tuberculosis, brings different ethical perspectives into sharp conflict. Some zoonoses cause little or no suffering in the animal and only a few zoonoses are likely to cause significant morbidity or mortality. Treatment of individual animals generally has been abandoned in favour of more rapid interventions that eradicate the disease of concern in the shortest period of time in order to return the farm and region to the 'disease-free' status necessary for domestic and international commerce. In other cases, the production-limiting impact of the disease drives the eradication. Either way, the economic imperative of mass animal destruction historically has outweighed compassion for the right to life of the affected animals. However, the benefits of these actions are seen by many to accrue to individual animal producers and agribusiness, not to the average consumer. These conflicts may exacerbate the public's negative reactions to massive culls.

Another factor affecting communication in times of catastrophic animal disease is stress. Disease outbreaks and their containment generate considerable stress on all involved. Veterinary authorities are under pressure to protect animal health and relieve animal suffering, farmers worry about their animals and their livelihood. Businesses are concerned about continuity and their solvency and the larger community experiences anxiety and disgust vicariously as they observe the event through the media. Humans think differently when they are under stress (V. Covello, personal communication). Attention spans are reduced, the ability to process information decreases and memory is poorer.

Communicating effectively with people under stress requires the communication of shorter, simpler and fewer messages.

Risk communication must address both intellectual and emotional responses to mass animal destruction. Effective risk communication begins with recognition and respect for different ethical paradigms and various emotional reactions to emerging issues. Simply providing more information, defending the scientific merits of stamping out or demonstrating how the benefits of such an approach outweigh the costs will not address the public's concerns.

## **Best practices in risk communication**

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A panel of animal health professionals and communication experts at the National Center for Food Protection and Defense (6) developed a set of ten best practices for crisis communications with particular attention to intentionally introduced animal disease or food contamination (Table I). These principles form a framework upon which to build risk communication best practices with broad applicability to animal and public health (11). All three case studies (BSE, FMD and HPAI) demonstrated the relevance of these best practices for disease outbreaks where mass animal destruction may be considered.

### **Risk and crisis communication is an ongoing process (policy and action)**

Failure to incorporate risk communication into the prevention, preparedness planning, response and recovery contributed to the negative public reactions in all three case studies. Risk communication is more than simply a reaction to an event; it must be an integral component of policy development and decision-making in animal health. Risk communication activities are ongoing; they must be a part of everyday action in order for crisis communications to be maximally effective. Risk communication approaches must be continuously re-evaluated and updated as new information becomes available and lessons are learned through direct

Table I  
Best practices in risk communication

Description: Set of ten best practices for crisis communication	
<b>1</b>	<b>Risk and crisis communication is an ongoing process</b> Incorporate risk communication into the policy development process Continuously evaluate and update crisis communication plans
<b>2</b>	<b>Conduct pre-event planning and preparedness activities</b> Address existing, emerging and anticipated issues Determine how to reduce risk, plan an initial response, update regularly Conduct practice exercises and drills
<b>3</b>	<b>Foster partnerships with public</b> Identify your 'publics' Build positive relationships with key publics before a crisis occurs Publics could include consumer groups, racial and ethnic communities, stakeholders, etc.
<b>4</b>	<b>Collaborate and coordinate with credible sources</b> Establish strategic relationships and networks before a crisis Identify subject area experts
<b>5</b>	<b>Meet the needs of media and remain accessible</b> Recognise that the media is the primary channel to the public Participate in media training Remember that the media is not the enemy...
<b>6</b>	<b>Listen to public's concerns and understand audience</b> Respond to the public's beliefs whether or not they are accurate Monitor a full range of communication formats: hotlines, letters to the editor, radio talk shows, public forums, blogs, etc.
<b>7</b>	<b>Communicate with compassion, concern and empathy</b> Enhances credibility and perceived legitimacy These characteristics do not preclude professionalism
<b>8</b>	<b>Demonstrate honesty, candour and openness</b> Without openness, the public will seek information from less accurate sources Recognise that situation involves risk sharing
<b>9</b>	<b>Accept uncertainty and ambiguity</b> Acknowledge inherent uncertainty of crisis and risk Ensure that accurate and reliable information will be shared as soon as it is available
<b>10</b>	<b>Provide messages that foster self-efficacy</b> Give people meaningful actions to do Helps restore sense of control over an uncertain and threatening situation Present as must do... should do... could do...

Source: National Center for Food Protection and Defense (6)

participation or vicarious rehearsal (watching the experiences of others facing animal health emergencies).

### Conduct pre-event planning and conduct practice exercises (logistics)

Communicating effectively in the face of an outbreak requires both planning and practice. When interviewed about how New Zealand dealt with the FMD hoax in May 2005, the Communications Director for the Food Safety

Authority commented 'you need someone to have things well in hand before you actually need them. And we did, so it was quite helpful' (T. Sellnow and K. Vidoloff, unpublished data). Just as veterinary services practise rapid deployment, intensive surveillance and mass vaccination through simulation exercises, they must also rehearse risk communication. Risk communication plans must be able to address existing, emerging and anticipated scenarios while



being sufficiently flexible to accommodate surprises.

### **Foster partnerships with key publics**

Managing animal disease outbreaks and incursions requires partnerships, not only with animal owners, but also with agribusiness and rural communities. The UK's handling of the FMD outbreak of 2001 highlighted this need for partnerships with key stakeholders on many occasions (2). Communication theory suggests that multiple publics exist, not one 'general public'. Publics are characterised by geographic, political, cultural and religious features. Building positive working relationships before the crisis is critical, since fostering those partnerships in the midst of the crisis is difficult, if not impossible.

### **Collaborate and coordinate with credible sources**

In times of stress, people look to credible sources that they trust for guidance. Different publics put their confidence in different sources. Therefore, the more coordinated the risk communication, the more effective it will be. Veterinary services must collaborate with other government agencies, such as health and environmental affairs, experts at universities, civic leaders at both the national and local levels and, in some areas, religious leaders. The very action of reaching out helps to build these relationships. While different groups will have varying perspectives, fostering ongoing dialogue can help identify shared interests around which to build effective collaboration. The global movement of HPAI H5N1 gave rise to collaboration between the WHO, OIE, FAO and World Bank. Speaking together, leaders from these four organisations informed the world about response strategies (15). When the next crisis develops, and there always will be another crisis, veterinary services need to have the key contacts and relationships to move forward in a coordinated fashion.

### **Meet the needs of the media and remain accessible**

Mass media provides the fastest and often the only channel to communicate the most information to the largest number of people in

the shortest period of time. When veterinary officials view the media with disdain, the media coverage reflects that feeling. This ultimately damages the credibility of veterinary services as viewed by the public and may serve to create hostility on the part of the media. Meeting the needs of the media begins with recognising their goal – to share the news, albeit often with a distinct entertainment flair. The media is not the enemy. Veterinary officials must meet the needs of the media in order for the media to meet their own goals. The majority of reporters, whether print, radio or television, know very little about the animal health issues they are asked to cover. Remaining accessible, providing regular updates, and offering diagrams and charts that help explain the science in lay terms, all may contribute to positive working relationships with the media. The relatively mild public reaction to the discovery of BSE in Canada and the United States can be attributed in part to daily media briefings by government officials. The chief veterinary officers, often joined by their public health counterparts, kept media informed and provided an ongoing assessment of the situation, including details on new investigation findings and the government's response activities. Media training offers veterinary officials a practical means of improving their ability to interact with the media.

### **Listening to the concerns of the public and understanding audiences**

A common communication mistake is to focus so intently on the message one is trying to convey that listening to the concerns of the audience is overlooked. Official veterinary services represent the accumulated knowledge and experience of generations of animal health professionals. Veterinary services develop their own internal communication styles, usually replete with acronyms, cryptic references and nuance. The audiences served by veterinary services often do not recognise or understand this special language, thereby adding to the communication challenges. Furthermore, the concerns utmost in the minds of the veterinary officials dealing with an

outbreak are often very different from the concerns of individual consumers, pet owners, farmers and politicians. While veterinary services look at FMD and ask 'how can we stop this in the shortest period of time', consumers focus on whether or not the disease will harm them, their families, their pets and their purse. Addressing the public's concerns first is a prerequisite for building public confidence. One of the recommendations that emanated from the UK National Audit Office review of the 2001 FMD outbreak reiterates the importance of implementing this best practice before a crisis occurs: 'the Department should consult widely with central and local governments, farmers and other major stakeholders about its contingency plans...' (2).

### **Communicate with compassion, concern and empathy**

Scientific training disciplines medical professionals to focus on facts, using the left side of their brains to organise data into logical thought processes directed towards establishing a diagnosis and offering a treatment. Veterinary professionals largely suppress their emotions as they deal with emerging diseases. Lay persons tend to react very differently from medical professionals, with their emotions taking precedence. Emotional responses are normal, natural and protective. They evolved in humans to help us survive. The autonomic nervous system, 'fight or flight' illustrates just one of these natural responses.

Recognising the natural responses that humans have to emerging issues, such as animal disease outbreaks and exotic disease incursions, is critical to effective risk communication. In high stress situations, veterinary officials must respond with compassion, concern and empathy first, in order to address these natural human reactions. Only then are people willing and able to listen to logical descriptions and conclusions regarding the disease. Expressing compassion, concern and empathy is professional behaviour.

### **Demonstrate honesty, candour and openness**

Dishonesty, whether lying or sharing only part of the truth, breeds mistrust. Being open and candid about the situation adds to the credibility of the spokesperson. Hiding information is increasingly difficult in this age of exploding communication. The Communications Director for the New Zealand Ministry of Agriculture and Food highlighted this point when discussing the FMD hoax response '...you've just got to be brutally honest in these circumstances...' (T. Sellnow & K. Vidoloff, unpublished data). When people feel that they are not receiving the full story from official sources, they will turn to other sources for their information, and those other sources usually know less about the situation than the official veterinary services. Furthermore, failure to be open and candid may foster a widespread perception that the truth is being 'covered up'.

### **Accept uncertainty and ambiguity**

Veterinary officials know that no intervention is 100% successful and yet public statements often reflect absolute assuredness in a specific outcome. No one ever knows everything about a crisis situation, and no one can predict the future with certainty. Accepting and acknowledging uncertainty is a far more effective means of building public trust than absolute statements. People generally are skeptical of absolutes because few things are absolutely predictable. It is better to share the potential limitations of a plan and express the hope that the actions taken will be successful. It is equally important to point out that new information will be shared as it comes available, and preferably to provide a time for the next briefing. A commonly used admonition for spokespersons is 'tell them what you know, tell them what you don't know, tell them what you're doing to find the answers you don't know and tell them when you'll get back to them with more information'.

## Provide messages that foster self-efficacy

The last of the risk communication best practices reflects an understanding of the psychology of fear. Faced with new and frightening news, such as an exotic disease outbreak, humans personalise the risk and may overreact. These are normal and natural responses to threat and uncertainty. Adapting to the new and frightening news conditions involves exerting some degree of control over the situation. Therefore, in the face of an emerging disease threat, people will adapt more readily if they have something to do. Providing recommendations on practical steps that individuals, families, farmers, businesses and communities can take to protect themselves helps make them feel like they are part of the solution. In addition, guidance is most effective if it provides choices, since making a decision among alternatives adds to the sense of self-control, which in turn, speeds adaptation to the new events. One effective approach is to provide levels of action, such as: 'you must do ...'; 'you should do...' and 'you may also consider...'.

## The way forward

Mass animal destruction strategies are under increased scrutiny and criticism. Recent case studies demonstrate clearly that past unidirectional communication approaches will not adequately address the public outrage that mass animal destruction generates. Given that more catastrophic animal disease outbreaks will occur and that mass animal destruction risk management strategies will be considered, veterinary services should think of new ways of implementing a more effective approach to risk communication. Unfortunately, no universal guide exists for effective risk communications in situations where mass animal destruction approaches are contemplated or used. No formal studies evaluating risk communication strategies related to mass animal destruction were found in searches of the refereed scientific literature.

Lessons learned from recent outbreaks and the recommended best practices in risk

communication offer some guidance for developing a new communication approach. First and foremost is the recognition that risk communication is a continuous process, not a tool used only for reacting to crises. The key to successful risk communication is active involvement of all the potentially affected stakeholders in identifying the hazards, assessing the risks and weighing alternative risk management strategies. Public engagement is all the more important as populations become more urban and more countries move away from primary dependence on an agricultural economy. Reaching out to key stakeholders involves listening to their perspectives and concerns, involving them in the planning and test exercises and acknowledging the importance of their partnerships. Accurately communicating the risks will stimulate spirited discussions about response options, while at the same time increasing the level of shared understanding. Active engagement builds trust and credibility; intangible commodities that become critically important in a crisis situation.

Pre-crisis public engagement has the added advantage of a low stress situation. People will think differently under low stress and be more receptive to learning about complex situations. Their thought processes are more apt to follow a logical flow and they can address their emotional reactions more dispassionately. Pre-crisis engagement is the time for education and networking as well as planning and practice. Networking should include key media outlets, making personal introductions and, where possible, involving them in the test exercises. It is advantageous, for example, to engage the media in a simulated depopulation exercise where they can ask questions without looming deadlines and high visibility coverage.

Risk communication in a crisis situation will be more effective if the best practices have been thoroughly ingrained into the organisational culture of veterinary services. Changing organisational cultures takes time. Given their regulatory responsibilities and to act rapidly in an emergency, hierarchical, technocratic approaches to communications typically are more comfortable for official veterinary

services. Learning to listen, to communicate with compassion, to accept uncertainty and ambiguity, require practice, practice and more practice. Intensive risk communication training, coupled with media skills development, will enhance the ability of veterinary services to respond more effectively to the next disease incursion or eradication campaign.

Communication expectations of official veterinary services are changing. An analysis of risk communication during the BSE saga in Europe demonstrated an evolution from technocratic, unidirectional approaches towards more inclusive and participatory approaches (5). This trend is slowly gaining more credence in veterinary services performance standards. A veterinary services self-assessment tool developed by the Inter-American Institute for Cooperation on Agriculture and the OIE identifies communications as a critical skill for interactions with the beneficiaries of their programmes: 'the capability of the veterinary services to collaborate with and involve the beneficiaries (including farmers and/or industry) in the implementation of programmes and activities' (17). While the description of communication is framed in unidirectional terms, 'the capability of the veterinary services to inform, in a transparent, effective and timely fashion, their users of activities, programmes and developments', the four 'levels of advancement' provide a more participatory tone. The highest performance level includes active solicitation of input from the beneficiaries as well as accessible, up-to-date information.

Successful risk communication is not about preventing people from being afraid or upset, it's about guiding them to successfully adapt to the emerging events around them and to take appropriate steps to protect themselves, their families and their livelihoods. People will continue to be emotionally upset by mass animal destruction. One plausible future is a situation in which mass animal destruction represents one of the response options available to deal with exotic disease incursions or outbreaks of production-limiting or zoonotic diseases. The choice of stamping-out eradication responses becomes a collective decision representing the best alternative to a difficult situation where no perfect answer exists. We make this difficult decision reluctantly. As Peter Sandman has suggested, veterinary services need to be open and honest while being compassionate and respectful:

'The bottom line is that we're killing animals in order to [protect human health] [prevent the spread of an infectious animal disease] [both]. We're even killing healthy animals in order to stop the chain of contagion. The science that says this is the most effective way to stop the outbreak is extremely strong. But of course we never, ever use this strategy with humans, and there are some who believe that animals should have much the same rights as humans – including the right not be sacrificed this way for the greater good. We do it anyway – but with real sorrow, real awareness of what we are doing, and real respect for the beliefs of those who think we shouldn't do it' (9).

## References

1. Bertollini R. 2006. Foreword. *In* Health, hazards and public debate: lessons for risk communication from the BSE/CJD saga (C. Dora, ed.). World Health Organization, Geneva, vi-vii ([www.euro.who.int/document/E87919.pdf?language=Russian](http://www.euro.who.int/document/E87919.pdf?language=Russian) accessed on 5 April 2007).
2. Bourn J. 2002. Report by the Comptroller and Auditor General: the 2001 outbreak of foot and mouth, HC 939 Session 2001-2002: 21 June. The Stationery Office, London, 138 pp.
3. Department for Environment, Food and Rural Affairs (DEFRA) (United Kingdom) 2007. BSE Statistics – Schemes ([www.defra.gov.uk/animalh/bse/statistics/index.html](http://www.defra.gov.uk/animalh/bse/statistics/index.html) accessed on 16 January 2007).
4. International Working Group on Animal Disposal Alternatives (IWADA) 2005. IWADA Animal health foresight project final report. Technology Foresight Directorate of the Office of the National Science Advisor and the Canadian Food Inspection Agency. The Norm Willis Group Inc., Ottawa, 43 pp.

5. Millstone E., van Zwanenberg P., von Alvensleben R., Dressel K., Giglioli P.P., Koivusalo M., Ollila E., Rusanen M. & Rusanen T. 2006. Evolution and implications of public risk communication strategies on BSE, Chapter 9. *In* Health, hazards and public debate: lessons for risk communication from the BSE/CJD saga (C. Dora, ed.). World Health Organization, Geneva, 228-261 ([www.euro.who.int/document/E87919.pdf?language=Russian](http://www.euro.who.int/document/E87919.pdf?language=Russian) accessed on 5 April 2007).
6. National Center for Food Protection and Defense (NCFPD) 2006. Risk communication. NCFPD, Minneapolis ([www.ncfpd.umn.edu/public/areas/risk/index.html](http://www.ncfpd.umn.edu/public/areas/risk/index.html) accessed on 20 January 2007)
7. Pfeiffer D.U. 2005. Communicating risk and uncertainty in relation to development and implementation of disease control policies. *Vet Microbiol*, **112**, 259-264.
8. Phillips N., Bridgeman J. & Ferguson-Smith M. 2000. Executive summary of the report of the inquiry: summary and conclusions, Vol. I, Findings and conclusions. *In* The BSE Inquiry: the report. The inquiry into BSE and variant CJD in the United Kingdom. London, The Stationery Office, London ([www.bseinquiry.gov.uk/report/volume1/execsum2.htm#669592](http://www.bseinquiry.gov.uk/report/volume1/execsum2.htm#669592) accessed on 16 January 2007).
9. Sandman P.M. 2006. Talking about animal culls. ([www.petersandman.com/gst2006.htm#lhueston](http://www.petersandman.com/gst2006.htm#lhueston) accessed on 21 January 2007).
10. Schnurrenberger P.R., Sharman R.S. & Wise G.H. 1987. *Attacking animal diseases: concepts and strategies for control and eradication*. Iowa State Press, Ames, 216 pp.
11. Seeger M.W. 2006. Best practices in crisis communications: an expert panel process. *J Appl Commun Res*, **34**, 232-244.
12. Singer P. 1975. *Animal liberation: a new ethics for our treatment of animals*, 1st Ed. Random House, New York, 301 pp.
13. Vallat B. 2006. The OIE recognition of country sanitary status for freedom from diseases. World Organisation for Animal Health (OIE). ([www.oie.int/eng/Edito/en\\_edito\\_nov06.htm](http://www.oie.int/eng/Edito/en_edito_nov06.htm) accessed on 20 January 2007).
14. World Health Organization (WHO) 2005. WHO outbreak communication guidelines. WHO, Geneva, WHO/CDS/2005.28, 8 pp ([www.who.int/infectious-disease-news/IDdocs/whocds200528/whocds200528en.pdf](http://www.who.int/infectious-disease-news/IDdocs/whocds200528/whocds200528en.pdf) accessed on 17 January 2007).
15. World Health Organization (WHO) 2006. Global influenza meeting sets action steps, agrees on urgent need for financing. Joint news release WHO/FAO/OIE/World Bank. WHO, Geneva ([www.who.int/mediacentre/news/releases/2005/pr58/en/index.html](http://www.who.int/mediacentre/news/releases/2005/pr58/en/index.html) accessed on 17 January 2007).
16. World Health Organization (WHO) 2007. Cumulative number of confirmed human cases of avian influenza A/(H5N1) reported to WHO, 12 January 2007. WHO, Geneva ([www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2007\\_01\\_12/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2007_01_12/en/index.html) accessed 20 January 2007).
17. World Organisation for Animal Health (OIE: Office International des Épizooties) 2006. Communications, Chapter III. *In* Performance, vision and strategy, a tool for veterinary services. OIE, Paris, 29 ([www.oie.int/download/Projet\\_Manuel\\_AuditV4-ni-en.pdf](http://www.oie.int/download/Projet_Manuel_AuditV4-ni-en.pdf) accessed on 14 January 2007).
18. World Organisation for Animal Health (OIE: Office International des Épizooties) 2006. General definitions, Article 1.1.1.1, Chapter 1.1.1. *In* Terrestrial animal health code ([www.oie.int/eng/normes/mcode/en\\_chapitre\\_1.1.1.htm](http://www.oie.int/eng/normes/mcode/en_chapitre_1.1.1.htm) accessed on 27 December 2006).

