An Introduction to Risk Communication

What is risk communication?

For public health emergencies, risk communication includes the range of communication capacities required through the preparedness, response and recovery phases of a serious public health event to encourage informed decision making, positive behaviour change and the maintenance of trust[1].

Risk communication used to be viewed primarily as the dissemination of information to the public about health risks and events, such as outbreaks of disease and instructions on how to change behaviour to mitigate those risks. Thinking on this has now evolved dramatically as social science evidence and new communication and media technologies and practices have evolved in the 21st century. The three big shifts[2] that have influenced the field for risk communications are:

1. Experts and authorities are less trusted, and issue of real or perceived trust is now central to health communications and risk communications;
2. The way the public seek health advice has shifted to the public on-line sources, and social networks;
3. The way the media works has changed to embrace 24-hour journalism; the reduction in resources and "beat experts" to follow health news; the increase of citizenship journalism and social media, and the rise of opinion versus the well-sourced and referenced new stories of the past.

Today, risk communication is recognised as the two-way and multi-directional communications and engagement with affected populations so that they can take informed decisions to protect themselves and their loved ones. It can and should utilise the most appropriate and trusted of channels of communication and engagement. It needs to bring together a diverse range of expertise in the field of communication, social sciences (mass media, emergency and crisis communication, social media, health education, health promotion, communication for behaviour change, etc) and systems strengthening techniques in order to achieve public health goals in emergencies.

[1] WHO Communications working group report March 2009

[2] Gaya M Gamhewage, Communication of risk to patients and public , EU Scientific Seminar 2013, Radiation induced long-term health effects after medical exposure, Luxembourg, 19 November 2013

The goals of risk communication are to share information vital for saving life, protecting health and minimizing harm to self and others; to change beliefs; and/or to change behavior[3].

The literature[4] on the purposes of risk communication generally takes a management perspective. Accordingly, risk communication may serve to:

→ raise awareness;
→ encourage protective behaviour;
→ inform to build up knowledge on hazards and risks;
→ inform to promote acceptance of risks and management measures;
→ inform on how to behave during events;
→ warn of and trigger action to impending and current events;
→ reassure the audience (to reduce anxiety or 'manage' outrage);
→ improve relationships (build trust, cooperation, networks);
→ enable mutual dialogue and understanding;
→ involve actors in decision making.

These goals can and should be measured. Without monitoring and assessing outcomes on changes to knowledge, behaviour and practice, the activities related to risk communications become mechanical, meaningless, and do not help manage and control a public health emergency. Unmonitored for outcome, risk communications consumes and wastes valuable resources, are ineffective and create a false sense of achievement in those who are responsible for the response.

It is becoming increasingly accepted that there are two complex issues that determine the success and failure of risk communication: different perceptions of the same risk by experts and the public; and issues of the trustworthiness of the information and advice that is communicated.

Perception of risk

One-way generic, non-contextualized information dissemination of public health risk can be dangerous and counterproductive. For experts, the risk is great when the hazard is great, and is a function of the exposure to that hazard and the vulnerability of the

[3] Communication Risks and Benefits: An evidence-based Users' Guide; Published by the Food and Drug Administration (FDA), US Department of Health and Human Services, August 2011.
[4] http://caphaz-net.org/outcomes-results/CapHaz-Net_WP5_Risk-Communication2.pdf

exposed population. For the public, the risk is great when their sense of emotional engagement is great - fear, anger, outrage.[5]

It is equally dangerous and misguided to generalize about peoples' perception of risk. However some generalisations have been drawn through social science. In a classic review article published in Science in 1987, Paul Slovic listed various social and cultural factors that lead to inconsistent evaluations of risk in the general public. He emphasizes the essential way in which experts and laypeople's views of risk differ. Experts judge risk in terms of quantitative assessments of morbidity and mortality, or financial or other loss. Yet most people's perception of risk is far more complex, involving numerous psychological and cognitive processes. Slovic's review demonstrates the complexity of the general public's assessment of risk through its cogent appraisal of decades of research on risk perception theory.[6]

Slovic points out that most of the work done on perception of risk has been done by psychologists. "Psychological research has determined that people employ mental strategies, known as heuristics, as aids in decision making in the face of uncertainty. Examples of this method include using a rule of thumb, an educated guess, an intuitive judgment, stereotyping, or common sense. While the use of heuristics is essential to avoiding a life frozen with indecision, they also introduce systematic biases in the way we evaluate risks. For example, when eggs are recalled due to a salmonella outbreak, someone might apply this simple solution and decide to avoid eggs altogether to prevent sickness. "Authority heuristic" occurs when someone believes the opinion of a person of authority – such as a religious leader- on a subject just because the individual is an authority figure. This makes understanding perception and communicating risk even more critical and challenging in times of emergency. Experts believe that public outrage is greater when hazards (and examples of each) are:

- Unfamiliar and/or new (like a new disease, radiation, new drug)
- Involuntary (when risks are forced on the public such as in a compulsory immunization programme)
- Affects future generations (causing or being perceived as causing infertility)
- Cannot be seen or otherwise sensed (radiation, germs)
- Catastrophic in consequence (death, disability, major economic or environmental loss)
- Unfair in the distribution of harm and benefits (affects one group like children, or women)
- Potentially fatal (could lead to death)

[5] Peter Sandman, 13 EPA J. 21 (1987) Risk Communication: Facing Public Outrage

[6] Sarah Goran, PhD Candidate at Harvard University, Science Blog, Posted by ***The Pump Handle*** on January 16, 2013

For any communication about risk caused by a specific event to be effective, it needs to take into account the social, religious, cultural, political and economic aspects associated with the event and those at risk. Communications of this kind promote the establishment of appropriate prevention and control action through community-based interventions, involving all key stakeholders as participants at individual, family and community levels.

Trust in information and those providing it

In risk communication, trust is the currency of transaction. In the first ever outbreak of Ebola Virus Disease in West Africa in 2014, some Knowledge, Attitude and Practice (KAP) surveys run by responders[7] have revealed many misconceptions about the disease and the treatment offered.

Half of respondents in a KAP survey in Liberia in mid-2014 believed that patients who are in isolated treatment centres are not given food, medicines or water. The same survey and a subsequent survey a month later revealed that an overwhelming proportion of villagers (85%) trusted information that they received over the radio. At the beginning of the outbreak in Guinea in February 2014, local residents attacked two treatment centres run by Medcins Sans Frontiers (MSF) claiming that foreigners had brought the disease to their country. All these are practical evidence of the issues of perception and of trust.

In Nigeria, a KAP[8] survey of more than 5,000 members of the public from local government areas considered "high risk" (either Ebola patients or contacts lived there), as well as 600 health care workers in the last week of August 2014 also revealed some shocks. One third of the public did not know how EVD is caused. Asked about how EVD was spread, more than two-thirds said, "contact with patients". Less than half the public said "bodily fluids"; one third said it is spread from animals to humans. More people said it was spread through the air (7.7%) than through participation in a burial (5.8%). Less than half said "not touching Ebola patients" would protect them. Less than one in 20 people said not participating in burial rites of Ebola victims. Nearly three-quarters (72.9%) would visit a hospital for help if they thought they had EVD, but only 15.7% would call the Ebola Helpline. Almost as many (14.3%) would resort to prayer. Other responses included: seek traditional healer, stay at home (1%); go to a religious centre (1.7%); hide (1.5%); take self-prescribed treatment (2%). TV (70%); radio (50%); and

[7] The Red Cross movement carried out very limited but useful surveys in the first half of the year. In Nigeria, the government and WHO carries out more extensive surveys meeting statistical and methodological requirements.
[8] From a draft strategy written by the author based on a survey results by Ebola Emergency Operations Center of Lagos state, Government of Nigeria, where the author was deployed for the response to Ebola Virus Disease (EVD) in September, 2014.

neighbour (25%) were the three main sources of information for the public on EVD. Less than one in six gets their information on EVD from the Internet; and health educator and flyers/brochures would be used by less than 5% of those interviewed. Of real concern was that, 75% of health facility attendants knew how Ebola was spread.

All these give real insights into how and what types of risk communications, engagement and training are needed to tackle Ebola. They show us that facts are not enough, and that perception and trust are intertwined. Just taking a look at a few findings of the Nigerian survey raise key issues. Despite a massive communication and social mobilization effort by the government and national and international partners, the public, and even more surprisingly some cadres of health workers, do not know or believe what they have been "told". The risk communication effort by the experts and authorities is disseminated by channels (flyers, brochures, website) that are not the top three choices of the public (TV, radio, neighbour).

According to Webster's Dictionary (1991), trust is the "assured reliance on the character, ability, strength, or truth of someone or something." Public trust in government has been defined in terms of different types of relationships, with different implications for trust.

Political science and risk communication scholars have identified a number of factors that relate to trust, including confidence in the government's preparedness, honesty, willingness to disclose information, dedication and caring. Personal experience informs perceptions of trust and which organizations the public deems trustworthy. These factors can be divided into three broad categories: (1) Public perceptions of the government; (2) Personal experience and (3) Trustworthy organizations.[9]

The US Centres for Disease Control and prevention (CDC) examined attributes and behaviours associated with establishing and maintaining trust within the context of partnerships[10] and learned that the following are considered essential components of trust: