Principles of effective communication

Scientific Evidence Base Review

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Principles of effective communication

Scientific Evidence Base Review

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Contents

Executive summary

This document brings together some general points about effective communication during a pandemic and also covers the specific issue about how best to communicate risk. The purpose of this document is both to inform DH general communications strategy and to be a resource for specific use from the outset of any future pandemic.

Effective communication is important in order to minimise the chances of a negative public reaction and also to maximise the chances of compliance with recommended behavioural advice which will help to control the spread of infection. Behavioural and social science can be drawn on to inform the best ways of promoting appropriate behaviour change.

Factors associated with behaviour

A recent review highlighted that demographic and attitudinal factors can influence protective behaviour during a pandemic (Bish and Michie, 2010). For example, being older, female and more educated, or non-white, is associated with a higher chance of adopting the behaviours. There is evidence that greater levels of perceived susceptibility to and perceived severity of the diseases and greater belief in the effectiveness of recommended behaviours to protect against the disease are important predictors of behaviour. There is also evidence that greater levels of state anxiety (i.e. anxiety felt at that moment), and greater trust in authorities are associated with an increased chance of behaviour being carried out.

Such findings have implications for communication strategy. For example, the demographic findings suggest that interventions designed to increase protective behaviour during a pandemic should be adapted for specific groups of individuals, such as men, younger people, and the less well educated. The finding that perceiving oneself to be more susceptible to the illness is associated with engaging in protective behaviours highlights the need to focus on perceptions of risk in communications. A certain level of perceived susceptibility is required to get people to take action. Communications designed to highlight perceptions of risk should also be combined with advice as to how the perceived threat can be lessened; for example, by

emphasising that risk can be reduced by carrying out the recommended protective actions and providing information about the efficacy of such measures in reducing risk.

Importance of gaining trust

Communication strategies should maximise levels of trust amongst the public in order to maintain the credibility of the information provided. Research has shown that trust is a key emotion which has been found to be relevant in risk related behaviour (Slovic, 1999). Levels of trust and satisfaction with communication are particularly important in a pandemic situation in that the authorities are responsible for providing information about the course of the outbreak and also for developing treatments and vaccinations. Lack of trust can therefore have very detrimental effects in terms of controlling the disease. A lack of trust in authorities is likely to affect how people process and interpret health messages and risk communication advice, to increase concerns and to interfere with the way that the risk messages are interpreted and acted on (Petts *et al* 2001; Vaughan and Tinker, 2009). For example, Rubin et al (2009) found during the outbreak of swine flu that trust in authority was associated with reported avoidance behaviours, such as avoiding crowds and public transport. Other research has found that older adults who had greater trust in authorities to contain the spread of SARS were more likely to adopt precautionary behaviours (Tang and Wong, 2005). Issues of trust can be especially important in situations which are uncertain, such as how the course of a pandemic will develop. Slovic (1999) points out that trust is fragile and difficult to maintain, being easily broken because negative events, which can destroy trust, are more noticeable than positive events.

General principles of effective communication

Openness/Transparency

Be open about

- *Likely course of incident*
- *How incident is being handled*
- *What people can do to protect themselves*

It is important to provide an explanation as to why actions are protective and to be transparent as to why people are being asked to take particular actions. There is sometimes reluctance on the part of the authorities to be open with people in case this leads to panic. In practice, however, panic is remarkably rare. Being misleading can cause worst problems, and openness at the outset is the best course of action. Previous research has highlighted the importance of communication in preventing disease. Openness of government communication is important for fostering trust (e.g. Wray *et al* 2008). Reviews by Lee (2008), Menon (2004) and Menon and Goh (2006) examined why Singapore fared so well during the SARS crisis, whereas Hong Kong did not and concluded that transparency in communications was key. The Singapore government's success was partly due to their ability to build confidence and trust in the community by their transparent approach to communications. This was associated with compliance with the recommendations (e.g. quarantine) and reduced spread of SARS. In contrast, the Hong Kong government lost public trust due to its handling of the event. In particular the government said that there was nothing to worry about and failed to implement containment measures when cases were already occurring in Hong Kong. People were given inconsistent advice about precautionary measures and insufficient information about the spread of the disease. This led to raised concerns and consequently less likelihood of the adoption of the recommended behaviours (Menon 2004; Menon and Goh 2006). Some research suggests that the public are more likely to take appropriate action and accept the recommended treatment plan if they have been involved in the decision making process (e.g. focus groups, patient forums) (e.g. Holmes 2008; Tam et al 2005) and if the communications are open and transparent and address the concerns and priorities of the targeted populations

(Vaughan and Tinker, 2009). Such involvement can influence the level of trust that the public has in government and institutions (Holmes 2008; Tam et al 2005).

Clear and simple communication

- *Ensure new terms are explained*
- *Be sensitive to cultural differences*
- *Ensure messages are scientifically accurate*

Research suggests that a particular challenge for communication about pandemic influenza is enhanced by the number and subtlety of distinctions people are being asked to make. Individuals have to make an effort to discriminate among a number of things and work to learn new terms (Janssen et al 2006). For example, the terms *vaccine* and *antivirals* are not readily understood by the public. There is a distinction to be made between the "regular" flu vaccine versus the vaccine against a pandemic strain. In addition *antiviral* and *antibiotic* can be confused. Communication should strive to make the distinction clear: that a vaccine is used to prevent influenza, and that antivirals are used for treatment. Wray et al (2008) found from their focus group studies that messages should be clear and simple and that unfamiliar terms needed to be explained in order to avoid confusion. Non-English speakers feared that they would miss vital instructions and consistently struggled to understand communications, highlighting the importance of culturally sensitive communication.

Holmes (2008) concludes from her review of the communications literature in a pandemic situation that most of the research focuses on how to close the knowledge gap, and makes the assumption that if people are provided with the appropriate 'facts' then they will act appropriately by changing their behaviour. However, people may not act in their own best interests because it is not obvious what they should do, highlighting the importance of straightforward communication.

Messaging should be scientifically accurate. It is, in fact, not strictly correct to say that washing hands kills a virus (as in the campaign slogan 'Catch it, Bin it, Kill it' during the H1N1 2009 pandemic). If this had become apparent to the wider public it may have led to loss of trust. However, it is also important to recognise what is achievable in different communications: a slogan that is catchy, gets across what should be done and is technically correct is what we

should strive for. However, a catchy slogan that is not significantly misleading and which has a longer communication attached making it clear that the germs are not destroyed but contained, would be preferable to an unmemorable one that is technically correct.

Acknowledge uncertainty

- *Acknowledge that the course of the pandemic is uncertain*
- *Ensure messages from different sources are consistent*

By their nature pandemics are uncertain as their precise course is unknown. One way of maintaining trust is to communicate the uncertainty associated with an emerging pandemic (see Holmes, 2008). Early messages may have to be changed as more information becomes available (Vaughan and Tinker 2009). The Institute of Medicine (1997) recommends communicating uncertainty, including statements about what assumptions were made to define risk estimates and the extent to which there is consensus among various groups of experts and the public about the accuracy or uncertainty of the estimates provided.
Taking the example of the H1N1 pandemic it can be seen how it is important to acknowledge uncertainty. It gradually became clear that there were many more cases of mild flu than would be suggested by the official definition, which emphasised the presence of fever as a cardinal sign. There was never an explicit recognition of the prevalence of non-febrile cases of flu and this appeared to lead to confusion amongst the lay population about whether they had had swine flu, whether or not they needed to be vaccinated and whether or not they should stay off work. If the uncertainty about the symptoms of the disease had been acknowledged then confusion may have been lessened.

It is important to ensure that information from all sources is consistent in order to minimise the impression of any disagreement amongst experts as trust can be eroded by contradictory statements. For example, Cava et al (2005) found that inconsistent information from authorities led individuals to question the credibility of the information available and this affected their compliance with quarantine.

Achieving these two principles (acknowledgement of uncertainty and being consistent) may be difficult as they can be in conflict. Ultimately communications should acknowledge uncertainty

but make informed and consistent recommendations based on the available evidence nonetheless.

Communicating about risk

Presentation of risk information is important as it can affect whether or not action will be taken (Vaughan and Tinker, 2009). A number of 'golden rules' apply to communicating about risk. These are:

- Always give absolute as well as relative risk. For example, 'Pregnant women are four times as likely to develop complications from swine flu as non-pregnant women. Of 1,000 pregnant women *n* would develop complications whereas of 1,000 non-pregnant women *n* would develop complications'.

- Present messages about risk using natural frequencies (e.g. out of 100 people 10 will experience side effects) as opposed to probability frames (the risk of experiencing side effects is 10%).

- Frame ambiguous messages about risk negatively. For example "it is estimated that out of every 100 people 20 to 30 will contract swine flu" (as opposed to saying "out of every 100 people 70 to 80 will *not* contract swine flu").

- Present risk information visually as well as textually whenever possible.

The evidence from the research literature on risk communication shows that people demonstrate ambiguity aversion (AA) (Han, Klein *et al* 2009; Han, Reeve *et al* 2009). This is where there is a preference for a one-off absolute risk statement (for example, the risk of developing swine flu is 30%) rather than vaguely specified potentially ambiguous ranges of risk.

Risk estimates are, by their nature, uncertain but if these estimates are then phrased in an ambiguous way this can determine the degree of confidence an individual has in the risk information and therefore influences judgements and decisions. Ambiguity aversion is associated with:

- heightened risk perceptions and a focus on the upper limit of a given range, i.e. 'the worst case scenario', even when the lower limit of the range is equally as likely to be accurate
- increased worry
- avoidance of decision making and reduced intentions to act.

Paul Han and colleagues from the National Cancer Institute have recently carried out a series of experiments (under review) looking at ambiguity aversion in response to communicating uncertainty regarding individualised cancer risk estimates. They found evidence of ambiguity aversion (e.g. heightened risk perceptions and worry) but the effect was moderated by representational format. They found that visual depictions of risk (a bar graph with confidence intervals) led to less ambiguity aversion than text depictions. However, they also found that this effect could be minimised by enhancing the textual explanation to better explain the concept of imprecision (i.e. "your chances of developing colon cancer in your lifetime are most likely between 5%-13%, but they could be higher or lower. Risk estimates are not exact"). Therefore the "active ingredient" of the format may have more to do with its conceptual content.

Importantly they also found that communicating ambiguity did not affect the perceived credibility of the information. However, other research (e.g. Johnson and Slovic 1995) found mixed evidence about this outcome.

It may also be possible to lessen the impact of AA by 'message framing' (Kuhn 1997). Previous research has indicated that the way in which a message is framed affects how persuasive it is. Messages can either be negatively (i.e. loss) or positively (i.e. gain) framed. For example, two possible disease treatments, one which is certain and one which is risky, are described either in terms of lives saved or lives lost. Respondents are more likely to choose the risky option when the options are framed negatively (number of deaths). This is because people are more likely to choose risk seeking in the loss domain (Tversky and Kahneman 1981). Kuhn investigated whether there would be a framing effect for vagueness preferences analogous to those seen for risk preferences, where people might be more prepared to accept vagueness in the negative framed situation. She found that people are more likely to prefer vagueness (i.e. be less averse to ambiguity) when it is presented with negative framing. In these experiments the negative framing was the probability of experiencing side effects with a vaccine. The ambiguity was presented as either a vague point estimate (e.g. "the probability is estimated to

be around x") or as a range of risk from a low percentage to a high percentage. In a further experiment the effect of the preference for vagueness was found to be because negative framing led people to make more favourable inferences about the likelihood of the vague probabilities.

In the context of vaccination for swine flu, a preferable statement (in terms of it leading to less heightened risk perceptions and worry) would be to say "The evidence suggests that of 100 people 5 to 10 will experience side effects from the vaccine" (actual figures will be different of course), as opposed to saying "The evidence suggests that of 100 people 90 to 95 will not experience side effects". A further example would be to say "it is estimated that out of every 100 people 20 to 30 will contract swine flu" (as opposed to saying "out of every 100 people 70 to 80 will *not* contract swine flu").

Timing of communication

As detailed above, communication is most effective when the public feel that they have been involved. However, the time to explain complex issues such as antiviral efficacy or vaccine prioritisation is not during an emergency but beforehand. This would point towards carrying out communications work before the next pandemic.

Conclusion

Effective communication is important as it can influence how people react during a pandemic. Communication should be open and transparent, clear and simple and acknowledge the uncertainty inherent to a pandemic outbreak. When communicating the risk of developing the disease or complications it is important to give absolute as well as relative risk, use natural frequencies, frame ambiguous messages negatively and use visual representations where possible. Pre-event pandemic communication should be carried out with the public particularly where controversial options need to be raised and discussed.

These are the principles to strive for when crafting communications. However, this document is not a manual for how to achieve these things in practice (see Maibach and Parrott, 1995; Witte et al, 2001 for how to develop risk messages based on scientific findings). There is an important role here for practice based on experience, such as embodied within the DH communications team.

References

Bish and Michie (2010) Demographic and attitudinal determinants of protective behaviours during a pandemic: a review. *British Journal of Health Psychology*. DOI:10.1348/135910710X485826

Cava, MA., Fay, KE., Beanlands, HJ., McCay, EA., Wignall, R. (2005). Risk perception and compliance with quarantine during the SARS outbreak. *Journal of Nursing Scholarship, 37 (4),* 343-347.

Han PKJ., Klein, WMP et al. (2009). Laypersons' responses to communication of uncertainty regarding cancer risk estimates. Medical Decision Making, 29, 391-403.

Han PKJ., Reeve, BB et al. (2009). Aversion to ambiguity regarding medical tests and treatments: Measurement, prevalence, and relationship with sociodemographic factors. Journal of Health Communication, 14, 556-572.

Han, PKJ, Lehman T, Klein WMP, Killam B, Massett H, Freedman AN (under review). The communication of ambiguity regarding individualized cancer risk estimates: effects and influential factors.

Holmes BJ (2008). Communicating about emerging infectious disease: The importance of research. Health Risk and Society. 10 (4) 349-360.

Janssen AP, Tardif RR, Landry SR, Warner JE: "Why tell me now?" the public and healthcare providers weigh in on pandemic influenza messages. *J Public Health Manag Pract* 2006, 12(4):388-394.

Johnson, BB., & Slovic, P. (1995). Presenting uncertainty in health risk assessment: Initial studies of its effects on risk perception and trust. Risk Analysis, 15, 485-494.

Kuhn, KM. (1997). Communicating uncertainty; Framing effects on responses to vague probabilities. Organizational Behavior and Human Decision Processes, 71, 55-83

Lee, K. (2008). How the Hong Kong government lost the public trust in SARS: Insights for government communication in a health crisis. *Public Relations Review, 35, (1),* 74-76.

Maibach, E. And Parrott, R.L. (1995). Designing Health Messages: Approaches from Communication Theory and Public Health Practice. Thousand Oaks: Sage.
Menon, K.U. and Goh, K.T. (2004). Transparency and trust: Risk communications and the Singapore experience in managing SARS. *Journal of Communication Management, 9(4),* 375-383.

Menon, K.U. (2006). SARS Revisited: Managing “Outbreaks” With “Communications” *Ann Acad Med Singapore*, *35*, 361-7.

Petts, J., Horlick-Jones, T., and Murdock, G. (2001). *Social Amplification of Risk: The Media and The Public.* Contract Research Report 329/2001. HSE Books, Sudbury.

Rubin, G.J., Amlôt, R., Page, L., Wessely, S. (2009). Public Perceptions, Anxiety and Behavioural Change in Relation to the Swine Flu Outbreak: A Cross-Sectional Telephone Survey. *British Medical Journal, 339*, b2651.

Slovic, P. (1999). Trust, Emotion, Sex, Politics and Science: Surveying the Risk-Assessment Battlefield. *Risk Analysis, 19 (4),* 689-701.

Tam, T., Sciberras, J., Mullington, B., and King, A. (2005). Fortune favours the prepared mind. *Canadian Journal of Public Health, 96,* 406–408.

Tang, C.S.K., and Wong, C.Y. (2005). Psychosocial factors influencing the practice of preventive behaviours against the severe acute respirator syndrome among older Chinese in Hong Kong. *Journal of Aging Health, 17,* 490-506.

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science,* 211**,** 453–458.

Vaughan, E., and Tinker, T. (2009). Effective health risk communication about pandemic influenza for vulnerable populations. *American Journal of Public Health, 99 (2)*, 324-332.
Witte, K., Meyer, G., and Martell, D. (2001). Effective Health Risk Messages: A Step-by-Step Guide. Thousand Oaks: Sage.

Wray, R., Becker, S.M., Henderson, N., Glik, D., Jupka, K., Middleton, S., Henderson, C., Drury A., Mitchell, E.W. (2008). Communication with the public about emerging health threats: lessons from the Pre-Event Message Development Project. *American Journal of Public Health, 98 (12),* 2214-2222.