



**SOCIAL AND
BEHAVIOURAL
SCIENCE GUIDANCE
FOR LOCAL
RESILIENCE FORUMS
IN PLANNING AND
CONDUCTING CIVIL
ALERTS**



UNLIMITED

INTRODUCTION

DSTL has been requested to produce an evidence based guide to assist Local Resilience Forums in fulfilling their Communicating with the Public duty at times of civil emergency.

This guide summarises the findings of relevant social and behavioural science research on civil alert systems and suggests how this can be used to assist in the preparation and dissemination of civil alerts to the public.

The guide is intended to provide information to assist the LRFs as they develop and refine their emergency response plans.

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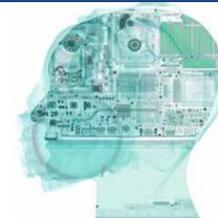


MINISTRY OF DEFENCE

BACKGROUND

Whilst there are many steps that LRFs need to take in order to warn and inform the public, there are three specific areas where a knowledge of social and behavioural science literature can be valuable to you in planning and conducting civil alerts.

These areas are the message's content and preparation (**Warning Formulation**), selection of alerting methods (**Dissemination**), and resulting behaviours (**Local Preparedness and Response**).



What are Social and Behavioural Sciences?

This refers to scientific disciplines, including sociology, anthropology, and psychology, in which the actions and reactions of humans are studied through observational and experimental methods.



Warning Formulation

- The construction of the warning message needs to be well considered to ensure that the population will *understand* it, that they will *believe* it and that they will feel it to be *personally relevant* to them. This will increase people's ability and willingness to respond appropriately in emergencies.

Dissemination

- There are a wide variety of different alerting methods, including the internet, mobile devices, fixed telephone lines, conventional media, acoustic and person-to-person alerts. Each of these have their own advantages and disadvantages.

Local Preparedness and Response

- People behave in different ways at times of emergency. By understanding the factors that influence behaviour it is possible to increase the population's preparedness for emergencies and the likelihood of them engaging in appropriate responses afterwards.

WARNING FORMULATION

A warning message needs to contain the three elements of Understanding, Believing and Personalising.

Understanding

It is very important that any message must be **understood**, not just transmitted.

Understanding, in this sense, refers to comprehension, but also includes an individual's perception or judgement of a situation. As soon as the first parts of the warning message are received the individual begins the process of forming risk perceptions about the situation which will determine their responses.

It is good practice to ensure you include the following five factors in all civil alerts.

1. HAZARD

- ✓ Must provide a description of the event **and** an explanation of why it is a threat.

2. LOCATION

- ✓ Must describe the locations that are and are not affected.

3. GUIDANCE

- ✓ Must describe the recommended protective action in detail.

4. TIME

- ✓ Must inform people of how much time there is to take protective action.

5. SOURCE

- ✓ Must identify the source of the information and where possible indicate multiple sources of confirmation.

Believing

Once the recipient has received the message and understood the risk they must then **believe** that the message is credible and accurate and that protective action is required.

✓ Alert message sources should be appropriate to the emergency type and perceived as credible by the population.

✓ Where possible, establish trust as a credible source of information **before** an event.

✓ Increase the credibility by including multiple sources in warning messages.

Personalising

It is not enough to understand and believe a message: People must evaluate the message as having relevance to them personally. Through the formation of your message you can convince the public to take action.

✓ Giving responsibility to 'do-something' will increase response.

✓ Make use of people's prior experience where appropriate.

✓ Some degree of realistic fear will encourage people to protect themselves.



Panic should not be a reason for withholding information. Panic is rare and additional information can help people to accurately interpret the risks they face.

Fear is associated with the unfamiliar, so increased information can help reduce fear. It is sensible to use terms that people already know so they can refer to past events in making their decision. A lack of knowledge, or incomplete information, can lead individuals to underestimate the risk.



Assessment of risk is heavily influenced by the proximity of the hazard or threat. The closer people are, the more likely they are to take action.

Messages need to target the 'at-risk' population but also need to reassure others in the locality that they do **not** need to take action.

Insufficient information can result in additional people taking action when there is no danger.

Repeated false alarms can cause public complacency unless reasons are given.



In practice, messages often fall short of providing sufficient information on what proactive action to take.

It cannot be assumed that people will instinctively know what to do with the information that you provide.

All terms need to be clear and unambiguous. Diagrams and maps are particularly useful.

The public are more likely to take actions that they see as logical and appropriate.

Messages should be consistent to reduce the likelihood of confusion.



Advance warnings can greatly assist in compliance.

Once people receive a risk message they begin the process of risk assessment. This can be a lengthy process as the majority of people attempt to corroborate information from different sources.

Repeat warnings are most effective in encouraging people to engage in protective behaviours.

The perception of immediate danger motivates most people to respond.



Credible and familiar sources increase response rates.

During emergencies, people tend to turn to their personal networks for confirmation and assistance in making decisions.

Official sources of information may be ignored if not deemed credible.

The emergency services are usually seen as the most credible sources of emergency related information.

In some situations it may not be possible to include much detail in alert messages (e.g. signage or sirens). In these cases try to direct the public towards a second source of information where they can get the answers and advice they need.



There are many potential channels that can be used to disseminate alerts to the public. **Research has shown that employing a combined approach can help to increase both the reach and the resilience of alert messages.** Where possible you should share information with the population before, during and after the emergency event. The following facts can be useful in determining the main advantages and disadvantages of some of the key alerting channels and their suitability to different emergency scenarios.

Mobile phones

- Owned or used by 91% of UK population.
- Owned or used by 98% of 16-24 year olds.
- Owned or used by 51% of over 75s.
- 28% of UK population currently use their mobile phone for internet access via a range of applications.

Landline telephones

- 85% of UK households have a landline connection.
- Synthetic speech is good at attracting the attention of the recipient but people struggle to understand and recall messages delivered in this way.

Sirens

- People are frequently unaware of the meaning of sirens and do not know how to respond to them.
- People can retain and recognise between 4 to 7 siren sounds but only if they are regularly rehearsed, during test alerts for example.

Internet

- Two-thirds of the UK population regularly access the internet via a computer.
- 83% of 16-24 year olds report regular use, compared to 13% of over 75s.
- Email is received and sent by 94% of computer internet users, and by 53% of mobile phone internet users.

TV

- 96.6% of UK population have a TV in their home.
- Peak TV audiences are between 8pm and 9pm, but audiences are large from 6pm to 11pm.
- Viewing figures are lower during Summer than Winter.

Radio

- People listen to the radio for 3 hours 12 minutes every day on average.
- Most popular radio listening times are between 6am and 11am, peaking at 8am.
- BBC network services account for about 55% of radio listening hours.

✓ Identify your target audiences ahead of an emergency event.

✓ Consider aspects of reach and resilience when selecting appropriate alert channels.

✓ The time of the day should be considered when deciding upon alert channels.

DISSEMINATION

There are numerous factors that you might like to consider when deciding which methods of alerting the public will prove effective. A selection of criteria are listed below.

Locality	<i>Is the alert message targeted at the right area?</i>
Spontaneity	<i>Do people need to be engaging in a particular activity, for example watching TV, in order to receive the alert message?</i>
Automated operation	<i>Can the alert message be sent automatically, for example if the emergency itself prevents manual activation?</i>
Ubiquity	<i>Is any part of the affected area excluded from receiving the alert message?</i>
Support for second languages	<i>Can alert messages be sent in languages other than English?</i>
Targeting	<i>Will the alert message reach only those people that need to be alerted?</i>
Speed	<i>How quickly can the alert message be sent?</i>
Cost	<i>What is the financial cost, to sender and receiver, of sending the alert message?</i>
Content	<i>Can the alert message be sent in different formats, such as images and videos?</i>
Presentation	<i>Will the alert message be presented in a way that is easy to understand?</i>
Receipting	<i>Is there a way of confirming that people have received the alert message?</i>
Security	<i>Can the alert message be easily spoofed or mimicked?</i>
Performance	<i>Will the emergency itself affect the chances of the alert message reaching the audience?</i>

Social Media

Social media can play an important role in communicating with the public before, during and after an emergency. It offers a number of benefits:

1. IMMEDIACY

It gets information to the public straight away.

2. ABILITY TO INFORM THE PUBLIC

It spreads understanding and increases safety.

3. RUMOUR MANAGEMENT

It gives the ability to rapidly correct false information.

4. EASY ACCESS

It affords easy access to responders and the public.

5. GATHERING FEEDBACK

It allows interaction with the public to find out how they feel.

What is Social Media?

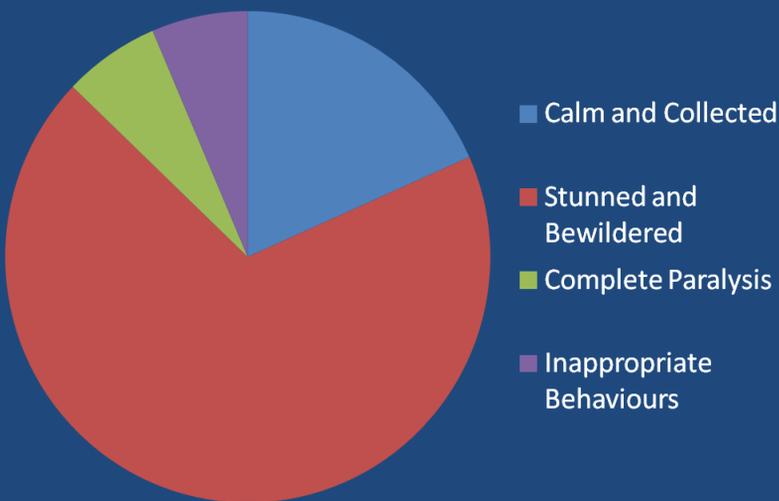
Social media refers to online and mobile technologies and practices used to share opinions and information, promote discussion and build relationships.

LOCAL PREPAREDNESS AND RESPONSE

Unfortunately, even if you have followed all the steps to this point, there will still be some instances where resulting behaviours appear to defy all logic. This section highlights some additional considerations, based on social and behavioural science research of human behaviour in emergency situations, and provides some points for you to consider in civil alerts.

Resulting behaviours are determined by both dispositional factors (i.e. factors that are internal to someone or something and are not necessarily seen) and situational factors (i.e. events occurring in the surrounding environment). An understanding of the factors that determine human behaviour at times of emergency can assist in planning effective civil protection measures. Some you may be able to mitigate against, others you may just need to prepare for.

Emergency Behaviours



During an emergency there are typically around 10-20% of people who demonstrate rational thought and reasoning abilities (calm and collected). The majority of people, around 75%, will become **stunned and bewildered**, and need clear direction and may require additional support. A small number of people will display hyperactive or manic behaviours and have difficulty following instruction (**complete paralysis/inappropriate behaviours**).

Cognitive Processing

In emergency situations the way in which people process cognitive information is affected. Most commonly people use 'heuristics' which are essentially mental short-cuts or rules drawn from experience, to make decisions and judgements.

Research indicates that if people do not understand how warning advice relates to their understanding of a hazard then they are less likely to comply.

In addition, worry and anxiety may lead to failures in memory function due to an increase in intrusive thoughts.



✓ Ongoing dialogue with the public can help to understand what they think about different disaster scenarios before an event. This can be used to anticipate how they are likely to behave during emergencies and what information they will need.

Fear, Confusion and Apprehension

People need to receive information that accurately illustrates the risks they face during emergencies but without causing them to be excessively scared. This is a very difficult balance to achieve as it is often person specific and relies on a number of individual differences.

The following boxes provide some things to consider.



- People in emergencies are prone to 'negativity bias' meaning they tend to pay more attention to negative than positive information.

- If people in an affected community lack cohesion, or social ties, there can be a reduction in helping behaviours and an increase in aggressive behaviours during an emergency.

- Some behaviours, which could be characterised as panic, such as panic-buying, can be viewed as a rational response to the information being provided.

- If fear and panic starts, it can be highly contagious.

- Panic is most likely to occur when there is a limit on the time and/or space to escape.

- Fear and anxiety can increase the amount of time people take to make decisions and take action.

Demographic and Cultural Considerations

Physical and mental disabilities: Whilst there is considerable guidance on evacuation procedures for vulnerable populations, you also need to consider their needs during communications. Consider undertaking efforts to prepare and educate support networks and caregivers.

Language barriers: Whilst language barriers are widely acknowledged, more sensitive aspects of cultural and linguistic differences are often overlooked. Messages are more effective when delivered in the receiver's language of origin, however, the context of a culturally appropriate message is integral to achieving comprehension. Images are also a useful method of overcoming the language barrier.

Elderly population: Access to the internet and mobile phones is not widespread in the older population so care should be taken to ensure they receive the information they need before, during and after an emergency. This will increase their ability to take protective measures.

It is vital that LRFs identify their local populations and consider their differing needs against all the risks identified in the Community Risk Register (CRR) well before any events take place.

SUMMARY: Steps for Local Resilience Forums

Understand the local population. Cultural and demographic factors have a significant bearing on how effective different alerting channels will be and how the public are likely to respond in emergencies.

Establish ongoing communication with the local population so they will know how to respond at times of emergency. People should be told in advance what courses of action they should follow in an emergency so that they are better prepared when it occurs.

Use multiple alerting methods to increase the chances of people receiving the alert message. Some alerting methods could fail during emergencies so using multiple methods means the message is more likely to reach the population.

Use social media to engage with the local population. The popularity of social media makes it an ideal platform for communication with people and for disseminating additional information in the aftermath of an emergency.

Ensure messages are consistent and contain the appropriate information. Confusion can have a negative impact upon peoples' willingness and ability to carry out protective behaviours.

Tell people which sources of information to use during emergencies. The amount of information that can be contained in an initial alert message is likely to be limited so it's important people know where they can find out more. For example, official websites, leaflets, local radio stations (including the right frequency), local TV stations.

Encourage people to take responsibility for alerting friends and neighbours during emergencies. Informal networks are useful for helping the message spread, particularly at night.

If there is a false alarm, tell the population why it occurred. Otherwise people may not be inclined to take it seriously next time.

FURTHER RESOURCES

The effectiveness of civil alert systems: A review of the literature, DSTL (2012).

Smart tips for Category 1 responders using social media in emergency management, DSTL (2012).

National Risk Register of Civil Emergencies, 2012 edition, Cabinet Office (2012). Available at:

http://www.cabinetoffice.gov.uk/sites/default/files/resources/CO_NationalRiskRegister_2012_acc.pdf

Emergency preparedness, Cabinet Office (2006). Available at: <http://www.cabinetoffice.gov.uk/resource-library/emergency-preparedness>

Engaging through social media. A guide for civil servants, COI (2009). Available at: <http://wiki.gsi.gov.uk>

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