

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/269102924>

Responding to emergencies involving chemical, biological, radiological and nuclear (CBRN) hazards: Information for...

Book · October 2014

DOI: 10.13140/2.1.2285.2161

CITATIONS

0

READS

63

4 authors, including:



Brooke Rogers

King's College London

37 PUBLICATIONS 212 CITATIONS

[SEE PROFILE](#)



Kristian Krieger

Université Catholique de Louvain

17 PUBLICATIONS 92 CITATIONS

[SEE PROFILE](#)



Richard Amlôt

Public Health England

64 PUBLICATIONS 737 CITATIONS

[SEE PROFILE](#)

Responding to emergencies involving chemical, biological, radiological and nuclear (CBRN) hazards














Information for emergency responders about public responses to CBRN incidents

The public's reaction to incidents involving chemical, biological, radiological or nuclear (CBRN) hazards will have a significant impact on the overall effectiveness of the professional response.

This booklet provides scientifically tested guidance and information designed to make CBRN-related responses more effective by improving emergency responders' knowledge of why, what, and how to communicate with members of the public about CBRN hazards.

Where specific guidance is suggested, the authors have identified the relevant page numbers of the public-facing version of this booklet, '*Responding to emergencies involving chemical, biological, radiological and nuclear (CBRN) hazards: Information for members of the public*' which can be found on the PRACTICE website at: www.practice-fp7-security.eu.

Further guidance about the use of the information (for example, intended audience, purpose, timings, etc.) contained in this booklet can be found on pages 22-23.

	Communicating with the public about CBRN incidents	04	
	The public understanding of CBRN incidents	06	
	Addressing public information needs: Evacuation	08	
	Addressing public information needs: The initial response	10	
	Addressing public information needs: Disrobe	12	
	Addressing public information needs: Decontamination	14	
	Addressing public information needs: Survivor Reception Centre	16	
	Principles of public communication during CBRN incidents	18	
	Tips for pre-event, crisis and post-event public communication	20	
	Putting this guidance into practice	22	

4 Communicating with the public about CBRN incidents

Effective communication and engagement with members of the public can **reduce uncertainty and anxiety, improve the public's perception of their ability to follow official advice** (e.g. evacuate, disrobe, shower, etc.), **boost trust** in emergency responders and emergency response processes, and **increase the likelihood of compliance with official advice** about protective health behaviours during extreme events.

Improved understanding of the public response to CBRN incidents and related emergency response procedures can help emergency responders anticipate and prepare for public behaviour and information needs during CBRN incidents.

This booklet sheds light on:

- How the public responds to incidents involving CBRN hazards
- How the public responds to emergency response procedures during contamination incidents
- What the public knows about CBRN incidents
- What the public knows about the management of CBRN incidents
- How to effectively engage and communicate with members of the public before, during and after a CBRN incident



6 The public understanding of CBRN incidents

Incidents involving harmful substances are **extremely rare** and the public may have a **limited understanding** about how to respond to these events.

People may have certain expectations of the emergency response and emergency responders, based in part on movies or television. Expectations may include unrealistic timeframes and assumptions about larger numbers of responders than are likely to attend.

CBRN incidents are unique. **People may be contaminated but not realise it.**

The provision of information can

- Increase levels of knowledge
- Enable members of the public to take appropriate protective actions
- Manage public expectations about the emergency response process

Understanding the public's reaction to CBRN incidents can help responders provide information capable of **reducing public anxiety, increasing public confidence** in their personal ability to follow advice, and **improving levels of public trust** in the emergency response procedures and responders.



8 Addressing public information needs: Evacuation

Contrary to popular belief, **most people will evacuate in a calm and orderly manner** when the alarm is raised. The majority of people are likely to be well-practiced at evacuating following a fire alarm.

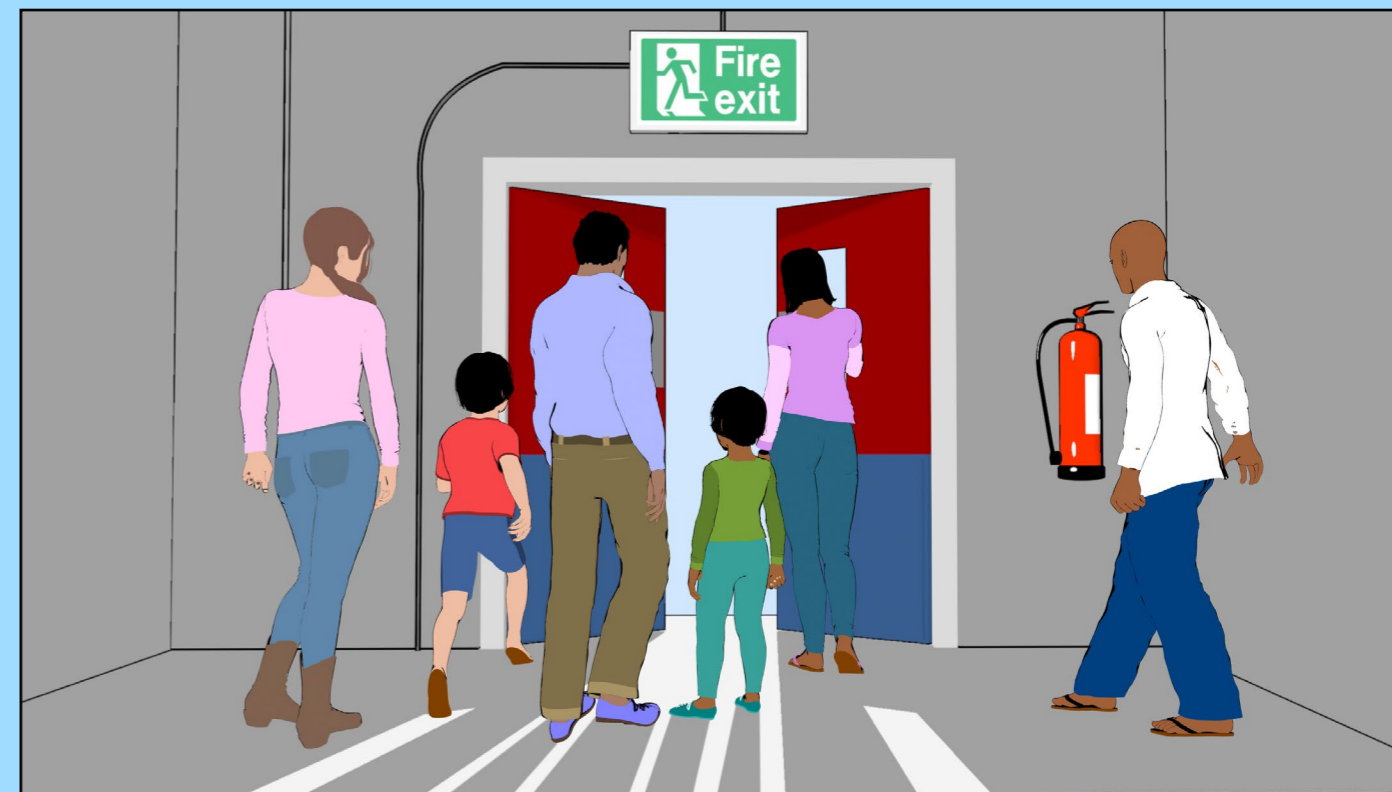
People will have an emotional response to an incident which may include fear, anxiety, confusion and feelings of helplessness. However, it is important to note that **public panic is extremely rare** and should never be assumed as the usual response to CBRN incidents.

It is common for people to try to help one another – this can be problematic in CBRN incidents, where they may inadvertently contaminate themselves or other people.

People may not realise that they have been contaminated and **some may leave the scene before emergency services arrive**. Others may wish to leave after emergency services arrive.

It is important to communicate the following messages to members of the public during the evacuation process:

- **Instructions about what to do and what not to do** (see page 12 of public manual)
- **Basic information explaining the rationale behind actions and instructions**, in particular those that contradict the public's intuitive behaviour (e.g. do not help one another) (see page 12 of public manual)



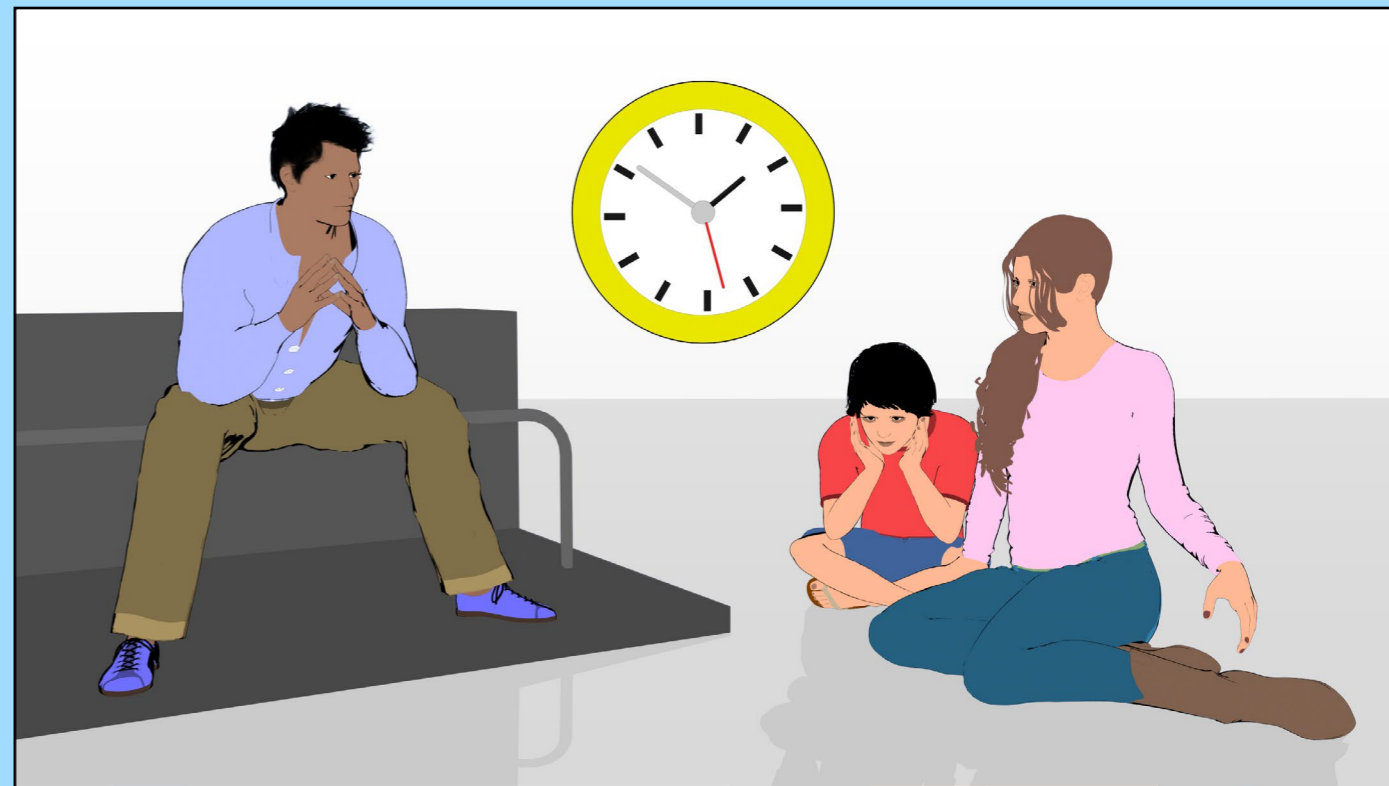
10 Addressing public information needs: The initial response

The response to CBRN incidents is complex and time-consuming. Members of the public can be left waiting while emergency responders identify the harmful substance and set up decontamination units. During this waiting period, members of the public are likely to experience significant levels of anxiety and fear, driven by uncertainty, rumours, the observation of symptoms of contamination, and unmet expectations regarding the speed of the response.

It is important to note that communicating with the public is particularly important during this phase. Provision of information can reduce rumours, manage expectations, and strengthen confidence in the capabilities of responders. Members of the public are less interested in learning about the exact nature of the contaminant, and more interested in understanding the likelihood that they have been affected and what they can do to reduce harmful effects during the initial phase of the response.

It is important to communicate the following messages to members of the public during this waiting period:

- **Basic information about the ongoing work behind the scenes** (in order to show that responders are dealing with the incident)
- **Forward-looking information about the forthcoming emergency response** (see page 8 of the public manual)
- **Messages to remain patient** (see page 8 of the public manual)



12 Addressing public information needs: Disrobe

The decontamination process is an unfamiliar process to members of the public. The lack of familiarity and lack of privacy can make people reluctant to undress and shower in front of strangers. It is important to take people's concerns seriously and explain why undressing is important.

The provision of well-justified and actionable instructions can reduce anxiety and fear, and increase the likelihood of the public's compliance with official instructions.

If exposure to a harmful substance is suspected, it is important to tell members of the public that the removal of clothing is an effective way to remove most substances.

It is important to communicate the following messages to members of the public during the disrobe process:

- **Instructions about what to do and what not to do** (please see page 14 of public manual)
- **Procedural, forward-looking 'what will happen next' information** about stages and actions of the emergency response (please see page 8 of public manual). This will help manage expectations.
- **Basic information explaining the rationale behind actions and instructions**, in particular those that contradict the public's intuitive behaviour (e.g. do not help one another) (please see page 20 of public manual)



14 Addressing public information needs: Decontamination

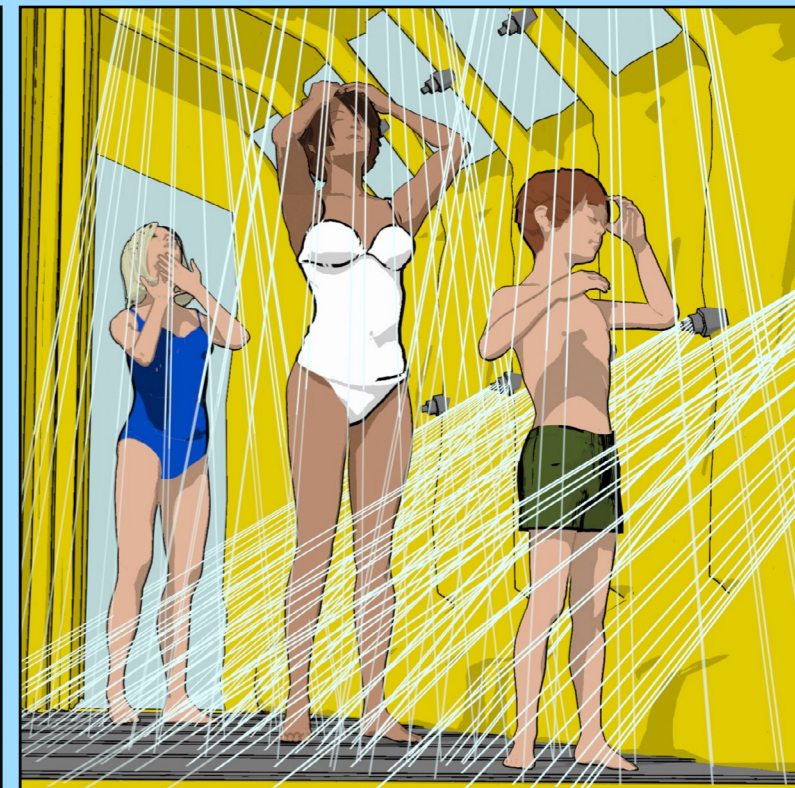
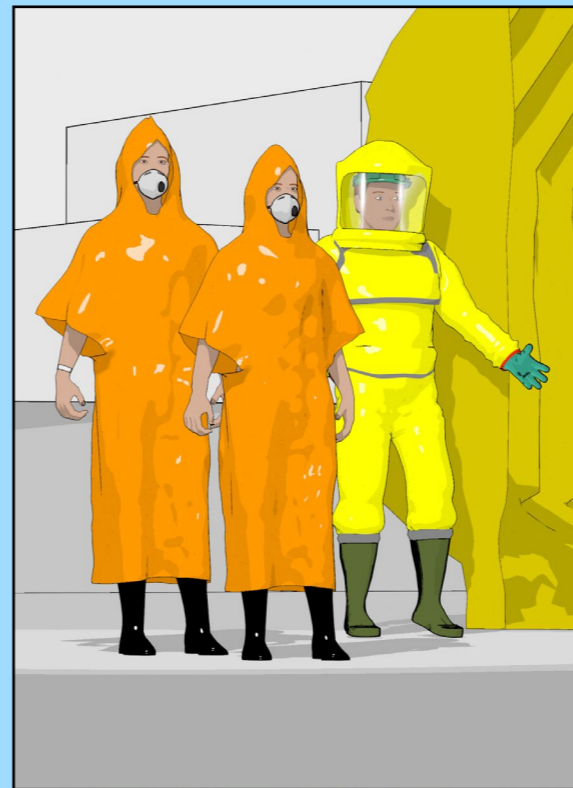
First sight of the PPE suits and the decontamination unit will drive home the seriousness of the situation. These unfamiliar sights might trigger emotional responses, such as anxiety and fear.

Some decontamination systems use an automatic guidance system. **People will normally prefer human contact and direct verbal instructions.**

Members of the public may have certain expectations about the decontamination process. For example, they may expect to see soap and bubbles during a decontamination shower. Such **unmet expectations must be addressed as they may lead to questions about the efficacy of the shower.**

It is important to communicate the following messages during the decontamination process:

- **Instructions about what to do and what to expect during the decontamination process**, most effectively delivered verbally by a responder (see page 16 of public manual)
- **Basic information explaining the rationale behind actions and instructions**, in particular those that imply personal costs for members of the public (e.g. discomfort associated with public shower). This will increase the likelihood of public compliance with the emergency responders' instructions.
- **Information about the effectiveness of decontamination before and after the process.** This will help manage expectations, reduce uncertainty and reinforce confidence in the process and responders.



16 Addressing public information needs: Survivor Reception Centre

Public concern about their own, immediate health may decrease during their time in the Survivor Reception Centre, also called a Rest Centre. However, this may change once members of the public are released to go home. **It is therefore important to provide the public with forward-looking information** (e.g. about symptoms or who to contact in case they are worried about their and their family's health) that anticipate their concerns.

With the immediate health concerns being taken care of, members of the public are likely to ask questions about the incident, contacting their family, and receiving their belongings.

Members of the public are likely to receive help from different services, including local authorities, police and welfare organisations. **It is important that members of the public know who they are talking to and for what purpose.**

The following messages should be communicated to members of the public during their time at the Rest Centre:

- **Basic information explaining the purpose of the activities at the Rest Centre** (see page 18 of public manual). This will increase the likelihood of compliance with the instructions.
- **Instructions and contacts for the time after members of the public have been released from the Rest Centre** (e.g. symptoms of contamination, the likelihood of experiencing further symptoms, the risk to their health and family, and ways to contact medical services if needed)
- **Basic update on the incident, the performance of the emergency response and – if appropriate – the law enforcement efforts.** This is likely to increase trust in the emergency responders.



18 Principles of public communication during CBRN incidents

Incidents involving harmful substances offer unique challenges to communicating with the public. For example, public emotional responses (i.e. anxiety, fear) to an unfamiliar situation and unfamiliar processes, public discomfort caused by undressing in public, and the physical difficulties of communicating with the public through PPE, etc., can make it more challenging for professionals to communicate in an effective manner. **It is, therefore, more important than ever to consider and practice methods of communicating with members of the public during a dynamic CBRN event.**

Allocate a spokesperson capable of engaging with members of the public through the stages of the emergency response process (i.e. waiting to disrobe, disrobe, decontamination, and survivor reception centre). This spokesperson should deliver messages that are unambiguous and consistent. Specifically, members of the public require:

- **Timely, accurate information**
- **Regular communication** – even if there is no new information
- **Honesty** about what you do and don't know. Explain how you are going to find the information/ what you will do to address this.
- **Consistency** - even if it involves saying: "We do not know anything specific yet but we are working on it". Messages should be agreed across response organisations.
- **Clarity about processes and procedures** including what they will be asked to do, why they will be asked to do it, and honesty about when these processes will take place. This will help to manage expectations.
- **Honesty about how effective these processes are likely to be** and how long these processes may take.

- **By providing timely, regular, consistent, honest and forward-looking information, emergency responders can reduce uncertainty, address rumours, and foster trust in the emergency responders and the emergency response procedures.**

Do not underestimate the importance of regular updates! There may be times when members of the public need to wait, and where the response activities are not obvious to them – these are times when regular communication (e.g. about emergency response activities behind the scenes) is especially important.

Communication and engagement needs to combine leadership with a respect for the rights and capabilities of members of the public:

- A CBRN incident can be frightening and frustrating for responders, too. **It is important that you try to be patient, calm and understanding when communicating with members of the public.**
- **Make sure that the emergency responder responsible for sharing information with members of the public identifies himself or herself.**
- **Create a centralised and clearly identifiable lead for communicating with the public.** This lead should provide regular updates from a consistent location.
- **Listen to members of the public.** Their questions will help you identify their concerns and increase the likelihood of providing information that they consider to be useful and relevant.
- **Explain the rationale behind instructions and activities.** Some instructions come with personal costs for the public (such as undressing) that they might find difficult to follow. Clear explanations are needed for them to understand that the health benefits outweigh the costs.
- **Communicate your confidence and expertise in emergency response procedures.**

20 Tips for pre-event, crisis and post-event public communication

Be aware that **most people will not have any experience or familiarity of CBRN incidents** and may have unrealistic expectations.

Manage expectations by letting people know who is responding, what they are doing and how long it is likely to take.

Provide regular updates (even if you don't have anything new to say).

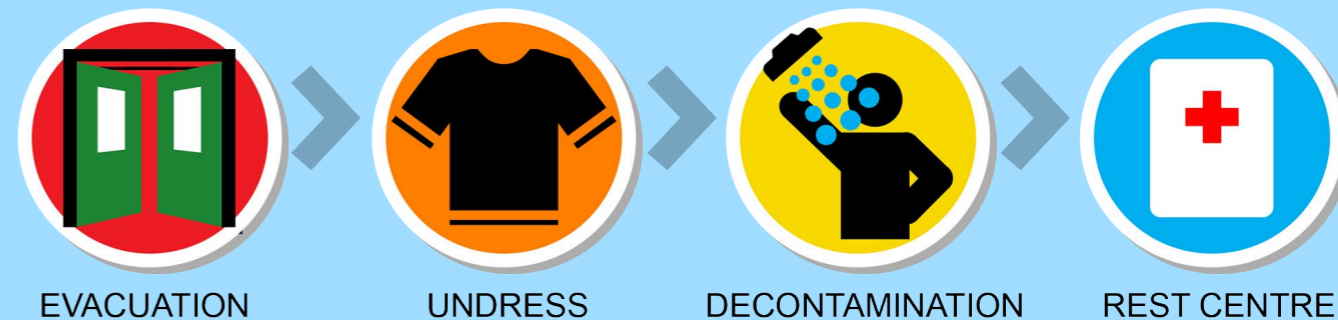
Build trust by communicating regularly and honestly during a CBRN incident and by referring to well-practiced processes and procedures that you will be using.

Appoint a spokesperson to manage communications and messages.

Provide people with a clear rationale for all actions – explain what they need to do and why it will help them. Acknowledge any costs (e.g. discomfort) involved.

Provide strong leadership but also empower people by listening to them and telling them things they can do to help themselves and their loved ones.

Try to remain patient, calm and understanding.



Who is it for? This booklet is for organisations and individuals responsible for communicating or engaging with members of the public during contamination incidents involving chemical, biological, radiological or nuclear (CBRN) hazards. This information would be useful for emergency responders (and non-specialised staff) from all emergency services (police, fire and ambulance), public health authorities, hospital staff, non-state organisations involved in emergency response (e.g. Red Cross, conference centre security staff), and others.

For what purpose? This information booklet helps emergency responders to effectively engage with members of the public about CBRN incidents, in particular through appropriate communication. The response of members of the public to incidents involving CBRN hazards has a significant impact on the overall effectiveness of the professional response to such events. Public engagement before, during and after a CBRN incident can increase levels of public preparedness by creating a shared and improved understanding of CBRN incidents and the likely response to such incidents by members of the public. An improved understanding of CBRN incidents and emergency response procedures can increase the likelihood of members of the public becoming active partners in the emergency response process, resulting in improved health outcomes.

What is in it? This information booklet improves engagement with members of the public by improving the emergency responders' knowledge of what, how and why to communicate with members of the public about CBRN incidents.

Specifically, the booklet sheds light on:

- Public understanding of CBRN threats
- Public behaviour in response to CBRN incidents
- Public information needs in relation to CBRN incident emergency response procedures
- Public engagement and communication preferences in relation to CBRN incidents and procedures
- What emergency responders can do to effectively engage with members of the public whilst still prioritising the practical and logistical aspects of the response

How to use it? This information booklet provides insight and guidance into public responses to CBRN incidents. The booklet is designed to facilitate engagement with the public. This booklet can be:

- Used as a stand-alone document or – most effectively – in combination with the public information booklet (go to www.practice-fp7-security.eu).
- Distributed to staff and partner organisations responsible for responding to CBRN incidents.
- Displayed in hard copy or made available on the websites of emergency response organisations, local authorities and other institutions.

When to use it? This information booklet is designed for use in the preparatory and response phases of CBRN incidents. In the preparatory phase, this booklet can help prioritise long-term training needs and efforts. In the response phase, the booklet can help ensure that key messages are effectively communicated to members of the public.

Important Disclaimer : The information contained in this booklet is currently UK-specific. Please note that it is important to adapt it to your local cultural and institutional context.

Questions?: Additional information about the guidance contained within this booklet can be found on the PRACTICE website (www.practice-fp7-security.eu).

You are also welcome to contact Dr. Brooke Rogers (Brooke.Rogers@kcl.ac.uk) at King's College London or Dr. Richard Amlôt (Richard.Amlot@phe.gov.uk) at Public Health England for additional information.

Authors: M. Brooke Rogers, Kristian Krieger, Emma Jones and Richard Amlôt (October 2014)



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 261728