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Title: Communication Challenges in CBRN Terrorism Crises : Expert Perceptions

Year: 2015

Version:

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Communication Challenges in CBRN Terrorism Crises – Expert Perceptions

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Abstract
The aim of this paper is to investigate experts' perceptions on communication in CBRN terrorism crises, including challenges and good practices. The purpose is to identify areas which need attention when planning, implementing and evaluating communication. This is pursued by the means of a qualitative online questionnaire aimed at international crisis communication and crisis management experts. The challenges of communication concerning CBRN terrorism arise from the complexity of such incidents, having to do with the nature of the threat, leading to problematic public perceptions and response. Critical areas which need to be taken into consideration include resources, competences and cooperation in preparedness communication and when providing information during a crisis. One way to address the challenges of communication concerning high impact, low risk CBRN terrorism is to embed preparedness activities in an all-hazards approach. The findings and conclusions of this study will serve the development of an audit instrument for communication preparedness towards CBRN terrorism.

1. Introduction

Several authors have described factors that make CBRN terrorist events unique and demanding. These factors relate to terrorism and the hazardous – chemical, biological, radiological or nuclear – materials involved (Ruggiero & Vos, 2013), including, for example, the element of surprise, unseen agents, lethal devices, risk of repetition, and new kinds of risks (Covello, Peters, Wojtecki, & Hyde, 2001; Slovic, 2002; Sheppard, 2011). These factors may create intense reactions among publics (Rubin, Amlôt, & Page, 2011) that have to do with risk perception factors such as involuntariness, uncontrollability, unfamiliarity, unfairness, lack of understanding, uncertainty, and ethical/moral violations (e.g. Covello et al., 2001; Gray & Ropeik, 2002). Combined with urgency and a need for quick action should such an event take place, the importance of effective crisis communication, including identification of challenges and possible pitfalls before crises occur, goes without saying.

The aim of this study is to investigate experts' perceptions on communication in CBRN terrorist crises, including challenges and constraints as well as some good practices. This is pursued with the help of a qualitative online questionnaire aimed at international crisis communication and crisis management experts. The purpose is to identify areas which need attention when planning, implementing and evaluating communication in the case of CBRN terrorism incidents. The findings and conclusions will serve the development of an audit instrument to facilitate and improve communication preparedness towards CBRN terrorism

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along the lines of previous research on crisis communication measurement and scorecard construction (Palttala & Vos, 2011; Palttala, Boano, Lund, & Vos, 2012; Palttala & Vos, 2012). In view of the assertion that crisis communication in terrorism situations is an under-researched topic (Schmid, 2011; Falkheimer, 2014), insights on problematic areas from a practical point of view may also generate topics for the development of future research and theory in the field. From a societal perspective, this study contributes to the call of the European Union in the CBRN Action Plan (Council of the European Union, 2009) to improve communication with the public via paving the way for the development of good practices and communication strategies.

Communication concerning incidents of CBRN terrorism
In this paper, crisis communication is studied as communication with public groups that supports crisis management. The process approach of Reynolds and Seeger (2005) further explains the interrelated and overlapping roles of risk and crisis communication as well as the developmental nature of crises as comprising different phases; in this approach, risk communication primarily enhances the understanding of (often health-related) risks, whereas crisis communication is seen as event-specific. Following a functional approach, the role of communication is to accomplish certain outcomes, for example, problem solving, decision-making, coordination of actions, and facilitating cooperation (Sellnow & Seeger, 2013). In the case of terrorism, in the pre-crisis phase, communication can be used to prepare publics by a broader educative approach (Ruggiero &Vos, 2013) and increase understanding of the risks of terrorism, thereby increasing their resilience (Sheppard, 2011). During a terrorist event, the role of public communication is to share up-to-date information about the event, including instructions on the precautionary measures people can take to prevent further harm and mitigate its effects (Wray, Kreuter, Jacobson, Clements, & Evans, 2004). In the recovery phase, communication can help restore trust which may have been shaken (Fischhoff, 2011) and facilitate the process of understanding, learning and healing (Griffin-Padgett & Allison, 2010).

Crisis communication is, therefore, not limited to the simple issuing of messages and instructions, but it encompasses a process of sense-making where meanings are created in the interaction of various actors in the network constituted by e.g. response organisations, citizens and the media, both in crisis situations and before crises occur (Palttala et al., 2012). In the interaction initiated by response organisations a stakeholder approach can be used, taking the perspective of the various stakeholders into account, for example, by monitoring needs of citizens. In the case of a terrorist event, although the number of directly affected people may not always be high, fear may also spread to non-exposed populations (Rogers, Amlôt, Rubin, Wessely, & Krieger, 2007. Moreover, terrorism may also affect the way people view the world or themselves (Rubin et al., 2007), touching core values in society (Ulmer & Sellnow, 2002; Griffin-Padgett & Allison, 2010), and indicating a heightened need for emotional support and affective communication (MacGeorge, Samter, Feng, Gillihan, & Graves, 2007).

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In fact, the challenges related to the indirect consequences of terrorist attacks – anxiety, health concerns and various psychological reactions – may pose a greater threat than the acts themselves (Hyams, Murphy, & Wessely, 2002). When combined with a lack of knowledge and understanding, people could, in the case of an event, engage in unsafe behaviour, including acts of omission, e.g. becoming passive and ignoring instructions, and acts of commission, i.e. going against the advice of authorities (Sheppard, Rubin, Wardman, & Wessely, 2006; Rubin, Amlot, Page, & Wessely, 2008; Sheppard, 2011). Hence, although ensuring the safety of those who are directly affected is of primary importance, taking into account and addressing the information needs, concerns and feelings of indirectly affected wider audiences is important too. As Fischhoff (2011) has pointed out, while the direct effects of terrorist attacks depend on operational factors, the indirect effects depend primarily on communication, thereby also determining whether terrorists succeed in achieving their primary objectives, i.e. getting public attention for their cause by spreading anxiety (Rubin et al., 2008).

By interacting with various psychological, social, institutional, and cultural processes, risk communicators help mitigate how events unfold (Wray et al., 2004), as explained also in the Social Amplification of Risk Model (Kasperson et al., 1988). Moreover, the environment is dynamic, consisting of numerous, sometimes competing issue arenas (Luoma-aho, Tirkkonen, & Vos, 2013), which in the case of terrorism comprise diffuse and complex processes (Falkheimer, 2014). Monitoring and analysing public response and perceptions before, during and after CBRN terrorist events is of central importance, including traditional media monitoring, opinion polling (Wray et al., 2004) and social media monitoring (Ruggiero & Vos, 2014). Through risk communication, actions can be taken to moderate risk perceptions, including the establishment of trust, increasing familiarity of terrorism risks and facilitating a sense of control by giving citizens a voice already in the preparedness phase (Covello et al., 2001). Addressing preparedness and facilitating informed-decision making is also part of an ethical approach to terrorism crisis communication (Wray et al., 2004).

This paper consists of four parts. The introduction is followed by an explanation of the method including data collection and analysis. The next section presents the findings of the questionnaire study, and chapter four concludes the paper with a discussion of the main results in the light of the existing theory and empirical literature.

2. Method

This study on communication in CBRN terrorism crises was conducted as part of a larger questionnaire study aimed at emergency management and communication specialists. The purpose of the part on CBRN terrorism was to investigate experts' perceptions on communication with the aim of answering the following research questions:

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RQ1: What communication challenges do CBRN terrorism crises according to expert views present?

RQ2: What are considered good practices when communicating with citizens in CBRN terrorism crises?

Data collection

The questionnaire comprised mainly open-ended questions accompanied by some multiple choice questions. With regard to the latter, the respondents were asked to give some general background information on their organisation, expertise and the state of preparedness in their organisation for communication in terrorism-related CBRN crises. The open questions related to descriptions of organisations' preparedness for communication in terrorism-related CBRN crises, what the respondents saw as especially challenging for communication in CBRN terrorism crises, what kind of communication would be most effective when interacting with citizens, and ethical issues regarding communication in CBRN terrorism crises. Following strict ethical guidelines, an informed consent form was used and participants were told they could withdraw from the study at any point or leave any of the questions unanswered. In order to enable participants to respond to the long questionnaire in stages, respondents were asked to log in to the questionnaire using their e-mail address as authentication information.

A pilot study was conducted in May 2012. The data were collected between June and September 2012. The sample consisted of emergency management and communication specialists working in Europe and was drawn from the database of the yearly International Disaster and Risk Conference in Davos of the Global Risk Forum (GRF). 493 experts received an email invitation to participate in the questionnaire, of whom 82 responded. The section on CBRN terrorism crises, the focus of the present paper, was answered by 28 respondents. Respondents could choose which questions to answer. It seems that only experts who felt confident that they could contribute to this topic chose to fill in this part. Although the number of respondents was not very high, their expert perceptions provide useful qualitative insights into the challenges facing communication in CBRN terrorism crises that can complement existing knowledge.

Data analysis

The analysis of the questionnaire data was conducted using ATLAS.ti, a qualitative data management programme. The analysis was implemented using data-driven thematic coding (Riessman & Quinney, 2005). Thematic analysis is commonly used with qualitative data (e.g. Schwandt, 2007). The aim is to reduce the data by segmenting, grouping and categorizing, and then to summarize and reconstruct them so as to capture important patterns and concepts (Ayres, 2008; Elo & Kyngäs, 2008).

In this manner, the data from the questionnaire sheets were read through and sections of text were coded based on whether they contributed to emerging themes (following e.g. Schwandt, 2007). The main themes included preparedness of organisations for communication in CBRN terrorist crises, challenges encountered in communication with

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citizens, what were considered possible solutions, and views on ethical issues. These themes were further divided into sub-themes. Finally, the themes and sub-themes were brought together in table overviews and described in a report, illustrated by quotes of the respondents. The main findings follow in the next section.

3. Results

In this section, we report the main findings of this study, including the state of preparedness of respondents' organisations for communication in terrorism-related CBRN crises, the main communication challenges, good practices for effective communication with citizens, and solutions provided to overcome ethical issues. First, the background information on the respondents is described.

3.1 Background information

Most of the 28 respondents were experts in crisis or emergency management (15), followed by crisis communication specialists (10) and experts in other related fields (9) such as risk analysis, disaster risk reduction (DRR), or risk management. The majority of the respondents (12) had more than 10 years of experience in their respective fields, while 11 respondents had between 6 and 10 years of work experience, and five had less than 6 years of experience.

The types of organisations represented mostly comprised governmental organisations (e.g. municipality or ministry) or authorities, expertise centres or research organisations, and enterprises, while some worked for NGOs, police or rescue services and health care (see table 1). Most of the respondents worked for organisations that operated nationally and/or internationally, while some were also active locally and/or regionally (see Table 1). Many had work experience in more than one country, by working for an international organisation or providing assistance elsewhere. Many respondents (20) worked primarily in Europe (France, Greece, Romania, Belgium, Germany, Wales, Finland, Spain, Italy, Austria, Netherlands, Switzerland), while some (5) worked primarily outside Europe (Turkey, Sri Lanka, Georgia, Myanmar, Haiti, Philippines, Myanmar, Indonesia, Cambodia, Zimbabwe, worldwide), or had (3) combined work experience in and outside Europe (Italy, Turkey, Germany, USA, Chile, New Zealand, Japan, global, worldwide).The majority of the respondents worked both in urban and rural areas (17), while some worked only in an urban area (8) and others only in rural areas (2).

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Type of organisation		Level of organisation	
Governmental organisation or authority	14	International organisation	14
Police or rescue services	1	National organisation	15
Health care	1	Regional or district organisation	4
Expertise centre, or research organisation	7	Local or municipal organisation	7
NGO	4		
Enterprise	7		
Other:	4	Other	-
Telecommunications, County fire brigade, Private Consultant, R&D Centre			
Total	38*	Total	30*

Table 1. Respondents' background information (N 28, *multiple answers permitted)

Five of the respondents further specified their experience and mentioned concrete work experience in terrorism-related CBRN crises, participation in, or organisation of specific training and exercises, communication planning for such scenarios, and work for NATO and nuclear power plants.

3.2 Preparedness for CBRN terrorism crises

Many (10) of the respondents considered their organisations moderately prepared for communication in the event of terrorism-related CBRN crises. Moderate preparedness was described with reference to both positive matters and issues that could be further improved. Positive comments all indicated that some plans and preparedness were in place, as in the following:

 "Crisis communication channels in general are good." (R26)

However, positive matters were often accompanied by points for further improvement centring on a lack of experience of real situations, and a lack of training or exercises:

 "There are plans. But there hasn't been an exercise (yet)." (R42)

Besides moderate preparedness, many other respondents (8) considered their organisations poorly or very poorly prepared. Poor or very poor preparation was associated with a lack of plans, training, expertise, equipment and public education. One respondent working in an NGO/expert centre in the field of public education for disaster prevention described it thus:

 "Almost no public education in what to expect. Do people really have radio and
 batteries for communications? Do they know when to evacuate and when to lock-down?
 Do they have supplies to shelter in place? Can schools shelter students for prolonged
 periods with parents trusting them to do so?" (R11)

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Moreover, very poor preparedness was attributed to low perceptions of terrorism risk in the country. Some respondents, on the contrary, reported their organisations as well (n=5) or very well (n=1) prepared for communication in the event of a CBRN terrorism crisis. Good preparedness was linked to planning and exercises:

> *"Exercises covering CBRN scenarios are conducted regularly on the national level."*
> *(R8)*

One respondent described close cooperation and training in the response network:

> *"The governmental partners train and engage very close together." (R35)*

Another respondent, who perceived his or her organisation as very well prepared, also reported experience of real events:

> *"Well documented, tested and faced real incidents as well as threats numerous times."*
> *(R2)*

3.3 The nature of the threat poses a challenge

According to the respondents, the specific nature of the threat in question sets certain challenges for communication in a CBRN terrorism crisis. For example, a threat may not always be easy to perceive. As one respondent put it:

> *"You can't see or smell the danger." (R42)*

Moreover, it was pointed out that "C, B, R, N issues are each very specific", comprising different threat types and involving different scenarios for crisis situations, which are also characterized by a lack of time. These risks were considered anxiety-inducing, for example because they may be invisible and thus create uncertainty. Quick changes in the situation may be caused by, for example, changing weather conditions, which can further complicate, for example, evacuation:

> *"[…] it might be challenging to react quickly to changing weather conditions that determine the spread of contamination. While potential evacuation area should be kept as small as possible, the weather uncertainty might require evacuation of very large areas." (R18)*

A further challenge related to the terrorism side of CBRN crises is the global nature and unpredictability of such crises, as described by one respondent:

> *"It is a global threat, and it cannot be predicted." (R25)*

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3.4 Lack of resources, competences and cooperation in the response network

The respondents cited lack of resources as a factor challenging communication in a CBRN terrorism crisis. According to one respondent, there is "a lack of everything". This respondent mentioned that personnel and equipment for the analysis of CBRN materials are inadequate, and that an area-wide database for measurement results is also lacking. Moreover, it is hard to involve citizens in information gathering, unlike in other types of crises, such as floods. Another respondent pointed out that in such scenarios "excellent crisis communicators are required". However, the lack of experts and competences in this field constitutes a big challenge, such that in the view of one respondent "sometimes preparedness is jeopardized". This problem also relates to a lack of experience and technical knowledge with regard to the terrorism aspect of such crises.

Arising out of the lack of resources and competences, the respondents stated that training in risk and crisis communication is needed. In the view of one respondent:
> *"[…] the most important issue [is] to improve our competence in this field, training people […]" (R29)*

According to this respondent, few communication experts and competences are available, and the authorities are not "focused on enhancing preparedness and knowledge in this field". The respondent further calls for "a common national programme" to train and prepare all those involved in such emergencies – from physicians and security services to citizens. Research activities in this field also need to be increased. Another respondent stressed that CBRN terrorism crises are not priorities at national and local levels, and hence, it was "a matter to put CBRN crises as a priority".

Moreover, another respondent reflected on the need for realistic expectations:
> *"Explain that you can usually not have safety and full privacy at the same time. You have to compromise and set priorities." (R13)*

Other challenges for communication, mentioned by the respondent, dealt with cooperation in the response network. In the words of one expert:
> *"Local partners like the fire brigade, [national government disaster relief organisation], red cross and ... need clear command structures." (R4)*

Moreover, another expert noted that, when the cooperation for crisis communication is not smooth, it may happen that too many organisations and "so-called experts" will communicate and create confusion. Having too many players communicate without coordination may also evoke more fear in the population. Furthermore, one respondent mentioned that schools also need to be involved when planning crisis communication, "so that they can act in loco parentis" in the event of a CBRN terrorism crisis, with parents trusting them to do so.

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3.5 Public perception and response in CBRN terrorism crises

The public response to CBRN terrorism crises may set challenges for communication related to the psychological and behavioural reactions of people. According to the respondents, people's psychological reactions have to do with, for example, anxiety due to a lack of understanding and control regarding the handling of such a crisis. The respondents also mentioned problematic behavioural reactions of publics in CBRN terrorism crises caused by not following instructions or possible ignorance as such crises hardly occur.

A further challenge, specific to terrorist situations, would be a fear of future attacks among publics and high levels of anxiety caused by exaggeration of the danger inherent in such situations. Several respondents mentioned challenges regarding the need to calm people:

> *"[…] often the situation might be exaggerated and lead to panic - most CBRN attacks will only affect people in the direct vicinity (e.g. some km around the place of attack) […] Therefore it is important to calm the population and to prevent a panic." (R8)*

One respondent mentioned "panic from misinformation" as a potential challenge, indicating that anxiety may be caused by e.g. problems hampering information dissemination by response organisations. Moreover, according to the respondents, a limited understanding of the risks:

> *"People are highly emotional, mainly because they do not understand the risks, and have no clue what e.g. a 0.1% probability of an event means. Furthermore, acceptable limits are usually set at an extremely cautious level, and most people are not used to think in categories of risk to understand such limits." (R13)*

3.6 Preparedness communication and providing information during a crisis

Due to the rareness of such crises, people are more concerned about more recurrent crisis scenarios. According to one expert:

> *"Usually people do not consider these risks within their living conditions. For them, their livelihoods systems are more disrupted by recurrent crises due to natural hazards, climate change or conflicts, provoking food insecurity […]" (R27)*

According to some respondents, concerning CBRN terrorism crises, preparedness communication and education are lacking. Publics tend to delegate preparedness for unlikely threats to response organisations. Some respondents consider preparedness needed. It is a long-term challenge, according to one respondent, of how "to avoid that the population enters the 'it won't happen to me' mode, thus reducing their attention and preparedness". In the words of another respondent:

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"IF we continue to NOT TRAIN the public in what to expect, there will simply be too much to do, too much disinformation and noise, and it's too late to teach people after the crisis begins." (R11)

One respondent suggested that discussion of the results of studies and lessons learnt from accidents and exercises could be used to help prepare publics and thus decrease anxiety in the event of a crisis. Another respondent stressed that terrorism preparedness should not be singled out, but embedded in preparedness for various threats. Terrorism adds a dimension of deliberation to e.g. industrial CBRN accidents, but that needs no emphasis as it calls for the same kind of preparedness for the consequences:

"Don't communicate about terrorism/violence separately from all man-made hazards to settlements and environments. [It is] easier to communicate about industrial accidents, and fold deliberate acts into this (e.g. Bhopal explosion or Deepwater Oil Spill in the Gulf of Mexico or Exxon Valdez)." (R11)

Another approach, according to the respondents, is to focus on prior education. One respondent mentioned prior education with parents as a key challenge.
Most of the respondents' insights on the challenges for communication were related to communication and providing information. Deciding how much information could be provided to publics, and providing accurate information to the people closest to the critical area were, thus, considered of paramount importance. Although publics may expect the government to act fast in terrorism-related CBRN crises, providing information fast enough was seen as challenging. One respondent mentioned public distrust of news media and official sources as a problem. Not following instructions may be the result, also caused by lack of understanding of such threats. Due to the high specificity of C, B, R, N issues, distinct approaches need to be developed.

An overview of the respondents' insights on challenges of communication is provided in Table 2.

Challenges for communication in CBRN terrorism crises
NATURE OF THREAT - cannot always be sensed - uncertainty and an evolving situation - differing threat types that involve emotions - lack of time in crisis situations - unpredictable, global threat
RESOURCES AND COMPETENCES - lack of experts and competences - lack of training - lack of experience (does not happen)
COOPERATION - clear responsibilities in the network structure needed, assuring liaison - many players; clarification of roles and responsibilities (including e.g. schools)

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PUBLIC PERCEPTION AND RESPONSE   **-** psychological reactions: fear, panic stemming from misinformation   - differing behavioural reactions: ignorance, not following instructions   - lack of understanding of risks, lack of control   - not considered likely to happen
PREPAREDNESS COMMUNICATION   - preparedness for low-probability risks integrated   - education on lessons learnt
COMMUNICATION AND PROVIDING INFORMATION DURING A CRISIS   - deciding how much information can be provided   - providing accurate information to those closest to the area to ensure their safety   - assuring rapid information and maintenance of trust   - distinct approaches to CBRN needed

Table 2 Overview of respondent views on communication challenges in CBRN terrorism crises

3.4 Good practices in communicating with citizens

The respondents presented their views on what kinds of communication would be most effective in the event of terrorism-related CBRN crises when interacting with citizens.

The responses included references to certain principles of communication that, in their eyes, CBRN terrorism crises call for. Transparency and openness about uncertainties were described in the following ways: "dare to communicate about uncertainties"; "communicate in a transparent way"; "authorities have to accept uncertainties and risks". Moreover, timely rather than comprehensive actions were emphasized: "a fast sticker-like spreading of information from officials" and "fast update cycles". The principle of consistency was described by one respondent as "no contradictions", and reflected in the words of another respondent according to whom "national authorities need to bring their agency experts together fast so they can talk with one voice". Accuracy was also called for.

The tasks that the respondents assigned to communication with citizens included, for example, prevent, care and help combat. Moreover, "trust should be won ahead of time, by straight talking". Populations should be prepared for such crises, and creating fear and anxiety should be avoided. In the view of one respondent, effective communication with citizens requires "analysing social media and responding a.s.a.p.".

Communication means mentioned by the respondents to communicate with citizens included social media, such as Facebook or Twitter, but also traditional media channels, such as radio and TV. One respondent referred to "using all the media". Mobile phones and text messages were also emphasized. Related matters mentioned included e.g. websites, dedicated spokespeople, social influencers, and early alert systems.

The types of communication that the respondents perceived as most effective when communicating with citizens include, for example, personal communication, although "this is rarely feasible" as one respondent added. Similar views were expressed by other respondents,

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who nominated interpersonal communication and group-related communication as the most effective types of communication with citizens. In the direct vicinity of an incident, information needs to be provided "directly to affected people". Moreover, open discussion and face-to-face communication were mentioned.

According to the respondents, information targeted at citizens should be illustrated with concrete examples, for example, comparing the level of radioactivity or concentration of chemical agents in the atmosphere to normal levels. In the view of one respondent:

> *"Most people are not able to think in theoretical terms, they only understand practical examples." (R13)*

Moreover, both best case and worst case scenarios should be described jointly. In the event of a crisis, citizens need to know what happened, where and what to do. One respondent referred to the need to provide additional information with "links to secondary literature" so that citizens could find relevant background information.

In the view of one respondent, involving neutral actors, such as the UN or NGOs, is needed. Moreover, when VIPs visit an affected area without protective clothing, this is likely to suggest to the lay observer that the threat level is lower than expected. Similarly, the behaviour and outward appearance of the first responders may also be interpreted by publics. One respondent calls for "a single trusted authority" to provide accurate information. The current players may not be adequately prepared for a CBRN terrorism situation, including the appropriate communication. In the view of one respondent:

> *"[…] our local fire departments have done the best at this, but they are not necessarily equipped or authorized for a terrorism-related CBRN role." (R11)*

The role of citizens was stressed by one respondent, who stated that "citizens must be able to track activities as close as possible (measurements taken, risks, etc.)" to be able to create "their own operational picture". The latter may also be seen as an ethical point of view. Ethics, however, were addressed in a separate question.

An overview of the respondents' insights on good practices in communicating with citizens is presented in Table 3.

Communicating with citizens in terrorism-related CBRN crises	
TASKS - prevention - preparedness - build trust - avoid fear and anxiety- analyse social media	**PRINCIPLES** - transparency & openness about uncertainties - fast information - consistency - accuracy
MEANS - social media and Internet - radio and TV - mobile phone - spokespeople (to victims) - social influencers - early alert system	**TYPE OF COMMUNICATION** - personal communication - group communication - interpersonal communication - direct communication to those affected - face-to-face communication - open discussion
CONTENT - explain with concrete examples - provide additional information	**COMMUNICATORS** - neutral actors - VIPs - a single trusted authority
ROLE OF CITIZENS - allow citizens to track activities and create their own operational picture	

Table 3. Overview of good practices in communicating with citizens mentioned by the respondents

3.5 Ethical issues

The respondents were introduced to the topic of ethical constraints by explaining that communication about terrorism may, on the one hand, help citizens to be prepared for such situations, while on the other it may create fear and polarisation in society, thereby posing an ethical problem. They were then asked how communication specialists can take such ethical dimensions into account when communicating about terrorism.

According to one respondent, "ethical dilemmas are one of the crucial points of communication in this field". Moreover, ethical dilemmas should be explained whenever the topic is discussed in public. In the view of another respondent, ethical issues need special consideration "where terrorism isn't very present".

In the respondents' points of view, ethical issues should be communicated avoiding generalizations, stereotypes and stigma based on e.g. religious, political, ethnic or national connotations. In the words of one respondent:

> *"We believe that the most important aspect is to isolate the terrorists from any religion, ethnic or political group they claim to represent. E.g. Islamic terrorists never represent in any way the Islamic people. This must be clearly repeated and communicated over and over by the crisis communication officers." (R3)*

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Moreover, communication should take place keeping in mind human rights and with respect towards people's civil and religious feelings. One respondent pointed out that terrorism should be cast as a singular act and terrorists as insane people, no matter what the ideology claimed to be underlying their behaviour.

According to the respondents, people need an explanation of what can happen, including the potential threats and risks in the particular instance of terrorism. In the view of one respondent:

> *"[…] there should always be awareness on the general threat to keep people's eyes and mind open to potential risks."(R18)*

Moreover, information about terrorism should be communicated "referring as much as possible to the facts", combined with practical advice:

> *"We have to explain what can happen in case of such events. And we have to give practical advices, what everybody can do in such a situation." (R4)*

In the view of some respondents, terrorism itself should not be emphasized but explained in conjunction with man-made hazards and accidents:

> *"The effects of terrorist attacks can also be created by accidents; therefore, the population can be trained for industrial accidents, but will have the necessary background to behave correctly in terrorist cases." (R8)*

Some respondents add that the public should be informed if there are concrete threats:

> *"In my opinion it is the right of the public to be informed about terrorism threats. This holds particularly true in case of concrete threats (concrete attack plan for specific city or even location)." (R18)*

However, in other cases, when the threat is not concrete and may not materialize, people could also be protected from information:

> *"However, in case [of] only vague threats (such as general findings that attacks are planned in a country, without evidence where exactly) it might be better to protect the civilians from such information as it would reduce their well-being." (R18)*

The insights of the respondents on ethical issues were related to the following sub-themes: general importance of ethical issues, content regarding how ethical issues should be taken into account in communication concerning terrorism and what should be the content of communication.

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4. Discussion

While it is sometimes questioned whether the challenges facing communication in CBRN terrorism crises are not more or less similar to those in other severe crises, the combination of terrorism with largely unfamiliar hazardous substances clearly presents a high level of complexity. As the present respondents stated, this *complexity* emerges from the nature of the threat, including diverse scenarios and risks that evoke emotions, cause uncertainty and rapid changes, and are unpredictable with possibly global consequences, complicating communication with publics. With respect to the reasons explaining why CBRN terrorism risks are special and demanding, the present findings support those of previous research (e.g. Covello et al., 2001; Sheppard, 2011). Insights from subject matter specialists and risk analysts may be needed to support communication planning and preparedness (Fischhoff, 2011) in this risk context. Moreover, the challenges facing communication about CBRN terrorism include the sheer diversity of actors, and hence making sense of CBRN terrorist events necessitates cooperation, utilizing a stakeholder approach.

The challenging aspects of communication that are related to public groups arise from risk perceptions and public response. The respondents phrased this as "people can be highly emotional" when they do not understand risks. The fact that the most challenging aspect about communicating with citizens reported by the present respondents is "to calm the population and prevent panic", shows that the *panic myth* (Sheppard et al., 2006) still lives on in the minds of crisis managers and communication specialists. This observation should be addressed in crisis communication training, as previous studies show that although there may be gaps between actual and advised behaviours (Gray & Ropeik, 2002; Rogers et al., 2007; Rubin et al., 2008), panic is nevertheless rare among citizens. On the contrary, as the London polonium incident showed, underestimating people's ability to handle a situation and providing non-specific assurances can undermine successful communication (Rubin et al., 2011). The distinction between panic and, say, anxiety is more than an academic issue, as it relates to what decisions and consequences result from applying it. The assumption of panic is often used as a reason to reduce information to citizens, which hinders public empowerment and underestimates the fact that lack of information in itself creates anxiety.

A *preparedness paradox* exists. On the one hand, to prepare publics to be able to act in a real situation in a timely manner and to harness public initiative to compensate for the scarcity of resources by, e.g. using self-diagnosis kits to lessen the burden on hospitals, will require a high level of public empowerment (e.g. Becker, 2011). On the other hand, lack of trust in and underestimation of the abilities of publics to act in and handle stressful situations by authorities can hamper public involvement. In addition, complicated expert knowledge and the low probability of such crises may hinder motivation for preparedness activities among publics, resulting in e.g. a lack of understanding of the risks involved. A respondent suggested that publics tend to delegate preparedness for unlikely threats to response organisations. This may not be a problem, if there would at least be basic knowledge of hazardous substances and infectious diseases.

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One way to tackle the challenges of communicating about high impact, low risk issues, including CBRN terrorism, is to embed preparedness activities in an *all-hazards approach*. As pointed out by the respondents of this study, terrorist threats can be explained in conjunction with other man-made hazards and accidents. This integral approach is also in line with good ethical practices for communication about CBRN terrorism; terrorism threat is not emphasized and negative side-effects of polarization are avoided. When people have a basic understanding of hazardous materials such as radiation or viruses, they are better prepared for possible accidents and other risks with similar negative consequences. By addressing preparedness and explaining background information, awareness with respect to potential risks is created, thus facilitating informed and voluntary decision making among citizens (Wray et al., 2004). Other ethical guidelines suggested by the respondents were the provision of facts and practical advice, caution to minimise false alarms in the case of threats, and avoiding generalizations and language that could be interpreted as stigmatizing others. This supports the views in the literature according to which negative reactions towards differing "others" or minorities need to be prevented by e.g. cautious framing of related messages (Stevens et al., 2009; Veil & Mitchell, 2010).

5. Conclusions

The aim of this qualitative study was to investigate experts' perceptions on communication in CBRN terrorism crises, including challenges and good practices. This was pursued with the help of an online questionnaire, containing mostly open questions, aimed at international crisis communication and crisis management experts. The good practices mentioned by the respondents related to transparency and openness about uncertainties, using multiple communication media and personal communication involving trusted sources. Next to this, many challenges were discussed. Below, the *challenges* and *critical areas* for communication are explained together with some implications for both research and practice.

The challenges of communication concerning CBRN terrorism, according to the results of this study, arise from the complexity of such incidents, which has to do with the *nature of the threat,* including diverse scenarios and risks, which cannot always be detected by the human senses, lack of time in crisis situations, high levels of uncertainty, rapid changes, and unpredictable, global consequences. This complexity in the case of CBRN terrorism threats is manifested in problematic *public perceptions* and *response*, including inadequate understanding of the risks and substances that may be involved, delegation of preparedness activities by public groups, and action or non-action that may go against health instructions.

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Areas which are critical and need attention when planning, implementing and evaluating communication concerning CBRN terrorism, based on the findings of this study, include *resources*, *competences* and *cooperation*, which can be improved through training and other network-wide preparedness activities. Moreover, *preparedness communication* is needed, embedded in an all-hazards approach that addresses various kinds of risks (Reynolds & Seeger, 2012) and takes ethical views into account (Wray et al., 2004).

Communication and providing information during a crisis, when the situation is at its peak, include instructing those in direct danger, calming people and dealing with possibly high levels of anxiety. As the findings of this study point out, although ensuring the safety of the directly affected is of paramount importance, responding to the needs of the wider audiences in CBRN terrorism cases is also critical. Different teams can respond to the inquiries of the worried well and the directly affected. Moreover, training should be provided to ensure that personnel are adequately prepared to deal with psychological turmoil and anxiety, including a contact person for very distressed people (Rubin et al., 2011).

In responding to the needs of the indirectly affected, social media monitoring may become critical. In a situation where people would be advised to shelter in place for long periods of time, given that electricity would be available, social media fora may become meeting places and arenas for interaction, asking for help and information. In communication preparedness, attention needs to be paid to ensure that means for social media monitoring and online communication including enough competent personnel as well as tools and solutions are in place (Ruggiero & Vos, 2014). As CBRN terrorism comprises various types of risks and scenarios, including C, B, R, and N materials with different kinds of consequences, preparations also need to be made for different communication approaches.

A topic for future research could be to delve more profoundly into how all these challenges affect the choice of particular communication actions and strategies. Moreover, as this study did not account for possible differences between C, B, R and N risks, a future study could focus on what implications and specific challenges these distinct scenarios would bring into the communicational picture by interviewing experts with specific expertise and knowledge on each of the risk categories. The fact that the question regarding ethical constraints was the least answered indicates that the familiarity with ethical issues of crisis management and communication specialists may be low. In the light of the multiple ethical issues that terrorist risks trigger, this may also be a gap that warrants further investigation.

These insights on communication challenges and good practices complement results from previous studies and will be used in the development of an audit instrument for communication concerning CBRN terrorism. Although the number of respondents to this study was not high, their profile shows experience in crisis management and crisis communication over a number of years, with a reasonable spread over e.g. countries and types of organisations involved. However, while the responses generated important qualitative insights and provide a fruitful starting point for future studies, the lower response rate for the part on CBRN terrorism crises is a cause for concern. Namely, it may indicate that the community of experts who are knowledgeable in this area is rather a small one,

which also accords with the remarks of some respondents. In light of the severity and complexity of CBRN terrorism crises the question or preparedness is paramount. As one respondent concluded, on the topic of public preparedness, the same goes for organisations as well: "[…] there will simply be too much to do, too much disinformation and noise, and it's too late to teach people after the crisis begins."

Acknowledgements

References

Ayres, L. (2008), 'Thematic coding and analysis', in Given, L. M. (Ed.), *The SAGE encyclopedia of qualitative research methods*, SAGE Publications, Thousand Oaks, pp. 868–869, http://srmo.sagepub.com/view/sage-encyc-qualitative-research-methods/n451.xml (accessed 10 April 2014).

Becker, S.M. (2011), 'Risk communication and radiological/nuclear terrorism: A strategic view', *Health Physics*, Volume 101, Number 5, pp. 551–558.

Council of the European Union (2009), 'Council conclusions on strengthening chemical, biological, radiological and nuclear (CBRN) security in the European Union – an EU CBRN Action Plan – Adoption', 15505/1/09, 12 November, Brussels, http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%2015505%202009%20REV 1 (accessed 10 April 2014).

Covello, V., Peters, R., Wojtecki, J. and Hyde, R. (2001), 'Risk communication, the West Nile virus epidemic, and bioterrorism: Responding to the communication challenges posed by the intentional or unintentional release of a pathogen in an urban setting', *Journal of Urban Health*, Volume 78, Number 2, pp. 382–391.

Elo, S. and Kyngäs, H. (2008), 'The qualitative content analysis process', *Journal of Advanced Nursing*, Volume 62, Number 1, pp. 107–115.

Falkheimer, J. (2014), 'Crisis communication and terrorism: The Norway attacks on 22 July 2011', *Corporate Communications: An International Journal*, Volume 19, Number 1, pp. 52–63.

Fischhoff, B. (2011), 'Communicating about the risks of terrorism (or anything else)', *American Psychologist*, Volume 66, Number 6, pp. 520–531.

Gray, G.M. and Ropeik, D.P. (2002), 'Dealing with the dangers of fear: The role of risk communication', *Health Affairs*, Volume 21, Number 6, pp. 106–116.

Griffin-Padgett, D. and Allison, D. (2010), 'Making a case for restorative rhetoric: Mayor Rudolph Giuliani & Mayor Ray Nagin's response to disaster', *Communication Monographs*, Volume 77, Number 3, pp. 376–392.

Hyams, K.C., Murphy, F.M. and Wessely, S. (2002), 'Responding to chemical, biological, or nuclear terrorism: The indirect and long-term health effects may present the greatest challenge', *Journal of Health Politics, Policy & Law*, Volume 27, Number 2, pp. 273–291.

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Kasperson, R.E., Renn, O., Slovic, P., Brown, H.S., Emel, J., Goble, R., Kasperson, J.X and Ratick, S. (1988), 'The social amplification of risk: A conceptual framework', *Risk Analysis*, Volume 8, Number 2, pp. 177–187.

Luoma-aho, V., Tirkkonen, P. and Vos, M. (2013), 'Monitoring the issue arenas of the swine-flu discussion', *Journal of Communication Management*, Volume 17, Number 3, pp. 239–251.

MacGeorge, E.L., Samter, W., Feng, B., Gillihan, S.J. and Graves, A.R. (2007), 'After 9/11: Goal disruption, emotional support, and psychological health in a lower exposure sample', *Health Communication*, Volume 21, Number 1, pp. 11–22.

Palttala, P. and Vos, M. (2011), 'Testing a methodology to improve organizational learning about crisis communication by public organizations', *Journal of Communication Management*, Volume 15, Number 4, pp. 314–331.

Palttala, P., Boano, C., Lund, R. and Vos, M. (2012), 'Communication gaps in disaster management: Perceptions by experts from governmental and non-governmental organizations', *Journal of Contingencies and Crisis Management*, Volume 20, Number 1, pp. 2–12.

Palttala, P. and Vos, M. (2012), 'Quality indicators for crisis communication to support emergency management by public authorities', *Journal of Contingencies and Crisis Management*, Volume 20, Number 1, pp. 39–51.

Reynolds, B. and Seeger, M.W. (2005), 'Crisis and emergency risk communication as an integrative model', *Journal of Health Communication*, Volume 10, Number 1, pp. 43–55.

Reynolds, B. and Seeger, M.W. (2012), *Crisis and emergency risk communication* (2012 edition), Centers for Disease Control and Prevention, http://emergency.cdc.gov/cerc/pdf/CERC_2012edition.pdf (accessed 17 March 2014).

Riessman, C.K. and Quinney, L. (2005), 'Narrative in social work: A critical review', *Qualitative Social Work*, Volume 4, Number 4, pp. 391–412.

Rogers, M.B., Amlôt, R., Rubin, G.J., Wessely, S. and Krieger, K. (2007), 'Mediating the social and psychological impacts of terrorist attacks: The role of risk perception and risk communication'. *International Review of Psychiatry*, Volume 19, Number 3, pp. 279–288.

Rubin, G.J., Brewin, C.R., Greenberg, N., Hughes, J.H., Simpson, J. and Wessely, S. (2007), 'Enduring consequences of terrorism: 7-month follow-up survey of reactions to the bombings in London on 7 July 2005', *British Journal of Psychiatry*, Volume 190, Number 4, pp. 350–356.

Rubin, G.J., Amlot, R., Page, L. and Wessely, S. (2008), 'Methodological challenges in assessing general population reactions in the immediate aftermath of a terrorist attack', *International Journal of Methods in Psychiatric Research*, Volume 17, Number S2, pp. S29–S35.

Rubin, G.J., Amlôt, R. and Page, L. (2011), 'The London polonium incident: Lessons in risk communications', *Health Physics*, Volume 101, Number 5, pp. 545–550.

Ruggiero, A. and Vos, M. (2013), 'Terrorism communication: Characteristics and emerging perspectives in the scientific literature 2002–2011', *Journal of Contingencies and Crisis Management*, Volume 21, Number 3, pp. 153–166.

Ruggiero, A. and Vos, M. (2014), 'Social media monitoring for crisis communication: Process, methods and trends in the scientific literature', *Online Journal of Communication and Media Technologies*, Volume 4, Number 1, pp. 105–130.

Schmid, A.P. (2011), '50 un- and under-researched topics in the field of (counter-) terrorism studies', *Perspectives on Terrorism*, Volume 5, Number 1, pp. 76–78.

Schwandt, T.A. (2007), 'Thematic Analysis', in Schwandt, T. A. (Ed.), *The SAGE dictionary of qualitative inquiry* (3rd edition), SAGE Publications, Thousand Oaks, p. 292, http://srmo.sagepub.com/view/the-sage-dictionary-of-qualitative-inquiry/SAGE.xml (accessed 7 March 2014).

Sellnow, T.L. and Seeger, M.W. (2013), *Theorizing crisis communication*, Wiley-Blackwell, Chichester.

Sheppard, B. (2011), 'Mitigating terror and avoidance behavior through the risk perception matrix to augment resilience', *Journal of Homeland Security and Emergency Management*, Volume 8, Number 1, pp. 1–21.

Sheppard, B., Rubin, G.J., Wardman, J.K. and Wessely, S. (2006), 'Viewpoint: Terrorism and dispelling the myth of a panic prone public', *Journal of Public Health Policy*, Volume 27, Number 3, pp. 219–245.

Slovic, P. (2002), 'Terrorism as hazard: A new species of trouble, *Risk Analysis*, Volume 22, Number 3, pp. 425–426.

Stevens, G., Agho, K., Taylor, M., Barr, M., Raphael, B. and Jorm, L. (2009), 'Terrorism in Australia: Factors associated with perceived threat and incident-critical behaviours', *BMC Public Health*, Volume 9, Number 91, pp. 1–9.

Ulmer, R.R. and Sellnow, T.L. (2002), 'Crisis management and the discourse of renewal: Understanding the potential for positive outcomes of crisis', *Public Relations Review*, Volume 28, Number 4, pp. 361–365.

Veil, S. and Mitchell, K. (2010), 'Terror management theory: Promoting tolerance in campus safety campaigns', *International Journal of Strategic Communication*, Volume 4, pp. 207–224.

Wray, R.J., Kreuter, M.W., Jacobson, H., Clements, B. and Evans, R.G. (2004), 'Theoretical perspectives on public communication preparedness for terrorist attacks', *Family & Community Health*, Volume 27, Number 3, pp. 232–241.