Volume 91 Number 874 June 2009

INTERNATIONAL REVIEW of the Red Cross

International assistance for victims of use of nuclear, radiological, biological and chemical weapons: time for a reality check?

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Abstract

The risks of the use of nuclear, radiological, biological or chemical (NRBC) weapons are heterogeneous. Each risk has its own implications for developing and deploying any capacity to assist victims of an NRBC event and, in parallel, for the health and security of the people bringing this assistance. At an international level, there are no plans for assisting the victims of an NRBC event which are both adequate and safe. Recognizing the realities of the contexts associated with each risk throws up numerous challenges; such recognition is also a prerequisite for addressing these challenges. The realities that have to be considered relate to:

1. *developing, acquiring, training for and planning an NRBC response capacity;*
2. *deploying a response capacity in an NRBC event;*

* The views expressed in this article are those of the authors and do not necessarily reflect those of the ICRC.

doi:10.1017/S1816383109990105

3. *the mandates and policies of international organizations pertaining to NRBC events.*

The challenges that will pose the greatest difficulty for a humanitarian organization are those for which the solutions are 'non-buyable' and which involve making extremely difficult decisions. Attempting to assist victims of an NRBC event without a reality-based approach might generate ineffective and unacceptably dangerous situations for those involved.

In a previous paper we asked who would bring assistance to victims of use of nuclear, radiological, biological and chemical (NRBC) weapons and how this assistance might be brought.[1] We concluded that whilst responses to assist victims of an NRBC event may be possible at a national level in some countries, it was not clear who would be responsible for mounting a response to assist victims of an NRBC event if an international response is required.[2]

Our paper included a risk assessment that pertained only to the risk of use of nuclear, radiological, biological and chemical weapons; it did not incorporate risks of other NRBC events. Risk was defined as a function of two variables, namely the probability of different kinds of NRBC weapons being used and the potential impact[3] resulting from their use. The eleven risks identified can be summarized as follows:

1. Nuclear weapons (NW): Low probability – High potential impact
2. Improvized nuclear devices (IND): Low probability – High potential impact
3. 'Radiological devices' (RD): Medium probability – Low potential impact
4. Highly infective and contagious anti-human biological agents with global implications (BW1): Low probability – High potential impact
5. Bacterial agents which are infective but whose effects can be treated and of which human-to-human transmission is controllable (BW2): Low probability – Medium potential impact
6. Non-contagious agents (BW3): Medium probability – Low potential impact
7. Infective and contagious agents against animals or plants (BW4): Medium probability – Low potential impact
8. Chemical warfare (CW1): Low probability – High potential impact

1 D. Loye, R. Coupland, 'Who will assist the victims of use of nuclear, radiological, biological or chemical weapons – and how?', *International Review of the Red Cross*, Vol. 89, No. 866, June 2007, pp. 329–344.

2 'An NRBC event' means any use of a nuclear, radiological, biological or chemical weapon. It means also a situation in which there is a high probability of use of such weapons. It includes accidental release of NRBC agents in the event of an attack on a NRBC facility with conventional weapons as well as allegations of use. 'Assistance to victims of an NRBC event' means specialized (e.g. antidotes, agent specific antibiotics) *and* general (e.g. food, water) assistance to people who have been affected by NRBC weapons or agents; it also includes provision of general and specific means for the protection of people from potential exposure to the effects of NRBC weapons or agents.

3 The potential impact is estimated in numbers of direct death and injuries.

https://doi.org/10.1017/S1816383109990105 Published online by Cambridge University Press

9. Limited or small-scale use of chemical weapons (CW2): High probability – Low potential impact
10. 'New' chemical weapons (NCW): Medium probability – Low potential impact
11. Riot control agents (RCA): High probability – Low potential impact

This risk assessment has been discussed with various experts and presented in different fora. We have not encountered any disagreement.

The risk assessment generates some important points:

1. The 'NRBC risk' is heterogeneous and each risk carries its own implications for assisting victims and for the health and security of personnel;
2. The lower probability risks are those with potentially the highest impact;
3. The risks which are of medium and high probability will have less impact (in terms of numbers of people directly affected);
4. Although not pertaining to risk of all NRBC events, this risk assessment provides a useful reference point for policy-making for a humanitarian organization planning to respond to any kind of NRBC event.

Whilst the risk assessment pertains to the use of NRBC weapons, we believe that in an armed conflict the probability of an event involving suspected or alleged use of a NRBC weapon is higher than an event involving confirmed use of such a weapon.[4]

Furthermore, dialogue based on this risk assessment provided our first indicator that international players lacked a reality-based approach to the subject of assistance for victims of an NRBC event. Another indicator of the lack of a reality-based approach is the ambiguity which exists with regard to who would assist the victims of an NRBC event requiring an international response. Our recognizing this ambiguity has caused some controversy. The controversy was minimized when it was clarified that what is meant by 'assistance' in pertinent treaties means assistance to a State and not necessarily assistance to the victims.[5] In addition, the State in question has to request such assistance (and there are numerous reasons why a State might not want it widely known that an NRBC event has happened). This is rendered yet more complex because the personnel health and security policies of international organizations – including the International Committee of the Red Cross (ICRC) – may not be compatible with bringing assistance to victims or to an area that is potentially contaminated.

4 We reach this conclusion because claims of use of chemical and biological weapons are made in many conventional conflicts. Few such claims are ever verified.

5 See the Joint Radiation Emergency Management Plan, International Atomic Energy Agency, 2006; Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention) entered into force on 29 April 1997, Article X, Assistance and Protection against Chemical Weapons; Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (Biological Weapons Convention), entered into force on 26 March 1975, Article VII.

https://doi.org/10.1017/S1816383109990105 Published online by Cambridge University Press

In our previous paper, we touched upon the question of how such an international response might be undertaken. We indicated some of the foreseeable difficulties. Further research into these difficulties has generated yet another reason for a reality-based approach and has driven the ICRC to begin addressing the tough questions about how an international response capacity to assist victims of an NRBC event might be developed or deployed whilst ensuring the security and health of personnel. The outcome of this process is the identification of a number of exacting challenges that would face any humanitarian organization planning to mount such an international response.

The challenges: those with 'buyable' and those with 'non-buyable' solutions

In our research into how an international response to assist victims of an NRBC event might be mounted, we found that the challenges that would face an organization such as the ICRC go much further than deciding what materials and equipment should be purchased and which people are needed with what skills. In other words, it is feasible to put an approximate price tag on developing such a response capacity for each of the eleven identified risks, but there are other and greater challenges facing decision-makers. We have therefore categorized the challenges into those for which the solutions are 'buyable' and those for which the solutions are 'non-buyable.' The challenges for which the solutions are 'non-buyable' comprise the process and content of internal decision-making, and external factors such as security, politics and co-ordination with other international organizations.

The recognition of, refining and classification of the challenges for which the solutions are 'non-buyable' will force any player in this domain to face many of the realities. Because a reality-based approach is lacking, we are sure it would not be possible for a humanitarian organization to mount an effective response to assist the victims of an NRBC event without squarely confronting these challenges. This confrontation will take the form of very difficult questions and dilemmas, many of which are foreseeable, but not necessarily resolvable in anticipation. These and other challenges will have to be faced at the time of deciding whether to acquire a response capacity; yet more will have to be faced at the time of deployment of that capacity in a given context.

We propose that the challenges for which the solutions are 'non-buyable' pertain to three domains: first, the many and complex practical aspects of developing, acquiring, training for and planning an appropriate response capacity to assist the victims of an NRBC event; second, the issues specific to deploying this capacity in an event; and third, the different mandates and policies of pertinent international organizations and how such organizations interact.

The overarching issue to which most of these challenges pertain is the set of specific risks to the health and security of personnel bringing the assistance. This

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is the unique feature which differentiates NRBC events from other events in which conventional weapons have been used.

Developing, acquiring, training for and planning a NRBC response capacity

Is a military approach appropriate?

Most current thinking on assisting people who might be affected by NRBC weapons originates from military operational procedures and technical knowledge applied either to a battlefield scenario or to a NRBC event within a national boundary. Therefore, military personnel are expected to function *militarily* in a contaminated environment or to assist the authorities in a national response to a domestic NRBC event. Moving a military NRBC capacity to another country would almost certainly be undertaken to support the military forces concerned (or those of allies); it would not involve humanitarian assistance for the victims of an NRBC event.

By contrast, faced with a contaminated environment (if it was known that the environment was indeed contaminated), a humanitarian organization would probably use any NRBC-specific materials and expertise primarily to remain safe or to exit safely so as to reduce the chance of contamination of its personnel. Assistance to victims would then be brought when safe to do so; that is, later or at the outer limit of the contaminated area (assuming that such limits can be established).

There are excellent texts about the impact of NRBC weapons and what might be needed to assist victims, though the texts do not indicate how this assistance might be delivered in an international context.[6] A response at an international level with the objective of assisting victims of a major NRBC event is largely untried. No single person or organization has significant experience. Equipment and systems have not been tested. It is far from clear whether the military operational procedures, exercises and expertise upon which current thinking is based are appropriate because they may not reflect realities including the objectives of and many constraints on humanitarian assistance. Therefore, planning an international response with military resources and operational procedures may not constitute an effective humanitarian response. This raises a much more provocative question: if such a response is unlikely to be effective as humanitarian action, can one justify the risk to the health and security of those bringing assistance? We conclude that it may be near to impossible for a humanitarian organization to develop, acquire, train for and plan an effective response to

6 See World Health Organisation (WHO), *Effects of Nuclear War on Health and Health Services*, WHO, Geneva, 1988; World Health Organisation, *Public Health Response to Biological and Chemical Weapons: WHO Guidance*, WHO, Geneva, 2004.

https://doi.org/10.1017/S1816383109990105 Published online by Cambridge University Press

address all of the eleven identified risks if the planning, action and training is based on military operational procedures and materials. This is especially the case for the low probability NRBC events (NW, IND, BW1, CW1) which have high potential impact.

How can one plan assistance that is safe for those bringing it?

The act of assisting the victims has an inherent risk for those bringing assistance and this risk is specific to the NRBC agent in question. This, combined with our conclusion that effective humanitarian assistance may be near to impossible today, means that materials and expertise specific to preventing NRBC contamination would most likely be used to protect personnel and may be used to assist only a very few affected people. This raises a difficult ethical question: how much does an organization invest in preparing an assistance response which also ensures personnel health and security when that response might be ineffective and personnel health and security can best be assured by their withdrawing from the affected area and not attempting any response at all?

At present, the liability of international organizations towards their personnel (international and national) is not compatible with deploying a capacity to assist victims of an NRBC event.[7] In relation to this, many humanitarian assistance organizations rely on the principle of voluntary service (i.e. nobody can be ordered to undertake an action.) This has clear implications for recruiting personnel for a response to an NRBC event. These have to be considered at a policy level in parallel to the process of developing an assistance capacity.

Do the different risks require different resources and plans?

We have argued that planning an effective response to a low probability/high impact risk is barely possible. No single organization could respond to the needs of all the people affected by, for example, the detonation of a nuclear device in an urban area. By contrast, repeated use of riot control agents affecting many people may elicit no response at all. Planning to assist in the event of *ad hoc*, small scale use of a chemical weapon or the detonation of a 'dirty bomb' (radiological device) may be quite feasible.

The necessity for different resources, plans and mechanisms to co-ordinate information according to the risk in question is best demonstrated in relation to 'B' risks. The public health community, including ministries of health, international organizations and NGOs, have extensive experience in responding to natural outbreaks such as cholera.[8] In addition, there are international preparations pertaining

7 United Nations Security Co-ordinator, *Information Package for Staff on NBC Warfare Agents*, March 2003.

8 See World Health Organisation, *Global Alert and Response*, available at http://www.who.int/csr/en/ (last visited 9 January 2009).

https://doi.org/10.1017/S1816383109990105 Published online by Cambridge University Press

to more serious natural outbreaks, especially avian flu, SARS and smallpox.[9] It would therefore appear that the mechanisms in place to assist victims of the 'B' risks (especially BW1 and BW2) are more advanced and are more likely to be based on reality because a certain relevant international experience has been accumulated. However, the public health community has not given adequate consideration to whether or how the public health response might differ if the outbreak of disease was the result of an intentional act. The first 'diagnosis' to be made in the event of people suffering an outbreak of an unusual disease would be to identify the causative agent; the second 'diagnosis' would be to establish that the outbreak was intentional. The second 'diagnosis' has important forensic and security implications. Days, weeks or months may elapse between the two 'diagnoses.' Those responsible for the public health response and the first 'diagnosis' are likely to be in possession of the information that pertains to the second 'diagnosis.' Who has a right to this information? Who will co-ordinate the information? Who will make the judgment call that it was or was not an intentional act? To whom is this judgment communicated – and how? In brief, the articulation of the public health response with law enforcement and/or international security imperatives in an NRBC event requiring an international response has not been adequately examined.

What is meant by 'assisting victims'?

Assisting victims of an NRBC event implies that the assistance will entail caring for and treating people who have been contaminated or who are potentially contaminated. There may also be many more people who are neither contaminated nor likely to be contaminated but who, because of the event, require assistance as a result of being displaced, homeless, in need of food, missing a family member or simply needing information. Unless the humanitarian organizations who would normally respond have knowledge and understanding of the nature, timing and location of the event, they may be deterred from bringing assistance to this broader category of victims – one reason being that personnel may not volunteer to go to or stay in that context even if the risk of contamination is minimal. As far as we are aware, no non-governmental organization working in the domain of international humanitarian assistance has any preparedness plans for an NRBC event.

What level of assistance?

Assisting victims of an NRBC event who have been contaminated and who have survived may take the form of initial measures such as decontamination or administration of medicines such as antibiotics, antidotes or iodine. However, many would also require admission to a hospital environment which could provide, for example, respiratory intensive care or burn surgery. Such hospital

9 See WHO, *Pandemic Preparedness of the World Health Organisation*, available at: http://www.who.int/csr/disease/influenza/pandemic/en/ (last visited January 2009).

https://doi.org/10.1017/S1816383109990105 Published online by Cambridge University Press

capacity is very unlikely to exist in the contexts in question. If this capacity exists, it would easily be overwhelmed or rendered non-functional by the event itself. Thus a truly effective response to assist victims of an NRBC event would also involve provision of this hospital capacity together with the materials and expertise to deliver the required specialized care. The financial costs alone (the 'buyable' solutions) would be enormous; the challenges for which the solutions are 'non-buyable' in getting the hospital infrastructure (with the right equipment and the right people) to the right place in good time – whilst ensuring that the hospital itself does not become contaminated – may be insurmountable.

The effectiveness of deploying a response capacity to assist victims of an NRBC event without a capacity to bring competent hospital treatment is unknown. Therefore, the question arises of whether one should plan to assist victims of an NRBC event without including the means to provide hospital treatment for those victims who really need – and potentially benefit most – from assistance. In other words, there may be a moral or political imperative to 'do something' even if, from a health perspective the effectiveness of the 'something' is in question. For a humanitarian organization planning a response, this question puts in a more critical perspective the trade-off between the desire to assist victims on one hand and the responsibility for personnel health and security on the other hand.

Are the financial demands excessive?

An organization planning an international response to an NRBC event must recognize that any capacity deployed would not be 'expandable' by employing locally available human resources, as in 'conventional' conflicts or disasters.[10] Furthermore, the personnel deployed are likely to be of a different culture and language to those requiring assistance. The practical difficulties of communicating with people who, for example, require decontamination will be considerable. All this implies a necessity for advance training of personnel in high-risk areas (if such areas can be identified at all). It also implies a massive financial outlay in advance to build a capacity which, in reality, is unlikely to be deployed, and if deployed carries no guarantee of effectiveness. There is thus a fundamental dilemma: how much does an organization invest in developing this capacity? Should one prepare for the higher probability risks only? Or should one prepare for all risks including the low probability/high impact events (NW, IND, BW1, CW1)? Preparing for all risks is likely to be prohibitively expensive.

Whilst this article focuses on the reality of the challenges for which the solutions are 'non-buyable', the question must be asked whether donor governments would be prepared to invest in funding a humanitarian organization to develop a response capacity without any guarantee of eventual deployment of such

10 All hospital staff, first aid volunteers, ambulance drivers and stretcher-bearers would have to be trained in NRBC issues and personal protection in advance.

https://doi.org/10.1017/S1816383109990105 Published online by Cambridge University Press

a capacity nor any evidence that such a capacity can, in reality, make a difference to those affected or potentially affected.

Deploying a response capacity in an NRBC event

How will a humanitarian organization know that an NRBC event has taken place?

Much of the literature, dialogue and planning about responding to NRBC events starts with assumptions that the agent is known and that the point of release or at least the space affected is known.[11] Making these assumptions may be reasonable for a military body working in a tactical scenario; they cannot be made for a humanitarian organization planning a response to assist victims of an NRBC event. It is unlikely that either the agent or the area will be known. The first information indicating that an NRBC event has taken place might be found in press reports, as allegations of use or in reports or photos of dead people and animals. There may be a number of people sick, representing an unusual outbreak of a disease. If, for example, a hospital reports a large number of people vomiting, this could indicate exposure to a radiological, biological or chemical agent and does not necessarily indicate the geographical location of the source. The time required for an adequate investigation (if this is possible) will extend beyond the time when the assistance for victims should be initiated. With time, the likely effectiveness of a response diminishes.

When should a capacity for international assistance for victims of an NRBC event be deployed?

It is likely that an event involving use of NRBC weapons will not be immediately confirmed as such. How does a humanitarian organization with a capacity to respond to an NRBC event respond appropriately to suspected or alleged use of NRBC weapons? Is it necessary to confirm the nature of the event before responding? If so, how will this confirmation be obtained? If not, is mounting a response seen as supporting suspicion or verifying allegations which would generate additional political and security issues?

What is required and where? How will it get there and when?

A humanitarian organization planning to respond to an NRBC event will need to know that an NRBC event has happened. Other necessary information includes what kind of event it is, who is affected, how the people are affected, where they are, what their needs are, how these NRBC specific needs relate to other assistance programmes and, importantly, how these needs can be addressed in a way that is compatible with ensuring the health and security of the people addressing these

11 This space is frequently referred to as the 'contaminated' or 'hot' zone.

https://doi.org/10.1017/S1816383109990105 Published online by Cambridge University Press

needs. None of this information will be obtained easily but it all has major implications for what kind of assistance is appropriate and how it is delivered.

For a humanitarian organization planning to assist the victims, if the limits of a contaminated zone are known (and even this information may be extremely difficult to come by) one exercise would involve getting vulnerable or untrained personnel out of the contaminated zone and another exercise would involve bringing appropriate equipment and trained personnel to a point where their risk of contamination is minimal but where there is sufficient access to the affected people. In practical terms, this can be summarized in one extremely difficult question: where does one place the material and human resources to assist the victims of an NRBC event requiring an international response, whilst minimizing the risk to personnel health and security?

Another factor that would have to be taken into account is how the requirements change with time. Again, the military influence has dominated thinking; a response to an NRBC event is always seen as a matter of urgency. For example, if one suspects use of mustard gas, the response would seem to be to provide a capacity for decontamination. The reality is that if an international response is going to be mounted, by the time it reaches the affected people, there may be little need for decontamination and little risk of other people being contaminated secondarily. In this case, the most appropriate form of assistance may relate to managing and rehabilitating people who have suffered chemical burns and, at a later date, to giving consideration even to cancers and birth defects.

Are there security risks for a humanitarian organization besides exposure to an NRBC agent?

If a humanitarian organization deploys a capacity to assist victims of an NRBC event, this may generate additional security risks. Such deployment inevitably involves gathering facts, and the perpetrators of the event may wish to prevent any outside agencies being witness to or having knowledge of the effects of their acts. In addition, the local population might be in such a state of panic that any organization may be at risk from attack precisely because it possesses or is believed to possess appropriate vaccines, personal protective equipment, antidotes or even information. For example, when humanitarian workers wear protective masks and drive their vehicles through a populated area, the risk of being exposed to or contaminated by an NRBC agent might be outweighed by the risk of being attacked.

The mandates and policies of international organizations pertaining to ‘assistance’ in NRBC events

Who is responsible?

Given our premise that, at present, it is not clear who would mount an international response to assist the victims of an NRBC event, it is pertinent to ask how

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different organizations would, in the future, act either alone or in co-operation with others to mount such an international response. The questions posed above about a potential response of a humanitarian organization drive another set of considerations for UN agencies. Which UN agency, if any, has the capacity to assist a significant number of victims? An assumption is made that States would make available their military expertise and resources. If this assumption is true, are the military expertise, resources and operational procedures appropriate? Who will transport this military capacity? Will air transport, military or otherwise, be allowed to land in the affected area? Who has overall responsibility for deciding what assistance is delivered, when it is delivered and where? If military assets are put at the disposal of UN agencies, for an NRBC event especially, these questions risk being answered on the basis of political priorities.

What triggers a response from a specialized UN agency and what is the response?

The mandate behind any potential response from specialized UN agencies is derived from treaties. A UN agency responsible for 'assisting' in an NRBC event relies on the affected State inviting their assistance. As mentioned above, 'assistance' is understood to be assistance to that State and not necessarily assistance to the victims. The result is that specialized UN agencies might provide advice to the State in question, but if that State does not have sufficient resources to assist the victims, this will not necessarily be brought in by the specialized agencies.[12] This generates other questions. What happens if the State concerned does not request assistance? What if no other State wants to assist? It is unclear what the trigger is for an international response to assist victims of an NRBC event. It is also unclear whether UN agencies (or other humanitarian organizations) can mobilize the necessary resources quickly enough.

Who will co-ordinate the international response to an NRBC event?

If the government concerned is unable or unwilling to co-ordinate an adequate response to assist the victims of an NRBC event, who will undertake such co-ordination? Are the co-ordination mechanisms that are in place for 'classical' humanitarian assistance sufficient and adequate for NRBC events? Without such co-ordination, will those organizations who might bring assistance, such as the ICRC or health-orientated NGOs, be put in an excessively dangerous position? These questions have complex implications for governments and international organizations alike; today they would not and could not be resolved to ensure timely assistance to victims of an NRBC event.

12 These agencies would, at present, rely on other States and on organizations providing generalized humanitarian assistance.

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What happens if use of a NRBC weapon is not confirmed?

In cases of suspected, alleged or threatened use of NRBC weapons, it might be appropriate to deploy an assistance capacity. But what if, for example, a suspicious material is found, a number of people are sick or animals have died with nothing to indicate whether the causative agent is radiological, biological or chemical? Which UN agency is responsible? How do the different UN agencies articulate their mandates, findings and activities with other humanitarian agencies, or with the UN Security Council and the UN Secretary General's mechanism for investigating alleged use of chemical and biological weapons?[13] Again, the legal, political and diplomatic complexities of all these questions are immense and it is unlikely that they will be resolved soon.

Conclusion

In posing a number of questions in this article, we have hoped to bring a realistic perspective to a series of issues relating to assisting victims of an NRBC event. More importantly, we think we have demonstrated the absolute need for a reality-based approach at every step, from developing a capacity to assist victims of an NRBC event to the eventual deployment of this capacity. Such a reality-based approach does not address all the difficult questions that decision-makers will have to face; however, we see such an approach as a prerequisite for any international organization planning assistance for victims of an NRBC event. We emphasize that this approach must be adopted for each of the eleven risks. Without such a critical approach, developing and deploying an NRBC response capacity is likely to be ineffective, a waste of resources and, more importantly, unnecessarily dangerous for those bringing that assistance.

13 See UN Security Council Resolution 620, 26 August 1988.

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