

# Resilience in emergency preparedness and response



**Richard Amlôt**

Health Protection Agency

Centre for Emergency Preparedness and Response

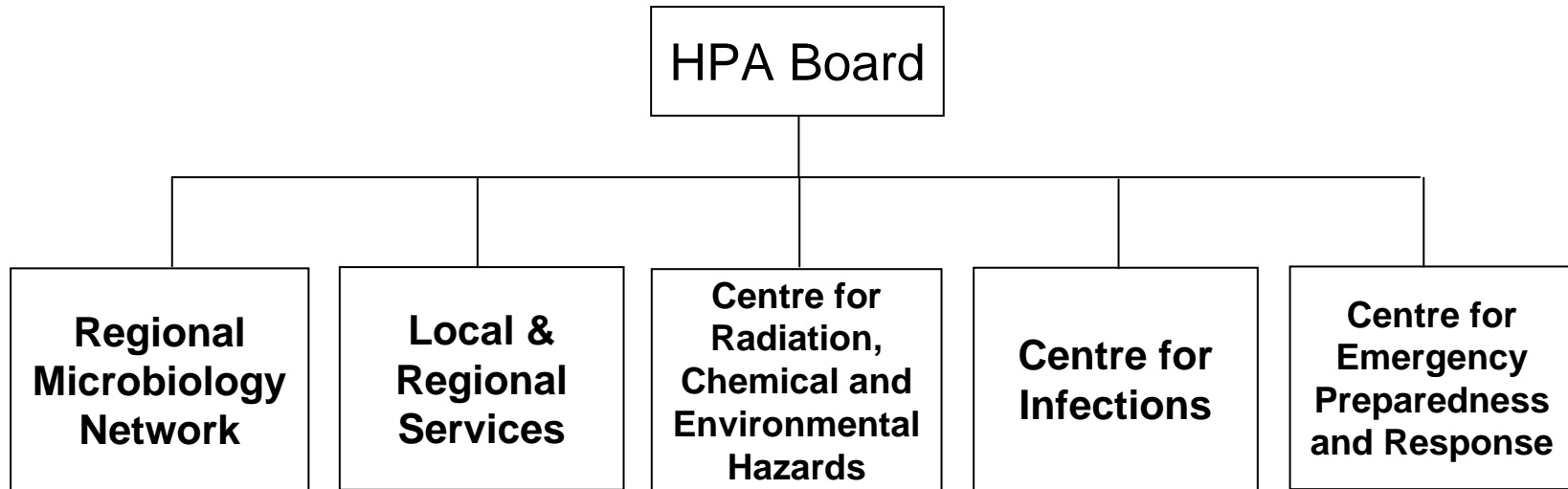
Porton Down, Salisbury, Wiltshire, SP4 0JG. UK

+44 (0)1980 612917

[richard.amlot@hpa.org.uk](mailto:richard.amlot@hpa.org.uk)

3<sup>rd</sup> July 2007

# Health Protection Agency



# Emergency Response



## Buncefield Oil Depot Fire



## Polonium-210



## Bird Flu



# Centre for Emergency Preparedness and Response (CEPR), Porton Down



## Training

- Major Incident Management; Clinical Management of CBRN Injuries; Pandemic Flu Module

## Exercises

- Tabletop and Live exercise programme, e.g.
  - Ex. Magpie
  - Ex. Black Crocus
  - Ex. Winter Willow



© Health Protection Agency



**Symptoms you may never have seen**

- Liquid mustard**
  - Small vesicles begin to appear, then swell and burst
  - Painful, persistent & usually follows a splash or contact with the skin
- Tularaemia**
  - Not noticed at all, or a small, painless, red, sore on the skin (chancres)
  - Swollen lymph nodes (glands)
  - Swollen and painful lymph nodes
  - Swollen and painful lymph nodes
- Radiation burns**
  - Reddened skin with a stinging sensation
- West Nile Fever**
  - Fever, headache, muscle aches, joint pain, fatigue, and sometimes a rash
- Botulinum toxin**
  - Drooping eyelids, double vision, blurred vision, difficulty swallowing, difficulty speaking, difficulty breathing

NOTE: THESE ARE NOT TRANSMISSIBLE FROM PERSON TO PERSON AND ARE ONLY TO BE MANAGED DIFFERENTLY FROM NATURALLY OCCURRING DISEASES. THESE ARE NOT TO BE MANAGED AS SUCH.

If symptoms and/or signs are difficult to explain, please contact your local Health Protection Team.





# Behavioural sciences research group: “Public responses to CBRN incidents”

**Richard Amlôt, John Simpson**

Centre for Emergency Preparedness and Response  
Health Protection Agency

**James Rubin, Simon Wessely**

Institute of Psychiatry  
King's College London

**Institute of Psychiatry** at the Maudsley

**Brooke Rogers**

King's Centre for Risk Management  
King's College London

**kcm**

THE KING'S CENTRE FOR *RISK* MANAGEMENT





UK Resilience  
a service of the CabinetOffice

Home | About UK Resilience | What's New | Publications | Contact Us | Sitemap | Viewing Advice

You are here:  
Home >

Last updated: 29/05/2007

**Welcome to UK Resilience**

The Government's aim is to reduce the risk from emergencies so that people can go about their business freely and with confidence. This website exists to provide a resource for civil protection practitioners, supporting the work which goes on across the UK to improve emergency preparedness.

Search  
Enter Query  
Advanced Search Find

Cabinet Office sites

Latest News  
15/06/2007 - Informal guidance for implementing the Communicating with the

Civil Contingencies Secretariat  
Emergency Preparedness  
Emergency Response and Recovery  
Emergencies  
A-Z Useful Links



## An **Emergency**:

- An event or situation which threatens serious damage to human welfare;
- An event or situation which threatens serious damage to the environment; or
- war, or terrorism, which threatens serious damage to security.

### UK Civil Contingencies Act (2004)



#### What Businesses can do

This part of the site provides a single gateway for advice to **UK business** from government about emergency preparedness and response. It provides information to help businesses of all sizes to prepare for emergencies, and when they do happen, to ensure that disruption is minimised and recovery is effective. This includes advice on business continuity planning, information about the various ways in which the Government engages with business to prepare for emergencies, and sources of regional and local support for your business.

Businesses and other Organizations to help you communicate with your staff

Revised Guidance: Contingency Planning for a Possible Influenza Pandemic [PDF, 260KB, 16 pages]

#### Popular Links

Terrorism Threat Levels and

# June 2007



<http://news.bbc.co.uk>



# 30<sup>th</sup> June 2007 – Glasgow Airport







- Rubin et al. (2005) **Psychological and behavioural reactions to the bombings in London on 7 July 2005: cross sectional survey of a representative sample of Londoners.**
- Rubin et al. (2007) **Enduring consequences of terrorism: 7- month follow-up survey of reactions to the bombings in London on 7 July 2005.**

# Stress reduces over time



As a result of the London Bombings, to what extent have you been feeling upset when something reminds you of what happened?

	July 05	Feb/Mar 06
<b>Not at all upset</b>	<b>31%</b>	<b>65%</b>
<b>A little bit upset</b>	<b>27%</b>	<b>18%</b>
<b>Moderately upset</b>	<b>16%</b>	<b>8%</b>
<b>Quite a bit upset</b>	<b>15%</b>	<b>6%</b>
<b>Extremely upset</b>	<b>10%</b>	<b>3%</b>



## Who did Londoners speak to?

- 76% immediately contacted family/friends
- 71% spoke to family/friends “a great deal”
- 1% sought professional help
- 1% thought they “needed help”

(Rubin et al., 2005)



# What can we do to help?

- The best immediate mental health interventions are practical, information-based and indirect
- Accurate, timely and practical information
- Security, warmth, shelter, food, transport
- Practical assistance with legal system, employers, authorities etc.



# What about incidents involving Chemical, Biological, Radiological or Nuclear (CBRN) threats?



- Panic...widely reported as a likely reaction to a CBRN terrorist attack
- Radiophobia and 'dread risks'
- Presumed in some planning / policy development
- Are these assumptions valid?



# Responses to CBRN Incidents



## Focus groups:

**Stage 1** - capturing public perceptions and probable reactions to CBRN incidents, assess information needs

**Stage 2** – Design messages to meet those needs

**Stage 3** – Re-run scenarios in focus groups, with messages inserted



# Redefining Readiness (Lasker, 2004)

## Terrorism planning through the eyes of the public

- Smallpox & Dirty Bomb scenarios
- Participants unlikely to respond in an appropriate way

**Only two fifths would go to a vaccination site**

**Three fifths would shelter in place in the event of a dirty bomb**

e.g. Lack of trust in government advice

e.g. Conflicting obligations with dependents

“..[we should not] rely on planner’s untested assumptions about what the public cares about and how the public behave.”



# The Pre-event Message Development Project

(Wray & Jupka; Glik et al; Henderson et al; Becker, 2004)



- Used CBRN scenarios
- As scenarios developed – increasing fear, concern, and helplessness
- Lessened by additional information especially regarding the incident, the threat agent and information to help protect families
- Information needs to be clear and jargon free, from a trusted source



# Promoting resilience in emergency preparedness and response

- **Communicating before an incident**
  - Effective risk communication
  - Building trust
- **Communication following an incident**
  - Design and test messages in advance
  - Be ready to learn the lessons from any current and future events
- **Public engagement in emergency preparedness exercises**





Chinese water symbol

# Exercise Young Neptune



## Mass Casualty Decontamination Field Exercise

- 65 'unaccompanied' children, ages 6-14
- Notional chemical scenario
- evaluation & feedback





Chinese water symbol

# Exercise Young Neptune



## Adapted - Positive and Negative Affect Scale for Children (PANAS-C)

How **happy** did you feel during the exercise?

Very happy	A bit happy	Not really happy	Not happy	Very unhappy

How **frightened** did you feel during the exercise?

Not frightened at all	Not frightened	Not really frightened	A bit frightened	Very frightened



Chinese water symbol

# Exercise Young Neptune



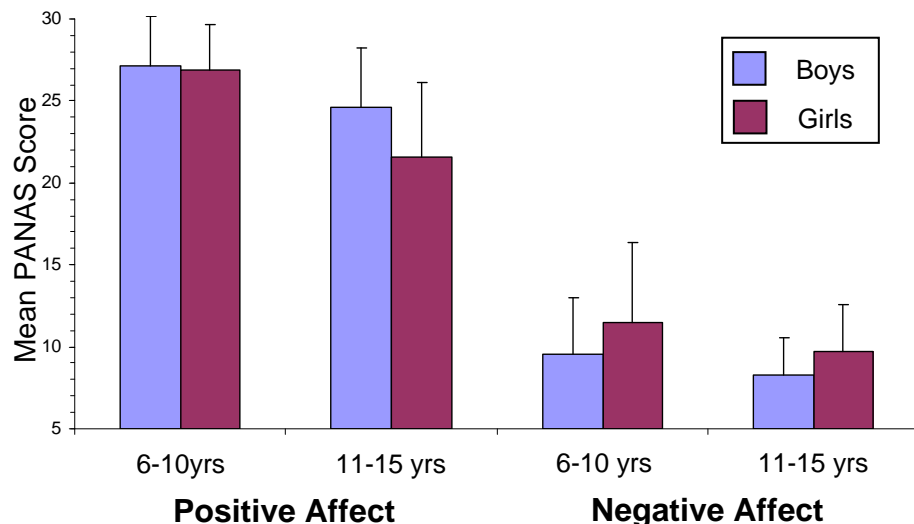
## Adapted - Reactions to Research Participation Questionnaire (RRPQ-C)

	Circle the answer that is true for you		
1. It was my choice to take part in the exercise and I could have said no if I wanted to.	NO	MAYBE	YES
2. Being part of the exercise made me feel upset or sad.	NO	MAYBE	YES

### Interview schedule, e.g.

- Did you understand the instructions you were given about changing out of your clothes before you went into the tents?
- What were you told? What instructions were you given?
- What did you think of having to wash in the showers?
- Would you recommend taking part in an exercise like this one to a friend?

# Volunteer feedback



adapted PANAS-C  
(Laurent et al., 1999)

RRPQ-C content area	Positive endorsement
1. Positive Appraisal	81.9 %
2. Negative Appraisal	2.8%
3. Informed consent	79.7%
4. Right to withdraw	78.9%

adapted RRPQ-C  
(Kassam-Adams & Newman, 1999)



# Focus Groups Feedback



## Emergency decontamination:

- “good”, “fun”, “exciting”, “different”, “interesting”
- “boring”, “men in scary suits”
- Preference for the ambulance service PPE suits
- Didn’t hear instructions, weren’t sure what to do
- Clothing was too big or too small
- Would recommend it to a friend



# Focus Groups Feedback



- **Shower nozzles were positioned so that they sprayed directly into some of the children's faces**
- **Knowing the gender of the member of emergency services personnel was important**
- **Groups of friends reported enjoying the exercise the most**
- **"This is going to happen"**
- **Would have liked a 'role-playing' element**
- **Spontaneous discussion of what they would need to do in a real event**





Chinese water symbol

# Young Neptune Summary



- Exercise 'artificialities' ...
- BUT...in a real incident, the decontamination process may be the most stressful thing that the children experience
- The needs of children and vulnerable groups can be addressed directly in emergency preparedness planning and exercises



# Definitions of Resilience



**“Resiliency is the capability of individuals and systems (families, groups and communities) to cope with significant adversity or stress in ways that are not only effective, but tend to result in an increased ability to constructively respond to future adversity.”**

Resiliency Canada. What is Resiliency? [www.resiliencyinitiatives.ca](http://www.resiliencyinitiatives.ca)

**“Mastery over adversity.”**

Jim Schultz, University of Miami



# Prioritising resilience



## Building a resilience culture (Khripunov, 2006)

**“...an interlocking set of beliefs, attitudes, approaches, and behaviours that help people fare better in any disaster or extraordinary circumstance.”**



**Radiological Terrorism:  
Public response and the search for resilience  
Bratislava, Slovakia. Oct 2006**

# Thank you



**Richard Amlôt**

Health Protection Agency  
Centre for Emergency Preparedness and Response  
Porton Down, Salisbury, Wiltshire, SP4 0JG. UK  
+44 (0)1980 612917  
[richard.amlot@hpa.org.uk](mailto:richard.amlot@hpa.org.uk)

3<sup>rd</sup> July 2007