

SELF ASSESSMENT EXERCISES

Emergency Planning

SA Bland

Emergency Department, Royal London Hospital, London E1 1BB

These scenarios are intended to highlight key concepts in Emergency Planning and the overall management of 'emergencies' including major incidents, both in a military and civilian context. You are working in a military health facility in the United Kingdom close to a garrison town.

Question 1

The local civilian hospital is currently reviewing its major incident plan due to recent legislative requirements. The hospital is keen to liaise with local military organisations and you are asked to provide advice to the Commanding Officer on the potential role of the military in a number of scenarios.

- What legislation came into effect in 2005 and governs the legal requirement for government agencies and organisations to have emergency plans in place?
- Is the legislation applicable to the military and the Defence Medical Services?
- How would a military response to a civil emergency / major incident be initiated?

Question 2

It is 0900 and there is an explosion at a nearby fuel depot. There are several casualties on site but no direct impact on your facility; the local emergency services are responding satisfactorily. A large smoke plume can be observed from your health facility.

- This incident is literally an example of a 'Big Bang' type of incident, how are other types of major incidents described?
- How might organisations quantify the risk of events like this and prepare for them?
- If the demand for resources is greater than those available, how could an incident be escalated?
- Who would take the lead for an incident at Government level?
- How are emergencies categorised?

Question 3

Several weeks later, you are deploying on exercise. A convoy of military vehicles is involved in a collision with a civilian lorry and a number of cars. There are a number of casualties (military and civilian) and a 999 call has been made. The first ambulance arrives and a major incident has been declared. All three emergency services are now in attendance. A military representative has also been identified and decides to assume command of the incident?

- Is the military commander correct to assume command of the incident?

Correspondence to: Surg Lt Cdr SA Bland BSc MB ChB
MRCSEd(A&E) DipMedTox FCEM. Specialist Registrar in
Emergency Department, Royal London Hospital, London E1
1BB

Email: sa.bland@btinternet.com

- What command structure is likely to be applied to the scene?
- How would the response and co-ordination of an incident on a military establishment differ?
- Depending on the incident, is the application of the command structure flexible.

Question 4

The lorry has the following sign on the back of the vehicle.



- What is the sign and what is its significance?
- Which emergency service would have primacy now?
- What further information might be available?

Answers to self assessment questions

Question 1

- In 2005, the Civil Contingencies Act 2004 (CCA 2004) came into force (1). The Act defines what an emergency is and covers the four key areas of emergency planning: PREVENT, PREPARE, RESPOND and RECOVER. An emergency is defined as:

'An event or situation that threatens serious damage to human welfare in a place in the UK or to the environment of a place in the UK, or war or terrorism which threatens serious damage to the security of the UK. To constitute an emergency this event or situation must require the implementation of special arrangements by one or more Category 1 responder.'

Consisting of two parts, Part One of the Act defines what an emergency is and when a response from identified responders is required. Part One also identifies two levels of responders (Category One and Category Two) and requires each agency and organisation to be prepared to respond to an emergency. The first part of the Act also introduces community risk registers and the legal requirement for contingency plans for high risk incidents (2).

Examples of Category One responders include:

- Emergency Services
- Acute Hospital Trusts
- Primary Care Trusts
- Health Protection Agency

Category Two responders include:

- Utility companies

■ Strategic Health Authorities

Part Two of the CCA provides guidance on Emergency Response and Recovery, superseding the Home Office 'Dealing with Disasters'. The role of specific agencies and responders is defined as well as the likely command structure for emergencies of varying impact and severity. Guidance is also provided for multi-agency and cross-region cooperation (3).

- b. The CCA 2004 does not directly apply to the military as the Armed Forces are not designated responders. The following caveat does apply:

"Military Aid to the Civil Authorities (MACA) can be sought to support the civil authorities when they have an urgent need for help to deal with an emergency arising from a natural disaster or a major incident. However, assistance is provided on an availability basis and the armed forces cannot make a commitment that guarantees assistance to meet specific emergencies. It is therefore essential that Category 1 and 2 responders do not base plans and organise exercises on the assumption of military assistance. The local Regional Brigade Headquarters will be able to give advice and should be contacted in the first instance."

However, military assets may provide immediate assistance where there is a direct risk to life.

"Where there is a direct threat to life, the MoD may, at its discretion, choose to waive the recovery of costs. In cases where human life is not deemed to be in danger, civil organisations will be required to meet all or some of the costs of the service response. When the response moves towards the recovery phase, and danger to human life subsides, continued military assistance will be considered as routine and charged for at rates determined by the MoD. Civil authorities should consider the disengagement of military assistance at this point, if very high costs are to be avoided."

- c. Where there is no immediate risk to life, military assistance can only be initiated by a direct request from a Government Department, such as the Home Office, to a Defence Minister. This arrangement also applies to humanitarian operations overseas where military assistance is provided on the request of the Department for International Development (DfID). Other arrangements may already be in place where military niche capabilities have been identified and continuous support can be relied upon, examples include bomb disposal, search and rescue, and maritime operations.

Question 2

- a. Health emergency planners describe three types of emergency; all three emergencies are applicable to the Defence Medical Services (4):

- Big Bang – This is an incident where there is an obvious onset and scene. Examples include explosions (bombings) and transportation accidents. This type of emergency is the traditional model of a major incident.
- Rising Tide – These are incidents result from an increasing pressure on services either as a result of an increase demand for that service or due to the incident impacting on service provision. An example of a rising tide incident is an epidemic. An epidemic is likely to put increase pressure on health facilities due to an increase in the number of presentations and severity. The health care providers and service provision may also be compromised by the epidemic. This type of incident, where a responding service in

compromised by the incident itself, is sometimes called a compound incident. This was seen during the SARS outbreak in 2003.

- Cloud on the Horizon – Some incidents may not have a direct effect but may limit service provision or require contingency plans to be activated. In question 2, although the explosion had no direct effect on the military facility, the smoke plume might require residents to shelter in place and therefore not go to work. The plume might also affect the logistic chain and limit replenishment to the base. Another recent example of a cloud on the horizon was the fuel shortage due to the blockade of fuel depots. The impact of fuel rationing and limiting journeys may have compromised normal service provision and lead to civil unrest.
- b. The CCA 2004 requires that local government offices create a community risk register. This process looks at many generic risks including environmental hazards (flooding, earthquakes, freezing weather), health (outbreaks, heat waves) and transportation incidents. There are also site-specific assessments due to local industry, mass gatherings and possible terrorist targets. The assessment is based upon severity / impact, likelihood and vulnerability. Where there is a significant risk, a strategy is required to either reduce the risk or mitigate the risk with contingency plans. Organisations and services, including all Category One and Two responders, should maintain their own risk register based upon the community risk register and their own assessments. Risk management of this kind is a pillar of Clinical Governance and it applicable to all sectors of health care (civilian and military).
- c. During an incident, an assessment is usually made by the first responder on scene for each emergency service. Where significant additional resources are required, a major incident will be declared. For some emergency services the declaration of a major incident is required in order to activate mutual aid from neighbouring emergency services. A major incident for one emergency service may not necessarily be a major incident for another.
- d. For some incidents, there may be a requirement to involve central government. For all incidents, there will be a Lead Government Department (LGD). The LGD depends on the type of incident and some LGD have been nominated for potential emergencies. These levels are summarised in Table 1.

- Department of Health – Health emergencies such as epidemics.
- Home Office – Terrorism, most Big Bang type incidents, civil disturbance.
- Foreign Office – Emergencies overseas involving British nationals.
- Department for International Development – Humanitarian assistance.
- Department for Local Government and Communities – Flooding, fires.
- Ministry of Defence – Incidents involving military organisations or assets.

- e. Emergencies can be categorised in a number of ways. It has already been discussed that some incidents may have a direct effect on those responding to it. Some acts of terrorism may be directed against emergency responders. Incidents can therefore be simple or compound.

The size of the incident, impact on services and requirement for additional support can determine whether the response to an incident is adequate. For some incidents such as the London bombings in 2005, the implementation of

contingency plans provided a compensated response. Other incidents can be uncompensated either due to no contingency plan or inadequate plan, such as the Asian Tsunami 2004 and Hurricane Katrina 2005 respectively. In the new legislation, the latter scenarios are termed catastrophic.

The CCA 2004 uses three categories of emergency depending on severity and the requirement for central government control. Government lead may be by a single department using its own emergency operations centre. However where several government departments are involved the Cabinet Office Briefing Room (COBR) may be activated. These levels of emergency are summarised in Table 1:

Question 3

- a. The military commander is incorrect. Although there may be military casualties, the Police will have primacy of a major incident of this type. It is likely that a military representative may join the emergency services' incident commanders at the Incident Control Point (ICP) on scene. The ICP is usually identified by the only flashing blue lights on scene (5).
- b. The command structure for a major incident consists of 3 levels. Table 2 summarises the roles of each command level.
- c. Incidents within a military establishment are likely to be managed within the establishment's own infrastructure although larger incidents may require assistance from local emergency services. This arrangement is similar to hazardous industrial sites such as those under the Control of Major Accidents Hazards (COMAH) regulations. COMAH sites are required to have on site contingency plans and a capability to respond initially. These sites will also have regular exercises, allowing better liaison with other agencies. If an incident has a significant off site impact, the Police are likely to take primacy of the incident as well as lead the investigation during the response and recovery phase. Within military medical doctrine there is also a bronze, silver and gold command structure during a major incident. However, the defence doctrine also describes the command chain in a different order – tactical, operational, strategic and grand strategic. Grand strategic is a term used to describe senior government / Cabinet Office and is sometimes called platinum command.
- e. The bronze, silver and gold command structure is likely to be used in most emergencies. The Big Bang type incident is likely to have a concentric command structure with the inner cordon (bronze) at the centre. However not all incidents will have a concentric command structure, the geometry of an emergency may vary due to the type of incident, lack of a specific scene, multiple scenes, and geographical and security considerations. A train crash may result in several bronze

Table 1. The levels of Emergency

	SEVERITY	GOVERNMENT LEAD	EXAMPLES
LEVEL 1	Significant	Lead Government Department (LGD) only	Suffolk bird flu outbreak
LEVEL 2	Serious	LGD, using COBR	London bombing, Polonium 210
LEVEL 3	Catastrophic	Central control from COBR	Flooding of central London, pandemic flu

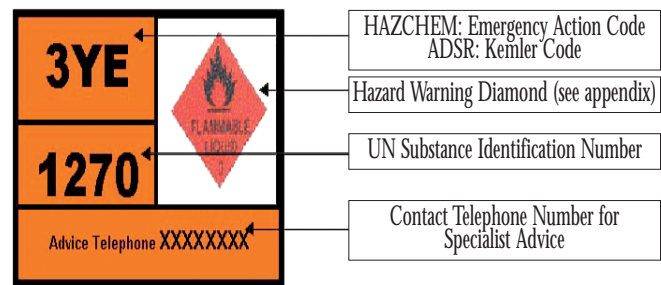
Table 2. The levels of Incident command

	LOCATION	ROLE
BRONZE Operational	Within inner cordon	Doers
SILVER Tactical	Usual within outer cordon (ICP)	Thinkers
GOLD Strategic	Agency HQ or pre-planned location	Planners

areas (sectors) under one silver command. A tube train crash may result in one bronze area but two silver commands and associated infrastructure due to casualties and resources using both ends of a tunnel. The second model is also applicable to river incidents with casualties presenting on two banks. Epidemics may have specific on scene requirements of responders in a bronze role and have significant logistical and planning considerations for gold, but not require an on scene silver / incident commander.

Question 4

- a. The HAZCHEM sign indicates there is a hazardous materials risk; the other signs are depicted in the Appendix. The sign allows early identification of a hazard and what that hazard might be. The Emergency Action Code (EAC) allows the fire service to modify its response and plan for any evacuation. Further specialist information is available from the contact telephone number as well as additional chemical information from the cabin of the lorry, if intact.



















- b. Despite the obvious fire and explosive hazard, the Police will still have primacy of the overall incident. For most major incidents, the Fire and Rescue Service, including the Defence Fire Service will be responsible for safety within the inner cordon. Each emergency service should also have safety officers on scene.
- c. Additional information and advice may be available from the manufacturer of the chemical and from the Health Protection Agency. This advice is available to the Armed Forces.

References:

1. Civil Contingencies Secretariat. Civil Contingencies Act 2004: A Short Guide (revised). <http://www.ukresilience.gov.uk/upload/assets/www.ukresilience.info/15mayshortguide.pdf> (Accessed on 10 April 2007).
2. HM Government. Emergency Preparedness: Guidance on Part 1 of the Civil Contingencies Act 2004, its associated regulations and non-statutory arrangements. <http://www.ukresilience.gov.uk/upload/assets/www.ukresilience.info/emergency-preparedness>

- gprepfinal.pdf (accessed on 10 April 2007).
- HM Government. Emergency Response and Recovery: Non-statutory guidance to complement Emergency Preparedness. <http://www.ukresilience.gov.uk/upload/assets/www.ukresilience.info/emergresponse.pdf> (accessed on 10 April 2007)
 - Norman S, Stuart-Black J & Coles E. Health Emergency Planning: A Handbook for Practitioners. 1st Ed. London: TSO; 2006.
 - Hodgetts TJ, Porter C. Major Incident Management System: the scene aide memoir for major incident medical management and support. 1st ed. London: BMJ Books; 2002.

Appendix Summary of dangerous goods – hazard diamonds

CLASS	SYMBOL	DEFINITION
1		EXPLOSIVE Subgroups 1.1 – 1.6 1.1 – Mass explosion hazard 1.4 – No significant hazard
2	  	GASES Subgroup 2.1 – 2.3 2.1 – Flammable 2.2 – Non-flammable 2.3 – Toxic
3		FLAMMABLE LIQUIDS
4	  	FLAMMABLE SOLIDS Subgroups 4.1 – 4.3 4.1 – Flammable solid 4.2 – Spontaneous combustion risk 4.3 – Release of flammable gas on contact with water
5	 	OXIDISERS (5.1) ORGANIC PEROXIDES (5.2)
6	 	TOXIC (6.1) INFECTIOUS SUBSTANCES (6.2)
7	 	RADIOACTIVE SUBSTANCES
8		CORROSIVE SUBSTANCES (includes chlorine, sodium hydroxide, sulphuric acid)
9		MISCELLANEOUS Includes asbestos, CS spray