

Preparation for and organization during a major incident

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Abstract

Major incidents during the recent past have reinforced the value that the NHS and other agencies have invested into the comprehensive Emergency, Preparedness, Resilience and Response framework. This gives a detailed structure of the role of the NHS in any type of major incident from man-made disaster to pandemic flu. This has required preparation of communication, transport, security, military and healthcare systems. Also included is how the response to the incident is handled at a local level and for different levels of response. Examples of how this has played out are described. Specialist training at the higher and advanced level for trainees is established so that victims are triaged at the scene and received by consultants with appropriate training. Hospitals, ambulance services and intensive care units across the country can use networks to ensure not only rapid access to Major Trauma Centres but also to highly sophisticated skills when advanced life support is required. The NHS response to major incidents has been shown to be effective and successful.

Keywords Emergency medicine; intensive care unit; major incidents; mass casualty

Introduction

Major incidents, whether man-made or natural, happen as shown in [Table 1](#).

Preparation for a major incident takes many forms and processes. In the United Kingdom, organizations such as the police, ambulance service and National Health Service (NHS) have worked with NHS England in major incident planning to cover not only relatively predictable eventualities such as weather, disease and transportation, but also to be flexible in the face of unpredictable incidents such as terrorism.

This planning has been in response to several incidents, particularly the Hillsborough crowd control incident of 1989, and the London bombs in 2005.

Events worldwide (Madrid train bombs, Mumbai attacks, tsunamis, earthquakes and floods, etc.) have stimulated other nations to develop and refine existing major incident planning. During the past 12 months major incident planning has been tested several times.

Organizational response, structure and obligation

Recent major incidents—the London Bridge attack, Manchester Arena bomb, London Bridge attack and the Grenfell Tower fire,

provide many examples of how the Emergency, Preparedness, Resilience and Response (EPRR) framework has worked. In response to the Westminster incident, the HART (hazardous area response team) was called. During the de-briefing several lessons have been reinforced. After the major incidents in London, victims were rapidly triaged to five or six hospitals with consideration to capacity across the city. A senior clinician said after the London Bridge attack, ‘having staged a mock event in the trust during the previous year when the casualties started to arrive all the training kick-in and the staff did a fantastic job’. In Manchester an estimated 400 extra staff came in to cope with the casualties. Many came in before a major incident was announced because people heard it on the media. A similar response was seen in London when staff from the nearby hospital ran to the scene. It was also noted how the pressure on staff continued weeks and months after the events as many victims remained in hospital. These plans are all contained in the EPRR framework and supporting documents^{1–4} updated in August 2017. The Civil Contingencies Act (CCA) 2004⁵ makes clear the responsibilities of NHS hospitals. The structure of the response by the local services, NHS England, Public Health England and the Department of Health is shown in [Figure 1](#). All category 1 responders (includes acute trusts) have an EPRR framework. Major incident planning is part of mandatory training for consultants.

Trusts’ Major Incident plans must be tested, with communications exercises 6-monthly, annual desktop exercises and mock events every 3 years. The commissioning board (CB) and commissioning groups are legally required to ensure that trusts can adequately respond² and communicate with higher (regional and national) organizations.

A major incident is defined as ‘any event which cannot be managed within the existing capacity of the service’. This requires considerable preparation. Levels of response are shown in [Table 2](#).

Hospital response and co-ordination

The first alert is usually from the ambulance service to the acute trust. As with the pre-hospital response (described elsewhere in this issue), trusts have a hierarchical structure, previously bronze/silver/gold. Now ‘operational’ (bronze) commander, hands-on level, may be the senior emergency department doctor, who will report to the ‘tactical’ commander (silver) in a hospital control room also known as an Incident Coordination Centre (ICC). Tactical reports to ‘strategic’ (gold) command – the most senior level within the trust. Gold command carries many responsibilities, including establishment of business continuity, assessment and requests for additional help from other agencies and external communications with higher levels (e.g. regional or national support). All trusts are required to establish an ICC from which the incident team will work. Some incidents will not require a higher level of support; however, the commissioning board must be informed and if a wider response is required, command will devolve to a Strategic Coordinating Group (SCG) under the chairmanship of a police commander. The SCG coordinates all category 1 and 2 responders within the local area.

Any planned event (e.g. sports, demonstrations and marches, concerts, etc.) now must have planning on over twenty areas of risk, including how local healthcare facilities would manage a

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Date and location of headline UK major incidents

	Number of Deaths	Number of Injured taken to hospital
1974 Birmingham Pub Bombs ²	21	182
1975 Moorgate Tube Crash	43	74
1989 Hillsborough crowd incident	96	766
2001 Pontefract Train Crash	10	60
2005 London Bombs ⁴	52	>700
2009 H1N1 flu epidemic	392	28,456 confirmed cases. >100 ICU per week at peak
2017 Westminster Bridge	6	49 (15 critical)
2017 Manchester Arena bomb	22	250
2017 London Bridge attack	8	48 (21 critical)
2017 Grenfell Tower	71	70

Table 1

major incident. If an incident occurs, the event organizer hands over control to the police.

This broad, long-term view acknowledges that we face various incidents which require thorough preparation not only

for equipment but also better training of healthcare workers to provide new skills and roles to improve the outcomes for people caught in major incidents.

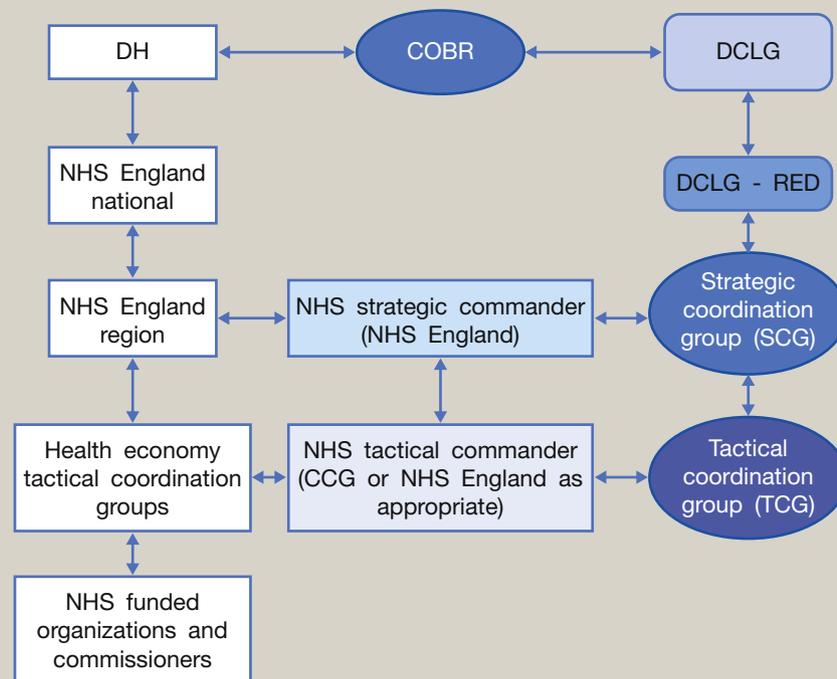
Medical staff and major trauma centres

Historically, in the UK the first medical person receiving trauma or disaster victims would have been a junior doctor without specialist qualifications. Time would be wasted calling more senior doctors. All trauma victims should now be seen by a consultant trained in trauma within 5 minutes of arrival in ED. In a major incident, medical staff have designated sign-in locations and roles. Hospitals must run regular tests of consultant availability and they must be adequately trained and resourced to fulfil their role.

Trauma management is included in the syllabus of all surgical specialty training throughout the 7-year period. The surgical curriculum for trainees is available via the Royal College of Surgeons of England website⁶ or through the Intercollegiate Surgical Curriculum Programme directly www.iscp.ac.uk.

Different countries have different problems, but evidence from the USA and Australia showed that specialist trauma centres save lives.⁷ In the UK, trauma networks have been established along with 26 major trauma centres (MTC). The Trauma Audit and Research Network (TARN) keeps important data on hospital outcomes across the UK and is a good source of published data on outcomes in trauma (www.tarn.co.uk). It shows

The EPRR structure of the NHS in England



CCG= Clinical commissioning Groups; COBR=Cabinet Office Briefing Room; DCLG=Departments for communities and local government; DH=Department of Health.

Figure 1

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