

EDITORIALS

Lessons in planning from mass casualty events in UK

Plan for long term disruption and enduring effects on healthcare staff

Christopher G Moran *national clinical director for trauma*¹, Catherine Webb *national medical director's clinical fellow*², Karim Brohi *clinical director, London Major Trauma System*³, Martin Smith *clinical director, Greater Manchester Major Trauma Network*⁴, Keith Willett *NHS England medical director for acute care and emergency preparedness*⁵

¹Nottingham University Hospital, Nottingham, UK; ²NHS England, London, UK; ³Queen Mary University of London, London, UK; ⁴Salford Royal NHS Foundation Trust, Salford, UK; ⁵University of Oxford, Oxford, UK

Mass casualty events are a global phenomenon, but the NHS in England has faced an unprecedented number of major incidents this year: the Westminster Bridge terrorist attack (22 March), the Manchester Arena bombing (22 May), the London Bridge attack (3 June), the Grenfell Tower fire (14 June), and terrorist attacks at Finsbury Park mosque (19 June) and Parsons Green underground station (15 September).

These events have tested the country's major trauma systems. Each incident posed new challenges in differing environments, with different threats, resulting in different injuries.¹ System learning is critical: debriefing and sharing information so that lessons learnt can be rapidly incorporated into future plans. In England, "hot" debriefs took place within two weeks and "cold" multiagency debriefs after four weeks, with post-incident reporting beyond six weeks.² Here, we share some of that new learning.

Emergency planning, resilience, and response commonly gives primacy to the initial stages of managing a major incident—first response, treatment on scene, triage, distribution of casualties, hospital reception, repeat triage, resuscitation, primary management, and command and control structures. These are rehearsed in desktop and simulation exercises, and both the Manchester and London teams report that these exercises, coincidentally undertaken shortly before the first attacks, were valuable in testing plans and informing policy and practice during the incidents. A similar benefit was reported in Paris in November 2015.³ However, it has become increasingly clear that the effect on hospitals and staff endures well beyond the first 24 hours.

Longer term demands

Clinical responses on the first day are centred on resuscitation and damage control surgery for people with immediately life and limb threatening problems.⁴ The secondary procedures that follow in subsequent days are often resource intensive. Over

350 hours of extra surgery were required in the week after the terrorist attack in Manchester (personal communication from Greater Manchester Trauma Network). All trauma patients require a repeat, top-to-toe examination (tertiary survey), re-review of imaging and further investigations to reveal occult injuries.⁵

Rehabilitation begins early and requires intensive multisystem input from medical staff and allied health professionals such as physiotherapists and occupational therapists. As the definitive investigation and management of complex injuries proceeds, hospitals should not underestimate the need for operating rooms, blood products and other consumables, intensive care provision, and coordinated multidisciplinary intervention. Logistic demands continue, as supplies must be restocked, equipment decontaminated, escalation areas returned to their original purpose, and IT and paper based recording systems used in the immediate aftermath organised.⁶

Mass casualty events have important long term implications for primary care⁷ and community services.⁸ Patients with severe physical injuries require prolonged treatment, rehabilitation, and support. Those with blast injuries may have auditory and ophthalmic injuries and occult concussion, requiring screening and follow-up.⁹ Patients at risk of bloodborne virus infection, potentially transmitted by repeated use of a knife or by human shrapnel, need counselling, post-exposure prophylaxis, and follow-up by public health teams.¹⁰

Traumatic incidents impose profound psychological stress on patients, their families, the bereaved, witnesses, and the wider community. Individuals from all these groups may develop mental health complications, including depression, anxiety, and post-traumatic stress disorder.¹¹ Targeted screening programmes at appropriate times are required to identify those at risk and direct them to professional help.¹²

Support for staff

Perhaps the clearest lesson to emerge from mass casualty events is that the physical and psychological effects on healthcare staff at receiving hospitals are severe, under-reported, and underappreciated. Healthcare teams must care for patients under tragic and exceptional circumstances. They often witness death and life changing injuries against a backdrop of physical exhaustion.¹³ They are required to function at a high level in an extremely high pressure situation. Staff need time to recuperate physically and psychologically after the extraordinary demands placed on them during the initial response.¹⁴

London Ambulance Service alone provided psychological screening and support to 1000 members of staff responding to this year's events. The psychological needs of staff should be recognised as an important reason, in addition to ongoing demands on physical resources, for a delay before "normal" elective work resumes. The front door of the hospital being open for regular activity is not a signal that all inpatient services are back to normal. Commissioners and providers must reach a mutual understanding that recognises the need for a recovery period "until all disruption has been rectified, demands on services have returned to normal levels, and the physical and psychosocial needs of those involved have been met."²

Hospitals should expect and plan for effects lasting weeks or even months after a mass casualty event. Demands on resources remain high, including physical, emotional, and psychological demands on healthcare staff. Supporting them is a critical component of medium and long term planning, along with a recognition of the effect their experiences will have on their capacity to return to "business as usual."

Competing interests: We have read and understood BMJ policy on declaration of interests and have no relevant interests to declare.

Provenance and peer review: Not commissioned; externally peer reviewed.

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