NHS Emergency Planning Guidance

Planning for the management of burn-injured patients in the event of a major incident: interim strategic national guidance

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NHS Emergency Planning Guidance

Planning for the management of burn-injured patients in the event of a major incident: interim strategic national guidance

Contents

This material should be read in conjunction with the NHS Emergency Planning Guidance. All material forming the guidance is web based and prepared to be used primarily in that format. The web-based versions of the Guidance including underpinning materials have links to complementary material from other organisations and to examples of the practice of and approach to emergency planning in the NHS in England.

The web version of the guidance is available at:-

www.dh.gov.uk/emergencyplanning

Foreword

This Guidance replaces and supersedes two previous documents, the original NHS Emergency Planning Guidance 2005: Planning for the management of burn-injured patients in the event of a major incident published by the Department of Health (DH) and the National Major Incident Plan for Burn Injury published by the National Burn Care Group (NBCG) Burn Major Incident Planning Group. *Weblinks to these documents are shown in the information and resources section at the end of the Guidance.* This updated version takes into account developments including the creation of Burn Care Networks in England and Wales and the introduction of Regional Networks for Major Trauma in NHS England.

An incident involving critically injured burn patients that exceeds the capacity of a Burn Service, the local Burn Care Network or the country can happen in any community. In contrast to many other injuries arising from an emergency or major incident, what appears to be relatively small numbers of burn-injured patients can overwhelm burn care capacity within these tiers, particularly if children and young people are involved. The Guidance that follows is directed at all National Health Service (NHS) organisations and aims to help all who may be involved to plan, prepare and respond to all types of emergencies that may involve significant numbers of burn-injured patients.

The Operating Framework for the NHS in England 2011/2012 published in December 2010 continues to make emergency preparedness one of the national priorities for the NHS. This emphasises the need to continue to be clear about those areas of emergency planning and resilience, including the clinical practice of the management and treatment of burn-injured patients, that will have a positive effect in an emergency.

The Guidance does not describe the detail of how Burn Services might be organised; rather this is left to local determination by Burn Services and the Burn Care Networks. The development and introduction of Trauma Networks will support the Guidance contained in this document which has been developed in association with the National Clinical Director for Trauma Care. The content of the Guidance has also been consulted on with leading experts in Burn Care.

The key messages for those involved in implementing this Guidance are listed below. Please note that the clinical aspects included in this list are not necessarily described in this Guidance:

- Keep the needs of the patients at the centre of the response and ongoing care
- Ensure that the planning, preparation and response procedures adopted by Burn Services and Burn Care Networks are integrated with the major incident, emergency and resilience arrangements of Trusts and Trauma Networks (where they exist) particularly for command, control and coordination of emergencies
- Chief Executives, on-call Directors, Emergency Planning Officers, Emergency Medicine Physicians and Surgeons and others need to be aware that, in contrast to many other injuries arising from emergencies and major incidents, comparatively small numbers of burn-injured patients can overwhelm the capacity of Burn Services particularly if children and young people are involved
- The treatment of burn-injured patients is best carried out in a Burn Service or, where this is not possible, under the guidance of a Burn Service.

- Support and training in burn care for non-specialist staff including first responders, such as that provided by the BBA in the Emergency Management of Severe Burns (EMSB) course should be encouraged.
- Children and young people should be treated as clinically appropriate.
- Consideration needs to be given to the practical and psychosocial needs of children and young people and their families in agreeing where they are to be treated particularly if other members of the family have been burn-injured
- Protect and manage the airway actively. The development of laryngeal oedema can lead to the early loss of the airway. Early intubation of patients should be considered.
- Fluid resuscitation should be instituted as soon as possible with intravenous access established - even through burnt tissue if no preferable access sites are available.
- For children and young people, fluid therapy should be in accordance with the recommended local Burn Care Network guidance that can be found at network websites.
- The need for escharotomy (incisions in burn tissue) should be considered at an early stage. This procedure may prevent further tissue injury or functional compromise.
- Ensure that the temperature of the patient is controlled to prevent hypothermia

We believe that the proposals in this Guidance will be warmly welcomed by the NHS and contribute significantly to the ability of services to plan for, and respond to, the needs of burn-injured patients in the event of a major incident and for the NHS to play its appropriate part in planning, preparing and delivering the services that are required. It has been developed in partnership with staff through the existing specialist clinical networks, including representatives from the National Network for Burn Care and the constituent Burn Networks, the British Burn Association and other appropriate professional bodies such as the Royal College of Nursing.

We should like to express our thanks to Verity Kemp, Project Manager, National Network For Burn Care (NNBC) Burn Major Incident Subgroup and all who contributed their knowledge, experience, time and energy to the process of producing this guidance and its outputs.

Dr Penny Bevan **Director** **Emergency Preparedness Division**	**Mr Greg Williams** **Chair, Burn Major Incident Subgroup** **National Network for Burn Care**

Introduction

1. Mass burn injuries were a key part of the scenarios for Exercise Scorpio in 2004 and again in 2008 for Exercise Falcon. The lessons identified from these exercises in the areas of crisis management and coordination, planning and preparedness, communication, multi-agency working, and business continuity and resilience have informed the development of this Guidance. This Guidance gives best practice guidance to National Health Service (NHS) organisations in planning, preparing and responding to incidents and emergencies that give rise to burn injuries regardless of cause, source or nature. This includes chemical, biological and radiological incidents. The principles apply regardless of the number of patients being treated. The guidance covers adults and children and young people.

2. The levels of incident for which NHS organisations are required to develop emergency preparedness arrangements are usually described in terms of being Major, Mass and Catastrophic and have casualty numbers associated with them in the tens, hundreds and thousands. Burn-injury incidents are unusual in that a comparatively small number of critically ill burn-injured patients may create the need for a major incident response due to the limited number of Burn Services, and hence burn beds, across the country.

3. This Guidance has been prepared under the auspices of the Department of Health's Emergency Preparedness Division and the National Network for Burn Care (NNBC). The full list of the membership of the expert reference group together with the organisations represented is shown at Appendix 1. The Terms of Reference of the group is shown at Appendix 2.

4. The recommendations made by the expert reference group included in this Guidance are those considered most likely to improve:

    - the response of NHS organisations to incidents and emergencies that give rise to burn- injured patients;
    - the care and treatment given to such patients;
    - the ability for Burn Services to recover.

5. Appendix 4 shows a diagrammatic representation of the patient pathway for burn-injured patients involved in a major incident or emergency showing links to NHS Command, Control and Co-ordination in England.

6. It is recognised that the NHS is currently moving towards significant change in its organisation with the abolition of Strategic Health Authorities (SHAs) in April 2012 and Primary Care Trusts (PCTs) in April 2013. Planning for the response to an emergency has to be maintained during this period of transition. The terminology used in this Guidance reflects the structure of the NHS as it is currently. This is interim strategic national guidance and will be reviewed and revised as changes are announced.

7. The Operating Framework for the NHS in England for 2011/2012 states that *"emergency preparedness and resilience across the NHS continues to be a high priority. All NHS organisations, other contracted healthcare providers, local*

authorities and other local organisations should maintain and test plans and arrangements to deliver an effective response to threats and hazards…..They should have robust and tested command and control systems, as well as meeting their local obligations under the Civil Contingencies Act 2004……It is essential that all NHS organisations have well developed plans in place to manage exceptional surges in activity." Further Guidance on the arrangements for emergency preparedness is to be published in November 2011.

8. This Guidance must be used in conjunction with the NHS Emergency Planning Guidance and the relevant underpinning sections including:
    - Ambulance services
    - NHS Trusts
    - Blast-Injured Patients
    - Critical Care
    - Psychosocial and Mental Health Care of people affected by major incidents and disasters
    - Incidents involving radiation
    - Mass casualties
    - Strategic Command & Control Arrangements

    In addition, there is material available to support planning and response at the website of the Health Protection Agency particularly for chemical, biological and radiation emergencies.

    The information and resources section at the end of the Guidance gives details of web links to this material.

9. The NHS Emergency Planning Guidance and its underpinning documents provide general guidance, information and context for NHS organisations. Its purpose is to describe a set of general principles to guide all NHS organisations in developing their ability within the context of the requirements of the Civil Contingencies Act 2004 (CCA).

10. Although it is not possible to define a Burn Major Incident in terms of numbers of casualties, the responses outlined in this guidance should only be considered for an incident that is not part of routine Burn Service activity. Under no circumstances should any NHS organisation seek to initiate or adapt these in order to respond to a problem arising from staff shortages, waiting list pressures, management failures or other local institutional deficiency. The accompanying ethical and medicolegal endorsement that will support NHS organisations and staff in an appropriate escalation response for major incidents and emergencies will not be applicable in other circumstances.

11. However, it is recognised that when a Burn Service, Burn Care Network, or the country is functioning near to capacity with routine activity the threshold for escalation in a Burns Major Incident may be low. Guidance to Burn Networks is given on developing and monitoring Levels of Activity and Response that mirror the Levels of Incident and Response structure in this document.

12. Guidance is also given to Burn Care Networks to develop Burn Specialist Advice Teams (BSAT) and Burn Specialist Care Teams (BSCT) which replaces previous guidance on developing Burn Assessment Teams (BATs) that occurred.

13. This Guidance is built on best practice and shared knowledge, while also acknowledging that, in certain circumstances, restrictions or limitations of normal standards of care will be inevitable. It is intended to provide a platform for all NHS organisations to undertake Burn Major Incident and emergency planning and to provide information on associated activities that may also be required. In the context of this Guidance, the term ‘patient’ refers individual people of all ages.

14. While NHS Foundation Trusts are not required to comply with Department of Health Guidance on emergency planning, it is for each Foundation Trust, having regard for its duty to co-operate with other bodies within the local area, to determine how they will comply with the requirements set out in the Civil Contingencies Act. The November 2010 Foundation Trusts’ Bulletin from Monitor sets out the planning and legal obligations which NHS Foundation Trusts must comply with under the Civil Contingencies Act. Monitor plans to amend the 2009/10 Compliance Framework to reflect these requirements.

15. The NHS Emergency Planning Guidance gives the Chief Executive Officer of each NHS organisation responsibility for ensuring that their organisation has a Major Incident Plan in place that will be built on the principles of risk assessment, co-operation with partners, emergency planning, communicating with the public and information sharing. The Burn Major Incident plan should link into the organisation's arrangements for ensuring business continuity as required by the Civil Contingencies Act 2004. Planning for the specific needs of burn-injured patients forms part of that responsibility for Chief Executives of Acute Trusts.

16. This is strategic national guidance for all NHS organisations in England and equivalent guidance will be provided by Health Departments in Devolved Administrations.

17. In the event of demand for healthcare exceeding or overwhelming supply, the underlying principle is to achieve the best health outcomes based on the ability to achieve health benefits. Regard must be given to appropriate professional guidance including the General Medical Council's "Good Medical Practice".

Burn Care and its Organisation

18. A burn is an injury to the skin and underlying tissue, usually caused by contact with intense heat, electricity or chemicals (but may be caused by Chemical Biological Radiological Nuclear (CBRN) incidents). In addition, there is the potential for airway and lung injuries caused by inhaling smoke or toxic fumes, particularly from chemical explosions or house fires. Burn injuries cause loss of the functional integrity of the skin that leads to fluid loss and hypothermia. They range from the most minor burns, dealt with in the community, to the most severe and devastating that require specialist care. In general terms, the severity is based on the Total Body Surface Area (TBSA) burn and anatomical site of the injury, the depth of skin injury, the patient's age and the presence of co-existing medical conditions. The NNBC predecessor, the National Burn Care Group, developed National Burn Injury Referral Guidelines. These can be found at the NNBC website and may be subject to revision. *The information and resources section at the end of the Guidance gives details of web links to this material.*

19. In Burn Major Incidents, patients may be admitted with isolated burns, non-burn injuries, or burns with other injuries. The 'other' injuries in patients with burns may be life threatening and these require assessment and management according to standard resuscitation guidance. Decisions about priorities for the care of the traumatic injury and the burn should be by discussion and consensus between the responsible burn clinicians and trauma clinicians.

20. The care of burn-injured patients may be provided on an in-patient or outpatient basis depending on severity, progression and recovery. Individuals may require input from a range of services including adult and paediatric critical care, surgical, anaesthetic, nursing, laboratory services and allied health professionals. In some cases the major need is for specialist psychological or social worker involvement. With a complex injury, the whole multi-disciplinary (MDT) burn team (including, for example, pharmacists, pathologists, dieticians, infection control team, play specialists, etc), might be involved throughout the acute care period. Their input might be required following discharge during rehabilitation/re-integration into society. The post-acute care may continue with the same team for some years, especially for children and young people, and involve multiple outpatient interventions and several admissions to hospital for reconstructive surgery.

21. Burn Services throughout the British Isles are almost exclusively part of Plastic Surgery Departments. As the care of patients with acute burns within the NHS is an entirely emergency driven service, the majority of Burn Services have historically had relatively low bed occupancies. This pattern is seen within Burn Services worldwide and reflects an ability to regularly deal with large fluctuations in admission numbers. It is recognised that a Burn Major Incident may overwhelm bed capacity in a particular Burn Service/Burn Network/nationally depending on the level of routine activity at the time of the incident.

22. Burn Care in England and Wales is organised into four networks. Each Burn Network helps to coordinate the treatment and care of all patients that live in their area, to provide a framework to ensure there is a coordinated approach to burn care in that area, and to ensure that patients have access to the best possible services.

23. The four Burn Networks are:

    - The Northern Burn Care Network including North Wales and the Isle of Man: http://www.nbcn.nhs.uk/
    - The Midlands Burn Care Network: http://www.midlandsburnnetwork.nhs.uk
    - The South West UK Burn Network: http://www.swscg.nhs.uk click Networks, Burn Care
    - The London and South East of England Burn Network: http://www.lsebn.nhs.uk

24. The National Burn Care Review suggested that levels of care provided for burn-injured patients in England and Wales should be stratified and this is in progress at the time of writing. Services are designated as follows:

    Burn Centre: This level of in-patient burn care is for the highest level of injury complexity and offers a separately staffed, geographically discrete ward. The facilities are up to highest level of critical care and have immediate operating theatre access.

    Burn Unit: This level of in-patient burn care is for the moderate level of injury complexity and offers a separately staffed, discrete ward.

    Burn Facility: This level of in-patient burn care equates to a standard plastic surgical ward for the care of non-complex burn injuries.

National Burn Bed Bureau

25. The National Burn Bed Bureau (NBBB) was launched in April 2003. It responds to requests from local emergency services for specialist burn beds. The NBBB is managed by the Capacity Management Team, part of the First Response Agency, and is based at West Midlands Ambulance Service NHS Trust. Contact can be made with the NBBB via 01384 215666.

26. Across the British Isles, NBBB currently provides:
    - 24 hour coverage of availability in response to requests for patient transfers to specialist Burn Services across England, Scotland, Wales, Northern Ireland and Dublin.
    - Twice-daily establishment of bed capacity and availability;
    - Part of the nationwide response to a Burn Major Incident

27. The local Command, Control and Coordination structure for the NHS should make the NBBB aware of any incident involving sufficient casualties to meet the definition of Level 4 in the Levels of Incidents and Response. See Figure 1.

28. If informed of a Level 4 Incident, the NBBB should reassess bed capacity nationally.

29. In a Burn Major Incident, consideration should be given to repatriate patients to their nearest Burn Service when clinically appropriate and when transport is available. The National Burns Bed Bureau will continue to monitor the availability

of specialist burn beds to help support their use in a sustainable manner to achieve the best health outcomes based on the ability to achieve health benefits.

30. Medical Incident Commanders (MICs) will need to be aware of the content of the National Burn Major Incident Plan, Burn Network Major Incident Plans and how to access the NBBB.

Major Trauma and the Trauma Pathway

31. The proposals made in this guidance for the management of burn-injured patients in the event of an emergency are made in the context of the development of Regional Networks for Major Trauma and the use of the trauma pathway.

32. The NHS is seeking to improve trauma care. It is estimated that 450 to 600 lives could be saved in NHS hospitals every year if trauma services were better organised. To achieve this, the NHS England is setting up regional trauma networks to ensure patients with serious and life-threatening injuries are moved rapidly to Major Trauma Centres (MTCs) where expert staff are available round the clock, in the major trauma specialties. As major burns are a form of trauma, their initial hospital management should be by those with an appropriate level of skill.

33. The London Regional Trauma Network went live in April 2010. For the rest of England, the planning and design of networks of trauma care by SHAs should be complete by end of the financial year 2010/11, with a programme of implementation throughout the financial year 2011/12. This document should be considered as additional guidance to the overarching recommendations published by the NHS Clinical Advisory Group. The link to this material is at:

    http://www.excellence.eastmidlands.nhs.uk/welcome/improving-care/emergency-urgent-care/major-trauma/nhs-clinical-advisory-group/

34. The NHS Clinical Advisory Group on the Management of children and young people with Major Trauma has reported its findings and these have now been published by NHS East Midlands on their Website at:

    http://www.excellence.eastmidlands.nhs.uk/welcome/improving-care/emergency-urgent-care/major-trauma/nhs-clinical-advisory-group/

Pre-Hospital Care

35. The provision of pre-hospital care at scene and in transit to the Emergency Department is primarily the responsibility of the Ambulance Service and of its partners, for example, Medical Emergency Response Incident Teams (MERITs), Helicopter Emergency Medical Services (HEMS), and the British Association for Immediate Care (BASICs). Only in very unusual circumstances is it envisaged that burn specialists would be asked to deliver care at the scene of a Burn Major Incident or emergency. If this were required it is envisaged that burn specialist would assist as members of a MERIT team or similar rather than as members of free-standing burn specialist teams.

36. Triage of patients will be undertaken in accordance with locally agreed Trauma Network protocols and procedures. It is recommended that burn-injured patients be referred to the appropriate local Burn Service at the first available opportunity.

37. The arrangements for management of patients with burns and co-existing life-threatening traumatic injuries should be described within Burn Network Burn Major Incident Plans. These plans should be in alignment with the Major Trauma Network clinical pathway and referral guidance, and this Guidance. The Burn Network should be responsible for communicating the arrangements for managing patients with burns and co-exisitng life-threatening traumatic injuries to the local Ambulance Service and their partners.

Planning and Preparedness for an Emergency or Emergencies Involving Burn-injured Patients

38. This section offers guidance relating specifically to the planning and preparation for, and response to, emergencies likely to cause a demand for care for adult and paediatric for burn-injured patients that would exceed normal Burn Service/Burn Network/National capacity.

39. In the event of demand for healthcare exceeding or overwhelming supply, the underlying principle is to achieve the best health outcomes based on the ability to achieve health benefits. Regard must be given to appropriate professional guidance including the General Medical Council's "Good Medical Practice".

40. NHS Organisations are required to have Major Incident Plans that are performance managed by SHAs, ensuring that local plans are consistent with NHS Major Incident planning guidance and other relevant legislation and guidance. SHAs also assume strategic command and control of widespread major incidents – incidents that cannot be contained within the resources of a local health economy. Individual NHS organisations' Major Incident Plans need to reflect the local command and communication structures specified within their system at all levels to avoid confusion.

41. Each NHS Trust with or without a Burn Service should plan for how it will manage the care of burn-injured patients in the event of an emergency, working in partnership with NNBC-recognised Burn Services. In most Burn Major Incidents, the primary function of Trusts without Burn Services should be the assessment and stabilising of patients prior to planned transfer to Burn Services.

42. It will be the responsibility of each Burn Network to ensure that the individual Burn Services within the Network have developed a coherent plan to respond to an emergency, which should include the ability of the health service to expand beyond normal capacity to meet an increased demand for clinical care.

43. In addition, each Burn Network will need to develop its own plan to respond to an emergency that will enable coordination of the response within the Network and with neighbouring Networks. Each Burn Network should seek clarity for mutual aid arrangements with the Devolved Administrations.

44. Although there are over 175 Emergency Departments in England, there are comparatively few places where burn-injured patients may be cared for by clinical specialists. This is especially the case for children and young people. Specialist Burn Services for children and young people are only available at a limited number of hospitals. The NNBC website www.specialisedservices.nhs.uk/burncare has a list showing the location by Burn Network of all recognised Burn Services in England and Wales.

Involvement in Planning: Key Players

45. Planning for the management of a significant number of burn-injured patients will require a high level of cooperation and coordination involving:

- NHS Trusts with Emergency Departments and Burns Services (Centres, Units and Facilities)
- NHS Trusts with Burn Services but no Emergency Department
- NHS Trusts with Emergency Departments but no Burns Service
- Regional Burn Networks
- The developing Trauma Networks
- Land and Air Ambulance Services
- Adult Critical Care Networks
- Paediatric Intensive Care Networks
- The National Network for Burn Care
- The National Burn Bed Bureau
- Strategic Health Authority Emergency Planning Leads
- Trust Emergency Planning Officers/Leads or equivalent
- NHS Blood & Transplant
- NHS Supply Chain
- NHS Logistics
- The Devolved Administrations in Wales, Scotland and Northern Ireland
- Other neighbouring countries including the Republic of Ireland
- And Others

The Principles for Planning

46. Planning by individual Burn Services and by the four Burn Care Networks need to be built on the following principles:

I. Burn Services and the four Burn Care Networks will need to ensure that they are able to synchronise with the appropriate NHS Command, Control and Coordination arrangements. This will ensure that Burns Service are appropriately supported during an emergency and that the wider NHS is aware of any Burn Major Incident or emergency involving burn-injured patients and can be appropriately involved.

II. Depending on the scale of the emergency, Burn Services within Networks and the four Burn Care Networks will work together with Adult and Paediatric Critical Care services to ensure resilience and ongoing business continuity.

III. Within each Burn Care Network, the Clinical Director/Lead will be responsible for ensuring that there is a robust Burn Major Incident Plan for the Burn Network and that this is integrated with the general NHS emergency planning arrangements locally.

IV. Within each Burn Service, the Service Lead will be responsible for ensuring there is a Burn Major Incident Plan that integrates with the Trust's Major Incident Plan and associated plans.

V. At all stages of planning for a Burn Major Incident, attention should be paid to the needs of children and young people including safeguarding concerns and psychosocial well-being.

Levels of Incidents and Response

47. The levels of response for adults and children and young people that need to be planned for are shown in Figure 1 below:

Figure1: Levels of Incident and Response

Level	Description	Who to be notified
1 – Normal	Normal	- No notification required
2 – Concern	Casualties admitted from Burn Major Incident but normal activity maintained in Burn Service	- Check bed capacity in neighbouring Burns Services - Notify Trust on-call Director and Trust Emergency Planning Lead/ Officer or equivalent
3 - Pressure	Casualties admitted from Burn Major Incident and normal activity not possible in Burn Service but additional activity can be absorbed by the Trust hosting the burns services by various means e.g. opening of closed beds, expansion of nursing capacity by increasing agency or bank support, consideration of reduction of elective outpatient activity, outreach and similar services	- Check bed capacity in neighbouring Burn Services - Notify Trust on-call Director and Trust Emergency Planning Lead/ Officer or equivalent
4 – Severe Pressure	Normal activity not possible in Burn Service and additional activity not capable of being absorbed by Trust hosting Burn Service. More than one Burn Service within the local Burn Care Network engaged to admit casualties from Burn Major Incident	- Check bed capacity in neighbouring Burn Services - Notify National Burn Bed Bureau - Notify Trust on-call Director and Trust Emergency Planning Lead - Establish Burn Network communication to determine when Burn Network capacity will be exceeded
5 - Critical	An individual Burn Network is not able to admit all casualties from a Burn Major Incident and needs to consider out of Burn Network transfer of patients.	- Notify National Burn Bed Bureau - Notify Trust on-call Director and Trust Emergency Planning Lead - Request that the SHA Emergency Planning Lead be notified
6 – Capacity Exceeded	National capacity and capability is not able to absorb the additional activity	- Ask Trust on-call Director to notify SHA Emergency Planning Lead with request to notify the Major Incident Coordination Centre at Department of Health

48. The following principles should be respected:
    - There should be no degradation of care within a Burn Service whilst there is additional capacity within the local Burn Network
    - There should be no degradation of care within a Burn Network whilst there is additional capacity within the country
    - When Level 6 is reached and national capacity is exceeded, consideration should be given to referring patients to Burn Services in Devolved Administrations and European Union Partner Nations. The Department of Health's Major Incident Coordination Centre must be notified if transfers are being sought under these circumstances so that it can facilitate such transfers. This contact would normally be made via the SHA Emergency Planning Lead.

49. Appendix 3 shows an Age/Total Burn Surface Area Survival Grid for illustrative purposes. It is abstracted from the American Burn Association (ABA) Plan, developed by the Committee on Organization and Delivery of Burn Care and the Board of Trustees, for the management of mass burn casualties resulting from mass disasters and terrorist acts. It illustrates a triage decision table of benefits to resource ratio that may be useful to aid clinical decision making in the event of mass casualties.

Escalation and Triggers

50. Each Burn Service and Burn Network will have to consider what might constitute a Burn Major Incident for them depending on the available capacity and capability, and use this as the basis for establishing triggers and escalation arrangements.

Consumables

51. The treatment of any burn injury requires the use of a large volume of dressing materials, and other wound care products including cadaveric skin. The care of a major burn injury usually requires far longer lengths of stay in critical care areas than an average critical care patient and thus consumes considerably more resources.

52. Burn Services do not carry large stocks of dressings, spare equipment or drugs and typically only have sufficient to deal with fluctuations in their normal activity. Being an emergency driven service they rely on re-stocking arrangements with their local NHS Logistics system and commercial services to deal with fluctuations in activity. An urgent piece of work is in progress to explore the possibility of establishing a buffer stock of key consumables that will be available on a Network basis. Work is also in progress to ensure the availability of skin stocks to support a response. (Details may be available via the NNBC website in the future).

Workforce

53. Established burn beds should be utilised according to the availability of burn multi-disciplinary team staff.

54. The small number of plastic surgeons, adult and paediatric anaesthetists and intensivists, and other specialities in the UK with a sub-specialty interest and training in burn care is such that they may need help from plastic surgery colleagues and other clinicians. In the event of mass casualties, these colleagues are likely to be most active in hospitals that do not normally have a Burn Service where patients have been admitted.

55. In planning for a Burn Major Incident, Trusts (including Ambulance Services) should identify minimum staffing levels. Support and training in burn care for non-specialist staff such as that provided by the British Burn Association in the Emergency Management of Severe Burns (EMSB) course should be encouraged. Key staff should be encouraged to undertake recognised training courses in the management of major incidents.

56. There are occasions in which having access to burn specialists will be desirable. For example:
    - to give advice or provide hands-on care to burn-injured patients who are being cared for outside a recognised Burn Service
    - to provide support to triage of multiple burn-injured casualties taking place within a Major Trauma Centre, Trauma Unit or receiving hospital
    - to act as specialist tactical adviser to NHS Command and Control in the event of a Burn Major Incident or emergency.
    - as part of the planned response to provide medical cover for events where there are mass gatherings such as air shows and similar events when burn injury is assessed to be a threat in the event of an emergency;

57. This Guidance proposes that Burn Networks develop the capability to provide two distinct inputs (though they may use the same specialist staff). These are:

    Burn Specialist Advice Team (BSAT) – This 'off Burn Service site' team would typically comprise of Burn Consultants/Senior Burn Nurses/both and would provide advice to other clinicians (or to NHS Command and Control in the capacity of specialist tactical advisers)

    Burn Specialist Care Team (BSCT) – This 'off Burn Service site' team would typically comprise of Burn Consultants/Senior Burn Nurses/both and would provide direct patient care in addition to advice.

    These teams would replace the Burns Assessment Teams (BATs) described in previous guidance.

58. Burn Services and Burn Networks will need to consider arrangements for indemnifying those staff working outside their normal place of employment. The Trauma Networks are putting in place such arrangements to allow flexible use of staff (Details may be available via the NNBC website in the future). Trusts and Networks are asked to ensure that there are no unnecessary bureaucratic obstacles to allowing specialist clinical staff working outside their own Trust from providing specialist advice and clinical input in the event of an emergency or a major incident. NHS organisations are reminded that the NHS Emergency

Planning Guidance is based on the legal requirements of the Civil Contingencies Act 2004 including that of active mutual aid across organisational boundaries, across national boundaries within the UK and across international boundaries where appropriate.

Psychosocial and Mental Health Care

59. Psychosocial care describes the emotional and social support and other care that particular patients and their families may require as a result of injuries. Mental healthcare refers to psychiatric, psychological, and specialised psychological assessments and interventions that patients may require as a consequence of their injuries, care and treatment and any pre-existing mental health needs.

60. The NNBC's predecessor, the National Burn Care Group, commissioned a report on the psychosocial impact of burn injuries. That report found clear evidence that burn injuries can cause considerable psychosocial distress to patients and families at all stages of care including after discharge from Burn Services. Also, there may be additional distress if the burn injuries occurred in the course of a major incident or emergency.

61. Therefore, planning for a Burn Major Incident or emergency should include arrangements for providing psychosocial care and support for patients, their families and carers taking into account that patients may be displaced from their home location, ensuring that the continuum of psychosocial care runs in parallel with patients'' physical healthcare from first response until after their discharge. The approach outlined here builds on the Department of Health guidance for psychosocial care for patients who are affected by emergencies, disasters and major incidents. A link to this guidance can be found at.

    http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/DH_103562

62. The majority of patients who are involved in any traumatic episode are likely to be shocked and stunned in the immediate aftermath; others may be visibly upset and distressed. Those who have suffered major burns, and consequent long term treatment and disfigurement issues, are also likely to have a period of psychological adjustment, demonstrated by emotional, cognitive, social and physical reactions, for variable periods of time or at intervals after events. A smaller number of affected patients may suffer more severe or prolonged distress and they require more specialised assessment and/or treatment. Some patients who are burned develop mental disorders and require specialist care.

63. The Department of Health's stepped model of psychosocial and mental health care identifies the important roles that first responders play in initiating the continuum of psychosocial care and the vital roles of staff of Burn Services and Trauma Services in ensuring that the continuum is sustained. In most instances, they are able to provide what is required for most patients. That model, as adapted for the trauma pathway, is outlined in Figure 2.

Figure 2: A stepped model for psychosocial and mental health care

Intent	Nature of Activity	Level of Activity	Activity	Time Scale
Sustain Patients' and Families' Personal and Collective Psychosocial Resilience	Preparedness	1	Strategic design and planning to deliver the trauma pathway	Continuing
	Psychosocial Health and Social Care Delivered by Immediate Carers and Staff of the Burns Services	2	Sustaining patients' and families' resilience and responding to distress through social support	
		3	Delivering Psychological First Aid and welfare aid	Immediate and continuing
Deliver responses to patients' and families' needs for specialised social, mental health, and psychological care	Specialised Social Care, and Psychological and Psychiatric Assessments and Interventions	4	Delivering specialised social care	Medium to long-term
		5	Delivering more specialised psychosocial and psychological assessments and interventions	
		6	Providing ease of access to specialist psychological and mental health assessment, intervention and care services	Medium and long-term

Communications

62. Arrangements should be made to ensure that all staff members are fully informed about planning and preparation for an emergency where normal burn care capacity is likely to be significantly exceeded. This should include staff within Burn Services in other areas such as Emergency Departments, critical care units, operating theatres, recovery rooms, day surgical units, general wards including paediatrics, support/laboratory/transfusion services, medical illustration services, spiritual support etc

63. Communication should be established with Primary Care Services in order that GPs and front-line practitioners are aware of likely restrictions on hospital care and the possibility of patients who might normally be admitted to hospital with small burns being cared for as out-patients.

64. It is important that local communication structures are linked to formal NHS communications processes. This will help ensure that local responses are integrated with the regional or national progression / regression of the incident, and hence allow them to be refined or adjusted appropriately (e.g. evidence obtained during an emergency or major incident.

65. There will always be intense media interest in major incidents involving large numbers of casualties. An essential part of planning is for each Burn Service to approach the Trust Head of Communications to ensure that the local Major Incident Communications Plan includes specific plans for incidents involving burn-injured patients. Burn Networks should make a similar approach to the SHA Communications Lead. SHA Communication Leads will need to be aware that the nature of a Burn Incident may result in burn-injured patients being distributed around the country and therefore it may that the SHA in which the incident has occurred needs to be designated as the lead to ensure consistency of approach. Press can also be helpful in disseminating accurate information. For this reason it is helpful to develop a good relationship and make suitable arrangements where the Press are given appropriate, adequate and accurate information regularly.

Staff should work through and with their own press teams. Press conferences should be given by people who are well prepared and used to facing the media. Consideration should be given to the training of staff, including clinical staff, in media handling. In addition the preparation in advance of an incident of pre-planned lines to take can be undertaken to support the response.

Security

66. Burn Services could become overwhelmed and chaotic in a Burn Major Incident or emergency response. Special care must be taken to prevent unauthorised access. Burn Services should be aware of the local lockdown policy and be able to participate in it as appropriate. Not everyone seeking to gain entry may be who they seem, or be there to be helpful. It is not unknown for secondary terrorist activity to focus on the hospital where the casualties from the primary event have been taken. Police or Armed Forces protection is highly unlikely. Consideration needs to be given to 'lock-down', and whether visitors will be permitted access, given that they may be a good source of voluntary assistance. Some Burn Services have satisfactory security arrangements with controlled access, however some remain 'open' and this is a potential hazard. Security awareness should be recognized as an important training issue.

Resilience and Business Continuity Management

67. The NHS is responsible for providing health services to the people and communities of England. As such, it is responsible for the continuance and maintenance of these services, ensuring robust operational delivery of healthcare services when faced with a range of disruptive challenges, to enable the healthcare sector to *'Survive to Operate'.* Emergency preparedness is identified as one of the priority areas for NHS organisations within the 2011/12 Operating Framework. As such, all NHS organisations and services are exhorted to adopt the principles of resilience where resilience is defined as "*the ability of an organisation to adapt and respond to disruptions to deliver organisationally agreed critical activities*".

68. In any NHS Trust, the absorption of significant numbers of patients with burn injuries will seriously disrupt the non-burn activity of the hospitals as burn injuries typically require longer stays. In addition, the requirement for specialist rehabilitation will generate requirements for the commissioning of such services that may impact on planning for other services.

69. For NHS organisations there may be a long 'tail' to a Burns Major Incident event, for example, loss of facilities, provision of services to patients injured or affected in the event, psychological support to victims and/or staff. The five critical functions that NHS organisations should consider in developing arrangements for resilience and business continuity, including recovery and restoration, are:

    - Workforce
    - Buildings
    - Supply chains
    - Utilities, including communications

- Service capacity

70. There is NHS specific guidance on how to develop resilience including:

    - The NHS Resilience and Business Continuity Management Guidance 2008: interim strategic national guidance for NHS organisations can be found at: http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Consultations/Liveconsultations/DH_085422.

    - PAS 2015: Framework for health services resilience: Publicly Available Specification (PAS) 2015 published by the British Standards Institution recommends techniques for improving and maintaining resilience for NHS-funded organisations that build on the activities that are already in progress within the organisation.

Incident Analysis

65. It is crucially important that information gathering takes place during the early stages of any incident where national progression is likely to occur in a time-staged manner, since lessons learned from clinical practice in the areas first hit may contribute to saving lives and reducing risks to staff in areas that are subsequently affected. NHS organisations should therefore support or encourage staff to consider plans for data collection, incident analysis or research studies in advance of such an event, and provide all reasonable support for projects that may be beneficial for other patients and staff.

66. An event that places Burn Services under significant extra pressure is likely to produce similar problems for many other clinical hospital specialties, and to reduce opportunities for communication between practitioners. This may result in missed opportunities for incident analysis and collaborative research / learning about the event and its effects on patients, staff, and resource consumption. Consequently there may be added value in establishing a local coordinating committee to pull together important information and support learning processes during the course of the response.

Responsibilities

Primary roles and responsibilities of key responders in respect of a Burn Major Incident are summarised as follows and are in addition to the generic roles and responsibilities found within the NHS Emergency Planning Guidance.

Burn Care Networks

- be aware of the National Burn Major Incident Plan
- have in place a local Burn Network Burn Major Incident Plan that links into local Burn Service Burn Major Incident Plans
- within the Burn Network Burn Major Incident Plan, establish a Levels of Activity and Response structure that mirrors the Levels of Incident and Response shown in Figure 1 but that instead describes and monitors routine Burn Network capacity that will allow day to day recognition of the ability to deal with a Burn Major Incident within the Network
- ensure that all local Network Burn Services have in place a Burn Major Incident Plan that links into the Network Burn Major Incident Plan
- have plans in place to escalate according to Response Levels 1-6 as shown in Figure 1 and to ensure that wherever possible there is no degradation of care within the Burn Network whilst there is national capacity
- ensure that the Burn Network Burn Major Incident Plan is reviewed periodically especially after any Burn Major Incident or exercise that invokes the plan
- establish effective communication links with the other Burn Networks specifically regarding Burn Major Incident planning
- develop a system for mobilizing Burn Specialist Assessment Teams and Burn Specialist Care Teams either from within the Network or from neighbouring Burn Networks
- establish effective communication links with Emergency Planning Leads including SHA EPLs and ensure that the Burn Network plans are integrated within SHA emergency planning and response arrangements
- establish effective communications links with Major Trauma and Adult and Paediatric Critical Care Networks and ensure that referral pathways and clinical threshold guidelines associated with Network Burn Major Incident Plan are considered
- have in place plans to manage patients with burns and co-existing life threatening traumatic injuries
- promote education of first responders and Emergency Department practitioners
- ensure the principles within the Media Handling section of the National Burn Major Incident Plan are followed

Burn Services

- be aware of the National Burn Major Incident Plan and the local Burn Network Burn Major Incident Plan
- have in place a Burn Service Major Incident Plan informed by the National Burn Major Incident Plan and the local Burn Network Burn Major Incident Plan
- train staff in, and exercise, the Burn Service Burn Major Incident Plan
- wherever possible provide optimal service standards with no degradation of care
- consider out of service transfer when local resources not able to provide optimal service standards i.e. a Level 4 Incident

- communicate in accordance with the recommendations of the National Burn Major Incident Plan Levels of Incident and Response
- establish communication links with Trust on-call Directors and Emergency Planning Leads
- ensure requirements for the procedures for the preservation of forensic material are in place and followed
- ensure all patients referred to the Burn Service are logged
- ensure the principles within the Media Handling section of the National Burn Major Incident Plan are followed
- ensure patients are given information regarding local trauma support groups.

Burn Specialist Advice Team (BSAT)
This 'off Burn Service site' team comprises of Burn Consultants/Senior Burn Nurses/both and would provide advice to other clinicians (or to NHS Command and Control in the capacity of specialist tactical advisers).
Their responsibilities are:

- provide burn management advice
- liaise with Burn Service's Command and Control structure
- liaise with receiving hospital's Command and Control structure
- advise that a list of burn-injured patient name, date of birth, and hospital identification number is kept
- advise that patients burn injuries are photo-documented
- advise that accurate and relevant medical burn-related information is documented

Burn Specialist Care Team (BSCT)
This 'off Burn Service site' team comprises of Burn Consultants/Senior Burn Nurses/both and would provide direct patient care.
Their responsibilities are:

- provide burn care/intervention
- provide burn management advice
- liaise with Burn Service's Command and Control structure
- liaise with receiving hospital's Command and Control structure
- advise that a list of burn-injured patient name, date of birth, and hospital identification number is kept
- advise that patients burn injuries are photo-documented
- advise that accurate and relevant medical burn-related information is documented

Trust without a Burn Service

- be aware of the National Burn Major Incident Plan, the local Burn Network Burn Major Incident Plan and the local Burn Service Burn Major Incident Plan
- ensure protocols for managing patients with burns exist and are followed in line with local Burn Network/Burn Service guidelines
- ensure key staff are trained in burn care
- communicate effectively with Burn Services and refer patients with burns as appropriate to specialist Burn Services as soon as possible
- request Burn Specialist Assessment Teams and Burn Specialist Care Teams when required
- ensure the principles within the Media Handling section of the National Burn Major Incident Plan are followed
- ensure patients are given information regarding local trauma support groups.

Information/resources

Further information on burn care, emergencies and major incidents can be found at the following sources.

SUBJECT	SOURCE	CONTACT:
Emergency Planning Guidance and related material	Department of Health: Emergency Planning Guidance NHS Resilience	www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4121072 http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Consultations/Liveconsultations/DH_085422
	The Health Protection Agency	www.hpa.org.uk/ *Specific links to support planning and response for CBRN* www.hpa.org.uk/Publications/
	Civil Contingencies Act 2004	http://interim.cabinetoffice.gov.uk/ukresilience/preparedness/ccact.aspx
Burn Care and Burn Care Service Organisation	National Network for Burn Care	www.specialisedservices.nhs.uk/burncare
	Burn Care Networks	The four Burn Care Networks are: • The Northern Burn Care Network including North Wales and the Isle of Man: http://www.nbcn.nhs.uk/ • The Midlands Burn Care Network : http://www.midlandsburnnetwork.nhs.uk • The South West UK Burn Network: http://www.swscg.nhs.uk click Networks, Burn Care • The London and South East of England Burn Network: http://www.lsebn.nhs.uk
	The British Burn Association	www.britishburnassociation.org/
	Changing Faces *Changing Faces is a UK charity that supports and represents people who have disfigurements of the face or body from any cause*	www.changingfaces.org.uk/Home
	The International Burn Injury Database	http://www.ibidb.org/ibid
	The National Burn Bed Bureau	http://www.nbcg.nhs.uk/national-burn-bed-bureau/
Adult and Paediatric Critical Care	The Intensive Care Society	http://www.ics.ac.uk/
	The UK Paediatric Intensive Care Society	http://www.ukpics.org.uk/
The Management of Children and Young People with Major Trauma	The NHS Clinical Advisory Group on the Management of Children and Young People with Major Trauma. *Its findings are published by NHS East Midlands on their Website.*	http://www.excellence.eastmidlands.nhs.uk/welcome/improving-care/emergency-urgent-care/major-trauma/nhs-clinical-advisory-group/
Adult trauma and trauma networks	The NHS Clinical Advisory Group on trauma care *Its findings are published by NHS East Midlands on their Website.*	http://www.excellence.eastmidlands.nhs.uk/welcome/improving-care/emergency-urgent-care/major-trauma/nhs-clinical-advisory-group/

Appendix 1: MEMBERSHIP OF NNBC BURNS MAJOR INCIDENT SUBGROUP

- British Burn Association
  Naiem Moiemen (Burns and Plastic Surgeon Birmingham)
  Email: Naiem.Moiemen@uhb.nhs.uk

- British Association of Plastic Reconstructive and Aesthetic Surgeons
  David Ralston (Burns and Plastic Surgeon Sheffield)
  Email: david.ralston@sth.nhs.uk

- The College of Emergency Medicine
  Darren Walter (Assistant Medical Director – Service Delivery – North West Ambulance Service and Emergency Physician South Manchester University Hospitals Trust)
  Email: darren.walter@manchester.ac.uk

- Defence Medical Services Department
  Lt Col Owen Jones QARANC (v)
  Email: owen.jones@emscg.nhs.uk

- National Burn Bed Bureau
  Craig Cooke (Director of Operations, West Midlands Ambulance Service)
  Email: craig.cooke@wmas.nhs.uk

- Emergency Preparedness Division, Department of Health, London
  Russ Mansford (Strategic National Ambulance Advisor)
  Email: russ.mansford@dh.gsi.gov.uk

- Emergency Preparedness Division, Department of Health, London
  Melanie van Limborgh (NHS Resilience Project Manager)
  Email: melanie.vanlimborgh@dh.gsi.gov.uk

- Health Protection Agency
  Gordon MacDonald (Head of Strategic Planning and Response, HPA)
  Email: gordon.macdonald@hpa.org.uk

- National Network for Burn Care (NNBC) Programme Lead
  Nathan Hall (Programme Lead NNBC)
  Email: nathanhall@nhs.net

- NNBC Network Lead Burn Nurses
  Jacky Edwards (Burns Nurse Consultant)
  Email: jacky.edwards@uhsm.nhs.uk

- Royal College of Nursing
  Celia Kendrick (Lead Nurse/Emergency Planning Lead, Emergency Department Peterborough and Stamford Hospitals NHS Foundation Trust)
  Email: celia.kendrick@pbh-tr.nhs.uk

In addition the membership will include

- Chair
  Greg Williams (Burns and Plastic Surgeon, London)
  Email: greg.williams@chelwest.nhs.uk

- Deputy Chair
  Bill Dickson (Burns and Plastic Surgeon, Swansea)
  Email: William.Dickson@wales.nhs.uk

- Data Representative
  Ken Dunn (Burns and Plastic Surgeon, Manchester)
  Email: Ken.Dunn@uhsm.nhs.uk

- Project Manager, NNBC Burns Major Incident Subgroup
  Verity Kemp
  Email: verity@healthplanning.co.uk

Appendix 2

Burns Major Incident Planning Group Terms of Reference (TOR)	
1. NAME OF GROUP:	**Burns Major Incident Planning Group**
2. ACCOUNTABLE TO:	The group is a formal sub-group of the National Network for Burn Care (NNBC) and will be accountable to the NNBC.
3. AIMS AND PURPOSE:	▪To produce a plan indicating how a significant number of people receiving burn injuries from one or more major incidents could be efficiently and effectively distributed to burn services suitably equipped and staffed to deal fully with the presenting injuries either within the UK or outside the UK if necessary. ▪The plan should integrate with the Department of Health NHS guidance.
4. OBJECTIVES AND RESPONSIBILITIES:	• To consider the possible burn services that could be made available • To write a detailed plan for the triage, distribution, and treatment of burn-injured casualties • Obtain agreement to the plan from all relevant parties • Circulate and publicise the plan • Establish effective communication channels with the relevant stakeholders • To periodically plan and carry out a 'table top' exercise for the implementation of the plan in association with the Department of Health
5. MEMBERSHIP:	Members will be drawn from individuals who have expressed an interest in, and some expertise in, the subject including representatives from: • British Burn Association • British Association of Plastic, Reconstructive and Aesthetic Surgeons • British Association for Emergency Medicine • Defence Medical Services Department • National Burn Bed Bureau • Ambulance Services Association • Emergency Preparedness Division of the Department of Health, London • Health Protection Agency • NHS Nurse Managers (Emergency Medicine, and Burns) • National Network for Burn Care Programme Lead • In addition the membership will include • Chair • Deputy Chair • Data Representative
6. DECISION MAKING PROCESS:	Decisions will normally be achieved through consensus, otherwise a simple majority vote may be taken. However, decisions will not be taken where the primary discipline is not represented, e.g. transport decisions will not be taken if the Ambulance Services representative is not present.
7. QUORUM:	A meeting will be considered to be quorate if half of the identified members are present.
8. FREQUENCY OF MEETINGS:	Every 6 months
9. SERVICED BY:	NNBC
10. DURATION OF THE GROUP	Linked to NNBC Duration

10September 2010

Appendix 3

Abstracted from the American Burn Association (ABA) Plan, developed by the Committee on Organization and Delivery of Burn Care and the Board of Trustees, for the management of mass burn casualties resulting from mass disasters and terrorist acts.

Age/TBSA Survival Grid

Provided by Jeffrey R. Saffle, MD
Director, Intermountain Burn Center
Salt Lake City, UT

CAVEAT: This grid is intended only for mass burn casualty disasters where responders are overwhelmed and transfer possibilities are insufficient to meet needs.

This table is based on national data on survival and length of stay.

Triage Decision Table of Benefit-to-Resource Ratio based on Patient Age and Total Burn Size

Burn Size (%TBSA)

Age/ years	0 – 10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91+%
0-1.99	High	High	Medium	Medium	Medium	Medium	Low	Low	Low	Expectant
2-4.99	Outpatient	High	High	Medium	Medium	Medium	Medium	Low	Low	Low
5-19.9	Outpatient	High	High	High	Medium	Medium	Medium	Medium	Medium	Low
20-29.9	Outpatient	High	High	High	Medium	Medium	Medium	Medium	Low	Low
30-39.9	Outpatient	High	High	Medium	Medium	Medium	Medium	Medium	Low	Low
40-49.9	Outpatient	High	High	Medium	Medium	Medium	Medium	Low	Low	Low
50-59.9	Outpatient	High	High	Medium	Medium	Medium	Low	Low	Expectant	Expectant
60-69.9	High	High	Medium	Medium	Medium	Low	Low	Low	Expectant	Expectant
70+	High	Medium	Medium	Low	Low	Expectant	Expectant	Expectant	Expectant	Expectant

Outpatient, survival and good outcome expected without requiring initial admission; *high benefit/resource*, survival and good outcome expected (survival _90%) with limited/short-term initial admission and resource allocation (length of stay, _14 days, one to two surgical procedures); *medium benefit-resource*, survival and good outcome likely (survival, _50%) with aggressive care and comprehensive resource allocation, including initial admission (_14 days), resuscitation, multiple surgeries; *low benefit-resource*, survival and good outcome _50%, even with long-term, aggressive treatment and resource allocation; *expectant*, survival _10% even with unlimited, aggressive treatment.

Appendix 4: Patient pathway for burn-injured patients involved in a major incident or emergency showing links to the NHS Command, Control and Coordination structure in England and Wales.