# 1 Introduction: Why Do We Need to Prepare?

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**Key Questions**

- What is the key underpinning legislation for emergency preparedness, resilience and response (EPRR) in the UK?
- What are the main categories of major incidents and emergencies?
- Who benefits from EPRR processes being embedded in health organizations?
- What could be the repercussions of health organizations not undertaking or engaging in emergency preparedness activity?
- What is the Sendai Framework and why is it relevant to health emergency preparedness?

## 1.1 Introduction

Incidents and emergencies, by their nature, can occur at any time and in any place. Man-made, accidental or naturally occurring, these can pose significant threats to the health of the population. From earthquakes to terrorism there is a responsibility for communities to have arrangements in place to preserve life, prevent deterioration and promote recovery.

Some of the first questions to consider with regard to emergency preparedness, resilience and response (EPRR) in the health sector is 'why do we need to plan?' and 'why can't we just use existing systems and processes?' This book attempts to answer these questions through the subsequent chapters.

Preparing for unique, rare or extreme events results in many benefits to those affected by the emergency, to the responders and to the effective running of organizations. It is important that the response to any major incident is through a structured and coordinated framework within which

responders can operate safely and effectively. This is most effective when it reflects existing systems as new processes at the time of an incident response could result in unnecessary suffering and potentially lives being lost. Staff would also face unnecessary stress and resources could be wasted as people and organizations try to respond in an uncoordinated or haphazard manner. This chapter discusses some of the benefits of planning, as well as why we prepare for emergencies.

## 1.2 Legislative Setting

The UK Civil Contingencies Act (2004) defines an emergency as:

> an event or situation which threatens serious damage to human welfare in a place in the UK, the environment of a place in the UK, or war or terrorism which threatens serious damage to the security of the UK.

The Cabinet Office National Risk Register currently identifies a number of threats and hazards to the UK, as illustrated in Fig. 1.1.

The terminology used to describe such events is varied and includes 'emergencies', 'major incidents' and 'civil emergency', among others. Equally, they can range in size and impact from something affecting a village or town (such as localized flooding), to something affecting a discrete population (such as a major transport incident or release of a chemical), to something affecting whole countries or even the world (such as an outbreak of an infectious disease like Ebola or pandemic influenza).

Rightfully health organizations are involved in planning for and responding to more and more scenarios – both health-specific events as well as the health impacts of other emergencies. These include big-bang events such as explosions, cloud-on-the-horizon events such as the plume from a volcanic eruption, and rising-tide events such as pandemics (Table 1.1).

The Civil Contingencies Act (2004) places statutory duties on many organizations in the UK to prepare for and respond to major incidents and emergencies. This was passed into law following a number of major incidents in the UK and overseas. The incidents ranged in size, location and cause, but all affected people and communities. Many of the reviews of these incidents identified common areas for improvement such as better joint working between responding organizations, better capabilities and equipment, and better communication processes.

## 1.3 Health Service and Systems Preparedness

To paraphrase one of the authors of a later chapter in this book: there are no health emergencies; all emergencies have health aspects. It is increasingly important that health organizations across the breadth of providers and commissioners, in public, private and voluntary sectors, undertake and engage in EPRR activities.

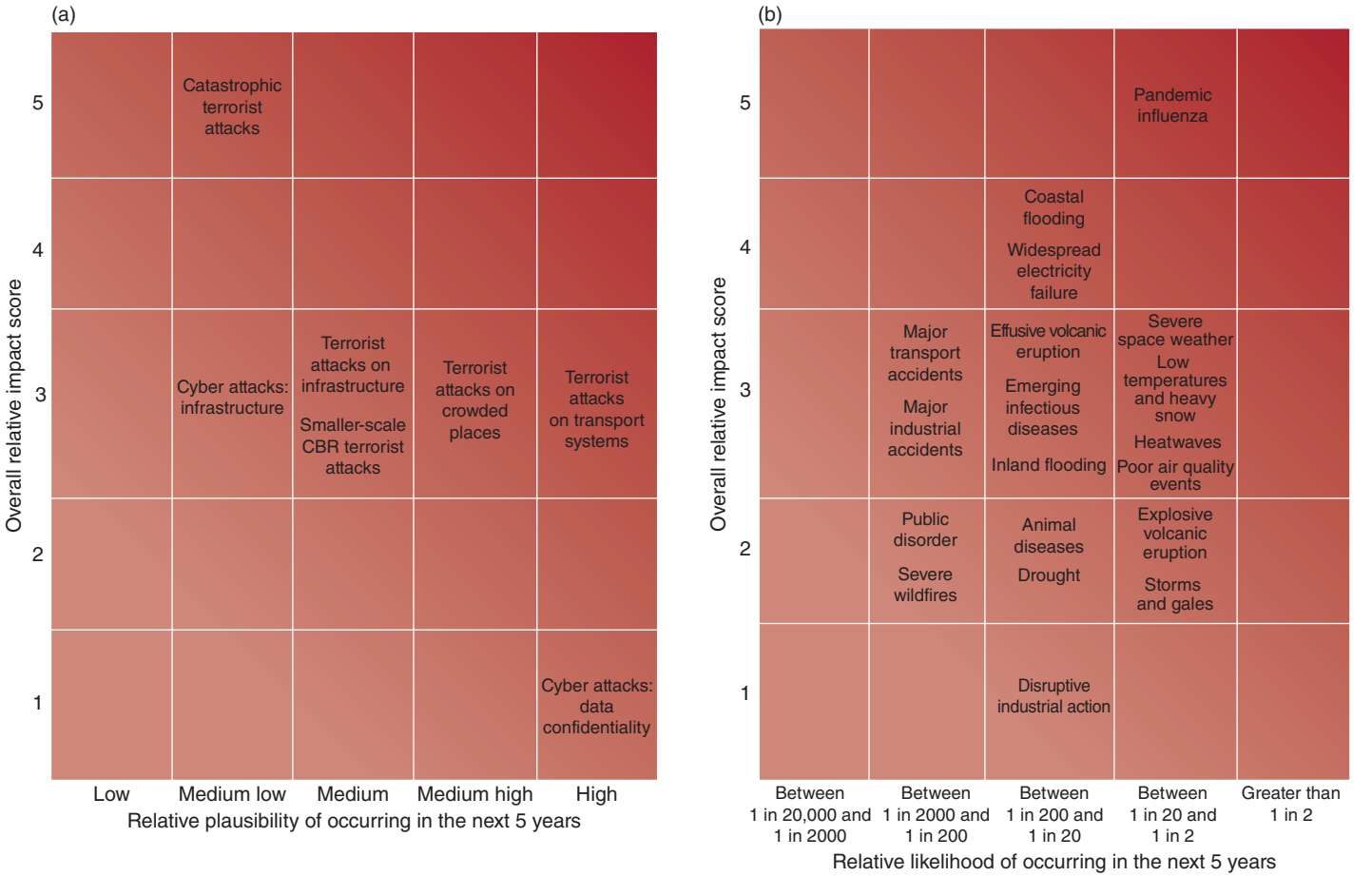


**Fig. 1.1.** Hazards and threats to the UK as identified in the Cabinet Office National Risk Register 2015: (a) risks of terrorist and other malicious attacks (CBR, chemical/biological/radiation); (b) other risks. (Reproduced with permission from www.gov.uk/government/uploads/system/uploads/attachment_data/file/419549/20150331_2015-NRR-WA_Final.pdf under the Open Government Licence (www.nationalarchives.gov.uk/doc/open-government-licence/version/3/).)

**Table 1.1.** Types of major incidents and emergencies.

| Type | Example |
|---|---|
| Big bang | An explosion or major transport incident |
| Cloud on the horizon | A significant chemical or nuclear release developing elsewhere and needing preparatory action |
| Rising tide | Epidemic or pandemic of infectious disease, or a capacity/staffing crisis (e.g. industrial action) |
| Headline news | Public or media alarm about an actual or impending situation (e.g. the MMR (measles, mumps, rubella) vaccine issues) |
| Internal incidents | Utility or equipment failure, fire, hospital-acquired infections, violent crime |
| CBRN(e) | Deliberate (criminal intent) release of chemical, biological, radioactive or nuclear materials or explosive device |
| HAZMAT | Incident involving hazardous materials (typically non-malicious) |
| Mass casualties/ fatalities | Incident resulting in significant numbers of casualties or fatalities that would potentially overwhelm the capacity of a single organization to cope |

Many organizations in the UK have a legal or statutory obligation to prepare for and respond to major incidents. In addition, it is good practice for all primary, secondary and tertiary health care providers to undertake business continuity management (BCM) processes and to engage with their local communities and partner organizations to ensure they can continue to deliver services during a disruption, or respond to the external challenges of a major incident.

Guidance in the UK for the NHS on EPRR has been led by NHS England since 2013. An overarching framework and annual assurance process, with periodic specialist subject deep-dive assessments, is helping to ensure that EPRR activity is embedded within organizations and accorded due attention and status (https://www.england.nhs.uk/ourwork/eprr/gf/).

In many incident scenarios, health organizations can face a double challenge of both responding to the incident (e.g. treating increased numbers of patients with broken hips or hypothermia during extended periods of severe cold weather) as well as facing the complication of reduced staffing (e.g. due to transport disruption caused by heavy snowfall).

Additionally, health care settings themselves can become the scene of a major incident – such as a fire or flood – which means that the responders themselves equally become entangled in the incident as 'victims'. In 2008/09 London experienced five hospital fires across the capital that required the evacuation of part or all of the building.

These events proved that with good teamwork, leadership and planning, a safe and successful evacuation of a health care facility is achievable. London's experiences during 2008/09 demonstrate the critical importance of being prepared for all emergencies.

## 1.4 Planning in Partnership

We live in an increasingly complex and intertwined society. It is rare that a single, individual organization will be able to respond effectively in isolation to a major incident. There is increasing scrutiny by the public and politicians through instant 24/7 media access. The benefits of getting preparedness and response right are clearly that lives are saved and normality is restored promptly. However, if we get it wrong, reputations can be ruined, trust lost and the financial consequences can be severe.

For some organizations the greatest risk could be the loss of reputation or confidence, which is just as important for health care organizations as it is for finance and retail businesses. For the health service, this could be the risk of failure to provide emergency and life-saving services. EPRR and business continuity processes (Chapter 10, this volume) will help to identify reputational risks if an organization fails to respond to a major incident.

## 1.5 The Benefits of Planning

There are clear benefits to responders and the public in organizations and individuals having prepared for a range of possible scenarios. In all cases the patient must be at the centre of planning and response arrangements and due consideration must be given to the health and safety of responders.

Failure to plan in advance could mean that lives are unnecessarily lost or negatively impacted. This could be people immediately injured in an incident such as a major transport collision, those involved in the response who could be exposed to a dangerous substance (e.g. when responding to a chemical, biological, radiation or nuclear (CBRN) incident) or through psychosocial trauma some weeks, months or years after an incident.

From an organizational perspective, businesses could be damaged through loss of reputational status, loss of business or legal action. These are all increasingly real concerns and have occurred to a number of health care organizations in a range of incidents both within and outside the field of EPRR.

It is essential that the process of preparing to respond to major incidents is embedded in organizational structures, is regularly reviewed and considers all possibilities. One criticism that has been laid at the field of emergency preparedness is that of 'preparing to respond to the previous disaster'. Thus horizon scanning is an essential component of any robust EPRR strategy.

Many lessons have been identified from the response to the outbreak of Ebola virus that started in West Africa in 2014. It is important that these lessons are learned and applied in response to future outbreaks of Ebola or Ebola-like pathogens; however, it is equally important that planning for emerging infectious diseases continues to consider a range of pathogens, vectors and clinical presentations. While it is certain that another pathogen (be it a virus, bacterium or other agent) will emerge from an unknown reservoir

at an unknown time in an unknown location into human populations, there is no certainty around how it will spread, who might be susceptible, how the disease will manifest and what treatment will be required. Plans must therefore remain flexible to respond to a range of circumstances.

## 1.6 The Global Setting

The Sendai Framework for Disaster Risk Reduction 2015–30 (Sendai Framework) is being delivered by the United Nations Office for Disaster Risk Reduction (UNISDR) following endorsement by the UN General Assembly and adoption by UN Member States in March 2015. It is a 15-year, voluntary and non-binding agreement which, while recognizing that the Member State has the primary role to reduce disaster risk, identifies that the responsibility for disaster risk reduction in preparedness and response should be shared with other stakeholders. This is a key principle which is reflected throughout the chapters in this book.

The Sendai Framework has seven targets and four priorities (Table 1.2) towards preventing new risks and reducing existing risks. This overall aim has been summarized as:

> the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.

The Framework includes specific references to health impacts, such as mortality, morbidity, population displacement and economic repercussions. There are focused sections considering health infrastructure, health innovation and technology, health system resilience, disaster risk management for health, access to health care services, life-threatening and chronic diseases, metal health and stockpiling. Many of these elements are discussed in more detail throughout this book, particularly through the scenarios and case studies.

## 1.7 The Rest of this Book

This book includes contributions from many different authors with different backgrounds from across the world, across sectors and across experiences. Included are experienced practitioners in health EPRR, BCM and communications. They come from the public, private and voluntary sectors, academia and the military. There are a number of leading global experts in subjects such as infectious diseases and CBRN threats, and experienced academics in the fields of interagency interoperability and psychosocial support. This is reflected in the varied style of the chapters, and a conscious decision not to consistently use formal referencing has resulted in an accessible narrative for readers of all levels of experience, which is supported with suggested further reading that the authors have identified to add further context and detail to their chapters.

**Table 1.2.** The Sendai Framework targets and priorities.

| Global targets | Priorities |
|---|---|
| **1.** Substantially *reduce global disaster mortality* by 2030, aiming to lower the average per 100,000 global mortality rate in the decade 2020–2030 compared with the period 2005–2015<br>**2.** Substantially *reduce the number of affected people* globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020–2030 compared with the period 2005–2015<br>**3.** *Reduce direct disaster economic* loss in relation to global gross domestic product (GDP) by 2030<br>**4.** Substantially *reduce disaster damage to critical infrastructure and disruption of basic services*, among them *health* and educational facilities, including through developing their resilience by 2030<br>**5.** Substantially *increase the number of countries* with national and local *disaster risk reduction strategies* by 2020<br>**6.** Substantially *enhance international cooperation to developing countries* through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030<br>**7.** Substantially *increase the availability of and access to* multi-hazard early warning systems and disaster risk *information and assessments* to the people by 2030 | *Priority 1. Understanding disaster risk*. Disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment. Such knowledge can be used for risk assessment, prevention, mitigation, preparedness and response<br>*Priority 2. Strengthening disaster risk governance to manage disaster risk*. Disaster risk governance at the national, regional and global levels is very important for prevention, mitigation, preparedness, response, recovery and rehabilitation. It fosters collaboration and partnership<br>*Priority 3. Investing in disaster risk reduction for resilience*. Public and private investment in disaster risk prevention and reduction through structural and non-structural measures is essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment<br>*Priority 4. Enhancing disaster preparedness for effective response and to 'Build Back Better' in recovery, rehabilitation and reconstruction*. The growth of disaster risk means there is a need to strengthen disaster preparedness for response, take action in anticipation of events, and ensure capacities are in place for effective response and recovery at all levels. The recovery, rehabilitation and reconstruction phase is a critical opportunity to build back better, including through integrating disaster risk reduction into development measures |

The following chapters include:

- a summary of the planning process;
- a discussion on the process of risk assessment;
- how to write a plan;
- the benefits of planning and responding in partnership with other organizations;

- aspects of command and control;
- the key communications elements of planning for and responding to emergencies;
- dealing with the personal impact of emergencies on patients and staff through psychosocial support;
- the relevance of BCM;
- the importance of training, testing and exercising response arrangements; and
- post-incident follow-up.

These technical aspects are then further elaborated on and illustrated through a series of case studies describing the preparedness for and response to:

- mass casualty events;
- infectious disease outbreaks, epidemics and pandemics;
- CBRN events;
- the role of the military in response; and
- particular challenges relevant to earthquakes.

This book does not attempt to provide a detailed 'how to' guide to health emergency planning and response; instead it aims to provide a series of informative descriptions of key elements that are underpinned by real-life examples. The wealth of experience from the authors is easy to see when reading the chapters and while some terms may not all be instantly familiar to all readers, the principles can easily be adopted, adapted and applied.

**Key Answers**

- The Civil Contingencies Act 2004 is the key piece of legislation underpinning EPRR guidance in the UK.
- The main types of major incident are labelled as: big bang, cloud on the horizon, rising tide, headline news, internal incidents, CBRN(e), HAZMAT and mass casualty/fatality.
- Everyone benefits from health organizations having embedded EPRR processes; this includes staff, partners, patients, members of the wider public and the organization itself.
- If health organizations do not engage in EPRR activities, lives could be unnecessarily lost or damaged, the reputation and trust in organizations could be lost, or individuals could be found criminally liable for not meeting statutory obligations.
- The Sendai Framework is a 15-year agreement which identifies that the responsibility for disaster risk reduction in preparedness and response is a partnership responsibility; it specifically describes a number of issues relevant to health care settings.

## Further Reading

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