

Emergency Planning in Health:

Scoping study of the international literature, local information resources and key stakeholders.

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Executive Summary

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Executive Summary

Key Messages

- Key gaps in the evidence base and priorities for research include:
 - How individuals and organisations behave in crises (both the public and responders) and how to influence behaviour;
 - Decision-making in crises;
 - Public engagement and developing community resilience;
 - Risk perception and the communication of risk;
 - Ascertaining the evidence for generic vs. specific planning; value of planning vs. plans; top down vs. bottom up approaches; flexible vs. standardized responses; proactive vs. reactive responses.
 - Identifying the optimal configuration for emergency management systems;
 - Developing frameworks for assessing the performance of emergency management systems and responses; and
 - Education and training needs and methods for emergency planners and responders.
- Relatively few publications on emergency planning originate from the UK. It is not always clear what aspects of the evidence from other countries and cultures are transferable to the UK.
- Much of the academic and grey literature on emergency planning is of variable quality and not scientifically robust. This is in part due to the inherent difficulties in investigating and evaluating emergency preparedness and response. Methods for evaluating interventions are not well developed in comparison with those for clinical interventions.
- Non-academic (grey) literature is not easily accessible, and needs to be adapted into a more usable form for practitioners.
- Most of the publications focus on emergency preparedness and response with relatively little on the emergency planning aspects of mitigation; recovery; and development planning to address gaps.
- Research gaps exist around knowledge management, particularly in terms of how the evidence base for emergency planning is acquired and appraised, communicated and translated into practice, and retained in organisational memory.

Background

The emergency planning field has grown and matured considerably in the past decade, galvanised in part by key events such as the 11 September 2001 terrorist attacks and the London bombings on 7 July 2005. The importance of emergency planning has also been codified in the Civil Contingencies Act, 2004, which set out key responsibilities for all primary care, acute hospital and ambulance service trusts, and other Category 1 responders, including the duty to be prepared appropriately for major incidents. This included planning, training and testing activities, as well as a concurrent duty to assess local risk and use this assessment to inform emergency planning.

However, uncertainty exists about the adequacy and utility of the evidence-base that underpins much of the activity of emergency planning for “big bang” major incidents. No information for example is available on which interventions are effective in ensuring safety and cost-efficiency. An evidence base is also required to support planning around longer-term “rising tide” incidents such as infectious disease outbreaks, covert chemical, biological, radiological and nuclear (CBRN) events, and threats to infrastructure and business continuity such as floods and transport strikes. Our preparatory work also revealed that there was a lack of consistency of terminologies and concepts used in emergency planning in the published data. Different (but similar) models of emergency management exist that perhaps reflect the national cultures and contexts of the countries in which the systems have evolved. It is difficult to identify what systems and processes are most appropriate for various settings.

Aims

This project was commissioned to explore the existing evidence-base for emergency planning, specifically for the UK health context, and identify the evidence requirements of the emergency planning community.

In particular, the project sought to:

- Systematically identify the scope and categorise the international published academic literature on emergency planning;
- Carry out a qualitative systematic scoping review of the grey literature from the UK;
- By means of key informant interviews consult on gaps and key issues in health emergency planning that warrant further study; and
- Conduct a multi-disciplinary and multi-agency conceptual and policy mapping exercise to identify and highlight gaps in the existing evidence base using Delphi methodology.

Based on the study findings, the project sought to identify priority areas for further research.

Methods

The project was a collaborative partnership between academics, clinicians, public health and health protection specialists. Mixed methods were used in order to approach the topic broadly and holistically. This comprised

- A scoping study of the published literature: This involved conducting a search through 8 academic databases for literature on emergency planning, filtering for relevance, and then descriptively analysing them by theme, type, quality, and source of the publication.
- A qualitative grey literature scoping review: A search was conducted for relevant emergency planning literature from non-academic sources such as event reports, and inquiries into major incidents. A sample of the literature was then analysed by theme, type and quality of publication.
- Key informant interviews: Interviews were conducted with key informants from a variety of UK agencies involved in emergency planning, preparedness and response that included not just emergency response organisations, but also the military and academia. Those interviewed operated predominantly at the senior/strategic level in these organisations. Their responses were then thematically analysed.
- An E-Delphi study: This study was conducted using an international panel of experts including active researchers and active educators in major incident management. General areas for consideration were derived from the literature analysis undertaken as part of the overall project.

The findings from all 4 subprojects were then analysed collectively to identify common gaps and issues in the evidence base, as well as key themes for further exploration and research.

Results

The scoping review of the internationally published academic literature examined 2,736 abstracts from 8 databases, from which there were 1,545 potentially relevant articles identified. The review found that a significant proportion of the current literature is from the United States with only a small contribution from the UK. A large proportion of articles focussed on the emergency preparedness and response aspects in particular and relatively less on the other aspects such as hazard assessment, mitigation, and especially recovery. The studies were mostly descriptive or opinion-based.

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Among the grey literature, we found that 97 of the 192 documents examined contained material that was relevant and potentially useful. The available material varied considerably in type, degree of analysis, breadth and depth. Qualitative analysis of the grey literature revealed a predominance of material on the response phase (66%). However, there was more material available on the recovery phase (a third of articles) than in the published literature. The main themes tended to focus on organisational issues around response, communication, assessment of emergencies, decision-making and recovery problems. Although the grey literature is potentially a major part of the existing evidence base for emergency planning, there was no easy way of gathering and assimilating this information. Having an easily accessible central repository of this knowledge would be particularly helpful to practitioners and policymakers in the field. Furthermore, there is a need for evidence synthesis to convert this resource into a form that is both usable and useful for practitioners.

We conducted 17 key informant interviews to explore in greater depth the current state of emergency planning in the UK and identify key issues and gaps where further research would be useful. This provided a rich vein of information and multiple themes were identified. Notable findings were that the informants identified greater gaps in operational than technical aspects of emergency planning; i.e. how emergency planning is operationalised rather than factual knowledge on any particular aspect.

Social and behavioural knowledge gaps were highlighted, both for individuals and organisations; for example, how individuals and organisations behave in crises, decision-making processes in emergencies, and the perception of risks. There were also unresolved issues such as the value of the emergency planning process over the simple production of written plans; top down versus bottom up approaches; generic planning versus specific planning for identified risks (e.g. pandemic flu, flooding, chemical release); or whether emergency planning should be flexible or protocol-driven. Public engagement was also identified as a key issue including the aspect of how community resilience is built. The optimal configuration for an emergency management system as well as means of assessing the performance of these systems was not known. Other threads included how knowledge was acquired, shared and retained, as well as aspects of communication (technical and human dimensions), risk assessment and risk communication and how an emergency management system is set up and functions.

The e-Delphi study involved 26 participants in three rounds. The strongest themes identified were education and training, planning and communication. The international expert panel initially generated 221 statements in 11 topic areas that were prioritised by the e-Delphi process into 77 topics of research priority in major incident management. Other themes included recovery, acute response, and pre-hospital care. The expert panel only identified one area (triage) that they agreed was well researched and understood. Whilst a number of topics for research were prioritised, the study did not seek to order them further or investigate the feasibility of researching each area.

The results from the e-Delphi study were closely aligned with the results from the key informant interviews. However, further assessment and ranking of the e-Delphi research topics will be necessary before they can be rated as realistic research projects

Conclusions

Numerous issues and themes were identified from all 4 subprojects. Four major thematic categories for future research emerged from these different work streams:

- *Knowledge management for emergency planning in health*

Different aspects of knowledge management need further exploration. This includes questions as to how the knowledge base (or evidence) for emergency planning is

- acquired and built up (i.e. how can emergencies and emergency planning be robustly studied),
- appraised (i.e. how it is valued for robustness and validity),
- disseminated (i.e. how it is communicated both within and between organisations),
- adopted into practice (i.e. how it can be operationalised and implemented), and
- retained by organisations so that lessons learnt from previous emergencies are not lost.

- *Social and behavioural issues in disasters*

A greater understanding is needed of how individuals (both the public as well as decision-makers) behave in emergencies and how their behaviour can be influenced. In addition, there are individual and organisational differences in how risk is perceived and managed.

- *Individual behaviour and organisational issues in emergencies*

Numerous organisational issues relating to how organisations respond to emergencies need investigation; for example, the relative value of the processes of planning over its outputs (plans), flexible versus standardized protocol-driven approaches to major incidents, top-down versus bottom-up command and control hierarchies, generic versus specific planning, and reactive versus proactive approaches to hazards. For many of these issues, it is not clear which is the most effective approach to planning for and managing emergencies.

- *Emergency Management System Issues*

Research is also needed into wider system issues relating to how the emergency management system is organized, and how its performance and outputs can be measured and compared against emergency

management systems elsewhere. Finally, there are significant questions as to how best to engage with the public to build community resilience against disasters and improve the response to disasters

There is a need to build a UK evidence base founded on robust research of individual, organisational and system-level themes in emergency planning. This evidence needs to be translated into action and embedded into organisations with the ultimate aim of developing a health system and community that is resilient to disasters. To facilitate this, a system or framework for evaluating the planning and response needs to be developed and refined.