



# Beyond Katrina: Improving response capabilities



Hurricanes Katrina, Rita and Wilma exposed serious weaknesses in the United States' emergency response capabilities, write **Arnold M Howitt** and **Herman B 'Dutch' Leonard** in the first of a two-part series examining issues that must be addressed

**A**S HURRICANES KATRINA, Rita, and Wilma successively lashed the gulf coast starting in late August 2005, nature's fury exposed serious weaknesses in the United States' emergency response capabilities. These problems were not simply the failure of particular places or leaders to be ready for disaster, but rather an indication of more fundamental issues. These issues must be addressed if the country is to be ready for the serious challenges that may lie ahead, whether they be severe natural disasters, outbreaks of emergent infectious disease, or renewed terrorist attacks.

Not all emergencies pose this magnitude of challenge. In the United States, the initial – and usually major – responsibility for disaster response rests with local authorities. This 'bottom-up' system of emergency management has a long history and continues to make sense in most circumstances. Because local governments are proximate to disaster sites and have at least some emergency capacity, they can respond quickly to initial alerts. They have detailed

knowledge of local conditions, and in many cases have agreements for mutual aid to secure additional help rapidly from nearby jurisdictions.

## Local capability

Aid from state or national sources is provided mainly when local capability is inadequate or has been exhausted. State government may have important specialised resources and capabilities, but – farther away – it is usually less able to respond immediately. Its resources may have to travel a considerable distance to get to a disaster site. Federal government responders are likely to be even more distant – hence much slower to arrive on a significant scale – and lack both local knowledge and integration with local and state responders. The Federal Emergency Management Agency (FEMA), with relatively few deployable staff, has historically played a much larger role in pre-event planning and post-event recovery than in the management of a disaster in progress. Other federal agencies have more operational resources but are generally deployed as back-up.

Notwithstanding the reorganisation of emergency response at the federal level as a consequence of the establishment of the Department of Homeland Security, the 'bottom-up' system remains the 'normal' model of disaster response.

Quite clearly, however, the normal model was inadequate to handle the results of Katrina – and showed weakness in managing the fierce but less demanding challenges of Rita and Wilma.

Some have pointed to decisions made decades ago: building a city in harm's way and failure to upgrade and sustain investments in protective infrastructure. Others decry the quality of advance preparation: inadequate emergency plans; insufficient training of responders; poor follow-up to shortcomings revealed by tabletop exercises; and failure to build operational systems to co-ordinate agencies, jurisdictions, and levels of government.

Still other criticisms relate to actions just before or in the moment of crisis: weak leadership by elected executives; unqualified crisis managers in charge; failure to promptly



take advantage of lessons from prior experience. Such anticipatable events are 'routine' emergencies for both the agencies and individuals concerned. Response organisations develop contingency plans, train personnel, practise their skills, and ready or stockpile necessary resources.

The capacity to treat a wide range of contingencies, including quite severe ones, as 'routine' constitutes an enormous source of strength for emergency response organisations and personnel. When forecasters predict that hurricane winds will make landfall, emergency organisations launch a range of programmed actions to protect property, provide temporary shelter and supplies, make rescues and provide emergency medical care and other assistance.

In a fast-moving routine emergency, individual responders rely on near-instantaneous recognition of complex patterns to size up cause and effect and to trigger swift implementation of the appropriate protective measures. They have thought through how to act. They are equipped. They have trained and practised. Their leaders' judgment has been honed by experience. In moments when a delay could make a difference between life or death, they do not need to size up the situation for an extended period, plan their response from scratch, assemble people and resources, and divide up roles and responsibilities. Responders are 'ready' in multiple dimensions of the term.

But not all emergencies fit the mould.

'Crises' like Katrina are distinguished from more common (though possibly very severe) routine emergencies by significant elements of novelty. These features may result from threats never before encountered (eg an earthquake in an area that has not experienced a quake in recent memory or an emergent infectious disease such as SARS or avian flu); or from a more familiar event occurring on an unprecedented scale, outstripping available resources; or from a confluence of forces, which, though not new, in

combination pose unique challenges.

Katrina was a crisis primarily because of its scale and the mixture of challenges that it posed, not least the failure of the levees in New Orleans. Because of the novelty of a crisis, predetermined emergency plans and response behaviour that may function quite well in dealing with routine emergencies are frequently grossly inadequate or even counterproductive. That proved true in New Orleans in terms of evacuation planning, law enforcement, rescue activities, sheltering and provisions for the elderly and infirm.

## Novelty

By contrast with 'routine' emergencies, 'crises' require quite different capabilities. In crises, responders must first quickly diagnose the elements of novelty (eg in New Orleans, the widespread need for assisted evacuation, the likely consequences when the levees failed, and the unexpected use of the convention centre for sheltering immobile refugees). Then they need to improvise response measures that are adequate for coping with the unanticipated dimensions of the emergency (eg quickly procuring vehicles for evacuation, making emergency repairs to the levees and providing food and law and order in an unprepared shelter).

These measures, born of necessity, may be quite different from or exceed in scale anything responders have done before. They must be creative and extremely adaptable to execute improvised tactics. Equipping organisations to recognise the novelty in a crisis and improvise skillfully is a far different (and far more difficult) matter from preparing mainly to implement preset emergency plans.

So the core challenges for large scale disaster response are:

- Recognising novelty and effectively improving necessary responses;
- Scalability and surge capacity;
- Maintaining situational awareness;
- Integrated execution in real time;
- Operational vs political leadership; and
- Handoffs across boundaries.

These core challenges will be examined individually in Part II of this article, published in the next issue of *CRJ*.

■ *Part II will discuss how Katrina has shown that the US has not progressed as far as some believed in building better emergency response capacity in the aftermath of 9/11 and the establishment of the Department of Homeland Security. Addressing the core strategic problems identified means moving forward effectively in four realms: capabilities, structures and systems, people, and co-ordination – all issues which will be treated.*

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mobilise responders or begin evacuation; and failure by response organisations to perform effectively. Commentators also point to the contemporary context of national preparedness: an over-emphasis on terrorism rather than all-hazards emergency management, as well as organisational subordination of FEMA inside the new Department of Homeland Security.

## Overarching failure

Although each of these explanations has some merit, on looking closely at emergency response, we see an overarching failure to recognise and prepare for the imperatives of a major disaster. If the US does not specify the strategic problems properly, efforts to reform the emergency response system are likely to fall short in the next situation that strains the normal model. We see a number of core challenges.

Katrina was not just 'another' hurricane. Emergency responders ready themselves for a wide range of urgent circumstances, including hurricanes. These involve high stakes, danger and outcomes that are critically contingent on responders' own effective action. Though quite demanding, many of these situations can be regarded as 'routine' emergencies – not because they are in some sense 'easy', but because the predictability of the general type of situation permits agencies to prepare in advance and to

Katrina was not just 'another' hurricane

photo: FEMA

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