

By Paul Dimitruk and John McCarthy

# No Time to Lose

Now is the time for hospitals to prepare themselves and their communities for large-scale disasters.



**American hospitals are a key component of our critical national infrastructure.** But they can only be effective if they learn how to share vital information and resources, and coordinate their response efforts.

Despite the potential importance of hospitals in the event of major mass-casualty events, for some time, the Private Sector Advisory Group to the Department of Homeland Security (PSAG) (of which coauthor Paul Dimitruk is a member) had no representation from the healthcare industry, and specifically, the hospital sector.

Think about it. If a mass-casualty event were to occur, what place would be most important to the survival of our families, co-workers and neighbors? It is our hospitals. Happily, today the PSAG does have a representative from

the hospital industry — Mike Rawson, corporate chief security officer for Intermountain Healthcare, Salt Lake City. What's more, there are now many healthcare executives and providers involved in homeland security and disaster management at the national level.

### **Sluggish response**

The response and support from the federal government for the medical component of our homeland security following 9/11 has been, in many ways, inadequate. Only a fraction of federal funding for emergency preparedness has been spent on medical preparedness. As is so often the case, we have to look to ourselves and our own communities to understand why.

Unfortunately, notwithstanding their importance to us, American hospitals lack the resources and supporting infrastructure to manage even a minor mass-casualty event, let alone a major one. In fact, many parts of the United States simply don't have enough hospitals, hospital beds or emergency departments (EDs).

Moreover, in many respects, hospitals have traditionally been islands unto themselves, with only the most rudimentary ability to interconnect and coordinate a response at the community or regional level. To be fair, they do have mutual aid agreements and ambulance diversion protocols. However, this is changing. Leadership is emerging among some of the country's flagship hospital systems. But there is still much work to be done.

### Effective sharing

The "base camp" for this effort is the effective sharing of information and resources, not just in a point-to-point communications sense, but in real situational awareness. What kind of information and resources need to be shared? For starters, information about the availability of:

- Beds
- General medical equipment, such as ventilators
- Specialized medical equipment, such as decontamination tents and equipment
- Special expertise (for treating burn victims, handling unusual infectious diseases, etc.)
- Critical drugs.

Of course, in order for information and resources to be shared regionally, participating hospitals must be able to accurately collect, aggregate and disseminate the information in real or near-real time, in a reasonably common format.

But even before this can happen, hospitals need to agree on what information is relevant, and how much of this information they are prepared to share. Legal, competitive and other implications may come into play. Fortunately, existing models for this kind of consensus-building already exist. Examples would be the Health Resources and Service Administration regional committees and the Joint Counter-Terrorism Task Force hospital committees, as well as state hospital associations.

### Crisis

Our hospitals are hard pressed to deal with large-scale medical emergencies. For proof, simply look at the state of emergency departments and trauma centers. The basic challenges include the lack of sufficient numbers of physicians, nurses and other clinical professionals; the lack of adequate specialized training in how to handle biological, chemical and radioactive events, or pandemic flu and other virulent infectious diseases; the lack of adequate critical emergency care equipment; and the decline in the number of hospitals and hospital beds.

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Consider these trends:

- From 1992 to 2001, emergency department visits rose from 89.8 million to 107.5 million. At the same time, the number of emergency departments decreased by 15 percent.
- The number of critically ill people visiting California emergency departments increased by 59 percent over the past decade.
- Between 1990 and 1999, hospitals lost 103,000 staffed beds and 7,800 medical/surgical ICU beds.
- Six states lost one-fifth or more of their beds. The most extreme case is Massachusetts. In 1980, the state's community hospitals had 24,237 beds; by 1999, they had 14,599.
- 126,000 nursing positions are currently unfilled in hospitals across the country.
- Half of all hospitals reported having fewer than six ventilators per 100 staffed beds.

In short, today's hospitals and emergency departments are in crisis. In addition to the general funding pressure almost all hospitals face, our hospitals and emergency departments face these challenges:

- Since 9/11 and then Hurricane Katrina, the Joint Commission on Accreditation of Healthcare Organizations and the federal government (through the National Incident Management System) have raised the bar for hospital disaster planning and response.
- More specialized know-how is required to achieve and maintain best-practice standards in responding to biological, chemical, radioactive, pandemic and quarantine situations.
- More specialized equipment and supplies are required.

**Of course, information is only useful to the extent that people are willing to act on it. Are hospitals, in fact, willing to share their beds, personnel, supplies or equipment with others in need?**

- Depending on the location, hospitals are being loaded up with substantial additional costs. (An example would be earthquake retrofitting for facilities in California.)
- In many communities, emergency departments serve as medical and social safety nets, where large parts of the population expect to get their primary medical care or just a warm place to stay and get a meal.

In addition, the risks that hospitals and our communities face have changed:

- Weapons of mass destruction in the hands of highly organized terrorist groups can lead to many more casualties than traditional medical emergencies. Maximizing casualties has, in fact, become the goal of many terrorist groups.

- Because of the growing density of population and infrastructure in our most vulnerable geographies (e.g., California, the Gulf Coast, the Atlantic Coast), natural disasters can have far greater impact.
- The risk of pandemic appears to be rising. This is due to changing patterns in human-to-animal contact, international travel, the growth of host populations and the fact that so many of our fellow citizens have damaged or weakened immune systems caused by such things as chemotherapy and radiation therapy for cancer or HIV/AIDS.

One example of how the density of risk has exploded is this: Influenza starts in wild birds, then moves to domesticated birds, and then (if it jumps) to humans, or to swine and then humans. Now consider that since 1980, the number of chickens in China has increased a thousand times. That's right — a thousand times (not 1,000 percent). (Readers interested in tracking pandemic developments should visit [www.bepast.org/](http://www.bepast.org/). Its author, Dan Lucey, M.D., is an authority on infectious disease and pandemic, and senior advisor to PortBlue's hospital incident response system.)

As a result, hospitals and emergency departments have few resources to devote to regional-level disaster preparation and management. Yet the tempo and quality of response to events that may severely impact the health and welfare of employees and communities depend on hospitals. We look to our hospitals to have a robust, flexible suite of capabilities to forge a coordinated response to a range of risks — natural disasters, man-made disasters and pandemics.

### **Regional coordination and asset-sharing**

Regional-level coordination can help our nation better prepare itself for mass-casualty events. It requires transparency and visibility into key resources and the deployment of those resources.

Hospitals within a region that might be struck by one or more mass-casualty events have to band together to create a coherent response at the regional level or beyond. Why "beyond?" Because the surge of patients and the need for extra resources may demand contributions from hospitals outside — but proximate to — the area actually affected. For example, hospitals in eastern Pennsylvania have geared up

to respond to a future mass-casualty event affecting the Greater New York region.

To build the foundation for this regional coordination, each hospital must have the capacity to collect and organize its own key data (such as the availability of beds, staff, and equipment; and impediments to service delivery, such as loss of electricity, medical gases, HVAC, etc.) into a common format. Ideally, regional hospitals can agree on the nature and scope of the information and resources to be shared. (The federal Health Resources and Services Administration, local joint counter-terrorism task forces and state hospital associations may provide forums for this consensus-building.)

**The key for corporate involvement is developing relationships between local emergency management agencies and hospitals.**

Of course, information is only useful to the extent that people are willing to act on it. Are hospitals, in fact, willing to share their beds, personnel, supplies or equipment with others in need? If mutual aid and similar agreements are in place, the answer is “Yes.”


The Internet is the best medium for the exchange of this kind of information, given its 24/7 accessibility and its intrinsic redundancy. While it’s difficult to generalize, given the variations in the nature of incidents and local factors, the Internet has proven to be the most robust medium for exchanging data at high speed. This has been especially true for organizations that have access to more advanced web technology, such as wireless, satellite, cable or redundant systems.

Fortunately, since Katrina, many hospitals have devoted more resources to upgrading their computer systems. Because hospitals are generally mandated to have at least 48 hours of standby generation, they should be able to power their computer systems for at least that period of time, even if the local power grid goes down. Also, there is emerging radio-based technology that can transmit data originating in voice or text. (One provider is RemComm, a Pittsburgh based company.)

**Role of regional businesses**

Hospitals, government agencies and non-governmental organizations aren’t the only ones that can lend a hand in the event an incident affects a community’s ability to respond. As demonstrated in Katrina and other large-scale catastrophes, local businesses can be encouraged and organized to provide assistance. They can provide vans for transporting equipment and supplies, or warehouses and parking lots to accommodate emergency medical tents, quarantined populations, and the like. Sophisticated logistics and transport systems can prove valuable in a quarantine-type environment or when the hospital’s facilities are damaged. The very existence of PSAG suggests that corporations do indeed have the will to help.

The key for corporate involvement is developing relationships between local emergency management agencies and hospitals. While the EMAs and hospitals might not always be the lead agencies for a specific event, they will provide best access into the Incident Command System (ICS) during a local or regional disaster. Local EMA representatives and hospital administrators should get in the habit of meeting now, so they can become familiar with disaster management and the ICS, establish lines of communication, determine what resources local companies might contribute in an emergency, and establish avenues for reimbursement (from the county, state or federal government) for resources and assets.

Another opportunity for businesses to participate with hospitals and the public sector is the Critical Incident Protocol program, a no-cost, grant-funded program offered for cities, counties and regions by Michigan State University. It is designed to build community partnerships for critical incident management between the public sector (police, fire, EMS, health, emergency management, etc.) and the private sector (businesses and non-profits) through joint exercising, planning and training. Information on the CIP program is available at [www.cip.msu.edu/](http://www.cip.msu.edu/). 

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# Guides for Business

Hospital executives can use the following as a framework for guiding regional businesses in supporting community self-help in large-scale disasters:

- Avoid hasty decisions. Get information from trusted sources before committing resources.
- Volunteers are seldom needed. In most disasters, the need is only for those with special skills or expertise. An example would be Community Emergency Response Team-trained personnel.
- Cash contributions are most useful, because disaster response agencies (e.g., Red Cross) can exercise discretion in getting the right resources for the specific incident.
- Concentrate direct giving to previously identified partners with integrity and on-the-ground staff. Avoid giving to start-up relief organizations.
- Commodity donations — such as transportation assets — can be of real value depending on the specifics of the event.
- Avoid displacing locally available resources, thus distorting market prices or obstructing relief supply chains with unneeded resources
- Only send what is requested or needed. A frequent disaster management problem is dealing with unnecessary resources and personnel.

Immediate needs in the event of a large-scale disaster include:

- Cash
- Clean water
- Food
- Temporary shelter and building materials
- Heavy equipment
- Emergency medical supplies
- Transport, communications, logistics resources.

Long-term needs include:

- Water purification equipment
- Major infrastructural goods
- Specialized technical expertise
- Job creation activities
- Transport, communications, logistics resources
- Computers, information systems resources.

Personnel should be trained and drilled in the basics of disaster response, including:

- Knowledge of their corporate incident command structure at the local, regional and headquarters levels, and the key community interfaces.
- Knowledge of general and individual roles and responsibilities during an incident, including severe weather, earthquakes and fire.
- Knowledge of policies and procedures associated with spills, suspicious packages, bomb threats, etc.
- Recognition of the onset of an emergency situation requiring the activation of an emergency response plan.
- The procedure for activating an emergency response plan.
- An understanding of the organization's site security and scene control procedures.
- Knowledge of the organization's back-up communication systems and computer downtime procedures.
- Knowledge of how to manage personal belongings and chain-of-custody issues.
- Knowledge of resources required to assist persons with special needs.

Hospital administrators should encourage some personnel to take CERT (Community Emergency Response Team) training courses.