

Disaster planning

Preparing for disaster: Boston hospitals know the drill but keep practicing

In the days after the Boston Marathon bombing on April 15, 2013, many praised the way the city's hospitals responded to the attack. But clinicians in those hospitals aren't resting on their laurels. They have examined what worked well (and not so well) after the event and continue to plan for future mass casualty events and other disasters.

Looking back

"You can't ever truly plan for the next disaster because you never know what it's going to look like," says Alok Gupta, MD, FACS, an acute care surgeon at Beth Israel Deaconess Medical Center (BIDMC) in Boston. But that doesn't mean it's not worth trying because plans can prevent the response to a disaster from becoming a disaster itself.

Since the Boston bombing, Dr Gupta says BIDMC has conducted internal reviews and participated in reviews conducted by the chiefs from the 6 Level 1 trauma centers in the Boston area. They found that the division of patients after the bombing worked well. "Patients were equally divided, so no one hospital was overwhelmed," Dr Gupta says.

Some aspects, such as patients' families finding their loved ones after the initial blast, were more challenging. For example, 1 patient at BIDMC had a brother at a different hospital and another patient's wife was admitted elsewhere.

Here are some strategies that can help hospitals better plan for disasters.

The power of one

A simple, yet powerful, lesson learned from the Boston Marathon bombing is the importance of a single point of contact for patient tracking. "You need one person who knows who everyone is, where their medical records are, and where they are located in the hospital," says Tracey Dechert, MD, FACS, a trauma and acute care surgeon at Boston Medical Center, who was on duty when the bombing occurred. "It sounds like common sense, but on that day there was no master list of patients; it was hard to find some people." She says that not everyone arriving in the emergency department that day had identification with them, and in 1 case a patient was temporarily assigned 2 different identification numbers. The person in charge of tracking could be an administrator, rather than taking a physician or nurse away from patient care, Dr Dechert says.

Representatives from the media will be at the hospital on an ongoing basis to cover the story, so there also needs to be a person to coordinate briefings. And someone must coordinate visits from politicians and celebrities who want to visit patients when such a high-profile event occurs.

Meetings that work

Group meetings were essential to coordinate care throughout the hospitals. "It's not like you closed down the hospital," Dr Dechert says. "You have clinicians caring for the bombing victims and their regular patients." In addition, many of the bombing victims required additional operations.

Representatives at the group meetings held at Boston Medical Center included trauma, orthopedic, and vascular surgeons; anesthesia providers; OR nurses; and ICU physicians. The group met in the morning before the first OR case to review what was planned for the day and at the end of the day to go over the cases and decide on next steps. Dr Dechert says the anesthesiologist managed the OR because “you can have too many cooks in the kitchen.”

Another important group was the multidisciplinary amputation committee, headed by a vascular surgeon. “We realized that when you have so many amputation patients all at once, you really need to focus,” Dr Dechert says. This newly established team met regularly to talk about the needs of patients who had to undergo amputation so they could receive the best possible care.

Communication is critical

“I think it’s really critical to have a way to get more surgeons, nurses, techs, and anesthesia staff into the hospital quickly,” Dr Gupta says. In the case of the Boston Marathon bombing, the large personnel response meant BIDMC didn’t have to call in additional staff. However, he notes, an earthquake, tornado, or some other type of natural disaster would make it harder for staff to get to the hospital.

Technical difficulties can also impair communication. “At first, we were unable to use cell phones because of the volume of calls,” Dr Gupta says. “It was like trying to make a call at 11:59 pm on New Year’s Eve.” Fortunately, text messaging worked. “You have to have a phone-free notification system,” he says, adding that use of pagers is a possibility.

In addition to communicating with staff, hospitals must be able to communicate with one another to address potential problems such as supply shortages. “We didn’t run out of supplies, but it’s very possible that could happen in another situation,” Dr Dechert says. “You might not have enough cell savers, retractors, or other equipment, and you need to find other hospitals that can share.” These partnerships should be set up before a catastrophic event takes place, especially in areas with only critical access hospitals.

Drill, baby, drill

Dr Gupta says previous drills related to the type of incident that occurred at the Boston Marathon allowed BIDMC to determine the best way to “to put elective cases on hold and where to put elective patients.”

Hospitals can learn even from drills seemingly unrelated to a disaster situation. In the case of a drill for a water main break on a unit, Dr Gupta says they learned “how we can move patients around quickly.” Previous snow emergency drills helped the hospital learn how thousands of employees could be housed at the hospital, which was useful during the lockdown period after the bombing.

Currently, the Joint Commission requires hospitals to activate their emergency operations plan through a drill or an actual emergency twice a year at each site included in the plan. BIDMC conducts 13 major drills each year.

Dr Gupta says the hospital varies the focus of the drills. “Once a year we test our surge capacity, once a year we test for an OR fire, and once a year we have the electricity go out. We’re constantly engaging staff.” Most of those who participate do so because they are interested in preparedness, although he adds, “you may need to recruit the people you need.” An OR manager could help, for example, by encouraging staff to participate in a drill to fulfill requirements to be involved in projects.

Hospital disaster teams can also be creative about how they execute drills. For example, Dr Gupta says, Boston trauma centers once simulated a structural collapse at Fenway Park. “Each ‘patient’s’ demographics, vital signs, and acuity level were put on a card, and the cards were distributed to each of the centers around the city,” he ex-

plains. "Each card was then put on a stretcher in the trauma bay." The stretcher with its card then moved about the hospital for treatment. "From that we learned how to move patients. If we have 40 ORs going and a disaster occurs, we know how long it takes to get the first 5 to 10 patients into the OR and then the next 5 to 10. It takes practice."

One resource for drills is the Exercise Program Checklist from the California Hospital Association at <http://www.calhospitalprepare.org/exercises>.

Psychological impact

Dr Dechert says it's key to consider the psychological needs of patients early on and to understand that those needs are ongoing. "It doesn't hit patients at first," she says, "it hits later when people aren't paying as much attention to them." She adds that Boston Medical Center set up a family support center run by the patient advocacy and social work departments. The center helped with communication and provided food, drink, and phone chargers.

Offering support for staff was also crucial. Social workers trained in debriefing techniques met with individuals and small groups.

Military resources

Joseph Blansfield, APRN, trauma program manager, says Boston Medical Center incorporated reference material from the US Army Institute for Surgical Research into physicians' and staff's clinical practice.

"There are 39 clinical practice guidelines that have been developed from the experiences in Iraq and Afghanistan," he says. "I was a colonel and the chief nurse of a combat support hospital for a year in Iraq and had a hand in contributing to their development, so we turned to them right after the bombing."

The guidelines, which can be accessed at http://www.usaisr.amedd.army.mil/clinical_practice_guidelines.html, provide specific suggestions for assessment and clinical management. For example, the guideline on acoustic trauma includes indications for referral to ear, nose, and throat specialists, and the guideline on infection prevention related to blast injuries covers antibiotic treatment. The information was integrated into policies and procedures at Boston Medical Center.

Planning ahead

A disaster plan helps facilitate response by creating a structure, Dr Gupta says. "Because we had this existing plan we were able to place staff who had never participated in a drill into a role." Each department should create a plan and update it regularly. It's also necessary to ensure that forensic evidence is collected in the case of criminal activities.

Dr Gupta has 2 key recommendations for hospitals that want to prepare for disasters. "First, have an activation plan to get resources and people," he says. "Second, have a disaster plan in place that you practice on a regular basis." ❖

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