The Myths of Disaster Education

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Sign-out somewhere in the United States in an emergency department (ED) today: "...so that’s the last of the acute rack. And, yeah, there are 17 boarders waiting for beds, the usual...."

In this issue of Annals, Auf der Heide thoroughly debunks numerous myths of disaster response and management. As many of us know firsthand, in a major disaster, including a terrorist attack, many patients may show up in our EDs with no warning, apparently randomly, and without field care. In response, our government, society, and we ourselves have undertaken strenuous efforts to “be prepared” for the next “big one,” usually described as a huge mass casualty event involving weapons of mass destruction such as nuclear, biological, or chemical agents. Millions of dollars have been spent to develop training “courses” for nurses, physicians, and emergency medical services (EMS) personnel. Unfortunately, with all of this effort and money spent, it is not clear that we have achieved an appropriate benefit in disaster readiness. I would like to review here what I call the 5 “myths of disaster education” and see how our nation’s response stacks up to them.

Myth 1: People Need to Know “Special” Things for Disasters

In today’s world, disaster response should be part of “usual practice.” Any practitioner needs to think “organophosphates could cause seizures” the way we now think “this UTI is probably E coli,” or “maybe this bloody cough is plague” the way we now at least consider thrombolytics for strokes. Burns and open fractures are common in bomb blasts, but we all need to know how to treat burns and open fractures anyway because such a patient could come in any time. Any competent emergency physician and any competent hospital administrator should know how to set up staff, stuff, and space for a dozen-victim bus crash; these same steps allow at least the basic response to numerous bombing victims.

Myth 2: We Are Smart; Hearing It Once Is Enough

In the past, segments of the medical community have developed specific courses, such as ACLS and ATLS, designed to give the nonproficient a basic proficiency in the subject matter. Even then, it has been shown repeatedly that such courses can provide a knowledge boost but often only for a few months. Nevertheless, these courses became the de facto standard even for the proficient (such as emergency physicians or trauma surgeons, who received such training in depth in residency). This is a pernicious merit badge philosophy, akin to developing courses on geriatric life support or how to manage hand burns. The knowledge may be accurate, but it will not be retained, so why waste time and money learning it? Or it will be so generic that it is of limited use; ACLS may remain relatively accurate because people are everywhere the same, but disaster response is often very dependent on local systems, local threats, and local resources, and all a general course can teach is the way to think, which a local expert can probably do better, knowing the “players” and the problems. The data supporting a local approach are at least as strong, and it is cheaper and easier!

Myth 3: A Drill Now and Then Is Enough

Drills repeatedly reveal the same problems, mostly “communication.” In most cases, it is not that telephones failed (although that eventuality needs to be planned for) but that responders did not know what to say and when. That is a coordination problem, not a communication problem. In essence, if you do not follow a routine, which by definition is something you practice regularly, you will have trouble figuring out what to do next. Our retention of procedures is short, and employee turnover means that departure of staff will disrupt even a well-trained team. The remedy is to do regular and simple drills frequently, at least every 6 months if not more closely spaced, to keep the patterns “ingrained.” Many hospital code teams, for example, practice a “test page” every day just to make sure that all got the call and knew what it meant. For disaster response, test pages or calls might be in order every week or at least every month, with reporting of bed counts to a central authority perhaps on the same schedule. That way, people will remember what number to call, who to report to, and what information to pass on, because they do it regularly already.

Myth 4: The Government Will Take Care of It

Yes, local and state governments are responsible for response to disasters, and the federal government is of course ultimately responsible. The federal government also has a huge inventory of resources that can be brought to bear, from specialized laboratory expertise to medication caches to response teams. But it takes time to get any such response in motion. The standard expectation is that government will support local responders, but such support may take several hours to several days to arrive. In the beginning, at least, you respond with what you have.
Local and state governments themselves may also be delayed or have difficulty with their response, and ultimately individuals and hospitals may need to stand on their own for a prolonged period of time, as we have seen recently in the responses to Hurricane Katrina in the southern United States.

By now you may have given up and fallen into myth 5.

**Myth 5: It Is Impossible to Be Prepared**

Not so! Even in a true catastrophe, such as Hurricane Katrina or the Pacific tsunami of 2004, some degree of preparation is better than none. And in the more “typical” scale of a major disaster, preparation is the key to effective response. In the tragic 2005 bombings in London, EMS and hospitals were not overwhelmed, and they attribute their excellent response to “well-rehearsed” plans.8 Israel routinely responds to inflicted or deliberate disasters, using stereotyped plans that work well repeatedly.2,3,9 Spanish medical care systems coped with the Madrid bombings despite a huge influx of patients to a few hospitals.10 In every case, staff do what they have been trained to do daily and do it well and then adapt as needed to unusual aspects of a particular event. The true secret of disaster readiness is to have simple straightforward plans and protocols that everyone knows and will automatically do. It is akin to how many hospitals treat the MI patient: a treatment protocol that everyone knows and will automatically do. It is akin to how you would do daily and do it well and then adapt as needed to unusual aspects of a particular event. The true secret of disaster readiness is to have simple straightforward plans and protocols that everyone knows and will automatically do. It is akin to how many hospitals treat the MI patient: a treatment protocol that automatically includes aspirin, β-blockade, and predetermined doses of thrombolitics; or a paging process that automatically alerts the interventionalist and the catheterization laboratory team. The easiest way to do this is to develop plans that expect people to do their usual jobs, just faster, and if they need to do something unusual, to incorporate it now into their everyday routine. (For example, how many of us checked e-mail regularly 15 years ago; but nowadays, it is used routinely for patient care alerts and communications because we assume everyone checks.)

How can one incorporate this into disaster preparedness at the hospital or community level?

First, rely on local talent for knowledge and updates. The specialized information one might need for some events (such as how to chelate plutonium) is available in books, online, or even through quick telephone calls; and it is usually free. All you need is to find someone with interest and intelligence to keep track of this information and help incorporate it into local drills. Military veterans, members of local disaster response teams, experienced EMS physicians, infectious disease physicians, radiation oncologists—the talent is present in every community; it is a matter of finding it. Rather than spending your money to bring in a guest who probably does not know your system, support and develop your local talent. Every hospital can have access to at least 1 local expert (if nothing else, at the state level) who likely has identical or better credentials than many of the itinerant “disaster” lecturers available for purchase. Local experts also have greater familiarity with your own resources and conditions and have a vested interest in “doing it right” because they will be part of the response and their families part of the threatened population. Do not rely on “merit badges” or courses, unless you send all likely responders to each course every few months, and if you can afford that, who is working? Locate training that is free and convenient from the government, local experts, or online and try to make it fun (contests, small prizes, ice cream in the break room after every drill). There is a converse message here for government granting agencies: training developed with government support or sponsorship should be free and made available in forms usable in this way. If someone develops a course using a government grant, the syllabus, slides, and all other material need to posted for free download and use, and the developer should be available to answer questions, again free or paid for by the grant, not the recipient.

Second, practice realistically. Drill regularly, not just once or twice a year. Test alert systems every week as if they were code pages. Use communications systems regularly for everyday traffic so that you know how they work (eg, daily hospital roll calls, arranging transfers, and to schedule and announce Grand Rounds). Build your disaster plans around your usual procedures. Triage patients the same way you would in a major disaster; if you would use a certain flow sheet for 50 victims of a bomb, use it for the one person with chest pain. If you plan to use a particular “acute area” for critically ill disaster patients, pick an area that you use every day for critically ill patients. Drills can be short but should be frequent and unannounced. They can be as cheap and simple as having the local expert or assistant walk into your ED every week or so and announce, “I have smallpox; what do you do?" or if you have the money, you can set up huge moulage drills. The key point is to do it frequently; once in a while is almost like not drilling at all. If a drill as I describe it here is hard to design and run, then your disaster plan is too far removed from daily practice to be of any use.

Third, change either your plans or your daily practice if you find that people routinely have problems. If, during a drill, no one remembers who to call to report a possible anthrax case, or what closet the nerve agent antidotes are in, or how to put on the level C hazmat suit, then they will not remember when the real thing happens, so make it obvious (move the drugs, put up signs, decide that the person they usually page to request ambulance diversion should be the one to handle further reporting). Practice will not make you perfect, but it can make your response predictable, and in a disaster response, you can safely predict that people will do what they usually do, so make the system work with that expectation. Again, if you find that drills are hard to set up or that people have trouble doing the “right thing” during the drill, consider that the flaw is in your plan, not in the drill.

Right now, in our haste to “train everyone,” a lot of the wrong people are getting the wrong training in the wrong way. We do not need to keep bringing in “experts” on the latest esoteric threats to speak to whoever might be free on a particular day, nor do we need to spend millions of dollars flying people around the country to learn what others think they should do. We need to incorporate realistic disaster training into residency and even into medical and nursing school curricula. We need to incorporate it into daily life. We need the
right people to learn the right material repeatedly, live it and use
it constantly, and have it at their fingertips because “it is just
what we do.” And, if what we should do is not what we do now,
we must examine our disaster plans and change them to reflect
and rely on reality. Those truly critical aspects of disaster
response that are not yet everyday and typical actions need to be
added to the day, to become everyday and typical actions.

Somewhere in an ED in the United States in 2010: “…so
that’s the last of the acute rack; the LP on that last guy shows
gram-negs, so it can’t be anthrax, at least (ha ha). The hospital
status board shows everyone reporting crowded but all green
for surge or critical care transfers if needed; the alert network
picked up some GI stuff in 2 nearby towns, so the dashboard
has a link to the latest DPH reports; and there’s another “dirty
bomb” warning from the FBI, so there’s also an active link to
rad and blast treatment protocols. And, yeah, there are 17
boarders waiting for beds, the usual…”

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