Surge Capacity Planning in Health Care Organizations: Hitting the Mark on Enhancing National Preparedness

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(This article was published in *Homeland Defense Journal,* September 2005)

The advent of diagnosis-related groups (DRGs) in the early 1980s marked the impending arrival of the managed care system of health care management in the United States. Boiled down to its essence, managed care was crafted to more rationally and carefully distribute services and eliminate the "blank check" form of payment for health care. Cynics would argue that managed care sought to streamline the use of health care resources in order to enhance profit-making by health care organizations.

Thirty years later, the managed care system in the United States has evolved into a multi-billion dollar management industry that is most notable for imposing vastly shorter in-patient stays on patients requiring hospitalization, significantly compressing the time required to perform medical and surgical procedures, and significantly reducing the availability of in-patient hospital beds, because increased patient streaming through hospitals (to realize increased profit margins) has reduced the availability of beds (on average) to 4 percent to 6 percent per hospital nationally, according to The American Hospital Association (AHA).

Patients presented to emergency rooms with critical care needs represent an enormous drain on hospital resources. With hospital staff, equipment and supply resources streamlined to the "predictable" requirements of a facility's catchment population, sudden and unexpected casualty spikes would challenge the health care infrastructure to accommodate their support.

In terms of impact for emergency planners, this shift in the health care delivery system in the United States equates to the fact that there is little or no surge capacity to support any sudden spikes in casualties that might result from any large-scale complex emergency or disaster — regardless of whether the event is natural or manmade, such as a large-scale industrial accident or terrorism).

Yet little is being done at the national level to adequately address the comprehensive lack of surge capacity resources across the U.S. health care industry. In an interview aired on NPR April 26, 2005, Former Sen. Lee Hamilton, vice chair of the 9-11 Commission and president and director of the Woodrow Wilson International Center for Scholars, recently reiterated the findings of the 9-11 Report to Congress by stating that to enhance national preparedness in the face of what now should be considered the omnipresent threat of terrorism substantial investments should be made in three principal areas:

1. Enhance domestic and international intelligence architecture to increase ability to identify and root out terrorist threats before they have a chance to strike
2. Increase access to information technology for first responder community to facilitate enhanced communicability between police, fire and emergency medical services (EMS) responders during emergencies and disasters

3. Further invest in “democratization” initiatives amongst those nations abroad that have proven to be most culpable in either supporting or cultivating terrorist factions within their borders.

The findings of the Spanish Government Commission investigating the March 11, 2004, attack on the Madrid rail stations are remarkably similar to the 9-11 Commission Report’s findings. The Spanish conclusion nearly mirrored the Americans: Enhance national security and intelligence infrastructure to identify and root out potential terrorist factions, and increase support in the efforts to enhance communications among first responder and security forces.

The findings of the 9-11 Commission and the Spanish commission largely represent the identification of “grand strategy” initiatives that U.S. elected leadership said will help enhance our ability to prepare for and respond to large-scale threats. Assuming they can be taken to successful fruition, there is little doubt they will leave the nation less at risk from outside attacks and better prepared if and when they do occur.

However, we should carefully consider the following unclassified excerpt from the March 12, 2004, Defense Executive Intelligence Review commenting on the situation in Madrid: "The 11 March train bombings in Madrid resulted in a mass casualty incident that would have overwhelmed even the best prepared disaster response system. Local ambulance services and hospital emergency department resources were woefully inadequate to handle the estimated 1,500 casualties, many with serious trauma and burn injuries."

Could we be missing the mark on where invests should be made to reap the best return on preparedness initiatives? Relative to its medical infrastructure, Madrid should be considered on par with any modern, well-developed Western city and its medical and public health response capabilities. Yet Madrid’s emergency medical response infrastructure buckled under the weight of 1,500 casualties. What if the attacks had generated 15,000 casualties — or for that matter, 150,000 casualties (both, theoretically, plausible concerns under the catastrophic casualty scenarios being considered by the Homeland Security Council and the Federal Partner Agencies participating in formulating National Response Plans for these types of events)?

Conversely, the recent attacks in London demonstrate the dividends that can be paid by focusing on the hospital and medical community’s preparedness for managing the consequence management mission. “London’s medical infrastructure responded marvelously to the attacks,” said Harvard University professor Dr. Lenny Marcus. “They were well prepared for mass casualty events involving conventional weapons (in this case, a reference to high explosives) because they had drilled and practiced their response to such scenarios.”

But Marcus is quick to point out that “non-conventional (or asymmetrical) threats involving chemical, biological or radiological agents are the real challenge,” and an entirely different story relative to preparedness for managing the weight of the consequence management mission. “The medical and public health infrastructure of this country should be asking itself, ‘Are we prepared’” to deal with attacks that could result in catastrophic casualty events that run into the tens if not hundreds of thousands?

Nor should we forget that the medical and public health community is vibrating around the fear of Avian Influenza, the H5N1 variant of the flu that has the potential — if it makes the leap to the human species — to create the next great global pandemic disease event. Authors Laurie Garrett (*The Coming Plague,* Penguin Books, 1994) and Gina Kolata (*Flu: The Story of the Great Influenza Pandemic of 1918,* Farrar, Straus & Giroux, 1999) have warned that we are statistically overdue for a strain of influenza that could far outstrip the last great influenza outbreak, the 1918 pandemic that caused more than 40 million deaths worldwide.

In many ways, terrorism is remarkably similar to large-scale natural disasters that result in catastrophic casualty events. First, like certain types of natural disasters, inadequate early warning systems (EWS) exist as harbingers of the event. "Terrorist attacks happen with little to no warning," said Stewart Smith, a former senior medical planner for the Department of Defense's U.S. Northern Command (USNORTHCOM). "We have to get it right 99.9 percent of the time (to prevent an attack); they have to get through only 0.1 percent to be successful."

Second, because it is so difficult to detect-to-deter or detect-to-defend in both cases, the community that ends up bearing the most significant weight in prosecuting the consequence management mission is the medical community. Because of an almost uniform lack of surge capacity nationally, according to Dr. Leonard Friedman of the Oregon State University School of Public Health, "We should definitely be concerned with the medical infrastructure of our communities imploding under the weight of a significant catastrophic casualty event."

So at the end of the day, are we investing our preparedness dollars in the direction most likely to pay the greatest dividends, or are special interests and a general lack of familiarity with the true aspects of complex emergency and disaster management leading us down a path promising a small return on our investments?

In the wake of the planning initiatives that resulted in the Catastrophic Incident Supplement (CIS) of the National Response Plan (NRP) — the nation's first real attempt at a roadmap for managing an historically unprecedented calamitous event involving hundreds of thousands of casualties — the federal partner agencies, with the Departments of Homeland Security and Health and Human Services in the lead — should take seriously the most clearly identified areas of concern: hospital-based capacity for the management of mass casualties, patient movement, mass fatality management, logistical support to an affected venue and the psycho-social aspects of disasters. These areas of identified shortfall categorically fall under the rubric of *surge* and are almost completely under the aegis of the medical and public health communities.

More importantly, leaders of hospital-based organizations — in close concert with their local, state and regional emergency management leadership — must recognize that they exist at the epicenter of the nation's consequence management capabilities. Continuing to function in the proprietary, siloed existence of the traditional hospital-based organization is a recipe for failure in an era of omnipresent threat — again, whether that threat is natural or manmade. Unless health care facilities and their personnel gravitate to a networked approach to managing mass casualties, it is impossible to expect that individual hospitals will survive under the weight of any of the scenarios considered catastrophic casualty events.

In their recent book of the same name, authors Max Bazerman and Michael Watkins define "predictable surprises" as "an event or set of events that take an individual or group by surprise, despite prior awareness of all the information necessary to anticipate the events and their consequences." Look without or look within. Those who prepare their medical and public health communities do better at managing the surge associated with mass casualty events. Because they view sudden calamity as entirely plausible and, therefore, predictable, the events don't surprise them or generally overwhelm the capabilities they bring to bear against the event. If the experiential and empirical data associated with disasters all points to the fact that accommodating surge becomes the key to successfully prosecuting the consequence management mission, then focusing on the medical community becomes a mandate to the leadership appointed to the mission.

It is an axiom of the planning community that failing to plan is planning to fail. Unless we recognize that we have inculcated our entire population to seek help from health care organizations at times of duress, and take the steps necessary to enhance the preparedness of our medical and public health communities, we will continue to reserve front row seats to our own failure when the next disaster strikes.

About the Author:
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