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Hospital Disaster Readiness: Why Are We Unprepared?



It is a recurrent theme that the further away one is from the actual delivery of disaster care, the better prepared one perceives the system to be. At the extreme, recent correspondence from the Canadian Association of Emergency Physicians to the provincial health ministers across Canada voiced concern about the health care system's ability to respond to disaster. Uniformly, all health ministers in the provinces that responded (8 of 10) stated that their provinces were prepared.

Unfortunately, the reality at the front lines is not so rosy. Front-line providers have repeatedly expressed serious concerns about the ability of health care systems, and specifically health care facilities, to respond in a disaster (Kanter & Moran, 2007; Kollek, 2003; Kollek & Cwinn, 2009; Tachibanai, Takemura, Sone, Segami, & Kato, 2005). Staff is inadequately trained despite the existence of competency lists and curricula (Hsu et al., 2006; Tachibanai et al., 2005). U.S. data shows that there is a large amount of variability between regions and facilities (Higgins, Wainright, Lu, & Carrico, 2004). Canadian data, while limited for reasons that will be expanded on further, also shows that there are areas of strength and weakness and that there is both regional variability and variability in preparedness for specific types of events.

This discrepancy between high- and middle-level administration's perception of readiness and frontline caregivers' perception of a lack thereof stems from three key reasons. The first and simplest of these is the distance, both geographic and in terms of training and expertise, between the administrator and the individuals actually delivering the care in a disaster setting.

Second is the fact that, particularly in health care, disaster preparedness is an "orphan" entity. Health care professionals have extremely limited training in disaster preparedness (Bagatell & Wiese, 2008; Hsu et al., 2006), disaster management experts have almost no expertise in health care, and there is no overarching authority that is able to bridge the gap between these two groups. This diffusion of responsibility exists at all levels, but reaches an extreme at the federal level. The Minister of Public Safety has the expertise and the tools for disaster response and the Minister of Health has at her disposal significant expertise in health care issues, yet both of them are lacking in the expertise of the other.

The third reason is the absence of any formal assessment of health care facility disaster preparedness in Canada. This

lack of formal, replicable, and evidence-based disaster preparedness assessment underpins all other problems in that if we do not measure our inabilities, we will not be able to remedy them.

Why Is Hospital Readiness Not Assessed?

One of the oft-quoted reasons for not having a disaster assessment tool is that disasters are so variable that it is impossible to design a uniform assessment tool for readiness. While it is true that disasters may be variable, the *response* to disasters is far more uniform. Israeli hospitals, likely the world leaders in preparedness for dealing with disasters, have developed standard operating procedures that facilitate the management of mass casualty incidents. Not only do these procedures allow for an organized response to a disaster, they also allow for an ongoing process of quality improvement since there are standards against which to measure performance (Adini, Goldberg, Laor, Cohen, & Bar-Dayana, 2007).

Incidentally, the statement that there is a large variability in potential disasters leads one to ask why hospitals do not routinely perform risk assessment to determine which disasters may befall them. Currently in Canada, there is no evidence that any formal risk assessment tool has been deployed across hospitals, despite the fact that such tools, specifically Canadian tools, do exist.

Another reason for the lack of formal assessment is the lack of a standard of care. This was alluded to earlier and stems from the misperception that each type of disaster requires its own unique plan and that a standard of care must be derived for each. Recent thinking in the disaster world has for years focused on an "all hazards" approach as opposed to individual plans. The "all hazards approach" requires a basic plan that is then adapted for specific events. This basic plan is the backbone of the hospital disaster response and can and should be measured against a standard of care.

The third reason for not performing formal readiness assessments is that, while the literature is replete with calls for the development of such a tool (Barbera, Yeatts, & Macintyre, 2009; Lazar, Cagliuso Sr., & Gebbie, 2009; McCarthy, Brewster, Hsu, Macintyre, & Kelen, 2009), the perception is that nothing is available or what is available is not validated (Jenkins, Kelen, Sauer, Fredericksen, & McCarthy, 2009; Kaji, Langford, & Lewis, 2008; Kaji & Lewis, 2008). This perception is incorrect because tools, specifically Canadian tools, do exist for both risk and readiness assessment. With support from

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management, potential problems such as disasters are seen as deferrable concerns. This opinion exists despite the ability of disaster preparedness to help with overall efficiency. The irony is that, with our alternate level of care (ALC) statistics, our blocked emergency departments, and our overwhelmed pre-hospital services, the disaster is upon us already. We are blinded to it because it arrived with a whimper, not a bang.

Disaster Preparedness Improves Overall Quality of Care

While the likelihood of a disaster occurring is small, the impact of a disaster can be extremely significant. First and foremost, there is a direct health care impact on the population, be it from mass trauma, an infectious agent, a chemical release, weather patterns, or other causes. Disasters can also have an impact on the ability of the hospital to function. As the workload increases, the staff themselves may become ill and fear within the health care community may grow. Last, the reputation of an organization that responds poorly to disasters is tarnished for an extremely long period of time. Tragedies such as the 2004 Indian Ocean tsunami or Hurricane Katrina in 2005, shown on 24/7 news channels, provide an eyewitness account of disaster management or lack thereof in our global village world (Jenkins et al., 2009). Any mention of the Federal [U.S.] Emergency Management Agency (FEMA) today immediately brings to mind the response to Hurricane Katrina while all good works that FEMA had performed in the past are forgotten. Thus, beyond the immediate impact on the population, the hospital staff, and the hospital's ability to function, the impact of a disaster on the public relations image of the hospital can be in and of itself disastrous and sustained for a very long term.

Standardizing approaches to surge management during disasters is the first step in quality improvement. Because disaster response is an organization-wide process, this improvement has an impact on the entire hospital. Processes that are discovered to be useful in expediting care in a disaster situation can easily find their way into the day-to-day function of the organization. If disaster is defined as an event that outstrips the organization's ability to deliver health care, preparedness is a method of "vaccination," raising the threshold not only in disaster periods but also in normal day-to-day function. Hospitals that function well prior to an event may have less need to invoke their disaster plan to begin with.

Areas for Review and Training

Since 2001, the Centre for Excellence in Emergency Preparedness has been called upon to provide both research and education on a variety of disaster topics. Over time, recur-

the Public Health Agency of Canada (PHAC), the Centre for Excellence in Emergency Preparedness (CEEP) has developed such tools and has presented them in multiple forums since 2003. Two proposals to put these interactive tools online to have them available to hospitals have been made to the Chemical, Biological, Radiological-Nuclear, and Explosives Research and Technology Initiative (CRTI), but these were not approved.

The final reason that hospitals have not assessed their readiness is the most understandable. Faced with pressing and immediate issues such as hospital overcrowding and budget

rent themes emerge and their importance is supported by what little research exists in the Canadian context. The recurrent education and assessment needs are

- risk and hazard vulnerability analysis
- general readiness assessment and mitigation
- Chemical, Biological, Radiological-Nuclear, and Explosives (CBRNE) readiness and mitigation
- incident management systems and communication
- triage
- hospital emergency surge capacity
- integration of volunteers into the disaster response
- populations at risk: pediatrics, geriatrics, mental health
- emerging infections: SARS, bioterrorism, pandemic influenza
- integrating hospital response with external support such as disaster medical assistance teams
- preparing for mass gatherings
- medico-legal issues

While this list may seem overwhelming, it is reassuring that much of this material exists in the literature and that there are Canadian experts who can deliver the education and assessment to hospitals.

The Way Forward

Preparing for disasters is a daunting task, not so much because of the depth of the issue but because of its breadth. It has been said that the way to eat an elephant is one bite at a time. The first two “bites” of this particular elephant are for hospitals to perform risk assessments and readiness assessments. Once these are done, it will be a far more manageable task to remedy the identified gaps. Until such time as these assessments are done, we are all at risk of being found unprepared when the disaster – whatever it may be – strikes. More so, it is incumbent on hospitals to take the initiative on this issue since it falls between the cracks of the health care and public safety systems, lacks clear ownership, and is often forgotten or deferred in the presence of more pressing issues such as hospital overcrowding and budget crunches. Q

Further information on the Centre for Excellence in Emergency Preparedness can be obtained at www.ceep.ca or by contacting admin@ceep.ca.

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