

2008 Emergency Preparedness Conference



Session D2 - Summary Perspectives on Managing Disaster Surge in the Health System

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Perspectives on Managing Disaster Surge in the Health System

Background

Why a disaster surge session?

While the Canadian health care system has long managed to fulfil its obligations in addressing the day-to-day needs of Canadians, the question remains: Can that same system deal efficiently and effectively with a catastrophic health event?

The session is intended to raise awareness regarding the challenges confronting the health care and local emergency managers following a mass casualty disaster surge event.

Objective:

The objective of the session is to promote synergy through informed discussion, providing an opportunity to learn from each other, enhance relationships, and prompt critical review of existing systems and procedures. The session will challenge participants to

1. conduct a rapid impact assessment;
2. discuss surge mitigation strategies;
3. consider regional patient management (distribution) plan
4. identify capability gaps and consider resource sourcing; and
5. discuss inter-jurisdictional mutual assistance challenges

Structure:

The session will be conducted in two parts as follows:

- Part 1 - presentation by Dr. Bruce Sawadsky *Perspectives on Managing Disaster Surge in the Health System*. The presentation will review health system surge management strategies based on a comprehensive review of current surge management strategies utilized by several countries around the world. He will also review the evidence for/against the utilization of field hospitals in disaster response and will review the development and implementation of the Emergency Medical Assistance Team (EMAT) in the Province of Ontario and its utilization over the last four years.

Dr. Sawadsky is the Chief of Staff, Ornge –Transportation Medicine, Toronto, ON.

- Part 2 - scenario based small group discussions on the challenges and action(s) required to address the impacts of a disaster surge event. A review of potential gaps, solution and learning points resulting from the group discussion will be conducted at the end of the session. The group discussions will draw extensively on materiel developed for Exercise MASCAL 08 conducted at the Public Health Agency of Canada 2008 National Forum on Emergency Preparedness and Response.

Part 1 – Presentation

Perspectives on Managing Disaster Surge in the Health System

PowerPoint Presentation Attached

Part 2 - Discussion Exercise

Event Summary

Scenario

It's Wednesday, September 30, 2008. The downtown business district of YOURTOWN is bustling with both resident and tourists enjoying the stellar fall weather.

At 1:00 pm, a truck enters the densely populated area in the main business district. Within seconds, the vehicle explodes and many people within a 500 metre radius from truck are killed. Intense heat from the explosion and blast wave cause fires within the immediate blast area, severely damaging infrastructure. As a result of the blast, hundreds more are injured from flying debris and burns. The blast also damages power, computer-based, and telephone systems, and severely disrupts transportation and communication systems within a kilometre of the blast.

Concerns over a potential terrorist event send thousands streaming from the downtown core and the minor injured and psychologically traumatized begin to overloading emergency departments and other healthcare facilities

Event Characteristics	
Type	Explosion
Source	Tanker truck carrying 45,000 l Liquid Natural Gas (LGN)
Impact Radius	0.5 km
Collateral Impacts	Fire, flying debris and panic
Estimated Consequences	
Casualties	<ul style="list-style-type: none">• 30 fatalities• 15 missing and presumed dead• 250 critically injured – 2nd and 3rd degree burns, blast and crush injuries• 500 minor injured – cuts, abrasions and other soft tissue injuries
Infrastructure Damage	35 commercial buildings destroyed or damaged
Evacuations/ Displaced Persons	<ul style="list-style-type: none">• 300 residential units ordered evacuated• 1,500 adults and children seek shelter
Contamination	Possible collateral contamination from on-site hazardous materials

Discussion Guidelines

Participants were given 30 minutes to develop a conceptual framework to manage the YOURTOWN event. The objective of the exercise was to identify issues, challenges, potential response approaches and significant learning points drawing on Dr. Sawadsky presentation.

Each table designated a 'Scribe' to summarizing the group's discussion and capture the key outcomes. The notes were collected following the exercise and used for the post-exercise report posted on the EP Conference website.

Potential Considerations
How does disaster surge differ from the day-to-day surge experience by most Canadian health facilities?
What strategies can be implemented in the pre-hospital environment to mitigate the impact of surge, the minor injured/self evacuees and other low risk patients, on a community health system?
What are the major shortcomings in local medical capabilities to identify and treat casualties of a hazardous substance event? Consider means to obtain resources and assess the impact of delays in their receipt?
What types of processes would need to be in place to address planning for non-standard modes of transportation, such a buses and commercial vans?
What strategies exist for healthcare facilities to free up/open/create additional patient care capacity?
What strategies can a hospital implement to maximize health human resources during surge? In particular how can you maximize/organize numbers of staff and utilize to maximum efficiency?
What criteria are in place for activation of an Alternate Care Facility?
When and how would you address a requirement to alter or modify standards of care? How will modified standards of care be implemented?
How would triage strategies for inpatient and outpatient settings be altered or modified during mass casualty mode?
How would a facility's existing patient identification and tracking systems be affected, in the event of a disaster? In what way would it need to be modified?
What options would you consider to provide timely information to the population and assist in minimizing chaos? How would you control dissemination of conflicting data?
What role would Emergency Social Services (ESS) play in a disaster surge event?
What strategies regarding equipment and medications can be utilized by an individual hospital and a health region to maximize availability and improve efficiency during a surge?
What psychosocial interventions should be considered to prevent/ mitigate low risk patients, such as those who have been minimally exposed or who are exhibiting symptoms of distress and/or acute stress response, from overwhelming local health facilities?

Discussion Outcome

The following issues, challenges, response approaches and learning points were identified by participants in discussing how they would respond to the event scenario:

Issues:

- Lack of an integrated provincial mass casualty management plan including a consistent disaster triage strategy – who makes the call
- Identification will be a significant issue in dealing with the deceased and in assisting the critically injured; if police and the military suspect terrorism, responders may only be able to move people and materials so as to maintain police chain-of-evidence requirements
- Who determines/coordinates the distribution of the critical cases amongst local hospitals
- Limited availability of high-capacity helicopters en route to take critical patients to appropriate local hospitals based on the distribution advice from EOC as capacities at the respective hospitals are identified;
- Local government authority to order evacuation of a hospital on declaration of a state of emergency
- Potential long/longer-term impact of disaster surge on full range of health services

Challenges

- Management of persons near the explosion but who are not visibly injured may have suffered serious concussion; they must be monitored for initially undetected injury and many of them will need psychosocial care
- Engaging Emergency Social Services (ESS) Reception Centre(s) in managing the 500 minor injured and those who were near the explosion but not visibly injured suffering psychological trauma from those ordered to evacuate; evacuees do not need to be subjected to the possibly contagious trauma-induced fear that the 500 minor injured group may present
- Determining if hazardous materials, such as asbestos, may have been released from nearby buildings due to the blast impact and secondary fires; this has implications for the injured, the evacuees, those in the vicinity of the blast who do not appear to be injured, the responders, and for those in reception at the ESS facilities and the hospital(s) who receive the injured
- Availability of only one major burn unit in BC and need to consider using maternity wards for burns (due to similarity in set-up)
- Designation/identification of overarching health authority/lead.

- Security of incident site and throughout impacted area
- Advisability of hospital lock-down and restricted access, such as using only one entrance and one exit.
- Coordinating both internal and external communication – who takes the lead – needs to be established pre-event
- Monitoring the impact of multiple trauma, including severe burn injuries, on resources – ventilators, pharmaceuticals, etc
- Rapid assessment of need for specialized services, such as burn management and decontamination
- Effective telephone fan-out due to limited “call-centre” resources
- Mobilizing and communicating the location of available walk-in and general practice clinics for minor care
- Coordinating the application of adjusted standards of care to all patients during a surge event

Response Approaches

- As early as possible after confirmation of the numbers of types of injuries is received from the EOC/scene, try to determine what hospitals, tiers, agencies and resources within the emergency management community could be mobilized to disperse the non-critical and critical patient load
- Ensure that a communication plan is developed and implemented as soon as possible, so that
 - EOC can arrange to have additional burn treatment equipment and supplies brought to hospital(s) involved, to last the duration of the surge
 - Low risk casualties/walking wounded can be directed as to where to go
 - Emergency Social Services (ESS) can be involved to help deal with and monitor those with minor injuries, and will know what the overall response plan is
 - Emergency Medical Services (EMS) knows area hospital’s capacity is to assist in distributing critically injured
- Identify and tag everyone at scene as to what they have been subjected to, and as to their initially-observed condition; this will assist with follow through on those low risk or psychological casualties who have significant emotional distress
- Use EMS to set up off-site triage, provided they have appropriate physical space and adequate staff available; if they have the equipment and staff to run a mobile emergency treatment unit

- Establish a makeshift decon area outside the hospital(s) and ESS Centre(s), with a light-pressure spray from a garden hose would be useful, as such spray would keep fibres on items of clothing until these items were removed and sealed in appropriate containers
- Utilize media to direct patients and call-out staff
- Designate a dedicated a ground evacuation corridor from the event scene to and between the designated receiving hospitals
- Establish triage and emergency treatment /alternate care site outside hospital
- Activate home/community care to manage rapid discharge and continuing care patients
- Plan for the use of alternate sites particularly for low risk/minor injured patients – use media to direct patients – consider competing resources
- Use buses to transport low risk patients to and between facilities – one Health Care Provider per bus
- Engage ESS in non-clinical tasks such as operating survivor information centres
- Seek community assistance for alternate care and support sites.
- Plan for expanded/extended housekeeping
- Integrate community private practice capacity

Learning Points

Participants identified the need to consider:

- regional Code ORANGE protocols
- protocols for the integration and coordination of ALL local health services resources in during a disaster.
- integrated disaster response training of regional health care personnel
- effective information flow between health and non-health EOC
- engage private practice resources in planning/plans
- inclusion of long-term care and assisted living facilities in regional Code ORANGE planning
- transferring patients out of impacted jurisdiction vice importing HCPs into a stressed area.

- information on high risk/vulnerable populations in impact area
- three triage levels – recognition of disaster levels
- continuous flow of information to ambulance on facility availability
- program/resources to support/manage families of critical patients.
- arrangement with commercial air carriers for patient transport
- effective inter-agency liaison
- managing worried well – families looking for others
- determining/establishing triage benchmarks early in incident
- involvement of all health care and allied partner in the development of regional surge planning

Follow-up Items

Based on the above comments the following items are identified for possible further consideration:

- Requirement for enhanced capability/capacity to triage, treat and follow-up low risk casualties, such as those with minor injuries, not requiring hospital level care
- Mobilization of private sector health care providers to assist the management of low risk casualties
- Designation of alternate care site(s) to receive sub-acute patients distilled from acute facilities or referred by an emergency facility for short-term observation.
- Arrangement for the evacuation of patient for care outside impacted area
- Engagement of Emergency Social Services resources to assist with the non-clinical management of the worried well and families seeking information on survivors /victims
- Implementation of integrated Code ORANGE protocols involving all regional health care resources.
- Education and training in mass casualty triage and implementation of alternate standards of care.