Mass Casualty Triage for Hospital-based and Emergency Clinicians: Preliminary Lessons Learned

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September 25, 2018
Overview

• Overview of Project
• Data from pilot phase (four hospitals)
• Next Steps
Summary of project

• The problem
  • Increased incidents of multiple trauma patients in a short period of time
  • Prehospital care (EMS) has well-established triage system which is more focused on transport priority
  • Hospital-based care must use a different approach to triage
    • Including adjuncts such as Ultrasound
  • Hospitals are underprepared to receive a large number of patients in a short period of time (some via self-transport)
Summary of project (continued)

• A fact-finding delegation visit to Las Vegas, Nevada, taken in February 2018 requested by GNYHA’s Board of Governors, The purpose of the visit was to learn about Las Vegas’ response to the October 1, 2017, mass shooting that injured hundreds and resulted in the deaths of 58 individuals.

• Case study highlighted the problem
  • Orlando= 38 trauma patient in 42 minutes (almost one per minute)

• Preparation for such incidents requires significant training and planning on the part of ED staff so that they can recognize and respond to these low probability/high impact events, as well as robust interdepartmental coordination to ensure availability of critical supplies, personnel, operating rooms, imaging, and blood products.
Pilot Objectives

• Develop program which would provide
  • Didactic lectures reviewing recent MCI events (Las Vegas, Pulse nightclub shooting), facility specific emergency management plans, ultrasound use during disasters
  • Emergency Department Simulation MCI/Triage Exercise
  • Emergency Department Surge Capacity tabletop (TTX)
  • Prehospital and Hospital Triage interface/review

• Teach Program at 4 Sites

• Use feedback to develop final program
Course Objectives

• Reviews the latest reports and scientific literature on mass casualty events
• Discusses prehospital triage and initial treatment
• Explores the interface of prehospital care and initial hospital triage/care
• Discusses the approach to hospital triage and initial management based on the scarce resources and choke points in the hospital setting and its emergency department.
• Discuss hospital’s approach to identifying and utilizing pre-designated surge capacity areas to improve response to mass casualties
Course Outline

0900 – 0905  Overview and Introduction to Course
0905 – 0945  Update on Mass Shooting and Recent Mass Casualty Events- Reports and Evidence Based Literature
0945 - 1015  Overview of Healthcare Facility Emergency Management Approaches
1015 – 1030  Review of Pre-hospital Triage Systems Mass Casualty and Disaster Triage
1030 – 1045  Break
1045 – 1115  Principles and Approaches to Emergency Department/Hospital Triage and Review of Hospital Scarce Resource Challenges in Mass Casualty Events
1115 – 1200  Adjuncts to Emergency Department/Hospital Triage Techniques and Initial Care Including Usage of Ultrasound
1200 – 1300  Lunch
1300 – 1350  Rotation 1
1350 – 1400  Break/Group Rotation
1400 – 1450  Rotation 2
1450 – 1500  Break/Group Rotation
1500 – 1550  Rotation 3
1550 – 1600  Break/Group Rotation
1600 – 1700  Full Group Debriefing, Wrap up, Course Evaluation/Assessment
Rotations – Hands-on Exercises

• *Mass Casualty Triage Exercise: Functional exercise covering ED decompression for arrival of MCA patients and initial triage approach to MCI patients.*

• *ED/Hospital MCI Triage and Interface with Pre-hospital Triage: Facilitated discussion with hands-on practice of MCI hospital triage using ultrasound as adjunct. In addition, covers how to use MCI hospital triage system with patents who have a prehospital assigned triage categories and the implications for resource utilization.*

• *Surge Capacity and ED Bed Management During Disasters: Functional exercise covering ED preparation for a surge of patients decompressing ED including admission, rapid disposition and transfer of patients.*
Supplemental Modules

The 8-hour course is primarily designed for physicians and those that already have experience in emergent care, trauma and ultrasound. The course can be enhanced by offering two additional modules:

Nursing Module – Because team-based care is supported by team-based, interprofessional training, a module can be added for nursing providers. Nurses will participate in a portion of the morning’s didactic sessions and all practical exercises with their physician partners, but will be provided specific lectures and learning stations directed at improving the knowledge and skills relevant to nursing practice.

Ultrasound Module – At some facilities physicians may not have a comprehensive knowledge or recent experience in the usage of ultrasound techniques for emergencies. As ultrasound can be an important adjunct in hospital-based triage and initial care, a 4-hour module that focuses on key evidence and hands on training in the use of ultrasound for mass casualty triage and care can be added.
Pilot Course Specifics

• Four New York State hospitals
  • One in Albany
  • Three in New York City
    • Two in Bronx, one in Queens
• Feedback received from participants (n=60)
  • 6 Administrators
  • 5 Physicians Assistants
  • 11 RNs
  • 38 Physicians
Evaluation Results
How would you rate your confidence in distinguishing the difference between the approach to traditional emergency department triage and triage during a disaster or mass casualty event?

![Bar Chart]

- **Very Confident**: 16 Before Training, 31 After Training
- **Confident**: 13 Before Training, 29 After Training
- **Somewhat Confident**: 11 Before Training, 13 After Training
- **Not Confident**: 3 Before Training, 1 After Training
- **Unsure**: 2 Before Training, 3 After Training
How would you rate your confidence in demonstrating/performing initial triage of victims from a mass casualty incident presenting to the emergency department?

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How would your rate your confidence in employing mass casualty triage techniques on both conscious and unconscious patients?

Before Training

After Training
How would you rate your confidence in re-triaging patients based on change in clinical status or arrival with higher acuity/priority?

- **Very Confident**
  - Before Training: 6
  - After Training: 12
- **Confident**
  - Before Training: 17
  - After Training: 37
- **Somewhat Confident**
  - Before Training: 23
  - After Training: 9
- **Not Confident**
  - Before Training: 14
  - After Training: 1
- ** Unsure**
  - Before Training: 0
  - After Training: 1
How would you rate your confidence in identifying the limited situations when a clinician performing triage should also perform any immediate treatment for a patient?

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How would you rate your confidence in describing the use of ultrasound-guided triage in the management of a mass casualty incident with multiple surgical patients?

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To what degree were the instructors organized and effective in their review of clinical skills?
To what degree were the instructors’ teaching methods appropriate and used effectively?
To what degree did the instructors’ coaching enhance your ability to perform your clinical role in a mass casualty incident presenting to the Emergency Department?
To what degree did the instructors’ engage and motivate you?

- 79% High Degree
- 21% Moderate Degree
MCI Exercise
More participant feedback
What did you like the most about your experience in breakout sessions?

- Promoted critical thinking
- Surge capacity tabletop exercise with actual facility ED floorplan
- Simulation MCI exercise
- Ultrasound practice
- Standardized patients added great realism
What could be improved or done differently during this course?

- More simulation exercises
- Review hospital specific information (one course)
- Not all lectures relevant to nursing
- More (two courses) and less (two courses) detail on Ultrasound
- Refresh facility emergency management plans
- Provide more handouts
What are any additional comments?

• Great course
• Well organized
• Loved the actors (standardized patients)
• Excellent course
Next steps

• Additional course deliveries
  • Funding options

• Course deliveries with optional modules
  • Ultrasound
  • Nursing
Other suggestions from you

• What can be useful to you?
• Any additional topics, sessions, etc.?
Other suggestions from you

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