Bridge From Disaster to Recovery: Advances in Disaster Management and Continuity of Oncology Care

How can your institution proactively prepare for a natural disaster? With an eye on readiness, not just reaction, come hear about other institutions’ experiences from the 1980s to today. You’ll examine strategies for cancer care before, during, and after a crisis, learning how you can safeguard the continuity of oncology care under extreme conditions.

Content Area: Clinical Practice

Content Level: Intermediate

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Full Disclosure:
Nothing to Disclose

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Objectives:
At the end of this session, participants will be able to:
1. Examine the historical perspective of disaster response at various institutions, including opportunities for future improvement.
2. Analyze the importance of readiness for disaster recovery, and identify effective strategies in disaster management to ensure safe and uninterrupted patient care.
3. Identify strategies of personal preparedness before emergencies occur and their impact on delivery of nursing care.

Content Outline:
I. Historical overview of disaster preparedness and recovery in the last 30 years
   A. Previous experiences including a variety of disasters
   B. Opportunities for readiness as opposed to reaction
   C. Tools for the future
II. Reflections of Hurricane Sandy at New York University-Langone Medical Center
   A. Components of preparation of hospital staff to mitigate, prepare for, and respond to effects of internal and external emergencies
      1. Emergency plan, policies, education and training, competencies, and mock evacuations
   B. Recovery mode
      1. How NYC metropolitan area hospitals collaborated and responded
      2. Innovation and technology
      3. Critical thinking
III. Questions and answers
Personal Experience with Disasters 1980’s-2000’s

Details and images from:
- Hurricane Alicia 1983
- Rain and Snow Disasters 1980’s-90’s
- Hurricanes Katrina/Rita 2005
- Hurricane Ike 2008
- Recovery from Ike 2008-present
- Evolution of disaster response

What have we learned?

- Disaster Planning/Preparation
- Staff and Volunteer Training
- Exercises
- Evacuation
- Recovery

Reflections of Hurricane Sandy at NYU Langone Medical Center

German Rodriguez
RN, MSN

Perlmutter Clinical Cancer Center

- Located in the heart of midtown New York City
- Ambulatory facility average of 650 patient visits a day
- Magnet for Nursing
- Electronic Medical Record (EMR) implemented 8/12/2012

Definition of Emergency Management

- The coordination and integration of all activities necessary to build, sustain and improve the capabilities to prepare for, respond to, recover from, or mitigate against threatened or actual disasters or emergencies, regardless of cause

The 4 Phases of Emergency Management

- Mitigation
  — Prevent impact to operations
  — Reduce the cost of responding and recovering from incidents
- Preparedness
  — Develop plans
  — Conduct training and exercises
  — Maintain equipment
- Response
  — Provide emergency assistance
  — Restore critical infrastructure systems
  — Ensure continuity of critical services
- Recovery
  — Return systems and activities back to normal
The Emergency Management Cycle

Plan → Train → Evaluate → Exercise → Plan

The Emergency Management Plan Cycle

- Plan
  - Develop plans based on organizational procedures and best practices
  - Participate in planning process with external and partner organizations
- Train
  - Train staff on emergency plans
  - Conduct hazard-specific specialized training

The Emergency Management Plan Cycle

- Exercise
  - All exercises should be based on plans
  - Exercise participants should be trained on relevant plans prior to the exercises
- Evaluate
  - Real exercises and real life incidents
    - Develop After-Action Reports and Improvement Plans
  - Use evaluation process to improve plans and guide training needs

Emergency Management (Federal)

- National Incident Management System (NIMS)
- National Response Format (NRF)
- Hospital Incident Command System (HICS)

Hospital Incident Command System (HICS)

- HICS is based on the Incident Command System (ICS), which is one part of the National Incident Management System (NIMS)
- Is applicable to all kinds of emergency responses
- Hospital incident command structure allows staff to effectively interface with other emergency responders and government entities
- Provides common terminology for responders
Disaster

• Types
  – Pandemics
  – Transportation
  – Technological
  – Terrorism
  – Natural

• Natural Disasters
  – Tornadoes
  – Floods
  – Earthquakes
  – Volcanoes
  – Hurricanes

Natural Disasters in Numbers

• Top 10
  • Natural disasters by # of deaths
  • From 1975 to 2011

Evacuation Preparedness Readiness

• 2009
  – Assessment of shelter in place capacity

• 2010
  – NYULMC revised its evacuation plans using NY State DOH guidance
  – Purchased 30 med sled devices
  – Conducted 12 evacuation exercises

• 2011
  – Conducted 3 evacuation exercises
  – Super storm Irene resulted in a planned evacuation

• 2012
  – Conducted 5 evacuation exercises (additional 4 post-Sandy)
  – Education regarding process for planned, urgent and emergent evacuations

Lessons Learned from Irene

• Evacuation process
  • Good at checking patients out of NYU to other receiving hospitals

• Established a staff tracking process

• Established collaboration with Advanced Practice team with other academic centers

Timeline

Friday, October 26, 2012

• Command Center activation
• Census reduction
• Governor Cuomo declares a state of emergency
• Emergency Department diversion

Saturday, October 27, 2012

• Mayor orders evacuation of residents in Flood Zone A in New York City boroughs
• NYULMC requests approval to shelter in place based on preparedness post-Irene

Timeline Cont.

Sunday, October 28, 2012

• Governor Cuomo orders closure of public transportation
• Hospital departments mobilize staff
  ✓ 450 employees required lodging
• NYULMC cancels all elective surgeries and procedures
• NYS and NYC DOH approve NYULMC’s request to “shelter in place” and for Emergency Room diversion
Timeline Cont.
Monday, October 29, 2012
• 8:00AM
  – Command Center meets for morning report
  – 325+ patients remain in house
  – Begin transfer of patients from floors
• ~12:30PM
  – Hurricane Sandy makes sharp turn and hits northwest NJ coast
  – Prediction of storm surge of 7 to 11 feet in New York City

Timeline Cont.
Monday, October 29, 2012
• ~4:30PM
  – Hurricane Sandy reach NYC
  – Closure of major bridges and tunnels
• ~5:30PM
  – Electric company (Con Edison) states it may cut off electricity and steam

Timeline Cont.
Monday, October 29, 2012
• ~7:00PM – 7:35PM
  – Water is reported in NYULMC buildings as an estimated 14 foot storm surge advances up the East River
• Approximately 7:35 to 8:00 PM
  – Hurricane Sandy makes landfall with winds of 74 mph
  – No power/steam from Midtown to Lower Manhattan
  – Phone & computer systems down
  – Elevators out of service
  – Evacuation of most critical patients begins
  – Command Center moved to main hospital lobby
• Approximately 9:00 PM
  – Scope of damage leads to decision to fully evacuate

Evacuation Priorities
• Critical patients who were in hard hit parts of building, NICU/PICU/Adult ICU/ ventilator
• Patients mobilized when beds were secured at other hospitals
• Evacuation priority was the reverse of a standard fire response

Evacuation Strategy
• Prepare patient- (clinical prep, documentation, belongings, mental prep)
• Move evacuation teams up one stairwell and down another, ask volunteers i.e. medical students
• Teams verified patient demographics an hospital destination on in-patient unit AND before leaving lobby
• Patients transported through lobby doors with RN/MD into waiting ambulance

Storm Surge Forecast

- The ten top high water events at lower Manhattan (NYC Battery Park, 1900-2012)
- Storm surge
- Tide height
- Water level
- Old level

- Winter High Water Events
- Summer High Water Events
- Storm Surges
- Tides
- Water Levels
- Old Levels
Evacuation – Location of Beds

- Contacted other hospitals and worked with City office of Emergency Management
- Multiple processes for locating beds
  - Administrators, nurses and physicians contacted colleagues around the city to secure beds

Recovery Issues To Consider

- Workforce in Jeopardy
- Lose an Emergency Department
- Lose a Kitchen
- Lose Laboratory Space (Blood Bank)
- Nervous Creditors

Recovery - Oncology

- Loss of Linear Accelerators
- No CT-Simulator at hospital
- No Gamma Knife
- In-patient unit closed including Peds (including BMT)
- Surgeons performing procedures at other facilities

Lessons Learned

- Practice vertical evacuation
- Need adequate # of equipment
- Clinicians & support staff must be trained on equipment

Critical Thinking/ Innovation

- Go Pouch
- Lock up patient’s excess belongings
- Printing patients Electronic Medical Records
- Nursing floor assignment with RN skill mix
- Unlock med carts & medication storage cabinets
Critical Thinking

- Emotional intelligence
- Creative + agile thinking

Critical Thinking & Technology

- Smart phone communication
- Cell phones as pen lights as flash lights
- Social media communication

Role of the Nurse (Preparation)

- Complete CBT annually
- Attend mock code exercises
- Get familiar with physical structure of building
- Perform evacuation drills with equipment
- Know who is in charge
- Destination beds must match appropriate service and level of acuity

Role of the Nurse (HICS)

- Assess (patients, census & acuity levels)
- Know who is in charge
- Communicate with all members of the team
- Hand off!
- Destination beds must match appropriate service and level of acuity
- Reassure patients and family members calmly

Successes

- No loss of life
- Leadership and staff – calm, creative
- Early HICS activation
- Rapid decision-making re: evacuation
- Applied lessons learned from Hurricane Irene
- Shelter-in-Place planning
- Annual evacuation exercises
- Support from NYC and NYC hospitals
- Labor Pool highly effective
- Sufficient staff onsite
- Med Sled usage
- Town Hall meeting
- Dual checkpoints before exiting building

Summary

- Emergency preparedness readiness positively impacts patient outcomes during disaster management situations
- Nurse’s emotional intelligence and critical thinking is an added benefit to health care organizations
- Oncology nurses must be encouraged to participate in disaster management exercises routinely