Emergency Preparedness, Business Continuity and Recovery: Lessons Learned from Sandy

The National Academies of Sciences –Engineering-Medicine
Monday, April 25, 2016
Presentation...

Background
- Who are we? Overview of NYU Langone Medical Center
- How did we Prepare? Pre-Sandy Initiatives
- What Happened? NYULMC Sandy Video

Finance perspectives: Recovery and Business Continuity

Summary of Lessons Learned

Q & A
Who Are We?
Structure of NYU Langone Medical Center

Integrated academic medical center:
• Tisch Hospital (546 beds)
• Hospital for Joint Diseases (157 beds)
• Ambulatory care network including 2,700+ physicians
• 1,700+ full time faculty, ~400 of whom dedicate significant effort to research activities
• 1,000+ medical and graduate students, 1,125 residents and fellows
• Research Portfolio of $300M in Grants and Sponsored Programs
• FY15 operating revenues: $4.5 billion
Clinical Flexibility

- **Ambulatory Care Expansion**
  - Added over 800,000 square feet in past two years

- **7-Day Care Initiative**
  - Ability to flex staffing and operations across facilities
  - Capacity for physicians to operate and take care of patient across facilities
  - Inpatient bed relocation to HJD campus in process
Pre-Sandy: Strategic Initiatives

Financial Readiness

• **Balance Sheet Reserves** - Cushion for operating volatility

• **Fixed rate debt & lines of credit capacity** - $400 million in Oct 2012

• **Issuance of Series 2012A taxable debt** - $250 million in July 2012

• **Capital program & reserve fund** - policy to invest $10 million per month from operations; reserve fund of $503 million as of Nov 2012

• **Sold Royalty Revenue Stream in 2007**

• **SoM specific general reserve fund** - Established a $300 million fund which could be accessed to support operations in an emergency

• **Offshore malpractice insurance** - Access to additional capital reserves
Pre-Sandy: Strategic Initiatives

Information technology and Management reporting

EPIC Implementation – First fully integrated clinical system in NY market

PeopleSoft – implemented in 2010; Simplified supply requisitioning, ordering and financial reporting.

Disaster Recovery Centers - Located in New Jersey and Pennsylvania
Pre-Sandy: Construction Underway

NYUMC had several construction projects ongoing, which provided contractors and resources familiar with our facility that played a critical role in our recovery.

Expanded Emergency Department

Construction underway for a 24/7 Center for Emergency Services to a 22,000-square-foot facility (3X the former facility).

Energy Building Construction

- Construction had started on a state-of-the-art power plant to feed power to the medical center; including during outages.
- Unfortunately, facility was not operational during Sandy.

Decommissioning of Rusk/Perelman Buildings

The demolition of the Rusk and Perelman buildings was planned prior to Sandy to be replaced with the construction of the Kimmel Pavilion, an 800,000-square foot inpatient and outpatient hospital.

Migration of Student Dorms

- Rubin hall, was also planned for demolition to be replaced by the Science Building.
- Fortunately, students moved to off-campus dormitories and did not need to be relocated after the storm.
Pre-Sandy: The “Trial Run”

August 2011- Irene
10 FT Flood Surge

October 2012- Sandy
14 FT Flood Surge

What Happened?
• On August 25, 2011, ordered to evacuate almost 500 patients advance of Hurricane Irene
• On August 27, 2011, Hurricane Irene impacted the medical center
• On August 29th, several buildings were put on emergency generator power due to water infiltration. On August 30th, all patients returned to the medical center

Lesson Learned
• Valuable learning experience testing our disaster preparedness and working with our Insurance Company and FEMA.
Sandy: What Happened?
What occurred during the storm?

- A storm surge over 4 feet higher than had ever been seen in New York Harbor

First Avenue at 33rd Street looking North

- The electrical substation that served lower Manhattan was lost causing a widespread power outages
Research Impact...

• Three major research facilities on our main campus disrupted by water intrusion and power outage

• Bellevue (HHC) and our VA Hospital affiliate also closed for extended periods

• Rodent losses: 700+ lines to be rederived

• Lost equipment: Lab based and shared resources

• Lab materials and labor: cell lines, tissue samples, antibodies, etc

• Human research interruptions: spoilage of study drugs, data losses, study enrollment disruptions
Preparation and Evacuation

- On Friday, October 26, 2012 – 575 patients at Tisch Hospital were reduced to 322 patients by Monday, October 29, 2012
- Evacuation order for Tisch Hospital issued when ConEdison power plant explosion caused widespread damage and power loss to lower Manhattan
- Tisch Hospital patients were transferred to 14 hospitals within 13 hours
- **Video Link:** [NYU Langone Medical Center Sandy Video](#)
DISASTER AND ORGANIZATIONAL RESILIENCE
Financial Perspective
Post-Sandy
What Should You Do Next?
### Post-Sandy- Recovery Approach

# 1 Priority: People

<table>
<thead>
<tr>
<th>Category</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patients</strong></td>
<td>• <strong>150% Staffing Levels</strong>- Had over 150% staffing levels before storm to ensure proper care for current patients and handle any critical volume</td>
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<tr>
<td></td>
<td>• <strong>Escorted during evacuation</strong>- Each patient evacuated was escorted by a Physician and/or nurse to the alternate facility</td>
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<td>• <strong>Student Assistance</strong>- Students were contacted via Twitter and Facebook, where they came to provide support during the disaster</td>
</tr>
<tr>
<td><strong>Employees/Staff</strong></td>
<td>• <strong>Continued Payroll</strong>- Ensured that employees would still be paid while rebuilding was occurring</td>
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<tr>
<td></td>
<td>• <strong>Redeployment of Employees</strong>- Employees were engaged throughout the recovery period for assistance. They were the most familiar with our facilities and operation.</td>
</tr>
<tr>
<td><strong>Researchers</strong></td>
<td>• <strong>Preservation of Research</strong>- Provided emergency supplies and support to protect and preserve research from further impact</td>
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<tr>
<td></td>
<td>• <strong>Funding Recovery</strong>- Provided funding mechanism to PIs immediately after storm to assist with recovery</td>
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## Post Sandy- Recovery Approach

<table>
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<tr>
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<th>Area</th>
<th>Key Activity</th>
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</table>
| 2  | MCIT                        | • **Access to Patient Records**- Ensure that patient record system (EPIC) became operational in order to contact patients, access records, and provide treatment  
• **Restore Communication Systems**- Repair/Replace communication systems (telephone, email, website) |
| 3  | Assessing Damage and Losses | • **Asses Operational Areas**- Work with each of the operational areas to obtain damage assessments  
• **Redirect Operations**- Develop plan to redirect operations  
Leverage Insurance Company- Reach out to Insurance Company for support to preserve, assess, and document losses |
| 4  | Communications- Internal    | • **Reschedule Patients**- Communicate to patients where they can be reschedule appointments. NYUMC utilized a call center located outside of the region  
• **Employees**- Communicate to employees, staff, and Researchers to keep updated on the status of operations  
• **Physicians**- Kept in contact with physicians and assisted with getting temporary admitting rights at other hospitals |
## Post Sandy - Recovery Approach

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| 5  | Emergency Clean Up, Repair, and Restoration | • **Clean Up**- Removal of debris and hazardous waste  
• **Emergency repairs**- bring viable facilities back into operation  
• **Resources**- Identify contactors/ employees for assistance  
• **Funding**- Estimate disaster costs required to restore operations |
| 6  | Preservation of Property                  | • **Preservation**- Preserve property that was sensitive to humidity, temperature change, etc.  
• **Reimbursement**- Must preserve losses as funding sources will require inspection or proof of loss  
• **Staging Area**- Staging area (e.g. warehouse) will be required to store damages items until inspected by funding sources |
| 7  | Assessment of Clinical, Research, and Education Operations | • **Connection with Operations**- Work with each of the operational areas to obtain assessments of what was needed to help with recovery  
• **Business Partners**- Finance organization was established with a senior level Business Partner for each of the major operational areas  
• **Disaster Accounts**- Accounts set up required for each department to track what was required for recovery |
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| 8  | Temp Relocation of Operations          | • **Alternate Locations** - Identify viable locations for displaced operations  
• **Clinical Flexibility** - Pre-disaster initiative with clinical flexibility allowed ability to restore operations at alternate locations |
| 9  | Financial Recovery Plan                | • **Short Term Plan** - Plan to fund short term disaster recovery during assessment. Will have immediate cash needs.  
• **Disaster Accounts** - Account set up required for each department to track what was required for recovery  
• **Long Term Plan** - Must incorporate into multi-year plan  
• **Recovery Sources** - Understand funding sources and how it can be incorporated in your plans |
| 10 | Direct Contact with Local, State, and  | • **Contact Officials** - Contact your Local, State, and Government Officials to ensure that they are aware of your situation  
• **Walkthrough** - Provide walkthroughs where possible to provide first hand experience of damage. Officials can provide valuable assistance for the recovery of losses |
|    | Federal Government                     |                                                                                                                                             |
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<th>Key Activity</th>
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<tbody>
<tr>
<td>11</td>
<td>Disaster Recovery Team</td>
<td>• New Reality with Recovery Team - Disaster Recovery team will be part of normal operation. A disaster recovery team will need to be established as part of the permanent operations to focus on recovery efforts.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Connection to Operations - Must be tied into major areas of the organization (Facilities, IT, Departments, etc) to compile and present losses for reimbursement.</td>
</tr>
<tr>
<td>12</td>
<td>Restoration and Rebuild of Facilities</td>
<td>• Long Term Planning - Once organization is stabilized and operational, long term planning is required for the full repair, restoration, and rebuild of facilities.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Funding Plan - This may take several years to complete and require a significant amount of capital planning.</td>
</tr>
<tr>
<td>13</td>
<td>Mitigation of Future Losses</td>
<td>• Protection from Future Disasters - As part of the rebuild plan, mitigation should be considered to avoid major damages during potential future disasters.</td>
</tr>
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</table>
Our Immediate Response Benefited from NYULMC’s Integrated Organizational Structure

- **Office of Science and Research (OSR)**, under leadership of Vice Dean and Chief Scientific Officer
  - **OSR leadership team**
    - Science Operations
    - Science Strategy
    - Collaborative Science (Cores)
    - DLAR, CTSI…
  - **Mission “business partners”**
    - Facilities
    - Finance
    - IT
    - Legal etc…

![Diagram showing integrated organizational structure of NYULMC]
Immediate Assurances

- NYULMC loss forms were developed immediately
- Disaster recovery accounts set up to fund critical needs and track institutional spending
- Planning for research relocations began within days
- Consistent message: “We understand and you will have support to rebuild”
Congress passes $50.5 billion Superstorm Sandy aid bill

The bill, which had been delayed for months amid partisan bickering, will finally deliver funds to residents along the East Coast who were battered by the storm.

- DRAA passed Jan. ‘13; NIH published Recovery RFAs in April:
  - Supplements and “with cost” extensions for funded investigators
  - Assistance for new investigators (prior to receipt of first grant) to restore preliminary data
  - Equipment and shared resources
  - Reconstruction and renovation

- Mobilized faculty and support resources to respond
- Six workshops per week were held to provide instruction on how submit under the DRAA RFAs.
- One-on-one consulting was provided the SARA team
- 400% of normal proposal volume in June/July 2013
Proactive Outreach to External Parties
## Recovery Funding Sources

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Awarded</th>
</tr>
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<tbody>
<tr>
<td>FEMA - Emergency Clean Up, Repairs, and Temporary Facilities</td>
<td>$300M</td>
</tr>
<tr>
<td>FEMA - Repairs and Rebuilding</td>
<td>$540B</td>
</tr>
<tr>
<td>FEMA - Mitigation</td>
<td>$589B</td>
</tr>
<tr>
<td>National Institute of Health</td>
<td>$130M</td>
</tr>
<tr>
<td>Social Services Block Grant</td>
<td>$22M</td>
</tr>
<tr>
<td>National Flood Insurance Program</td>
<td>$9M</td>
</tr>
<tr>
<td>Commercial Insurance</td>
<td>(Lawsuit Filed)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1.6B</strong></td>
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Part of FEMA “Capped” Grant
## NYUMC Financial Performance

<table>
<thead>
<tr>
<th>($000)</th>
<th>Fiscal Year Ended August 31, (Audited)</th>
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<tbody>
<tr>
<td></td>
<td>2011</td>
</tr>
<tr>
<td>Disaster Revenue</td>
<td></td>
</tr>
<tr>
<td>Other Operating Revenue</td>
<td>2,844,436</td>
</tr>
<tr>
<td>Total Operating Revenue</td>
<td>2,844,436</td>
</tr>
<tr>
<td>Disaster Expenses</td>
<td></td>
</tr>
<tr>
<td>Other Operating Expenses</td>
<td>2,705,812</td>
</tr>
<tr>
<td>Total Expenses</td>
<td>2,705,812</td>
</tr>
<tr>
<td>Gain / (Loss) from Operations</td>
<td>138,624</td>
</tr>
</tbody>
</table>

Disaster Related Impairment of Property, Plant, and Equipment: (61,134) 2,039

Disaster Recovery Reimbursement for Capital: 94,548

Sandy Impact
NYUHC has been out front in its communications to the investor community

- Repeated market updates on implications of Sandy
- Investment banking conferences
- Transaction marketing (net roadshow, tour of NYUHC facility)
- Involvement of entire executive team in communication strategy

NYUHC has been able to maintain its bond ratings throughout the disaster

In FY13, NYUHC was able to complete a $350M bond offering

NYUHC Investor Communication
Post-Sandy
New space in development

**New Science Building:**
- Late 2017
- 10 lab floors
- Vivarium

**Alexandria West Tower:**
- Shell space lease
- Complete in Summer 2016
- 3 lab floors
- Vivarium
Lessons Learned

• **Preparation for the Disaster** –
  ✓ SOME things must be organized before any disaster: Financial reserves, policies, communication plans etc.
  ✓ SOME things cannot be anticipated: requires good team working with best information they can get

• **Immediate decisions matter** –
  ✓ Financial recovery post storm began on Day 1 with Executive Leadership
  ✓ Quick decisions on providing disaster recovery accounts, not interrupting payroll, etc helped secure faculty and staff retention
Lessons Learned

• **Priority on People**
  - Several peer institutions that provided guidance warned of the long-term impact of losing faculty and staff. Without your People, there will not be a business to rebuild
  - Empathy, two-way communications really matter

• **Engaging External Parties**
  - Don’t be shy about asking
  - Our peers and government officials were extremely generous with time, information, and support

• **Seeing opportunities (and appreciating the lucky breaks)**
  - Make lemonade with lemons wherever possible!
  - Examples: dollar density improvement, acceleration of facilities projects
QUESTIONS AND ANSWERS