

Hurricane Sandy – NYU Experience

Sheenah Mische, Sr Director, Office of Collaborative Science
Conference Call May 30, 2013

**“Think of the worst, then go well beyond that in planning”
- Sheenah Mische**

Impacts:

- Hurricane Sandy resulted in water levels that reached an estimated overall depth of 14 feet, and more than 15 million gallons of water flooded the lowest floors of every building on the main campus.
- Storm surge
 - o Buildings designed to withstand a storm surge 20% greater than the largest surge in recorded history in NYC.
 - o Minutes to evacuate staff in vivarium (located in basement)
- Widespread disruption – loss of power, lights, heat, water, telecommunications, networking
- Lost all power including all emergency backup power
 - o Generators on the roof, fuel tanks in the basement per NYC code
 - o 500 scientists directly impacted by building loss; campus-wide disruptions impacted all medical and research infrastructure and support
 - can only move a fraction of equipment and supplies
 - temporary space is 1/10 the size of original location
- Currently have 2 buildings not recoverable and slated for destruction
 - o 1 additional building will be rehabilitated for staged reoccupancy in late 2013-mid 2014
- Power restoration took as much as 6 days for one NYU building
- Heating restoration took up to 3 weeks

Response and Recovery (ongoing):

- Pre-event
 - o Sister academic centers Memorandums of Understanding (MOUs)
 - Moved freezers, animals, specimens, etc.
 - Offered lab space, animal facilities
 - o Had taken biostorage samples to remote locations well before as part of mitigation
- Post-event
 - o Research recovery was a “Staged Process”
 - Respond to immediate needs
 - Document losses
 - Systematically replace losses
 - o A massive triage effort
 - Minimal centralized prioritization of research recovery efforts
 - Need strong leadership to counter individual efforts that were often at odds with needs of the many. Scientists by nature are problem solvers, independent contributors, motivated to preserve their life's work; actively made private deals with external colleagues
 - Had trouble finding enough flashlights, rain gear, food, heaters, etc.

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- Communication and outreach was challenging
 - Resorted to texting among key decision makers for as much as 1 week
 - Outreach, weekly message, inspiration from the dean
- Space
 - Aging infrastructure
 - Daily revision of project scope, timeline as debris removed, revealing further damage
 - Logistics, coordination and oversight of multiple, overlapping subcontractors
 - Loss of “swing space” for intermediate storage
 - Relocation of people, labs etc. was a huge effort
 - Animals
 - Cryopreservation key for recovery of animals
 - Cores – From a biomedical research enterprise perspective, centralized resource centers/cores are both critical and highly vulnerable due to the concentration of instrumentation and resources for research support.
 - Enacted “one-stop shopping” – reached out and arranged outsource contracts with other academic institutions, commercial vendors to accommodate researchers
 - Enacted distributed model of resources (instrumentation, services) to meet needs of research
 - Biorepository Core: 100% of biospecimen in NYULMC BioRepository was securely stored offsite, BUT the majority of NYULMC investigators had research collections stored in individual freezers representing biobanks of a career. The Core worked with two vendors, Biostorage & Cryostar, to facilitate emergency retrieval and relocation off campus of more than 1 million biospecimen held in 1000 freezers from Bellevue, NYU and VA laboratories representing both clinical and research operations
 - Vendors made concerted effort to meet daily and varied needs of laboratories
 - “Gentlemen’s handshake” – Deals made on the fly then later formalized
 - Massive consolidation by other schools
- Financial
 - Within two weeks, recovery funds established for all Investigators to ensure adequate liquidity
 - Funding was based upon three months historical spending
 - Not perfect, but efficient
 - FEMA, NIH, other funding bodies; state and local assistance (declared disaster)
 - Insurance, Private donations
- Morale
 - Have had faculty move elsewhere
 - Frustration is high
 - Some believe progress should be happening faster
 - Mitigate frustration, a lot of meetings
- Compliance & reporting
 - Compromises have had to be made
 - Chemical storage – have had to pay fines being as some areas are out of compliance

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Preparedness Efforts:

- Emergency management, continuity, and recovery plans
 - o Institutional emergency management plans in place
 - o Continuity/Recovery plans
 - Some research continuity and recovery plans
 - Some medical center continuity and recovery plans
 - No academic continuity and recovery plans
 - o No single department had own plans, had senior level and dean level but virtually none below that
 - o NONE well integrated with one another
- Institution in year 3 of 5 of a power plant build out and redundancy initiative
 - o Moving power source and generation 7 floors above ground
- Documentation of capital assets – Update often!
 - o Match with institutional systems
 - o Make, model, serial numbers
 - o Grant funding data, if applicable
 - o Link locations, receipts, and PO numbers.
 - o Service contracts, warranty, service history
 - o Tag both asset and paperwork – ensure asset documentation is linked to purchase info
 - o Take pictures of everything
 - o Back up and store data on networks!

Lessons Learned:

- Have accommodations on or nearby to campus and crisis management centers
- This event has highlighted the benefits of collaboration and sharing
- Offsite storage of all precious biomaterials now a priority
 - o Institutional model designed to ensure the safety of biosample assets for NIH supported research
 - o Primary biosample collections managed and stored in facilities designed to withstand all adverse events
 - o This ensure research continuity for resources and protects samples for future awards and collaborations
- In the midst of an extended duration response and recovery effort and even with a great deal left to be completed need to take time to celebrate how much has been accomplished
- “Think of the worst, then go well beyond that in planning”