New York State Department of Health

Superstorm Sandy

Response

October 26, 2012 – February 27, 2013

FINAL AFTER ACTION REPORT/IMPROVEMENT PLAN

December 3, 2013

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EXECUTIVE SUMMARY

Superstorm Sandy, a late-season post-tropical cyclone and the tenth storm of the 2012 Atlantic hurricane season, swept through the Caribbean and up the East Coast of the United States in late October 2012. The storm left 42 dead in New York State (NYS), thousands homeless and millions without power. Superstorm Sandy began as a tropical wave in the Caribbean on October 19, 2012. It quickly developed into a tropical depression and then a tropical storm in six hours. It quickly moved north, then turned northwest within the next week, making landfall on October 29, 2012 striking near Atlantic City, New Jersey with winds of 80 miles per hour. At one point, Superstorm Sandy's hurricane force winds (74 mph) extended up to 175 miles from its center and tropical storm force winds (39 mph) out to 485 miles. A full moon made high tides 20 percent higher than normal, amplifying Superstorm Sandy's storm surge.

Superstorm Sandy's strength and angle of approach combined to produce a record storm surge of water into New York City. The surge level at Battery Park topped 13.88 feet by 9:25 p.m. that same evening and the New York Harbor's surf reached a record level with 32.5 foot waves.

Seawater poured over Lower Manhattan's seawalls and highways into low-lying streets. The water inundated tunnels, subway stations and the electrical system powering Wall Street. Thousands of hospital patients, nursing home and adult care residents were evacuated. The storm shut down five acute care hospitals, one psychiatric hospital and 26 residential-care facilities (nursing homes and adult care facilities). More than 7,800 patients and residents were evacuated through efforts coordinated by the New York State Department of Health (NYSDOH) Healthcare Facility Evacuation Center (HEC). Other healthcare facilities and services also suffered the storm's effects: 300 buildings housing doctors' offices, 100 retail pharmacies and at least 70 outpatient and ambulatory care centers sustained significant flooding (5%) and power outages (12%).

The NYSDOH activated its Incident Management System (IMS) on October 26, as well as the Health Operations Center (HOC), the HEC and provided staff to the New York City Emergency Operations Center (EOC) and the New York State EOC. The response efforts by the NYSDOH ended 125 days later on February 27, 2013, second in duration only to the response period for the 2009 H1N1 influenza pandemic.

The NYSDOH response efforts to this significant late season storm in October 2012 tested a number of Target Capabilities, including: 1) Citizen Evacuation and Shelter-in-Place, 2) Environmental Health, 3) Volunteer Management and Donation, 4) Medical Materiel Management and Distribution, 5) Onsite Incident Management, 6) Mass Care, 7) Epidemiological Surveillance and Investigation, 8) Emergency Triage and Pre-Hospital Treatment (Emergency Management System (EMS)), 9) Planning and 10) Community Preparedness.

Based on the events which occurred pre-storm, during the storm and subsequent response and recovery efforts, the following objectives were developed for the Superstorm Sandy Response:

- **Objective 1:** Direct, manage and coordinate evacuation and/or in-place sheltering procedures for those healthcare facilities under mandatory evacuation and those who voluntarily evacuated.
  - **Citizen Evacuation/Shelter in Place:** Direct Evacuation and/or In-Place Protection Tactical Operation.
  - **Emergency Triage and Pre-Hospital Treatment (EMS):** Direct Triage and Pre-Hospital Treatment Tactical Operations.
- **Objective 2:** Upon notification of the affected area being safe, ensure that in-shelter population and/or evacuees may safely re-enter the area.
  - **Citizen Evacuation/Shelter in Place:** Assist Re-entry.
  - **Emergency Triage and Pre-Hospital Treatment (EMS):** Direct Triage and Pre-Hospital Treatment Tactical Operations.
- **Objective 3:** Identify and communicate environmental health risk issues to the affected population.
  - **Environmental Health:** Activate Environmental Health Operations.
- **Objective 4:** Provide support and coordinate environmental health resources to address potable water supply issues.
- **Objective 5:** Mobilize environmental health personnel to assess and support response.
- **Objective 6**: Deploy personnel and equipment to repair, conduct assessments, provide technical assistance and conduct monitoring of drinking water supplies and systems.
  - **Environmental Health:** Ensure Safety of Potable Water Supplies.
- **Objective 7:** Disseminate water communication messages to appropriate groups.
  - **Emergency Public Information and Warning:** Issue Public Information, Alerts/Warnings and Notifications.
- **Objective 8:** Disseminate CERC to the media, public, partners and stakeholders.
  - **Volunteer Management and Donations:** Activate Volunteer and Donations Management Emergency Plan.
- **Objective 9:** Mobilize personnel and facilities to begin processing offers of assistance.
- **Objective 10:** Support response operations using volunteer resources and volunteered technical capabilities.

- **Volunteer Management and Donations:** Organize volunteers and Assign to Disaster Relief Efforts.
- **Medical Materiel Management and Distribution**: Direct and Activate Medical Materiel Management and Distribution.

- **Objective 11:** Provide logistics support for medical supplies management and distribution.
- **Objective 12**: Distribute medical supplies to PODs, health facilities and shelters.
  - **Onsite Incident Management:** Implement Onsite Incident Command.
- **Objective 14:** Initiate and implement the Incident Command System (ICS).
- **Objective 13:** Establish and maintain communications with the EOC.
- **Objective 15:** Establish the command structure to manage the incident and meet objectives.
  - **Onsite Incident Management**: Establish Full Onsite Incident Command.
- **Objective 16**: Establish origin facility, receiving facility, and bed-matching groups needed to manage the incident and meet incident objectives, strategies and tactics.
- **Objective 17**: Establish and maintain communications with Multiagency Coordination Center (MACC).
  - **Onsite Incident Management:** Develop Incident Action Plan (IAP).
- **Objective 18**: Establish incident objectives, priorities and operational periods.
  - **Onsite Incident Management:** Resource Management
- **Objective 19:** Establish processes to collect appropriate data from origin and receiving facilities, and coordinate appropriate bed matches for patients and residents.
  - **Onsite Incident Management:** Evaluate/Revise Plans.
- **Objective 20:** Evaluate and alter plans as necessary.
- **Objective 21:** Develop plans, policies and procedures for the provision of mass care services to general populations in coordination with all responsible agencies.
  - **Mass Care**: Develop and Maintain Plans, Procedures, Programs and Systems.
- **Objective 22:** Develop plans, policies and procedures for close cooperation between general population shelters, functional and medical support shelters and other medical facilities.
  - **Epidemiological Investigation and Surveillance**: Direct Epidemiological Surveillance and Investigation Operations.
- **Objective 23:** Make public health recommendations for prophylaxis and other interventions.

- **Emergency Triage and Pre-Hospital Treatment (EMS):** Develop and Maintain Plans, Procedures, Programs and Systems

- **Objective 24:** Activate the Statewide EMS Mobilization Plan.
- **Objective 25:** Deployment of State EMS Staff and EMS Supervisory Personnel to the State and local EOCs, as well as provide on-scene coordination in affected areas.
- **Objective 26:** Establish lines of communication with EMS Coordinators in affected areas to determine needs and with EMS Coordinators in unaffected areas to deploy resources.
- **Objective 27:** Negotiate to Activate Federal Emergency Management Agency (FEMA) National Ambulance Contract (NAC).
- **Objective 28:** Coordinate ambulance activities downstate - including intra/inter-state mutual aid; and ambulance activities upstate to backfill storm affected areas and evacuate several health care facilities.
  - **Community Preparedness:** Build community partnerships to support health preparedness.
- **Objective 29:** Coordinate efforts to identify and engage public and private community partners who can assist with the mitigation of specific healthcare services.
  - **Planning:** Response plans and strategies need to be flexible enough to address emerging needs and requirements.
- **Objective 30:** Develop appropriate Emergency Declarations to meet the needs of the emergency response.

The purpose of this report is to analyze emergency operations and response, identify strengths to be maintained and built upon, identify potential areas for further improvement and support development of corrective actions.

Major Strengths

- Before Superstorm Sandy made landfall, mandatory evacuations were ordered for electrical-dependent (ventilator) hospital patients and Nursing Home (NH) residents who were within the evacuation zones. Fifty-seven (57) patients were successfully evacuated from New York City (NYC) NHs, 49 from NYC Adult Care Facilities (ACFs) and 579 from NYC hospitals.
- In the immediate aftermath of landfall at 6:00 p.m. on October 29, 2012 through November 6, 2012 when a Nor'easter targeted the same area, additional evacuations included over 3,600 emergency evacuations of NH residents, over 2,500 emergency evacuations of ACF residents and over

1,100 hospital patients occurred. The patients and residents were successfully evacuated despite significant weather-related challenges.

  - Hundreds of ambulances and other EMS resources were effectively deployed from within NYS, from neighboring States and through the FEMA NAC to facilitate healthcare facility evacuations, as well as an increase in 911 responses across NYS.
  - Activation of the Statewide EMS Mobilization Plan (including activation of the FEMA NAC was key factor to the success of these deployments and evacuations.

- The NYSDOH played a key role in the coordination of a highly complex situation, involving a myriad of agencies and areas of response.
- Between November 1 and November 7, 2012, the NYSDOH Medical Emergency Response Cache (MERC) was activated to fulfill requests related to evacuating healthcare facilities, vaccination of healthcare workers and community members and storm clean-up.
- Preparedness exercises conducted over the years were closely mirrored during the response, highlighting the skills sets of staff and reinforcing proper incident command, decision-making and chains of command.
  - Healthcare facilities used evacuation plans and equipment as well as surge plans.
  - Healthcare facilities implemented traditional and non-traditional surge space, as well as disaster triage techniques, all of which had been previously exercised.
- Throughout the course of the response efforts to Superstorm Sandy, 10 Disaster Recovery Centers (DRCs) established by FEMA were staffed by NYSDOH Center for Environmental Health (CEH) staff between November 5, 2012 and February 27, 2013. Volunteers came from every Bureau within CEH, two DOH Regional Offices and five District Offices. A total of 47 volunteers staffed the DRCs for 2 to 42 days, an average of 11 days for individual deployment.
- Strong coordination occurred among partners in the New York City Department of Health and Mental Health (NYCDOHMH), the NYC Office of Emergency Management (OEM), NYS OEM, and the NYSDOH.
- There was an understanding of regulatory flexibility.
- Health Emergency Response Data System (HERDS) surveys were activated in advance of the storms for three facility types (hospitals, NHs and ACFs), allowing identification of medical needs, Transportation Assistance Levels (TALs), and bed types needed for evacuating patients and residents in Zones A and B in NYC, as well as the available beds/surge spaces.
- Communication lines with County EMS Coordinators were established early, allowing for early decision making on ambulance needs and available EMS resources.
- NYSDOH Office of Health Emergency Preparedness (OHEP) and the Bureau of Emergency Medical Services (BEMS) staffed both the Health and EMS

Desks at the State EOC 24 hours a day, 7 days a week, for the duration of the event response efforts and wrote twice-daily situation reports throughout the activation.

- ServNY incident response management system was an excellent forum through which volunteers were alerted and activated.
- Eight Executive Orders were successfully obtained during the Superstorm Sandy response, waiving a total of 62 statutory provisions and associated regulations.

Primary Areas for Improvement

Throughout the operation several opportunities for improvement in the NYSDOH's ability to respond to the incident were identified. The primary areas for improvement are as follows:

- Although communication was often cited as a strength, communication among response partners to include healthcare facilities, the HEC and the NYSDOH can always be improved.
- Develop formalized tools and protocols for Shelter-in-Place (SIP), including staff availability, adequate infrastructure and available resources.
- Develop policies for NYSDOH regarding overtime, use of personal cars and equipment and meal reimbursement.
- Review and train additional staff on the ICS.
- Delineation of NYSDOH and NYCDOHMH roles and responsibilities within the HEC.
- Develop centralized coordination and notification protocols for bed placement.
- Develop a formalized process to match patient needs with resources and bed availability.
- A patient tracking system is a critical need.
- Delineate sheltering planning and operational roles for NYSDOH.
- Develop an approval process and required information for HERDS surveys with a specific timeframe.
- Develop pre-planned guidance for regulatory waivers.
- Consider making the Statewide EMS Mobilization Plan statutory.
- Develop a more efficient system of tracking ambulances and EMS resources during deployments.

SECTION 1: EXERCISE OVERVIEW

Live Event Details

Live Event Name
Superstorm Sandy Response

Type of Event
Post Tropical Cyclone – Live event

Start Date
October 26, 2012

End Date
February 27, 2013

Duration
125 days

Location
New York State; Lower Hudson Valley, Long Island, New York City

Sponsor
New York State Department of Health

Program
NA

Mission
Protect

Response

Recovery

Capabilities
Citizen Evacuation and Shelter-in-Place
Environmental Health
Volunteer Management and Donation
Medical Materiel Management and Distribution
Onsite Incident Management
Mass Care
Epidemiological Surveillance and Investigation
Emergency Triage and Pre-Hospital Treatment (EMS)
Planning
Community Preparedness

Live Event Type

Post Tropical Cyclone response efforts

Response Team Leadership

Member Name	Organizational Affiliation	Job Title	Phone Number
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Sue Kelly	NYS DOH Office of the Commissioner	Executive Deputy Commissioner, NYS DOH	(518) 474-2011
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Rebecca Hathaway	NYS DOH OHEP	Deputy Director OHEP	(518) 474-2893
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Mary Ellen Hennessy	NYS DOH OHSM Division of Certification and Surveillance	Director, Division of Certification and Surveillance	(518) 402-1004
Ruth Leslie	NYS DOH OHSM Division of Certification and Surveillance	Deputy Director, Division of Certification and Surveillance	(518) 402-1003
Debra Sottolano, Ph.D.	NYS DOH OHSM Division of Certification and Surveillance	OHSM Liaison to OHEP	(518) 474-2893
Lynn Couey	NYS DOH BCDC	Manager, Public Health Emergency Epidemiology Preparedness	(518) 486-2151
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John Emery	NYS DOH Public Affairs Group (PAG)	Crisis and Emergency Risk Communications Specialist	(518) 473-2651
Adela Salame-Alfie, Ph.D.	NYS DOH Center of Environmental Health (CEH)	Director, Bureau of Environmental Radiation Protection (BERP)	(518) 402-7900
Jacqueline Pappalardi	NYS DOH Division of Residential Services	Director, Division of Residential Services	(518) 408-1271
Lee Burns	NYS DOH Bureau of Emergency Medical Services (BEMS)	Acting Director, BEMS	(518) 402-0996

Participating Organizations

Department of Health and Human Services (DHHS)

Federal Emergency Management Agency (FEMA)

Division of Homeland Security and Emergency Services – State Office of Emergency Management (DHSES – State OEM)

New York State Department of Health (NYSDOH)

NYSDOH- Office of Health Systems Management (OHSM)
- Division of Certification and Surveillance (Hospitals/DTC's)
- Division of Residential Services (Long Term Care)
- Division of Home Care and Hospice
- Division of Adult Homes

New York State Department of Health – Bureau of Emergency Medical Services (NYSDOH BEMS)

New York State Department of Health – Center for Environmental Health (NYSDOH CEH)

New York State Department of Health – Office of Health Emergency Preparedness (NYSDOH OHEP)

New York State Department of Health – Metropolitan Area Regional Office (NYSDOH MARO)

New York State Department of Health – Capital District Regional Office (NYSDOH CDRO)

New York State Department of Health – Central New York Regional Office (NYSDOH CNYRO)

New York State Department of Health – Western Regional Office (NYSDOH WRO)

New York City Department of Health and Mental Hygiene (NYCDOHMH)

United States Army Corps of Engineers (USACE)

Number of Participants

- Responding staff: 450 NYSDOH Staff

SECTION 2: EVENT SUMMARY

Response Efforts Summary

On October 29, 2012 Superstorm Sandy made landfall on Long Island, NYC and the lower Hudson Valley. Millions were impacted; thousands of healthcare patients and residents were evacuated; severe power outages lasting weeks were experienced; and significant flooding severely impacted Long Island, NYC and some areas of the Lower Hudson Valley. This report summarizes the response actions taken by the NYSDOH in conjunction and coordination with other State, Local and Federal agencies. Healthcare facilities and Counties affected by the events produced their own After-Action Reports (AARs); much of that detail is not duplicated in this report.

Objectives, Capabilities and Activities

Based on the operations which occurred pre-storm, during the storm and the subsequent recovery efforts, the following objectives were developed for the Superstorm Sandy Response:

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- **Objective 24:** Activate the Statewide EMS Mobilization Plan.
- **Objective 25:** Deployment of State EMS Staff and EMS Supervisory Personnel to the State and local EOCs, as well as provide on-scene coordination in affected areas.
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- **Objective 28:** Coordinate ambulance activities downstate - including intra/inter-state mutual aid; and ambulance activities upstate to backfill storm affected areas and evacuate several health care facilities.
  - **Community Preparedness:** Build community partnerships to support health preparedness.
- **Objective 29:** Coordinate efforts to identify and engage public and private community partners who can assist with the mitigation of specific healthcare services.
  - **Planning:** Response plans and strategies need to be flexible enough to address emerging needs and requirements.
- **Objective 30:** Develop appropriate Emergency Declarations to

meet the needs of the emergency response.

SECTION 3: ANALYSIS OF CAPABILITIES

This section of the report reviews the performance of the operational capabilities, activities and tasks. In this section, observations are organized by capability and associated activities. The capabilities linked to the operational objectives of Superstorm Sandy Response are listed below, followed by corresponding activities. Each activity is followed by related observations, which include references, analysis and recommendations.

Capability 1: Citizen Evacuation and Shelter-in-Place

Capability Summary: Citizen evacuation and Shelter in Place (SIP) is the capability to prepare for, ensure communication of and immediately execute the safe and effective SIP of an at-risk population (and companion animals) and/or the organized and managed evacuation of the at-risk population (and companion animals) to areas of safe refuge in response to a potentially or actually dangerous environment. In addition, this capability involves the safe reentry of the population where feasible.

Activity 1.1: Direct Evacuation and/or In-Place Protection Tactical Operation

Observation 1.1: ***Strength.*** Before Superstorm Sandy made landfall, mandatory evacuations were ordered for electrical-dependent (ventilator) hospital patients and NH residents who were within the evacuation zones.

References: NYSDOH HEC Plan; NYSDOH – BEMS Statewide EMS Mobilization Plan

Analysis 1.1: Fifty-seven (57) patients were evacuated from NYC NHs, 49 from NYC ACFs and 579 from NYC hospitals. Ambulances and EMS resources were effectively deployed through activation of the Statewide EMS Mobilization Plan from within NYS and through the NYC Fire Department. The evacuations were successful, with no lives lost and all patients and residents appropriately placed prior to Superstorm Sandy making landfall on October 29.

Recommendations 1.1: None

Observation 1.2: ***STRENGTH.*** Although not without issue, a significant number of patients and residents were safely evacuated post Superstorm Sandy making landfall and were successfully repatriated.

References: NYSDOH HEC Plan; NYSDOH – BEMS Statewide EMS Mobilization Plan

Analysis 1.2: In the immediate aftermath of landfall at 6:00 p.m. on October 29, 2012

through November 6, 2012 when a Nor'easter targeted the same area, additional evacuations included over 3,600 emergency evacuations of NH residents, over 2,500 emergency evacuations of ACF residents and over 1,100 hospital patients occurred. A request was made for 350 ambulances through the FEMA NAC by the State OEM to facilitate healthcare facility evacuations in the aftermath of Superstorm Sandy. A total of 350 NAC ambulances were deployed to NYS for two weeks; this number was extended for an additional two weeks and at the end of four weeks, 25 ambulances remained on Long Island and in NYC. Hospitals and Long Term Care (LTC) facilities have individual emergency plans but in a Regional disaster there is a need for more centralized coordination and management by the State/City. Some facilities would only transfer patients within their own systems.

Recommendations:

1. **Although the HEC was not designed for emergency evacuations, future plan development, trainings and exercises should reflect the possibility that if emergency evacuations are required post Tropical Storm landfall, the HEC (if established) will most probably be the best positioned organization to conduct Emergency Evacuation Operations.**

Capability 2: Environmental Health

Capability Summary: Environmental Health is the capability to protect the public from environmental hazards and manage the health effects of an environmental health emergency. This capability includes the design, implementation and interpretation of results from environmental field surveys, laboratory sample analyses, rapid needs assessments and comprehensive environmental health and risk assessments focused on drinking water, food and mass care safety, waste water management, vector control, solid waste and debris removal and hazardous materials disposal.

Activity 2.1: Activate Environmental Health Operations

Observation 2.1: ***STRENGTH and AREA FOR IMPROVEMENT.*** NYSDOH CEH staff provided outstanding and effective assistance to individuals through the DRCs.

References: Disaster Assistance Service Center and Family Assistance Plan (appendix to Human Services Annex, Comprehensive Emergency Management Plan)

Analysis 2.1: Throughout the course of the response efforts to Superstorm Sandy, 10 DRCs established by FEMA were staffed by NYSDOH CEH staff between November 5, 2012 and February 27, 2013. Volunteers came from every Bureau within CEH, two DOH Regional Offices and five District Offices. A total of 47 volunteers staffed the

DRCs for 2 to 42 days, an average of 11 days for each individual deployment.

Based on lessons learned from Hurricane Irene and Tropical Storm Lee in staffing DRCs, as soon as the State EOC was activated on October 26, CEH staff immediately took action to respond to the potential effects of the impending storm. Regional Environmental Health Directors were reminded of available print resources for preparedness and weather emergencies on the NYSDOH website and hard copy; links were provided, as well as the process for placing orders. Comprehensive reference materials had been updated and organized for distribution to Local Health Departments (LHDs) as required. NYSDOH Public Affairs Group (PAG) and CEH Outreach and Education developed scripts for DRC staff that were reported to be very positive.

A common folder was created on the common drive shared by CEH staff internally, as well as on the Health Commerce System (HCS) so that staff based across the State would be able to access additional disaster-related information from NYSDOH and other State and Federal partners. Additional work was conducted with PAG to update content on the public webpage dedicated to more targeted storm preparedness and recovery.

On October 31, 2012, 16 boxes of materials were shipped to the MARO in Monticello for distribution. The distribution center was very supportive in supplying materials, with a quick response to orders. Training sessions were organized for potential DRC volunteers, covering what to expect at a DRC; administrative issues; and relevant topics to assist impacted residents (drinking water advisories, Boil Water Orders (BWOs), carbon monoxide, food safety, indoor air and mold). Two sessions were held on November 6, 2012 for approximately100 DOH employees via conference call and in-person meetings. The trainings were videotaped and the PowerPoint presentations archived in the electronic common folder. A DRC Reporting Form was created, as well as a guidance document summarizing relevant DRC Frequently Asked Questions.

Throughout the event, CEH staff continued to work with Federal partners, LHDs and District Offices to respond to community concerns. Outreach and technical staff participated in conference calls with the Environmental Protective Agency (EPA), NYCDOHMH and LHDs to provide targeted assistance. For example, at the request of the Nassau County Commissioner, a fact sheet on avoiding illness from floodwaters was specifically developed to help a community dealing with serious sludge and sewage contamination.

In early December, Executive Staff requested a broad health provider alert concerning respiratory and mold concerns in impacted areas outside NYC be developed. CEH and Bureau of Communicable Disease Control (BCDC) staff produced a comprehensive document, distributed to LHDs, LTC facilities and home care providers.

NYSDOH staff in the DRCs each had a laptop, a USB Wi-Fi adapter and a Verizon JetPack hotspot with power cables which allowed for contacting staff at home offices to

obtain information immediately. Some technical difficulties occurred, once online, some links were difficult or unable to be accessed. Some internet connectivity was compromised at several sites due to infrastructure damage. Maintaining an appropriate number of computers and JetPacks was difficult as DRC sites increased. Communication between staff during shift changes was strength in spite of the technical problems. Folders left on the computer desktop and hand-written notes provided excellent communication between shifts, particularly when overlap between shifts did not occur.

Concerns were expressed that some DRCs experienced few visitors; additional advertising may help. FEMA staff at some DRCs also developed a checklist which was handed to visitors to take to each table, helping to ensure that visitors were able to get as much information as possible. Staff did express strong support for maintaining a presence in the DRCs to assist community residents affected by a major event, as part of the outreach component of disaster response.

There was recognition that some DRCs could be staffed "virtually," criteria to determine visibility of virtual DRCs was suggested. Site managers were identified as needing additional training, particularly in ensuring periodic briefings to provide a common operating picture and situational awareness.

Some DRCs were overwhelmed with visitors, often in those areas with the most significant power outages. These visitors had no access to media. Hand distributed flyers were provided and visitors needed considerable coaching on safely returning to their damaged homes.

At times, some staff did not inform their supervisors they were deploying to support DRCs, even though volunteers were asked to obtain supervisory approval before committing to staff a DRC. It was suggested that for future events a document with DRC staffing assignments be maintained on the HCS to help situational awareness.

Some travel logistics for an emergency response were unclear, with items purchased by staff out-of-pocket and without reimbursement. Inadequate instruction and access to the proper paperwork and checklist was identified as an issue. Staff were often traveling in difficult weather and experienced logistical challenges (closed roads, time-consuming detours), causing arrival delays. Feedback indicated that more flexibility from State administration in regards to time sheets, travel and reimbursement was needed in order for the appropriate systems to work more efficiently.

Local LHDs staff were not able to be leveraged to work DRCs due to their response efforts. A small cadre of CEH staff worked very long hours, sometimes moving from one site to another with short notice. Numerous staff requested training in psychological first aid both for themselves and to be able to assist distraught community visitors. The NYS Office of Mental Health (OMH) was lauded for its efforts to provide assistance to

distressed visitors and DRC volunteers.

DRCs were often identified with little to no notice. This forced NYSDOH to quickly identify staff to support DRCs, once identified staff had to personally drive materials to new sites. This resulted in delays in the coordination of staff; notice to managers and a slowed the deployment process considerably. Once at the DRC, staff were often unaware of any ICS structure, leading to an impression that no one was in charge providing leadership or direction.

Staff available within CEH to volunteer to staff DRCs is dwindling due to retirements, attrition, compensation disparity with other agencies' policies for overtime compensation and travel restrictions. Some staff who wanted to volunteer could not because their grant funding would not allow for response activities or they had been told by Health Research Inc. (HRI) that they had reached a maximum number of volunteer hours. There is a need to reach beyond CEH to ensure that DRCs are appropriately staffed for public health information and assistance.

*NOTE: Suggested recommendations for the State OEM, American Red Cross (ARC), FEMA, Human Services Task Force or other entities involved in DRC Operations.

Recommendations:

1. **Configure computer proxies prior to deployment to ensure that web links are accessible.**
2. **Consider using Instant Message or Skype to communicate with Central Office staff to discuss issues raised by community visitors to the DRCs.**
3. **Develop a handout with general guidelines for employees who are volunteering.**
4. **Identify the NYSDOH point person to assist with travel questions, credit card issues, lodging issues, eligibility for overtime, use of personal cars and work-from-home policies.**
5. **Consider recruiting NYSDOH retirees to serve as volunteers to staff DRCs during an emergency response effort.**
6. **Train additional NYSDOH staff to serve as DRC volunteers.**
7. **Develop a packet of information about different services provided by the NYSDOH (outside of CEH), with a contact email or phone number so that staff in the DRCs can have a broader view of the public health activities.**
8. **Develop a protocol for better field coordination among the DRCs and NYSDOH, including an outline of DRC activity and a template for a standing roster of volunteers.**
9. **Train staff in use of Virtual Health Operations Center (VHOC) to increase communication and provide situational awareness.**

10. Develop a model DRC layout with FEMA and the ARC to provide State agency visibility and privacy, if needed, for visitors.*
11. **Develop system(s) to collect staff time to ensure that personnel overtime and other costs are included in the State's cost share application via State OEM, FEMA and the Division of the Budget (DOB).**
12. **Recognize staff who volunteered in the DRCs (possibly via Lotus Notes), to encourage interest and participation of non-volunteers.**
13. Coordinate with Office of Temporary and Disability Assistance (OTDA) and Office of Children and Family (OCFS) in developing a Standard Operating Procedure (SOP) for site managers.*
14. **Define expectations of Regional/District offices to assist in staffing DRCs.**
15. **Develop mechanisms to leverage existing community-based activities to provide outreach support and materials (organizations that can provide mold clean-up and home remediation).**

Activity 2.2: Ensure Safety of Potable Water Supplies

Observation 2.2: *STRENGTH.* NYSDOH CEH Bureau of Water Supply Protection (BWSP) staff was able to successfully provide assistance to impacted water supplies.

References: NYSDOH CEH Health Policies and Procedures

Analysis 2.2: Almost all community water suppliers were able to maintain service, though some operated at limited capacity or under compromised conditions such as BWOs, back-up power or with temporary connections. For those systems where service ceased, most resumed operations, some at limited capacity or under compromised conditions within a few days. At the height of the response efforts post-Superstorm Sandy landfall, there were 62 community water systems with Superstorm Sandy-related drinking water advisories, 59 of which were BWOs. All but two of the advisories were rescinded within two to 19 days.

Situational awareness was developed and maintained through MARO with direct contact with the effected LHDs. One county was officially closed during the first week following Superstorm Sandy landfall, preventing communications and information flow. LHD staff in that County, however, had been in communication with water suppliers.

BWSP also assisted one of the most damaged public water systems in the city of Long Beach during start-up activities following system repairs. This involved review and advice about water quality testing data and pipe-flushing procedures.

In addition, BWSP developed a guidance document for bringing dormant water facilities

back on line during repatriation of healthcare facilities. This was at the request of MARO, with the document posted on the HCS.

BWSP also provided periodic updated lists of Public Water Systems and locations for filling emergency drinking water tankers to the Health Desk at the State EOC. Much of this information had been gathered pre-event. A suggestion was also made to pre-identify water tanker disinfection locations, some which were identified during response activities. This was invaluable to OEM and FEMA, as they dealt with providing potable water to affected communities. The ability of CEH to post BWOs directly on the NYSDOH website without a time-consuming vetting process was also viewed positively.

BWSP also processed a request for a determination on the suitability for potable use of a large shipment of donated bottled water from a non-certified supplier. This was done in conjunction with the Division of Legal Affairs (DLA), the Governor's Office and issuance of Executive Order 58.

Recommendations:

1. **Develop procedures for LHDs in "administratively closed" counties to communicate critical, time-sensitive information to CEH.**
2. **Compile and post a current list, with periodic updates, of potable water tanker fill locations and tanker disinfection locations and plot these locations on GIS for use in State OEM Critical Infrastructure Response Information System (CIRIS) mapping database.**
3. **Post appropriate guidance documents on the HCS.**
4. **Finalize an expedited review process for non-certified bottled water products.**

Activity 2.3: Provide Environmental Health Support to Hazardous Materials Management/Decontamination

Observation 2.3: ***Strength.*** The CEH Bureau of Environmental Radiation Protection (BERP) staff alerted all radioactive materials licensees to evaluate potential issues caused by Superstorm Sandy.

References: No specific policy – course-of-business communications with licensees in any event that could compromise radioactive materials

Analysis 2.3: On October 29, 2012, BERP staff alerted all radioactive materials licensees to evaluate potential issues that might have arisen as a result of Superstorm Sandy, including flooding, power loss and wind damage. The notice asked licensees to review and update their contingency plans and contact information, as appropriate.

Instructions and contact numbers, both during business hours and off hours, were provided in the event of a need to move any sources due to the storm or an incident involving a radioactive source.

At 9:00 p.m. on October 29, 2012, Exelon's Nine Mile Point Unit tripped offline unexpectedly. As a result of an automatic generator trip, the reactor shut down. This occurred as designed with no complications. There was no release of radioactivity to the environment.

Recommendations: **None**

Activity 2.4: Direct Environmental Health Operations

Observation 2.4: ***Area for Improvement***. Communication issues arose with State entities that were also responding to environmental concerns.

References: No specific policy

Analysis 2.4: Communication with other State Agencies was at times difficult. PAG risk communications staff were unable to obtain feedback regarding the Governor's Hotline (numbers and nature of calls), nor were they able to change or provide updates on information to appropriately respond to inquiries from the public. Some calls were eventually routed to CEH; however, they were very few. Feedback suggested this was not an efficient or effective manner to disseminate information.

The majority of issues were related to mold and oil spills; due to the enormity of the spills, routine coordination with the Department of Environmental Conservation (DEC) was very challenging. Mold issues were compounded by the fact that there is no direct funding for mold abatement. The Region II EPA office coordinated a call of all agency partners and it was determined that there were no programs or funding resources to mediate the mold damage.

Other communication issues with State OEM were identified and included incorrect routing of mission tickets related to water issues, the issuance of equipment without accounting procedures or procuring the necessary wrap-around materials and support for water related equipment. The BWSP had no knowledge of the State OEM emergency stockpile water supply equipment that had been deployed, including the locations and status of large units (e.g., water tankers, and portable treatment trailers). There was an inability to obtain relevant information from State OEM regarding wastewater releases, which may have impacted nearby drinking water intakes. Additionally, the BWSP was unable to coordinate with State OEM in an EPA request for deployment of a volunteer water system assessment team. New York's Water/Wastewater Agency Response Network (NYWARN), the primary volunteer mutual-aid water and waste entity in the State, had difficulty communicating requests

and information to/from State OEM.

Some water supply operators from Long Island expressed frustration with not being allowed through police/military checkpoints to access their critical equipment. They requested some means of credentialing in the future to address this issue. Some water operators expressed negative feedback at not having equal access to limited fuel supplies that had been offered to other response entities.

Also, there were conflicting messages from the NYSDOH Health and Safety Program. Some messages indicated that staff should not enter disaster areas, while other directives asked staff to conduct inspections and to staff DRCs. The challenging environmental conditions and subsequent impacts caused several issues for untrained and ill-equipped temporary workers and responders.

*NOTE: Suggested recommendations for the State OEM.

Recommendations:

1. **Survey internal NYSDOH Bureaus and Divisions to determine the environmental factors and typical activities DOH staff are engaged in, in order to provide enhanced information and equipment.**
2. **Request information from DEC regarding their informational materials for environmental workers to integrate with CEH materials.**
3. **Provide a checklist identifying what equipment and other resources are needed for staff customized to the location to which they are deployed.**
4. **Identify a Point of Contact (POC) within Occupational Safety and Health Administration (OSHA) and other Federal partners to provide additional safety information and recommendations.**
5. Keep a centralized log of stockpile equipment deployed and POC information, accessible to BWSP staff. *
6. **Provide recognized credentialing to water system operators for use at police/military disaster-related checkpoints.**

Capability 3: Volunteer Management and Donation

Capability Summary: Volunteer and Donations Management is the capability to effectively coordinate the registration and management of unaffiliated volunteers and unsolicited donations in support of domestic incident management.

Activity 3.1: Activate Volunteer and Donations Management Emergency Plan

Observation 3.1: ***STRENGTH.*** The ServNY incident response management system

was an excellent forum through which the volunteer alerting and notification process worked.

References: NYSDOH ServNY Handbook

Analysis 3.1: As response efforts to Superstorm Sandy intensified, the response management system was able to alert 4,051 volunteers over three days, resulting in 1,507 identified volunteers. Thirty volunteers provided 960 hours assisting with special needs shelters in Suffolk County and 18 volunteers provided 576 hours of service to staffing special needs shelters in Nassau County. Additionally, 32 volunteers provided 1,500 hours of service for volunteer wellness checks, in coordination with the ARC.

Recommendations:

1. **Consider sending an early broadcast "heads up" alert to all potential volunteers as soon as conditions warrant and to notify them of potential follow up requests to activate and possible deployments.**
2. **Review the potential scope of the emergency and attempt to identify a pool of volunteers from the geographic area(s) who will most likely not be affected by the emergency.**
3. **Review computer-generated voice message intelligibility before the message is released.**

Activity 3.2: Organize Volunteers and Assign to Disaster Relief Efforts

Observation 3.2: ***STRENGTH.*** The State Volunteer Coordinator was able to help local volunteer coordinators who lost computer functionality and coordinated assets efficiently in a fluid and rapidly changing situation.

References: NYSDOH ServNY Handbook

Analysis 3.2: Through prior training and familiarization with the program and computer technology, the State Volunteer Coordinator was able to help local volunteers who lost computer functionality and access to ServNY. This redundancy was critical for local organization and assignments to areas in need. In addition, the coordination between Unit Coordinators at the local level and the State Volunteer Coordinator was excellent.

Recommendations:

1. **Develop a policy for situational awareness calls pre-event at pre-designated times to enhance the coordination of volunteer assets and keep them apprised of rapidly evolving issues and needs.**

Observation 3.3: ***Strength and Area for Improvement.*** Pre-event training in Psychological First Aid was noted as very helpful given a more significant need among residents in shelters post Superstorm Sandy. Incident Command at some sites was lacking, layout of some shelters was inadequate and volunteers with specific skillsets were needed.

References: FEMA Incident Command ICS-100 and NYSDOH Psychological First Aid Training Curriculum

Analysis 3.3: At some shelters, there was no orientation or ICS established. Volunteers described coordinating among themselves to appoint an Incident Commander and assign tasks, doing "what needed to be done." Many items that were needed (comfort care kits for seniors, diabetic testing kits, patient medications) were unavailable. There was a perception that more nurses were needed but the true need was home health aides or individuals trained at this level; there is a very small percentage of this type of volunteer in the ServNY Volunteer Management System (VMS) system. Lack of ICS caused: poor documentation and shift change procedures.

*NOTE: Suggested recommendations for the State OEM, ARC, FEMA, Human Services Task Force or other entities involved DRC and or Shelter Operations.

Recommendations:

1. Assign an Assistant Clinic or Shelter Manager for special medical needs individuals.*
2. Review layout of shelter and place supplies within easy walking distance.*
3. Provide additional training in Incident Command.*
4. **Review skillsets of non-medical volunteers and additional training in basic activities of daily living (e.g., bathing, etc…).**
5. **Recruit additional Certified Nurse Assistants, home health aides or individuals with this level of training via schools of nursing and outreach to nursing students.**
6. **Conduct cross-training with ARC shelter staff, including confirmation of roles, especially with special needs populations.**
7. Provide ongoing training in Psychological First Aid to volunteers.*
8. Develop several types of go-kits: for senior citizens, home testing kits (e.g., glucose levels), medications, etc.*
9. Develop a standard special needs packet with a questionnaire for incoming shelter residents regarding diet, medications or other special needs.*

Observation 3.4: ***Strength and Area for Improvement.*** Logistics of deployment

worked very well. However, details such as the process for LHDs to send a notification and volunteer schedules were not always shared and were described as cumbersome through ServNY.

References: NYSDOH ServNY Handbook

Analysis 3.4: Feedback indicated that logistics for deployment worked very well. Transportation, directions to sites and accommodations were described as "great." There is a need to plan for coordination of transportation either with initial request for volunteers or after volunteers numbers and locations are identified with State OEM. Volunteer transportation needs to be coordinated with the original request to avoid volunteer mission requests to be closed before transportation is finalized. During Superstorm Sandy, a lack of coordination resulted in multiple outreach efforts to volunteers to communicate transportation logistics.

Volunteers were not able to share schedules and some were unclear about the process to access and use notifications via ServNY. Messages did not immediately go out, as the notification system was overtaxed nor were there enough staff to schedule volunteers. A lack of information regarding volunteer activities or use of volunteers at the local level also hindered efforts to accurately identify volunteers who were actually available.

The functionality of the Incident Response Management module in VMS was identified as problematic, with slowed response within the system and for assigning volunteers during an incident. Processes needed to be streamlined and additional functionality added, including: 1) the ability to schedule volunteers for multiple days, 2) the capability for volunteers to respond to phone messages with a pre-set number which in turn could generate a report of available volunteers and 3) standardized membership levels Statewide so that active volunteers with the appropriate capabilities are targeted for response to a specific event.

It was challenging to extrapolate State volunteers from search listing due to the extensive number of volunteers. The outcome was multiple messages to the same volunteer, particularly when local coordinators were simultaneously attempting to assist with the notification process.

Hospitals noted that most emergency credentialing for volunteers is only valid for 72 hours. This was insufficient for this event.

Recommendations:

1. **Provide orientation to first time volunteers and pair them with more experienced volunteers to allow them to share details and**

logistics of previous deployments.
2. Develop a deployment checklist that captures basic information for the volunteer.
3. Develop a go-kit for volunteer leaders including a tablet/computer, manual forms to track assignment of activities at deployment site and identified POC information for the team leader to serve as the liaison with the State Volunteer Coordinator.
4. Provide a mechanism for volunteers to partner with each other to schedule themselves and obtain data about logistics and types of patients at shelters.
5. Provide additional training for shelter operations e.g., patient transfer, lifting as well as cross training for using ServNY for notifications.
6. Ensure data exported from ServNY captures carriers for a variety of cell phones.
7. Investigate the feasibility of a self-scheduling component within ServNY to enhance capacity to serve as one integrated system for the process of volunteer notification, recruitment, scheduling, deployment and demobilization.
8. Consider developing a standard credential that can be scanned for identification and specific qualifications.
9. Use ServNY for all routine communications to volunteers so they are accustomed to using the system routinely.
10. Use NYAlert as a back-up system to text volunteers.
11. Continue to build a comprehensive volunteer management training program and exercise more frequently.
12. Assign IT staff to monitor notifications in the queue to avoid many coordinators using phone notifications with limited numbers of outbound lines.
13. Develop a process for "one-step" notification of volunteers regarding coordination of transportation.
14. Identify a site to post a survey to gather information on local use of volunteers, their assigned activities and a mechanism to push such information out during an event.
15. Identify internal staff and local volunteers for a workgroup to review and make recommendations to improve the functionality of the Incident Response Management module.
16. Work with Hospitals to determine a trigger point at which point emergency credentialing can be extended beyond 72 hours.

Observation 3.5: Spontaneous Unaffiliated Volunteers (SUVs), though well-meaning, were very problematic.

References: None

Analysis 3.5: Numerous individuals and groups (e.g., Doctors without Borders) arrived without checking into a Local EOC; therefore there was no vetting by any agency, no assigned roles, responsibilities or areas of responsibility. This resulted in a less than optimal Emergency Support Function (ESF)-8 response, as these potential critical volunteers were under-utilized wasting their skill sets. Although it is unlikely that SUVs will be completely deterred in future response efforts, efforts will continue to recruit individuals for ServNY and Local Medical Reserve Corps (MRC) and advertise these resources for volunteers more broadly and aggressively.

Recommendations:

1. **Integrate efforts with Federal partners (CDC and others) in coordinating volunteer response.**
2. **Advertise the roles and responsibilities and the need for volunteers to be part of an established program for liability protection.**

Capability 4: Medical Materiel Management and Distribution

Capability Description: Medical Materiel Management and Distribution is the ability to acquire, maintain (e.g., cold chain storage or other storage protocol), transport, distribute and track medical materiel (e.g., pharmaceuticals, gloves, masks, and ventilators) during an incident and to recover and account for unused medical materiel, as necessary, after an incident.

Activity 4.1: Direct and Activate Medical Materiel Management and Distribution

Observation 4.1: ***STRENGTH.*** The NYSDOH MERC was activated and successfully managed and fulfilled resource requests in the aftermath of Superstorm Sandy.

References: New York State Department of Health Strategic National Stockpile Plan

Analysis: Between November 1 and November 7, 2012, the NYSDOH MERC was activated to fulfill requests related to evacuating healthcare facilities, vaccination of healthcare workers, community members and storm clean-up. In coordination with State OEM, the NYSDOH Bureau of Immunization, the New York State Thruway Authority, NYSDOH OHEP vetted all requested supplies with appropriate POC at the

receiving counties and facilities.

The following assets were distributed: 90 cases of nitrile gloves (9,000 pairs); 60 sets of bed linens; 60 portable hospital beds; 10,000 doses of influenza vaccine; 239 cases of N-95 disposable respirators (4,780 respirators); 350 boxes (3,500 doses) of Tetanus, Diphtheria and Pertussis (TDAP) vaccine; and 54 kits of vaccine prefilled ancillary kits (5,400 doses). All supply deliveries went smoothly and hospital linens and portable beds were retrieved, cleaned and placed back in stock in the NYSDOH MERC.

Assets were distributed to the New York State Police, South Nassau Communities Hospital, Lynnbrook Restorative Therapy and Nursing Home, City Hall of Long Beach, Staten Island Senior Care, Westchester, Nassau and Suffolk LHDs.

Recommendations: None

Capability 5: Onsite Incident Management – Healthcare Facility Evacuation Center (HEC)

Capability Summary: Onsite incident management is the capability to effectively direct and control incident management activities by using the ICS consistent with the National Incident Management System (NIMS).

Activity 5.1: Implement On-Site Incident Management

Activity 5.2: Establish Full On-Site Incident Command

Observations 5.1 and 5.2: ***Areas for Improvement:*** Roles and responsibilities for ESF-8 and HEC need to be better delineated and exercised.

Reference: NYS DOH HEC Plan, NYC OEM ESF-8 Protocols

Analysis 5.1 and 5.2: After Hurricane Irene and Tropical Storm Lee there was a planning effort lead by NYSDOH to review and modify the existing HEC Plan which was accomplished, however, the scheduled training and exercise component were not completed before the arrival of Superstorm Sandy, in fact an Executive Level Table Top Exercise was scheduled for November 15, 2012. Unfortunately most of the “operators” and Executives were not familiar with the new plan and the operation of the HEC was guided for the most part by the old plan. Additionally, the HEC Plan was designed for a pre-storm evacuation. The emergency evacuations in the immediate aftermath of the storm landfall and lack of ESF-8 staffing in the NYC EOC forced the HEC to take on missions that belonged to ESF-8. The “mission creep” between the ESF-8 desk, and

other agencies in the OEM, into the HEC sometimes delayed appropriate actions in fulfilling requests and diverted staff from the mission of the HEC which is focused on Healthcare Facility Evacuation and Repatriation. Also, there was a need for additional Incident Action Plans (IAPs) with articulation of objectives and tasks during each Operational Period.

Recommendations:

1. **Send, receive and bed assignment function areas should be separate, but facilities should be bundled and triaged to the same position or phone station by Operational Period.**
2. **IAPs should be prepared by Command Staff prior to addressing staff for shift changes, with mid-period review of objectives to assess if they are still appropriate or require modification.**
3. **Assign a minimum of two staff to each function per operational period.**
4. **Conduct a general review of the HEC Plan with HEC Staff and Incident Management Team, including Job Action Sheets and call scripts.**
5. **Provide additional Incident Command training to all staff in the HEC.**
6. **Develop information materials delineating incident command, unified command, hospital incident command and provide informational sessions to staff and partners.**
7. **Develop a short "readiness" document that summarizes the HEC responsibilities and command structure.**
8. **Exercise the HEC Plan.**
9. **Provide ongoing training regarding the HEC Plan, roles and responsibilities and understanding of the HEC structure and its mission.**
10. **Train additional staff in roles within the HEC.**
11. **Delineate the functions of the HEC and the ESF-8 desk, and provide informational sessions to all partners.**
12. **Exercise the HEC and ESF-8 desk in parallel with each other.**

Activity 5.3: Communication and Information-Sharing

Observation 5.3: ***Strength and Area for Improvement.*** A large number of alerts and informational messages were distributed throughout the course of response efforts for Superstorm Sandy. Significant issues did arise, nonetheless, with communication among HEC staff, EOC staff and outside partners.

Reference: NYS DOH HEC Plan

Analysis: A significant number of alerts and informational messages were distributed during response efforts to Superstorm Sandy. They are as follows:

Integrated Health Alert Notification System (IHANS)
84 batch alerts
Total Users Notified: 527,285
Total Emails Sent: 285,141
Total Users Called (phone): 11,428
Total Phone Calls Made: 38,793

Informational Messages
54 batch messages
Total Users Notified: 153,440
Total Emails Sent: 88,826

Volunteer Management System
182 batch messages
Total Users Notified: 99,677
Total Emails Sent: 82,189
Total Users Called (phone): 19,902
Total Phone Calls Made: 81,667

Communication and coordination within the HEC, between the HEC and City EOC and between the HEC and external partners were nonetheless identified as challenging. Facilities were unclear about how to reach the HEC. There were too few receptionists to answer the large call volume. Facilities were anxious to learn what to expect, current situation and the status of the missions related to them.

Provider associations submitted positive feedback regarding ongoing communications, that informational messages were helpful and that the establishment of the provider assistance line significantly helped communication.

Information in the HEC was challenging and could be improved by developing an integrated information sharing system to track Healthcare Facility Evacuation and Repatriation status, bed availability and mission request status. A Google Docs solution was developed on the fly and helped tremendously; however, the need to develop, train and exercise an integrated information sharing system is critical to the efficiency of HEC operations.

Recommendations:

1. **Investigate purchasing a common operating software platform that**

all HEC staff, EOC staff, and partners in the field can use, using Google Docs as a redundant fallback.

2. **Identify two staff per Operational Period to manage and consolidate documentation.**
3. **Create a unified planning cell within the HEC, with one situation report encompassing HEC, City EOC, partner updates and information.**
4. **Streamline information needed among City, County, State and Federal partners at the outset of the event and consistently share the information with a broad audience of partners in a timely manner.**
5. **Modify the communication piece in the HEC Manual and include survey requirements.**
6. **Provide ongoing situational awareness for partners regarding the priorities at designated points in time.**
7. **Provide laminated cards with key numbers and roles.**
8. **Designate additional intake coordinators to triage calls.**
9. **Ensure that all evacuating HCFs have clear guidance as to where they need to go in an emergency and exercise this plan.**
10. **Provide information sessions for hospitals on the toolkit for rapid discharge developed by the NYCDOHMH to incorporate these strategies and checklists into region-wide planning.**

Activity 5.4: Resource Management

Observation 5.4: ***Area for Improvement*.** There were significant difficulties in tracking patients, bed placement availability and moving the healthcare work force during the response.

References: HEC Manual

Analysis 5.4: The need for a Patient Tracking System (PTS) was identified. Tracking patients during evacuations become problematic; although tracking with spreadsheets was accomplished a comprehensive electronic PTS would have increased the efficiency of the evacuation and repatriation operations significantly. ALSO, facilities reported a misunderstanding of HAvBED categories when trying to determine appropriate bed placement. The definitions were described as too broad and not necessarily applicable to the type of bed a patient needed (e.g., pediatric did not denote the type of bed a critically ill neonate needed). Identification of DOH staff, DRC volunteers and healthcare workers as critical infrastructure personnel was very problematic. There was no prioritization of these staff for fuel, transportation or other scarce resources. The inability of these workers to move in the Theater of Operation caused unnecessary staffing shortages and stopped delivery of critical resources to homebound patients. Specific regulations do not allow EMS to move dialysis patients from their home to a dialysis

center and when the patients missed treatments, they were unnecessarily brought to hospital emergency departments. The same situations arose with patients on home ventilators or on high dose O2; although high acuity, many were chronic and stable, but ended up in emergency departments due to the lack of O2 delivery or generator back-up power for ventilators. This resulted in an additional influx into emergency rooms, for individuals who did not require hospitalization, had they been able to receive services or equipment they could have remained at home.

Recommendations:

1. **Develop and implement a PTS that includes status of patients throughout the evacuation and repatriation process.**
2. **Train staff and exercise PTS.**
3. **Identify and train hospital and HEC staff on the minimum data elements required to be transported with the evacuated patients to assure appropriate clinical care, appropriate bed placement and in accordance with regulatory issues.**
4. **Include the Office of the City Medical Examiner (OCME) in the PTS and integrate mechanism for transport of human remains from evacuating facilities to the general morgue.**
5. **Refine and expand the HAvBED definitions in facility surveys.**
6. **Develop a list of potential regulatory waivers that can quickly be reviewed and acted upon as needed.**
7. **Work with State and City agency partners (OEM, Fire Department New York (FDNY), New York Police Department (NYPD) to develop a system to pre-identify healthcare workers with a specific credentialing system and a prioritization scheme for scarce resources during emergencies.**

Observation 5.5: ***STRENGTH and AREA FOR IMPROVEMENT.*** Sixteen HERDS surveys were activated between October 27 and December 27, 2012 for three facility types: Hospitals, NHs and ACFs, as well as for home health site providers.

References: HERDS Concept of Operations

Analysis 5.5: Six HERDS surveys were developed and activated for hospitals, NHs, ACFs and home health and hospice providers prior to landfall of Superstorm Sandy. The surveys asked facilities to provide updated contact information, status of staffing, generator use, water system status, numbers of patients requiring institutional care or sheltering, emergency department and bed census.

Post-landfall, three surveys were activated between October 29 and October 31, 2012 to assess facility status in terms of staffing, generator power, water, emergency department status, supply needs, patient status and facility damage.

The resources most needed by destination facilities to handle surge included: staff, linens, oxygen, Personal Protective Equipment (PPE), medications, water, food, feeding tubes, wheelchairs, lifts and mattresses. These data were provided to NYCDOHMH, the HEC and the ESF-8 desks at Nassau/Suffolk counties to facilitate evacuation and transfer.

Between the week after Superstorm Sandy's landfall and December 27, 2012, an additional five surveys were activated, focusing on evacuating facilities, repatriation, patient influx and evacuee status.

Although activating HERDS and coordinating the data collected resulted in valuable data to place patients; a lack of central coordination and confusion regarding the roles each entity plays in incident command and response was observed and resulted in redundant efforts. Facilities were unsure of where to report needs for beds and resources and lacked understanding of who was expected to provide assistance. A lack of communication between partners and incomplete use of available data resulted in less than optimal decisions. A lack of clarity across response agencies and entities regarding who is responsible for certain types of specific actions and lack of data sharing on available supplies and resources led to a delay in acquisition and distribution of supplies needed for cleanup in hard hit counties.

Additionally, facility hotwashes repeatedly noted that there were too many surveys. This was compounded by NYCDOHMH also sending out surveys and repeated requests from Federal partners for the same or similar information. Facilities felt there was little value or feedback regarding the need for so many surveys and commented repeatedly about their inability to complete surveys in the face of significant power outages and emergency evacuations.

Recommendations:

1. **Formally adopt and update the HERDS Concept of Operations to address: 1) requests for surveys, 2) coordination across program areas, 3) question development and programming, 4) review/approval and notification/alerting, 5) reports, 6) average timelines for each component of the process and 7) the process of structuring questions on a specific Information Technology (IT) platform with additional review and sign-off with timelines.**
2. **Staff in program areas should be cross-trained to develop surveys as needed for preparedness, response and recovery operations.**
3. **Develop pre-event HERDS templates: 1) one for immediate data and 2) one for longer-term data needs.**
4. **Develop one weather template which incorporates select**

questions from the 16 surveys distributed.

5. **Convene a workgroup to develop a HERDS template for different scenarios, including critical reporting elements and what must be included.**
6. **In large events, use a standardized event title and unique notification title.**
7. **Develop a threshold and protocols for using IHANS surge capacity to avoid backups when multiple high priority HERDS and VMS alerts are sent.**
8. **Provide additional training and accounts for NYSDOH staff, including an understanding of extracting data from HERDS for facilities reporting needs and seeking assistance.**
9. **Retrain facilities on the HCS, HERDS and regulations during emergencies.**
10. **Determine rules of access to data, including who and when access is authorized.**
11. **Poll partners regarding the desired data elements and the best way to display situational awareness (dashboards).**
12. **Explore the feasibility of exporting HERDS data in a common format for end users to import (e.g., importing into e-Team or other local data systems).**
13. **Develop mechanisms to collect data during power outages.**
14. **Explore feasibility of collection, analysis and display of feedback in real time via HCS.**
15. **Designate a POC for all data questions to ensure one role has working knowledge of all data collections efforts and ability to coordinate information requests.**
16. **Establish a running list of all active surveys, as well as those previously activated, to avoid redundancy.**

Observation 5.6: ***AREA FOR IMPROVEMENT.*** Data entered into HERDS did not match verbal reports from facilities.

References: HERDS Concept of Operations

Analysis 5.6: Comparisons between data entered into HERDS and follow-up calls to facilities to confirm the numbers demonstrated that the numbers did not match. Hospitals did not operate from a shared definition of bed types.

Recommendations:

1. **Educate staff who enter HERDS data at the facility level.**
2. **Develop a call-down list of facilities with name of facility, POC, total number of beds in the facility at maximum capacity, total**

number of current residents/patients and total vacant beds.
3. **Use HAvBED standard definitions when available, and expand bed types in HERDS surveys.**
4. **Develop a shared electronic system so that all partners and responders have access to accurate data in real-time for evacuation needs, bed availability and transport needs.**

Observation 5.7: ***Area for Improvement.*** The magnitude of the emergency response to Superstorm Sandy maximally stressed staffing resources.

References: None

Analysis 5.7: Prior to and in the aftermath of Superstorm Sandy, emergency preparedness and other DOH staff were tasked with filling positions in the State EOC 24/7, Regional Operations Center (ROC), the HEC, the City EOC, the HOC, the DRCs and were developing situation reports and IAPs every 12 hours. Given the multiple sites that required staffing and the extended period of response efforts the infrastructure for emergency preparedness personnel was stretched to its limits.

Recommendations:
1. **Train additional staff within NYSDOH for response roles.**
2. **Explore additional funding to augment staff in the OHEP.**

Capability 5.1: Onsite Incident Management – Health Operations Center (HOC)

Capability Summary: Onsite incident management is the capability to effectively direct and control incident management activities by using the ICS consistent with the NIMS.

Activity 5.1.1: Implement On-Site Incident Management
Activity 5.1.2: Establish Full On-Site Incident Command

Observation: ***Strength and Area for Improvement.*** The HOC demonstrated good coordination among the Offices, Divisions and Bureaus within NYSDOH, and also identified areas for improvement in response to future events.

References: **HEPRP - Appendix III: HOC Standard Operating Procedure**

Analysis 5.1.1 and 5.1.2: The HOC activated on Saturday, October 27 and demobilized on Tuesday, November 13, 2012. The configuration of the HOC was initially adequate. As the response escalated, additional staff were deployed and space became an issue. The twice daily IMS calls were described as very valuable and offered

both a means to discuss concerns and issues and as a mechanism to provide situational awareness. There was feedback requesting additional training on the VHOC, updating computer software in the HOC and identifying roles in the HOC for NYSDOH Divisions and Departments that do not normally respond during an emergency event. An area for improvement for communication, however, occurred between the HEC and the HOC. There was confusion as to which Center was working on which issues, with various internal partners working on the same requests. There were difficulties in determining how to prioritize the number of requests being submitted internally and externally, particularly when HOC phone numbers were released to the public or forwarded from the public to the HOC. With the HEC and HOC both calling facilities, feedback from these facilities indicated concern regarding multiple DOH staff calling for the same information.

An added challenge was the closure of Regional Offices in NYC and New Rochelle due to the storm damage. Downed power and phone lines and the inability to access DOH computers or Lotus notes caused an information and communication void. There was a lack of internal procedures for staff notification of office closure, change of work locations and/or duties during an emergency.

Pre-made templates developed by Informatics were not usable when distributed due to computer firewall issues. Although all information was to go to one central repository, this did not occur. Staff began creating individual data collection systems, increasing confusion and causing an inability to obtain appropriate and timely information. Data was also changing rapidly; with multiple sources in use, this resulted in conflicting numbers. Information was stored in multiple electronic systems (email, VHOC, HCS), without a shared interface. There was no standardized data set to search for information, causing additional inaccuracies when State and Federal partners were continually requesting updates every two hours and were not always clear as exactly what information was needed or the rationale for the requested information (e.g., 24 hours after Superstorm Sandy made landfall, FEMA requested an estimated cost to repair all the water systems impacted). Also, there was a lack of clarity among our Federal partners as to information flow. This caused delays in obtaining, sharing and distributing accurate information in a timely manner.

A lack of knowledge on the roles, responsibilities and services offered by each State agency was also noted, as well as confusion as to which entity (City OEM, State OEM, the Office of the NYC Mayor) had the final determination on issues such as generator prioritization. This extended to NYSDOH services, as well (e.g., home services provided by the State; types of sheltering and staff needed in an emergency).

Workers were displaced due to flooding and power outages. Facilities reported issues with staffing to the provider assistance line. NYSDOH encouraged them to work with other facilities in the immediate area to obtain staffing, but this was not viable long-term, as all facilities impacted were facing the same challenges and obstacles.

Finally, it was recognized that the State could have provided additional support to vulnerable populations and human service agencies with level one care. There were significant difficulties in identifying vulnerable populations in the impacted areas, and this affected the levels of support that could be offered.

*NOTE: Suggested recommendations for the State OEM.

Recommendations:

1. **Consider expansion or reconfiguration of the HOC to allow adequate space and equipment for OHSM staff.**
2. **Ensure all appropriate staff are included on contact/distribution lists during an event (DOH, HRI, GAU); including home phone numbers for emergencies and designated back-up staff for IMS calls.**
3. **Provide an ICS briefing on the first day of HOC operations so that staff are clear about roles and responsibilities.**
4. **Review mechanisms to triage and track HOC assignments and requests.**
5. **Include IMS staff cell phone numbers in Lotus Notes phone book so that they can be easily accessed from Notes.**
6. **When multiple Operations Center have been activated, identify one point person at each to handle all requests in each Center for assignment and tracking requests until complete.**
7. **Develop and exercise use of standardized templates for data collection.**
8. **Develop and ensure that all data is centrally located and accessible to those who need to access it.**
9. **Develop a system to have real-time data projected on screens in the HOC and the HEC so all staff are working with a common operating picture.**
10. **Initiate discussions with State Education regarding licensing requirements, required trainings and regulations for emergency staff.**
11. **Educate staff on emergency approval of credentialing for hospital staff.**
12. **Create a reference document delineating the roles and responsibilities of each State agency.**
13. **Provide ongoing education on roles in the HOC, use of the VHOC, updating software and resources available for newly hired staff (HCS accounts, updated contact information, trainings) for both Central Office and Regional Office staff.**
14. **Create a binder for each section staffing the HOC with directions on using the systems (computer, conference phone, microphones, and**

other equipment); job action sheets; list of all operations centers activated (HEC, HOC, ROC, State OEM) and a copy of the HOC SOP.

15. **Implement a daily call between the HOC and the HEC (in addition to the IMS calls) to support each other in prioritizing and completing tasks to avoiding redundancies of effort.**
16. **Ensure that all Regional Offices maintain a database of employees with emergency contact numbers.**
17. **Establish an emergency communication plan for staff notification in case of office closure, and changes in work location and duties in an emergency.**
18. **Promote awareness of various alert systems to enhance communication and share emergency information:**
    a. **NYS Alert – www.nyalert.gov**
    b. **Notify NYC – www.nyc.gov/notifynyc**
    c. **School alerts – www.k12alerts.com**
19. **Explore opportunities with sister agencies for reassignment of alternate work sites.**
20. State OEM should establish a workgroup to coordinate local existing databases which identify and locate vulnerable populations and combine into a master database.*

Activity 5.1.3: Identify and Address Administrative Issues

Observation 5.1.3: ***Area for Improvement.*** Emergency administrative procedures need to be developed pre-incident to facilitate short notice staff deployments.

References: NYSDOH and HRI Travel Policies

Analysis 5.1.3: During emergency incidents staff are directed to deploy with very little or no notice. Normal travel procedures are not adequate to meet timelines required during emergency incidents.

Recommendations:

1. **Reserve a block of hotel rooms at the government rate near the HEC or designated response site that can be charged directly to an HRI or State accounts.**
2. **Provide travel cards to State and HRI staff in key response roles and raise the credit card limit.**
3. **Develop a plan to prepare State vehicles for use by staff assigned to respond to affected areas.**

Capability 5.2: Onsite Incident Management – Incident Management System (IMS)

Capability Summary: Onsite incident management is the capability to effectively direct and control incident management activities by using the ICS consistent with the NIMS.

Activity 5.2.1: Implement On-Site Incident Management
Activity 5.2.2: Establish Full On-Site Incident Command

Observation: *STRENGTH.* The overall IMS implemented to manage the response to Superstorm Sandy was coordinated, timely, well-run and recognized as a true strength of NYSDOH.

References: NYSDOH Health Emergency Preparedness and Response Plan

Analysis 5.2.1 and 5.2.2: The NYSDOH IMS was activated on October 26, 2012 and demobilized on November 21, 2012. Many of the NYSDOH staff who responded to this event have worked within NYSDOH and with each other for many years and during many events. Such familiarity with the Department, protocols, policies, procedures and with each other allowed the overall command and control of the response events to run smoothly, even while physically distant from the Regions impacted. IAPs were written for 12 hour operational periods to guide response objectives and actions.

IMS calls and situation reports were repeatedly cited in debriefings across groups to be invaluable for situational awareness and for identifying specific issues which were relevant to particular Bureaus or Centers for more involved follow-up.

Recommendations: None.

Capability 6: Mass Care

Capability Description: Mass Care is the ability to coordinate with partner agencies to address the public health, medical and mental/behavioral health needs of those impacted by an incident at a congregate location. This capability includes the coordination of ongoing surveillance and assessment to ensure that health needs continue to be met as the incident evolves.

Activity 6.1: Coordinate public health, medical and mass care services and monitor mass care population health

Observation 6.1: *Area for Improvement*. Shelter operations, particularly for vulnerable populations and complex, clinical patients, were a major issue among the Counties affected by Superstorm Sandy.

References: New York State Mass Care Support Plan

Analysis 6.1: Approximately 147 shelters were established during Superstorm Sandy.

Shelter operations, particularly for vulnerable populations, were complex. Clinically involved patients were a major issue among the Counties affected by Superstorm Sandy. During the event, further discussion was requested regarding the roles of the ARC and the LHDs. 24/7 staffing needs, lack of fuel for transportation, political pressures to open shelters quickly and focus on community needs rather than on vulnerable populations were all issues described by LHDs. More clinically complex patients, LTC residents, behaviorally involved residents from ACFs and chronically homeless who came to shelters and would not leave all caused additional concerns for appropriate staffing and clinical care. In particular, shelter managers wanted staff from ACFs to remain with their behaviorally involved residents, so as to keep them occupied and minimize disruption to other sheltered populations. Homeless shelters were closed prior to the storm and some were lost during the storm in Nassau County. Some homeless shelters were designated as disaster shelters, causing chronically homeless who frequently used those facilities to find other housing or refuse to leave shelters once they were able to access a shelter.

Individuals who refused to evacuate or who stayed in apartments and homes that were not habitable also caused significant issues. Efforts to accommodate their needs evolved into mass care delivered building by building and apartment specific outreach. This resulted in a massive strain on resources already maximally taxed.

An outbreak of Norovirus at one large shelter (at peak this shelter had 700 individuals sheltered, 7 individuals ill) resulted in several cases of ill patients and ongoing exposure for others at the same site. Determining who was responsible for managing and separating the ill was confusing. MARO, Central Office and LHDs worked closely in an advisory capacity with the ARC Disaster Response Operation (DRO) and the State Mass Care Group to address and implement mitigation measures to prevent additional illnesses.

LHDs felt they did not have sufficient staff for all the activities they were responsible for, nor did they feel their planning processes for emergencies took into account the sheer numbers of vulnerable populations for whom they had to provide services for. Suffolk County had used a NYSACHO grant to promote a media blitz for vulnerable populations to register on-line and felt they had a strong understanding of their population. This became critical when home health aides were unable or willing to report to work and public health was tasked with providing vulnerable populations the appropriate care.

A critical need identified was the transition from emergency sheltering to emergency housing, as the full view of the devastation caused by Superstorm Sandy became clear and community members had no home to which they could return. This was not a part

of emergency plans and the counties were unprepared for such a significant need. Although there was discussion regarding sustaining shelter sites long-term, affected counties strongly voiced a need to get messages to family members that they needed to care for their own vulnerable family members, without the expectation that local public health would care for all. Additionally, although New York City requested the Personal Assistance Services (PAS) Contract through FEMA to supplement shelter staff with registered nurses and personal care aides, some other affected counties were unaware of this option. There were also significant challenges in having the contract approved at the State OEM, causing considerable delay in getting assets to County and City shelters.

A need was also identified for individuals trained in disaster mental health over and above the need for those with a mental health background. There are significant conceptual strategies related to disaster mental health needed for survivors of catastrophic events such as Superstorm Sandy and behavioral needs are better addressed by those with specific disaster mental health training. The lack of an OMH representative in the Human Services group during the event was a significant gap.

*NOTE: Suggested recommendations for the State and Local OEMs, OMH, Home Health Agencies, ARC, or other entities implementing mass care operations.

Recommendations:

1. Initiate case management earlier in an event such as Superstorm Sandy when it becomes apparent that individuals are remaining in their homes instead of evacuating.*
2. **Conduct health assessments of those sheltered prior to the reports of illness.**
3. **Provide pre-event training on infection control and enhanced illness reporting during a suspected outbreak for shelter staff.**
4. **Revise routine protocols for shelter set-up by coordinating with Local OEM for a list of shelter sites and contact information for the site managers so that a food safety kit could be provided to each (gloves, hand sanitizers, cleaning supplies, educational materials for food workers regarding hand hygiene and surface cleaning).**
5. Coordinate closely with ARC on infection control issues in shelters.
6. Increase staffing for the Mass Care Group at the State EOC through cross-training of additional individuals and implementing the State Mass Care course.*
7. **Identify triggers when Regional or Central Office staff may need to support sheltering operations.**
8. Initiate 24/7 staffing operations when the event occurs, not prior, to avoid taxing limited staff resources.*

9. **Identify a local Mass Care representative.**
10. Integrate disaster mental health specialists into the Mass Care Group to ensure that behavioral health is addressed.*
11. Assure behavioral health is addressed in shelters.*
12. **Educate LHDs about the Federal option to request a PAS.**
13. **Exercise the Mass Care plan more frequently and stress to point of failure to identify if the corrective actions were implemented and appropriate.**
14. Create a comprehensive management plan for Special Needs Shelters.*
15. Collaborate with the ARC on integrated training, common forms for processing and appropriate placement and levels of needed care.*
16. Develop deployable communication technology in go-kits for staff in shelters: laptops, printers, Blackberries, iPads and satellite phones.*

Activity 6.2: Determine mass care needs of the impacted population

Observation 6.2: ***Area for Improvement***. Provision of food via the food networks has become chronic, not just for emergencies, resulting in a lack of resources to spare when Superstorm Sandy occurred.

References: New York State Department of Health Division of Nutrition protocols

Analysis 6.2: Superstorm Sandy hit the metropolitan NYC area and Long Island at a time when the food networks were already strained. Lost pantries and food banks, prior to and during the event, caused enormous challenges. There are approximately 2,500 emergency feeding sites Statewide, with over 1,000 located in and the metropolitan area; all are primarily volunteer-run organizations. Truck commodities became very tight and supply chains were significantly challenged.

The impacts of Superstorm Sandy caused the emergency feeding sites to unexpectedly transition into resident feeding programs, further complicating an extremely difficult situation. The ARC used the emergency feeding sites to provide approximately 40,000 meals per day to residents to the NYC-hotel program (shelter residents were moved to hotels). There were gaps in the assessment of how large the food need was; who could provide food; what to order; and where to order. Most emergency feeding sites and Women and Infant Children (WIC) local agencies were not familiar with who was responsible for doing what and lacked information on the effects of an emergency declaration. However, Emergency Food Network Distribution Centers (FEMA, Salvation Army, and the ARC) and some WIC clinics did ensure that resources went to those affected, rather than individuals having to seek out the resources, including diapers and formula, in addition to food.

The larger food assistance organizations including the Regional Food Banks did not have generators, although they have been strongly encouraged to have them to

maintain operations. The Department of Agriculture and Markets did not enough surveyors available to inspect every store.

Although Division of Nutrition (DON) worked through established contacts for information and data verification and this worked well, a need for additional training to better understand ICS was also identified by DON staff.

*NOTE: Suggested recommendations for the State OEM, Ag&Mkts or other entities involved mass care operations.

Recommendations:

1. **Improve the strategic planning to include broader assessment of feeding capacity and how this evolves during an emergency response.**
2. **Consider installation of wiring/hook-ups so that a generator could be accepted during an emergency.**
3. **Open discussions with the Army Corps of Engineers to develop cost estimates for the wiring/hook-ups for generators.**
4. **Encourage the acquisition of generators when possible and where allowed with State or other funding.**
5. **Identify other agencies to use for information on vendors and the business community for real-time operating status.**
6. **Ensure that information obtained from DON regarding the document/protocol under development by food banks about "what to do in an emergency" is shared broadly at State agencies and at local levels.**
7. **Coordinate with emergency feeding sites to ensure that those organizations affected by an emergency can access food banks, other resources, and are aware of how to do so.**
8. **For shelters (i.e., permanent shelters), create and distribute resource kits that include disease prevention information.**
9. Request via State OEM that Agriculture and Markets inspect facilities to ensure safety when re-opened.*
10. **Ensure that updated contact lists (cell and email) for WIC clinic leadership/management and Vendor Management Agency (VMA) staff are accessible to all appropriate staff.**
11. **Collect contacts for Statewide lactation support and breastfeeding coordinators to distribute to affected women and children during emergency events as needed.**
12. **Create an emergency assessment list to determine extent of damage to WIC clinics, numbers of affected, availability of safe drinking water, affected retailers and length of disrupted services.**
13. **Coordinate procedures to provide benefits to affected populations, with**

prioritized levels of expedited service (homeless and displaced are highest priority).

14. **Develop policy to bi-directionally communicate with WIC providers within first 24 hours for situational awareness and to assure further emergency instructions.**
15. **Investigate autodialer vendors to provide communications support during an emergency.**

Capability 7: Epidemiological Surveillance and Investigation

Capability Description:
The Epidemiological Surveillance and Investigation capability is the capacity to rapidly conduct epidemiological investigations. It includes deliberate and naturally occurring exposure and disease detection, rapid implementation of active surveillance, maintenance of ongoing surveillance activities, epidemiological investigation, analysis, communicating with the public and providers about case definitions, disease risk, mitigation and recommendations for the implementation of control measures.

Activity 7.1: Direct Epidemiological Surveillance and Investigation Operations

Observation 7.1: ***AREA FOR IMPROVEMENT.*** There was no pre-existing immunization guidance or status of immunized responders.

References: None

Analysis 7.1: There was no preexisting guidance on post natural disaster immunizations for responders, disaster volunteers or community members living in an area impacted by a natural disaster. Guidance was quickly produced and distributed; there was some confusion among responders and disaster volunteers that increased demands on the LHDs for clarification.

Lack of immunization records for responders and disaster volunteers produced a potential need for vaccination which may or may not have been necessary. Additionally, a lack of clear guidance for billing of administration of vaccines in response to an emergency led to guidance being developed at the time of the event.

There was a lack of pre-deployment medical screenings for responders and disaster volunteers prior to deploying to the impacted areas. This caused the potential for an individual to carry a communicable disease into an impacted area. This could have caused further burden on an already struggling health care system.

Recommendations:

1. **Prior to an event, develop generic guidance for post natural disaster immunizations for responders, disaster volunteers and community members.**
2. **Enter responders and disaster volunteers into the New York State Immunization Information System so that immunization records are readily available.**
3. **Medically screen all responders and volunteers prior to deployment and defer deployment for those with medical issues.**

Observation 7.2: ***AREA FOR IMPROVEMENT***. There was no formalized disaster epidemiology capability to coordinate, maintain, enhance, analyze and provide efficient surveillance and information systems to facilitate early detection and mitigation of disease or injuries.

References: None

Analysis 7.2: There was no overall formalized disaster epidemiology capability, leading to a need to develop epidemiology actions for each event. This included a lack of a standardized menu of reports for Syndromic Surveillance, necessitating creation of reports for each event. No program was assigned responsibility for tracking incident related injuries in responders, disaster volunteers and community members; when questions about storm-related injuries arose, there was no data to draw on.

Recommendations:

1. **Develop a repository of information regarding the health impacts of an incident which is integrated and shared across NYSDOH programs.**
2. **Standardize desired post-event syndromic surveillance reports.**
3. **Develop program within a disaster epidemiology capability to track injury-related reports.**

Observation 7.3: ***AREA FOR IMPROVEMENT.*** Duplication of efforts and confusion occurred as a result of misreporting and misinformation.

References: NYSDOH Communicable Disease Reporting Requirements

Analysis 7.3: Potential outbreaks were reported outside of normal communicable disease channels. In addition, misinformation about disease was distributed by non-public health government workers and non-governmental organization staff, causing confusion, panic and a duplication of efforts.

Recommendations:

1. **Ensure that potential outbreaks are reported to the appropriate health public health authority directly.**
2. **Ensure that health information is vetted appropriately and distributed by the appropriate authority.**

Capability 8: Emergency Triage and Pre-Hospital Treatment (EMS)

Capability Description: Emergency Triage and Pre-Hospital Treatment is the capability to appropriately dispatch EMS resources; to provide feasible, suitable and medically acceptable pre-hospital triage and treatment of patients; to provide transport as well as medical care en-route to an appropriate receiving facility; and to track patients to a treatment facility.

Activity 8.1: Develop and Maintain Plans, Procedures, Programs and Systems

Observation 8.1: ***STRENGTH.*** New York State has a well-developed State EMS System, integrated with the allied healthcare community on a daily basis and with emergency healthcare response efforts during disasters.

References: NYS PHL Art. 30; 10 NYCRR 800; NYSDOH BEMS Statewide EMS Mobilization Plan

Analysis 8.1: The NYSDOH BEMS demonstrated a high level of development and integration by effectively and simultaneously:

- Assuring that EMS Providers were educated, licensed and credentialed consistent with National standards.
- Developing uniform and unified protocols and procedures for EMS dispatch, assessment, triage, treatment, transport, logistical support, medical command and coordination, safety, communications and tracking of patients across multiple and diverse geographic regions.
- Planning for multi-jurisdictional EMS response to a catastrophic incident that considered mutual aid agreements, associated equipment, staff, command and control and nontraditional patient movement and transfers.
- Assessing, categorizing and tracking health and medical resources at the State, Regional, and Local levels, including trauma centers, burn centers, pediatric facilities, acute care facilities and other specialty facilities.

- Ensuring that a patient care record system was in place that allows tracking of patient care by EMS Providers from patients at the first response site to a healthcare facility, allowing data to be accessible among geographically appropriate users.
- Procedures for effective communications between EMS, incident command, public health and healthcare facilities.
- Compatible communication and radio frequency plans.
- Providing appropriate protective resources including vaccinations, prophylaxis and PPE for EMS providers.
- Plans to return to normal operations post-incident.

Recommendations: None

Observation 8.2: ***STRENGTH.*** Statewide EMS Mobilization Plan

References: NYS PHL Art. 30; 10 NYCRR 800; NYSDOH BEMS Statewide EMS Mobilization Plan

Analysis 8.2: Hundreds of ambulances and other EMS resources were deployed over the duration of this event through implementation of the ***Statewide EMS Mobilization Plan***. In in the downstate Region (NYC, Long Island), only those parts of the State Plan facilitated through the activation of local mutual aid plans and pre-existing evacuation contracts between healthcare facilities and ambulance providers were employed. The State also implemented the FEMA NAC to provide approximately 350 ambulance resources to the downstate area. The effectiveness of the Statewide EMS Mobilization Plan was demonstrated through the effective and simultaneous engagement of:

- Sufficient numbers of ambulance transport and support vehicles made available to the impacted areas to handle routine call volume 24/7 with responses consistent with established local response times.
- Sufficient EMS personnel and resources available to respond to day-to-day emergencies in the communities from where resources were taken.
- EMS personnel, supplies and equipment were made available to respond to and manage the catastrophic incident until Federal resources became available.
- Protocols and procedures for tracking EMS staff and equipment.
- Mechanisms for obtaining reimbursement (when available) for both public and private expenditures.
- Pre-established written mutual aid protocols and procedures.
- EMS personnel participation in emergency management planning and operations.
- Established plans to return to normal operations post-incident.

Recommendations: None

Observation 8.3: ***AREA FOR IMPROVEMENT.*** The *State EMS Mobilization Plan* has no legal standing, existing only as a NYSDOH BEMS policy and needs to be made statutory.

References: NYS PHL Art. 30; 10 NYCRR 800; NYSDOH BEMS Statewide EMS Mobilization Plan

Analysis 8.3: Although based on the State Fire Mobilization Plan managed by the NYS Office of Fire Prevention and Control, the Statewide EMS Mobilization Plan does not have the statutory standing of the Fire Plan. The effectiveness of the EMS Plan is dependent on the desire of the EMS Community to voluntarily help in times of disaster. There is no legal authority for NYSDOH BEMS to order local EMS resources into service during State disasters. As such, each time the EMS Plan is used there is confusion with respect to liability, responsibility, command and control, reimbursement/resupply etc… If the Statewide EMS Mobilization Plan was statutorily-based rather than policy-based, these on-going issues could be formally addressed and clarified. This would create one legally recognized plan for the mass mobilization of EMS resources as does exist for Fire, Police and others.

Recommendation:

1. **Make the Statewide EMS Mobilization Plan statutory.**

Observation 8.4: ***AREA FOR IMPROVEMENT.*** A better mechanism for tracking available and deployed ambulances and EMS resources needs development.

References: NYSDOH BEMS Statewide EMS Mobilization Plan

Analysis 8.4: The Statewide EMS Mobilization Plan is a tiered system in which BEMS contacts the County EMS Coordinators across the State, those County Coordinators then contact their respective EMS Agencies and the EMS Agencies determine what EMS resources may be spared for a disaster deployment. This resource information then flows in the reverse from the EMS Agencies to the County Coordinators and back to BEMS, which compiles all the information from across the State. BEMS then receives mission requests from State OEM for EMS resources and the communication chain repeats, this time asking for those available resources to be deployed. Although found to be relatively effective, this communication chain is rather inefficient in that it takes time for BEMS to contact all the County Coordinators and for the Coordinator to contact their EMS Agencies and for the EMS Agencies to respond. Further, once an EMS resource is deployed, BEMS finds it difficult to track that resource from

deployment to demobilization. A better way to track State deployed ambulances and EMS resources are needed.

Recommendation:

1. **Develop a web-based tool accessible by the BEMS, County Coordinators and EMS Agencies, through which all communications will flow and all available and deployed resources can be monitored.**

Capability 9: Planning

Capability Description: Planning is the mechanism through which Federal, State, Local and tribal governments, non-governmental organizations (NGOs) and the private sector develop, validate and maintain plans, policies and procedures describing how they will prioritize, coordinate, manage and support personnel, information, equipment, and resources to prevent, protect, mitigate against, respond to and recover from Catastrophic events.

Activity 9.1: Response plans and strategies need to be flexible enough to address emerging needs and requirements

Observation 9.1: ***Strength.*** Eight Executive Orders were obtained during the Superstorm Sandy response, waiving a total of 62 statutory provisions and associated regulations. These are attached in Appendix B.

References: see Appendix B.

Analysis 9.1: As every event entails its own specific challenges and issues, it is almost impossible to predict all the waivers that may be required. Waivers during Superstorm Sandy response efforts ranged broadly from allowing out-of-state nurses to provide nursing services to dialysis patients in a general hospital, NH or diagnostic and treatment center, acceptance of donations of bottled or bulk water products from out-of-state vendors, a declaration that conditions caused by Superstorm Sandy were public nuisances and directed relevant local officials to remove debris, to allowing medical providers to administer vaccines who normally do not do so in the course of their normal duties, among other issues.

NYS has had 2 major weather emergencies in the last 2 years, with the anticipation of future major emergency incidents, the following recommendation is made:

Recommendation:

1. **Coordinate a workgroup comprised of OHSM, DLA and Healthcare Associations to identify regulations and statutory provisions that may need to be potentially waived in a major emergency incident.**

Capability 10: Community Preparedness

Capability Description: Community Preparedness is the ability of communities to prepare for, withstand and recover in both the short and long terms from public health incidents.

Activity 10.1: Build community partnerships to support health preparedness

Observation 10.1: ***Area for Improvement***. It was difficult for displaced individuals to obtain prescription medications in the aftermath of Superstorm Sandy.

References: Executive Order # 64 (PHL Article 36 and 40); Executive Order #72 (PHL § 3320 (2), PHL § 3333 (1), PHL § 3338 (2), PHL § 3332 (3), PHL § 3333 (1), and PHL § 3339 (3))

Analysis 10.1: In the aftermath of Superstorm Sandy, the most frequent need was prescription refills for people with chronic conditions who might otherwise not be defined as "vulnerable." Obtaining written prescriptions when the health care provider could not be accessed (e.g. their place of business was damaged during the storm) was one issue; being isolated in a high rise apartment building that had no power made otherwise independent people homebound and unable to get medications refilled was a second issue; not having money for copays was a third. Initial solutions included Disaster Medical Assistance Teams (DMAT) prescriptions with NYCDOHMH and Division of Military and Naval Affairs (DMNA) staff working to fill and deliver prescriptions; Visiting Nurse Service was used, Health and Human Services (HHS) activated the Emergency Prescription Assistance Program (EPAP) that provided $1 million dollars to providers for prescriptions for the uninsured and NYSDOH, NYCDOHMH and the Office of the Mayor coordinated the deployment of Federally Qualified Health Center (FQHC) Mobile Vans that had some pharmacy capabilities. The NYSDOH also negotiated with CVS to waive all financial liability for prescriptions, no copays and no fees if a person was not covered on the Elderly Prescription Assistance Program; Walgreens and Duane Reade agreed to waive the same fees and copays a few days later.

RECOMMENDATIONS:

1. Develop a policy to relax refill restrictions.
2. Engage with the State Board of Pharmacy to assess damage to pharmacy network.
3. Work with the State Board of Pharmacy to develop and ensure that guidance regarding policy changes is available to pharmacists broadly and in multiple formats.
4. Work with pharmacy chains, independents pharmacies and associations to assess pharmacy networks to assist efforts to render them functional.
5. Access mobile pharmacies provided by chains.
6. Use FQHCs to conduct mobile clinical/pharmacy operations.
7. Access free pharmaceuticals from groups such as Disaster Relief of California.
8. Coordinate with Office of Health Insurance Programs (OHIP) to provide three-day supplies of medication at no cost.
9. Depending on the emergency, consider pharmacy as a regular IMS report out within OHSM.

SECTION 4: CONCLUSION

Superstorm Sandy was an almost unprecedented response by the NYSDOH to one of the largest late-season storms to ever occur in NYS. It included emergency evacuations of healthcare facilities; an extended activation of the NYSDOH IMS; and recovery efforts lasting until February 2013. The response was a significant challenge and a test of operational plans, staff responsiveness, flexibility and endurance. Many strengths were identified, as well as areas for improvement – these are outlined in Section 3 of this report and summarized with action steps in the attached appendix.

Appendix A contains the Improvement Plan, which are the concluding results to help to further refine plans, policies, procedures and training for these types of incidents.

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for the New York State Department of Health as a result of Superstorm Sandy response efforts. These recommendations draw on both the After Action Report and 16 hotwashes. The IP has been formatted to align with the *Corrective Action Program System*. *PLEASE NOTE: Agency Points of Contact and Completion Dates are SUGGESTED, and may be modified.*

Table A.1: Improvement Plan Matrix

Capability	Observation	Recommendation	Corrective Action Description	Capability Element	Primary Responsible Agency	Agency POC	Start Date	Completion Date
Capability 1: Citizen Evacuation and Shelter in Place	**1.1** A significant number of patients and residents were safely evacuated post Superstorm Sandy making landfall and were successfully repatriated following emergency evacuations.	**1.1.1** Future plan development, trainings and exercises should reflect the possibility that if emergency evacuations are required post Tropical Storm landfall, the HEC (if established) will most probably be the best positioned organization to conduct Emergency Evacuation Operations.	Implement recommendation	Planning Training Exercises	NYSDOH	OHEP	7/1/13	6/30/14 and ongoing

Capability 2: Environmental Health	**2.1** NYSDOH Center for Environmental Health (CEH) staff provided outstanding and effective assistance to individuals through the Disaster Recovery Centers (DRCs).	**2.1.1** Configure computer proxies prior to deployment to ensure that web links are accessible.	Implement recommendation	Equipment and Systems	NYSDOH	OHIT	7/1/13	12/31/13
		2.1.2 Consider using Instant Message or Skype to communicate with Central Office staff to discuss issues raised by community visitors to the DRCs.	Identify appropriate staff to investigate, gather data and make recommendation to Executive Staff	Equipment and Systems	NYSDOH	OHIT	7/1/13	12/31/13
		2.1.3 Develop a handout with general guidelines for employees who are volunteering.	Implement recommendation	Personnel	NYSDOH	OHEP CEH	7/1/13	9/30/13
		2.1.4 Identify the NYSDOH point person to assist with travel questions, credit card issues, lodging issues, eligibility for overtime, use of personal cars and work-from-home policies.	Implement recommendation	Personnel	NYSDOH	Preparedness Administrative Group	7/1/13	9/30/13
		2.1.5 Consider recruiting NYSDOH retirees to serve as volunteers to staff DRCs during an emergency response effort.	Implement recommendation		NYSDOH	OHEP	7/1/13	12/31/13
		2.1.6 Train additional NYSDOH staff to serve	Implement recommendation	Training	NYSDOH	OHEP CEH	7/1/13	6/20/14

		as DRC volunteers. **2.1.7** Develop a packet of information about different services provided by the NYSDOH (outside of CEH), with a contact email or phone number so that staff in the DRCs can have a broader view of the public health activities.	Implement recommendation	Personnel Organization and Leadership	NYSDOH	CEH (lead)	7/1/13	3/31/14
		2.1.8 Develop a protocol for better field coordination among the DRCs and NYSDOH, including an outline of DRC activity and a template for a standing roster of volunteers.	Implement recommendation	Personnel Organization and Leadership	NYSDOH	CEH (lead)	7/1/13	12/31/13
		2.1.9 Train staff in use of Virtual Health Operations Center (VHOC) to increase communication and provide situational awareness.	Implement recommendation	Training	NYSDOH	OHEP	7/1/13	12/31/13
		2.1.10 Develop a model DRC layout with FEMA and the ARC to provide State agency visibility and privacy, if needed, for visitors.	Discuss with involved agencies.	Planning	SOEM, ARC, FEMA, Humand Services Task Force	To be assigned by involved agencies	TBD	TBD
		2.1.11 Develop system(s) to collect staff time to ensure that personnel overtime and other costs are included in	Implement recommendation	Planning	NYSDOH	Administrative Preparedness Group	4/1/13	In progress

		the State's cost share application via State OEM, FEMA and DOB.						
		2.1.12 Recognize staff who volunteered in the DRCs (possibly via Lotus Notes), to encourage interest and participation of non-volunteers.	Implement recommendation	Policy	NYSDOH	Executive Staff	7/1/13	Ongoing
		2.1.13 Coordinate with Office of Temporary and Disability Assistance (OTDA) and Office of Children and Family (OCFS) in developing a standard operating procedure for site managers.	Discuss with involved agencies	Policy	SOEM OTDA OCFS	To be assigned by involved agencies	TBD	
		2.1.14 Define expectations of Regional/District offices to assist in staffing DRCs.	Implement recommendation	Policy Personnel	NYSDOH	Executive Staff	7/1/13	12/31/13
		2.1.15 Develop mechanisms to leverage existing community-based activities to provide outreach support and materials clean-up (organizations that can provide mold /home remediation).	Implement recommendation	Organization and Leadership	NYSDOH	CEH (lead)	7/1/13	Ongoing
	2.2 NYSDOH CEH Bureau of Water Supply Protection (BWSP) staff was able to	**2.2.1** Develop procedures for LHDs in "administratively closed" counties to communicate critical, time-sensitive	Implement recommendation	Policy	NYSDOH	CEH	7/1/13	12/31/13

	successfully provide assistance to impacted water supplies.	information to CEH. **2.2.2** Compile and post a current list, with periodic updates, of potable water tanker fill locations and tanker disinfection locations and plot these locations on GIS for use in State OEM Critical Infrastructure Response Information System (CIRIS) mapping database.	Implement recommendation	Protocols and Procedures	NYSDOH	CEH	7/1/13	12/31/13 with quarterly updates
		2.2.3 Post appropriate guidance documents to the HCS.	Implement recommendation	Protocols and Procedures	NYSDOH	CEH	7/1/13	As needed
		2.2.4 Finalize an expedited review process for non-certified bottled water products.	Implement recommendation	Policy Protocols and Procedures	NYSDOH	Executive Staff DLA	7/1/13	12/31/13
	2.4 Communication issues arose with State entities that were also responding to environmental concerns.	**2.4.1** Survey internal NYSDOH Bureaus and Divisions to determine the environmental factors and typical activities DOH staff are engaged in, in order to provide enhanced information and equipment.	Implement recommendation	Planning	NYSDOH	CEH (lead)	7/1/13	3/31/14
		2.4.2 Request information from DEC regarding their informational materials for environmental workers to integrate with CEH materials.	Implement recommendation	Planning Protocols and Procedures	NYSDOH DEC	CEH (lead)	7/1/13	12/31/13

		2.4.3 Provide a checklist identifying what equipment and other resources are needed for staff customized to the location to which they are deployed.	Implement recommendation	Planning Protocols and Procedures	NYSDOH	CEH	7/1/13	As needed
		2.4.4 Identify a Point of Contact (POC) within Occupational Safety and Health Administration (OSHA) and other Federal partners to provide additional safety information and recommendations.	Implement recommendation	Protocols and Procedures	NYSDOH	CEH	7/1/13	9/30/13
		2.4.5. Keep a centralized log of stockpile equipment deployed and POC information, accessible to BWSP staff.	Discuss with involved agencies	Equipment and Systems	SOEM	To be assigned by involved agencies	TBD	
		2.4.6 Provide recognized credentialing to water system operators for use at police/military disaster-related checkpoints.	Implement recommendation	Protocols and Procedures	NYSDOH	OHEP (lead)	7/1/13	6/30/14
Capability 3: Volunteer Management and Donations	**3.1** The ServNY incident response management system was an excellent forum through which the volunteer	**3.1.1** Consider sending an early broadcast "heads up" alert to all potential volunteers as soon as conditions warrant and to notify them of potential follow up requests to activate	Coordinate with OHIT regarding the specific details and feasibility of this recommendation	Protocols and Procedures	NYSDOH	OHEP OHIT	7/1/13	12/31/13

	alerting and notification process worked.	and possible deployments. **3.1.2** Review the potential scope of the emergency and attempt to identify a pool of volunteers from the geographic area(s) who will most likely not be affected by the emergency.	Implement recommendation	Planning Personnel	NYSDOH	OHEP ROs	7/1/13	As needed
		3.1.3 Review computer-generated voice message intelligibility before the message is released.	Implement recommendation	Equipment and Systems	NYSDOH	OHEP OHIT	7/1/3	Prior to release of voice messages
	3.2 Through prior training and familiarization with the program and computer technology, the State Volunteer Coordinator was able to help local volunteers who lost computer functionality and access to ServNY.	**3.2.1** Develop a policy for situational awareness calls pre-event at pre-designated times to enhance the coordination of volunteer assets and keep them apprised of rapidly evolving issues and needs.	Implement recommendation	Policy	NYSDOH	OHEP	7/1/13	12/31/13
	3.3 Pre-event training in Psychological First Aid was noted as very	**3.3.1** Assign an Assistant Clinic or Shelter Manager for special medical needs	Discuss with involved agencies	Policy Personnel	SOEM, ARC, FEMA, Human Services Rask Force	To be assigned by involved agencies	TBD	

	helpful given a more significant need among residents in shelters post-Sandy. Incident Command at some sites was lacking, layout of some shelters was inadequate and volunteers with specific skillsets were needed.	individuals. **3.3.2** Review layout of shelter and place supplies within easy walking distance.	Discuss with involved agencies	Planning Logistics	SOEM, ARC, FEMA, Human Services Rask Force	To be assigned by involved agencies	TBD	
		3.3.3 Provide additional training in Incident Command.	Discuss with involved agencies	Training	SOEM	To be assigned by involved agencies	TBD	
		3.3.4 Review skillsets of non-medical volunteers and additional training in basic activities of daily living (e.g., bathing).	Implement recommendation	Training	NYSDOH	OHEP	7/1/13	3/31/14
		3.3.5 Recruit additional Certified Nurse Assistants, home health aides or individuals with this level of training via schools of nursing and outreach to nursing students.	Implement recommendation	Planning Personnel	NYSDOH	OHEP	7/1/13	Ongoing
		3.3.6 Conduct cross-training with ARC shelter staff, including confirmation of roles, especially with special needs populations.	Implement recommendation	Training	NYSDOH	OHEP (lead)	7/1/3	Ongoing
		3.3.7 Provide ongoing training in Psychological First Aid to volunteers.	Discuss with involved agency	Training	OMH	To be assigned by involved agency	TBD	
		3.3.8 Develop several types of go-kits: for senior citizens, home testing kits (e.g., glucose levels),	Discuss with involved agencies	Planning	SOEM, ARC, FEMA, Human Services Rask Force	To be assigned by involved agency	TBD	

		medications etc… **3.3.9** Develop a standard special needs packet with a questionnaire for incoming shelter residents regarding diet, medications or other special needs.	Discuss with involved agencies	Planning	SOEM, ARC, FEMA, Human Services Rask Force	To be assigned by involved agencies	TBD	
	3.4 Logistics of deployment worked very well. However, details such as the process for LHDs to send a notification and volunteer schedules were not always shared and were described as cumbersome through ServNY.	**3.4.1** Provide orientation to first time volunteers and pair them with more experienced volunteers to allow them to share details and logistics of previous deployments.	Implement recommendation	Planning Policy	NYSDOH	OHEP	7/1/13	Ongoing
		3.4.2 Develop a deployment checklist that captures basic information for the volunteer.	Implement recommendation	Planning	NYSDOH	OHEP	7/1/13	12/31/13
		3.4.3 Develop a go-kit for volunteer leaders including a tablet/computer, manual forms to track assignment of activities at deployment site and identified POC information for the team leader to serve as the liaison with the State Volunteer Coordinator.	Implement recommendation	Planning Equipment and Systems	NYSDOH	OHEP OHIT	7/1/13	6/30/14
		3.4.4 Provide a mechanism for	Implement recommendation	Planning	NYSDOH	OHEP	7/1/13	As needed

		volunteers to partner with each other to schedule themselves and obtain data about logistics and types of patients at shelters.						
		3.4.5 Provide additional training and cross training, e.g., patient transfer, lifting as well as for using ServNY for notifications.	Implement recommendation	Training	NYSDOH	OHEP (lead)	7/1/13	Ongoing
		3.4.6 Ensure data exported from ServNY captures carriers for a variety of cell phones.	Implement recommendation	Equipment and Systems	NYSDOH	OHEP OHIT	7/1/13	3/31/14
		3.4.7 Investigate the feasibility of a self-scheduling component within ServNY to enhance capacity to serve as one integrated system for the process of volunteer notification, recruitment, scheduling, deployment and demobilization.	Implement recommendation	Equipment and Systems	NYSDOH	OHEP OHIT	7/1/13	6/20/14
		3.4.8 Provide a standard credential that can be scanned for identification and qualifications.	Coordinate feasibility with NYSED	Personnel	NYDOH NYSED	OHEP (lead)	7/1/13	6/30/14
		3.4.9 Use ServNY for all routine communications to volunteers so they are accustomed to using	Implement recommendation	Equipment and systems	NYSDOH	OHEP	7/1/13	Ongoing

		the system routinely and in an event.						
		3.4.10 Use NYAlert as a back-up system to text volunteers.	Implement recommendation	Equipment and systems	NYSDOH SOEM	OHEP (lead)	7/1/13	Ongoing
		3.4.11 Continue to build a comprehensive volunteer management training program and exercise more frequently.	Implement recommendation	Planning Training Exercises, Evaluations and Corrective Actions	NYSDOH	OHEP (lead)	7/1/13	Ongoing
		3.4.12 Assign IT staff to monitor notifications in the queue to avoid many coordinators using the phone notifications with limited numbers of outbound lines.	Coordinate with OHIT	Personnel Equipment and Systems	NYSDOH	OHEP OHIT	7/1/13	Ongoing
		3.4.13 Develop a process for "one-step" notification of volunteers regarding coordination of transportation.	Implement recommendation	Planning	NYSDOH	OHEP	7/1/13	Utilize as needed
		3.4.14 Identify a site to post a survey to gather information on local use of volunteers, their assigned activities and a mechanism to push such information out during an event.	Implement recommendation	Planning Equipment and Systems	NYSDOH	OHEP OHIT	7/1/13	Ongoing
		3.4.15 Identify internal staff and local volunteers for a workgroup to review	Implement recommendation	Personnel Planning Equipment and Systems	NYSDOH	OHEP (lead)	7/1/13	3/31/14

		and make recommendations to improve the functionality of the Incident Response Management module.						
		3.4.16 Work with hospitals to determine a trigger point at which point emergency credentialing can be extended beyond 72 hours.	Implement recommendation	Planning Personnel	NYSDOH	OHEP OHSM	7/1/13	6/30/14
	3.5 Spontaneous Unaffiliated Volunteers (SUVs), though well-meaning, were very problematic.	**3.5.1** Integrate efforts with Federal partners (CDC and others) in coordinating volunteer response.	Implement recommendation	Planning	NYSDOH CDC DHHS	OHEP Others agencies to assign	7/1/13	6/30/14
		3.5.2 Advertise the roles and responsibilities and the need for volunteers to be part of an established program or resource for liability protection.	Implement recommendation	Planning	NYSDOH	OHEP	7/1/13	Ongoing
Capability 5: Onsite Incident Management (HEC)	**5.1 and 5.2** Roles and responsibilities for ESF-8 and HEC need to be better delineated and exercised.	**5.1.1, 5.2.1** Send, receive and bed assignment function areas should be separate, but facilities should be bundled and triaged to the same position or phone station by operational period.	Implement recommendation	Planning	NYSDOH	OHEP OHSM	7/1/13	Completed
		5.1.2, 5.2.2 IAPs	Implement	Planning		OHEP	7/1/13	As needed

		should be prepared by Command Staff prior to addressing staff for shift changes, with mid-period review of objectives to assess if they are still appropriate or need modification.	recommendation		NYSDOH	OHSM		
		5.1.3, 5.2.3 Assign a minimum of two staff to each function per operational period.	Implement recommendation	Planning Personnel	NYSDOH	OHEP OHSM	7/1/13	As needed
		5.1.4, 5.2.4 Conduct a general review of the HEC Plan with HEC Staff and Incident Management Team, including Job Action Sheets and call scripts.	Implement recommendation	Planning Personnel	NYSDOH	OHEP OHSM	7/1/13	In progress
		5.1.5, 5.2.5 Provide additional Incident Command training to all staff in the HEC.	Implement recommendation	Training	NYSDOH	OHEP	7/1/13	In progress
		5.1.6, 5.2.6 Develop information materials delineating incident command, unified command, hospital incident command and provide informational sessions to staff and partners.	Implement recommendation	Planning Training	NYSDOH	OHEP	7/1/13	In progress
		5.1.7, 5.2.7 Develop a short "readiness" document that summarizes the HEC	Implement recommendation	Planning	NYSDOH	OHEP	7/1/13	9/1/13

		responsibilities and command structure.						
		5.1.8, 5.2.8 Exercise the HEC Plan.	Implement recommendation	Exercises, Evaluations and Corrective Actions	NYSDOH	OHEP	4/1/13	Exercise to be conducted 7/26/13
		5.1.9, 5.2.9 Provide ongoing training regarding the HEC Plan, roles and responsibilities and understanding of the HEC structure and its mission.	Implement recommendation	Training	NYSDOH	OHEP	7/1/13	In progress and ongoing
		5.1.10, 5.2.10 Train additional staff in roles within the HEC.	Implement recommendation	Training	NYSDOH	OHEP	7/1/13	In progress and ongoing
		5.1.11, 5.2.11 Delineate the functions of the HEC and the ESF-8 desk, and provide informational sessions to all partners.	Implement recommendation	Planning Training	NYSDOH	OHEP NYC OEM	7/1/13	To be exercised on 7/26/13
		5.1.12, 5.2.12 Exercise the HEC and ESF-8 Desk in parallel with each other.	Implement recommendation	Exercises, Evaluations and Corrective Actions	NYSDOH NYC DOHMH NYC OEM	OHEP NYC DOHMH NYC OEM	4/1/13	To be exercised on 7/26/13
	5.3 A large number of alerts and informational	**5.3.1** Investigate purchasing a common operating software platform that all HEC	Implement recommendation	Equipment and Systems	NYSDOH	OHEP OHIT	7/1/13	Completed

	messages were distributed throughout the course of response efforts for Sandy. Significant issues did arise, nonetheless, with communication among HEC staff, EOC staff and outside partners.	staff, EOC staff, and partners in the field can use, using Google Docs as a redundant fallback.						
		5.3.2 Identify two staff per OP to manage and consolidate documentation.	Implement recommendation	Personnel	NYSDOH	OHEP OHIT OHSM	7/1/13	In progress
		5.3.3 Create a unified planning cell within the HEC, with one situation report encompassing HEC, City EOC, and partner updates and information.	Implement recommendation	Policy Planning	NYSDOH	OHEP NYC OEM	7/1/13	In progress
		5.3.4 Streamline information needed among City, County, State and Federal partners at the outset of the event, and consistently share the information with a broad audience of partners in a timely manner.	Discuss and coordinate with involved agencies	Planning	NYSDOH Other agencies as required by nature of the event	OHEP Others as assigned by partner agencies	7/1/13	Ongoing
		5.3.5 Modify the communication piece in the HEC Manual, and include survey requirements.	Implement recommendation	Planning	NYSDOH	OHEP OHSM	7/1/13	In progress
		5.3.6 Provide ongoing situational awareness for partners regarding the priorities at designated points in time.	Implement recommendation	Communication Planning	NYSDOH	OHEP OHSM	7/1/13	As needed

		5.3.7 Provide laminated cards with key numbers and roles.	Implement recommendation	Planning	NYSDOH	OHEP OHSM	7/1/13	9/30/13
		5.3.8 Designate additional intake coordinators to triage calls.	Implement recommendation	Planning	NYSDOH	OHEP OHSM	7/1/13	In progress
		5.3.9 Ensure that all evacuating HCFs have clear guidance as to where they need to go in an emergency and exercise this plan on a periodic basis.	Implement recommendation	Planning	NYSDOH	OHEP OHSM	7/1/13	Ongoing
		5.3.10 Provide information sessions for hospitals on the toolkit for rapid discharge developed by the NYCDOHMH to incorporate these strategies and checklists into region-wide planning.	Implement recommendation	Training	NYSDOH	OHEP OHSM	7/1/13	6/30/14
	5.4 There were significant difficulties in tracking patients, bed placement availability and moving the healthcare work force during the response.	**5.4.1** Develop and implement a PTS that includes status of patients throughout the evacuation and repatriation process.	Implement recommendation	Planning	NYSDOH	OHEP OHSM OHIT	7/1/13	Completed
		5.4.2 Train staff and exercise PTS.	Implement recommendation	Training Exercises, Evaluations and Corrective Actions	NYSDOH	OHEP OHSM	7/1/13	In progress

		5.4.3 Identify and train hospital and HEC staff on the minimum data elements required to be transported with the patients to assure appropriate clinical care, appropriate bed placement and in accordance with regulatory issues.	Implement recommendation	Personnel Training	NYSDOH	OHEP OHSM	7/1/13	In progress
		5.4.4 Include the Office of the City Medical Examiner (OCME) in the PTS and integrate mechanism for transport of human remains from evacuating facilities to the general morgue.	Implement recommendation	Planning	NYSDOH	OHEP	7/1/13	9/30/13
		5.4.5 Refine and expand the HAvBED definitions in facility surveys.	Integrate feedback from Partnership Exercises	Planning	NYSDOH	OHSM	7/1/13	9/30/13
		5.4.6 Develop a list of potential regulatory waivers pre-event that can quickly be reviewed and acted upon as needed.	Implement recommendation	Planning	NYSDOH	DLA OHEP OHSM	7/1/13	6/30/14
		5.4.7 Work with State and city agency partners (OEM, Fire Department New York (FDNY), New York Police Department (NYPD) to develop a system to pre-identify healthcare workers with a specific credentialing system	Establish workgroup to accomplish this recommendation	Planning	NYSDOH NYC OEM FDNY NYPD NYSED	OHEP (lead)	7/1/13	6/30/14

		and a prioritization scheme in emergencies which dramatically curtail fuel and transportation access.						
	5.5 Sixteen HERDS surveys were activated between October 27 and December 27, 2012 for three facility types: Hospitals, Nursing Homes (NHs) and Adult Care Facilities (ACFs), as well as for home health site providers.	**5.5.1** Formally adopt and update the HERDS Concept of Operations to address: 1) requests for surveys, 2) coordination across program areas, 3) question development and programming, 4) review/approval and notification/alerting, 5) reports, 6) average timelines for each component of the process and 7) the process of structuring questions on a specific Information Technology (IT) platform with additional review and sign-off with timelines.	Implement recommendation	Planning	NYSDOH	OHSM	7/1/13	6/30/14
		5.5.2 Staff in program areas should be cross-trained to develop surveys as needed for preparedness, response and recovery operations.	Implement recommendation	Training	NYSDOH	OHSM	7/1/13	3/31/14
		5.5.3 Develop pre-event HERDS templates: 1) one for immediate data and 2)	Implement recommendation	Planning	NYSDOH	OHSM OHEP	7/1/13	12/31/13

		one for longer-term data needs.						
		5.5.4 Develop one weather template which incorporates select questions from the 16 surveys distributed.	Implement recommendation	Planning	NYSDOH NYSDHSES – SOEM	OHSM OHEP As assigned from partner agencies	7/1/13	12/31/13
		5.5.5 Convene a workgroup to develop a HERDS template for different scenarios, including critical reporting elements and what must be included.	Implement recommendation	Planning	NYSDOH	OHSM OHEP	7/1/13	3/31/14
		5.5.6 Use a standardized event title and unique notification title in large events.	Implement recommendation	Planning	NYSDOH	OHSM OHEP	7/1/13	As needed
		5.5.7 Develop a threshold and protocols for using IHANS surge capacity to avoid backups when multiple high priority HERDS and VMS alerts are sent.	Implement recommendation	Planning	NYSDOH	OHIT OHSM	7/1/13	12/31/13
		5.5.8 Provide additional training and accounts for NYSDOH staff, including an understanding of extracting data from HERDS for facilities reporting needs and seeking assistance.	Implement recommendation	Training Equipment and Systems	NYSDOH	OHIT OHSM	7/1/13	Ongoing
		5.5.9 Retrain facilities on the HCS, HERDS and regulations during	Implement recommendation	Training	NYSDOH	OHSM (lead)	7/1/13	3/31/14

		emergencies. **5.5.10** Determine rules of access to data, including who and when access is authorized. **5.5.11** Poll partners regarding the desired data elements and the best way to display situational awareness. **5.5.12** Explore the feasibility of exporting HERDS data in a common format for end users to import (e.g., importing into e-Team or other local data systems). **5.5.13** Develop mechanisms to collect data during power outages. **5.5.14** Explore feasibility of collection, analysis and display of feedback in real time via HCS. **5.5.15** Designate a POC for all data questions to ensure one role has working knowledge of all data collections efforts and ability to coordinate	Convene a workgroup to identify Integrate information sharing with professional associations and via dashboard Convene a workgroup of stakeholders to identify potential options Convene a workgroup of stakeholders to identify potential options Implement recommendation Implement recommendation	Planning Planning Equipment and Systems Equipment and Systems Planning Personnel Equipment and Systems Personnel	NYSDOH NYSDOH Professional Healthcare Associations NYSDOH NYSDOH NYSDOH NYSDOH	OHIT OHSM OHEP (lead) OHSM OHIT OHEP OHSM OHEP OHIT OHSM OHEP OHIT OHSM	7/1/13 7/1/13 7/1/13 7/1/13 7/1/13 7/1/13	12/31/13 As needed 6/30/14 12/31/13 12/31/13 9/30/13

		information requests. **5.5.16** Establish a running list of all active surveys, as well as those previously activated, to avoid redundancy.	Implement recommendation	Equipment and Systems	NYSDOH	OHSM OHEP	7/1/13	As needed
	5.6 Data entered into HERDS did not match verbal reports from facilities.	**5.6.1** Educate staff who enter HERDS data at the facility level.	Implement recommendation	Training	NYSDOH	OHSM OHEP	7/1/13	Ongoing
		5.6.2 Develop a call-down list of facilities with name of facility, POC, total number of beds in the facility at maximum capacity, total number of current residents/patients and total vacant beds.	Implement recommendation	Planning	NYSDOH	OHSM OHEP	7/1/13	Ongoing
		5.6.3 Use HAvBED standard definitions when available, and expand bed types in HERDS surveys.	Implement recommendation	Planning	NYSDOH	OHSM OHEP	7/1/13	As needed
		5.6.4 Develop a shared electronic system so that all partners and responders have access to accurate data in real-time for evacuation needs, bed availability and transport needs.	Implement recommendation	Equipment and Systems	NYSDOH	OHIT OHSM	7/1/13	In progress
	5.7 The	**5.7.1** Train additional	Implement	Training		OHEP		Ongoing

	magnitude of the emergency response to Sandy maximally stressed staffing resources.	staff within NYSDOH for response roles. **5.7.2** Explore additional funding to augment staff in the Office of Health Emergency Preparedness.	recommendation Implement recommendation	 Organization and Leadership	NYSDOH NYSDOH	 Executive Staff	7/1/13 7/1/13	 Ongoing
Capability 5.1.1: Onsite Incident Management (HOC)	**5.1.1 and 5.1.2** The HOC demonstrated good coordination among the Offices, Divisions and Bureaus within NYSDOH, and also identified areas for improvement in response to future events.	**5.1.1.1, 5.1.2.1** Consider expansion or reconfiguration of the HOC to allow adequate space and equipment for OHSM staff.	Identify options for expansion	Planning Organization and Leadership	NYSDOH	Executive Staff	7/1/13	Ongoing
		5.1.1.2, 5.1.2.2 Ensure all appropriate staff are included on contact/distribution lists during an event (DOH, HRI, GAU), including home phone numbers for emergencies and designated back-up staff for IMS calls.	Implement recommendation	Personnel	NYSDOH	OHEP (lead)	7/1/13	As needed
		5.1.1.3, 5.1.2.3 Provide an ICS briefing on the first day of HOC operations so that staff are clear about roles and responsibilities.	Implement recommendation	Planning	NYSDOH	OHEP	7/1/13	As needed
		5.1.1.4, 5.1.2.4 Review mechanisms to triage and track HOC assignments and requests.	Implement recommendation	Planning	NYSDOH	OHEP	7/1/13	As needed

		5.1.1.5, 5.1.2.5 Include IMS staff cell phone numbers in Lotus Notes phone book so that they can be easily accessed from Notes.	Implement recommendation	Planning	NYSDOH	OHIT OHEP	7/1/13	12/31/13
		5.1.1.6, 5.1.2.5 When multiple Operations Center have been activated, identify one point person at each to handle all requests in each Center for assignment and tracking requests until complete.	Implement recommendation	Planning	NYSDOH	OHEP	7/1/13	As needed
		5.1.1.6, 5.1.2.6 Develop and exercise use of standardized templates for data collection.	Implement recommendation	Planning Exercises, Evaluations and Corrective Actions	NYSDOH	OHEP OHSM	7/1/13	6/30/14
		5.1.1.7, 5.1.2.7 Develop and ensure that all data is centrally located and accessible to those who need to access it.	Implement recommendation	Planning	NYSDOH	OHEP OHIT	7/1/13	3/31/14
		5.1.1.8, 5.1.2.8 Develop a system to have real-time data projected on screens in the HOC and the HEC so all staff are working with a common operating picture.	Implement recommendation	Planning	NYSDOH	OHIT	7/1/13	3/31/14
			Implement	Planning		OHEP (lead)		

		5.1.1.9, 5.1.2.9 Initiate discussions with State Education regarding licensing requirements, required trainings and regulations for emergency staff. **5.1.1.10, 5.1.2.10** Educate staff on emergency approval of credentialing for hospital staff. **5.1.1.11, 5.1.2.11** Create a reference document delineating the roles and responsibilities of each State agency. **5.1.1.12, 5.1.2.12** Provide ongoing education on roles in the HOC, use of the VHOC, updating software and resources available for newly hired staff (HCS accounts, updated contact information, trainings) for both Central Office and Regional Office staff. **5.1.1.13, 5.1.2.13** Create a binder for each section staffing the HOC with directions on using the systems (computer, conference phone, microphones, and other equipment); job action sheets; list of all	recommendation Implement recommendation Implement recommendation Implement recommendation Implement recommendation	Training Planning Training Planning	NYSDOH NYSED NYSDOH NYSDOH NYSDOH NYSDOH	OHEP OHSM OHEP (lead) OHEP OHEP	7/1/13 7/1/13 7/1/13 7/1/13 7/1/13	12/31/13 3/31/14 12/31/13 Ongoing 12/31/13

		operations centers activated (HEC, HOC, ROC, State OEM) and a copy of the HOC SOP.						
		5.1.1.15, 5.1.2.15 Implement a daily call between the HOC and the HEC (in addition to the IMS calls) to support each other in prioritizing and completing tasks to avoiding redundancies of effort.	Implement recommendation	Planning	NYSDOH	OHEP	7/1/13	As needed
		5.1.1.16, 5.1.2.16 Ensure that all Regional Offices maintain a database of employees with emergency contact numbers, updated quarterly.	Implement recommendation	Planning	NYSDOH	ROs	7/1/13	Ongoing
		5.1.1.17, 5.1.2.17 Establish an emergency communication plan for staff notification in case of office closure, and changes in work location and duties in an emergency.	Implement recommendation	Planning	NYSDOH	OHEP (lead) ROs	7/1/13	9/30/13
		5.1.1.18, 5.1.2.18 Promote awareness of various alert systems to enhance communication and share emergency information: - NYS Alert –	Implement recommendation	Planning	NYSDOH NYSDHSES-SOEM NYSED	OHEP Others as designated from partner agencies	7/1/13	Ongoing

		www.nyalert.gov - Notify NYC – www.nyc.gov/notifynyc - School alerts – www.k12alerts.com						
		5.1.1.19, 5.1.2.19 Explore opportunities with sister agencies for reassignment of alternate work sites.	Implement recommendation	Planning Organization and Leadership	NYSDOH	Executive Staff	7/1/13	Ongoing
		5.1.1.20, 5.1.2.20 State OEM should establish a workgroup to coordinate local existing databases which identify and locate vulnerable populations and combine into a master database.	Discuss with involved agency	Planning	NYSDHSES-SOEM	Staff to be determined by involved agency	TBD	
	5.1.3 Emergency administrative procedures need to be developed pre-incident to facilitate short notice staff deployments.	**5.1.3.1** Reserve a block of hotel rooms at the government rate near the HEC or designated response site that can be charged directly to an HRI or State accounts.	Implement recommendation	Planning	NYSDOH	Administrative Preparedness Group	7/1/13	In progress
		5.1.3.2 Provide travel cards to State and HRI staff in key response roles, and raise the credit card limit.	Implement recommendation	Planning	NYSDOH	Administrative Preparedness Group	7/1/13	In progress
		5.1.3.3 Develop a plan to prepare State vehicles for use by staff assigned to respond to affected areas.	Implement recommendation	Planning	NYSDOH	Administrative Preparedness Group	7/1/13	In progress

Capability 6: Mass Care	**6.1** Shelter operations, particularly for vulnerable populations and complex, clinical patients, were a major issue among the Counties affected by Superstorm Sandy.	**6.1.1** Initiate case management earlier in an event such as Superstorm Sandy when it becomes apparent that individuals are remaining in their homes instead of evacuating.	Discuss with involved agencies	Planning	State/Local OEMs, OMH, Home Health Agencies, ARC	Staff to be determined by involved agencies	TBD	
		6.1.2 Conduct health assessments of those sheltered prior to the reports of illness.	Implement recommendation	Planning	NYSDOH ARC	OHEP PHEEP Others as designated by partner agencies	7/1/13	As needed
		6.1.3 Provide pre-event training on infection control and enhanced illness reporting during a suspected outbreak for shelter staff.	Implement recommendation	Planning Training	NYSDOH	PHEEP	7/1/13	As needed
		6.1.4 Revise routine protocol for shelter set-up by coordinating with local OEM for a list of shelter sites and contact information for the site managers so that a food safety kit could be provided to each (gloves, hand sanitizers, cleaning supplies, educational materials for food workers regarding hand hygiene and	Implement recommendation	Planning	NYSDOH Local OEM as appropriate	PHEEP Others as designated by partner agencies	7/1/13	As needed

		surface cleaning). **6.1.5** Coordinate closely with ARC on infection control issues in shelters. **6.1.6** Increase staffing for the Mass Care Group at the State EOC through cross-training of additional individuals and implementing the State Mass Care course. **6.1.7** Identify triggers when Regional or Central Office staff may need to support sheltering operations. **6.1.8** Initiate 24/7 staffing operations when the event occurs, not prior, to avoid taxing limited staff resources. **6.1.9** Identify a local Mass Care representative. **6.1.10** Integrate disaster mental health specialists into the Mass Care Group to ensure that behavioral health is addressed. **6.1.11** Assure behavioral health is addressed in shelters. **6.1.12** Educate LHDs	Implement recommendation Discuss with involved agency Implement recommendation Discuss with involved agency NYSDOH Discuss with involved agency Discuss with involved agency	Planning Planning Personnel Planning Planning Personnel Personnel Planning Personnel Planning Personnel	NYSDOH ARC NYSDHES-SOEM NYSDOH NYSDHES-SOEM NYSDOH OMH OMH	PHEEP Others as designated by partner agencies To be determined by involved agency OHEP To be determined by involved agency OHEP To be determined by involved agency OHEP	7/1/13 TBD 7/1/13 TBD 7/1/13 TBD TBD	As needed 12/31/13 9/30/13

		about the Federal option to request a PAS Contract.	Implement recommendation	Training	NYSDOH		7/1/13	As needed
		6.1.13 Exercise the Mass Care plan more frequently and stress to point of failure to identify if the corrective actions were implemented and appropriate.	Implement recommendation	Exercises, Evaluations and Corrective actions	NYSDOH NYSDHSES-SOEM	OHEP Others to be determined by partner agency	7/1/13	TBD
		6.1.14 Create a comprehensive management plan for Special Needs Shelters.	Discuss with involved agency	Planning	NYSDHSES-SOEM	To be determined by partner agency	TBD	
		6.1.15 Collaborate with the ARC on integrated training, common forms for processing and appropriate placement, and levels of needed care.	Discuss with involved agency	Planning Training	ARC	To be determined by partner agency	TBD	
		6.1.16 Develop deployable communication technology in go-kits for staff in shelters: laptops, printers, Blackberries, iPads and satellite phones.	Discuss with involved agency	Planning Equipment and Systems	NYSDHSES-SOEM	To be determined by partner agency	TBD	
	6.2 Provision of food via the food networks has become chronic, not just for	**6.2.1** Improve the strategic planning to include broader assessment of feeding capacity and how this evolves during an	Implement recommendation	Planning	NYSDOH	DON	7/1/13	6/30/14

	emergencies, resulting in a lack of resources to spare when the Superstorm Sandy occurred.	emergency response. **6.2.2** Consider installation of wiring/hook-ups so that a generator could be accepted during an emergency.	Implement recommendation	Planning	NYSDOH	DON	7/1/13	6/30/14
		6.2.3 Open discussions with the Army Corps of Engineers to develop cost estimates for the wiring/hook-ups for generators.	Implement recommendation	Planning	NYSDOH	DON	7/1/13	6/30/14
		6.2.4 Encourage the acquisition of generators when possible, and where allowed with State or other funding. Identify other agencies to use for information on vendors and the business community for real-time operating status (e.g., stores were closed and WIC participants could not get food).	Implement recommendation	Planning	NYSDOH	DON	7/1/13	6/30/14
		6.2.5 Ensure that information obtained from DON regarding the document/protocol under development by food banks about "what to do in an emergency" is shared broadly at State agencies and local levels.	Implement recommendation	Planning	NYSDOH	DON	7/1/13	6/30/14

		6.2.6 Coordinate with emergency feeding sites to ensure that those organizations affected by an emergency can access food banks, other resources, and are aware of how to do so.	Implement recommendation	Planning	NYSDOH	DON	7/1/13	As needed
		6.2.7 For shelters (i.e., permanent shelters), create and distribute resource kits that include disease prevention information.	Implement recommendation	Planning	NYSDOH Local OEMs as appropriate	PHEEP (lead)	7/1/13	12/31/13
		6.2.8 Request via State OEM that Ag and Markets inspect facilities to ensure safety when re-opened.	Discuss with involved agencies	Planning	NYSDHES-SOEM Ag and Markets	To be determined by involved agencies	TBD	
		6.2.9 Ensure that updated contact lists (cell and email) for WIC clinic leadership, management and VMA staff are accessible to all appropriate staff.	Implement recommendation	Planning	NYSDOH	DON	7/1/13	Ongoing
		6.2.10 Collect contacts for Statewide lactation support and breastfeeding coordinators to distribute to affected women and children during emergency events as needed.	Implement recommendation	Planning	NYSDOH	DON	7/1/13	As needed
		6.2.11 Create an emergency assessment list to	Implement recommendation	Planning	NYSDOH	DON (lead) CEH	7/1/13	As needed

		determine extent of damage to WIC clinics, numbers of affected, availability of safe drinking water, affected retailers and length of disrupted services.						
		6.2.12 Coordinate procedures to provide benefits to affected populations, with prioritized levels of expedited service (homeless and displaced are highest priority).	Implement recommendation	Planning	NYSDOH	DON (lead)	7/1/13	As needed
		6.2.13 Develop protocol to bi-directionally communicate with WIC providers within first 24 hours for situational awareness and to assure further emergency instructions.	Implement recommendation	Planning	NYSDOH	DON	7/1/13	3/31/14
		6.2.14 Investigate autodialer vendors to provide communications support during an emergency.	Implement recommendation	Planning	NYSDOH	DON	7/1/13	3/31/14
Capability 7: Public Health Surveillance and Epidemiological Investigation	**7.1** There was no pre-existing immunization guidance or status of immunized responders.	**7.1.1** Prior to an event, develop generic guidance for post natural disaster immunizations for responders, disaster volunteers and	Implement recommendation	Planning	NYSDOH	PHEEP	7/1/13	12/31/13

		community members.						
		7.1.2 Enter responders and disaster volunteers into the New York State Immunization Information System so that immunization records are readily available.	Implement recommendation	Planning	NYSDOH	Immunization	7/1/13	Ongoing
		7.1.3 Develop a policy for medical screening of all responders and volunteers prior to deployment and defer deployment for those with medical issues.	Implement recommendation	Planning	NYSDOH	PHEEP OHEP	7/1/13	12/31/13
	7.2 There was no formalized disaster epidemiology capability to coordinate, maintain, enhance, analyze and provide efficient surveillance and information systems to facilitate early detection and mitigation of disease or injuries.	**7.2.1** Develop a repository of information regarding the health impacts of an incident which is integrated and shared across NYSDOH programs.	Implement recommendation	Planning Training	NYSDOH	PHEEP CEH OHEP	7/1/13	3/31/14
		7.2.2 Standardize desired post-event syndromic surveillance reports.	Implement recommendation	Planning	NYSDOH	PHEEP	7/1/13	12/31/13
		7.2.3 Develop program with a disaster epidemiology capability to track injury-related reports.	Implement recommendation	Planning	NYSDOH	PHEEP	7/1/13	6/30/14
	7.3 Duplication of efforts and confusion	**7.3.1** Ensure that potential outbreaks are reported to the	Implement recommendation	Training	NYSDOH	PHEEP	7/1/13	Ongoing and as needed

	occurred as a result of misreporting and misinformation.	appropriate health public health authority directly. **7.3.2** Ensure that health information is vetted appropriately and distributed by the appropriate authority.	Implement recommendation	Planning Training	NYSDOH	PHEEP	7/1/13	Ongoing and as needed
Capability 8: Emergency Triage and Pre-Hospital Treatment	**8.3** The *State EMS Mobilization Plan* has no legal standing, existing only as a NYSDOH – BEMS policy and needs to be made statutory.	**8.3.1** Make the Statewide EMS Mobilization Plan statutory	Implement recommendation	Organization and Leadership	NYSDOH	Executive Staff DLA	7/1/13	TBD
	8.4 A better mechanism for tracking available and deployed ambulances and EMS resources needs development.	**8.4.1** Develop a web-based tool accessible by the BEMS, County Coordinators and EMS Agencies, through which all communications will flow and all available and deployed resources can be monitored.	Implement recommendation	Equipment and Systems	NYSDOH	OHIT BEMS	7/1/13	6/30/14
Capability 9: Planning	**9.1** Eight Executive Orders were obtained during the Sandy response waiving a total of 62 statutory	**9.1.1** Coordinate a workgroup comprised of OHSM, DLA and healthcare associations to identify regulations and statutory provisions that may need to be	Implement recommendation	Planning	NYSDOH Healthcare Associations	DLA OHSM OHEP	7/1/13	6/30/14

	provisions and associated regulations.	potentially waived in a major emergency incident.						
Capability 10: Community Preparedness	**10.1** Displaced individuals were unable to obtain prescription medications in the aftermath of Sandy.	**10.1.1** Develop a policy to relax refill restrictions.	Implement recommendation	Planning	NYSDOH	OHSM BNE	7/1/13	3/31/14
		10.1.2 Engage with the State Board of Pharmacy to assess damage to pharmacy network.	Implement recommendation	Planning	NYSDOH NYSED	OHSM Others to be designated by partner agency	7/1/13	As needed
		10.1.3 Work with the State Board of Pharmacy to develop and ensure that guidance regarding policy changes is available to pharmacists broadly and in multiple formats.	Implement recommendation	Planning	NYSDOH NYSED	OHSM BNE Others to be designated by partner agency	7/1/13	As needed
		10.1.4 Work with pharmacy chains, independents pharmacies, and associations to assess pharmacy networks to assist efforts to render them functional.	Implement recommendation	Planning	NYSDOH NYSED	OHSM BNE OHEP Others to be designated by partner agency	7/1/13	As needed
		10.1.5 Access mobile pharmacies provided by chains.	Implement recommendation	Planning Equipment and Systems	NYSDOH NYSED	OHSM OHEP Others to be designated by partner agency	7/1/13	As needed
		10.1.6 Utilize Federally Qualified Health Centers to conduct mobile	Implement recommendation	Planning Equipment and Systems	NYSDOH CHCANYS	OHSM OHEP Others to be designated by	7/1/13	As needed

		clinical/pharmacy operations				partner agency		
		10.1.7 Access free pharmaceuticals from groups such as Disaster Relief of California.	Implement recommendation	Planning	NYSDOH	OHEP	7/1/13	As needed
		10.1.8 Coordinate with OHIP to provide three-day supplies of medication at no cost.	Implement recommendation	Planning	NYSDOH	OHIP (lead)	7/1/13	As needed
		10.1.9 Depending on the emergency, consider pharmacy as a regular IMS report out within OHSM.	Implement recommendation	Planning	NYSDOH	OHEP	7/1/13	As needed

APPENDIX B: SUMMARY OF DOH-RELATED EXECUTIVE ORDERS ISSUED DURING HURRICANE SANDY RESPONSE

EXEC. ORDER	STATUTORY PROVISIONS	REASON
Exec. Order No. 57	Ed. Law Article 139 Associated regulations	To allow out-of-state nurses to provide nursing services to the dialysis patients of a general hospital, nursing home or diagnostic and treatment center Required that (1) nurse be licensed as a nurse by another state and be in good standing in such state and has not had a nursing license revoked in any other state; (2) the provision of nursing services to dialysis patients is within such nurse's scope of practice and expertise; and (3) such nurse provides services only to the patients of such general hospital, nursing home or diagnostic and treatment center.
Exec. Order No. 58	PHL § 225(5)(u) 10 NYCRR Subpart 5-6	So that bottled or bulk water products may be donated for disaster relief efforts if, in the discretion of the Commissioner of Health, the manufacturer of such products has provided sufficient information to show that such water is fit for human consumption, food preparation or culinary purposes.
Exec. Order No. 63	PHL § 1301	To declare the conditions caused by Hurricane Sandy to be public nuisances and order relevant local officials to remove the debris forthwith.
Exec. Order No. 64	PHL Articles 28-E and 36 Ed. Law Article 139 Associated regulations	So that home health agencies which are not approved to operate in New York State may provide services pursuant to a contract with the Federal Emergency Management Agency ("FEMA") for the purpose of serving individuals within the counties of Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk and Westchester Required that employees providing services pursuant to such FEMA contract be licensed or certified, as applicable, in other states and in good standing in such states, possess

		the appropriate training and competence required by applicable federal regulations and otherwise act only within the scope of their practice and expertise consistent with the authority their level of training and education would allow them under the corresponding New York state license or certification.
	PHL Article 36 PHL Article 40 Associated regulations	So that entities licensed or certified under such articles may serve patients who are located outside approved geographic areas who are in need of services during the disaster emergency, but remain in the counties of Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk and Westchester.
Exec. Order No. 67	18 NYCRR Part 387	To the extent that any provisions thereof conflict with waivers of federal SNAP regulatory requirements granted by the USDA to the State of New York.
Exec. Order No. 68	Ed. Law Article 68 Associated regulations	So that pharmacists already authorized to administer certain immunizations pursuant to Ed. Law § 6801 and § 6802(22) can administer tetanus toxoid containing vaccines, including those also containing diphtheria and pertussis vaccine, to persons 18 years of age or older within the federally declared counties, pursuant to a patient specific or non-patient specific regimen from a physician or certified nurse practitioner.
	Ed. Law Article 133 Associated regulations	So that dentists can administer tetanus toxoid containing vaccines, including those also containing diphtheria and pertussis vaccine, to persons 18 years of age or older within the federally declared counties, pursuant to a patient specific or non-patient specific regimen from a physician or certified nurse practitioner.
	PHL Article 30 Ed. Law Article 131 Ed. Law Article 139 Associated regulations	So that such emergency medical technicians can administer vaccines under the jurisdiction of a county or city health department within the federally declared counties, provided that such county or city health department shall be responsible for supervision of the emergency medical technicians and maintaining patient records of such administration.
	Ed. Law § 6527(7)	So that physicians and certified nurse practitioners can prescribe and order a patient specific or non-patient specific

	Ed. Law § 6909(7) Associated regulations	regimen for tetanus toxoid containing vaccines, including those also containing diphtheria and pertussis vaccine, to pharmacists certified to administer vaccines pursuant to Article 68 of the Education Law, dentists licensed under Article 133 of the Education Law, or emergency medical technicians certified pursuant to Article 30 of the Public Health Law, so that such individuals can administer vaccines as set forth in this Executive Order.
Exec. Order No. 69	PHL § 4174(2) and (9)	Waived to the extent that they require payment of a fee for replacement birth certificates or certified transcripts of birth, and certified copies or transcripts of death or fetal death;
	PHL § 4174(9) PHL § 4139(6)	Waived to the extent that they require payment of a fee for a duplicate or replacement certification, certified copy or certified transcript of a certificate of dissolution of marriage
	Dom. Relations Law § 20-a	Waived to the extent that they require payment of a fee for a duplicate or replacement certification, certified copy or certified transcript of a certificate of marriage
Exec. Order No. 72	PHL § 3320(2) Associated regulations	To allow licensed facilities, including but not limited to hospitals, nursing homes, and institutional dispensers, to temporarily accept, store and administer those controlled substances lawfully prescribed to patients and residents affected by the disaster emergency, while maintaining appropriate patient specific record-keeping and diversion prevention practices, and subject to any terms and conditions that the Commissioner of Health may deem appropriate
	PHL § 3333(1) PHL § 3338(2) Associated regulations	To allow a licensed pharmacist to dispense a controlled substance to a patient whose access to prescriptions or previously dispensed controlled substances has been directly affected by the disaster emergency, if the pharmacist, through the use of a shared database can verify the authenticity of the prescription and the prescription indicates authorized refills
	PHL § 3332(3) PHL § 3333(1)	To allow a licensed practitioner to prescribe and a licensed pharmacist to dispense a controlled substance more than

	PHL § 3339(3) Associated regulations	seven days prior to the date the previously dispensed supply would have been exhausted if the patient's supply has been destroyed, made unusable or made inaccessible due to the disaster emergency;
	10 NYCRR Subpart 58-1	To permit the Commissioner of Health to issue provisional permits to laboratories or blood banks for the purpose of conducting permitted categories of tests at alternate locations or conducting categories of tests not listed in the laboratory's permit if, in the discretion of the Commissioner, the laboratory has provided sufficient information to show that such testing can be conducted safely and accurately so as not to present an undue risk to patient health and fills a need for testing created by the disaster emergency to protect the public health and safety;
	10 NYCRR § 400.9 10 NYCRR § 405.9(f)(7)	To permit general hospitals and nursing homes licensed pursuant to Article 28 of the Public Health Law ("Article 28 facilities") and affected by the disaster emergency to rapidly discharge, transfer or receive patients, as authorized by the Commissioner of Health, provided that such facilities take all reasonable measures to protect the health and safety of patients and residents, including safe transfer and discharge practices, and comply with the Emergency Medical Treatment and Active Labor Act (42 U.S.C. § 1395dd) and any associated regulations
	10 NYCRR § 400.11	To permit Article 28 facilities receiving patients evacuated from other Article 28 facilities due to the disaster emergency to complete patient review instruments as soon as practicable
	10 NYCRR § 400.12	To allow patients affected by the disaster emergency to be transferred to receiving Article 28 facilities as authorized by the Commissioner of Health
	10 NYCRR § 405.2(e)	To permit general hospitals affected by the emergency to maintain adequate staffing
	10 NYCRR § 405.3(b)	To allow general hospitals affected by the disaster emergency to use qualified volunteers or personnel affiliated with different hospitals, subject to terms and conditions established by the Commissioner of Health

	10 NYCRR § 405.4(b)(6)	To allow general hospitals affected by the disaster emergency to assess the fitness of medical postgraduate trainees and attending physicians to continue working without a specific hourly limit
	10 NYCRR § 405.4(e)(1) 10 NYCRR § 707.3(b)	To permit physicians to supervise up to ten physician assistants and registered specialist assistants in general hospitals affected by the disaster emergency
	10 NYCRR § 405.9(b)(12)	To permit general hospitals receiving patients transferred from Article 28 facilities evacuated as a result of the disaster emergency to arrange for the performance of histories and physical examinations of the evacuated patients as soon as practicable following admission
	10 NYCRR § 405.19(d)	To allow general hospitals affected by the disaster emergency to staff their emergency departments as needed
	10 NYCRR § 405.28(a)	To permit general hospitals receiving individuals affected by the disaster emergency to provide social services screenings as soon as practicable following admission or to forego such screenings for individuals returned to facilities from which they were evacuated
	10 NYCRR § 415.11	To permit nursing homes receiving individuals affected by the disaster emergency to perform comprehensive assessments of those residents temporarily evacuated to such nursing homes as soon as practicable following admission or to forego such assessments for individuals returned to facilities from which they were evacuated
	10 NYCRR § 415.15(b)	To permit nursing homes receiving individuals affected by the disaster emergency to obtain physician approvals for admission as soon as practicable following admission or to forego such approval for individuals returned to facilities from which they were evacuated
	10 NYCRR § 415.26(i)	To permit nursing homes receiving individuals affected by the disaster emergency to comply with admission procedures as soon as practicable following admission or to forego such procedures for individuals returned to facilities from which they were evacuated
	10 NYCRR § 763.4(h)(7)	To permit certified home health agencies, long term home health care programs, AIDS home care programs, and

	10 NYCRR § 766.5(d)(1)	licensed home care services agencies serving individuals affected by the disaster emergency to conduct in-home supervision of home health aides and personal care aides as soon as practicable after the initial service visit
	10 NYCRR § 763.5(a)	To permit initial patient visits for certified home health agencies, long term home health care programs and AIDS home care programs serving individuals affected by the disaster emergency to be made within 48 hours of receipt and acceptance of a community referral or return home from institutional placement
	10 NYCRR § 763.7(a)(3) 10 NYCRR § 766.4(d)	To permit certified home health agencies, long term home health care programs, AIDS home care programs and licensed home care services agencies serving individuals affected by the disaster emergency to obtain medical orders signed by authorized practitioners within 60 days
	18 NYCRR § 505.14(b)(3) 18 NYCRR § 505.28(d)(1)	To permit a physician's order to be completed and forwarded to the social services district within 60 days after the medical examination of a patient affected by the disaster emergency
	18 NYCRR § 505.14(b)(5)(ix) 18 NYCRR § 505.28(f)	To permit an additional 30 days for reauthorizations of personal care and consumer directed personal assistance program services for individuals affected by the disaster emergency, where the authorized period of services otherwise would terminate during the period of the disaster emergency declared pursuant to Executive Order Number 47
	18 NYCRR § 505.14(e)(2)(ii)	To permit training for personal care workers serving individuals affected by the disaster emergency to be held as soon as practicable after the conclusion of such period, where such training otherwise would be required during the period of the disaster emergency declared pursuant to Executive Order Number 47, provided that such workers have sufficient competence to provide such services
	18 NYCRR § 505.14(f) (3)	To permit nursing supervision visits for personal care services provided to individuals affected by the disaster emergency to be made as soon as practicable

APPENDIX C: ACRONYMS

Table F.1: *Acronyms*

Acronym	Meaning
AAR	After Action Report
BEMS	Bureau of Emergency Medical Services (NYSDOH)
BNE	Bureau of Narcotic Enforcement (NYSDOH)
CEMP	Comprehensive Emergency Management Plan (NYS)
CERC	Crisis Emergency Risk Communication
CMS	Center for Medicare and Medicaid Services
CNA	Certified Nursing Assistant
DHHS	Department of Health and Human Services
DHSES - SOEM	Division of Homeland Security and Emergency Services – State Office of Emergency Management
DLA	Division of Legal Affairs (NYSDOH)
DRC	Disaster Recovery Center
EMS	Emergency Medical Services
EOC	Emergency Operations Center
FEMA	Federal Emergency Management Agency
HAvBED	Hospital Available Beds in Emergency or Disaster
HEC	Healthcare Facility Evacuation Center
HEPRP	Health Emergency Preparedness and Response Plan
HERDS	Health Emergency Response Data System
IHANS	Information Health Alert Notification Systems

Acronym	Meaning
ICS	Incident Command System
IMS	Incident Management System
IT	Information Technology
LHD	Local Health Department
MERC	Medical Emergency Response Cache
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NGO	Non-Governmental Organizations
NH	Nursing Home
NYCDOHMH	New York City Department of Health and Mental Health
NYC OEM	New York City Office of Emergency Management
NYSDOH	New York State Department of Health
NYSDOH – BEMS	New York State Department of Health – Bureau of Emergency Medical Services
NYSDOH – CEH	Center for Environmental Health
NYSDOH – CDRO	New York State Department of Health – Capitol District Regional Office
NYSDOH – CNYRO	New York State Department of Health – Central New York Regional Office
NYSDOH – MARO	New York State Department of Health – Metropolitan Area Regional Office
NYSDOH – OHEP	New York State Department of Health – Office of Health Emergency Preparedness
NYSDOH – WNYRO	New York State Department of Health – Western New York Regional Office
NYS OEM	New York State Office of Emergency Management
PAG	Public Affairs Group
PHEEP	Public Health Epidemiology Emergency Preparedness

Acronym	Meaning
PTS	Patient Tacking System
PPE	Personal Protective Equipment
OEM	Office of Emergency Management (NYC)
OHSM	Office of Health Systems Management (NYS)
OTDA	Office of Temporary Disability Assistance
SIP	Shelter-in-Place
SITREP	Situation Report
TALS	Transportation Assistance Levels
USACE	United States Army Corps of Engineers