

**FOUO**

**Medical Surge During a Cyber Attack  
After Action Report/Improvement Plan  
(AAR/IP)**

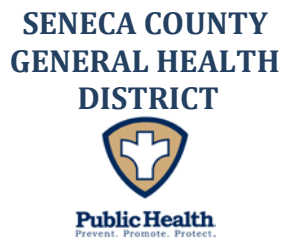
**Medical Surge During a Cyber Attack**

---

**Medical Surge During a Cyber Attack**

**April 24, 2013**

**AFTER ACTION REPORT/IMPROVEMENT  
PLAN**



**FOUO**

**Medical Surge During a Cyber Attack**

**After Action Report/Improvement Plan  
(AAR/IP)**

**Medical Surge During a Cyber Attack**

This page is intentionally blank.

## HANDLING INSTRUCTIONS

1. The title of this document is Medical Surge During a Cyber Attack After Action Report/Improvement Plan (AAR/IP).
2. The information gathered in this AAR/IP is classified as For Official Use Only (FOUO) and should be handled as sensitive information not to be disclosed. This document should be safeguarded, handled, transmitted, and stored in accordance with appropriate security directives. Reproduction of this document, in whole or in part, without prior approval from the Wood/ Seneca County Health District Emergency Response Planner is prohibited.
3. At a minimum, the attached materials will be disseminated only on a need-to-know basis and when unattended, will be stored in a locked container or area offering sufficient protection against theft, compromise, inadvertent access, and unauthorized disclosure.
4. Point of Contact:

### **Trish Factor, BS, MCHES**

Public Health Emergency Response Planner  
Wood/ Seneca County Health Department  
1840 East Gypsy Lane  
Bowling Green, Ohio 43402  
(419)-352-8402 ext. 3278 (office)  
(419)-353-9680 (fax)  
[tfactor@co.wood.oh.us](mailto:tfactor@co.wood.oh.us)

This page is intentionally blank.

# CONTENTS

- Administrative Handling Instructions .....1**
- Contents .....3**
- Executive Summary .....5**
- Section 1: Exercise Overview .....8**
  - Exercise Details..... 8
  - Exercise Planning Team Leadership ..... 8
  - Participating Organizations..... 8
- Section 2: Exercise Summary ..... 10**
  - Exercise Purpose and Design..... 10
  - Capabilities and Activities Identified for Demonstration..... 10
- Section 3: Analysis of Capabilites ..... 12**
  - Medical Surge ..... 12
  - Information Sharing ..... 15
  - Volunteer & Donations Management ..... 16
  - Mass Care ..... 18
  - Responder Safety & Health ..... 22
- Section 4: Conclusion..... 26**
- Appendix A: Improvement Plan ..... 27**
- Appendix B: Lessons Learned..... 33**

This page is intentionally blank.

## EXECUTIVE SUMMARY

The Medical Surge During a Cyber Attack Full-Scale Exercise was created to test various objectives surrounding medical surge. The basis of the exercise involved a cyber attack that had affected the entire Northwest Ohio Region. Due to the nature of the incident, multiple long-term care facilities were unable to operate safely without power. The exercise brought together hospital staff, local health department staff, Medical Reserve Corps, American Red Cross, local EMA, Fire/EMS, and long-term care facilities. Resource utilization was a key component in this endeavor as the full-scale exercise coincided with the regional functional exercise.

Based on issues and concerns from past incidents it was decided to evaluate the following Target Capabilities.

- Medical Surge
- Information Sharing
- Volunteer & Donations Management
- Mass Care
- Responder Safety and Health

The purpose of this report is to analyze the response to the exercise injects in order to identify strengths to be maintained and built upon, identify potential areas for further improvement, and support development of corrective actions.

### MAJOR STRENGTHS

The major strengths identified during this exercise are as follows:

#### MEDICAL SURGE

- Volunteers and hospital staff worked well together.
- The designated alternate care facility was utilized for the first time and proved effective.
- The patient registration/ reception site was effective.

#### INFORMATION SHARING

- HIPPA compliance was maintained.
- There was adequate trained staff at registration.
- Information was shared across disciplines effectively.

#### VOLUNTEER & DONATIONS MANAGEMENT

- Volunteers brought their own expertise, experience, and training to the exercise.
- Medically licensed and non-medical volunteers successfully supplemented hospital staff.

#### **MASS CARE**

- Assessment team worked very well together.
- Newly developed assessment form was utilized successfully.
- Outside agencies were able to understand the importance of the inspection in a medical surge event.
- Facility was set up within one hour.
- Inspection of the facility was completed prior to occupancy, quick and throughout.
- Adequate nutrition and food handling was provided.

#### **RESPONDER SAFETY & HEALTH**

- Safety Officer was designated.
- Information was evaluated appropriately.
- Preventative measures were put in place or were already in place.

### **WEAKNESSES**

#### **MEDICAL SURGE**

- Incident Command was attempted, but review for staff is needed.
- Many staff members were unfamiliar with the EOP.
- Restocking of supplies and equipment, long-term, were not considered.

#### **INFORMATION SHARING**

- No standard JITT for registration process.

#### **VOLUNTEER & DONATIONS MANAGEMENT**

- No person, or team of people, was coordinating volunteers.
- Minimal JITT was provided.
- The credentialing process was not reviewed thoroughly.

#### **MASS CARE**



- Formal JITT for registration needed.
- Need to review plans for mixed populations, to include special/ functional needs.

#### **RESPONDER SAFETY & HEALTH**

- Ongoing assessments were conducted due to prompting from the assessment team to the Safety Officer.
- Need to utilize SME's, such as hospital Infection Control Practitioner and maintenance.

## SECTION 1: EXERCISE OVERVIEW

### Exercise Details

**Exercise Name**

Medical Surge During a Cyber Attack

**Type of Exercise**

Full-Scale

**Exercise Start Date**

04/24/2013

**Exercise End Date**

04/24/2013

**Duration**

5 hrs

**Location**

Wood County Hospital

**Sponsor**

Ohio Department of Health/CDC

**Program**

PHEP (Public Health Emergency Preparedness)

**Mission**

Response to Medical Surge During a Cyber Attack

**Capabilities**

Medical Surge  
Information Sharing  
Volunteer & Donations Management  
Mass Care  
Responder Safety and Health

**Scenario Type**

Medical Surge  
Cyber Attack

### Participating Organizations

Wood County Health Department  
Seneca County Health Department  
Medical Reserve Corps  
Bowling Green Fire/ EMS

Wood County Emergency Management Agency (EMA)  
Wood County Hospital  
American Red Cross (Wood County Chapter)  
Local Long-term care Facilities

**State**

N/A

**Federal**

N/A

**Global**

N/A

## SECTION 2: EXERCISE SUMMARY

### Exercise Purpose and Design

The Medical Surge During a Cyber Attack was a Full-Scale Exercise (FSE) designed to test the jurisdiction's ability to respond to the various aspects of medical surge during a cyber attack. The exercise covered the initial response to medical surge following an influx of long-term care patients due to power outages at their facilities. The purpose of this exercise was to evaluate player actions against current response plans and capabilities for medical surge, information sharing, volunteer management, mass care, and responder safety & health.

This exercise was produced with input, advice, and assistance from the Wood County Hospital, Wood County Health District, and Seneca County General Health District.

### Objectives, Capabilities, and Activities

The exercise objectives were demonstrated during the exercise. Through demonstration of these objectives, the exercise participants successfully had an effective response to medical surge during a cyber attack. At the same time, situations revealed ways in which future responses could be made more effective.

Exercise objectives and capabilities outcomes are framed from the Target Capabilities List (TCL). The capabilities listed below form the foundation for the organization of all objectives and observations documenting the exercise. Additionally, each capability is linked to several corresponding activities and tasks to provide additional detail.

Based upon the identified exercise objectives below, it was decided to evaluate the following capabilities during this exercise:

- **Objective 1:** Determine the ability, through response, to expand the capacity of the existing healthcare facility to provide medical care.
  - **Medical Surge:** Activate and utilize predetermined space for operations with minimal staff and volunteers.
  
- **Objective 2:** Demonstrate the ability to communicate across multidisciplinary lines in order to exchange and disseminate necessary information.
  - **Information Sharing:** Facilitate the distribution of relevant, actionable, timely, classified/ unclassified information.
  
- **Objective 3:** Demonstrate the ability to coordinate and manage volunteers.
  - **Volunteer Management:** Implement sound process to provide necessary volunteers in appropriate functions.

- **Objective 4:** Demonstrate proficient and effective capabilities for sheltering, feeding, and medical treatment to persons affected by the incident.
  - **Mass Care:** Implement shelter and food service inspections while educating partner agencies about the process.
  
- **Objective 5:** Determine the ability, through response, to designate Safety personnel, equipment, and other resources.
  - **Responder Safety & Health:** Implement safety planning and/or utilize guidance to provide a safe environment.

## SECTION 3: ANALYSIS OF CAPABILITIES

This section of the report reviews the performance of the Exercise capabilities, activities, and tasks. In this section, observations are organized by capability and associated activities. The capabilities linked to the Exercise objectives of the Medical Surge During a Cyber Attack Exercise are listed below, followed by corresponding activities. Each activity is followed by related observations, to include analysis and recommendations.

### CAPABILITY 1: MEDICAL SURGE

#### Capability Summary:

Medical Surge is the capability to rapidly expand the capacity of the existing healthcare system (long- term care facilities, community health agencies, acute care facilities, alternate care facilities and public health departments) in order to provide triage and subsequent medical care. This includes providing definitive care to individuals at the appropriate clinical level of care within sufficient time to achieve recovery and minimize medical complications. The capability applies to an event resulting in a number or type of patients that overwhelm the day-to-day acute-care medical capacity. Planners must consider that medical resources are normally at or near capacity at any given time. Medical Surge is defined as rapid expansion of the capacity of the existing healthcare system in response to an event that results in increased need of personnel (clinical and non-clinical), support functions (laboratories and radiological), physical space (beds, alternate care facilities) and logistical support (clinical and non-clinical equipment and supplies).

**Activity 1.2:** Define incident management structure and methodology.

**Observation 1.2.1:** ICS was attempted.

**Analysis:** Although it was not predetermined; Incident Command was set-up and followed as best it could with the staff on hand.

**Recommendations:** The need for ICS training was highly noted by both the evaluator and the participants.

**Activity 1.3:** Establish a bed tracking system.

**Observation 1.3.1:** Paper bed tracking system utilized.

**Analysis:** Bed tracking was handled on the fly; due to the lack of technology (internet). The system created was done based on bed layout and patient types expected. Multiple versions were tested. A floor plan was created and distributed appropriately.

**Recommendations:** Utilize the final floor plan and incorporate into the paper tracking system.

**Activity 1.5:** Determine medical surge assistance requirements.

**Observation 1.5.1:** Advanced notice of patients aided in surge response.

**Analysis:** The advanced notice of patient arrivals was highly beneficial. However, patient types and needs would have been proven helpful given the nature of the special needs identified.

**Recommendations:** Any advanced notice of patient transfer, should be accompanied by patient type/ needs, when possible.

**Activity 2.1:** Activate the healthcare organizations Emergency Operations Plan (EOP).

**Observation 2.1.1:** Many hospital staff members were unfamiliar with the EOP.

**Analysis:** The hospital staff that were providing medical surge support were not fully aware of the organizations EOP, ICS, or resources available. This caused some confusion in the initial stages of response.

**Recommendations:** The need for staff training, as well as partner agency updates on the EOP would prove beneficial.

**Activity 3.1:** Implement bed surge capacity plans, procedures, and protocols.

**Observation 3.1.1:** Many hospital staff members were unfamiliar with surge plans.

**Analysis:** The hospital staff that were providing medical surge support were not fully aware of the organizations EOP, ICS, or resources available. However, they were able to effectively utilize resources at hand in the determined space provided in order to provide surge capabilities.

**Recommendations:** Staff training on surge planning is necessary.

**Activity 3.2:** Maximize utilization of available beds.

**Observation 3.2.1:** Lack of time to truly test bed utilization.

**Analysis:** The hospital staff that was providing medical surge support was told that patients would be arriving; the bed utilization and movement of patients to other facilities was not addressed in the time allotted.

**Recommendations:** Staff that would be responsible for discharge and continuation of care should have been involved further in the exercise in order to bring up a number of these issues.

**Activity 3.4:** Provide medical surge capacity in alternate care facilities.

**Observation 3.4.1:** The designated alternate care facility was utilized.

**Analysis:** The hospital meeting rooms are designated for surge capacity and were utilized appropriately.

**Recommendations:** This was the first time the meeting rooms were utilized for such an exercise. Now that floor plans are mocked up and some staff have seen this, it would be beneficial to exercise this again utilizing lessons learned.

**Activity 4.2:** Augment clinical staffing.

**Observation 4.2.1:** Clinical staffing was augmented with volunteers.

**Analysis:** The processes to receive, register, and manage volunteer medical staff were very unclear. There are various processes throughout the disciplines and no two are alike. This makes the process difficult to manage and requires multiple staff in order to process any volunteers.

**Recommendations:** Review and revise volunteer processing plans. Utilize partner agencies that do this on a regular basis.

**Activity 4.3:** Augment non-clinical staffing.

**Observation 4.3.1:** Non-clinical staffing was augmented with volunteers.

**Analysis:** The processes to receive, register, and manage volunteer non-medical staff were very unclear. There are various processes throughout the disciplines and no two are alike. This makes the process difficult to manage and requires multiple staff in order to process any volunteers.

**Recommendations:** Review and revise volunteer processing plans. Utilize partner agencies that do this on a regular basis.

**Activity 6.1:** Establish initial reception and triage site.

**Observation 6.1.1:** Patient reception site was established.

**Analysis:** The initial patient reception site was altered very early on in the set-up



process. The newly determined site worked very well.

**Recommendations:** Review and revise set up guidelines in order to account for this best practice/ lesson learned.

**Activity 6.2:** Provide medical equipment and supplies in support of immediate medical response operations and for restocking supplies/equipment requested.

**Observation 6.2.1:** Restocking of supplies and equipment, long-term, were not considered.

**Analysis:** Medical equipment and supplies were provided. Although resupply was not addressed by the Command Staff, it should have been considered in planning for the next operational period.

**Recommendations:** A review of the Planning P would be beneficial for staff. It would allow a refresher on how you need to think ahead to the next operational period.

## CAPABILITY 2: INFORMATION SHARING

**Capability Summary** The Intelligence and Information Sharing and Dissemination capability provides necessary tools to enable efficient prevention, protection, response, and recovery activities. Intelligence/ Information Sharing and Dissemination is the multi-jurisdictional, multidisciplinary exchange and dissemination of information and intelligence among the Federal, State, local, and tribal layers of government, the private sector, and citizens. The goal of sharing and dissemination is to facilitate the distribution of relevant, actionable, timely, and preferably declassified or unclassified information and/or intelligence that is updated frequently to the consumers who need it. More simply, the goal is to get the right information to the right people at the right time.

An effective intelligence/information sharing and dissemination system will provide durable, reliable, and effective information exchanges (both horizontally and vertically) between those responsible for gathering information and the analysts and consumers of threat-related information. It will also allow for feedback and other necessary communications in addition to the regular flow of information and intelligence.

**Activity 2.7:** There are adequate numbers of trained personnel at all levels to process and disseminate information.

**Observation 2.7.1:** Adequate trained staff at registration

**Analysis:** Trained staff was able to provide registration services. Non-medical

volunteers were able to be provided with Just-In-Time Training.

**Recommendations:** Maintain staff numbers. Create a standardized JITT for those positions to ensure HIPPA compliance.

**Activity 3.2:** Intelligence and/or information is shared across disciplines in a timely and effective manner.

**Observation 3.2.1:** Information was shared across disciplines effectively.

**Analysis:** It took a while for staff to look towards volunteers as a resource, but once they did the communication flourished. The sharing of information was seamless between staff and volunteers.

**Recommendations:** Regular multidiscipline training and exercise to ensure comfort levels and build relationships.

**Activity 3.3:** Dissemination and information sharing mechanisms are structured so that private sector entities receive accurate, timely, and unclassified information that is consistent with intelligence requirements.

**Observation 3.3.1:** HIPPA was maintained.

**Analysis:** Communications between long-term care centers and surge facility ensured HIPPA compliance. Trained volunteers have basic to advanced knowledge in regards to HIPPA regulations.

**Recommendations:** Maintain compliant communications.

## CAPABILITY 3: VOLUNTEER AND DONATIONS MANAGEMENT

### Capability Summary:

Volunteer Management and Donations is the capability to effectively coordinate the use of volunteers and donations in support of domestic incident management.

**Activity 2.1:** Activate Volunteer Coordination Teams.

**Observation 2.1.1:** Nobody from the hospital was coordinating volunteers.

**Analysis:** Due to the nature of the healthcare system, various credentialing processes take place. Gaps were found. No single person, or team of people, was in charge of coordinating medical and non-medical volunteers.

**Recommendations:** A designated person or team of people needs to be trained and exercised on how to coordinate incoming volunteers. Procedures need to be

reevaluated.

**Activity 3.1:** Coordinate with volunteer agencies.

**Observation 3.1.1:** This was the first time MRC and ARC volunteers worked with hospital staff.

**Analysis:** MRC and ARC volunteers are a great resource. However, if they had not been invited to the exercise, they most likely would not have come into play. The staff that ran the “incident” was not familiar with their level of knowledge and expertise, or with the volunteer agencies themselves.

**Recommendations:** Regular training and exercise with volunteer agencies as well as community partners.

**Activity 3.2:** Coordinate solicitation of skilled volunteers and technical capabilities.

**Observation 3.2.1:** This was the first time MRC and ARC volunteers worked with hospital staff.

**Analysis:** MRC and ARC volunteers are a great resource. The staff that ran the “incident” were not familiar with their level of knowledge and expertise. It took an exercise controller to point out that many of the volunteers were medically licensed and/or subject matter experts.

**Recommendations:** Having a volunteer coordinator or at least someone in charge of incoming volunteers could have resolved this.

**Activity 4.3:** Develop Just-In-Time Training program for volunteers to perform required tasks.

**Observation 4.3.1:** Minimal Just-In-Time Training was provided.

**Analysis:** MRC and ARC volunteers were onsite and able to assist in a variety of different functions. With a medical surge in a hospital, volunteers need to work within the functions of the hospital. There was some Just-In-Time Training provided for registration personnel, although not formal. The medical volunteers wanted to know some standard protocols or at least know who to go to for questions.

**Recommendations:** Some Just-In-Time Training should be made available for incoming volunteers. This could be as minimal as HIPPA, standing orders, etc. Many of those trainings could be done ahead of any incident for affiliated volunteers and records maintained.

**Activity 4.4:** Implement system to check credentialing/ accreditation of skilled

volunteers if necessary.

**Observation 4.4.1:** Credentialing process needs to be reviewed.

**Analysis:** The credentialing process differs across disciplines and makes it a very difficult task for anyone to manage. This function has never been utilized and/or tested. With this exercise, it is a hope that a better understanding of volunteer coordination was gained.

**Recommendations:** Hospital staff should work with the volunteer agencies to update their volunteer plans.

## CAPABILITY 4: MASS CARE

### Capability Summary:

Mass Care is the capability to provide immediate shelter, feeding centers, basic first aid, bulk distribution of needed items, and related services to persons affected by a large-scale incident. Mass Care is usually provided by nongovernmental organizations (NGOs), such as the American Red Cross, or by local government.

The capability also provides for companion animal care/handling through local government and appropriate animal-related organizations.

Functional and Medical Support Shelters (formerly known as Special Needs Shelters) are addressed as a separate capability. However, this capability does cover those individuals who have disabilities that can be accommodated in general population shelters. These individuals could include the following:

- A person requiring medication, Consumable Medical Supplies ([CMS], such as hearing aid batteries, incontinence supplies), or Durable Medical Equipment ([DME], such as wheelchairs, walkers, canes, etc);
- A person with a stable medical or psychiatric condition;
- A person who requires a caregiver where the regular caregiver can stay with the person;
- A person requiring assistance with transferring from a wheelchair to a cot where the assistance does not require specialized training or lifting equipment;
- A person requiring oxygen who is mobile and does not require medical attention; or
- A person needing assistance with some activities of daily living such as cutting of food.

This list does not include all accommodations that can be made in a general population shelter, but each shelter will have different capabilities based on location and available facilities at the time of the disaster

**Activity 1.1:** Activate mass care plan.

**Observations 1.1.1:** Plan was activated.

**Analysis:** LHD staff was able to successfully activate their portion of the plan. Hospital staff was unfamiliar with mass care procedures. This was a learning experience for all involved.

**Recommendation:** Review mass care procedures with all agency partners.

**Activity 1.2:** Designate sites to serve as mass care facilities to include shelters, feeding sites, reception centers, food preparation sites, distribution points, etc.

**Observations 1.2.1:** Mass care sites were designated.

**Analysis:** Sites were designated for medical surge, feeding, food preparation, etc. The use of existing facilities aided in this process.

**Recommendation:** Plan for alternate sites, back-up sites, in case the primary locations are unavailable or nonfunctioning.

**Activity 1.3:** Coordinate environmental health assessment of mass care operations.

**Observations 1.3.1:** Environmental health assessments were successfully conducted.

**Analysis:** Hospital staff was unaware of the procedure for mass care/ environmental assessments so this was a learning process for all involved. Sanitarians were able to utilize their new inspection form and complete a thorough inspection of all facilities required. The safety officer was able to accompany the environmental assessment team and correct many issues immediately.

**Recommendation:** Consistent inspections from any team members called upon require training. Maintaining familiarity with the inspection process is important for the sanitarians on assessment teams, agencies utilizing facilities, as well as any facility personal at the site being used.

**Activity 1.4:** Conduct initial and ongoing mass care needs assessment.

**Observations 1.4.1:** Initial and ongoing assessments were conducted.

**Analysis:** Sanitarians were able to conduct initial inspections as well as follow-up on issues noted in first report. The assessment team was also able to work

with the safety officer in order to address ongoing needs such as hand washing, rest room facilities, etc.

**Recommendation:** Ensure familiarity of inspection process amongst those involved.

**Activity 2.3:** Assemble mass care management teams for each identified facility.

**Observations 2.3.1:** Teams were in place.

**Analysis:** For the purpose of this exercise, mass care assessment teams were utilized and medical surge management teams were in place. The assessment teams were coordinated and work had begun with one hour. Work could have begun sooner, but not all equipment was on site.

**Recommendation:** Create a resource list for mass care assessment teams. This could be taken a step farther and a “go-kit” could be compiled with any necessary equipment for proper inspections.

**Activity 3.1:** Conduct building/ facility inspection in advance to identify food/ sanitation capability and suitability of structures identified as mass care facilities.

**Observations 3.1.1:** Inspection of facility was completed prior to occupancy.

**Analysis:** Facility inspection was completed prior to occupancy. Assessment team was gathered and began in less than one hour.

**Recommendation:** Maintain.

**Activity 3.3:** Set up shelter for operations.

**Observations 3.3.1:** Facility was set up within one hour.

**Analysis:** Mass care facility was set up within one hour and was ready to accept occupants.

**Recommendation:** Facility setup could have been streamlined with floor plans. Take the floor plans that were created and encompass them in preplanning for future setup needs.

**Activity 3.4:** Coordinate provision of shelter support services with appropriate agencies.

**Observations 3.4.1:** Shelter support services were coordinated.

**Analysis:** Support services were coordinated successfully due to the various

partnering agencies involved

**Recommendation:** Maintain partner agency relationships. Continue to train and exercise jointly.

**Activity 4.1:** Conduct special needs population registration.

**Observations 4.1.1:** Registration was conducted successfully.

**Analysis:** Registration staff processed incoming patients. Volunteers completed JITT and assisted in the registration process.

**Recommendation:** Formalize the JITT.

**Activity 4.2:** Provide medical care to special needs population.

**Observations 4.2.1:** Medical care was provided.

**Analysis:** This exercise pushed only special needs persons into the mass care facility. Medical surge and mass care were the primary capabilities tested.

**Recommendation:** Plan for mixed populations in other scenarios.

**Activity 4.3:** Provide feeding and bulk distribution services appropriate to special needs population.

**Observations 4.3.1:** Feeding was planned for but not fully exercised.

**Analysis:** Feeding was planned for, and preparation was inspection. Feeding operations were not actually conducted

**Recommendation:** Be prepared for various issues, including but not limited to, feeding tubes, diabetic diets, etc.

**Activity 7.2:** Ensure kitchen facilities are in compliance with local health regulations.

**Observations 7.2.1:** Assessment team inspected kitchen facilities.

**Analysis:** The mass care facility utilized was a regularly licensed food service operation. This aided in the inspection. It was beneficial to go over procedures for the expansion of service within their facility.

**Recommendation:** Maintain open lines of communications with any and all food vendors that may serve food during mass care events.

**Activity 7.3:** Acquire and provide foodstuffs for feeding operations.

**Observations 7.3.1:** Logistical support for feeding operations was provided.

**Analysis:** Coordination with private sector food vendors allowed for service expansion at the mass care facility.

**Recommendation:** Maintain relationships with vendors, regularly review contracts.

**Activity 7.5:** Establish mobile feeding routes.

**Observations 7.5.1:** Mobile feeding routes were established.

**Analysis:** Mobile feeding routes were established but not implemented during this exercise.

**Recommendation:** Review and revise possible routes when applicable.

**Activity 9.2:** Ensure that adequate nutrition is provided for sheltered populations.

**Observations 9.2.1:** Adequate nutrition would be provided.

**Analysis:** Dietary restrictions and allergies were able to be supported during mass care operations.

**Recommendation:** Maintain trained staff/ nutritionists.

**Activity 9.3:** Conduct mobile feeding operations using safe food handling protocol.

**Observations 9.3.1:** Safe food handling was provided.

**Analysis:** The mass care facility utilized was a regularly licensed food service operation. Safe food handling protocols were already in place on a regular basis and the facility is inspected on a regular basis.

**Recommendation:** Maintain trained staff.

## **CAPABILITY 5: RESPONDER SAFETY AND HEALTH**

### **Capability Summary:**

Responder Safety and Health is the capability that ensures adequate trained and equipped personnel and resources are available at the time of an incident to protect the



safety and health of on scene first responders, hospital/medical facility personnel (first receivers), and skilled support personnel through the creation and maintenance of an effective safety and health program. This program needs to comply with the Occupational Safety and Health Administration's (OSHA) "HAZWOPER" standard (29 CFR 1910.120, as implemented by EPA or State authorities) and any other applicable Federal and State regulations. The program also needs to be integrated into the Incident Command System (ICS) and include training, exposure monitoring, personal protective equipment, health and safety planning, risk management practices, medical care, decontamination procedures, infection control, vaccinations for preventable diseases, adequate work-schedule relief, psychological support, and follow-up assessments.

This capability identifies the critical personnel, equipment, training, and other resources needed to ensure that all workers are protected from all hazards, including fire (heat and products of combustion), CBRNE (chemical, biological, radiological, nuclear, or explosive) materials, electrical hazards, collapsed structures, debris, acts of violence, and others.

The Responder Safety and Health capability is a critical component of safe overall emergency management. First responders include police, fire, emergency medical services (EMS), and other emergency personnel, as well as emergency management, public health, clinical care, public works, and other skilled support personnel (such as equipment operators). This extended definition includes a very broad set of workers and a wide range of likely response-related activities, resulting in an increased number of potential hazards and exposures. Building the ability to protect all responders from all hazards is a substantial undertaking that involves prevention, preparedness, response, and recovery efforts.

This capability supports both the Safety Officer position identified in the National Incident Management System (NIMS)/incident command system (ICS) and the Worker Safety and Health Support Annex to the National Response Plan (NRP). The Type 1 Safety Officer described in this capability has yet to be fully defined (to include managing all of the hazards that first responders are likely to face), but the concept used is the same as the "Disaster Safety Manager" described in Protecting Emergency Responders: Safety Management in Disaster and Terrorism Response (NIOSH, 2004). In addition, the list of services that are critical for this capability is consistent with the actions specified under the Worker Safety and Health Support Annex and in the Guidelines for hazmat/WMD Response, Planning and Prevention Training (FEMA, 2003).

During the response to any incident, employers are responsible primarily for the safety and health of their employees. However, the ICS creates a unified safety and health organization under the Safety Officer. In large-scale incidents, because of the number and varieties of hazards and workers, the Safety Officer would be used more as a Safety Manager. This technical capability therefore does not prescribe a certain level of

preparedness for any particular organization; rather, it specifies the need for personal protective equipment (PPE), Safety Officers, and so forth and allows local entities to determine the best way to obtain the needed resources (e.g., through mutual aid, State resources, or Federal resources) for the first 72 hours from the “initial response” operations.

**Activity 1.1:** The IC/UC shall designate a safety officer who is knowledgeable in the operations being implemented at the emergency response site with specific responsibility to identify and evaluate hazards, and to provide direction with regard to the safety of operations for the emergency.

**Observations 1.1.1:** A knowledgeable safety officer was designated.

**Analysis:** A safety officer that was familiar with the facility as well as with the ongoing operations was designated.

**Recommendation:** Need training three deep in this position.

**Activity 1.3:** Safety officer maintains coordination and communication on safety and health issues between agencies and departments.

**Observations 1.3.1:** The safety officer communicated issues to all involved.

**Analysis:** The safety officer worked closely with the mass care assessment team and relayed issued through the proper chain of command. Many issues were able to be addressed immediately.

**Recommendation:** Train three deep in this position.

**Activity 1.4:** Safety officer ensures ongoing safety and health assessments of response operations.

**Observations 1.4.1:** Ongoing assessments were eventually conducted.

**Analysis:** The safety officer conducted ongoing assessments after the need was brought up by the mass care assessment team.

**Recommendation:** Further training on safety officer duties.

**Activity 2.1:** Observe the scene and review/ evaluate hazard and response information as it pertains to the safety of all persons at the location.

**Observations 2.1.1:** Information was evaluated appropriately.

**Analysis:** The safety officer was able to evaluate the inspection report with the mass care assessment team and relay necessary changes to the appropriate people.

**Recommendation:** Safety officer training three deep.

**Activity 3.1:** Ensure the provision of appropriate safety and health equipment.

**Observations 3.1.1:** Appropriate safety and health equipment was discussed.

**Analysis:** Due to the nature of the exercise, equipment was not utilized, but it was discussed. Infection control practices were implemented.

**Recommendation:** Utilize subject matter experts, such as ICP.

**Activity 4.2:** Ensure preventative health, proper hygiene, and decontamination measures are in place.

**Observations 4.2.1:** Preventative measures were in place or put in place.

**Analysis:** Many measures were already in place. Hand washing stations had to be constructed due to the lack of plumbing in the facility area designated. Latrine facilities were also an issue discussed.

**Recommendation:** Purchase of portable hand washing stations.

## **SECTION 4: CONCLUSION**

Overall, the exercise was successful. A valuable service was provided to the community, while at the same time, hospital, public health, and other agency preparedness plans were tested. The partnering agencies have grown together as planners, and are more prepared to respond as unified partners in the future.

Planners should use the results of this exercise to review and update their respective agency's response plans and procedures. Subsequent exercises should test specific improvements instituted as a result of this exercise and should include a focus on additional drills and exercises to routinely test and enhance Medical Surge, Information Sharing, Volunteer & Donations Management, Mass Care, and Responder Safety & Health.

## APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically as a result of the medical Surge During a Cyber Attack Exercise held on April 24, 2013. These recommendations draw on both the After Action Report and the After Action Conference.

Capability	Observation Title	Recommendation	Corrective Action Description	Capability Element	Primary Responsible Agency	Agency POC	Start Date	Completion Date
Medical Surge	<b>1.2.1:</b> ICS was attempted	ICS training should be provided	Continue ICS Training		WCH	Eric Larson	06/26/13	On Going
	<b>1.3.1:</b> Paper bed tracking system utilized.	Utilize newly created floor plan and incorporate into the paper tracking system.	Already implemented		WCH	Eric Larson	April 24, 2013	06/03/13
	<b>1.5.1:</b> Advanced notice of patients aided in surge response.	Any advance notice of patient transfer, should be accompanied by patient type/needs, when possible.	Already in place					Ongoing
	<b>2.1.1:</b> Many hospital staff members were unfamiliar with EOP.	Staff training as well as partner agency updates on the EOP would be beneficial.	Continue with ongoing exercises		WCH	Eric Larson	April 26, 2013	On Going
	<b>3.1.1:</b> Many hospital staff members were unfamiliar with surge plans.	Staff training on surge planning is necessary.	That is why we are exercising		WCH	Eric Larson	April 26, 2013	On Going
	<b>3.2.1:</b> Lack of time to truly test bed utilization.	Staff that would be responsible for discharge and continuation of care should be involved further in exercises.	SAA					
	<b>3.4.1:</b> The designated alternate care facility was utilized.	Now that a floor plan is mocked up and some staff have seen this, it would be beneficial to exercise this again utilizing lessons learned.	SAA					
<b>4.2.1:</b> Clinical staffing was augmented with volunteers.	Review and revise volunteer processing plans. Utilize partner agencies that do this	Review EOP and make necessary		WCH/ WCHD/ SCGHD	Eric Larson/ Trish	April 26, 2013	On Going	

	<b>4.3.1:</b> Non-clinical staffing was augmented with volunteers.	on a regular basis. Review and revise volunteer processing plans. Utilize partner agencies that do this on a regular basis.	adjustments			Factor		
	<b>6.1.1:</b> Patient reception site was established.	Review and revise set up guidelines in order to account for this best practice/ lesson learned.	Done immediately after exercise		WCH	Eric Larson	April 24, 2013	April 24, 2013
	<b>6.2.1:</b> Restocking of supplies and equipment, long-term, were not considered.	A review of the Planning P would be beneficial for staff.	Assign PIC team		WCH	Eric Larson	April 24, 2013	Ongoing

Table A.1 *Improvement Plan Matrix*

Capability	Observation Title	Recommendation	Corrective Action Description	Capability Element	Primary Responsible Agency	Agency POC	Start Date	Completion Date
Information Sharing	<b>2.7.1:</b> Adequate trained staff at registration.	Maintain staff numbers. Create a standardized JITT for those positions to ensure HIPPA compliance.	N.A.N. Will cont. trng. though		WCH			On going
	<b>3.2.1:</b> Information was shared across disciplines effectively.	Regular multidiscipline training and exercise to ensure comfort levels and build relationships.	N.A.N. Will cont. trng. though		WCH			On going
	<b>3.3.1:</b> HIPPA was maintained.	Maintain compliant communications.						

Capability	Observation Title	Recommendation	Corrective Action Description	Capability Element	Primary Responsible Agency	Agency POC	Start Date	Completion Date
Volunteer and Donations Management	<b>2.1.1:</b> Nobody from the hospital was coordinating volunteers.	A designated person or team of people needs to be trained and exercised on how to coordinate incoming volunteers. Procedures need to be reevaluated.	Do more exercises involving volunteer staff		WCH, ARC, & MRC	Eric Larson/ Trish Factor	April 24, 2013	Ongoing
	<b>3.1.1:</b> This was the first time MRC and ARC volunteers worked with hospital staff.	Regular training and exercise with volunteer agencies as well as community partners.	Self Explanatory		WCH, ARC, & MRC	Eric Larson/ Trish Factor	April 24, 2013	Ongoing
	<b>3.2.1:</b> This was the first time MRC and ARC volunteers worked with hospital staff.	Have a volunteer coordinator or at least someone in charge of incoming volunteers.						
	<b>4.3.1:</b> Minimal Just In Time Training (JITT) was provided.	Some JITT should be made available for incoming volunteers. *See extended recommendation.	Create and trng staff on I.T.T.		WCH	Eric Larson	April 24, 2013	Ongoing

	<b>4.4.1:</b> Credentialing process needs to be reviewed.	Hospital staff should work with the volunteer agencies to update their volunteer plans.	Review existing hospital policies, and ensure that MRC and ARC procedure integrate with JC Requirements		WCH	Meaghan Makely	April 23, 2013	December 2013
--	---	---	---	--	-----	----------------	----------------	---------------

Capability	Observation Title	Recommendation	Corrective Action Description	Capability Element	Primary Responsible Agency	Agency POC	Start Date	Completion Date
<b>Mass Care</b>	<b>1.1.1:</b> Plan was activated.	Review mass care procedures with all agency partners.	Meet with agency reps to go over procedures for involved agencies.		WCH/ WCHD/ SCGHD	Trish Factor/ Eric Larson	July 2013	February 2014
	<b>1.2.1:</b> Mass care sites were designated.	Plan for alternate sites, back-up sites, in case the primary locations are unavailable or non-functioning.						
	<b>1.3.1:</b> Environmental health assessments were successfully conducted.	Consistent inspections from any team members called upon require training. *See extended recommendation.	Continued training for assessment team members, regular skill drills.		WCHD/ SCGHD	Trish Factor	July 2013	Ongoing
	<b>1.4.1:</b> Initial and ongoing assessments were conducted.	Ensure familiarity of inspection process amongst those involved.						
	<b>2.3.1:</b> Mass care management teams were in place.	Create a resource list for mass care assessment teams.	Create resource list		WCHD/ SCGHD	Trish Factor	July 2013	December 2012
<b>3.1.1:</b> Inspection of facility was completed prior to occupancy.	Maintain.	Maintain		WCH/ WCHD/ SCGHD	Trish Factor/	Ongoing	Ongoing	



<p><b>3.3.1:</b> Facility was set up within one hour.</p> <p><b>3.4.1:</b> Shelter support services were coordinated.</p>	<p>Facility set up could have been streamlined with floor plans. Take the floor plans that were created and encompass them in preplanning for future set up needs.</p> <p>Maintain partner agency relationships. Continue to train and exercise jointly.</p>	<p>Completed</p> <p>Maintain relationships</p>		<p>WCH</p> <p>WCH/ WCHD/ SCGHD</p>	<p>Eric Larson</p> <p>Eric Larson</p> <p>Eric Larson/ Trish Factor</p>	<p>August 2013</p> <p>Ongoing</p>	
<p><b>4.1.1:</b> Special needs registration was conducted successfully.</p> <p><b>4.2.1:</b> Special needs medical care was provided.</p> <p><b>4.3.1:</b> Feeding was planned for but not fully exercised.</p>	<p>Formalize JITT for registration.</p> <p>Plan for mixed populations in other scenarios.</p> <p>Be prepared for various issues, including but not limited to, feeding tubes, diabetic diets, etc.</p>	<p>Ensure Hospital plans address these issues adequately and make necessary updates</p>		<p>WCH</p>	<p>Eric Larson</p>	<p>April 26, 2013</p>	<p>On Going</p>
<p><b>7.2.1:</b> Assessment team inspected kitchen facilities.</p> <p><b>7.3.1:</b> Logistical support for feeding operations was provided.</p> <p><b>7.5.1:</b> Mobile feeding routes were established.</p>	<p>Maintain open lines of communications with any and all food vendors that may serve food during mass care events.</p> <p>Maintain relationships with vendors, regularly review contracts.</p> <p>Review and revise possible routes when applicable.</p>	<p>Maintain communications</p> <p>Maintain relationships</p> <p>Review/ revise routes</p>		<p>WCH/ WCHD/ SCGHD</p> <p>WCH</p> <p>WCH</p>	<p>Eric Larson/ Trish Factor</p> <p>Eric Larson</p> <p>Eric Larson</p>	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p>	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p>

	<b>9.2.1:</b> Adequate nutrition would be provided.	Maintain trained staff/nutritionists.	Maintain staff		WCH	Eric Larson	Ongoing	Ongoing
	<b>9.3.1:</b> Safe food handling was provided.	Maintain trained staff.	Maintain staff		WCH	Eric Larson	Ongoing	Ongoing

Capability	Observation Title	Recommendation	Corrective Action Description	Capability Element	Primary Responsible Agency	Agency POC	Start Date	Completion Date
<b>Responder Safety and Health</b>	<b>1.1.1:</b> A knowledgeable Safety Officer was designated.	Need training three deep in this position.	Initiate Training for house supervisors		WCH	Eric Larson	April 24, 2013	Ongoing
	<b>1.3.1:</b> The Safety Officer communicated issues to all involved.	Need training three deep in this position.						
	<b>1.4.1:</b> Ongoing assessments were eventually conducted.	Further training on Safety Officer duties.						
	<b>2.1.1:</b> Information was evaluated appropriately.	Safety Officer training three deep.	Previously addressed – our action will go 12 deep		WCH	Eric Larson	April 24, 2013	Ongoing
	<b>3.1.1:</b> Appropriate safety and health equipment was discussed	Utilize subject matter experts, such as ICP.	Maintain SMEs		WCH	Eric Larson	April 24, 2013	Ongoing
<b>4.2.1:</b> Preventative measures were in place or put in place	Purchase portable hand washing stations.	Purchase Hand wash station with 2013/2014 ASPR grant funds		WCH	Eric Larson	April 24, 2013	December 31, 2013	

**FOUO****Medical Surge During a Cyber Attack****After Action Report/Improvement Plan  
(AAR/IP)****Medical Surge During a Cyber Attack**

---

## **APPENDIX B: LESSONS LEARNED**

While the After Action Report/Improvement Plan includes recommendations which support development of specific post-exercise corrective actions, exercises may also reveal lessons learned which can be shared with the broader homeland security audience.

### **Exercise Lessons Learned**

The following subject headings are lessons derived from the **Medical Surge During a Cyber Attack** exercise.

- JITT is necessary to develop prior to any incident.
- Medical Surge and Mass Care take multiple partnering agencies to be successful, building preparedness relationships early is essential. Planning, training, and exercising together are highly valuable.
- Subject matter experts are of great value, even those that you would not typically think of.
- Incident Command training is necessary at all levels. Training staff three deep in essential positions is needed.
- Volunteer credentialing procedures need to be reviewed. Utilize local volunteer coordinators to assist in this.
- Staff needs to remember the Planning P; this will allow them to think ahead of issues.
- Ongoing environmental health assessments are necessary to ensure the safety and health of workers and patients.
- Facility set up can be expedited with floor plans and knowledgeable staff.
- Staff placed in command roles need to be familiar with the EOP.