Philly Special RADEX

Radiation Disaster Exercise 2018

CHOP After Action Review and Improvement Plan
July 2018

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EXERCISE OVERVIEW

Exercise Name	Children's Hospital of Philadelphia (CHOP) Full Scale RITN Exercise
Exercise Dates	June 22, 2018
Mission Area(s)	Response
Core Capabilities	**FEMA Core Capabilities:** Logistics, Mass Care; Medical Surge, Operational Communication, Operational Coordination **Healthcare Preparedness Capabilities:** Emergency Operations Coordination, Information Sharing, Healthcare System Preparedness
Objectives	**Objective 1:** Evaluate hospital's ability to effectively prepare and respond to a simulated radiologic release using current plans, policies and procedures, while identifying, establishing, and managing necessary operational coordination throughout the hospital. **Objective 2:** Assess the hospital's ability to respond to and manage a medical surge (inpatient and outpatient) of radiation-injured patients by leveraging enterprise resources to provide logistical and operational needs to outpatients and families during the extent of their radiological treatment. **Objective 3:** Assess the external response to support city, state, and federal resource allocation requests during an RITN activation. **Objective 4:** Evaluate the communication process between hospital command and local/state/federal partners.
Threat or Hazard	Radiological
Scenario	A 10 kiloton nuclear device is detonated in Chicago on 6/12/18. Ten days later, patients with radiation bone injuries arrive at PHL, awaiting outpatient medical care.
Sponsor	Radiation Injury Treatment Network (RITN)
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GENERAL INFORMATION

Purpose

The purpose of this full-scale exercise was to simulate a large scale disaster that requires emergency response policies, plans and procedures to be operationalized and establish uniform understanding among participating hospitals and response agencies on the participation level and response activities and expectations to effectively and efficiently response to a national radiological disaster. This exercise was designed to assess assessment, triage, flow, and management of patients from the federal coordinating center through the healthcare infrastructure including outpatient care and support.

Background

Exercise Summary

The exercise was designed to create a learning environment for participants to exercise plans and procedures for responding to a Radiological Incident that requires the activation of the RITN. The exercise was an opportunity for CHOP and HUP and external agencies to continue strengthening their relationship, and simulate a response together.

Philly Special RADEX—Radiation Exercise was conducted on June 22, 2018 from 0800 to 1600. The exercise included three locations and more than 250 participants. This was the first time full scale RITN exercise in the Philadelphia area. The following table summarizes the goals for each exercise location.

Exercise Module	Location	Goals
Federal Response	Airport PRA	• Demonstrate the ability to effectively coordinate integrated emergency operations in accordance with established procedures in response to a radiologic attack. • Effectively activate the PRA at the PHL, prepare for “victims” of the radiological attack. • Treat, triage, and transport to RITN hospitals. • Track “patients” in JPATS (HHS) and Knowledge Center (State).
Hospital Response	CHOP Oncology Day Hospital	• Demonstration the hospital’s ability to effectively prepare and respond to a simulated radiologic release.
	CHOP Hospital Command Center	• Strengthen the communication process between CHOP’s HCC and CHOP’s

		Oncology day hospital. • Identify internal and external solutions to support outpatient care.
	HUP Emergency Department	• Demonstration the hospital's ability to effectively prepare and respond to a simulated radiologic release. • Test capacity and ability to manage donors from identification, to arrival and receipt, to monitoring and sending home
	HUP Hospital Command Center	• Conduct information sharing, coordination, and collaborate with Healthcare Coalition Partners • Identify outpatient management issues and logistical and operational requirements

Participation in this full-scale exercise included representatives from:

- Children's Hospital of Philadelphia (CHOP)
- Hospital of the University of Pennsylvania (HUP)
- Department of Veterans Affairs (VA)
- CHOP Oncology
- CHOP Emergency Preparedness
- National Disaster Medical System (NDMS)
- American Red Cross
- Hospital Association of Pennsylvania (HAP)
- Philadelphia Office of Emergency Management (OEM)
- Philadelphia Public Health Department
- Pennsylvania Department of Health

Scenario Summary

On 6/12/2018 a 10 kiloton nuclear device was detonated in Chicago's Millennium Park, resulting in 450,000 fatalities and 150,000 urgent casualties. 16,400 radiation casualties occurred because of this event, which lead to the activation of the RITN. The NDMS activated protocol for Philadelphia to receive a number of casualties from the disaster. After preparing flights, notifying Philadelphia partners, and gathering medical volunteers, it was determined that the patients would arrive in Philadelphia on June 22nd, at 10am. In preparation for their arrival, the VA, NDMS and SEPA SMART activated a patient reception area at the local Federal Coordinating Center. As RITN centers, the Children's Hospital of Philadelphia (CHOP) and the Hospital of the University of Pennsylvania, prepared to receive radiation injured patients.

Exercise Objectives and Core Capabilities

The following exercise objectives describe the expected outcomes for the exercise. Each objective is linked to specific Healthcare Preparedness Capabilities. These core capabilities are distinct critical elements necessary to achieve the mission area "Response". The objectives and aligned core capabilities are guided by elected and appointed officials and selected by the Exercise Planning Team.

CHOP Specific Objectives

Exercise Objective	Core Capability
Evaluate hospital's ability to effectively prepare and respond to a simulated radiologic release using current plans, policies and procedures, while identifying, establishing, and managing necessary operational coordination throughout the hospital.	**Healthcare Preparedness Capability:** Emergency Operations Coordination, Healthcare System Preparedness
Assess the hospital's ability to respond to and manage a medical surge (inpatient and outpatient) of radiation-injured patients by leveraging enterprise resources to provide logistical and operational needs to outpatients and families during the extent of their radiological treatment.	**Healthcare Preparedness Capability:** Emergency Operations Coordination, Healthcare System Preparedness
Assess the external response to support city, state, and federal resource allocation requests during an RITN activation.	**Healthcare Preparedness Capability:** Emergency Operations Coordination, Healthcare System Preparedness
Evaluate the communication process between hospital command and local/state/federal partners.	**Healthcare Preparedness Capability:** Emergency Operations Coordination, Information Sharing

ANALYSIS OF CAPABILITIES

Communications

Strengths

Strength 1/Communications within the Oncology Day Hospital (ODH): Staff members in registration, triage, social work, and the treatment areas huddled on multiple occasions to discuss the event progress, and plans for continuing response. Communication between care providers and the flow facilitator also occurred continuously throughout the response. Information communicated included: number of children waiting to register, status of treatment, need for social work consultation, patient disposition, and resource requests.

Strength 2/Communications with families and patients: ODH staff provided clear communication to RITN patients and their families. They prepped for sensitivities by explaining everything that was going to happen. They took the time to explain lab results, patient diagnoses, and next steps to families to ensure that there was no confusion or fear over the upcoming process.

Opportunities for Improvement

Opportunity for Improvement 1/Proactive Communication with Social Work: In many cases, social work in the clinic was not consulted about a child's status (e.g., unaccompanied) until a treatment decisions was made, despite some issues arising during the registration process. This lag caused major bottlenecks for the in-clinic social work team. By bringing in a social worker or child life specialist earlier in the process, evaluations, conversations, and plans about outpatient arrangements can begin quicker.

Opportunity for Improvement 2/Pre-scripted Messaging: The unique timing of an RITN event provides an opportunity for CHOP to develop pre-scripted messages for families, CHOP patients, and employees. These messages can cover a range of topics, and be used by the PIO, nursing staff, and front desk employees to answer questions, quell fears, and educate about the incident.

Opportunity for Improvement 3/ICS Position Vests: IMT members were hesitant to use the ICS position vest, despite the benefits they offered. The vests would have enabled quick identification of roles, and smoothed communication in the command center.

Patient Management

Strengths

Strength 1/Effective utilization of ODH staff: Day Hospital Staff was quick to utilize non-playing staff during the exercise to help where needed. When they noticed an area that needed attention, like respiratory support, they called on in-clinic resources to aid in the response.

Strength 2/Critical thinking during a crisis: Oncology Day Hospital staff used critical thinking and initiative to problem solve. In one instance, a nurse demonstrated resourcefulness by using the @CHOP site to locate policies on unaccompanied minors. In other areas of the clinic, OHD staff developed creative solutions to address the unequal ratio of patients to staff, and worked to reduce the workload of current responding care providers.

Strength 3/Continuity of Hospital Operations: Part of the worry leading up to the exercise surrounded the impact on current CHOP patients of absorbing 20 new patients. No impact to CHOP patients was experienced, and even new potential CHOP families did not noticed an increase in activity.

Opportunities for Improvement

Opportunity for Improvement 1/ODH Flow Facilitator Workload: Between placing patients in rooms, communicating with the command center, coordinating with care providers after disposition, and assigning nursing staff to patients, it quickly became apparent that the flow facilitator had too many responsibilities for one person to cover.

Opportunity for Improvement 2/Outpatient Management and Support: The complexity of the outpatient care aspect resulted in long wait times for patients after disposition but before outpatient placement. Because there are currently no mechanisms in place for supporting outpatient-designated unaccompanied minor patients, support decisions and identification of resources was a long process, and often ended in dead-ends. [See Incident/Response Management Opportunity for Improvement 1 for more information]

Recommendations

Recommendation 1/ ODH and HCC Interface: Consider identifying a designated HCC liaison in ODH. This individual will help ensure smooth communication, offer “big picture” information, identify opportunities to leverage the command center, and act as an additional point of contact for IMT members.

Recommendation 2/ODH Radiation Surge Teams: Assess and explore response teams in the Oncology Day Hospital that consists of at least: one nurse, one flow facilitator, one social worker, and one care provider. During response, each team will be assigned to a specific area of the clinic to manage patient flow and support.

Patient Flow

Strengths

Strength 1/ODH Registration Process: ODH registration team was able to overcome most challenges thrown at them to deliver an efficient registration process. Some challenges included how to gather the registration information from the child's flipbook, and what information to input for unaccompanied children to ensure that registration could be completed. The team was able to register 21 patients in 40 minutes.

Strength 2/ODH and Patient Interface: Patients received a nurse evaluation prior to visitation from their care provider. This helped cut down on idle time and addressed preliminary patient needs such as respiratory, fluids, language barriers, etc.

Strength 3/Internal Decompression Conversations: ODH staff completed an internal triage to determine how to decompress and manage patients. When they realized that more patients than originally thought were going to need a greater degree of care, the clinicians huddled to determine where internally they could decompress, and how best to handle these patients in the coming days/weeks for treatment.

Opportunities for Improvement

Opportunities for Improvement 1/Nurse to Patient: Another location where resources levels were underestimated was in the nursing staff to patient ratio. The exercise begun with five clinical nurses for 21 patients, and resulted in heavy and overwhelming workloads for the responding nurses.

Opportunities for Improvement 2/RITN Disaster Order Set: Some issues with the Epic sandbox arose, which gave way to opportunities applicable not only in the sandbox environment, but also in a real response scenario. One example was the lack of a lab order set. Without this set, the care provider was forced to focus more on the computer and entering the test information rather than on the patient in the room. From a clinician standpoint, this decreased the patient/care provider experience, and resulted in a time consuming activity.

Recommendations

Recommendation 1/Disaster Registration Process: Develop a disaster registration process to deal with information gaps. Because of some artificialities of the exercise, majority of patients who arrived had all of their information (address, insurance, emergency contact). Developing a process similar to the ED will allow the oncology registrars to be more prepared to deal with the uncertainty surrounding the incoming patients.

Support Services

Strengths

Strength 1/Non-traditional Support Services: Many ODH roles helped provide non-traditional services to fill resource gaps. For example, Social Work stepped up to fill support gaps and provide additional services to patients such as emotion and spiritual support.

Strength 2/Family Reunification Plan Activation: Activating the Family Reunification Center helped reduce the outpatient strain on social workers both in the clinic and in the command center. In a true event, the Reunification Center would provide social work with extra staff and resources, and would act as a staging location for outpatients until reunification or arrangements were made. It would also reduce the strain of communication between social work in clinic and social work in the command center, by providing an additional location where information could be gathered. In the command center, activation of the family reunification center helped with the interfacing between CHOP and HUP.

Opportunities for Improvement

Opportunities for Improvement 1/Greater Capacity of Support Services Needed: In clinic, Social Work and Child Life responders were quickly overwhelmed. In an actual event, there is possibility that once an individual from one of these departments is pulled into a room for a consultation or evaluation, it could be many hours before they are able to assist with any other patients. This principle can also be applied to other support services like phlebotomy and environmental linen.

Opportunities for Improvement 2/Include Support Services in Planning: Many support roles were not as robustly thought about in the planning stages. For example, phlebotomy would likely be needed for lab draws, IV placements, central lab would need extra hands to process the increase in specimens, legal consultations would be almost constant throughout response, and food services would need to be prepared to supply extra meals that day.

Recommendations

Recommendation 1/Labor Pool Use: Explore leveraging the labor pool to assist with support needs such as patient transportation, accompanying children to MRFT or D/C, social work, child life or pastoral care needs, and blood services.

Recommendation 2/Activation Supply Needs Chart: Collaborate with key response stakeholders to draft a list of supply needs that will simplify preparedness activities. This will reduce the strain during the event, create awareness about the required size of the response, and act as a reference guide for future events.

Incident/Response Management

Strengths

Strength 1/Leveraging Partnerships to Solve Problems: Throughout the response IMT members coordinated with internal and external partners to problem solve and acquire resources. Internally, individuals were quick to call other units and departments to ask questions and gain help. Externally, Pharmacy and Blood Bank worked with their vendors, supplies, and regional hospitals to acquire the necessary supplies, while social work collaborated with Philadelphia OEM, and the Red Cross to provide assistance for outpatient families.

Strength 2/Development of Clinic Command Post: OHD staff developed their own command post in the clinic to facilitate local response activities. The post housed the flow facilitators and became the main point of coordination for players in the clinic, and individuals trying to reach the clinic.

Opportunities for Improvement

Opportunities for Improvement 1/External Support: During conversations with external partners it quickly became clear that support would be limited. Many of the outpatient support pieces that CHOP believed would be handled by external agencies, turned out to be capabilities not provided, or not quickly operationalized. Because of this, CHOP needs to identify solutions to either provide these services indefinitely for the RITN patients and families, or in the interim until external resources have been mobilized. This also provides an opportunity to further our relationships with these agencies to decrease future miscommunication and increase mutual understanding and partnership.

Opportunity for Improvement 2/ODH and HCC Interfacing: Two main issues arose with coordination and communication between the incident management team in the command center and the ODH staff arose during response: difficulty requesting support, and difficulty communicating situational awareness. Using the command center for support, and seeking enterprise help is a relatively underused practice. At the beginning of the exercise, many individuals in ODH were attempting to solve all of their problems internally, instead of reaching out for help. As the exercise continued, this difficulty lessened as ODH became more comfortable relying on the IMT and communicating their needs. However, two-way communication and situational awareness updates were not as frequent or robust enough to create a sense of understanding in terms of the response and all the moving parts.

Recommendations

Recommendation 1/Legal Reference Guide: Develop a legal reference guide for HIPAA, unaccompanied minors, and possible other issues that care providers may face with recommendations on how to handle each situation, or guidelines for practice. Many questions arose in the command center surrounding these topics, and would likely have arose in the ODH had this been a real response. Using these normal operation times to research these questions and develop guides will reduce the strain that clinical and the legal department feel during the actual response.

Recommendation 2/Outpatient Support Matrix: Partner with external agencies to plan and develop an outpatient support matrix which contains information on resources needed, mobilization time of resource, responsible party, and contact information. This will be a reference document for responders during an RITN activation, and will allow for mutual understanding and agreements about who is providing what and how quickly or for how long.