2017

Philadelphia Regional RITN Tabletop Exercise After-Action Report/Improvement Plan

Report Date: June 2, 2017

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EXERCISE OVERVIEW

Exercise Name	2017 Philadelphia Regional RITN Tabletop Exercise (TTX)
Exercise Date	May 18, 2017 (9:00 AM – 11:30 AM)
Capabilities	Public Health & Medical Services Operational Coordination, Medical Surge, Responder Safety & Health, Mass Care
Objectives	**Objective 1:** Clarify the organizational roles and responsibilities of participating agencies in responding to a surge of casualties with radiological injuries to the Philadelphia region. **Objective 2:** Identify the process for casualty reception and distribution within the National Disaster Medical System (NDMS) framework. **Objective 3:** Identify the critical resources available to assist hospitals and treatment centers during a surge of radiation-injured patients and discuss resource gaps. **Objective 4:** Anticipate guidance that non-Radiation Injury Treatment Network (RITN) hospitals will need with regard to receiving radiation-injured patients; of particular concern is triage, treatment, tracking and surveillance of self-referral cases from the area of radiation impact and distribution of medical countermeasures. **Objective 5:** Identify the responsibilities and resources necessary for mass care capabilities to support RITN patients and their families during ongoing treatment at Philadelphia RITN treatment centers.
Threat or Hazard	Radiological
Scenario	Medical surge due to a distant detonation of an Improvised Nuclear Device (IND)
Sponsor	Radiation Injury Treatment Network® (RITN)
Point of Contact	Curt Mueller Exercise Coordinator, Radiation Injury Treatment Network Curt.Mueller@nmdp.org (612) 294-4539 Marlene Villca Poggian Emergency Preparedness Fellow, Children's Hospital of Philadelphia villcapogm@email.chop.com (215) 590-5343

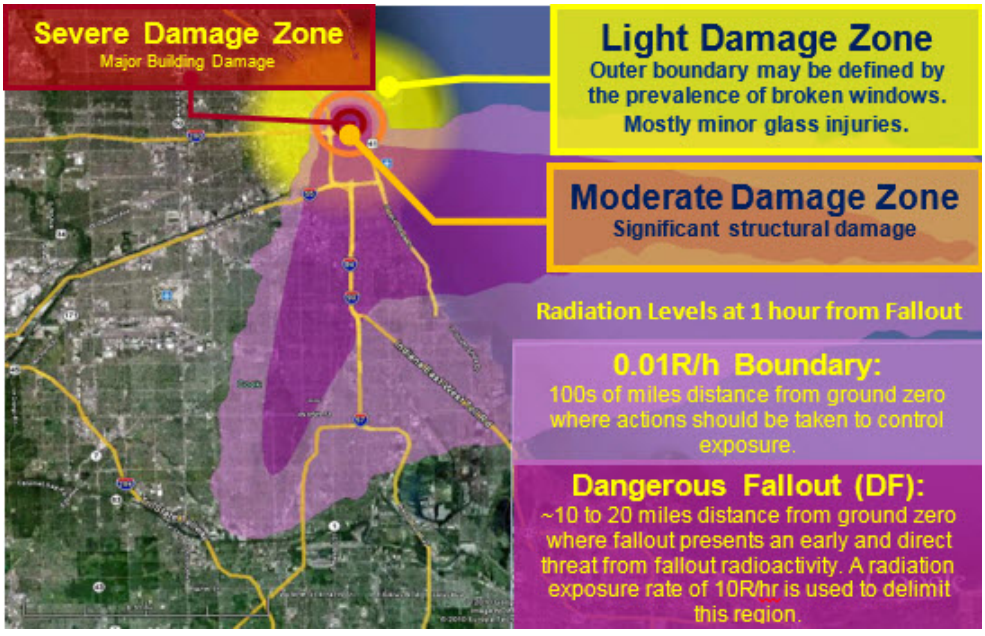
EXERCISE SUMMARY

On May 18, 2017, the Children's Hospital of Philadelphia (CHOP), Temple University Hospital, the University of Pennsylvania Health System (UPHS/UPENN), the Hospital Association of Pennsylvania (HAP), Philadelphia Office of Emergency Management (OEM), Philadelphia Department of Public Health (PDPH), Pennsylvania Department of Health (PADOH), PENNSafety, Fox Chase Cancer Center, Philadelphia Veterans Affairs (VA) National Disaster Medical System (NDMS) Federal Coordinating Center (FCC), the U.S. Department of Health and Human Services (HHS) Assistant Secretary for Preparedness and Response (ASPR), and the RITN Control Cell participated in a tabletop exercise to discuss the organizational roles and responsibilities of key agencies, identify resources required to provide treatment for a surge of radiation injury patients, describe medical management of patients (to include inpatient, outpatient and self-referral), discuss casualty reception and receipt within the FCC model, and identify resource needs for mass care/shelter operations. Exercise participants addressed these objectives in a scenario-driven, facilitated discussion based on a surge of casualties with radiological injuries arriving to the Philadelphia area.

Exercise Scenario

Initial Event

- On May 8th, 2017 a ten-kiloton Improvised Nuclear Device (IND) was detonated in Chicago.



- Estimated casualties:
  - 300,000 fatalities in the Severe Damage Zone; 150,000 in Moderate Damage Zone.
  - 60,000 urgent casualties in Moderate Damage Zone; 90,000 in Light Damage Zone.
  - 40,000 non-urgent casualties in Moderate Damage Zone; 60,000 in Light Damage Zone.
  - 300,000 worried well across geographical area.
  - **16,400 radiation casualties** across geographical area.
- Secretary of Health and Human Services (HHS) declares a Public Health Emergency and activates the HHS Emergency Management Group.
- The National Marrow Donor Program (NMDP) activates the RITN Control Cell. Control Cell staff begin to monitor the situation and send out Situation Reports (SITREPs) to the RITN facilities as well as notification to fill out and submit the HCS capacity survey.

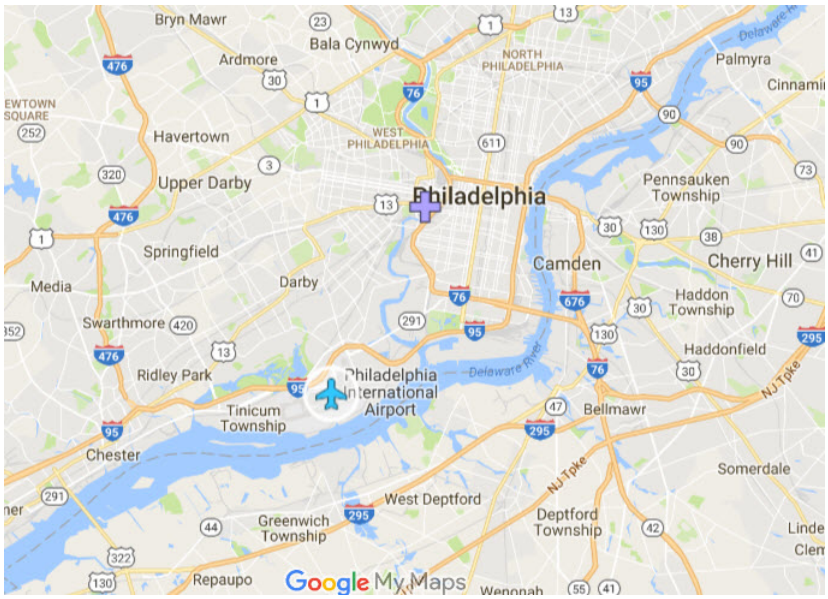
Initial Event +5 Days

- National Disaster Medical System (NDMS) issues activation protocol for Philadelphia, indicating the city will be receiving casualties from the disaster zone via NDMS.
- The Department of Veterans Affairs initiates actions to establish a Patient Reception Area (PRA) FCC at the Philadelphia International Airport, where NDMS patients will be received.

Initial Event +5 Days

Approximately five days after the detonation patients start to arrive at the FCC established at the Philadelphia International Airport. Upon arrival patients will be screened and triaged for transportation to the local RITN hospitals for treatment. Philadelphia RITN Centers are expected to receive 90 pediatric patients with marrow toxic injuries. These patients typically will arrive in waves of 30-45 patients and may be spread out over the next 1-2 days.

Some RITN patients are anticipated to be treated on an outpatient basis. Mass care services for patients and family members are also anticipated.



Exercise Objectives and Core Capabilities

The following exercise objectives in Table 1 describe the expected outcomes for the exercise. The objectives are linked to core capabilities, which are distinct critical elements necessary to achieve the specific mission area(s). These objectives and aligned core capabilities are guided by elected and appointed officials and were selected by the Exercise Planning Team.

Table 1. Exercise Objectives and Associated Core Capabilities

Exercise Objective	Core Capability	Healthcare Preparedness Capability
Objective 1: Clarify the organizational roles and responsibilities of participating agencies in responding to a surge of casualties with radiological injuries to the Philadelphia region.	Public Health & Medical Services	Emergency Operations Coordination
Objective 2: Identify the process for casualty reception and distribution within the Federal Coordinating Center model.	Public Health & Medical Services	Emergency Operations Coordination
Objective 3: Identify the critical resources available to assist hospitals and treatment centers during a surge of radiation-injured patients and discuss resource gaps.	Public Health & Medical Services	Medical Surge
Objective 4: Anticipate guidance that non-Radiation Injury Treatment Network (RITN) hospitals will need with regard to receiving radiation-injured patients; of particular concern	Medical Countermeasures Dispensing	Responder Safety & Health

Exercise Objective	Core Capability	Healthcare Preparedness Capability
is triaging, treatment and tracking/surveillance of self-referral cases from the area of radiation impact and distribution of medical countermeasures.		
Objective 5: Identify the responsibilities and resources necessary for mass care capabilities to support RITN patients and their families during ongoing treatment at Philadelphia RITN treatment centers.	Mass Care Services	Emergency Operations Coordination

ANALYSIS OF CAPABILITIES

Question Block 1: Pre-Arrival of Patients

The following are the primary concerns at this point in the scenario for:

Philadelphia Office of Emergency Management (OEM)	Pennsylvania Department of Health (PADOH) Philadelphia Department of Public Health (PDPH) Hospital and Health system Association of Pennsylvania (HAP)	RITN Hospitals (Children's Hospital of Philadelphia [CHOP], Temple, University of Pennsylvania Health System [UPHS, UPENN)	Non-RITN Hospitals	Philadelphia FCC
• Coordinate set up of the FCC at the PHL airport. • Coordinate transport assets for movement of incoming RITN patients to the hospitals. • Assist with patient tracking coordination in Knowledge Center. • Lead role in arranging mass care and shelter for RITN patients and their non-medical caregivers.	• Educate local providers on this type of injury and prepare them for an influx. Get in front of misinformation. • Public messaging, coordinate messages. • HAP – information sharing and coordination, bed and resource availability polls, patient tracking.	• Determine what patients can be discharged. • Update RITN bed availability to RITN network. • Establish command and incident objectives for the next few days until patients arrive. • Evaluate capacity of inpatient treatments (e.g., bone marrow transplants, laboratory typing). • Maintain communications with the Coalition. • Assess security needs at the hospital.	• Prepare to accept non-RITN patients (either from the incident or as decompressed by the RITN hospitals) • Respond to polling for beds and resources • Assist (as possible) by providing resources and staffing support.	• Establish the patient reception area at PHL airport. • Notify hospitals that are going to receive patients. • Coordinate with Philadelphia Office of Emergency Management. • Perform patient distribution and tracking tasks.

Activation: Following the federal disaster declaration, the Philadelphia Federal Coordinating Center (FCC) would receive an alert for activation from the U.S. Department of Health and Human Services (HHS), which would initiate activities for opening the FCC and the Patient Reception Area (PRA). The HHS Secretary Operations Center (SOC) determines the patient distribution strategy across all NDMS hospitals to include the RITN hospitals for radiation injury patients.

RITN and NDMS/HHS Coordination: The role of RITN is to provide the specialty RITN bed data/reports to HHS. The RITN hospitals would update their RITN beds in HealthCareStandard® (HCS) with current availability and 24 hours later to include both adult and pediatric beds. These hospitals also update information on Granulocyte-Colony Stimulating Factor (G-CSF) availability and outpatient capabilities. RITN consolidates the information for the Philadelphia RITN hospitals

and send it to HHS/Assistant Secretary for Preparedness and Response (ASPR) who reviews and utilizes the bed information from across the country to make determinations about where to send patients. RITN requests updates every day following the incident by 2:00 PM so that they can provide a report to HHS/ASPR by 4:00 PM. Locally, once the Philadelphia Veteran's Affairs (VA) Medical Center is notified by NDMS, they reach out to the Hospital and Healthsystem Association of Pennsylvania (HAP) where the Knowledge Center (KC) system is used to gather the RITN bed information (as well as all other standard bed data) as a redundant means to compile information and provide that to the VA (and local health coalition). The KC is as strength in that it is a robust system used frequently for both routine communications and emergency responses. It can be customized to send alerts to all hospitals or only the RITN hospitals and request (or push) specific information. The VA also coordinates with the Philadelphia Office of Emergency Management (OEM) and the State Department of Health (PADOH) about the impending surge of radiation injured patients.

RITN will not have a lot of information available especially early on about patient numbers; perhaps between days 5-10 post incident they can give a rough estimate of patients that may be sent to the Philadelphia RITN hospitals. RITN will also produce and distribute a daily Situation Report (SITREP) to partners nationwide. The number and type of patients destined for the Philadelphia area will be based on what the local area has entered into the radiation injury patient capability matrix.

Operation of the FCC: The Philadelphia International Airport is the location of the FCC/PRA. Philadelphia OEM has established a working relationship with the airport for disaster response and serves as a key partner in coordination with the airport for receipt of NDMS patients. They would stand up a mobile command post and coordinate with Philadelphia Fire and other transport providers to arrange transportation for the patients from the FCC/PRA to the RITN hospitals. OEM also can provide patient tracking support through the Knowledge Center systems. While representatives from HAP, OEM, and other agencies will be at the PRA – all healthcare information goes through the Healthcare Coordination Desk (HCD). This model has been used in real world events (e.g., the Amtrak crash) and has proven a successful way to serve as a single point of contact and coordination for all health/ESF-8 aspects (particularly important with the commonwealth structure of Pennsylvania).

In addition to ambulance assets available through Philadelphia Fire, the VA has two vehicles that can fit 20 people on each for transport from the FCC/PRA to the RITN hospitals. The State Medical Assistance Team (SMAT) team has the same vehicles available for patient and non-medical assistant transport. There are also agreements in place with the Southeastern Pennsylvania

Transportation Authority (SEPTA) buses and mutual aid with New Jersey to utilize up to 18 of their AmbuBuses, as needed/available.

Patient tracking for NDMS uses the Joint Patient Assessment and Tracking System (JPATS); this is accessed by either the Service Action Team (SAT) or the FCC team. Daily entry of the NDMS patient and their care giver is required. JPATS is not interoperable with the local Knowledge Center system so duplicate entry to track patients is necessary. KC would track patients that arrive to the area from the incident but that are not NDMS/RITN patients (i.e., travel on their own to seek care).

Strengths

Strength 1: The local healthcare system communications through the Knowledge Center is robust and will ensure that the appropriate types of information are pushed and pulled from the hospitals. The systems that are in place through HAP to include the KC as well as the Healthcare Coordination Desk (HCD) will ensure a coordinated response to information gathering, resource requests/availability, and patient tracking throughout the system.

Strength 2: The mechanisms in place at CHOP and through HAP/Knowledge Center (KC) to effectively track pediatric patients and ensure their safety particularly should they arrive into the healthcare system unaccompanied are a strength of this RITN center/region. KC allows for guardian information to be included in the patient entry and can indicate gender for separation of male and female patients. These considerations are very important given that CHOP would expect to receive a significant number of pediatric victims displaced from their homes and possibly family members.

Strength 3: The working relationship between OEM, FCC and the PHL airport demonstrates a streamlined ability to establish the FCC and arrange transportation to the RITN hospitals.

Areas for Improvement

Area for Improvement 1: Public messaging strategies for this type of incident (i.e., radiological/nuclear detonation that results in radiation injuries) should be developed in advance and incorporated into existing emergency response plans. References to assist with messaging strategies and templates include, but are not limited to:

- U.S. HHS Radiation Emergency Medical Management (REMM) website - Information Resources for Public Information Officers. http://www.remm.nlm.gov/remm_pio.htm
- FEMA. “Improvised Nuclear Device Response and Recovery: Communicating in the Immediate Aftermath” – June 2013. http://www.fema.gov/media-library-data/20130726-1919-25045-0618/communicating_in_the_immediate_aftermath__final_june_2013_508_ok.pdf

Area for Improvement 2: Provide additional training opportunities for RITN hospitals (and other local NDMS response partners) to support JPATS information entry/update if a SAT team is not available. Incorporate the use of JPATS into future NDMS or RITN exercises to build and maintain proficiency with JPATS. Similarly, it may be beneficial to become familiar with the TRANSCOM Regulating and Command and Control Evacuation System (TRAC2ES) if that will also be used for patient tracking in an NDMS/RITN scenario.

Area for Improvement 3: There are still a lot of unanswered questions about the SAT teams both at the local and federal level, for example how and when they are deployed, priority of receiving a SAT team when multiple jurisdictions are responding, and how they integrate with the local response. Future exercises should continue to explore the role of the SAT teams as their concept of operations (CONOPS) is finalized. Questions or information requests related to SAT teams should be directed to the federal NDMS program partners.

Area for Improvement 4: Blood shortages are anticipated; include this as a planning consideration when determining how many RITN patients can be accepted to the area. There will be a long term need for blood resources and the demand will be experienced around the country. Proactively also consider the public messaging to increase blood donation in the Philadelphia area.

Question Block 2: Arrival of Patients

It was recognized that the patients would arrive stabilized but would not have labs and minimal/no medical records. Patient triage at the PRA is limited to basic demographics, vitals, and chief complaint – gross triage (red, yellow, green) not determinations as to radiological care needs. The aircraft arriving to the FCC/PRA will contain a passenger manifest and some limited medical information, at most the estimated radiation dose based on proximity to the blast site. Current plans for the Philadelphia PRA include that a pediatrician is on site to evaluate incoming pediatric patients as well as the SMAT team. Whether DoD/NDMS transports pediatric patients is a question that requires resolution as it pertains to this scenario.

Inpatient/Outpatient Triage: CHOP would rely on BMT and Oncology attending physicians to make the determination as to whether inpatient or outpatient care was required. This would be based on clinical stability (e.g., CBC counts, physical exams, need for BMT), unaccompanied child (these would automatically be inpatient for safety reasons), and any obvious signs of trauma. CHOP would assume that the patients are arriving to the hospital decontaminated and receive them through the Emergency Department. A pop up triage area and registration was also discussed since many of these patients would be stable, from there it would be determined whether they required inpatient or outpatient care and this would prevent crowding in the ED. In the case of unaccompanied minors, CHOP would prefer to keep them out of the ED. A 20 bed (that can be expanded to 30 beds) outpatient oncology area in the day hospital was mentioned as a place to put arriving pediatric RITN patients. This area is used day-to-day to decompress the ED so using this space to receive RITN patients would not be a deviation from normal procedures.

UPENN would utilize a similar process to determine inpatient/outpatient status. They were not clear who would do the triaging but that would be a priority objective soon after activation - to identify staff and figure out the notification process/staffing plan prior to patient arrival. It was noted that the HLA laboratory, the blood bank and the stem cell laboratory would also be mobilized. Patients would arrive through the ED for triage.

At Temple, it was also not clear who would do the patient triage but the hospital participants were able to identify several outpatient locations where the patients could be sent depending on their care needs.

There was some discussion on performing radiological screening of the patients upon arrival to the Philadelphia FCC. First, the assumption by DoD is that they are contaminated so in order to be transported on their aircraft as an NDMS patient, all are decontaminated. However, many FCCs and hospitals decontaminate again upon arrival for public reassurance/optics. Philadelphia Fire and the

SMAT teams are able to perform decontamination at the FCC if needed. It was mentioned again at this point during the exercise that the function of NDMS is to transport stable patients from one hospital to another, so these patients will not be heavily contaminated. It is important that the public messaging aspects of response are very clear about what exactly the status is of these patients arriving to the local area.

Outpatient and Mass Care Considerations: As with other RITN hospitals, the mass care and social services considerations remain the biggest challenge to accepting both inpatients and outpatients requiring care after radiation injury. Some of the concerns expressed by participants at this exercise included: where do the outpatients and their families stay, how do we stay in touch with them (may not have cell phones after the disaster), how do we transport them to/from the hospital, behavioral health services, providing care/medication for pre-existing conditions of the non-medical caregivers, clothing/food/medication needs, and reimbursement/tracking costs for the medical and non-medical care provided.

SAT teams may be able to help coordinate some of these things but it was quickly pointed out that 1) SAT teams may not be available to their jurisdiction, and 2) if deployed, the SAT team members may not have any idea of the Philadelphia area so it may be difficult for them to lead the coordination of lodging and transportation. It was recognized that the issues above need further discussion at local/regional planning meetings in order to identify solutions and processes that can be documented in advance of a response. The planning assumption is that the federal SAT resources will not be available so plans need to delegate more of these mass care functions to local hospitals, social services, and local/state agencies.

While hospitals individually can plan with hotels and other patient lodging options (e.g., Ronald McDonald House) in advance, healthcare ultimately will look to OEM to manage the mass care and social services elements of this response. As one example, OEM has the contacts with the Visitor's Bureau, dormitories, and similar spaces that could be leveraged for lodging in a disaster. Temple noted that they do not have the same sort of infrastructure and transportation that CHOP and UPENN have so would lead coordination of the lodging and transportation piece at their facility in order to keep patients in close proximity for ongoing care.

Financial reimbursement will come from NDMS at the federal per diem rate. SAT teams (if deployed) or the FCC will be responsible for processing all medical and lodging expenses. A concern is that many of the RITN patients will require 60-90 days of care and the current coverage is for only 30 days.

Family assistance and reunification was not discussed in detail but it was noted that existing policies and social services would be utilized for children that are admitted to CHOP. The tracking procedures and communication mechanisms to parents/guardians would be implemented as possible.

Behavioral Health Resources: While behavioral health resources exist at all three RITN hospitals, it was noted that these would likely become overwhelmed quickly. CHOP has social workers in their ED to perform crisis evaluations but would also pull resources from other inpatient units as well as the outpatient network. Employee Assistance Programs (EAPs) were mentioned for staff mental health support needs. Overall, with potentially very large demand for mental health providers and the duration of the displaced population it was unlikely that local resources could support this long term. The Philadelphia area is already operating at capacity day-to-day when it comes to mental health care.

Social workers are assigned to all arriving pediatric patients as a matter of routine. It was recognized that many non-medical care givers of the patients may need social work support to help navigate the medical system since it is not their home but may need continuity for existing medical or mental health care as well as medications now that they are displaced. CHOP cannot fill prescriptions for adults and would refer to UPENN to handle this.

Strengths

Strength 1: RITN hospital clinicians have expertise to rapidly and effectively triage patients to inpatient or outpatient status given basic lab/cell count information.

Strength 2: It was recognized that the Philadelphia PRA has included a pediatrician in staffing plans to help with pediatric triage of the incoming NDMS patients.

Strength 3: Hospital and Emergency Management partners were familiar with the ICS resource request process and will implement this to fulfill both medical and logistical (e.g., lodging) needs following the chain from local to state to federal.

Strength 4: There are significant behavioral/mental health resources at the RITN hospitals and in the Philadelphia area that can be leveraged for response. However, the potential duration of the care is a challenge.

Areas for Improvement

Area for Improvement 1: It is unclear if the Department of Defense (DoD) will transport pediatric patients as a part of NDMS. This is a recent finding and needs further discussion at the federal level

to include other partners and processes such as the Federal Emergency Management Agency (FEMA).

Area for Improvement 2: Add a way to flag patient records in the hospital Epic systems to track the care for financial reimbursement. The Epic systems should also be updated to incorporate a way to identify non-traditional patient care spaces. A scenario such as this where there is a lot of outpatient care space being used this would allow the patient's treatment location to be quickly and accurately tracked in the system.

Area for Improvement 3: A functional exercise is recommended to assess the patient tracking functions across the systems – JPATS, KC, TRAC2ES. A functional drill would provide the opportunity to test the specific utility of each system, interplay or information needs across them, identify gaps, and define the roles/responsibilities as far as initial entry and patient updates (e.g., SAT team updates JPATS daily with patient disposition, hospital tracks internally, KC is used from the moment the patient enters the local system; JPATS and TRAC2ES assign a unique ID but that is not translated to the hospital).

Area for Improvement 4: CHOP should follow up on their interest to conduct a functional or full scale exercise to evaluate the two mechanisms for receiving and triaging RITN patients to either outpatient or inpatient care. The two processes outlined during this tabletop exercise were: 1) receiving/triaging through the ED or 2) a field/pop-up triage location.

Area for Improvement 5: Build relationships in advance between the pediatrician(s) that are planned to staff the PRA triage during an NDMS arrival and the RITN hospitals in the jurisdiction, in particular CHOP as they will be receiving the incoming pediatric RITN patients.

Area for Improvement 6: Ensure that downtime procedures (i.e., paper follow up instructions) are utilized to communicate with patients (e.g., after-visit summary, schedule/appointment information, discharge instructions). It is unlikely that the displaced patients will have access to cell phones or electronic mail/Internet to coordinate their care. Incorporate this into existing plans for RITN patient care.

Area for Improvement 7: Additional local planning is needed to determine what lodging will be used for non-medical attendants arriving with patients; this requires collaboration between local and federal partners. Locally this should include all relevant agencies (e.g., American Red Cross, HAP partners, public health, mental health, hotels, emergency management) to develop and document strategies to address the identified gaps. Details from the federal NDMS plans as far as reimbursement and duration of coverage need to be incorporated into the plans.

Area for Improvement 8: Determine how to integrate faith-based organizations, non-government organization (NGOs) and the American Red Cross into outpatient and non-medical attendee sheltering operations. There was not consensus on the level and type of support that would be available from the Red Cross and they were not in attendance. Invite the Red Cross (and other organizations, as appropriate, to future exercises and planning meetings on this type of response).

Area for Improvement 9: Review plans for decontamination of RITN patients at the FCC and individual receiving RITN hospital and ensure that the agreed upon processes are understood and documented in existing protocols.

Area for Improvement 10: Offer education opportunities to both medical staff and support staff such as administrative and environmental services (as well as other relevant community members that may support mass care operations).

- Explore RITN sponsored Radiation Emergency Assistance Center/Training Site (REAC/TS) training for medical personnel (https://orise.orau.gov/reacts/capabilities/continuing-medical-education/default.aspx)
- Conduct and promote RITN trainings (http://ritn.net/training/) and consider downloading to have access in the event that infrastructure goes down.

Area for Improvement 11: Explore how clinical teams can utilize the Incident Command/Incident Management structure to sustain for multiple operational periods. It is anticipated that well-organized staffing plans and clear delegation of responsibilities will be necessary to manage the long term influx of patient and care needs.

Area for Improvement 12: Evaluate in advance the options for surge and backfill of the stem cell laboratory expertise. This specialized work and staff capability is not easily augmented but will be in demand for a scenario such as this.

HOTWASH

Strengths

- Established information sharing mechanisms are a regional strength.
- Exercise was an effective way to understand each other's roles and ideas to address planning gaps.
- Plans and processes in place for other disasters made this response easier to manage even though there are a number of unique aspects such as the incident not occurring in the local area and the long duration of response.
- This exercise allowed for clarifications about how the number of RITN patients arriving to the area would be determined and the type of information (or lack of) that would be available.

Improvement Planning

- Continue to develop plans for staff mobilization; i.e., who and how many do we need, how and when do we communicate for activation in this type of scenario.
- Conduct a functional exercise in the future that tests the FCC set up, patient arrival and information flow to identify gaps, interdependences and resource needs. Individually hospitals can test options for patient intake locations (e.g., ED, field triage site).
- Long term patient management is an issue – agreements with hotels in advance, identify space for outpatient care, and plans to provide services for existing conditions of either the patients or their non-medical caregivers (e.g., medications, mental health).
- Continue discussions about mass care to determine how public health can support these functions.
- Engage security, the American Red Cross (ARC), and other NGOs in future exercises on this topic.
- Outstanding questions at the federal level require that additional discussions or details be provided to the RITN jurisdictions such as: transport of children by NDMS, SAT team operations/responsibilities, patient tracking, and financial reimbursement.
- Explore behavioral/mental health staffing needs and the realities of what staff may be available to support a long-term influx of patients and family members to the area. The logistics of how to mobilize that staff should be addressed in future exercises.
- Continue to pre-plan, train, and script messages in advance for this type of incident. Identify appropriate staff to include not only medical but all of the other components of this type of response (laboratory, social services, behavioral/mental health, finance, administration).

APPENDIX A: IMPROVEMENT PLAN

This improvement plan template has been developed specifically for the RITN centers participating in the 2017 RITN Regional Exercises. Philadelphia RITN Centers and partner organizations can utilize this table to organize the opportunities for improvement to augment and develop their own corrective actions.

Core Capability	Issue/Area for Improvement	Corrective Action	Capability Element[1]	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Core Capability 1: [Capability Name]	1. [Area for Improvement]	[Corrective Action 1]					
		[Corrective Action 2]					
		[Corrective Action 3]					
	2. [Area for Improvement]	[Corrective Action 1]					
		[Corrective Action 2]					

[1] Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

APPENDIX B: EXERCISE PARTICIPANTS

Name	Agency/Organization
Danielle Clerico	Children's Hospital of Philadelphia
Erin Perry	Children's Hospital of Philadelphia
Patricia Hankins	Children's Hospital of Philadelphia
Lamia Barakat	Children's Hospital of Philadelphia/PENN
Brian Smith	Children's Hospital of Philadelphia
Emma Paras	Children's Hospital of Philadelphia
Stephanie Fooks-Parker	Children's Hospital of Philadelphia
Pamala Blair	Children's Hospital of Philadelphia
Barbara McGlynn	Children's Hospital of Philadelphia
Daniel Rudolph	Fox Chase Cancer Center
Mark Ross	Hospital Association of Pennsylvania (HAP)
Andrew Dahl	Philadelphia Office of Emergency Management (OEM)
Robert Pisch	Pennsylvania Department of Health (PADOH)
Jessica Caum	Philadelphia Department of Public Health (PDPH)
Henry Fung	Temple University Hospital
Casey Dubov	Temple University Hospital
Kurt Bodison	Temple University Hospital
Michael Dugan	Temple University Hospital
Margaret Bellerjeau	Temple University Hospital
James Connell	University of Pennsylvania Health System (UPHS/UPENN)
Jeff Henne	UPHS/UPENN
Joanne Hinkle	UPHS/UPENN
John Wierzbowski	UPHS/UPENN
Mary Sell	UPHS/UPENN
Roger Osbourn	UPHS/UPENN
David Porter	UPHS/UPENN
Elizabeth Hexner	UPHS/UPENN
Kathleen Cunningham	UPHS/UPENN
Eugene Janda	PENNSafety
Mike Fink	PENNSafety
Stephen Formanski	ASPR/HHS
Emily Falone	ASPR/HHS
Harry Mayer	ASPR/HHS
Richard Boettinger	VA/FCC
Sally Abbott	VA/FCC

Name	Agency/Organization
Cullen Case	RITN
Curt Mueller	RITN
Ann Hammer	MCG, Inc.

APPENDIX C: ACRONYMS

Acronym	Term
AAR	After Action Report
ARC	American Red Cross
ASPR	Assistant Secretary for Preparedness and Response
BMT	Bone Marrow Transplant
CHOP	Children's Hospital of Philadelphia
CONOPS	Concept of Operations
DoD	U.S. Department of Defense
EAP	Employee Assistance Program
ED	Emergency Department
FCC	Federal Coordinating Center
FEMA	Federal Emergency Management Agency
G-CSF	Granulocyte-Colony Stimulating Factor
HAP	Hospital and Healthsystem Association of Pennsylvania
HCD	Healthcare Coordination Desk
HHS	Health and Human Services
ICS	Incident Command System
IND	Improvised Nuclear Device
JPATS	Joint Patient Assessment and Tracking System
KC	Knowledge Center
NDMS	National Disaster Medical System
NGO	Non-Governmental Organization
NMDP	National Marrow Donor Program
OEM	Office of Emergency Management
PADOH	Pennsylvania Department of Health
PDPH	Philadelphia Department of Public Health
PRA	Patient Reception Area
REAC/TS	Radiation Emergency Assistance Center/Training Site
REMM	Radiation Emergency Medical Management
RITN	Radiation Injury Treatment Network
SAT	Service Action Team
SEPTA	Southeastern Pennsylvania Transportation Authority
SITREP	Situation Report
SMAT	State Medical Assistance Team
SOC	Secretary Operations Center (DHHS)
TRAC2ES	TRANSCOM Regulating and Command and Control Evacuation System
TTX	Tabletop Exercise
UPHS/UPENN	University of Pennsylvania Health System
VA	Veterans Affairs (Medical Center)