2018

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

Report Date: April 20, 2018

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EXERCISE OVERVIEW

Exercise Name	2018 Cleveland Regional RITN Tabletop Exercise (TTX)
Exercise Date	April 10, 2018 (11:30 AM – 3:30 PM)
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 Cleveland 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 Cleveland 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)
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EXERCISE SUMMARY

On April 10, 2018, participants representing 4 local organizations as well as the U.S. Department of Veterans Affairs and the Radiation Injury Treatment Network (RITN) took part in a tabletop exercise (TTX) to discuss radiation injury patient reception using the National Disaster Medical System (NDMS) framework. The organizations included:

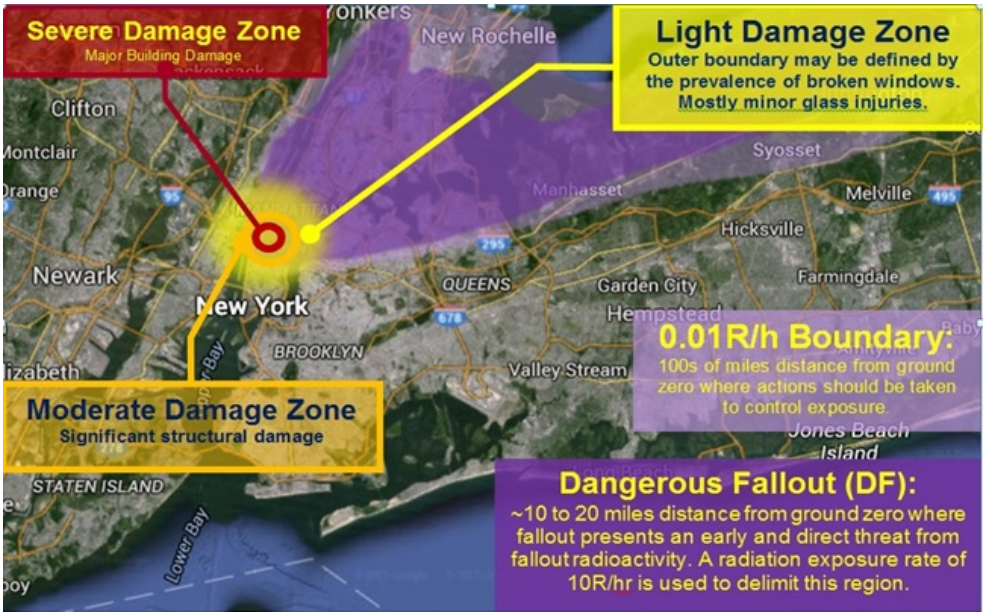
- Case Western University
- Cleveland Department of Public Health
- Healthcare Coalition in Cleveland
- University Hospitals - Cleveland Medical Center
- U.S Department of Veterans Affairs
- Radiation Injury Treatment Network

Exercise participants addressed five objectives (see Table 1 below) in a scenario-driven, facilitated discussion based on a surge of casualties with radiological injuries arriving to the Cleveland area.

Exercise Scenario

Initial Event

- On April 1, 2018 a ten-kiloton Improvised Nuclear Device (IND) was detonated in New York.



- Estimated casualties:

- 143,000 fatalities in the Severe Damage Zone; 121,000 in Moderate Damage Zone.
- 47,000 radiation casualties determined to have received an expectant exposure level (>8.3 Gy)
- 12,000 radiation injury only casualties in the severe exposure range (5.3-8.3 Gy)
- 51,000 radiation injury only casualties in the moderate exposure range (1.5-5.3 Gy)
- 91,000 casualties with mild radiation exposure (.75-1.5 Gy)
- 300,000 worried well 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 +7 Days

- National Disaster Medical System (NDMS) issues activation protocol for the Cleveland Federal Coordinating Center (FCC), 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 Cleveland Burke Lakefront Airport, where NDMS patients will be received.
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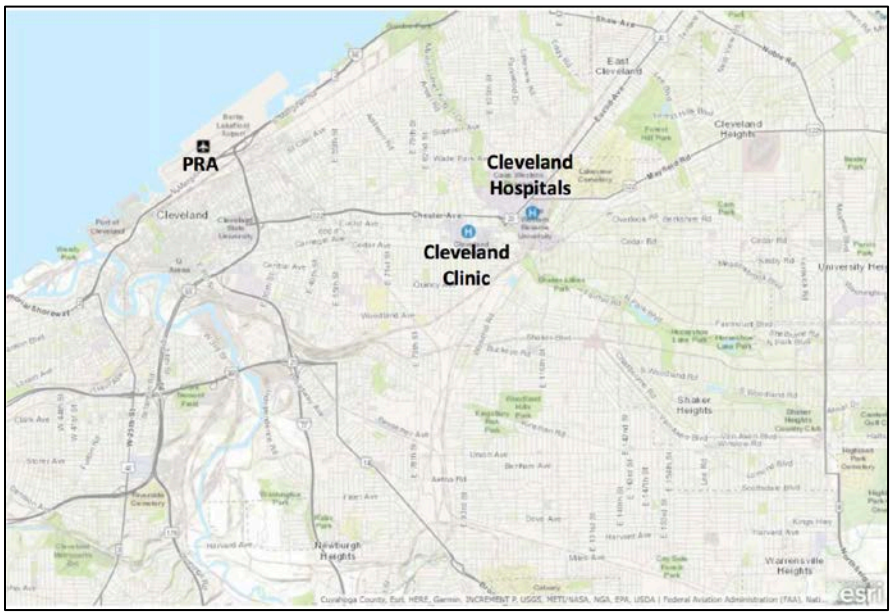

Exercise Objectives and Core Capabilities

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 Cleveland region.	Public Health & Medical Services	Emergency Operations Coordination
Objective 2: Identify the process for casualty reception and distribution within the National Disaster Medical System (NDMS) framework.	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 Cleveland 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:

Emergency Management	Public Health/ Healthcare Coalition	RITN Hospitals	Non-RITN Hospitals (University Hospital Case Western)	Cleveland FCC
• Radiation portal monitors to assist with screening people (primarily for public perception). • Implement hospital MOUs to share space, stuff, and staff to support the patient surge (hospital EM). • Open EOC to coordinate the response (e.g., communications and resource requests).	• Outreach to hospitals to decompress in anticipation of the patient surge. • Send alert to hospitals instructing them to update beds. • Activate MOUs for radiation resources (e.g., portals and people to adjudicate alarms)	• Decompress the hospital and determine what patients can be discharged. • Update RITN bed availability to RITN network.	• Traffic control and campus police • EMS student volunteers and ambulances • Support with space and staff; e.g., housing outpatients and providing transport resources • Provide decontamination as needed and portal monitors for screening • Decompress hospital	• Establish the patient reception area at airport. • Notify hospitals that are going to receive patients. • Determine staffing for the PRA between federal assets and local volunteers (hospital staff, MRC, etc) • Just-In-Time training for patient unloading • Establish patient tracking processes for reimbursement • Assess bed availability at hospitals

Activation: Following the federal disaster declaration, the Cleveland 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. It is critical to get accurate bed counts and understand where patients can be sent from the PRA for acute radiation sickness (ARS) care determinations. The Joint Patient Assessment and Tracking System (JPATS) would be activated to enter patients and track for reimbursement. Staff and vehicles would also be activated to support the aircraft unloading process and transport to hospitals.

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 that for 24 hours later. Hospitals also update information on Granulocyte-Colony Stimulating Factor (G-CSF) availability and outpatient capabilities. RITN

consolidates the information for all 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, Surgenet (bed tracking system) would be used to collect bed (and other real time) information across the healthcare coalition. There were concerns about double counting ARS beds with ICU beds so it may be necessary to set up a special reporting category to discern these beds and ensure that some are held beyond the trauma surge for those arriving later with radiation injury.

RITN will also produce and distribute a daily Situation Report (SITREP) to partners nationwide. Based on the information provided from the RITN hospitals during the initial data poll, the RITN Control Cell will provide an estimate of patient numbers to expect at each RITN location. The revised form now requests information on both inpatient and outpatient capability.

Operation of the FCC: The FCC/PRA would augment federal staffing with VA hospital staff and MRC volunteers both for the patient unloading and reception center at the PRA. It will take a significant amount of manpower to perform this task for each arriving aircraft of patients. The patients will also be entered into the JPATS tracking system to ensure federal reimbursement for their care. While triage for adult patients would take place when they arrived to the RITN hospital it was discussed that for pediatric patients it might be helpful to have a pediatric physician stationed at the PRA to help with making care determinations for those patients. It was recognized that that expertise would likely need to stay at the PRA for long durations awaiting arrival of flights, so deciding which hospital the expert(s) was pulled from may make a difference (i.e., not want to take them from a RITN/NDMS hospital where there will already be a surge of ARS patients).

The FCC can view beds reported in the local Surgenet system; however, they were unclear how they would be receiving information back from HHS as to the RITN beds available locally and what patients would be arriving. This area requires more exploration to ensure that the FCC has the correct bed information and can make appropriate transport decisions. The exercise participants, in particular the FCC Coordinator, expressed concerns about care and reimbursement for pediatric patients. University Hospitals Rainbow Children's is an NDMS hospital and others with a pediatric capability could sign the NDMS Memorandum of Agreement (MOA) at the time of the disaster

To transport patients from the PRA to the hospitals, the VA has several resources that can be utilized to avoid depleting the local ambulance pool, for example vehicles that can carry 10-11 patients provided they are all being sent to the same hospital.

Strengths

Strength 1: The Surgenet bed reporting system could be modified to request data for bed categories not contained in the current poll (e.g., BMT, hematology/oncology) and prevent double counting beds for the overall incident response and patient surge. Other resources related to the ARS patient care (e.g., medications, expertise) could be added to the system as "other" categories.

Strength 2: The FCC coordinator had a strong understanding of the federal reimbursement process and use of the JPATS system for patient tracking as well as a realistic expectation that there may not be many federal resources available to help locally in this type of scenario.

Strength 3: Case Western University can provide support in the areas of extra security, traffic control and space for triage and outpatient needs.

Areas for Improvement

Area for Improvement 1: Additional planning is needed to identify pediatric expertise that can be deployed to the Cleveland PRA to support triage decisions and coordination with local hospitals able to provide pediatric care. Once identified, the notification protocol to hospitals/individuals with this expertise should be documented in PRA activation plans.

Area for Improvement 2: Conduct planning in advance to assess the ability to house outpatients and non-medical attendees (for example at Case Western University); i.e., what areas can be expanded or converted for patient reception, staffing to work the reception centers, housing and transport options. These activities and the roles and responsibilities for each agency should be documented in local RITN plans.

Area for Improvement 3: Local processes to share bed information with the FCC were articulated during the exercise; however, it remains a gap as to how information from the federal level (i.e., ASPR determinations for patients arriving to the Cleveland area) is communicated to the FCC, in particular understanding which patients are arriving with ARS care needs as opposed to those evacuated with trauma injuries. This is something that should be elevated to the federal level to determine ways to share the information with the FCC prior to patients arriving on the aircraft.

Area for Improvement 4: Internally, the RITN hospitals should ensure that procedures are in place so that ED staff responsible for generating the bed availability data do not double count beds and staff (i.e., hematology/oncology beds and oncologists) in this type of response.

Area for Improvement 5: Review definitions for the beds included in polling by RITN (bed types needed for RITN patients) so the numbers are accurate in the initial polling. RITN has these definitions and can provide for inclusion in local plans and polling platforms.

Area for Improvement 6: In addition to pediatric expertise at the PRA (Area for Improvement 1), it was also recognized that additional volunteer physicians to support PRA activities is necessary. Coordination between the PRA and the hospital coalition/emergency management can be done in real time to locate these individuals. Ideally their time at the PRA would be scheduled (i.e., shifts) but there may be a need to do this somewhat ad hoc, depending on the situation. The notifications and expectation that this will be part of the response should be included in current plans.

Question Block 2: Arrival of Patients

Approximately 8 days after the IND detonation, RITN patients would arrive to the FCC in waves of approximately 30 people per aircraft. 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.

Inpatient/Outpatient Triage

UH Cleveland Medical Center would set up triage in a location other than the ER (unless patients needed critical care) for example, the infusion center where nurses are trained to do blood draws. The triage team would consist of BMT physicians, nurse practitioners, and/or advanced medicine practitioners (it is likely that the whole BMT team would be mobilized). The Radiation Emergency Medical Management (REMM) guidelines would be used to help make determinations as to inpatient or outpatient based on the estimated exposure levels. Patient history, vital signs, and blood counts would be taken upon arrival; the patients would be kept in the identified triage area until those results were available as CBCs do not take that long to perform and the hospital has the infrastructure to do the testing.

UH-Cleveland discussed using unique disaster identifiers (not name-based but ability to rapidly register and track in the hospital records system) to quickly start doing blood tests on arriving ARS patients (this process was developed for active shooter incidents, but if there was a large influx of patients from a radiological incident it could be implemented). It has only been used in the ED to date, so if it were the preferred option in this scenario either ED registration staff would need to be deployed to the designated triage area or the outpatient registrars need to be trained on the process.

An escort is assigned for every unaccompanied pediatric patient that arrives to the hospital. Prior to arrival at the hospital, a Corporation for Ohio Appalachian Development (COAD) volunteer member is assigned. Unaccompanied pediatric patients must be admitted to the hospital regardless of condition.

Behavioral/Mental Health Considerations

Behavioral/mental health was discussed with regards to patients, non-medical attendees and hospital staff responding to the incident. Resources included psychological first aid teams (requested through the County Emergency Management Agency), Red Cross, and behavioral health crisis teams through Cuyahoga County (Alcohol, Drug Addiction and Mental Health Services [ADAMHS]). In addition, UH-Cleveland has behavioral health/social work staff but it is anticipated that for this type of disaster they would likely be overwhelmed. Case Western has some resources at

their counseling center and social work school but similarly would be overwhelmed quickly by a large demand. The VA has behavioral/mental health resources and could attempt to reach nationally but it is uncertain in this large of a disaster scenario what resources would be available to the Cleveland area. The behavioral/mental health needs initially and for a prolonged duration in this type of incident were identified as a challenge that requires more consideration and planning.

Spontaneous Patient Arrivals

Spontaneous arrivals (from the incident that self-report and are not part of the NDMS evacuation) would be received as any other patient walking in to the ED. The Healthcare Coalition would be responsible for messaging to stakeholders letting them know of the situation and advising what to do should they get a spontaneous arrival from the IND blast site. For example, implementing screening questions to determine if they were arriving from the blast site using the model previously established for possible Ebola patients. Discussion during the tabletop exercise also noted the need to set up radiation screening at the hospital and possibly directing traffic to a certain area/choke point so that screening could be performed before the patients entered the hospital campus.

Patient Tracking and Reimbursement

NDMS patients would be flagged in the electronic record system so that billing could be processed through federal reimbursements; the spontaneous patients would be tracked and billed following processes for all other patients arriving to the ED. Financial reimbursement will come from NDMS at the federal per diem rate. If a Service Action Team (SAT) does not arrive as part of the response, the FCC Coordinator/VA will be responsible for entering patient information into JPATS. It was recognized that it may be necessary due to time constraints to just enter the patients into the OHTrac system and that the VA would transfer that information to JPATS as time allowed for reimbursement purposes. The recommendation was for hospitals to focus on caring for the patients and using their own internal record systems to track patients and the FCC/VA would ensure their entry into the federal tracking system.

Outpatient and Mass Care Considerations

As with other RITN hospitals, the mass care and social services considerations remain a key challenge to accepting both inpatients and outpatients requiring care after radiation injury. The logistics of monitoring and housing were not discussed in great detail during this exercise but likely warrants further discussion and planning to pre-identify locations and transportation assets that can support outpatient care. Case Western exercise participants indicated that the university had space

to house outpatients (particularly when school was not in session, e.g., dorms) but specifics were not discussed. Both housing and transportation for outpatients to receive treatment requires logistical pre-planning to involve (at a minimum) UH-Cleveland, Case Western, the Red Cross, and County/State emergency management under ESF-6 (Mass Care, Emergency Assistance, Temporary Housing and Human Services).

In the event of a declared disaster, it was stated that food/lodging/transport should be coordinated through the State Emergency Management Agency in order to receive reimbursement for these activities by the Federal Emergency Management Agency (FEMA). The Red Cross would be able to obtain some accommodations but lodging for larger numbers or longer duration stays would not be possible; at that point the Red Cross would only be able to support general population sheltering (i.e., those not undergoing treatment and needing more sterile environments). It was noted that there is a strong public-private partnership in Ohio and it is anticipated that the large retail stores (e.g., Target, Walmart) will step up to support feeding and hygiene needs.

As far as receiving outpatient care, participants stated that phlebotomists and other practitioners cannot go to an alternate care location unless accompanied by a physician, so the determination was that outpatients would need to get to the hospital or a clinic location in order to receive care unless the number of outpatients in a certain location was significant enough that it made sense for the physician to go there. These determinations have not been made or recorded into local plans. If outpatients did need to get to the hospital or a clinic for lab work, several transport options were discussed (e.g., hospital circulator buses) as well as using community hospitals to perform blood draws to distribute the patients to other facilities rather than flooding the RITN hospitals.

Public Messaging

The public messaging aspects were not discussed in detail during this exercise; however, it was recognized that getting in front of the incident both with hospital staff and the public would be key. Also, if any of the buses, dorms, or common spaces at Case Western University were to be used that messaging on possible risk (or lack thereof) would have to be clearly communicated to concerned family members of the college students.

Strengths

Strength 1: The RITN hospitals have plans in place to rapidly and effectively triage patients to inpatient or outpatient status.

Strength 2: Local/state patient tracking mechanisms would be utilized initially if there were time or resource delays in entering patients into the JPATS system and the FCC/VA would take care of ensuring inpatients were in the JPATS system for federal reimbursement.

Strength 3: Exercise participants identified challenges related to outpatient care and housing needs and identified key partners to collaborate with to conduct further planning to address the gaps.

Areas for Improvement

Area for Improvement 1: Reimbursement for outpatient care is a recognized gap nationwide; draft procedures are in review. Once this is finalized ensure that this is incorporated into current FCC plans. In the meantime, it is expected that ASPR will have to distribute just in time guidance.

Area for Improvement 2: The local ASPR representative should help define in local plans how the waiver process works (to exceed the 30 days of care for federal reimbursement). It is not clear or documented now how to request that waiver and what exactly would be covered in this type of disaster. This was not discussed in detail but recognized as an issue given the length of stay for ARS patients.

Area for Improvement 3: Continue discussions on the outpatient and inpatient family housing options for extended periods of time, it was recognized that this is a significant gap that requires a great deal more thought and planning. Determine the agency(s) that should lead and be involved in these planning discussions.

Area for Improvement 4: Identify lodging options for outpatients and families in advance and work with those entities to establish MOU/MOAs (hotels, university dorms, hospice/long term care organizations, etc.). Details from the federal NDMS plans as far as reimbursement and duration of coverage need to be incorporated into the plans.

Area for Improvement 5: Discuss and designate a triage location at UH-Cleveland for arriving NDMS ARS patients where they can await initial blood count results and inpatient/outpatient triage determinations. A primary and secondary location should be identified and incorporated into response plans.

Area for Improvement 6: Develop an improved understanding of the outpatient capacity (main and ancillary services) in advance of an event. Determine the agencies that should collaborate to brainstorm solutions for outpatient care operations.

Area for Improvement 7: While concepts related to limiting traffic flow, conducting radiation screening and (at a minimum) using screening questions for spontaneously arriving patients were

discussed, additional planning and development of these screening questions and protocols is needed in advance of a potential incident (at the individual hospital and coalition level). Screening questions would assess spontaneous arrivals as to whether they had been in the blast zone and were experiencing ARS symptoms. Screening questions could be developed and distributed by RITN for use at RITN centers nationwide.

Area for Improvement 8: Addressing the behavioral/mental health needs of the displaced patients and non-medical attendees (as well as staff) after this catastrophic incident was identified as a challenge. The Cleveland area may benefit by brainstorming and documenting plans for the type of resources that can be leveraged locally, statewide, and federally as well as a process to provide this support in a mass care setting.

Area for Improvement 9: 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 10: Public messaging for this type of incident (i.e., radiological/nuclear detonation that results in radiation injuries) was not discussed in detail during this exercise. Strategies 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

HOTWASH

Strengths

Exercise was an effective way to understand each other's roles and ideas to address planning gaps.

- Public health had an improved understanding of the large support role they would play in this type of incident.
- Ability to recognize areas of existing surge plans that need to be updated with information specific to this type of response, for example how to decompress BMT units.

Improvement Planning

- Understand the outpatient capacity.
- Future exercises or discussions around reimbursement should include hospital CEOs and federal partners.
- The multiple ways that bed information is gathered and shared could be problematic and result in double counting bed resources.
- Reimbursement for outpatient activities is not clear at the federal level.
- Include more security/law enforcement partners in the exercises to understand their role in controlling access to hospitals or outpatient settings.
- Collaborate with additional community partners (public and private0 to provide long term housing and feeding operations beyond what the Red Cross is capable of supporting.

APPENDIX A: IMPROVEMENT PLAN

This improvement plan template has been developed specifically for the RITN centers participating in the 2018 RITN Regional Exercises. Cleveland 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: ACRONYMS

Acronym	Term
AAR	After Action Report
ARS	Acute Radiation Sickness
ASPR	Assistant Secretary for Preparedness and Response
ASTHO	Association of State and Territorial Health Officials
BMT	Bone Marrow Transplant
COAD	Corporation for Ohio Appalachian Development
ED	Emergency Department
EM	Emergency Management
EOC	Emergency Operations Center
FCC	Federal Coordinating Center
G-CSF	Granulocyte-Colony Stimulating Factor
HCS	Healthcare Standard (RITN data collection matrix)
HHS	Health and Human Services
IND	Improvised Nuclear Device
JIC	Joint Information Center
JPATS	Joint Patient Assessment and Tracking System
MOU/MOA	Memorandum of Understanding/Memorandum of Agreement
MRC	Medical Reserve Corps
NDMS	National Disaster Medical System
NMDP	National Marrow Donor Program
PRA	Patient Reception Area
REMM	Radiation Emergency Medical Management
RITN	Radiation Injury Treatment Network
SAT	Service Action Team
SITREP	Situation Report
SOC	Secretary Operations Center (DHHS)
TTX	Tabletop Exercise
VA	Veterans Affairs (Medical Center)