2019

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

Report Date: July 13, 2019

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EXERCISE OVERVIEW

Exercise Name	2019 Buffalo Regional RITN Tabletop Exercise (TTX)
Exercise Date	June 28, 2019 (12:30 PM – 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 Buffalo region. **Objective 2:** Identify the process for casualty reception and distribution within the Federal Coordinating Center (FCC) 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 Buffalo 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 Lisa Privitere Roswell Park Cancer Center Lisa.Privitere@RoswellPark.org

EXERCISE SUMMARY

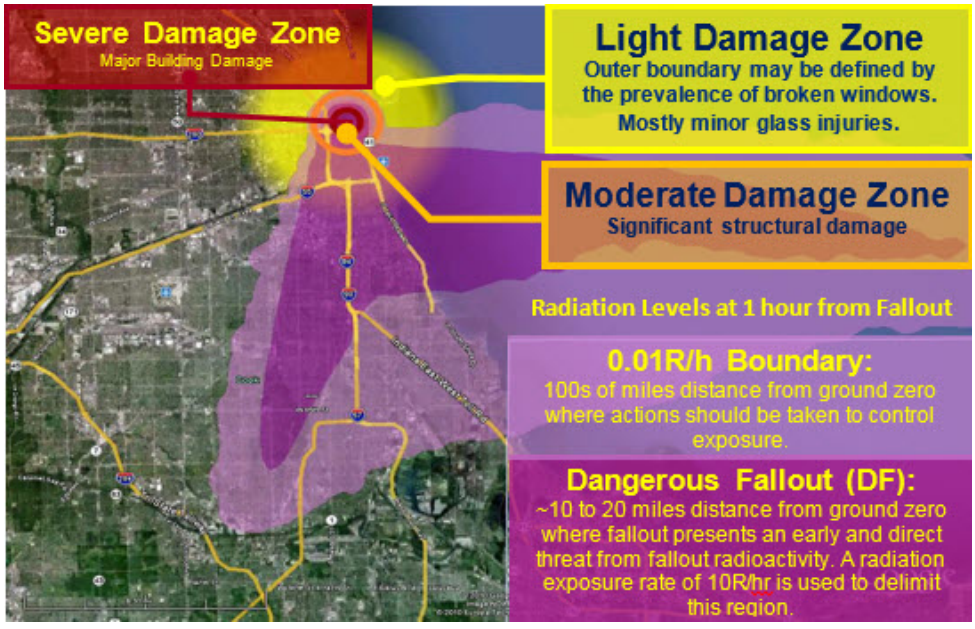
On June 28, 2019, 33 participants representing U.S. Department of Veterans Affairs/Federal Coordinating Center, New York State Department of Health, Erie County Emergency Services, the Western New York Healthcare Association, and the Radiation Injury Treatment Network (RITN) took part in a tabletop exercise (TTX) to discuss radiation injury patient reception using the National Disaster Medical System (NDMS) framework. Roswell Park Cancer Center provided representation from a wide variety of disciplines including: bone marrow transplant, transplant and cell therapy (TCT), emergency management, public information, administration, social work, nursing education, patient care services, and risk management.

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 Buffalo/Rochester area.

Exercise Scenario

Initial Event

- On June 19, 2019 a ten-kiloton Improvised Nuclear Device (IND) was detonated in Chicago.



- Estimated casualties:

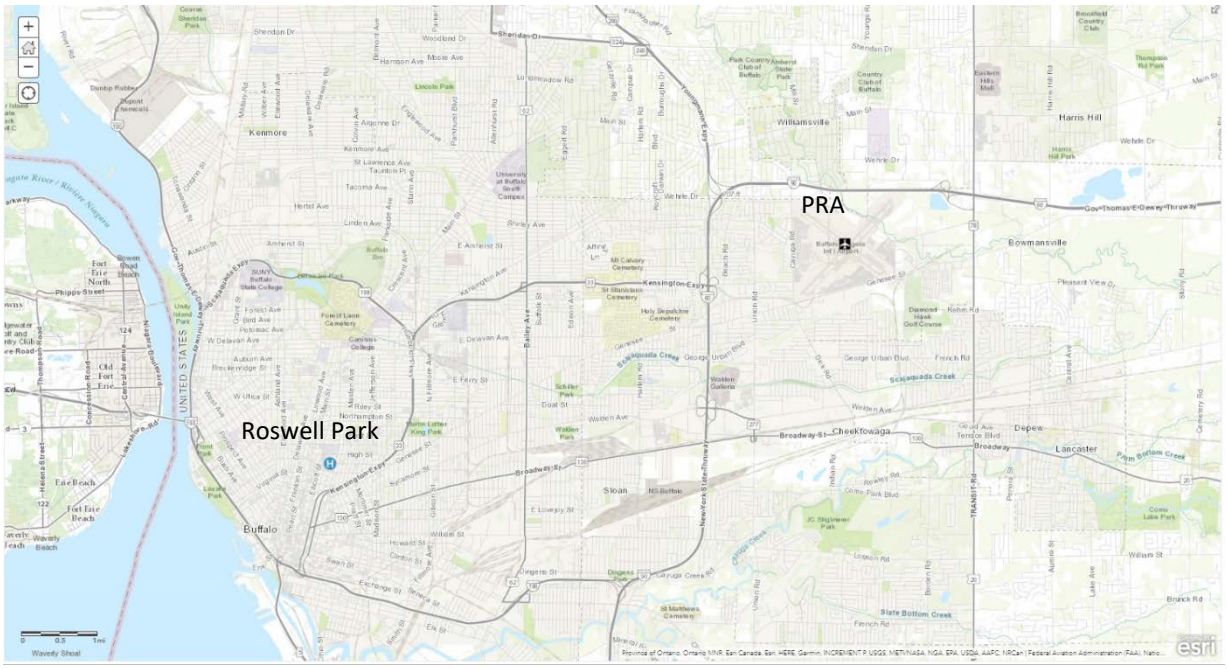
Estimated Casualties[1]			
Trauma (ISS)			
Mild (1-9)	**Moderate** (10-14)	**Severe** (>15)	
79,000	121,000	143,000	
Radiation Only			
Mild (.75 – 1.5 Gy)	**Moderate** (1.5 – 5.3 Gy)	**Severe** (5.3 – 8.3	**Expectant** (>8.3 Gy)
91,000	51,000	12,000	47,000
	RITN patients		

- 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 Buffalo 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 Buffalo/Niagara Airport, where NDMS patients will be received.

[1] Table adapted from: Knebel AR, Coleman CN, Cliffer KD; et al. Allocation of scarce resources after a nuclear detonation: setting the context. Disaster Med Public Health Prep. 2011;5 (Suppl 1):S20-S31



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 Buffalo 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

Exercise Objective	Core Capability	Healthcare Preparedness Capability
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 triaging, treatment and tracking/surveillance of self-referral cases from the area of radiation impact and distribution of medical countermeasures.	Medical Countermeasures Dispensing	Responder Safety & Health
Objective 5: Identify the responsibilities and resources necessary for mass care capabilities to support RITN patients and their families during ongoing treatment at Buffalo 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:

Erie County Emergency Services	New York State Department of Health	Western New York Healthcare Association	Roswell Park Cancer Center	Buffalo FCC/VA
• The state conducts bed surge exercises annually (surge test).	• The state uses the Integrated Health Alert Network System (IHANS) to push out to all hospitals. Would initially be sent out to all to ensure situational awareness. This would allow hospitals receiving NDMS patients time to decompress to make room for incoming patients (strength). • Would coordinate to see if there are any surveys or supplies for radiation injury care or support. Active outreach to locals would occur.	• Roswell is signatory to mutual aid agreement (as is the VA). There may not be specific staff that they need initially, but they could help backfill staff through the mutual aid agreement.	• Would only focus on receiving the ARS patients. • The transplant program will look for patients in-house with transplant or elective transplants that could be delayed. • Look at outpatient center to see if appointments could be postponed. • Would activate incident command team to have an overall, more comprehensive approach. This would include ramping up public safety to ensure proper receipt of patients at hospital. • They would send a radiation safety officer (RSO) to the PRA to help assess patients, address decontamination needs (trust but verify).	• The primary staffing for the PRA is the Erie County Smart Team that provide the majority of the medical triage at the PRA. It is not expected that there will be traumatic injuries. The VA nuclear medicine department of Roswell could send someone to the PRA to have expert triage capabilities. • They would reach out to the NYSDOH and the Coalition to push out notifications for the traumatic patients. • Buffalo Niagara Airport is used for the PRA. • The VA will also be busy placing trauma patients. The local community should be prepared to be taxed for these patients as well as ARS patients. Assume that the ARS patients won't be received until after 7-8 days. • Through the Disaster Emergency Medical Personnel System

Erie County Emergency Services	New York State Department of Health	Western New York Healthcare Association	Roswell Park Cancer Center	Buffalo FCC/VA
	• NYS uses a survey system for bed reporting called the Health Electronic Response Data System (HERDS). This would be sent out via IHANS as a link to respond to the bed reporting survey.		• Lisa Privitere is responsible for compiling the HCS report. EM would push this out. • Would need to be a lot of coordination to ensure they had room in parking lot for larger vehicles (e.g. dual-use vehicles (DUVs) or buses) to transport patients. • Can take inpatients for adults only. They have an outpatient center for pediatrics. Can used Children's Hospital across the street to take inpatients if needed. • Preparing for media response. Also providing messaging to staff. Can send a global email communicating shift needs, and where to go to information. • Would assess how many volunteers they would need. If this happens during a workday can use the normally scheduled volunteers. If it happens on a night or weekend, or bad snow, will be difficult to access them. Could potentially tap into the American Red Cross (ARC).	(DEMPS) there are several clinical and non-clinical personnel that could be accessed. • Can't utilize State's system because they are federal. However, could reach out directly to the State to let them know what is available. • SAT team will likely not be available (although you are supposed to get them for a FCC activation). Most likely would be someone from FCC serving that function. • The purpose of the PRA is to assess, stabilize (if necessary) and transport. Detailed medical care is not provided there. These patients will be fairly stable, so they will get tracked through TRACES and JPATS and then get entered into State's bed/patient tracking system. • Since they are ambulatory, they have dual use vehicles (they are medical capable with oxygen and seats to secure wheelchairs). The number of patients varies among DUVs (for litters – 18; for ambulatory around 30).

Erie County Emergency Services	New York State Department of Health	Western New York Healthcare Association	Roswell Park Cancer Center	Buffalo FCC/VA
			• Would like to have some sense of how many patients are coming and how they could be divided up with Rochester.	• Agreement with other organizations, that can provide buses, etc. Tested the transport of DUVs to Roswell Park two years ago. • The PRA will balance out where patients are sent (e.g. to Roswell or Strong).

****The EOCs in Erie County will be activated in a low-level right away to monitor and determine how they will affect the County. The Health Operations Center will be activated with PIOs and liaisons. HHS and the VA will put all FCCs on alert. Can lean forward with pre-staging of resources.*

Strengths

Strength 1: New York State's IHANS system is an effective way to provide immediate awareness of NDMS and RITN activities to Buffalo-area hospitals.

Strength 2: The HERDS systems is a well-established system in place in New York State that can be used to support decompression (i.e. destination hospitals) for Roswell to make room for incoming radiation injury patients.

Strength 3: The EOC(s) in Erie County, the Health Operations Center, and the VA/FCC have good coordination mechanisms in place that would be activated on day 1 following the initial detonation.

Strength 4: The Buffalo FCC has access to dual use vehicles (they are medical capable with oxygen and seats to secure wheelchairs) for transport from the PRA to Roswell.

Strength 5: The VA nuclear medicine department of Roswell could send someone to the PRA to have expert triage capabilities available onsite.

Strength 6: Through the Disaster Emergency Medical Personnel System (DEMPS) there are several clinical and non-clinical personnel that could be accessed.

Areas for Improvement

Area for Improvement 1: Roswell and Strong Memorial in Rochester should conduct joint planning and exercises with the VA to discuss patient distribution strategies during a NDMS evacuation involving radiation injuries. This could include the establishment of liaisons with the FCC who could be onsite at the PRA during an activation and coordinating patient distribution.

Area for Improvement 2: Roswell should conduct additional planning to account for staffing needs around the clock (24/7) to fill all functions of patient care and support in a NDMS evacuation (i.e. triage, patient care, family information/assistance center). This planning should take into account the use of volunteers (i.e. ARC and DEMPS).

Question Block 2: Arrival of Patients

1. **What are the factors for determining outpatient or inpatient treatment? Who will make that determination?**

   This would depend on the acuity of patients arriving. Would be a rough estimate of what their exposure is. They would need to go through triage with primary consideration of how much time has elapsed from exposure. Would get a preliminary CBC and based on that could be determined as outpatient or inpatient. In the more severe category, the limit will depend on what the inpatient census is. It is very difficult to go above 30 patients (therefore, if they have 22 patients, could only take 8). Would attempt to get a waiver from the state (assumed that would happen).

   The request for waivers would need to come to NYSDOH as soon as possible.

   A surplus of G-CSF is at Roswell, they can have drop shipments made within a day (however, this may be in high-demand as the SNS is going to get through managed inventory). Blood and platelet shortages will be an issue at Roswell and nationally. Roswell does have a collection facility on site. Would coordinate with the communications team for donors. They may need to review and modify transfusion criteria. Request for vendor managed inventory (VMI) assets would go from Erie County EMA to state collection point and would work with New York State Department of Health (NYSDOH) to see if they can supply – if not the state will request from HHS for MI. The VA also has large pharmacy caches of MCMs.

2. **What are the outpatient treatment considerations for patients with 1-2 Gy dose and mild ARS? What resources are critical to support outpatient treatment?**

   Ideally, they would have individual rooms. Would want to know their vulnerabilities (e.g., are they alone, who can they reach out to if their condition declines). Depending on where they are staying, need to determine how they will get back to Roswell for clinic visits. If they will be outpatients, they would need to come to clinic. There is a hotel (5-story hotel, there could be range of 15-50 beds available) connected to Roswell, would like to maximize usage of that hotel. The U.S. Department of Health and Human Services (HHS) Service Access Team (SAT) could help to arrange the transportation and housing. A patient care team could be setup. This was discussed in 2017 after the functional exercise (patient advocate, patient care, etc.). This team could serve as a liaison to help with the housing and transportation needs. Roswell has public safety escorts that would go throughout the community and a large transport bus to move. Consider working through the Erie County EOC; they may have agreements for transport and housing to support the hospitals. The

coordination between the Hospital Incident Command System (HICS) at Roswell and the County EOC is critical.

3. **How will unaccompanied pediatric patients be managed?**
   This creates a challenge for the communications team. Managing the influx of the "requests for help" will be complicated. Unaccompanied minors are tracked the same (although more attention will be paid to that patient). The FCC would assign someone at the PRA to accompany minors until they got to Roswell. Once they arrived at the hospital, it would be managed by them. For families, they could have process where they could come with parent to care for them together (so they are not separated).
4. **What are the considerations for triaging, treatment and tracking/surveillance of self-referral cases from the Chicago area and distribution of medical countermeasures?**
   Because they are not NDMS patients, they would need to be tracked separately. They would be able to tag them to this incident with a specialized insurance code/plan. At the time of the incident they would lean forward with metering capabilities before they enter the buildings. They have radiation screening capabilities at the hospital. There are several entrances to the hospital and would be difficult to cover. They could implement access control to limit ingress (e.g. partial lockdown).
5. **What type of behavioral health support needs would be anticipated for this type of incident? What behavioral health resources are available?**
   For families or patients, they assess the caregivers and the whole support system (i.e. 24/7 for post care). There are child life specialists, LCSW, MSW, psychologists, psychiatrists, pastoral care are all available. EAP can also help with staff support. There could be concern that the EAP may be in high demand and not available. The social work team at Roswell is fairly robust and could support staff adequately. The PRA team has social workers and behavioral health workers that they can pull in and send to Roswell as additional resources. Specialized Medical Assistance Response Teams (SMART) has a mental health component that can be requested and activated through the EOC.
6. **What are the challenges associated with financial management for patients requiring long term care (i.e. exceeding the standard 30-day NDMS treatment)?**
   If they length of care exceeds 30 days, they will need to submit a waiver to NDMS for reimbursement. The finance section chief needs to reach out to the FCC, REC, or SAT team to request that waiver each time it is necessary.
7. **How will tracking for financial management be managed? (Specifically tracking, which system will be used by the hospital, state, NDMS etc.)**

The DOD system - TRAC2ES (TRANSCOM Regulating and Command & Control Evaluation System) and the HHS system JPATS (Joint Patient Assessment and Tracking System) are two systems trying to track patients from incident through repatriation. The HHS Service Access Team (SAT) team is supposed to help manage JPATS with daily updates that provides patient status. Roswell uses the Envision system for tracking patients. They can code the patients to identify them as NDMS patients. Will need to track outpatients as well to track costs of housing, feeding, etc. These are all reimbursable costs. For reunification purposes: Could be through the eFINDS (New York State Evacuation of Facilities in Disasters Systems) system. This is run by New York State. More work needs to be done to understand the process for sharing patient information to loved ones to facilitate reunification.

Strengths

Strength 1: Roswell has a relatively robust mental/behavioral health support capability that can be accessed in this scenario with child life specialists, LCSW, MSW, psychologists, psychiatrists, the employee assistance program (EAP) and pastoral care. In addition, the SMART teams that can be requested through the EOC have a mental health component.

Strength 2: There is an effective process in place to submit waivers to NDMS for reimbursement through the finance section chief and coordination with the FCC, Regional Emergency Coordinator (REC) or the HHS Service Access Team (SAT).

Strength 3: The eFINDS system can be an effective tool in the support of patient/family reunification.

Strength 4: A surplus of G-CSF is at Roswell; they can have drop shipments made within a day

Areas for Improvement

Area for Improvement 1: In this scenario, there could be several waves of radiation-injury patients that Roswell will need to care for. The number of patients that they could be expected to take would likely far exceed the available numbers reported during the exercise discussion. Additional planning needs to take place at Roswell to significantly expand patient care capabilities to accept a larger number of radiation injuries (as in this type of scenario).

Area for Improvement 2: Patient/family reunification procedures should be explored in this type of scenario (i.e. NDMS evacuation) and authorities established for communicating to families and friends regarding patient status/location. This could in part, be coordinated with ARC.

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: Reimbursement for outpatient care is a recognized gap nationwide; federal level procedures are in development. Once final, 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 6: It is necessary to develop/refine a screening tool that can be utilized by staff receiving/triaging RITN patients to make determinations as to inpatient or outpatient care. Both internal and external resources (e.g. Radiation Emergency Medical Management [REMM] guidelines) can be leveraged to create the basis of this tool which can then be customized with any specifics of the event (e.g., radiation exposure zones). The screening tool would also help with assessment of self-reporting patients from the blast site.

Area for Improvement 7: 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 8: Public messaging strategies and templates 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. These documents and other references can be tailored to the specifics of an event from the template. 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

- Was helpful to have county, state, and FCC in the room to address planning and resource coordination needs.
- Was helpful to hear the resources available for behavioral health.

Improvement Planning

- Further develop a plan on how to activate emergency blood collections at Roswell including partnership with the communications department.
- Process for rapid diagnostics and effective triage to determine inpatient or outpatient needs.
- Develop a more concrete plan on what patients would be delayed
- Would be helpful to get tied into exercises such as Patriot North to address the receipt and distribution of patients.
- Address self-reporting pieces (e.g. Safe and Well) to facilitate reunification and tracking.
- Increased awareness of RITN for all hospitals.
- Training for healthcare providers and what to expect.
- Are at peak census routinely. Need to take action if they get several days' notice prior to the receipt of victims so they can expand and decompress.
- Work with the hotel to move people so they can make room for additional patients.
- Work with the County EOC to verify roles on housing and transportation for outpatients.
- Develop a pre-incident checklist for what RITN patient needs are. Communications department can help with that.
- For nursing education, there will be a lot of education and support necessary to include flow, management, etc.
- Communication with staff will be important.

APPENDIX A: IMPROVEMENT PLAN

This improvement plan template has been developed specifically for the RITN centers participating in the 2019 RITN Regional Exercises. Roswell Park 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[2]	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]					

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

APPENDIX B: EXERCISE PARTICIPANTS

Name	Organization
Lisa Privitere	RT
Laura Markel	5 North
Renee Oswald	5E/6N Nursing
Lovejeet Ahmad	Nurse Education
Diane Bartella	Nursing Education
Megan Herr	TCT
Stephanie Segal	TCT-Social Work
Suzanne Boehm	Social Work
LuAnn Stevens	Social Work
Kathleen West	Pharmacy
Leslie Cavender	UCC 5 East 5 North
Christine Howe	Inpatient Administrator
Melissa Everett	TCT
Donna Swinnick	Case Management
Johnny Tolbert	NYSDOH
Thomas Harvey	Erie County DOH
Dawn Rougeux	WNYHA
Patricia Gamara	CM GW
Jilliana Wasiura	IPC
Stephanie Wheeler	IPC
Stephen Shinnard	TCT
Patricia Meyer	Marketing/PIO
Jeremie Dellopenta	VA Emergency Management
Anthony Putrelo	RPCCC Facilities Mgt.
Deven Klemenz	RPCCC Facilities Mgt.
Nicole Gerber	OES
George Chen	Med
Eileen Durrau	Pathology/Lab Medicine
Deb Cudzilo	Patient Access
Pam Giesie	Administration
Susan Johnson	ER
Amy Dunn	Risk Management

APPENDIX C: ACRONYMS

Acronym	Term
AAR	After Action Report
ARC	American Red Cross
ARS	Acute Radiation Sickness
ASPR	Assistant Secretary for Preparedness and Response
BMT	Bone Marrow Transplant
DUV	Dual Use Vehicle
EAP	Employee Assistance Program
ED	Emergency Department
eFINDS	Evacuation of Facilities in Disasters Systems
EMA	Emergency Management Agency
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
FCC	Federal Coordinating Center
G-CSF	Granulocyte-Colony Stimulating Factor
HCS	Healthcare Standard (RITN data collection matrix)
HICS	Hospital Incident Command System)
HHS	Health and Human Services
IND	Improvised Nuclear Device
JIC	Joint Information Center
JPATS	Joint Patient Assessment and Tracking System
LCSW	Licensed Clinical Social Worker
MOU/MOA	Memorandum of Understanding/Memorandum of Agreement
MSW	Masters in Social Work
NDMS	National Disaster Medical System
NMDP	National Marrow Donor Program
NYSDOH	New York State Department of Health
OEM	Office of Emergency Management
PRA	Patient Reception Area
REMM	Radiation Emergency Medical Management
RITN	Radiation Injury Treatment Network
RSO	Radiation Safety Officer
SAT	Service Access Team

Acronym	Term
SITREP	Situation Report
SMART	Specialized Medical Assistance Response Teams
TCT	Transplant and Cell Therapy
TRAC2ES	TRANSCOM Regulating and Command & Control Evaluation System
TTX	Tabletop Exercise
VA	Veterans Affairs (Medical Center)
VMI	Vendor Managed Inventory