

2017

Grand Rapids Regional RITN Tabletop Exercise After-Action Report/Improvement Plan

Report Date: October 24, 2017

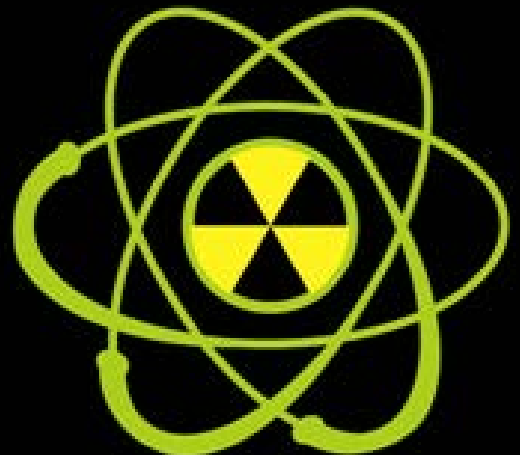


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EXERCISE OVERVIEW

| | |
|-------------------------|---|
| Exercise Name | 2017 Grand Rapids Regional RITN Tabletop Exercise (TTX) |
| Exercise Date | October 11, 2017 (8:00 AM – 12:00 PM) |
| Capabilities | Public Health & Medical Services Operational Coordination, Medical Surge, Responder Safety & Health, Mass Care |
| Objectives | <p>Objective 1: Clarify the organizational roles and responsibilities of participating agencies in responding to a surge of casualties with radiological injuries to the Grand Rapids region.</p> <p>Objective 2: Identify the process for casualty reception and distribution within the National Disaster Medical System (NDMS) framework.</p> <p>Objective 3: Identify the critical resources available to assist hospitals and treatment centers during a surge of radiation-injured patients and discuss resource gaps.</p> <p>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.</p> <p>Objective 5: Identify the responsibilities and resources necessary for mass care capabilities to support RITN patients and their families during ongoing treatment at Grand Rapids RITN treatment centers.</p> |
| 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 | <p>Curt Mueller Exercise Coordinator, Radiation Injury Treatment Network Curt.Mueller@nmdp.org (612) 294-4539</p> <p>Mark Van Dyke Manager, Emergency Preparedness, Spectrum Health mark.vandyke@spectrumhealth.org (616) 486-2075</p> |

EXERCISE SUMMARY

On October 11, 2017, participants representing 6 local organizations 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:

- Spectrum Health
- Karmanos Cancer Institute
- Region 6 Healthcare Coalition
- Gerald Ford International Airport
- Kent County Emergency Management & Homeland Security
- Kent County Health Department
- 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 Grand Rapids area.



Exercise Scenario

Initial Event

On October 4, 2017 a ten-kiloton Improvised Nuclear Device (IND) was detonated in Atlanta.

- 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 +7 Days

- National Disaster Medical System (NDMS) issues activation protocol for the Detroit 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 Detroit Metropolitan Wayne County Airport (DTW), where NDMS patients will be received.



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 Grand Rapids 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 is triaging, treatment and tracking/surveillance of self-referral cases from the area of radiation | Medical Countermeasures Dispensing | Responder Safety & Health |

| Exercise Objective | Core Capability | Healthcare Preparedness Capability |
|---|--------------------|------------------------------------|
| 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 Grand Rapids 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:

| Kent County Emergency Management | Region 6 Healthcare Coalition/Kent County Public Health | RITN Hospitals (Spectrum Health, Karmanos Cancer Institute) | Detroit (DTW) FCC |
|---|--|---|---|
| <ul style="list-style-type: none"> • Start working to identify housing and transport options for arriving patients and non-medical attendees. • Address reimbursement concerns and ensure a disaster declaration is in place for the responding area. | <ul style="list-style-type: none"> • Poll hospitals for bed availability using EMResource™. • Not a lot of action early on, waiting for more information on patient numbers and the type of resources that might be needed by the hospitals. | <ul style="list-style-type: none"> • Communicate RITN beds to the FCC. • Update RITN bed availability to RITN network. • Maintain communications with Emergency Management. • Activate or partially activate hospital command, including BMT representative. • Assess pharmaceutical and blood stockpiles; make requests early on if needed for the anticipated surge. | <ul style="list-style-type: none"> • <u>Not available to play in this exercise.</u> • Assumed activities include: Establish the patient reception area at the airport. • Notify hospitals that are going to receive patients. |

Activation: Following the federal disaster declaration, the Detroit 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). There was some confusion about how the notification comes from the FCC to the local hospitals/healthcare coalition to start bed polling. The process was described as the FCC notifying the State Emergency Operations Center (EOC) and the state pushing the information to the regions to include local/county emergency management. In practice, it also was mentioned that the FCC Coordinator typically calls RITN hospitals directly to initiate bed polling (in past exercises). The Kent County emergency manager was not familiar with the FCC role or individual coordinator (VA Area Emergency Manager for NDMS evacuations). The RITN hospitals said they also would receive notification early on via the RITN system so they would notify other county and state partners (e.g., public health and emergency management) in addition to the FCC notifications. The hospital would inform partners that command has been activated and based on the number of patients expected to arrive and anticipated resource needs determine how the county agencies would need to activate and support the hospital response.

There was discussion about clarifying the notification process and entities that needed to be a part of the discussion early on for patient arrival to the area. Identified solutions included using a coordination call with a checklist of who needs to be notified for inclusion in the call and an agenda template for what should be considered during the call. Karmanos Cancer Institute (Detroit RITN hospital) has a checklist of the partners they notify within the hospital and the region that can be shared as a starter tool for Spectrum Health and the Kent County partners to utilize.

RITN and NDMS/HHS Coordination: The role of RITN is to provide the specialty RITN bed data/reports to HHS. The RITN hospitals would receive notification to update their RITN beds in HealthCareStandard® (HCS) with current availability and open beds 24 hours later. Hospitals also update information on Granulocyte-Colony Stimulating Factor (G-CSF) availability and outpatient capabilities. RITN consolidates the information and sends 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, Intermedix EMResource™ is used to collect bed (and other real time) information across the healthcare system. Currently it is not possible (i.e., there aren't fields) to collect RITN data via EMResource™, but an action item was to work with the state to see if fields can't be added and opened for this type of scenario. The comments area is where these numbers have been reported in previous drills.

RITN will also produce and distribute a daily Situation Report (SITREP) to partners nationwide. Based on the information provided from the RITN hospital's during the initial data poll, the RITN Control Cell will provide an estimate of patient numbers to expect.

Operation of the FCC: Due to the hurricane response, the FCC Coordinator was not able to attend the exercise, so there was limited discussion about FCC/PRA operations. There are transport assets available at Spectrum Health for local transport from the Gerald Ford International Airport to the hospital. Currently moving patients to Spectrum Health from the Detroit FCC is a resource challenge placed on Detroit (e.g., buses and vehicles to drive the patients to Grand Rapids for care). If the Grand Rapids Airport is at some point designated as a PRA for NDMS, the group considered the type of planes that would be arriving with patients, where they could land, and what spaces could be included in airport plans for NDMS patient receipt. The Spectrum Health transportation assets described during this exercise included: 15 transport buses and 30 shuttles; these hold between 25-44 people depending on the specific vehicle.

Strengths

Strength 1: Healthcare and other response partners can leverage processes used for other disasters to coordinate early on as to how to handle the incoming NDMS/RITN patients; such as using a coordination call and a notification checklist to ensure all appropriate partners are included.

Strength 2: Inclusion of the Gerald Ford International Airport partners in this tabletop exercise was beneficial particularly for understanding their potential role and planning needs should that airport become designated as a NDMS PRA.

Strength 3: The Karmanos Cancer Institute partners offered checklists and other best practices from their RITN planning and exercises that can be shared with Spectrum Health and the Grand Rapids/Kent County response partners.

Areas for Improvement

Area for Improvement 1: Identify non-RITN hospitals that have hematology/oncology capability and conduct outreach to include them in the NDMS/RITN response plans. Understanding the capabilities and staff available will inform the number of outpatients that the area could receive.

Area for Improvement 2: Provide resources and opportunities to a wider audience as far as radiation and RITN response training; this should include regional (non-RITN) hospitals and other community response partners. Several resources to consider include:

- RITN Training Resources: <https://ritn.net/training/>
- Oak Ridge Institute for Science and Education (ORISE) Radiation Emergency Assistance Center/Training Site (REAC/TS): <https://orise.orau.gov/reacts/>

Area for Improvement 3: Clarify the notification process and entities and document in a NDMS/RITN checklist. The notification checklist should be linked to establishing a coordination call for the response and a template agenda for items that need to be addressed by the group. Leverage the checklist and associated items that can be shared by Karmanos Cancer Institute partners. Test this process once it is developed.

Area for Improvement 4: Facilitate an introduction between the Kent County Emergency Manager and the VA Area Emergency Manager who coordinates the FCC in Detroit (and for Grand Rapids if it is identified to become a PRA locations).

Area for Improvement 5: Processes to share bed information with the FCC were articulated during the exercise; however, these pathways are not documented in current plans. Determine the

best ways to share bed information both electronically and verbally with the FCC – questions to consider include:

- Does the FCC need access to EMResource™ or will the FCC be emailed the information? By who (e.g., state EOC)?
- Does the FCC also need a phone/verbal communication of the data? If so, who's responsibility is it to initiate that?

Review plans and update (state and FCC plans) to include the preferred mechanism(s) for sharing information with the FCC.

Area for Improvement 6: Develop a flow chart with names and responsibilities for this type of response for inclusion (e.g., appendix) existing emergency response plans at the local/county level.

Area for Improvement 7: Conduct a meeting to identify the bed types that should be added to the EMResource™ poll for RITN hospitals. Take this proposal to the state level to see if it is possible to modify the current bed polling fields. Obtain definitions for the bed types from RITN for inclusion with the updated fields to ensure that the reported numbers are accurate.

Area for Improvement 8: Conduct internal planning at the RITN hospital to reserve beds for radiation injury patients rather than accepting large numbers of trauma patients from the NDMS system. NDMS will send patients based on what is reported so it is necessary to think through bed availability approximately a week out and ensure that there is space to accept the radiation inpatients.

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

Spectrum Health modified their triage process based on a full-scale exercise conducted earlier in the year. Those patients arriving with acute radiation sickness (ARS) would be admitted right away; for those less ill the hospital would wait for blood counts to determine their inpatient or outpatient status. As possible, it would be important to gather information from the patient or family member (if available) as to any co-morbidities or injuries that could elevate their severity level. It is not expected that any of the patients arriving this much beyond the event would require palliative care (i.e., they all should be fairly stable and able to be transported by NDMS); however the medical staff and Radiation Safety Officer (RSO) of the hospital would consult and make a joint decision if the patient was only going to receive palliative care (e.g., 8 Gy or more or radiation exposure and showing neurological effects by the time of arrival indicate the patient probably won't survive). It is necessary to include the right kind of specialists in the triage process because this is different from trauma triage and one must understand the unique care and resources needed to care for these patients. Triage guidelines are in development by RITN and are anticipated to be available in draft form in 2018; in the meantime, there is basic triage guidance available on the Radiation Emergency Medical Management (REMM) website (<https://www.remm.nlm.gov>).

With regards to outpatient care, the concerns expressed by Karmanos included communications, laboratory monitoring (turnaround times, testing frequency), co-morbidity management, day-to-day medications, space/housing for the patients and their families, and emotional support needs. Internally there is a surge/expansion plan to take more patients and within the Detroit area there are contracts in place with hotels. Spectrum indicated that more hotels are being built in the Grand Rapids areas but that resource is not as robust as Detroit. The other housing options include a cancer care lodge and several auditoriums. The primary difficulty is the required length of stay for outpatient care and it is not possible to rely on hotels for that amount of time. Patients that undergo transplant typically stay to continue care/monitoring for up to 100 days. The housing options near the hospital are limited so questions arose as to how far out can they place people and feasibly get them back to the hospital for the necessary care.

The group discussed the need to rescreen patients upon arrival to the PRA and the safety of airport staff. It was clarified that the patients would have been decontaminated prior to boarding the military aircraft for NDMS evacuation, additionally that this is 7 days post blast so it is assumed that they are no longer wearing the same clothes and have showered thereby removing any contamination. Screening to confirm that these patients are not a risk to the public, airport, or hospital staff was still discussed from a public perception standpoint. In that case, if it was the Gerald Ford International Airport serving as the PRA, the screening and decontamination would be coordinated with the Grand Rapids Fire Department and the 51st Civil Support Team (if available). If the patients were coming to Spectrum from the Detroit PRA, then the Hospital Emergency Response Team (HERT) would work directly with Grand Rapids Fire to perform this at the hospital triage location. Finally, it was recognized that strong public relations messaging would be needed to calm the fears of the public and inform them that the arriving patients were not a danger.

Staff education can occur in advance of the incident. This should encompass many more staff at the RITN hospital than just clinicians, such as security, environmental services, admitting, and family reception/call center staff. The airport staff of designated PRAs should also have staff participate in trainings prior to any incident. There are several short videos available from the RITN website and the state Radiation Emergency Preparedness (REP) program was also mentioned as a resource

For unaccompanied pediatric patients, the participating RITN hospitals would admit them and engage social services or the Children's Hospital in the case of Karmanos. Unfortunately, if the pediatric patient is not acutely ill, admitting them when unaccompanied may take up a bed for someone that does requires a higher level of care. Generally, plans were in place to handle this situation and not delay treatment.

Behavioral/Mental Health Considerations

For mental health concerns, Spectrum Health would rely on clinical psychologists and psychiatrists to provide mental health support to patients, their family members as well as staff. These resources would be augmented by the internal Critical Incident Stress Management (CISM) team and community/county mental health partners. Karmanos would utilize the same resources and try to augment with additional resources through the Michigan Volunteer Registry. Completing Psychological First Aid training in advance of any incident was also suggested for at least a subset of responders; this has been shortened to a 1 day training.

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. It was recognized that screening/triage

questions should be developed in advance and staff prepared to screen incoming patients. The hospitals would also be concerned about worried well and implementing strategies to handle that potential surge such as locking down entrances to the hospital (to streamline the screening process), signage, and implementing traffic control measures. It was mentioned that the Transportation Security Administration (TSA) could screen people with either equipment and/or a question set upon arrival to the airport and that state troopers have been issued personal radiation detectors (PRDs) and may encounter exposed people arriving to the area. Again, having a set of questions that could be pushed out to those entities for this type of incident may be very useful.

Patient Tracking and Reimbursement

Spectrum Health would utilize Intermedix™ EMTrack to input NDMS/RITN patient information at the time they arrive at the airport; this will enable tracking and documentation of care for all inpatients. There is not a solidified solution for tracking of outpatient care, but using the Epic system may work to track their appointments and other information (also to view outpatient care at regional cancer center sites that are networked within the system). This needs further exploration once the new system upgrades are complete. Karmanos Cancer Institute uses the comment field in their current electronic records system to note the RITN/NDMS patient status. After the new electronic medical records system is rolled out (~FY18) they will be able to assign an incident for RITN and track the patients that way. Hospital Command would activate the Finance Section Chief early in the response to ensure documentation of the costs. It was also noted that because these patients would likely exceed the 30 days of care (federal reimbursement cut off), that the RITN hospitals would need to coordinate with the FCC to submit a waiver that extends the reimbursement period. This waiver has not been made available yet for RITN to share with the network.

Resource Requests

Resource requests for all patients arriving to the area would follow standard processes. Non-medical requests would go to the county emergency management and then elevate to the state level if it could not be fulfilled locally. Hospital/medical resource requests would be processed locally by the Region 6 Healthcare Coalition and at the state level if needed through the Intermedix™ EMResource system. Participants discussed concerns about medication (G-CSF) shortages and the need to identify supply chain alternatives – currently the primary vendor for both Karmanos Cancer Institute and Spectrum Health is Cardinal Health. There was a lack of awareness by the vendor about this program so Karmanos Cancer Institute has provided education regarding the anticipated needs in a RITN activation scenario. It was recognized that there would be a national shortage and the need for hospital guidelines to determine which patients will have priority in receiving the doses. This should be developed and implemented in a similar way as palliative care determinations

are made (i.e., case by case basis with a team of physicians to inform the decision). There are not yet federal guidelines on medication prioritization for radiation injury.

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. Some of the concerns expressed by participants at this exercise included: the length of stay for this type of patient and the fact that they won't have anything to go home to so will continue to stay in the area, what type of facilities could house the outpatients and their families, as well as the process and entity responsible for covering outpatient costs. There are not that many hotels or rental properties in the Grand Rapids area, so the question arose as to how far out could feasibly be considered for housing patients that need to come back to the hospital for treatment.

More information was needed on the federal reimbursement process for housing; for example, how to make requests, what are the restrictions on reimbursement, who (hospital, emergency management, FCC) is responsible for coordinating housing. Typically, only those arriving on the NDMS aircraft will receive federal reimbursement, not any of the family members arriving on their own or spontaneous arrivals that require care. If hotels and event centers in the area are to be used, education to these partners in advance is necessary to keep them open and able to accept people arriving to the area who had been exposed to radiation.

There were concerns about managing patient expectations related to cost and care types and a request to understand what patients are being told as they are being evacuated to another location for care. It is well documented how inpatients will be handled and covered; however, it is less clear for outpatients. The cases are intended to be managed by Service Access Teams (SAT) to include their tracking through the federal system, housing needs, and reimbursements. It may not be possible in this type of scenario for every responding area to receive a SAT team due to limited numbers of individuals that can be deployed in that capacity, so guidelines are being developed at the federal level as far as the handling of outpatient care needs and costs. RITN indicated that they would reach out and determine what type of messaging is provided to patients about care and reimbursement as they are evacuated to another city.

Public Messaging

The public messaging aspects were not discussed in detail during this exercise; however, a Joint Information Center (JIC) would be established at the state level and the information from hospitals and the FCC would be provided to them to create a common message. Internally Spectrum Health

would utilize the talking points from that message to communicate to staff, incorporating input from all appropriate entities (RITN, federal partners, law enforcement, public health, hospitals).

Strengths

Strength 1: The RITN hospitals have plans in place to rapidly and effectively triage patients to inpatient or outpatient status. This included a process for determining palliative care if necessary.

Strength 2: Intermedix™ EMTrack would be utilized to track NDMS/RITN patient information (e.g., care details, costs) and provide that data seamlessly to the Coalition, State EMS, and to the FCC. It was less clear what options were available for outpatient tracking (see Area for Improvement 3 below).

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: Both participating RITN hospitals were able to articulate the behavioral mental health staff that would be available to support not only arriving patients and their families but also manage staff stress.

Areas for Improvement

Area for Improvement 1: Further information is needed from the federal level on 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. If possible, a copy of the waiver template should be obtained from NDMS and distributed by RITN for hospital to incorporate into plans.

Area for Improvement 2: 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 planning. It will be difficult or impossible to rely on hotels for the required length of stay for the radiation patients. Proximity to the hospital must be considered when evaluating lodging options as well as education to those partners in advance regarding radiation. Determine the agency(s) that be involved in these planning discussions in order to develop plans and establish MOU/MOAs as necessary.

Area for Improvement 3: Evaluate the electronic record system (Epic) once upgrades are complete to see if there is a way to flag/track patients associated with this event (utilizing an event

type – RITN) to enable tracking within the RITN hospital as well as satellite/regional hospitals that may provide care to the outpatients.

Area for Improvement 4: Because federal guidelines on medication prioritization in this scenario are not yet available, develop hospital/region-level guidelines to determine which patients will have priority in receiving the doses where there is a national shortage of medications (G-CSF). Leverage palliative care determinations for how these guidelines are developed and implemented.

Area for Improvement 5: Ensure that plans outline the appropriate medical staff that should be included in patient triage for this type of event; for example, BMT specialists given the unique considerations of radiation injury patients.

Area for Improvement 6: Implement screening questions to assess spontaneous arrivals and verify that they were in the blast zone and experiencing ARS symptoms. Screening questions could be developed and distributed by RITN for use at RITN centers nationwide. Include the screening question process in the local/hospital RITN plan and provide to any other response partners (e.g., airport, police) who may encounter potentially exposed people.

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: Obtain a better understanding of the type of messaging that is provided to patients about care and reimbursement when they are evacuated to another city through the NDMS process. This action can be addressed either by RITN or through the FCC and communicated to the hospital to assist with messaging and planning consistently.

Area for Improvement 9: 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 engage more partners and understand roles – continue to include more and more of these partners going forward.

- Inclusion of staff with radiation injury and treatment in going to the PRA for triage of the arriving RITN patients.
- Ability to share plans and best practices between the Detroit and Grand Rapids RITN hospital partners.
- Transport options are available for moving patients from the Grand Rapids Airport to the hospital.
- Processes are well understood for requesting resources through existing chain of command.

Improvement Planning

- Spectrum is ready from the medical standpoint to take RITN patients but need to practice the coordination and communication across the region.
- Expand hospital staff education beyond the large cancer center to the regional hospitals and other community partners (leverage the online training or mobile trainings).
- Need a flow chart (contacts, roles, actions) for this type of response to clarify who needs to be involved from the hospital, local, state, and federal perspective.
- Further explore outpatient tracking and how best to use regional hospitals to support this level of care.
- Multiple action items were identified related to pharmaceuticals and allocation of those scarce resources.
- Long lasting impacts to the community from the displaced patient population and the need to include more partners to assist with this type of planning (e.g., access functional needs [AFN] patients).
- Airport needs to understand the RITN plan and the expectations for them, for example if they need to hold space for patients or non-medical attendees arriving to the Grand Rapids area.

APPENDIX A: IMPROVEMENT PLAN

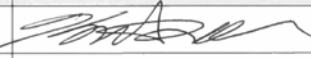

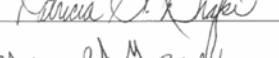
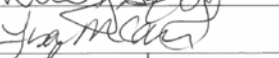
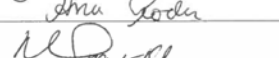
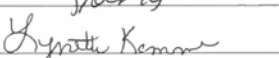
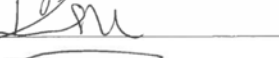


This improvement plan template has been developed specifically for the RITN centers participating in the 2017 RITN Regional Exercises. The Spectrum Health RITN Center and partner organizations can utilize this table to organize the opportunities for improvement to augment and develop their own corrective 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] | | | | | |
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¹ Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

APPENDIX B: EXERCISE PARTICIPANTS

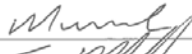


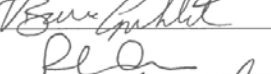

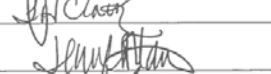




Spectrum Health Sign-In Sheet: RITN Table Top (TTX)
October 11, 2017 (9:00 am – 1:00 pm)

| Print Name | Department | Signature | License Level: (e.g., nurse, physician, medic, other, etc.) |
|--------------------|----------------------------|--|---|
| Karla Black | KCHD |  | |
| Jordan Posny | Spectrum Health Pharmacy |  | pharmacist |
| PAT DEARIE | KCHD |  | |
| MICHAEL GODFREY | SECURITY |  | |
| LISA CARR | GFIAA |  | |
| STEPHANIE WILLIAMS | SPECTRUM ADULT BUT BRANDAM |  | PHYSICIAN |
| Ana Rodas | Patient Access |  | |
| Maryann Sparo | Karmanos |  | RN-manager |
| Lynette Kemmer | SH EP Dept |  | |
| Ken Strawl | SH EP Dept |  | |
| Doug DeVries | SH EP |  | |
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Spectrum Health Sign-In Sheet: RITN Table Top (TTX)
October 11, 2017 (9:00 am – 1:00 pm)

| Print Name | Department | Signature | License Level: (e.g., nurse, physician, medic, other, etc.) |
|---------------|------------|--|---|
| Amanda Lutz | EP |  | |
| Laura Kuenzer | EP |  | R.S. |
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Spectrum Health Sign-In Sheet: RITN Table Top (TTX)
October 11, 2017 (9:00 am – 1:00 pm)

| Print Name | Department | Signature | License Level: (e.g., nurse, physician, medic, other, etc.) |
|----------------------|----------------|--|---|
| Michael Gregg | Region C HCC |  | |
| Curt Muelles | NMDP/RITN |  | |
| Jeffrey Weber | Spectrum EP |  | |
| Joe Dancz | Airport (Ford) |  | |
| BRUCE APPEBACH | GFIA AIRPORT |  | |
| Rick Aeo | GFIAA |  | |
| Jack Stewart | Emergency |  | |
| Toni Henderson-Clark | EM/BMT |  | RN, APRN, MSN, MBA |
| Jan Aldrich | RITN |  | |
| Ann Hammere | MCG |  | |
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APPENDIX C: ACRONYMS

| Acronym | Term |
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| AAR | After Action Report |
| ARS | Acute Radiation Sickness |
| ASPR | Assistant Secretary for Preparedness and Response |
| BMT | Bone Marrow Transplant |
| CISM | Critical Incident Stress Management |
| DTW | Detroit Metropolitan Wayne County Airport |
| EMS | Emergency Medical Services |
| EOC | Emergency Operations Center |
| FCC | Federal Coordinating Center |
| G-CSF | Granulocyte-Colony Stimulating Factor |
| HCS | Healthcare Standard (RITN data collection matrix) |
| HERT | Hospital Emergency Response Team |
| HHS | Health and Human Services |
| ICS | Incident Command System |
| IND | Improvised Nuclear Device |
| JIC | Joint Information Center |
| MOU/MOA | Memorandum of Understanding/Memorandum of Agreement |
| NDMS | National Disaster Medical System |
| NMDP | National Marrow Donor Program |
| ORISE | Oak Ridge Institute for Science and Education |
| PRA | Patient Reception Area |
| PRD | Personal Radiation Detector |
| REAC/TS | Radiation Emergency Assistance Center/Training Site |
| REMM | Radiation Emergency Medical Management |
| REP | Radiation Emergency Preparedness |
| RITN | Radiation Injury Treatment Network |
| SAT | Service Action Team |
| SITREP | Situation Report |
| TSA | Transportation Security Administration |
| TTX | Tabletop Exercise |
| VA | Veterans Affairs (Medical Center) |