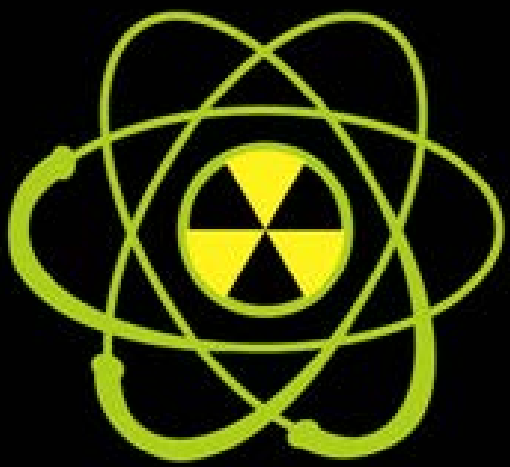
2017

After-Action Report/Improvement Plan
June 28, 2017 Web-Based



EXERCISE OVERVIEW

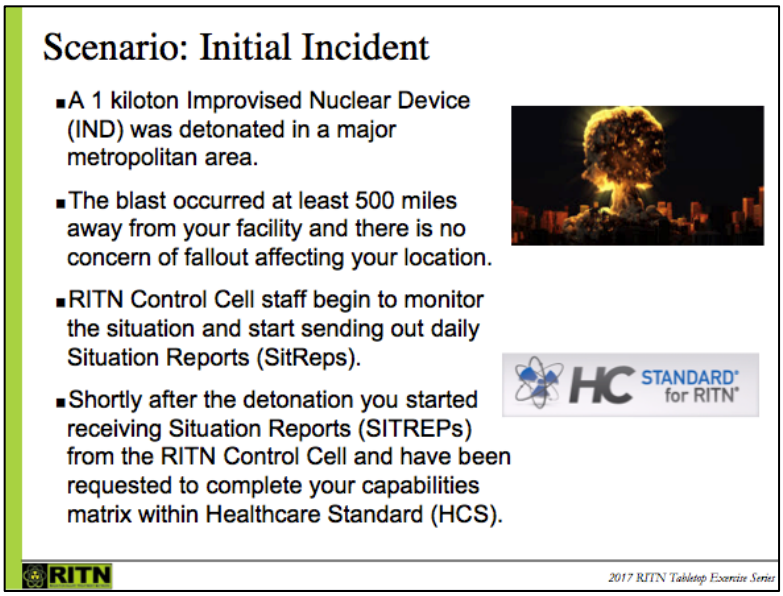
Exercise Name	2017 RITN Tabletop Exercise (TTX)
Exercise Date	June 28, 2017
Scope	This exercise is a distance-based tabletop exercise planned for 2 ½ hours. Exercise play is limited to RITN facilities and their response partners' collective challenges and considerations for improved and effective response.
Mission Area(s)	Response
Capabilities	Public Health & Medical Services
Objectives	**Objective 1:** Hospital staff are able to determine their hospital's capability to receive casualties (inpatient and outpatient) through the National Disaster Medical System (NDMS) following a mass casualty radiological incident. **Objective 2:** Hospital staff are able to discuss the procedures for implementing Crisis Standards of Care (CSC) at their hospital. **Objective 3:** Hospital staff are able to describe their approaches for triaging patients and determining initial treatment actions for patients with Acute Radiation Syndrome (ARS).
Hazard	Radiological
Scenario	Medical surge from a distant radiological incident
Sponsor	Radiation Injury Treatment Network® (RITN) National Marrow Donor Program (NMDP) Office of Naval Research (ONR)
Participating Organizations	See Appendix B
Point of Contact	RITN Control Cell RITN@NMDP.ORG

EXERCISE SUMMARY

On June 28, 2017, RITN centers and the RITN Control Cell participated in a tabletop exercise to discuss RITN centers planning actions for patient arrival, crisis standards of care under austere resource and medical management conditions, and medical care and treatment of arriving patients from radiological exposure. A facilitated series of exercise tasks were provided to participants for their consideration, response, and group discussion organized by the exercise scenario summary below.

Scenario Summary: The following illustrate the scenario events considered for participant discussion (Figure 1):

Figure 1: Exercise Scenario Ground Truth

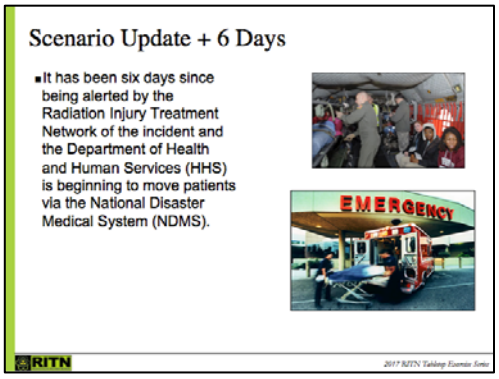


ANALYSIS OF CAPABILITIES

Module 1: Planning for Patient Arrival

Participants were provided the following update to the scenario information (Figure 2). Based on the scenario inject information, RITN Centers were asked to discuss multiple operational considerations regarding the receipt of NDMS patients. Considerations for patient receipt included aggressive changes and overflow into other hospital departments as well as repurposing previously identified space such as dormitories and gymnasiums.

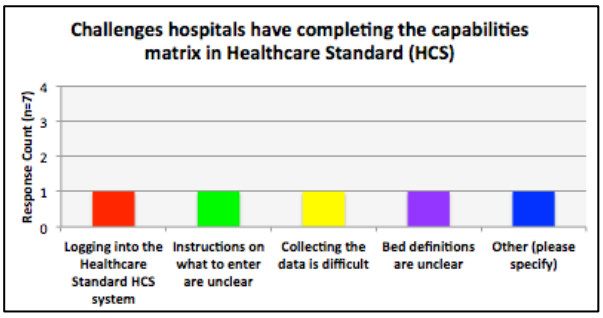
Figure 2: Scenario Update Event + 6 Days



Completion of Capabilities Matrix: Participating centers discussed the challenges they face when completing the Healthcare Standard (HCS) Capabilities Matrix (Figure 3). Five (of 7) participating RITN centers indicated having no issues or challenges completing the capabilities matrix in HCS. The remaining 2 RITN centers experiencing issues or challenges described those challenges to include:

- Logging into the HCS System
- Data entry instructions are unclear
- Collecting data was difficult

Figure 3: HCS Challenges



Intake of Patients: Aggressive Changes: Participating centers determined the following: The number of inpatients their RITN center could receive with aggressive changes and spill-over into other areas of their hospital (such as ICU or PACU) under the assumption that alternations in the standards of care were required. Examples provided of aggressive changes included aggressive patient discharges or transfers or a delay in the normal admissions process. The number of inpatients received was reported as (Table 1):

Table 1: Intake of Patients

RITN Center	Number of Patients
Avera McKennan Transplant Institute	15
Cleveland Clinic Foundation	110
Dartmouth Hitchcock Medical Center	25 – 30
Seattle Cancer Care Alliance	58
Temple University Hospital	100

RITN Center	Number of Patients
University of Minnesota Medical Center	50
West Virginia University Hospitals	30
TOTAL	388 - 393

All RITN centers indicated that the number of patients received would be highly dependent on their medical care needs. Centers discussed the informational needs (such as staffing, type of beds needed, medical supplies) required in order for them to properly prepare to receive any NDMS patients.

Intake of Patients: Incorporating Large Facilities: After RITN centers determined the number of inpatients they could receive considering aggressive changes and spill-over, RITN centers determined the number of inpatients they could receive with the previous 2 considerations as well as implementation of crisis standards of care and incorporating large austere emergency treatment facilities previously identified (such as dormitories, gymnasiums or domed stadiums). Given these two additional considerations, all but 1 RITN center indicated at least a 100% increase in the number of patients received. Centers that are part of university campuses stated use of dormitories or other university spaces depending if school was in session. Other RITN centers stated use of other hospitals within their corporate structure (or care network) or use of hotels or hospital-owned apartments to bolster their numbers of inpatients they could receive.

Communication with the FCC: If requested by the RITN Control Cell to communicate bed availability directly to their assigned Federal Coordinating Center (FCC), all participating RITN centers were able to quickly determine their facility's bed availability and provide that information to their local FCC.

Outpatient Housing: All participating RITN centers indicated that hotels have been identified as part of the planning process to house outpatients during RITN activation as well as traveling family members or others that may have accompanied the transported patient. Several centers also stated use of either university-owned or hospital-owned apartment complexes that could be used to house outpatients if needed.

Strengths

The following strengths were demonstrated:

Strength 1: All RITN centers demonstrated the capability to receive patients under a variety of special and unique circumstances such as implementation of crisis standards of care, aggressive discharges or transfers, delayed admission processes, and spill-over into other areas or departments of their facility.

Strength 2: All RITN centers demonstrated and discussed the ability to rapidly determine their immediate bed availability using electronic bed tracking systems and incorporating their local healthcare coalitions as part of the collaboration with the RITN Control Cell and their local Federal Coordinating Center.

Strength 3: All RITN centers have formal agreements currently in-place with local hotels for accommodations as well as utilizing hospital-owned apartments and other alternate housing options for outpatients during RITN activation.

Areas for Improvement

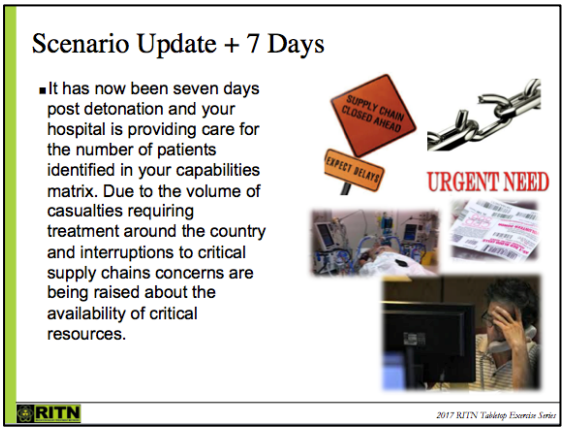
The following areas require improvement:

Area for Improvement 1: Although 2 RITN centers (of 7 participating centers) experienced difficulty with data entry in HCS, refresher training should be conducted at the individual facility-level to increase familiarity accessing and entering data in HCS. Facilities should determine whether or not use of HCS can be incorporated into other hospital drills or exercises.

Module 2: Crisis Standards of Care

Participants were provided the following update to the scenario information (Figure 4). Based on the scenario inject information, 7 days have elapsed since the detonation and RITN centers are experiencing disruptions to their supply chains and resources are running low given the volume of casualties requiring treatment across the country.

Figure 4: Scenario Update Event + 7 Days



Implementation of Crisis Standards of Care: One (of 7) participating RITN centers currently has their own crisis standards of care policy, while 6 participating RITN centers indicated reliance on their State's policy to provide the overarching crisis standards of care guidance. Although relying on the State for CSC policy, one RITN center indicated their State's policy remains under development and is not currently implemented. The authority to make CSC determinations came from a variety of sources, such as:

- Specific hospital position (e.g. incident commander)
- Committee
- State Health Department guidance
- Institution's Board of Governors (if the State's standards were not adopted)

RITN centers stated either internal committees, city, and the state provide ethical guidance/codes regarding crisis care.; however, one RITN center was unsure whether or not ethical codes/guidance have been provided.

All participating RITN centers indicated that a national disaster declaration is sufficient to implement CSC. Consensus was reached among participating centers that their State has the authority to implement crisis care, but would align with any national disaster declaration made at the federal level.

In the absence of CSC codes and guidance (i.e. if the scenario events occurred today), RITN centers discussed a variety of priority factors under consideration for making decisions on use of resources, such as (Table 2):

Table 2: Factors Influencing Resource Decisions

Primary Factors Influencing Resource Decisions	
Age of patient(s)	Comorbidities
Severity of exposure	Determinations made by the medical team
Ethics Committee review and recommendations issued	Parameters and priorities of patient care

Multiple RITN centers discussed a variety of resources that would be used for guidance in determining priority factors for resource decisions that would be presented to their internal committees, such as the following:

- RITN website
- BMT team consultations
- State health department website
- Disease algorithms
- Treatment guidelines

All participating RITN centers described the type or level of assistance that would be requested from public health or emergency management agencies in order to implement CSC. The following table shows a variety of assistance that would be requested.

Table 3: Assistance Requested for CSC Implementation at RITN Centers

Type of Assistance Requested	
Hospital Support	**External Support**
Security	Medical staff
Pharmacy staff and supplies	Public health guidance/communications
Laboratory staff and supplies	Volunteers
Community/mental health support	Social support

RITN centers indicated that public messaging regarding CSC would be coordinated through a joint information center given the events as described in the scenario. The hospital Public Information Officer and Liaison Officer have a significant role in developing the public messaging for the RITN center and all messaging would be coordinated at all levels (to include corporate health system public relations and state and local public health officials) to ensure consistency.

After 2-weeks post-detonation, RITN centers discussed laboratory resources that may be in greatest demand. Laboratory equipment, supplies, and laboratory staff was discussed to be in greatest. Additionally, supplies such as reagents, collection tubes, HLA supplies, blood draw supplies, and their capabilities to perform CBCs and run chemistries would be severely taxed approximately 2-weeks post-detonation and receipt of patients.

Table 3: Laboratory Surge Capacity

RITN Center	Max. CBCs with Differentials (Given Expected Resource Constraints)
Avera McKennan Transplant Institute	Approximately 2,000 per day
Cleveland Clinic Foundation	10,800 in a 24-hour period
Dartmouth Hitchcock Medical Center	1,000 per day
Seattle Cancer Care Alliance	600 – 800 per day
Temple University Hospital	Approximately 2,400 in a 24-hour period
University of Minnesota Medical Center	8,400 per day
West Virginia University Hospitals	5,000 per day

RITN centers indicated processing the maximum number of CBC with differentials could generally be maintained for approximately 72 hours at current supply levels and current staffing levels. Lastly, all RITN centers generally indicated little to no testing may be delayed given the events in the scenario; however, delays may occur if the testing protocols require more manual manipulation. Generally, all non-essential and non-emergent laboratory testing would be delayed or deferred given the events in the scenario and CBC with differentials, HLA testing, chemistries, and type and cross would be priorities.

Strengths

The following strengths were demonstrated:

Strength 1: RITN centers discussed existing policies or were able to quickly develop a process to assemble the appropriate guidance content, request assistance from the necessary experts or authorities, and implement crisis standards of care if needed.

Strength 2: RITN centers demonstrated plans and protocols to rapidly disseminate information to their staff and to the public and the resources to provide public messaging in multiple languages.

Strength 3: RITN centers were able to approximate a maximum number of CBC with differentials that could be processed daily in their laboratories, which at a minimum, would assist their ability to anticipate the type and amount of resource shortages to anticipate under the conditions in this scenario.

Areas for Improvement

The following areas require improvement:

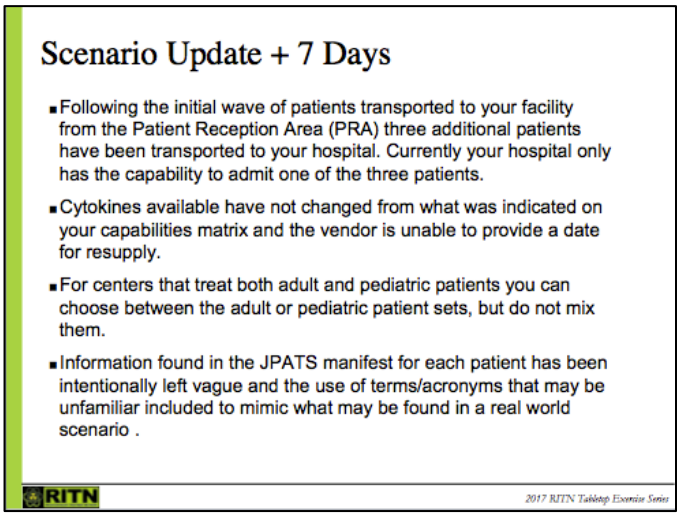
Area for Improvement 1: As part of improvement planning, RITN centers should review their policies or plans for CSC and ensure considerations related to the RITN program (such as the patients they may receive and impacts to their current inpatient population) are included in their crisis care policies and plans.

Area for Improvement 2: All RITN centers should review their laboratory supply chain as part of continuity of operations planning and confirm any existing laboratory supply vendor agreements that additional quantities of reagents, collection tubes, HLA supplies, blood draw supplies, and supplies related to CBCs and virology testing could be secured under the events

described in this scenario. Additionally, RITN centers should identify laboratory technician/staff to augment their existing levels and initiate discussions with those local/regional healthcare partners to explore mechanisms for the RITN center to utilize their staff if needed.

Module 3: Patient Treatment

Figure 6: Scenario Update Event + 7 Days



Participants were provided the following update to the scenario information (Figure 6). Based on the scenario inject information, 3 additional patients were transported to their RITN center following the initial wave of patients from the Patient Reception Area. Hospitals were instructed that they could admit one of the three patients transported to them based on their current capabilities to medically treat and manage the patient. RITN centers were also provided with patient profiles for these 6 patients.

Medical Management of the 1 Additional Patient: Six RITN centers decided to assess the adult patients and admit 1 of them. The medical management of the admitted patients is as follows (Table 3):

Table 3: Adult Patient Management

Admitted Patient Management: Adults			
Decisions: Adults	**Patient 1**	**Patient 2**	**Patient 3**
Admit or Outpatient*	No Admit 7 Centers	Yes 1 Center	Yes 6 Centers
Estimated dose upon arrival**	Dose: 3.0 grey Range: 3.0 – 4.7 grey	Dose: 3.2 grey Range: 2.0 – 6.0 grey	Dose: 6.9 grey Range: 3.0 – 11.0 grey
Administer G-CSF	Yes 5 Centers	Yes 6 Centers	Yes 6 Centers
Prophylactic antimicrobials	6 Centers Acyclovir Fluconazole Levofloxacin	6 Centers Acyclovir Fluconazole Levofloxacin	6 Centers Acyclovir Fluconazole Levofloxacin
Treatment antimicrobials	Yes 2 Centers Acyclovir Fluconazole Levaquin Keflex	Yes 5 Centers Acyclovir Fluconazole Levaquin	Yes 2 Centers Acyclovir Fluconazole Levaquin
Hydration (or other treatment)	Yes	Yes	Yes
Lab work, Consultations	• HLA typing, Daily CBC with differentials, Type & screen, chemistries, possible liver tests,	• Daily CBC with differentials, HLA typing, 3 times per week chemistries	• Daily CBC with differentials, type and screen, inpatient intravenous fluids, HLA typing, hydration

Admitted Patient Management: Adults			
Decisions: Adults	**Patient 1**	**Patient 2**	**Patient 3**
	outpatient IV fluids, antimetics and blood products • Heme/BMT consult, transplant consult, Social work, psychology • Aggressive supportive care	• Consult with infectious disease, orthopedics, diabetes, wound care management, medical oncology, endocrinology, breast cancer consult • Comorbidities (e.g. breast cancer, diabetes, leg wound) require close monitoring and would cause hospital admit	and assess for other needs, antimetics, wound care, blood products • Potential electron paramagnetic resonance dosimetry (if available) • Consults include BMT teaching, psychology, dietary, respiratory, palliative care, social services
*6 RITN centers concluded Patient 3 for admission and all centers reached consensus that Patient 1 be treated as an outpatient. **Centers calculated a wide range for the estimated dose upon arrival for the adult patients.			

One RITN center assessed the pediatric patients and decided to admit one of them. The medical management of the admitted patients is as follows (Table 4):

Table 4: Pediatric Patient Management

Admitted Patient Management: Pediatrics			
Decisions: Pediatrics	**Patient 4**	**Patient 5**	**Patient 6**
Admit or Outpatient	Outpatient	Admit	Outpatient
Estimated dose upon arrival	Range: 3.6 – 4.2 grey	Dose: 2.8 grey	Range: 2.7 – 3.3 grey
Administer G-CSF	Yes	No	Yes
Prophylactic antimicrobials*	Acyclovir Fluconazole Levofloxacin	Acyclovir Fluconazole Levofloxacin	Acyclovir Fluconazole Levofloxacin
Treatment antimicrobials	No	Yes	No
HLA Typing	Yes	No	Yes
Hydration (or other treatment)	Yes	Yes	Yes
Lab work, Consultations	• CBC, chemistry, liver, type and screen, Coagulation next day • Consults not provided	• CBC, glucose, chemistry, type and screen. • Consults not provided.	• CBC, chemistry, liver, type and screen. • Consults not provided

Strengths

The following strengths demonstrated:

Strength 1: Each participating RITN center demonstrated capability to medically manage admit of an additional patient following receipt of the initial wave of patients including the immediate provision of medical and mental/behavioral consultations necessary based on the patient's need.

Areas for Improvement

The following areas require improvement:

Area for Improvement 1: RITN centers should continue to discuss medical management of complex patient types such as those provided in this exercise. Consensus could not be reached among centers on a consistent estimated dose upon arrival for the adult patients. Continued discussion through training and exercises will provide an opportunity for the medical care teams to assemble and discuss the complex medical profiles of the NDMS patients they may receive given the events of this exercise scenario.

CONCLUSION

This report augments existing planning/training/exercising programs related to RITN center receipt and medical management of radiologically exposed patients transported to their center and their capabilities to provide medical care in austere situations in which crisis standards of care have been implemented. The strengths validate well-established aspects of the plans while the opportunities for improvement provide information to enhance, refine, or improve existing plans, protocols, policies, procedures, and systems. It is anticipated that the improvement plan will be incorporated into the efforts of each participating RITN center to strengthen the response of the radiation injury treatment network of hospitals and healthcare systems as it relates to the core capabilities identified in this report.

APPENDIX A: IMPROVEMENT PLAN

This improvement plan template has been developed specifically for the RITN centers participating in the 2017 RITN Tabletop Exercise conducted on June 28, 2017. RITN centers can utilize this table to organize the opportunities for improvement to augment and develop their own corrective actions.

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

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

APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Avera McKennan Transplant Institute	Kevin Schlosser
Avera McKennan Transplant Institute	Lacey Roberts
Avera McKennan Transplant Institute	Steve Lee
Avera McKennan Transplant Institute	Stacy Reitmeier
Avera McKennan Transplant Institute	Michelle White
Avera McKennan Transplant Institute	Karajo Schneekloth
Avera McKennan Transplant Institute	Rochelle Rentschler
Avera McKennan Transplant Institute	Lisa Traxler
Avera McKennan Transplant Institute	Chris Gregory
Avera McKennan Transplant Institute	Alexis Crisp
Avera McKennan Transplant Institute	Lynn DeYang
Avera McKennan Transplant Institute	Michael Billion
Avera McKennan Transplant Institute	Cynthia Kannenberg
Avera McKennan Transplant Institute	Sandy Fientz
Avera McKennan Transplant Institute	Lisa Hansen
Avera McKennan Transplant Institute	Megan Timmer
Avera McKennan Transplant Institute	Lacey Roberts
Avera McKennan Transplant Institute	Heather Thomas
Avera McKennan Transplant Institute	Kristen Hurley
Avera McKennan Transplant Institute	Joe Reiland
Avera McKennan Transplant Institute	Denise Haisch
Avera McKennan Transplant Institute	Crystal Enstad
Cleveland Clinic Foundation	Sheila Serafino
Cleveland Clinic Foundation	Barry Fleming
Cleveland Clinic Foundation	Mark Meoca
Cleveland Clinic Foundation	Heather Koniarczy
Cleveland Clinic Foundation	Theresa Nerone
Cleveland Clinic Foundation	Gary Nordwig
Cleveland Clinic Foundation	Ron Sobeck
Cleveland Clinic Foundation	Narneet Majhain
Cleveland Clinic Foundation	Brian Colcombe
Cleveland Clinic Foundation	Kristin Ricci
Cleveland Clinic Foundation	Andy Miller
Cleveland Clinic Foundation	Julie Cossman

Participating Organizations	
Cleveland Clinic Foundation	Rob Dean
Dartmouth Hitchcock Medical Center	John Hill
Dartmouth Hitchcock Medical Center	Catherine Rodriguez
Dartmouth Hitchcock Medical Center	Anna Schaal
Dartmouth Hitchcock Medical Center	Katie Karkowski
Dartmouth Hitchcock Medical Center	Charlotte Coughenour
Dartmouth Hitchcock Medical Center	Kathryn Bushnell-Crowley
Dartmouth Hitchcock Medical Center	David Gladstone
Dartmouth Hitchcock Medical Center	Jim Alexander
Dartmouth Hitchcock Medical Center	Beverle Fillingame
Dartmouth Hitchcock Medical Center	Erik Britton
Dartmouth Hitchcock Medical Center	Emmanuel Ajavon
Dartmouth Hitchcock Medical Center	Lynn Root
Dartmouth Hitchcock Medical Center	Chris Lowrey
Dartmouth Hitchcock Medical Center	Josh Hickman
Dartmouth Hitchcock Medical Center	Sara Sincone
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Seattle Cancer Care Alliance	Erica Karlorits
Seattle Cancer Care Alliance	Avril McDowell
Seattle Cancer Care Alliance	A Rodriguez
Seattle Cancer Care Alliance	Courtney Guadiz
Seattle Cancer Care Alliance	Fallon Leng
Seattle Cancer Care Alliance	Kristen Caughran
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Seattle Cancer Care Alliance	John Smart
Seattle Cancer Care Alliance	Rick Buell
Seattle Cancer Care Alliance	Jackie Jacques
Seattle Cancer Care Alliance	Danica Little
Seattle Cancer Care Alliance	Sarah Reno
Seattle Cancer Care Alliance	Ashley Keolore
Seattle Cancer Care Alliance	Barb Michieli
Seattle Cancer Care Alliance	Cory Fairbanks
Seattle Cancer Care Alliance	Timothy Ehling
Seattle Cancer Care Alliance	Sandra Olson
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Seattle Cancer Care Alliance	Christy Satterle

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Seattle Cancer Care Alliance	Julie Di Ffuria
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Seattle Cancer Care Alliance	Laurie Corner
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Temple University Hospital	Aleisha Llewellyn
Temple University Hospital	Kathryn Leach
Temple University Hospital	Christina Davila
Temple University Hospital	Margaret Bellejeay
Temple University Hospital	Suzanne McHale
Temple University Hospital	Cheryl Brown
Temple University Hospital	Linda Feldmanson
Temple University Hospital	Md Sakis
Temple University Hospital	Stefan Bartz
Temple University Hospital	Jhanzelle Francis
Temple University Hospital	Christiana Carns
Temple University Hospital	Dan Rudolph
Temple University Hospital	Karen Palmer
Temple University Hospital	Henry Fung
University of Minnesota Medical Center	Kimberly Maas
University of Minnesota Medical Center	Pat Kearns
University of Minnesota Medical Center	Stacia Binewn
University of Minnesota Medical Center	Connie Weston
University of Minnesota Medical Center	Jon King
University of Minnesota Medical Center	Leslie Parran
University of Minnesota Medical Center	Elaine Stenstrup
University of Minnesota Medical Center	Ryan Lybeck
University of Minnesota Medical Center	Janet Ziegler
University of Minnesota Medical Center	Debbie Tharp
University of Minnesota Medical Center	Margaret Medmillon
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University of Minnesota Medical Center	Jennifer Grant
University of Minnesota Medical Center	Markas Welke
University of Minnesota Medical Center	Eleanor Leary
University of Minnesota Medical Center	Julie Nelson

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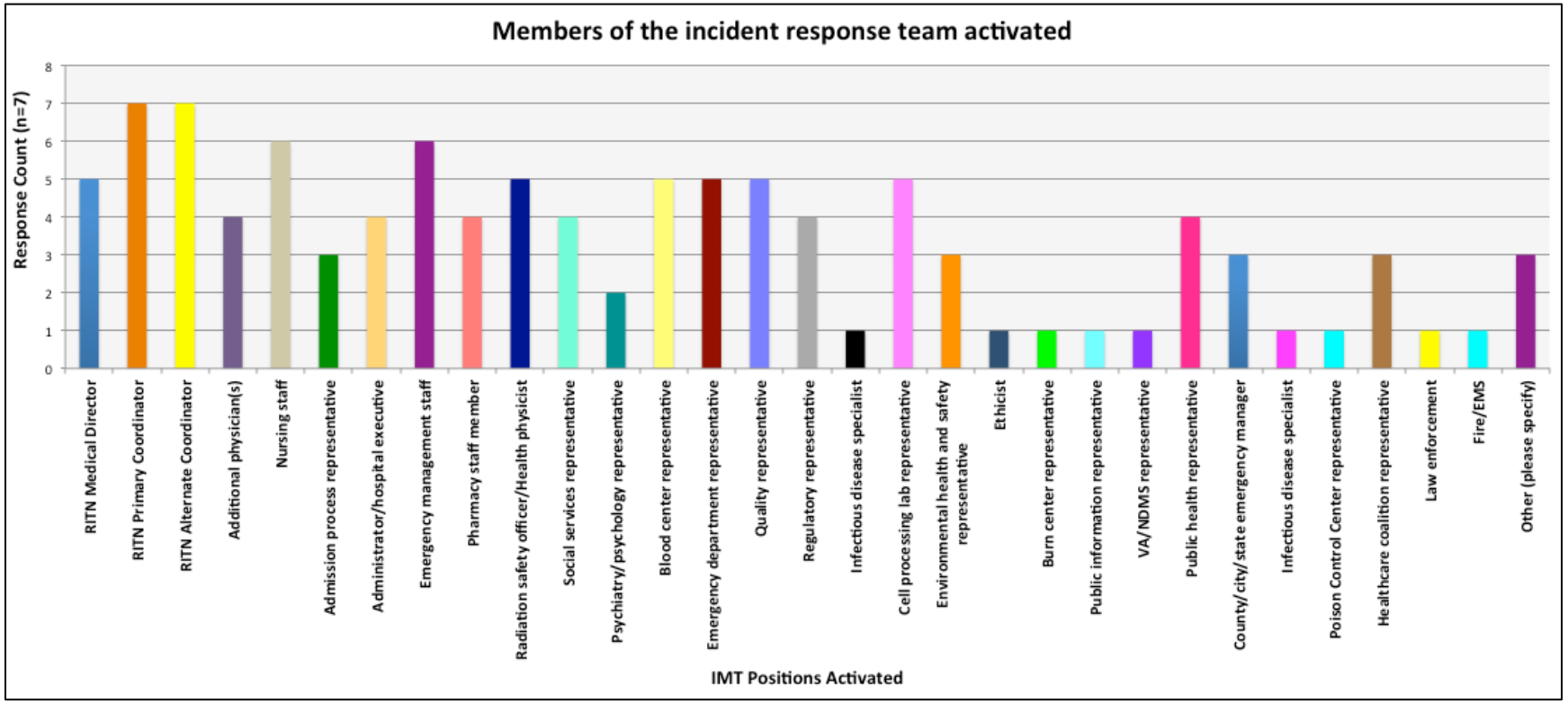
University of Minnesota Medical Center	Gary Griffiths
University of Minnesota Medical Center	Patti Herzog
University of Minnesota Medical Center	Ann Hagerman
University of Minnesota Medical Center	Diane Kadid
University of Minnesota Medical Center	Marie Bawn
University of Minnesota Medical Center	Linda Meulners
University of Minnesota Medical Center	Denise Moser
University of Minnesota Medical Center	Sandy Alexanl
University of Minnesota Medical Center	Sara Burdos
University of Minnesota Medical Center	Sue Haight
West Virginia University Cancer Institute	Crystal Peck
West Virginia University Cancer Institute	Dave Staten
West Virginia University Cancer Institute	Londia Goff
West Virginia University Cancer Institute	David Keefover
West Virginia University Cancer Institute	Nathan Burt
West Virginia University Cancer Institute	Brandon Knotts
West Virginia University Cancer Institute	Bill Black
West Virginia University Cancer Institute	Lana Bunner
West Virginia University Cancer Institute	Aaron Kocsis
West Virginia University Cancer Institute	Megan Bodge
West Virginia University Cancer Institute	Michelle Synder
West Virginia University Cancer Institute	Nina Hancock
West Virginia University Cancer Institute	Stephen Root
West Virginia University Cancer Institute	Mathew Kirby
West Virginia University Cancer Institute	Kathy Watkins
West Virginia University Cancer Institute	Kathy McDaniel
West Virginia University Cancer Institute	Kathy Webster
West Virginia University Cancer Institute	Debra Falconi
West Virginia University Cancer Institute	Tracie Nichols
West Virginia University Cancer Institute	Stephanie Owens
West Virginia University Cancer Institute	J. David Shield
West Virginia University Cancer Institute	Richard Todd
West Virginia University Cancer Institute	Nilah Shah

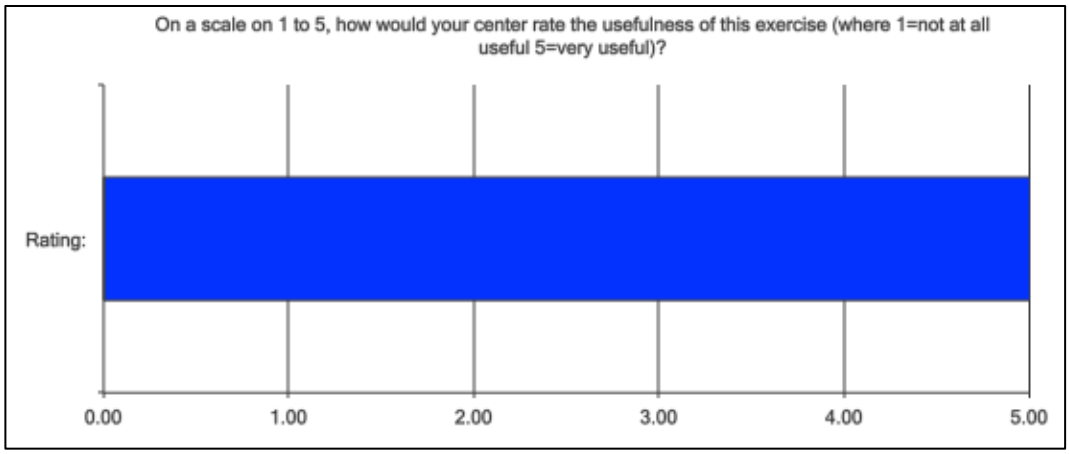
Members of the Incident Response Team Activated for the Exercise



APPENDIX C: PARTICIPANT FEEDBACK

RITN Centers were asked to provide some brief feedback on an online questionnaire following the exercise. The comments below are not in any particular order and are provided unedited to avoid intent changes.

Note: The average rating provided by the participating RITN centers regarding the usefulness of this exercise was 5.0 (out of 5.0). Number of responses = 7.



Based on discussions today, please briefly describe the 1 or 2 strengths demonstrated by your organization's ability to respond to a radiation mass casualty incident as described in this exercise scenario.	
Avera McKennan Transplant Institute	*Smaller program we have an easy time with communication between the different specialty areas. Cohesive group. Very good partnership with the city and state.*
Cleveland Clinic Foundation	*Our ability to accommodated a large surge of victims due to the size of our campus, resources and emergency plan in place.*
Dartmouth Hitchcock Medical Center	*We have a really good team that takes enjoyment in the participation with the RITN based upon medical interests. We have dedicated members who will come together when needed too without hesitation. It makes for a nice cohesive group when all the members of the team want to add value to the RITN process. Our facility practices other types of mass causality incidents which allows us to see how the systems moves and bends under extreme pressures.*

Based on discussions today, please briefly describe the 1 or 2 strengths demonstrated by your organization's ability to respond to a radiation mass casualty incident as described in this exercise scenario.	
Seattle Cancer Care Alliance	*Strong ties to emergency management resources locally, city and state. Very strong depth of knowledge of transplant medicine, which would provide high level of expertise when assessing care of patients. Standards of care is currently being developed by our partner institution and will be implemented into our SOP.*
Temple University Hospital	*I believe the TTX brought up multiple aspects of our program we need to discuss further. Great scenario's to help illustrate potential events and what we can do to assist.*
University of Minnesota Medical Center	*We've been doing this for years so have some comfort and experience with these exercises. We can take care of both adult and children and have a large capacity because of our network.*
West Virginia University Hospitals	*We would be able to utilize Live Process to coordinate resources throughout our region. We have a network of 5 hospitals across the state with 2 additional cancer centers.*

Based on discussions today, please briefly describe the 1 or 2 challenges demonstrated by your organization's ability to respond to a radiation mass casualty incident as described in this exercise scenario.	
Avera McKennan Transplant Institute	*We need to discuss an altered standard of care program within our hospital organization.*
Cleveland Clinic Foundation	*The CSC has been worked on by all hospitals in the state, however there is no physical document that has been produced. In the event we get to this level, it will be a challenge when the state implements CSC. We know the contents of the document, just not in anyone's possession. It sounded like we were not the only state in this situation.*
Dartmouth Hitchcock Medical Center	*We always feel ready to respond, but its always hard to say how we will respond when we really need too. Our biggest challenge would continue to be public/staff education about what happened as well as why Dartmouth is involved.*
Seattle Cancer Care Alliance	*Really need to pin down idea of "altered standards of care" and develop this into our SOP. Communication between*

Based on discussions today, please briefly describe the 1 or 2 challenges demonstrated by your organization's ability to respond to a radiation mass casualty incident as described in this exercise scenario.	
	entities for care of patients across region remains a question.
Temple University Hospital	*Lack of input from some team members.*
University of Minnesota Medical Center	*The CSC needs to be clarified* *We need to get contracts or MOUs with hotels* *Staffing - medical, lab, providers.*
West Virginia University Hospitals	*At times inpatient bed availability is very limited.* *The state and WVUH will continue to work on developing a CSC.*

List and briefly discuss elements to address for future RITN exercises.	
Avera McKennan Transplant Institute	*More triage and work on transplantation.*
Cleveland Clinic Foundation	*The times allotted for discussion of each module could be decreased. Or as someone suggested maybe we weren't using the "raised hand" process appropriately.*
Dartmouth Hitchcock Medical Center	*Joint decision making is great. It would be nice to try and figure out how you would co-manage patients with another center. Thinking about a scenario where we say we can accept 15 patients but something happens in the assignment queue and we receive 25 patients. How would your center readjust when you receive more than you said you could?*
Seattle Cancer Care Alliance	*Better idea of how we would access Federal funding to pay for care of patients who may not have coverage, (have heard that this can take a long time, and require a lot of documentation).*
Temple University Hospital	*As discussed after the TTX, great job! However, we did have time constraints and people had to leave because of the time crunch.*
University of Minnesota Medical Center	*What does RITN cover for these events - clarify finances* *Longevity of this - what happens day 30 if patient still here - long term care. How about a scenario of 30 days post - what happens now. Gone through immediate days many times, now need long term*
West Virginia University Hospitals	*Just in time training.* *Education about national pharmacy resources(if any) of growth factors and antibiotics in the event of shortages.*

APPENDIX D: ACRONYMS

Acronym	Term
AAR	After Action Report
BMT	Bone Marrow Transplantation
BMP	Bone Marrow Program
CBC	Complete Blood Count
CMP	Comprehensive Metabolic Panel
CSC	Crisis Standards of Care
EKG	Electrocardiogram
FCC	Federal Coordinating Center
GCSF	Granulocyte Colony-Stimulating Factor
HCS	Healthcare Standard
HCT	Hematopoietic Cell Transplantation
HHS	Health and Human Services
HLA	Human Leukocyte Antigen
IV	Intravenous
IND	Improvised Nuclear Device
JPATS	Joint Patient Assessment and Tracking System
LFT	Liver Function Test
NMDP	National Marrow Donor Program
NDMS	National Disaster Medical System
ONR	Office of Naval Research
PACU	Post Anesthesia Care Unit
PPE	Personal Protective Equipment
RITN	Radiation Injury Treatment Network
SAT	Suicide Assessment Team
TRACES	Web based system to move and track patients
TTX	Tabletop Exercise