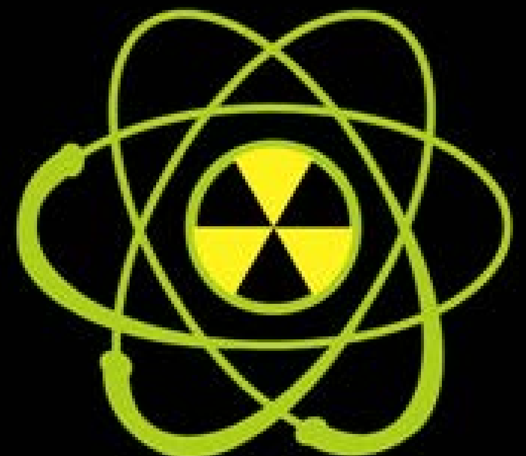
2018

After-Action Report/Improvement Plan



EXERCISE OVERVIEW

Exercise Name	2018 RITN Tabletop Exercise (TTX)
Exercise Date	August 9, 2018
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:** RITN hospital staff is able to identify staffing strategies and plans to ensure adequate staffing during a surge caused by a distant radiological event. **Objective 2:** RITN hospital staff is able to describe their approaches for triaging patients and determining initial treatment actions for patients with Acute Radiation Syndrome (ARS). **Objective 3:** RITN hospital staff is able to discuss their procedures for the use of medical countermeasures and other pharmaceuticals in high demand.
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	Banner University Medical Center – Tucson, AZ City of Hope National Medical Center – Duarte, CA Emory University Hospital – Atlanta, GA Greenville Memorial Hospital – Greenville, SC H. Lee Moffitt Cancer Center and Research Institute – Tampa, FL St. Francis Hospital and Health Centers – Indianapolis, IN University of Mississippi Medical Center – Jackson, MS

	UNC Hospitals – Chapel Hill, NC University of Colorado Hospital – Aurora, CO University of Iowa Hospitals and Clinics – Iowa City, IA University of Pittsburgh Medical Center – Pittsburgh, PA Wake Forest Baptist Medical Center – Winston Salem, NC West Virginia University Hospitals, Inc. – Morgantown, WV
Point of Contact	RITN Control Cell RITN@NMDP.ORG (612) 884-8276

EXERCISE SUMMARY

On August 9, 2018, RITN centers and the RITN Control Cell participated in a tabletop exercise to discuss RITN centers planning actions to identify staffing strategies and plans to ensure adequate staffing during a surge, describe their approaches for triaging patients and determining initial treatment actions for patients with ARS, and discuss their procedures for the use of medical countermeasures and other pharmaceuticals in high demand following a distant radiological event. 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:

Exercise Scenario Ground Truth

- A 10-kiloton Improvised Nuclear Device (IND) was detonated in a major metropolitan area.
- The blast occurred at least 500 miles away from your facility and there is no concern of fallout affecting your location.
- RITN Control Cell staff begins to monitor the situation and start sending out daily Situation Reports (SitReps).
- All centers are requested to submit daily Healthcare Standard (HCS) capabilities matrix.

Day 4

- The National Disaster Medical System (NDMS) issues activation protocol for your region and the local Federal Coordinating Center (FCC) establishes a Patient Reception Area (PRA) and expects patients to start arriving in the next 24-48 hours.

Day 5

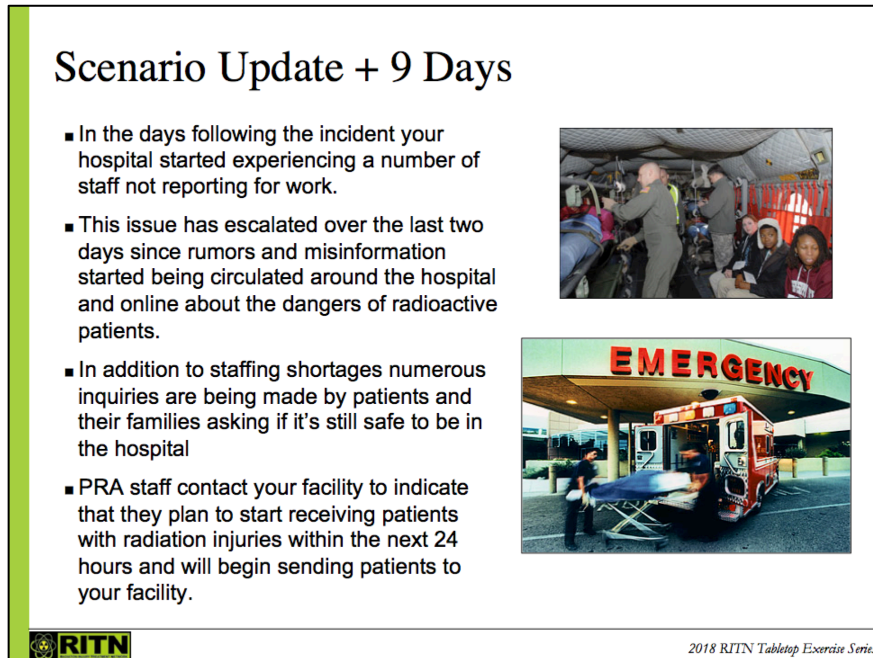
- The first NDMS aircraft begin to arrive at the PRA carrying patients with traumatic injuries. These patients are sent to NDMS hospitals in the area, but your facility has not received any patients at this time.

ANALYSIS OF CAPABILITIES

Module 1: Messaging and Staffing

Participants were provided the following update to the scenario information (Figure 1). Based

Figure 1: Scenario Update Event + 9 Days



on the scenario inject information, RITN Centers were asked to discuss multiple considerations related to their staff to include messaging. Considerations for messaging included current plans to keep staff safe and the type and method of communication used to inform staff.

Steps to Ensure Staff Safety: All participating RITN centers would activate their hospital incident command/management teams as the primary action taken by their facility to ensure and maintain staff safety and confidence. The Radiation Safety Officer would be the subject matter expert and lead the development and coordination of messaging (along with the PIO) as well as just-in-time training. All participating RITN centers emphasized the importance of transparent communication with staff, patients, families, visitors, and all others entering/exiting the facility.

Staff Messages: All participating RITN centers stated that development of staff messaging would begin as soon as the command team assembled. Message development would be coordinated through the RSO and the PIO and content would emphasize work safety. Employees, their families and the patients would be educated on the facts of radiation and the assurance the hospital is a safe work environment, the measures taken to continue a safe work environment, assurances that staff would not become contaminated, and the patients coming are

exposed and not contaminated (i.e. the differences between exposure and contamination). One RITN center indicated that exposure and treatment of burn victims may be used as an example to reinforce the exposure content within the safety/awareness messaging. Messaging would also contain the specific actions taken by the hospital to maintain staff, patient, family, and visitor safety and all precautionary measures staff can take to ensure safety is maintained.

Specific messages would be developed and distributed for both internal and external audiences. External messages would be coordinated through the PIO Office/Communications Office/Public Relations Office (or through the Corporate Communications Office if the hospital is part of a larger corporate health system) with the local public health department as well as local emergency management agency and, for several participating centers, the VA. Two RITN centers indicated that a joint information center would be established by local and state public health departments and coordinated with local emergency management officials with participation from CDC-ASPR, RITN, and the Poison Center to ensure message consistency. Dissemination platforms would include all social media channels, facility webpage, traditional media outlets (television and radio), and public service announcements.

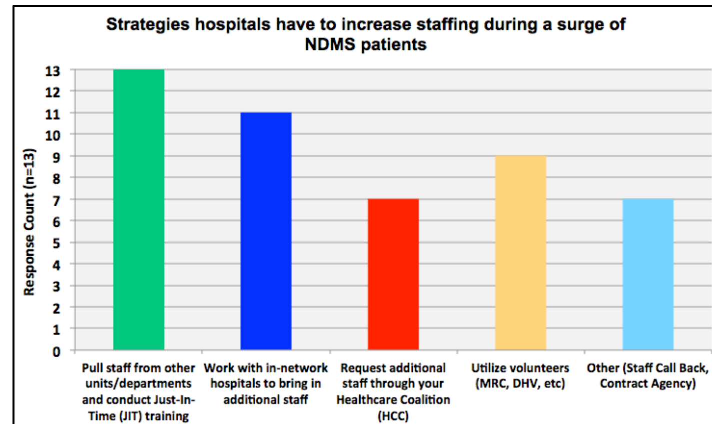
All participating RITN centers discussed a wide variety of communication methods that have been used historically during real-world events to disseminate messages internally. Examples discussed included:

- Internal notification and email
- Hospital bulletins
- Dedicated webpage accessed via RITN center website
- Hospital's learning management system with just-in-time training materials
- Hospital software platforms and notifications systems such as SmartNotice, MyChart notifications, and Everbridge
- RITN center newsletter
- Hospital paging and text messages
- Hospital intranet
- Paper-based FAQs
- Town Hall meetings, daily briefings/huddles, and roundtables
- In-house CCTV
- Recorded messages sent through internal phone tree

Staff Increases: RITN centers discussed multiple strategies to increase staffing levels during a NDMS surge of patients (Figure 2). All participating centers utilized a variety of strategies:

- Pull staff from other units/departments and conduct just-in-time training
- Reassign staff from in-network hospitals
- Request staffing support from surrounding health systems as needed
- Utilize volunteers
- Staff call-back

Figure 2: Strategies to Increase



Though ten of the 13 participating centers have a process in place to request a waiver so staff/patient ratios can be adjusted, the participating RITN centers indicated no difficulty in reassigning staff internally to support a NDMS surge of patients. Given the staffing depth, staffing support resources through their internal systems and networks or neighboring hospitals, and the number of days prior to the arrival of NDMS patients, RITN centers demonstrated the capability to quickly identify staff for reassignment to support a surge of NDMS patients.

RITN Radiation Safety Course: Seven of the 13 participating RITN centers have a predefined course for non-medical staff for radiation training. For those RITN centers with a predefined course, the Radiation Safety Officer is primarily responsible for developing the content for non-medical staff and this content is included in new hire training, annual in-person or online refresher radiation safety training. All participating RITN centers stated their existing training courses can be quickly adapted prior to a surge of NDMS patients.

Volunteers: Given the events in this scenario, all 13 participating RITN centers have a process (or policy) currently in-place to ensure volunteer credentials are appropriate; however 12 of the 13 participating RITN centers would use of volunteers for this event. RITN centers provided a variety of processes to ensure credentials are appropriate, such as:

- Internal departments verify credentialing (Medical Staff Affairs)
- Local department of health
- State's medical bylaws

All RITN centers indicated a type of supervision policy for non-medical volunteers or partner/shadow policy. Participating RITN centers utilizing volunteers for this event stated medical volunteers would be partnered with in-house medical staff (or previously

credentialed/verified volunteer medical staff). Two participating RITN centers indicated volunteer medical staff would have a shadow/partner for 72 hours and then would not require a shadow/partner.

Strengths

The following strengths were demonstrated:

Strength 1: All RITN centers demonstrated that ability to rapidly disseminate a coordinated internal and external message upon notification of the receipt of NDMS patients.

Strength 2: All RITN centers demonstrated and discussed the ability to rapidly augment staffing levels to treat a surge of NDMS patients. Participating centers also stated current plans to augment staff include community partners and use of hiring agencies for non-medical and medical staff support.

Areas for Improvement

The following areas require improvement:

Area for Improvement 1: For those without a process, RITN centers should develop a policy/process to request a waiver so staff/patient ratios can be adjusted so that staff can be reassigned to support a NDMS surge of patients. RITN centers should follow existing protocols to develop policies/processes involving reassignment of staff.

Area for Improvement 2: The Radiation Safety Officer should ensure that all medical and non-medical staff completes a predefined radiation safety course. If a predefined radiation safety course is not available, the RSO should work with RITN to identify and complete said course.

Module 2: Patient Triage and Medical Countermeasures

Participants were provided the following update to the scenario information (Figures 3 and 4).

Figure 3: Scenario Update Event + 10 Days

Figure 4: Scenario Update Event + 10 Days

	Conventional	Contingency	Crisis
Space	Usual patient care space fully utilized	Patient care areas re-purposed (PACU, monitored units for ICU-level care)	Facility damaged/unsafe or non-patient care areas (classrooms, etc.) used for patient care
Staff	Usual staff called in and utilized	Staff extension (brief deferrals of non-emergent service, supervision of broader group of patients, change in responsibilities, documentation, etc.)	Trained staff unavailable or unable to adequately care for volume of patients even with extension techniques
Supplies	Cached and usual supplies used	Conservation, adaptation, and substitution of supplies with occasional re-use of select supplies	Critical supplies lacking, possible re-allocation of life-sustaining resources
Standard of care	Usual care	Functionally equivalent care	Crisis standards of care[a]

Based on the scenario inject information, 10 days have elapsed since the detonation and RITN centers are experiencing disruptions to their supply chains and resources as there are nationwide shortages of critical supplies (e.g. IV and PO, growth factors, IV fluids, and reagents for lab analyzers). RITN centers are being asked to accept as many ARS patients as possible.

Patient Reception Area: All 13 of the participating RITN centers have a formal plan that outlines their process to triage patients from the Patient Reception Area, which included all patients being re-triaged and processed for care upon arrival at the RITN center. Eight of the 13 participating RITN centers would receive NDMS patients at their emergency department; 2 centers would receive NDMS patients directly on their BMT floors; and the remaining 3 participating RITN centers would receive NDMS patients at pre-identified locations outside of their emergency departments. Generally, all of the participating RITN centers stated their process to receive patients from the PRA does not differ for ambulatory patients that do not have immediate life threatening issues; however, three of the RITN centers acknowledged overall medical need based on the re-triage of patients may alter this process.

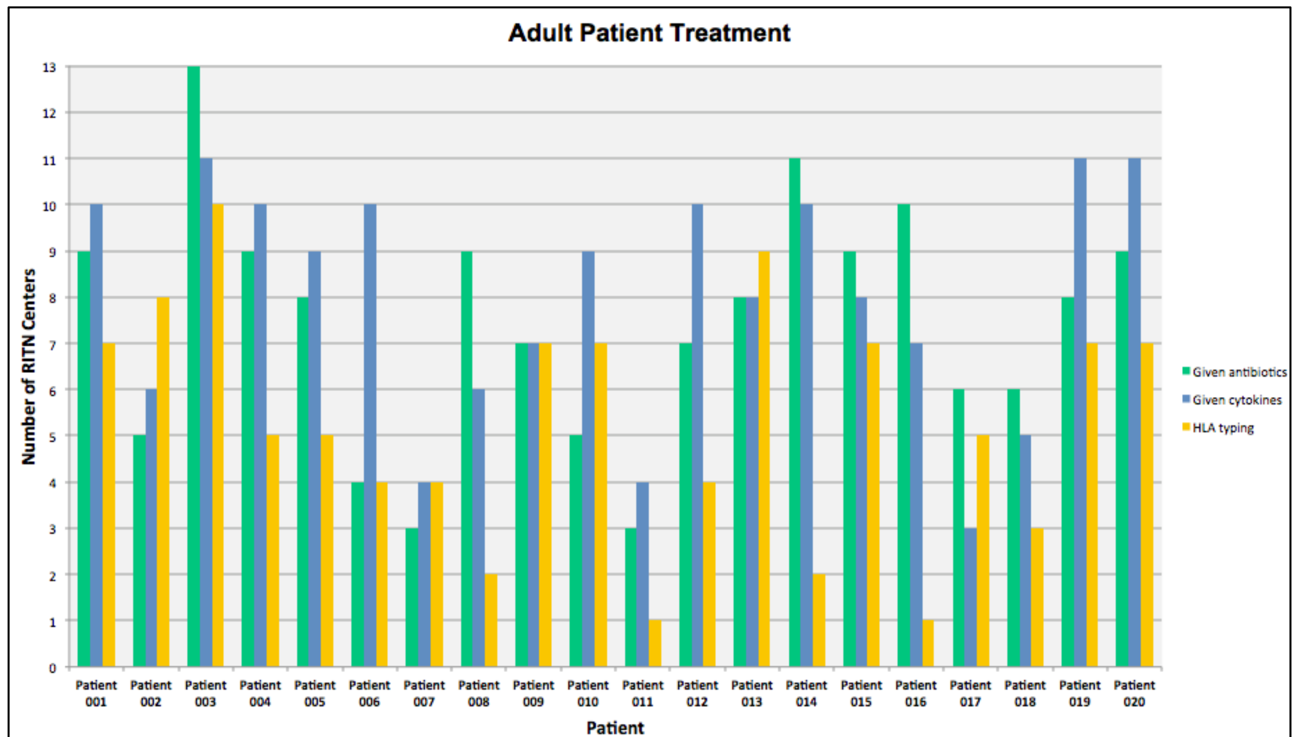
Adult Patient Treatment: All 13 of the participating RITN centers chose the adult patients to triage and treat. Of note, none of the patients had received growth factors prior to arrival at the RITN center (See Appendix B). The participating RITN centers did not reach consensus on the triage of any of the adult patients.

All participating RITN centers triaging and treating the adult patients would provide at a minimum the following information to the patients discharged for outpatient care:

- Signs and symptoms to observe (i.e. the standard outpatient BMT information with emphasis on exposure and injuries from radiation; neutropenic precautions)
- Treatment plan
- Contact information for the RITN center
- Procedures to access outpatient clinic/center after-hours
- Schedule for follow-up visits and information on clinic location
- Monitoring information and contact information/meeting schedule with social worker/case manager
- Information on local resources
- Housing information and how to coordinate placement
- Transportation resources for follow-up visits

The following graph displays the number of adult patients that would receive cytokines, antibiotic therapy, and HLA typing. RITN centers reached consensus on administering antibiotics to Patient 3. Of note, at least 10 of the 13 participating RITN centers reached

Figure 5: Adult Treatment Therapies



consensus on the following:

- Patient 1 given cytokines

- Patient 3 given antibiotics and cytokines and HLA typing
- Patient 4 given cytokines
- Patient 6 given cytokines
- Patient 12 given cytokines
- Patient 14 given antibiotics and cytokines
- Patient 16 given antibiotics
- Patient 19 given cytokines
- Patient 20 given cytokines

Generally, all participating RITN centers have established processes in place for sterilization and reuse of durable reusable medical equipment and tools. Additionally, all RITN centers indicated that the information provided would not force hospitals to reuse any of their disposable equipment or supplies. If circumstances changed, hospitals would contact their vendors (i.e. Material Management or Supply Chain Department) to discuss equipment specifications and performance parameters to determine if the equipment could be autoclaved.

Strengths

The following strengths were 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 triaging and treating pediatric patients should review (and update if necessary) the information that would be provided to NDMS pediatric patients and their families if discharged for outpatient care. If a content update is necessary, consideration should be given to include BMT information, a comprehensive contact list for the RITN center in the event symptoms develop/worsen, housing information, and transportation information.

Area for Improvement 2: All RITN centers should review and update policies or procedures accordingly regarding the reuse and sterilization of otherwise disposable equipment for circumstances of critical shortages. Considerations for planning updates include: update of vendor contact information and recommendations, stockpiling disposable equipment needed for NDMS patients, and re-supply agreements from neighboring facilities for equipment needed for NDMS patients only.

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 2018 RITN Tabletop Exercise conducted on August 9, 2018. 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]					

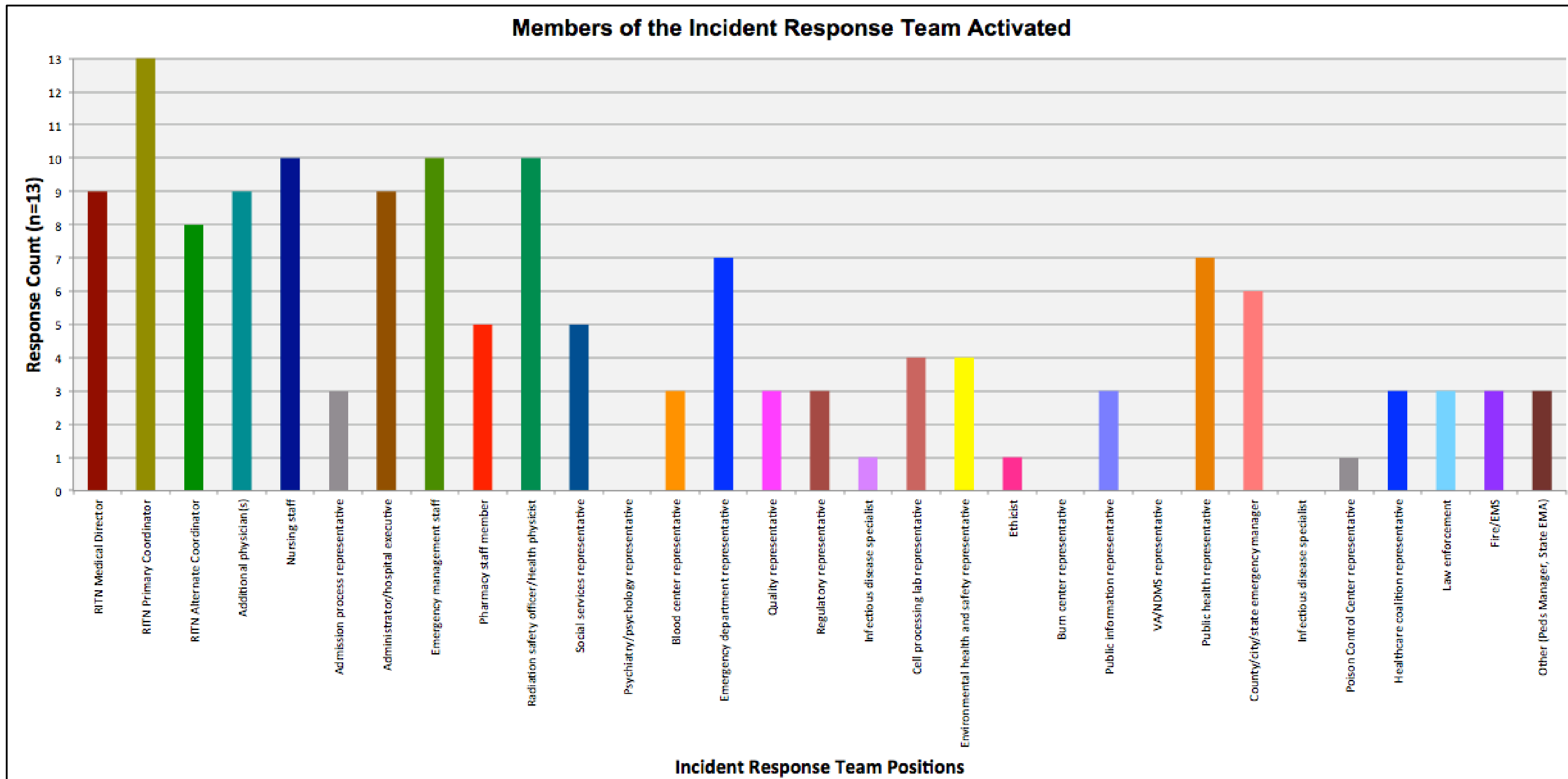
[1] Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

APPENDIX B: PATIENT DECISIONS & INCIDENT MANAGEMENT TEAM ACTIVATION

The following tables depicts the adult patient medical management decisions.

Adult Patient Triage						
	Admitted to BMT bed	Admitted to hematology/oncology bed?	Treated as an outpatient	Discharged to home / shelter	Provided palliative care only	Total
Patient 001	2	6	5	0	0	13
Patient 002	3	3	5	2	0	13
Patient 003	10	3	0	0	0	13
Patient 004	1	2	10	0	0	13
Patient 005	2	8	1	0	2	13
Patient 006	2	2	9	0	0	13
Patient 007	5	0	3	0	5	13
Patient 008	2	6	0	0	5	13
Patient 009	5	0	8	0	0	13
Patient 010	7	2	2	2	0	13
Patient 011	1	2	1	6	3	13
Patient 012	5	8	0	0	0	13
Patient 013	9	1	0	0	3	13
Patient 014	2	10	1	0	0	13
Patient 015	9	0	3	1	0	13
Patient 016	0	8	3	0	1	13
Patient 017	3	1	0	0	9	13
Patient 018	2	5	2	0	4	13
Patient 019	3	7	1	0	2	13
Patient 020	2	6	3	0	2	13

Members of the Incident Response Team Activated for the Exercise



Appendix C: Exercise Participants

Participating Organizations	
Banner University Medical Center	Don Brazie
Banner University Medical Center	Grace Weiss
Banner University Medical Center	Edna Adams
Banner University Medical Center	Gina Mcevy
Banner University Medical Center	Matthew Knight
Banner University Medical Center	Ann Peterson
Banner University Medical Center	Candice Preble
Banner University Medical Center	Brett Behan
Banner University Medical Center	Joyce Morgan
Banner University Medical Center	Sue Sinva
Banner University Medical Center	Elizabeth Bracts
Banner University Medical Center	Daniel Silvain
Banner University Medical Center	Jeff Guthrie
Banner University Medical Center	Cynthia Garcia
Banner University Medical Center	Lori Mare
Banner University Medical Center	Cathy Grimes
Banner University Medical Center	Coy Collins
Banner University Medical Center	Louie Valenzuela
Banner University Medical Center	Keri Maher
City of Hope National Medical Center	Randall Heyn-Lamb
City of Hope National Medical Center	Chatchada Karanes
City of Hope National Medical Center	Semideh Shayani
City of Hope National Medical Center	Carl Kildov
City of Hope National Medical Center	Yvonne Moreno
City of Hope National Medical Center	Gerardo George
City of Hope National Medical Center	Mary Perkin
City of Hope National Medical Center	Elaina Corbett
City of Hope National Medical Center	Monica Munareth
Emory University Hospital	Sam Sharter
Emory University Hospital	Amanda Schuett
Emory University Hospital	Angela Adams
Emory University Hospital	Robin LaRocco
Emory University Hospital	Daniela Casbourne
Emory University Hospital	Emily Bracewell

Participating Organizations	
Emory University Hospital	Ziad Kazzi
Emory University Hospital	Catherine Maloney
Emory University Hospital	Kutheria McKnight
Emory University Hospital	Chris Baker
Emory University Hospital	Tim Reeve
Emory University Hospital	Gertrude Jackins
Emory University Hospital	Anthony Thai
Franciscan Health	Greg Hall
Franciscan Health	Donoven Bowling
Franciscan Health	Jeff Morgan
Franciscan Health	Diana Leonard
Franciscan Health	Arnand Tandra
Greenville Memorial Hospital	Jessica Shumpf
Greenville Memorial Hospital	Karla Little
Greenville Memorial Hospital	Mile Brown
Greenville Memorial Hospital	Jackie Mullins
Greenville Memorial Hospital	Glenn Wert
Greenville Memorial Hospital	Brad Seidel
Greenville Memorial Hospital	Brian Laney
Greenville Memorial Hospital	Jeanne Toweny
Greenville Memorial Hospital	Susan Webb
Greenville Memorial Hospital	S. Fanning
Greenville Memorial Hospital	Denny Dobbs
Greenville Memorial Hospital	Thomas Brehmer
Greenville Memorial Hospital	Aaron Dix
Greenville Memorial Hospital	John Williams
Greenville Memorial Hospital	Pam Clingerman
Greenville Memorial Hospital	Karla Fernandez
H. Lee Moffitt Cancer Center & Research Institute	Joseph Pidala
University of Iowa Hospitals and Clinics	Sheila Ouverson
University of Iowa Hospitals and Clinics	Chris James
University of Iowa Hospitals and Clinics	Sam Jarvis
University of Iowa Hospitals and Clinics	Umar Farooq
University of Iowa Hospitals and Clinics	Shannon Hunger
University of Iowa Hospitals and Clinics	Kristen Andresen
University of Iowa Hospitals and Clinics	Deb Bohlken

Participating Organizations	
University of Iowa Hospitals and Clinics	Tom Moore
University of Iowa Hospitals and Clinics	Mike Hartley
University of Iowa Hospitals and Clinics	Jonathan Simmons
University of Iowa Hospitals and Clinics	Denise Baird
University of Iowa Hospitals and Clinics	Keri Semrau
University of Iowa Hospitals and Clinics	Laura Ringe
University of Iowa Hospitals and Clinics	Meredith Ginn
University of Iowa Hospitals and Clinics	Jen Adams
University of Iowa Hospitals and Clinics	Margarida Silverman
University of Iowa Hospitals and Clinics	Barb Schuessler
University of Iowa Hospitals and Clinics	Rhonda Evans
University of Iowa Hospitals and Clinics	John Staley
University of Iowa Hospitals and Clinics	Julie Landsteiner
University of Iowa Hospitals and Clinics	Libby Stutzman
University of Mississippi Medical Center	Melissa Robertson
University of Mississippi Medical Center	Ann Young
University of Mississippi Medical Center	Sherry Allen
University of Mississippi Medical Center	Natalie Campbell
University of Mississippi Medical Center	Katie Williams
University of Mississippi Medical Center	Ginger Caldwell
University of Mississippi Medical Center	Susan Johnson
University of Mississippi Medical Center	Jason Smith
University of Mississippi Medical Center	Vicky Tygart
University of Mississippi Medical Center	Rebecca Dukes
University of Mississippi Medical Center	Mary Kendall Gibson
University of Mississippi Medical Center	Wendy Arindez
University of Mississippi Medical Center	Carolyn Bigelow
University of Mississippi Medical Center	Jennifer Rouse
University of Mississippi Medical Center	Sarah Elkin
University of Mississippi Medical Center	D. Davis
University of Mississippi Medical Center	Teresa Holmann
University of Mississippi Medical Center	Teresita Dupree
University of Mississippi Medical Center	Elicia King
University of Mississippi Medical Center	Dale Tallman
University of Mississippi Medical Center	Calvin Payne
University of Mississippi Medical Center	Raquel Barrett

Participating Organizations	
University of Mississippi Medical Center	Pam Farris
University of Mississippi Medical Center	Vincent Herrin
UNC Hospitals	Pat Odell
UNC Hospitals	Randy Hoffman
UNC Hospitals	Pat Yee
UNC Hospitals	Ella Simms
UNC Hospitals	Judie Bringhurst
UNC Hospitals	Josh Bradley
UNC Hospitals	Alicia Pinto
UNC Hospitals	Sarah Pickhardt
UNC Hospitals	Genise Nicholson
UNC Hospitals	Kimberly Kasow
UNC Hospitals	Tom Shea
UNC Hospitals	Debbie Covington
UNC Hospitals	Sam Sharf
UNC Hospitals	Martha Tye
UNC Hospitals	Andrew Shart
UNC Hospitals	Elizabeth Schroeder
UNC Hospitals	Paula Marinis
UNC Hospitals	Dalton Sawyer
UNC Hospitals	Darshan Patel
UNC Hospitals	Marcie Riches
UNC Hospitals	Roger Sit
UNC Hospitals	Ben Smith
UNC Hospitals	Pat Boone
UNC Hospitals	Darrell Jeter
UNC Hospitals	Jon Ptachinski
UNC Hospitals	Wendy Quigley
University of Colorado Hospital	Clinton Andersen
University of Colorado Hospital	Denise Anduriakis
University of Colorado Hospital	Deirdre Elder
University of Colorado Hospital	James DeWolfe
University of Colorado Hospital	Erica Pratt
University of Colorado Hospital	John Kady
University of Colorado Hospital	David Rowley
University of Colorado Hospital	Staci Aden

Participating Organizations	
University of Colorado Hospital	Laura Samuelson
University of Colorado Hospital	Chris Taylor
University of Colorado Hospital	Karen Lovett
University of Iowa Hospitals & Clinics	Sheila Ouverson
University of Pittsburgh Medical Center	Sarah Rankin
University of Pittsburgh Medical Center	Lindsay Blinky
University of Pittsburgh Medical Center	Johanna Watterson
University of Pittsburgh Medical Center	Andrew Varner
University of Pittsburgh Medical Center	Michael Sheetz
University of Pittsburgh Medical Center	Chu Wang
University of Pittsburgh Medical Center	Susan Gibson
Wake Forest Baptist Medical Center	Tracy Coyne
West Virginia University Hospitals Inc.	Jamie Moore
West Virginia University Hospitals Inc.	Dave Staten
West Virginia University Hospitals Inc.	Matthew Kirby
West Virginia University Hospitals Inc.	Timothy Tull
West Virginia University Hospitals Inc.	Tracie Nichols
West Virginia University Hospitals Inc.	Michelle Snyder
West Virginia University Hospitals Inc.	Kathy Watkins
West Virginia University Hospitals Inc.	Michael Chargualaf
West Virginia University Hospitals Inc.	Darah Kinser
West Virginia University Hospitals Inc.	Kristen Daft
West Virginia University Hospitals Inc.	Aaron Shmookler
West Virginia University Hospitals Inc.	Dale Childs
West Virginia University Hospitals Inc.	Kathy Webster
West Virginia University Hospitals Inc.	Jennifer Craddock
West Virginia University Hospitals Inc.	Brian Rehwinkel
West Virginia University Hospitals Inc.	Bill Black
West Virginia University Hospitals Inc.	Richard Todd
West Virginia University Hospitals Inc.	Deborah Falconi
West Virginia University Hospitals Inc.	Nina Hancock
West Virginia University Hospitals Inc.	Londia Goff
West Virginia University Hospitals Inc.	Nilay Shah
West Virginia University Hospitals Inc.	Crystal Peck

Appendix D: 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 4.77 (out of 5.0). Number of responses = 13.

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.	
Banner University Medical Center	• *Participation: Great turn out from many departments, both clinical and non-clinical. New attendees included: Pima County Public Health, County Emergency Management, Banner Security, Pediatrics, Administration, RSO.* • *Discussion & Sharing Information: Great discussion and sharing of information, ideas and suggestions from the participants. Comments that many were not fully aware of what others would be doing or could offer in an emergency.* • *Knowledge of Plans: Staff knew the plan for receiving patients: Will be off-loaded at airport, triaged, transported from Airport, to Tucson Campus ED. Triaged again in the TC - ambulance bay outside patient decon shower. Decision to admit, go to Cancer Center, discharge for observation or moved to location for palliative care. It was mentioned that these patients would not need to be decontaminated. Patients would be kept separate from other patients, easier tracking.* • *Patient Movement/Triage: Good discussion and sharing information on patient movement and triaging, why the Decon Shower location, using security for crowd control, etc. May need to do some awareness training.*
City of Hope National Medical Center	*City of Hope's transplant program is one of the largest in the US. Since it is a specialty hospital, there is no real emergency room/trauma care. This makes us uniquely suited to RITN, as the patients being sent to us would already be triaged, and would be in need of highly specialized heme/HCT care.*
Emory University Hospital	*Used the time before the exercise to look at a deeper dive on operational issues. We have a large multi-disciplinary team, and we are able to leverage an 11-hospital system, as well as our 325-bed hotel and conference center to manage a RITN response.*

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.	
Greenville Memorial Hospital	*Strengths include a coordinated effort amongst clinical, support services, and community members in the ability to coordinate from initial notifications for the duration of the treatment for the patients to be received. Inpatient and outpatient services regularly work together in a coordinated fashion, the consolidation of all RITN outpatients to one clinic will allow for easy transportation to their temporary housing and treatments, as well as helping managed care and support monitor patient populations.*
H. Lee Moffitt Cancer Center & Research Institute	*Ability to provide supportive care - triage based on expected radiation dose - HLA typing and work up for transplant.*
St. Francis Hospital and Health Centers	*We realized that we do have plans in place to respond to an incident and feel we should be prepared. Many local resources are available to our hospital in the event of an incident.*
University of Mississippi Medical Center	*We have a strong relationship with NDMS and have received patients from them over the past year. We have also been participating in the tabletop exercises for many years and have been able to learn a great deal from them. We have added to our plan and knowledge each year.*
UNC Hospitals	*Having a varied internal and external showing including multiple surrounding counties resources coming to this tabletop and having discussions about possible scenarios will be helpful if ever needed. We have some of these relationships in place with internal and external resources in which to pull from already.*
University of Colorado Hospital	*We had non BMT/Onc nurses who asked good questions. We have a pretty good knowledge base in place and resources (such as conducting labs quickly).*
University of Iowa Hospitals & Clinics	*Our center consistently demonstrates collaboration across all services by adhering to required emergency / disaster related drills and training. During each module discussion, the conversations were interactive, well thought out and all agreed upon responses.*
University of Pittsburgh Medical Center	*We are a large, multi-hospital, multi-clinic institution with an experienced emergency management and media relations department. We have policies and procedures already in place for patient surges, supply chain interruptions, and staff shortages.*
Wake Forest Baptist Medical Center	*The ability to credential volunteer physician and health care workers rapidly. Partnership with local and state governmental agencies.*

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.	
West Virginia University Hospitals Inc.	*We have outlined a patient staging area that will be in close proximity to our hospital with room for radiation screening, decontamination if necessary and triage of patients. We have order sets in place for the treatment of RITN patients in our EMR. Even though we run at or above 90% capacity daily, with our network hospitals and through Live Process we can assess bed capacity across our region and quickly facilitate the transfer of patients and supplies in emergency situations.*

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.	
Banner University Medical Center	• *RITN Radiation Safety Communications Course: (for medical staff & nursing): Increase the number of medical staff required to complete the training, specifically Physicians, Fellows/Residents, staff, etc. Evaluate who should be required to complete.* • *Radiation Training for Non-Medical personnel: (EVS, Security, Transporters, etc., who will be helping). The Radiation Safety Officer (RSO) mentioned he has on-line training for radiation safety on the Banner Learning Center (BLC). This can be modified for a RITN response. Evaluate who should be required to complete.* • *Getting the right people invited to participate: This year, many new participants attendance. During the discussion a few more departments should be invited next year. (EVS, Laboratory, Pharmacy, SPDre-invite: ED, Trauma staff & Physicians)* • *Conducting an Functional or Full Scale Exercise: It was suggested that the Cancer Center would like to conduct a functional or full scale exercise with this type of incident. Never had exercised. Don, Louie (Public Health) and Jeff (County EM) suggested mentioning this at the Healthcare Coalition Exercise Committee next week. Might be too soon for the upcoming October exercise.*

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.	
City of Hope National Medical Center	*One challenge (for us) in responding to a scenario similar to the one described in the modules is the fact that few of the staff who would be involved in caring for the incoming patients are aware of the RITN program, and radiation safety is only briefly addressed in competency modules. Another challenge is the fact that our facility has been running at capacity for several months now. Non-critical patients are already being delayed or referred to other centers, so it would be challenging to fit a large influx of new patients.*
Emory University Hospital	*Training line staff with JIT training. Palliative care Hospice beds, we only have six, any other palliative care hospice deaths, outside of a hospice unit impact our mortality statistics.*
Greenville Memorial Hospital	*Challenges include: making just in time training available for supplemental staffing about patient care for radiation injuries, radiation safety etc. Better planning for pharmaceutical redundancies and capabilities if the pharmaceuticals are unable to be obtained, due to a nation-wide shortage.*
H. Lee Moffitt Cancer Center & Research Institute	*No actual preparedness exercise done previously outside of TTX simulation... need to align our RITN efforts with the disaster preparedness exercises conducted by the institution at large - need to develop communication plan for RITN contacts, BMT clinic/inpatient unit, hospital leadership.*
St. Francis Hospital and Health Centers	*Training of medical and non-medical staff on the basics of radiation so we are prepared. Logistically housing families and caring for an influx of ARS patients.*
University of Mississippi Medical Center	*We would like to make the RITN safety course available to more of our employees both medical and non medical.*
UNC Hospitals	*These discussions are always good to see what other facilities have done or are thinking about that give us opportunities to look for things we had not done so in the past. Areas that we need to look at based on this tabletop include the potential for having a canned education series in place for employees to make them feel comfortable dealing with these patients as well as something for the general public. Also knowing that the ED is not the best option for triage especially for those who are ambulatory has shown us that we need to continue to look at other possibilities for these patients and to possibly bring that into the EOP in case of radiological emergencies involving RITN.*

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.	
University of Colorado Hospital	*We don't have specific process/plans in place in terms of a PRA, so I will work on getting that built. We are going to try to create some pre-scripted / template messaging so stuff is already built, even though we'll have days to work on it.*
University of Iowa Hospitals & Clinics	*Ensuring that our volunteer team is adequately prepared to step in to support as appropriate. Regarding our EOP 1135 Waiver: we have a process through compliance and hospital command center to all us to upscale our staff ratios and licensed beds. However, this is a tough situation because we are pretty much it so we need to focus on identifying another location so we can allow for the influx into new patients.*
University of Pittsburgh Medical Center	*Many of our patient care staff, both inpatient and outpatient, have not, to this point, been trained or educated on RITN processes or radiation safety. We would benefit, as a system, from increased staff education.*
Wake Forest Baptist Medical Center	*Exercise demonstrated that we needed to develop training regarding radiation exposure safety. This will be addressed with leaders.*
West Virginia University Hospitals Inc.	*We will begin training new oncology and emergency staff that we are a RITN center and have them completes the appropriate initial training. We are developing a more streamlined just in time training to educate employees in the departments assisting in the care of ARS patients.*

List and briefly discuss elements to address for future RITN exercises.	
Banner University Medical Center	*More interactive training (Skype) and webinars.*
City of Hope National Medical Center	*I think it would be good to discuss educational strategies. RITN training materials available online are excellent - appropriate difficulty level, and highly relevant. However, they are not effective if no one uses them. I would really find it valuable to hear how other RITN centers ensure that all of their employees are adequately educated on radiation safety and the care and needs of patients suffering from ARS.*
Emory University Hospital	*Payer criteria and guidelines, especially for outpatient pharmacy, DME, etc. Standardized triage process.*

List and briefly discuss elements to address for future RITN exercises.	
Greenville Memorial Hospital	*Pharmaceutical reps to be present for GHS side, desire to have FCC - NDMS representative there.*
H. Lee Moffitt Cancer Center & Research Institute	*No answer provided*
St. Francis Hospital and Health Centers	*Memoranda of understanding with the government and what and how medications will be supplied...........through the NMDS?*
University of Mississippi Medical Center	*We are interested in learning more about reimbursement.*
UNC Hospitals	*Calculations of dose to patients. Awareness level of NDMS at the hospital level. Triage. Definitive reimbursement for the care of these patients.*
University of Colorado Hospital	*None noted. I think just being able to see what people were using for Gy calculations would be good. It'd be nice to be able to submit all of our information in the moment and then you show all of the information on a slide - kind of like a poll.*
University of Iowa Hospitals & Clinics	*Patient Family Unification and how this impacts HIPAA laws. Provide more detail in how best to provide ongoing RITN training for staff.*
University of Pittsburgh Medical Center	*-Staff awareness/education -Detailed procedure for Hillman (our outpatient center) to increase capacity: may involve extending hours of operation and utilizing our network sites for staffing.*
Wake Forest Baptist Medical Center	*How to work with community (outside of emergency responders). For example, churches, schools etc.*
West Virginia University Hospitals Inc.	*Housing and feeding displaced outpatients. Family reunification process.*

Appendix E: Acronyms

Acronym	Term
AAR	After Action Report
ARS	Acute Radiation Syndrome
ASPR	Assistant Secretary for Preparedness and Response
BMT	Bone Marrow Transplantation
CCTV	Closed Captioned Television
CNE	Continuing Nursing Education
COA	Commission on Accreditation
DHV	Disaster Health Volunteer
FCC	Federal Coordinating Center
G-CSF	Granulocyte-Colony Stimulating Factor
Gy	Gray
HCC	Healthcare Coalition
HCS	Healthcare Standard
HCT	Hematopoietic Cell Transplantation
HEM	Hematology
HHS	Health and Human Services
HLA	Human Leukocyte Antigen
HPP	Hospital Preparedness Program
IND	Improvised Nuclear Device
IV	Intravenous
JIT	Just-In-Time
MRC	Medical Reserve Corps
NMDP	National Marrow Donor Program
NDMS	National Disaster Medical System
ONC	Oncology
ONR	Office of Naval Research
PACU	Post-Anesthesia Care Unit
PO	Orally
PRA	Patient Reception Area
RITN	Radiation Injury Treatment Network
RSO	Radiation Safety Officer
SITREP	Situation Report
SME	Subject Matter Expert
TTX	Tabletop Exercise