2025

RITN Tabletop Exercise (TTX) After-Action Report/Improvement Plan

Exercise Date: July 9, 2025
Report Date: August 6, 2025

EXERCISE OVERVIEW

Exercise Name	2025 RITN Tabletop Exercise (TTX)
Exercise Date	July 9, 2025
Scope	The exercise was a distance-based tabletop exercise scheduled for 2 hours. Exercise play was limited to RITN facilities to examine the response by RITN hospitals to accommodate patient surge and care to include activating family reunification centers, identifying mental health resources, and coordinating with local, state, and federal public health agencies to track and report patient conditions.
Mission Area(s)	Response
Capabilities	Medical Surge Healthcare and Medical Response Coordination Community Resilience Information Sharing
Objective	**Objective 1:** Participants will describe the procedures for activating a family reunification center, including identifying staff, location, required resources, and the timing for activation. They will also identify potential challenges to activation and propose solutions. **Objective 2:** Participants will explain the integration of hospital-level family reunification processes with county and regional efforts, including coordination with healthcare coalitions and local public health agencies, and outline any necessary support from these partners. **Objective 3:** Participants will describe the mental health resources and educational support services to be activated in response to a radiological emergency, including how to address the psychological impact on healthcare workers, patients, families, and vulnerable populations, while ensuring accurate public messaging and coordination with external agencies. **Objective 4:** Participants will outline how the hospital coordinates with local, state, and federal public health agencies to track and report patient conditions, manage long-term health effects of radiation exposure, and share data for population health monitoring during a radiological event.
Hazard	Radiological
Scenario	Medical surge from a distant radiological incident
Sponsor	Radiation Injury Treatment Network® (RITN) Office of Naval Research (ONR)
Participating Organization	Boston Children's Cancer Center (MA) M.D. Anderson Cancer Center (TX)

	Northwestern Memorial Hospital (IL) Thomas Jefferson University Hospital (PA) University of Alabama at Birmingham (AL) University of Utah (UT)
Point of Contact	RITN Control Cell RITN@NMDP.ORG (612) 884-8276

EXERCISE SUMMARY

On July 9, 2025, six Radiation Injury Treatment Network (RITN) centers participated in an online tabletop exercise (TTX) to determine their hospitals' capacities for activation of family reunification and mental health support to healthcare workers, patients, families, and vulnerable populations following a mass casualty 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 points illustrate the scenario events considered for participant discussion:

Exercise Scenario:

- A 10 kiloton Improvised Nuclear Device (IND) was detonated in a major metropolitan area.
- Infrastructure and hospitals are severely damaged in the area surrounding the blast (at least 25-mile radius).
- The blast occurred at least 500 miles from your hospital and there is no concern of fallout affecting your location.
- RITN Control Cell staff begin to monitor the situation and start sending out daily Situation Reports (SitReps).
- The nuclear explosion and fallout is expected to result in thousands of casualties with marrow toxic injuries who will need to be transported to other healthcare facilities across the country.
    - Those with mild to moderate trauma and those seeking evaluation for radiation exposure will self-evacuate to other metro areas.
    - Other patients experiencing radiation exposure will be evacuated in the coming days through the National Disaster Medical System (NDMS).

ANALYSIS OF CAPABILITIES

Module 1: Family Reunification

Module 1 of the tabletop exercise focused on activating and coordinating family reunification operations following a radiological mass casualty event. All participating hospitals reported having some level of planning in place for activating a family reunification center. Activation typically involved designated spaces such as auditoriums or support centers, with responsibilities often falling under social work, child life, chaplaincy, and emergency management teams. The most frequently cited challenges were staffing constraints, space limitations, and the complexities of identifying and verifying patients and family members in a high-volume, high-stress environment.

All six facilities indicated that they would request support from their healthcare coalition during such an event. Anticipated needs included situational awareness, patient tracking systems, behavioral health support, and coordination assistance. Integration with county or regional reunification processes varied; some facilities noted clear coordination pathways through existing healthcare coalitions or platforms like SETRAC and Juvare, while others expressed uncertainty about how information would be exchanged with local partners and/or other RITN facilities. Several participants highlighted the need for improved processes to locate transferred or self-transported patients, particularly when National Disaster Medical System (NDMS) tracking is not applicable.

Hospitals reported a range of approaches to tracking self-transport patients and identifying arriving family members, including systems like EMTrack, Epic, Pulsara, and teletracking systems with photo identification capabilities. Public messaging during reunification operations was generally coordinated through public affairs or emergency communication departments, utilizing internal alerts, press releases, or external agency platforms. Ethical concerns such as privacy, consent, and the handling of unaccompanied minors were acknowledged, with most hospitals indicating reliance on social work, legal teams, and established internal policies to navigate these issues. Educational and mental health support plans were described as multidisciplinary, with an emphasis on staff resilience, radiation safety education, and just-in-time (JIT) training for responders.

Strengths

The following strengths were demonstrated:

Strength 1: All participating RITN hospitals reported having predefined processes for activating family reunification centers, with clearly identified staff roles, particularly within social work, child life, chaplaincy, and guest services.

Strength 2: All six responding facilities indicated a willingness to coordinate with their healthcare coalitions and regional partners for support, demonstrating alignment with broader response frameworks.

Strength 3: Multiple facilities reported experience with or plans to use systems such as EMTrack, Juvare, Pulsara, and Epic to track self-transported patients and identify family members, supporting patient safety and accountability.

Areas for Improvement

The following areas require improvement:

Area for Improvement 1: Some facilities expressed uncertainty regarding how to coordinate family reunification efforts with other RITN centers, healthcare coalitions, or local public health agencies. Hospitals should conduct joint planning sessions and regional exercises with coalition partners and RITN facilities to clarify coordination pathways and roles in family reunification operations.

Area for Improvement 2: Several hospitals lacked standardized processes to track self-transported patients or minors arriving outside the NDMS system. These facilities should develop and implement unified tracking protocols for all patient types, including pediatric and other vulnerable patients, and integrate them into family reunification plans.

Module 2: Mental Health Support Considerations

Module 2 focused on long-term public health surveillance and behavioral health support following a radiological mass casualty event. Hospitals reported varying degrees of coordination with local and federal public health agencies. Some institutions relied on platforms like Juvare or Pulsara for information sharing and surveillance, while others deferred to state offices or external agencies for monitoring radiation exposure. Overall, participants noted that these systems could be improved or streamlined, especially for long-term tracking of patients and displaced community members exposed to radiation.

Mental health capacity was a significant concern across all responses. Employee Assistance Programs (EAPs) were identified as a primary internal resource, but multiple facilities acknowledged they would be quickly overwhelmed during a prolonged event. Respondents cited the need to enhance in-house assets such as chaplaincy teams, social work, or trained peer responders. Facilities also emphasized the importance of having established Memoranda of Understanding (MOU) or mutual aid agreements with state agencies, non-governmental organizations (NGO), or behavioral health authorities to support a surge in mental health demands. Several hospitals noted they would require external crisis counseling, Critical Incident Stress Management (CISM) services, and support tailored for pediatric and other vulnerable populations.

Hospitals reported working with public affairs teams and local authorities to manage messaging to the public, including the "worried well." Coordination platforms included healthcare coalitions, regional response systems, and established public information channels like Joint Information Centers (JIC). Respondents acknowledged the importance of consistent messaging to mitigate misinformation and psychological distress, but some gaps in integration with federal partners were evident. Mental health messaging was generally handled through public relations (PR) or communications departments, with several institutions relying on public health departments to lead the effort in concert with hospital incident command structures.

Strengths

The following strengths were demonstrated:

Strength 1: Four (4) out of six facilities reported using formal data platforms such as Juvare, Pulsara, or coordinated public health systems, to share patient data and radiation exposure information, indicating a foundation for timely information exchange during radiological events.

Strength 2: Five (5) out of six facilities described established pathways for public messaging through public affairs, PR departments, or JICs, reflecting strong local-level coordination to manage communication with the public and address psychological concerns such as the "worried well."

Areas for Improvement

The following areas require improvement:

Area for Improvement 1: Five (5) out of six facilities relied solely on EAPs or basic internal resources for mental health support, with limited surge capability to address the needs of staff, patients, and families in a prolonged radiological emergency. Hospitals should develop internal CISM teams or peer support networks and establish formal MOUs with external behavioral health partners to expand surge capacity.

Area for Improvement 2: Four (4) out of six facilities deferred long-term radiation exposure tracking to external agencies and did not describe internal mechanisms for ongoing surveillance of affected patients or displaced populations. Facilities should create protocols and registries for long-term tracking of radiation-exposed individuals and collaborate with local public health departments to ensure consistent data collection over time.

Area for Improvement 3: Four (4) out of six facilities described local or state coordination for mental health messaging but did not indicate alignment with federal agencies, which may lead to inconsistent communication during nationally coordinated responses. Hospitals should incorporate federal messaging templates and liaison roles into their communication plans and ensure alignment with Centers for Disease Control and Prevention (CDC), Administration for Strategic Preparedness and Response (ASPR), and other federal partners through JIC protocols and training.

APPENDIX A: IMPROVEMENT PLAN

This improvement plan template has been developed specifically for the RITN centers participating in the 2025 RITN Tabletop Exercise conducted on July 9, 2025. RITN centers can utilize this table to organize the opportunities for improvement to augment and develop their own corrective actions. The improvement plan is intended to strengthen the response of RITN hospital core capabilities identified in this report.

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		
Organization	**Name**	**Email Address**
Boston Children's Hospital	Asha Salah	asha.salah@childrens.harvard.edu
Boston Children's Hospital	Ashley Miller	ashley.miller2@childrens.harvard.edu
Boston Children's Hospital	David Lough	david.lough@childrens.harvard.edu
Boston Children's Hospital	Hannah Hamilton Hurwitz	hannah.hamiltonhurwitz@childrens.harvard.edu
Boston Children's Hospital	Jon Whiting	jon.whiting@childrens.harvard.edu
Boston Children's Hospital	Katie Cotraro	kathryn.cotraro@childrens.harvard.edu
Boston Children's Hospital	Loren Aiello	Loren.Aiello@childrens.harvard.edu
Boston Children's Hospital	Mary Devine	mary.devine@childrens.harvard.edu
Boston Children's Hospital	Melissa Deane	Melissa.deane@childrens.harvard.edu
Boston Children's Hospital	Paulette Vieira	paulette.vieira@childrens.harvard.edu
Boston Children's Hospital	Robyn Blacken	robyn.blacken@childrens.harvard.edu
Boston Children's Hospital	Rose Fleury	rose.fleury@childrens.harvard.edu
Boston Children's Hospital	Sarita Chung	sarita.chung@childrens.harvard.edu
Dana Farber Cancer Institute	Emily Bakinowski	Emily_Bakinowski@DFCI.harvard.edu
Dana Farber Cancer Institute	Emily Heikamp	EmilyB_Heikamp@DFCI.HARVARD.EDU
Dana Farber Cancer Institute	Nate Almeida	NathanielG_Almeida@DFCI.HARVARD.EDU
Dana Farber Cancer Institute	Tom Mahan	thomas_mahan@dfci.harvard.edu
Jefferson County HCC – UAB	Julie Cobb	Julie.cobb@jcdh.org
Northwestern Memorial	Bianca Carter	Bianca.carter@nm.org
Northwestern Memorial	Camren Cruz	ccruz@nm.org
Northwestern Memorial	Erin Bauen	Erin.bajema@nm.org
Northwestern Memorial	Fiona Sharp	Fiona.duggan@nm.org
Northwestern Memorial	Glenn Ramsey	gramsey@nm.org
Northwestern Memorial	Helen Donnelly	Helen.donnelly2@nm.org
Northwestern Memorial	Jeff Smith	jefsmith@nm.org
Northwestern Memorial	Jonathan Moreira	Jonathan.moreira@nm.org
Northwestern Memorial	Josh Jonkman	Nm253695@nm.org
Northwestern Memorial	Joshua Barnes	Joshua.barnes@nm.org
Northwestern Memorial	Mateo Kajic	Mateo.kajic@nm.org
Northwestern Memorial	Molly Schoblocher	Molly.schoblocher@nm.org
Northwestern Memorial	Patricia Bochey	pbochey@nm.org
Northwestern Memorial	Sarah Cummins	Sarah.cummins@nm.org
Northwestern Memorial	Steven Meier	Steven.meier@nm.org
Northwestern Memorial	Tricia O'Sullivan	posulliv@nm.org
Thomas Jefferson University Hospital	Anthony Meador	ANTHONY.MEADOR@jefferson.edu
Thomas Jefferson University Hospital	Edward Jasper	edward.jasper@jefferson.edu
Thomas Jefferson University Hospital	Gretchen Shanfeld	gretchen.shanfeld@phila.gov
Thomas Jefferson University Hospital	Julie P. Donnelly	Julie.Donnelly@jefferson.edu
Thomas Jefferson University Hospital	Rhona Cooper	rhona.cooper@phila.gov
UCSF Benioff – San Francisco	Brandon Houmes	Brandon.houmes@ucsf.edu
UCSF Benioff – San Francisco	Christine Awdaya	Christine.andaya@ucsf.edu
UCSF Benioff – San Francisco	Collin Ma	Collin.ma@ucsf.edu
UCSF Benioff – San Francisco	Jodie Gregory	Jodie.gregory@ucsf.edu
University of Alabama Birmingham	Amy Nance	adickey@uabmc.edu
University of Alabama Birmingham	Antonio Di Stasi	adistasi@uabmc.edu
University of Alabama Birmingham	Ashley Lovingood	alovingood@uabmc.edu
University of Alabama Birmingham	Brandon Wright	Bkw0016@uabmc.edu
University of Alabama Birmingham	Cortelyou Mobley	cmobley@uabmc.edu
University of Alabama Birmingham	Courtney Hebert	chebert@uabmc.edu
University of Alabama Birmingham	Damien Littlejohn	dlittlejohn@uabmc.edu
University of Alabama Birmingham	Donna Salzman	dsalzman@uabmc.edu
University of Alabama Birmingham	Duane Prater	jdprater@uabmc.edu
University of Alabama Birmingham	Heather Tayloe	heathermarlow@uabmc.edu
University of Alabama Birmingham	John Hooper	jehooper@uabmc.edu

University of Alabama Birmingham	LaPrecious Yates	lapreciousrussell@uabmc.edu
University of Alabama Birmingham	Melinda Rodgers	mgrodgers@uabmc.edu
University of Alabama Birmingham	Michael Awungnkeng	maawungnkeng@uabmc.edu
University of Alabama Birmingham	Mohamed Rahman	mrahman@uabmc.edu
University of Alabama Birmingham	Natalie McRae	nmcrae@uabmc.edu
University of Alabama Birmingham	Sandra Rudolph	sdrudolph@uabmc.edu
University of Alabama Birmingham	Sherichia Hardy	smhardy@uabmc.edu
University of Alabama Birmingham	Stefano Mughaini	srmughaini@uabmc.edu
University of Alabama Birmingham	Tami Long	tamilong@uabmc.edu
University of Alabama Birmingham	Teresea Teer	tlteer@uabmc.edu
University of Alabama Birmingham	Tiffany Hayes	tmcgill@uabmc.edu
University of Alabama Birmingham	Wendy McConville	wmccay@uabmc.edu
University of Alabama Birmingham	William Mayfield	williammayfield@uabmc.edu
University of Alabama Birmingham	Zhuo Tao	ztao@uabmc.edu
University of Utah Hospital	Amanda McNab	Amanda.McNab@utah.edu
University of Utah Hospital	Amy Horyna	u0050298@umail.utah.edu
University of Utah Hospital	Brian McClune	Brian.McClune@hci.utah.edu
University of Utah Hospital	Cassidy Kotobalavu	cassidy.kotobalavu@hci.utah.edu
University of Utah Hospital	Ed Wicklander	eddy.wicklander@hsc.utah.edu
University of Utah Hospital	Francesca Paglione	Francesca.paglione@hci.utah.edu
University of Utah Hospital	Jen Jones	Jennifer.Jones@hci.utah.edu
University of Utah Hospital	Jessica Yeaman	jessica.yeaman@hsc.utah.edu
University of Utah Hospital	Kaitlyn Bushman	kaitlyn.bushman@hci.utah.edu
University of Utah Hospital	Kevin Windsor	kevin.windsor@hsc.utah.edu
University of Utah Hospital	Logan Prince	Logan.Prince@hci.utah.edu
University of Utah Hospital	McKell Gubler	McKell.Gubler@hci.utah.edu
University of Utah Hospital	Natalie Goding	natalie.goding@hci.utah.edu
University of Utah Hospital	Nicole Felkel	Nicole.Felkel@hci.utah.edu
University of Utah Hospital	Phillip Sievers	phillip.sievers@hsc.utah.edu
University of Utah Hospital	Rachel Carlson	Rachael.Carlson@hci.utah.edu
University of Utah Hospital	Ryan Doering	Ryan.Doering@hci.utah.edu
University of Utah Hospital	Shane Gardner	Shane.Gardner@hci.utah.edu
UT MD Anderson	Adilene Cortez	agcortez@mdanderson.org
UT MD Anderson	Cherie Plouff	ceplouff@mdanderson.org
UT MD Anderson	Elise Featherly	tefeatherly@mdanderson.org
UT MD Anderson	Fanny Frederich	ffrederi@mdanderson.org
UT MD Anderson	Fidel Calvillo	Fidel.calvillo@setrac.org
UT MD Anderson	Justin Williams	Jawilliams6@mdanderson.org
UT MD Anderson	Kathie Nemeth	knemeth@mdanderson.org
UT MD Anderson	Kevin Gray	kbgray@mdanderson.org
UT MD Anderson	Lori Griffin	lggriffin@mdanderson.org
UT MD Anderson	Mark Champagne	mgchampagne@mdanderson.org
UT MD Anderson	Priti Tewani	ptewari@mdanderson.org
UT MD Anderson	Samer Srour	ssrour@mdanderson.org
UT MD Anderson	Sandra Leyva	sleyva@mdanderson.org
UT MD Anderson	Tim Champman	Timothy.champman@setrac.org
UT MD Anderson	Vihar Bhakta	vbhakta@mdanderson.org

APPENDIX C: PARTICIPANT FEEDBACK

RITN Centers were asked to provide feedback via an online questionnaire following the exercise. The comments below are organized by observed strengths, challenges, and recommendations for future exercises.

Participating hospitals in the July 9, 2025, exercise were asked to rank the usefulness of the tabletop exercise; **66% rated it as "Very Useful", 16% rated it as "Somewhat Useful", and 16% rated it as "Not Very Useful."**

Strengths

- *Our team has demonstrated strength in already having gone through some of these drills listed in the exercise. We have experience with some of the topics from the exercise due to our experience with tornadoes.*
- *strong family reunification plan god coordination with HMCC and response partners*
- *We have a very strong plan and resources in house to deal with family reunification and mental health issues. Our regional coalition is very involved in disaster preparedness and response. PDPH and OEM work closely with hospitals.*
- *Access to UT system and several outside agencies versed in EM*
- *We have a large group of staff from essential depts that are eager to ensure we are prepared.*
- *One of the strengths we identified was our hospital's ability to coordinate internally with other hospitals within the Northwestern system for support and resources. We also identified that our crisis communications strategy would be an asset in this scenario.*

Challenges

- *Identifying and validating patients and their families to make sure that people are who they say they are.*
- *Worried about federal coordination of this, from the exercise it kind of feels like we'll be on our own once patients arrive. We have questions about RITN tracking support and interplay with NDMS.*

- *The main challenge is that the plans have not been tested. However, there is a fall exercise being developed by PDPH that should be a great way to help assess our readiness.*
- *Brought out logistical issues not previously considered.*
- *We need to revisit our family reunification plan and collaborate with the state to have a better understanding of what organizations are responsible for what. Also, its unclear how patients are tracked.*
- *Two challenges we identified were supporting mental health needs of staff and patients over a prolonged incident as well as lack of clarity around coordination procedures with federal partners during this scenario. .*

Future Exercises

- *I really enjoyed this exercise and thought it was well done.*
- *We felt the exercise was not relevant to RITN response. We would be looking for an opportunity to educate our team on the RITN operations, including notifications, reporting requests, timeline to receive patients, resources provided from RITN, financial resources, etc. prior exercises that focused on tracking systems and use of the portal were helpful. We would also like to understand better the NDMS part of coordinating this as the region's FCC seems to be in flux and not well prepared to support an event like this.*
- *While the concept of a CRC is important, I think we need to look more closely at the operational readiness of the CRC including evaluation, tracking and follow up.*
- *How RITN works logistically with its participating centers and how this coordinates with other federal agencies.*
- *Understanding decontamination process for local civilians.*
- *We would benefit from addressing the following: Patient tracking, coordination with other RITN hospitals, coordination with federal partners.*

APPENDIX D: ACRONYMS

Acronym	Term
AAR	After Action Report
ASPR	Administration for Strategic Preparedness and Response
CDC	Centers for Disease Control and Prevention
CISM	Critical Incident Stress Management
EAP	Employee Assistance Program
IND	Improvised Nuclear Device
JIC	Joint Information Center
JIT	Just-in-Time Training
MOU	Memorandum of Understanding
NDMS	National Disaster Medical System
NGO	Non-governmental Organization
ONR	Office of Naval Research
PR	Public Relations
RITN	Radiation Injury Treatment Network
SitReps	Situation Reports
TTX	Tabletop Exercise