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

Exercise Date: July 15, 2025
Report Date: August 6, 2025

EXERCISE OVERVIEW

Exercise Name	2025 RITN Tabletop Exercise (TTX)
Exercise Date	July 15, 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	Avera McKennan Transplant Institute (SD) Barnes-Jewish Hospital at Washington (MO)

	Baylor University Medical Center (TX) City of Hope National Medical Center (CA) Children's Hospital of Philadelphia (PA) Corewell Health (MI) Corewell Health Helen DeVos Children's Hospital (MI) Franciscan St. Francis Health (IN) Medical University of South Carolina (SC) North Shore University Hospital (NY) University of California San Francisco Medical Center (CA) University of Pittsburgh Medical Center (PA) Western Pennsylvania Cancer Institute (PA)
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EXERCISE SUMMARY

On July 15, 2025, 13 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

All 13 participating RITN hospitals responded to the scenario involving the arrival of self-transported patients following a nuclear detonation. While every facility reported having some internal procedures for family reunification, there was significant variation in the formality and maturity of these processes. Most hospitals described relying on existing structures such as their Hospital Command Center, Pastoral Care, or Emergency Management staff to initiate family reunification activities. Common challenges to activating a reunification center included staffing shortages, limited physical space, and gaps in technology or tracking systems. Only two facilities reported using EMTrack or similar electronic tools to track self-transported patients and verify arriving family members' identities.

Coordination with regional partners was generally acknowledged as a priority, though operational details varied. Ten (10) out of 13 facilities indicated that they would request support from their healthcare coalitions, often citing the need for logistical, staffing, or mental health assistance. Several participants reported embedded relationships with county emergency operations centers, public health departments, or healthcare coalitions, which would help facilitate integration with broader response efforts. However, most facilities noted that their reunification operations were primarily internally driven and would benefit from clearer mechanisms to align with federal systems such as the NDMS or Veteran's Administration (VA) tracking.

Mental health support and public messaging were recognized as essential components of reunification efforts during a radiological emergency. Eleven (11) out of 13 facilities described some form of mental health support, including internal Employee Assistance Programs (EAP), Child Life teams, Critical Incident Stress Management (CISM) teams, and external counseling partnerships. Nonetheless, several hospitals expressed concerns regarding surge capacity and resource availability in a high-impact event. Public messaging was generally coordinated through health system communications departments or Public Information Officers (PIO), with most facilities utilizing social media, hospital websites, or coordination with local emergency operations centers to disseminate information to the public and families.

Strengths

The following strengths were demonstrated:

Strength 1: All 13 responding RITN hospitals reported having at least some form of internal procedures for family reunification, demonstrating system-wide awareness and engagement with the issue.

Strength 2: Ten (10) out of 13 facilities indicated they would request support from their healthcare coalition, reflecting regional coordination and recognition of coalition resources as critical force multipliers.

Strength 3: Eleven (11) of 13 hospitals identified internal or external mental health services, including EAPs, CISM teams, and Child Life services, that could be activated during a radiological emergency.

Areas for Improvement

The following areas require improvement:

Area for Improvement 1: Only two of 13 hospitals reported using EMTrack or a similar platform to track self-transported patients and verify family member identities. Hospitals should adopt or expand the use of standardized patient tracking tools such as EMTrack to ensure accurate reunification and minimize delays in identifying and locating individuals.

Area for Improvement 2: While all 13 hospitals described internal family reunification procedures, several lacked formalized or documented plans. Each facility should develop and maintain a written Family Reunification Plan, including activation triggers, staffing roles, and integration points with federal and local/regional healthcare coalitions.

Area for Improvement 3: Multiple hospitals indicated uncertainty or limited mechanisms to coordinate with federal systems such as NDMS or VA tracking platforms when receiving NDMS patients. Facilities should establish pre-incident coordination protocols with federal response partners and incorporate federal system integration into training and exercises.

Module 2: Mental Health Support Considerations

All 13 RITN hospitals reported existing procedures to coordinate with local public health agencies to track and report radiation exposure and patient conditions. Eleven of the 13 facilities described active partnerships or automated systems, such as electronic health record (EHR) integrations or data-sharing protocols with health departments, to support public health surveillance. However, several noted that these processes were either informal or could be further streamlined through pre-established data-sharing agreements or clearer coordination pathways with federal agencies.

Mental and behavioral health concerns emerged as a central theme across all responses. Eleven of the 13 facilities reported that they could activate in-house mental health resources such as EAPs, embedded behavioral health staff, or broader health system crisis response teams, to support staff, patients, and families. However, many facilities acknowledged that these resources would likely be insufficient for the sustained mental health needs generated by a prolonged radiological event. Facilities anticipated requiring long-term outpatient counseling, crisis intervention services, and surge mental health staffing from local, state, or non-governmental organization (NGO) partners.

Coordination of public messaging was recognized as essential to addressing community-wide anxiety, especially among the "worried well." While all 13 facilities had a communications plan, only three specifically referenced the use of a Joint Information System (JIS) or formal partnerships with PIOs to ensure consistent, accurate, and synchronized messaging. Hospitals cited the need to reduce misinformation and reinforce community confidence, particularly through collaboration with public health authorities. Messaging strategies also emphasized addressing the unique needs of vulnerable populations such as children, the elderly, and individuals with pre-existing mental health conditions.

In the exercise chat, participants discussed training they had received that included identifying Artificial Intelligence (AI) in attempted cyber-attacks and misinformation campaigns. Discussion also included the management of misinformation, specifically how to identify a “real” and “valid” source of information. One participant recommended conducting training on the topic of news source validity and what someone would look for to know that the information they are receiving from the news was coming from a trusted source.

Strengths

The following strengths were demonstrated:

Strength 1: Eleven (11) of 13 hospitals reported having existing systems or established partnerships with local public health agencies to track and report radiation exposure and patient conditions, demonstrating integration with public health surveillance processes.

Strength 2: Eleven (11) of 13 hospitals indicated the ability to deploy internal mental health resources, such as EAPs, behavioral health teams, or system-level crisis intervention units, to address the immediate psychological needs of patients, families, and staff.

Strength 3: All 13 hospitals highlighted the importance of addressing the unique needs of vulnerable groups, such as children and the elderly, showing a comprehensive and inclusive approach to mental and behavioral health planning.

Strength 4: Participants discussed previous trainings they had received as well as recommended future trainings to provide staff with tools to help them manage misinformation and recognize valid information sources. For example, a Digital Verification Skills course (https://pamediaacademy.com/all-our-courses/short-courses-training/digital-skills-and-content/digital-verification-skills-for-journalists/) or training courses available at First Draft (https://firstdraftnews.org/training/).

Areas for Improvement

The following areas require improvement:

Area for Improvement 1: Three (3) of 13 hospitals reported coordinating public messaging through a JIS or formal PIO networks, increasing the risk of inconsistent or inaccurate information reaching the public. Hospitals should formalize communication protocols with local and state JIS partners and conduct regular joint messaging exercises to ensure alignment during emergencies.

Area for Improvement 2: Several hospitals indicated that their internal mental health resources, while adequate for initial response, would be overwhelmed during prolonged radiological events. Facilities should establish agreements with state mental health agencies, NGOs, and regional partners to secure additional counseling and crisis intervention resources for sustained operations.

Area for Improvement 3: While 11 of 13 hospitals reported some form of public health data-sharing, many described the process as informal or dependent on ad hoc coordination. Hospitals should formalize electronic data-sharing agreements with local and federal agencies to improve speed and accuracy in tracking long-term health effects of radiation exposure.

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 15, 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.

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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; **77% rated it as "Very Useful", 15% rated it as "Somewhat Useful", and 8% rated it as "Not Very Useful."**

Strengths

- *Our facility has the infrastructure in place to respond to mass casualty events, to track our patients and their families, and the resources to support the physical and mental/emotional needs of our patients, their families and our staff.*
- *Our facility has the relationships and agreements in place to access resources available through our city, county, regional and state partners if/as needed.*
- *One strength identified during this discussion was the recognition of our health system's ability to mobilize resources across teams, departments and hospitals. Having participation of our social work colleagues and patient family centered care department provided excellent insight into how the reunification process could be implemented.*
- *We have a strong relationship with our community partners. These include (but not limited to) city/county emergency management, state, regional healthcare coalitions, as well as neighboring healthcare systems.*
- *We had a city-wide table top exercise in Feb of this year that was helpful to see how other groups interact and support each other. We need to figure out how we tap into all of those resources.*
- *As a large system in a big city, we have lots of internal resources at our disposal either from within our system itself or in partnership with other local health care systems. This provides the capability to rapidly mobilize a response effort if needed and do so with a robust team and plan in place.*
- *Our Public Relations Team in partnership with the local Department of Health, is well equipped to manage community messaging through multiple platforms to communicate needed information to the public.*

- *Family Reunification Plan that has been updated and tested through exercising.*
- *We have a well-organized multi -disciplinary team to address any potential issues during a radiological disaster. We also have a good collaboration with the local and federal agencies in our area for any assistance we may need in the event of a disaster.*
- *Ability to talk through some issues we were not even aware we had to start a new plan.*
- *Our emergency command center at the hospital has recently been updated to ensure that resources for enhanced communication are available. We would be able to activate various partners due to the time between activation and patients arriving. Engagement of staff at our hospital as well as other hospitals within our health network.*

Challenges

- *We identified opportunities for us to better address surveillance and reporting the long-term health effects of radiation exposure at a mass casualty level.*
- *A challenge discussed would be education of staff in other departments in the hospital in real time about the RITN. However with the partnership that has developed over the past two years between Emergency Management leadership and the clinical team, awareness of the mission of RITN has increased.*
- *Patient tracking and verification would be a challenge. Custody issues and long term placement would be difficult.*
- *We do not have a specific plan for family reunification or mental health needs. We need to look into what is available to us and how we can support both issues.*
- *Volume capacity within the inpatient and outpatient care areas.*
- *Financial resources available to assist in the reunification process for patients and families.*
- *Maintaining patient 's privacy is a challenge when it comes to facing a large scale disaster. Security would be needed as well as mental health specialists.*
- *Using so many outside resources. Being able to provide patient care along with all the "family" care.*

Future Exercises

- *This was a helpful and meaningful exercise! Our team had some great discussions and enjoyed hearing how other sites address the same areas.*
- *Perhaps a TTX on development of messaging for staff and the community at large in the event of a large scale influx of patients requiring treatment for radiation injury.*
- *Looking into patient tracking across the nation would be a good drill.*
- *A lot of these questions seem to be repeating themselves....I would suggest roll those questions together to give more time for each hospital to talk longer about what they have in place.*
- *The activation process itself and what happens in those initial first hours/days.*
- *RITN hospitals' coordination with their local Federal Coordinating Center in patient movement via NDMS for RITN.*
- *More detailed investigation on the long-term monitoring/reporting needs and expectations for RITN hospitals.*
- *Government programs that aim to provide guidance to staff and patients in the event of a radiological disaster.*
- *Would like to see another medical-based scenario.*
- *Resources to clinically support and manage.*
- *Housing.*
- *Long term follow-up for patients who have been displaced.*

APPENDIX D: ACRONYMS

Acronym	Term
AAR	After Action Report
AI	Artificial Intelligence
CISM	Critical Incident Stress Management
EAP	Employee Assistance Plan
EHR	Electronic Health Record
IND	Improvised Nuclear Device
JIS	Joint Information System
NDMS	National Disaster Medical System
NGO	Non-governmental Organization
ONR	Office of Naval Research
PIO	Public Information Officer
RITN	Radiation Injury Treatment Network
SitReps	Situation Reports
TTX	Tabletop Exercise
VA	Veteran's Administration