2023

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

Exercise Date: June 23, 2023
Report Date: July 7, 2023

EXERCISE OVERVIEW

Exercise Name	2023 RITN Tabletop Exercise (TTX)
Exercise Date	June 23, 2023
Scope	The exercise was a distance-based tabletop exercise scheduled for 2 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	Medical Surge
Objective	**Objective 1:** RITN hospital staff can determine their hospital's capacity to receive casualties (inpatient and outpatient) through the National Medical Disaster System (NDMS) following a mass casualty radiological incident. **Objective 2:** RITN hospital staff can identify staff, equipment, and other resource needs to support patients receiving outpatient care.
Hazard	Radiological
Scenario	Medical surge from a distant radiological incident
Sponsor	Radiation Injury Treatment Network® (RITN) Office of Naval Research (ONR)
Participating Organization	Cleveland Clinic (Cleveland, OH)
Point of Contact	RITN Control Cell RITN@NMDP.ORG (612) 884-8276

EXERCISE SUMMARY

On June 23, 2023, the Cleveland Clinic RITN center participated in an online tabletop exercise to determine their hospital's capacity (e.g., staff, equipment, supplies) to receive inpatient and outpatient causalities through the National Medical Disaster System (NDMS) following a distant, 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 illustrate the scenario events considered for participant discussion:

Exercise Scenario

- A 10-kiloton Improvised Nuclear Device (IND) was detonated yesterday approximately 500 miles away from your facility. No threat of fallout and no utility interruptions.
- RITN Control Cell staff begin to monitor the situation and start sending out daily situation reports (SitReps) to hospitals.
- RITN hospitals have been requested to start completing their capabilities report and submitting it daily using the RITN Portal.
- Hospitals were instructed to use their current census for exercise purposes when completing the capabilities report.

ANALYSIS OF CAPABILITIES

Module 1: Capabilities Report

Exercise participants were tasked to utilize the RITN Portal to complete the capabilities report and provide feedback on the process for compiling the necessary data to complete the report along with any challenges experienced. The capabilities report gathers information on adult and pediatric hematology/oncology and bone marrow transplant (BMT) beds available, ability to provide outpatient care to both adults and pediatrics, and various pharmaceutical quantities available at the hospital to care for acute radiation syndrome (ARS) patients. The Cleveland Clinic (only participating hospital on this exercise date) was able to enter all data in real time during the exercise and would rely upon other hospital units such as pharmacy, clinical operations, and adult/pediatric bed control to complete the data entry. The participating hospital reported that use of the RITN Portal was very easy to navigate and understand. Data compilation and entry was completed by the Quality Director for the Blood and Marrow Transplant Unit.

Representation on the exercise was limited and did not include participation of the Emergency Management personnel so it was not possible to gather data as to whether Cleveland Clinic is part of the National Disaster Medical System (NDMS) or American Burn Association (ABA) nor how bed reports would deconflict double counting of beds.

Strengths

The following strengths were demonstrated:

Strength 1: There were no challenges with using the RITN Portal to enter bed and pharmaceutical data necessary to respond to patient care needs. All information was completed as part of the exercise.

Strength 2: The capabilities report definitions document provides sufficient clarity for entry of the bed types and associated equipment.

Strength 3: The hospital was able to articulate which departments would be called upon in order to gather data for completion of the capabilities report.

Areas for Improvement

The following areas require improvement:

Area for Improvement 1: The participating hospital would have benefitted from emergency management team participation in order to answer questions about hospital affiliation with NDMS or ABA (to include the method to deconflict bed counting).

Module 2: Outpatient Planning

This module focused on the planning and capability for hospitals to receive a surge of outpatients affected by radiation injury, such as surge capacity (e.g., patient care, laboratory testing), communications, and mental/behavioral health considerations.

The Cleveland Clinic participants described a multi-faceted approach to determine the number of patients that can be provided care to include physical space, patient risk factors, and administrative oversight/input. Patient risk factors (e.g., stage in chemotherapy process, other comorbidities) would be the priority factor to make decisions about which existing patients could be moved or placed elsewhere to make room for the incoming radiation injury victims. The departments that would be involved in patient decompression and ability to manage outpatient care include emergency management, radiation, safety, clinical care, and administration.

The Cleveland Clinic Emergency Operations Plan (EOP) outlines expectations for patient surge to include care considerations, patient flow, and ancillary topics. Response decisions would be anchored to this documented procedure and incorporate input from internal departments (e.g., laboratory, pharmacy, radiology, oncology) as well as the Ohio Department of Health.

Literature has been developed and is available to provide to patients and families which resides on the internal hospital shared drive. It contains standard information on symptoms to monitor for and frequently asked questions (FAQs) about radiation. There is both internal literature intended for staff providing care and ancillary services as well as external communications for incoming patients and families.

No issues are expected in order to surge laboratory capacity to accommodate large numbers of patients requiring blood draws and repeated complete blood count (CBC) analyses. Laboratory operations at the Cleveland Clinic are extensive with a dedicated building in close proximity (no need to transport samples for analysis) and integrated with the hospital system. An exact number of number of CBC tests that could be performed daily was not provided but the conclusion was that throughput was quite high.

With regards to outpatient care needs, there is an established process for bone marrow transplant patients that can be leveraged to expand care further in a surge situation. There is a designated location for housing with dedicated caregivers for BMT patients as well as clinical transportation and integrated social workers for mental health support. It was not explicitly described how this could be expanded for a significant surge of patients requiring outpatient care along with family members to support the patient. This may have been a limitation of the available hospital personnel for the exercise and familiarity with emergency plans.

It should be noted that the social worker (mental health support) notification procedure is referenced in the overarching RITN procedure and the Cleveland Clinic EOP. This includes establishment of a family support center (i.e., housing, transportation, meals, mental health, and hotlines).

Strengths

The following strengths were demonstrated:

Strength 1: The Cleveland Clinic has a robust, integrated BMT program that is capable of providing care for a wide variety of conditions and novel treatment approaches.

Strength 2: The associated Pathology & Laboratory Medicine Institute (RT-PLMI) has a vital role in diagnosing and monitoring patient condition. There are approximately 1,400 dedicated staff that process more than 20 million laboratory tests annually.

Strength 3: The ability to expand patient care utilizes a multi-disciplinary approach to include patient risk factors and logistical considerations and is documented in existing EOPs.

Strength 4: Literature is available on the specific symptoms and FAQs associated with a radiation emergency both for internal hospital staff as well as external to the public.

Strength 5: The role of social workers for mental health support and family assistance is integrated into both the RITN plan as well as the hospital EOP; to include notification and activation procedures.

Areas for Improvement

The following areas require improvement:

Area for Improvement 1: While procedures were described to care for BMT patients and their families in day-to-day operations, it was not discussed at length how this could be extended for a large surge of patients requiring care. This may be due to the lack of emergency management participation in the exercise.

Area for Improvement 2: A key challenge is the short timeframe to consider and determine patient relocation for care which would be based on patient risk and other factors.

APPENDIX A: IMPROVEMENT PLAN

This improvement plan template has been developed specifically for the RITN centers participating in the 2023 RITN Tabletop Exercise conducted on June 23, 2023. 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	
Cleveland Clinic	Joe Farinella
Cleveland Clinic	Andy Miller

APPENDIX C: ACRONYMS

Acronym	Term
AAR	After Action Report
ABA	American Burn Association
ARS	Acute Radiation Syndrome
BMT	Bone Marrow Transplant
CBC	Complete Blood Count
EOP	Emergency Operations Plan
ICS	Incident Command System
IND	Improvised Nuclear Device
NMDP	National Marrow Donor Program
NDMS	National Disaster Medical System
ONR	Office of Naval Research
RITN	Radiation Injury Treatment Network
TTX	Tabletop Exercise