



RADIOLOGICAL RESPONSE TABLETOP EXERCISE



After Action Report and Improvement Plan (AAR-IP)

The After-Action Report and Improvement Plan (AAR/IP) summarizes exercise information required for preparedness reporting and trend analysis by aligning exercise objectives with preparedness doctrine, related frameworks, and national guidance. This information is compiled into recommendations and corrective actions in the improvement plan to improve local and regional preparedness, response, and recovery activities.

EXERCISE OVERVIEW

Exercise Name	2023 Radiological Response Tabletop Exercise
Exercise Date	March 8 – April 7, 2023
Scope	<p>This tabletop is an interactive, discussion-based exercise focusing on impacts to healthcare organizations caused by the intentional release of a radiological substance resulting in a surge of confirmed and potentially contaminated radiological patients.</p> <p>Exercise conduct dates and times will be based upon each corridor’s corresponding Corridor Meeting dates, times, and locations. The scenario consists of three chronological modules portraying a radiological dispersal incident, and its aftermath, where people who may not need medical treatment but fear they have been exposed (i.e., “worried well”) may overwhelm a health system. The emphasis on radiation exposure focuses on the need to assess patients for contamination, decontamination, injuries, and working with regional stakeholders to respond.</p>
Mission Area	Preparedness, Response, and Recovery
Capabilities	<ul style="list-style-type: none">• Capability 2: Health Care and Medical Response Coordination• Capability 4: Medical Surge
Objectives	<ol style="list-style-type: none">1. Establish and test the relationship between field and hospital response to a radiological event involving first responders.2. Participants should demonstrate an understanding of contamination control measures that should be used in the healthcare setting.3. Participants should demonstrate a working knowledge of steps that should be taken to mitigate the effects of a patient surge
Hazard	Radiological Release: Cesium-137 powder
Scenario	Cesium-137 (powder) is released into the air system of a Houston METRO Rail car transporting fans to the NCAA Championship Game on a Monday night. Approximately 36 hours following contact with Cs-137, riders of the rail car begin showing symptoms of radiation injury and present to emergency rooms throughout the region. When news of the release reaches the public, a surge of worried-well begin to flood hospitals, FSEDs, and E-911 services.
Sponsor	Hospital Preparedness Program (HPP) Regional Healthcare Preparedness Coalition (RHPC) Southeast Texas Regional Advisory Council (SETRAC)

Exercise Name

2023 Radiological Response Tabletop Exercise

Primary Audience

This exercise is intended to test acute care facilities, first responder agencies, local emergency management, and public health agencies in their ability to respond to and cope with a radiological incident.

Point of Contact

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EXERCISE SCENARIOS

Cesium-137 (powder) is released into the air system of a Houston METRO Rail car transporting fans to the NCAA Championship Game on a Monday night. Approximately 36 hours following contact with Cs-137, riders of the rail car begin showing symptoms of radiation injury and present to emergency rooms throughout the region. When news of the release reaches the public, a surge of worried-well begin to flood hospitals, FSEDs, and E-911 services.

Module 1: Initial Recognition & Response

Monday was the NCAA Championship game at NRG in Houston. Hospital-A is at normal staffing and supply levels, with average daily occupancy this morning (8:00 am). They are at average daily occupancy for general inpatient and intensive care unit (ICU) beds. Hospital-A received one patient at 2300 last night (currently in ED) with complaints of flu-like symptoms.

At 0800 Hospital-A receives another two patients, a father and son, who complain of flu-like symptoms. Intake notices the father also has a bright red rash on his left forearm, but he says he is not concerned and is using oral steroid treatment prescribed by PCP yesterday.

At 1000, Hospital-A receives another patient complaining of the same flu-like symptoms. Says she must have picked something up when she was in Houston for the NCAA Championship game. Staff inquires with other three patients and learns that they also went to the NCAA Championship on Monday. A nurse at the hospital gets a text from a colleague in Houston and shares it with her coworkers.

Module 2: Community Coordination & Collaboration

At 1200, HFD notifies SETRAC of possible radiation contamination and exposure. They are still working to identify substance, while HPD works to identify the source. The City of Houston Mayor's office plans to hold a press conference at 1400.

SETRAC sends out a regional announcement via EMResource, informing organizations of potential for radiation contamination and exposed patients, and notifies of upcoming press conference.

Following the press conference, 911 operators/Poison Control Centers are inundated with calls, worried-well begin appearing at local hospitals. Several people begin showing up to hospitals, stating that they rode the Houston Metro to the Championship game the previous weekend and fear they are also affected.

HFD identifies source as Cesium-137 dispersed in a Houston METRO-Rail car. This is a contamination event.

Module 3: Ongoing Healthcare Coordination

RITN Hospitals are unable to take any more patients, and a message has been sent out to the region via EMResource that hospitals should be expected to hold radiation injury patients for at least 3 days. Worried-well continue calling local hospitals and walking into EDs. Two patients in your waiting room say they need mental health services and are showing signs of severe mental distress.

CAPABILITY PERFORMANCE RATINGS

Aligning exercise objectives and preparedness capabilities provides a consistent taxonomy for evaluation that transcends individual exercises to support preparedness reporting and trend analysis nationwide. The core capabilities include Operational Coordination, Critical Transportation, Public Health and Medical Services, and Mass Care Services; however, the table below include performance ratings for each Health Care Preparedness and Response capability objective written by the planning team and observed with average ratings based on the evaluator notes during the exercise.

Table 1: Summary of Health Care Preparedness & Response Capability Performance Ratings

Capability	Exercise Objectives	Rating
Healthcare and Medical Response Coordination	Establish and test the relationship between field and hospital response to a radiological incident involving first responders.	S
Healthcare and Medical Response Coordination	Participants should demonstrate an understanding of contamination control measures that should be used in the healthcare setting.	S
Medical Surge	Participants should demonstrate a working knowledge of steps that should be taken to mitigate the effects of a patient surge.	S

Ratings Definitions:

- Performed without Challenges (P): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
- Performed with Some Challenges (S): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.
- Performed with Major Challenges (M): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
- Unable to be Performed (U): The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).

ANALYSIS OF CAPABILITY OBJECTIVES

This section provides a summary of observations for each objective evaluated with its corresponding capability. The observations are compiled below as either strengths or areas for improvement with an analysis of factors identified and discussed by participants, then recorded by exercise evaluators.

Capability 2: Health Care and Medical Response Coordination

Objective:

1. Establish and test the relationship between field and hospital response to a radiological incident involving first responders.
2. Participants should demonstrate an understanding of contamination control measures that should be used in the healthcare setting.

Strengths:

- Having both hospital and pre-hospital responders engaging in the discussion together; the diversity of organizations participating in the tabletop.
- Relationships among agencies, organizations, and the coalition.
- The employment of a scenario not commonly studied in response plans.
- Availability of planning and education resources at the local, regional, and national levels.

The following areas of improvement are required to achieve the full capability level:

Areas for Improvement:

- Radiological detection and monitoring equipment out of date or not on a regular maintenance schedule.
- Scarcity of radiological monitoring equipment at some facilities.
- Staff education for ChemPaks, decontamination operations, and medical countermeasures.
- Awareness of roles in the Hospital Incident Command Structure (HICS).
- Radiological response education for staff; taking advantage of the resources already available in the region.
- Following up on HVA assessments.

Analysis:

Participants expressed the need for more frequent and extensive training regarding response to a radiological incident in the region. Several facilities also noted the need for scheduled maintenance and testing for equipment on-site, while others noted the scarcity of these resources in critical access areas. A weak point in the understanding of how roles and responsibilities will change in an activation was discussed as well.

Capability 4: Medical Surge

Objective:

3. Participants should demonstrate a working knowledge of steps that should be taken to mitigate the effects of a patient surge.

Strengths:

- Coalition partnerships among organizations in the region
- Proactive communication to/from SETRAC
- Capabilities of RHPC

The following areas of improvement are required to achieve the full capability level:

Areas for Improvement:

- More radiological-specific MOUs are needed.
- Volunteer management resources and training needed.
- Facility radiological response plans need to be reviewed and updated.
- Community Reception Center plans need to be reviewed and/or shared with healthcare partners.
- Considerations for depth of resources need to be added into plans.

Analysis:

Partnerships and communication within the coalition are strong. Resources, expertise, and capabilities surpass many other jurisdictions, however, the strain on these assets must be evaluated regularly to ensure operations can be maintained during a massive surge spanning across several jurisdictions. MOUs should include more incident-specific clauses, as well as secondary and tertiary MOUs in the event of competing contracts. Staff should be regularly trained for response to a radiological incident, to include patient care, resource management, and command structure. Healthcare agencies and emergency management agencies should collaborate closely as Community Reception Center plans are written. Hospital command staff and healthcare agencies should have access to Community Reception Center POC information so that pressure from worried-well can be alleviated as soon as possible by way of sending those uninjured to community sites where they can be screened away from hospitals.

APPENDIX A: REGIONAL IMPROVEMENT PLAN

This Improvement Plan (IP) was developed with the following recommendations and corrective actions for the Regional Healthcare Preparedness Coalition (RHPC) based on the Burn Surge Tabletop and Functional Exercises conducted on April 12, 2022.

Capability	Recommendations	Corrective Actions	Capability Element	Responsible Party	Projected Completion Date
Healthcare and Medical Response Coordination	More training and education for radiological incident response and plans, as well as education in resource availability in the region.	Empower hospitals to provide more training to staff through provision of resources and educational opportunities.	Training & Planning	Individual facilities, SETRAC Training & Exercise	On-going
Medical Surge	Continued review and revision of facility surge plans, including the management of scarce resources during prolonged activations.	Encourage regular plan reviews by hospitals. Provide literature and sample plans to healthcare emergency planners.	Planning	SETRAC & individual facilities	On-going

Authorizing Signature: _____

Date: _____

PARTICIPATING ORGANIZATIONS

Allegiance Mobile Health
Angelina County & Cities Health District
Baptist Hospital of Southeast Texas
Baylor St. Luke's Medical Center
Beaumont Emergency Hospital
Ben Taub Hospital
Brighton Senior Living Regency Village
Burke ICF
Castle Pines Health & Rehab
Chambers County OEM
CHI St. Luke's Lufkin
CHI St. Luke's Memorial Livingston
CHI St. Luke's Memorial San Augustine
CHI St. Luke's the Woodlands
Christus Dubuis Hospital of Beaumont
Christus St. Elizabeth
Christus St. Mary
City of Pearland OEM
City of Sugar Land Fire-EMS
Columbus Community
Country Village Care Angleton
Creative Solutions Healthcare
Deep East Texas RAC
Emergency Hospital System
Encompass Health Sugar Land
Excel ER Nacogdoches
Focus Care
Fort Bend County EMS
Fort Bend County Health & Human Services
Galveston County Health District
Gulf Coast Community Health
Hardin County Health Service
Harris County Emergency Corps
Harris County ESD 4
Harris County Psychiatric Center
Harris County Public Health
HCA Clear Lake
HCA Conroe
HCA Kingwood
HCA Tomball
Houston Health Department
Houston Methodist TMC
Houston Methodist Willowbrook
Houston Methodist West
Houston Physicians Hospital
Hospice in the Pines
Huntsville Memorial Hospital
Jasper-Newton Public Health District
Jefferson County OEM
Kindred Hospital Clear Lake
Kindred Hospital Sugar Land
Liberty Dayton Regional Medical Center
Lufkin State Supported Living Center
Mayor's Office of Public Safety and Homeland Security
MD Anderson Cancer Center
Memorial Hermann Cypress
Memorial Hermann Greater Heights
Memorial Hermann Katy
Memorial Hermann Memorial City
Memorial Hermann Northeast
Memorial Hermann Pearland
Memorial Hermann Southeast
Memorial Hermann Southwest
Memorial Hermann Sugar Land
Memorial Hermann the Woodlands
Memorial Hermann TMC
Missouri City OEM
Modesty Home Health
Montgomery County Public Health
Nacogdoches County EMS
Nacogdoches Medical Center
Oak Bend Medical Center
OmniPoint Health Hospital
Piney Woods Home Health
Port Arthur Fire Department
Port Arthur Public Health
Rice Medical Center
Sabine County Hospital
San Augustine EMS
Shriners Children's
Southeast Texas Air Rescue
St. Luke's Health Sugar Land
Sugar Land Fire Department
Sugar Land OEM
Texas Children's Hospital TMC
Texas Children's Hospital West

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Texas Children's Hospital the Woodlands
Texas Department of State Health Services
Texas Division of Emergency Management
The Medical Center of Southeast Texas
TruCare Hospice & Palliative Services
Tyler County Hospital
Tyler County Judge's Office
UT Health

UTMB Health System
VA Houston
Vidor Health & Rehab
Westpark Springs Hospital
Windsor Quail Valley Post Acute
Woodland Heights Medical Center
Woodlands Specialty Hospital
Woodville VFD