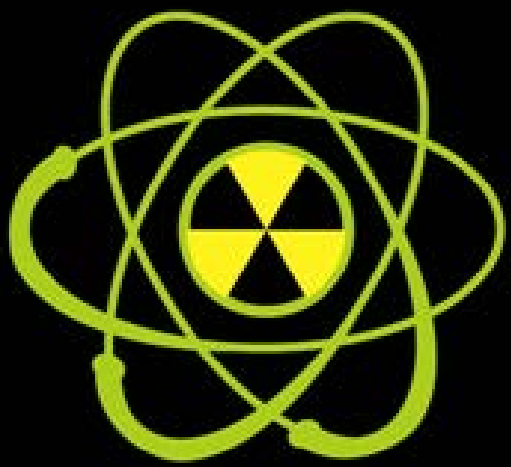
2016

Los Angeles Regional RITN Tabletop Exercise After-Action Report/Improvement Plan



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EXERCISE OVERVIEW

Exercise Name	Los Angeles Regional RITN Tabletop Exercise (TTX)
Exercise Date	August 4, 2016 9:00 AM – 12:00 PM
Capabilities	Public Health & Medical Services Operational Coordination, Medical Surge, Responder Safety & Health, Mass Care
Objectives	**Objective 1:** Clarify the organizational roles and responsibilities of participating agencies in responding to a surge of casualties with radiological injuries to the Los Angeles region. **Objective 2:** Identify the process for casualty reception and distribution within the Federal Coordinating Center (FCC)/National Disaster Medical System (NDMS) framework. **Objective 3:** Identify the critical resources available to assist hospitals and treatment centers during a surge of radiation-injured patients and discuss resource gaps. **Objective 4:** Anticipate guidance that non-Radiation Injury Treatment Network (RITN) hospitals will need with regard to receiving radiation-injured patients; of particular concern is triage, treatment, tracking and surveillance of self-referral cases from the area of radiation impact and distribution of medical countermeasures. **Objective 5:** Identify the responsibilities and resources necessary for mass care capabilities to support RITN patients and their families during ongoing treatment at Los Angeles area RITN treatment centers.
Hazard	Radiological
Scenario	Medical surge due to a distant detonation of an Improvised Nuclear Device (IND)
Sponsor	Radiation Injury Treatment Network® (RITN) National Marrow Donor Program (NMDP) Office of Naval Research (ONR)
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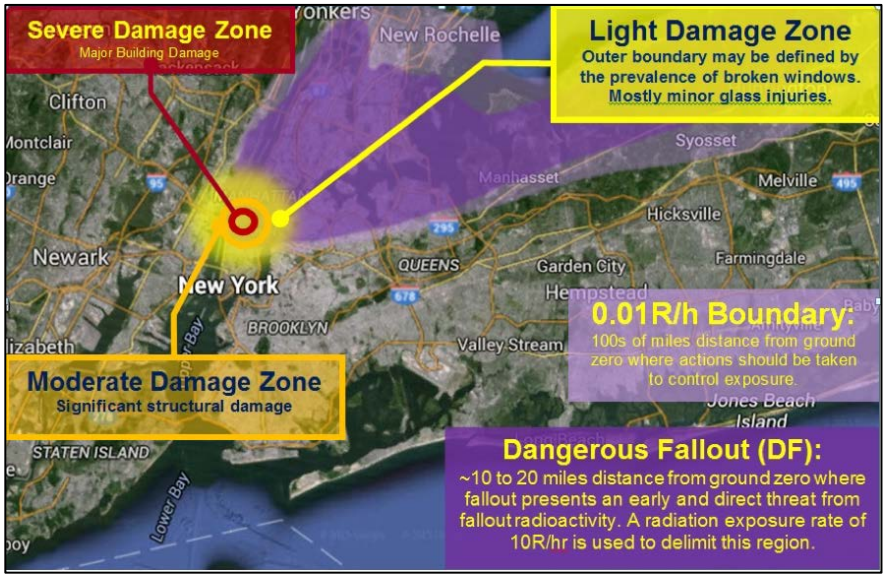
EXERCISE SUMMARY

On August 4, 2016, the City of Hope, City of Long Beach Public Health, Los Angeles County Department of Public Health, Los Angeles County Emergency Medical Services Agency (EMSA), Region I Disaster Medical Health Specialist (RDMHS), Shaefer Ambulance, Care Ambulance, American Medical Response (AMR), American Red Cross, Veterans Administration (VA) Long Beach Healthcare System, the Los Alamitos National Disaster Medical System (NDMS) Federal Coordinating Center (FCC), the U.S. Department of Health and Human Services (HHS) Assistant Secretary for Preparedness and Response (ASPR), and the RITN Control Cell participated in a tabletop exercise to discuss the organizational roles and responsibilities of key agencies, identify resources required to provide treatment for a surge of radiation injury patients, describe medical management of patients (to include inpatient, outpatient and self-referral), discuss casualty reception and receipt within the FCC model, and identify resource needs for mass care/shelter operations. Exercise participants addressed these objectives in a scenario-driven, facilitated discussion based on a surge of casualties with radiological injuries arriving to the Los Angeles area.

Exercise Scenario

Initial Event

- On July 30th, 2016 a ten-kiloton Improvised Nuclear Device (IND) was detonated in New York City.



- Estimated casualties:

  - 300,000 fatalities in the Severe Damage Zone; 150,000 in Moderate Damage Zone.
  - 60,000 urgent casualties in Moderate Damage Zone; 90,000 in Light Damage Zone.
  - 40,000 non-urgent casualties in Moderate Damage Zone; 60,000 in Light Damage Zone.
  - 300,000 worried well across geographical area.
  - **16,400 radiation casualties** across geographical area.
- Secretary of Health and Human Services (HHS) declares a Public Health Emergency and activates the HHS Emergency Management Group.
- The National Marrow Donor Program (NMDP) activates the RITN Control Cell. Control Cell staff begin to monitor the situation and send out Situation Reports (SITREPs) to the RITN facilities as well as notification to fill out and submit the HCS capacity survey.

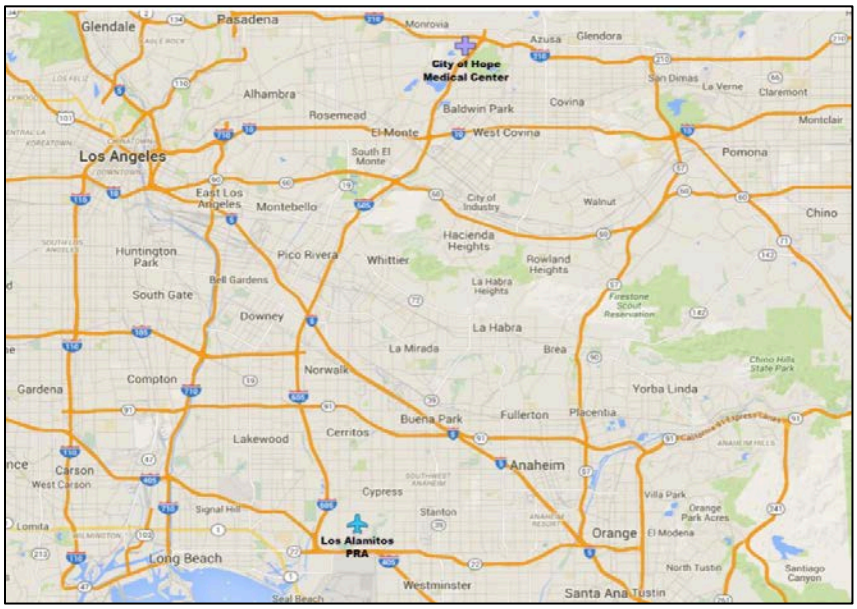
Initial Event +4 Days

- National Disaster Medical System (NDMS) issues activation protocol for Los Angeles, indicating the region will be receiving casualties from the disaster zone via NDMS.
- The Veterans Administration initiates actions to establish a Patient Reception Area (PRA) FCC at the Los Alamitos Army Airfield in Long Beach, where NDMS patients will be received.

Initial Event +5 Days

Approximately five days after the detonation patients start to arrive at the FCC established at the Los Alamitos Airfield. Upon arrival patients will be screened and triaged for transportation to the local RITN hospital (City of Hope [COH]) for treatment. COH is expected to receive 60 adult and pediatric patients with marrow toxic injuries. These patients typically will arrive in waves of 30-45 patients and may be spread out over the next 1-2 days.

Some RITN patients are anticipated to be treated on an outpatient basis. Mass care services for patients and family members are also anticipated.



Exercise Objectives and Core Capabilities

The following exercise objectives in Table 1 describe the expected outcomes for the exercise. The objectives are linked to core capabilities, which are distinct critical elements necessary to achieve the specific mission area(s). These objectives and aligned core capabilities are guided by elected and appointed officials and were selected by the Exercise Planning Team.

Table 1. Exercise Objectives and Associated Core Capabilities

Exercise Objective	Core Capability	Healthcare Preparedness Capability
Objective 1: Clarify the organizational roles and responsibilities of participating agencies in responding to a surge of casualties with radiological injuries to the Los Angeles region.	Public Health & Medical Services	Emergency Operations Coordination
Objective 2: Identify the process for casualty reception and distribution within the Federal Coordinating Center model.	Public Health & Medical Services	Emergency Operations Coordination
Objective 3: Identify the critical resources available to assist hospitals and treatment centers during a surge of radiation-injured patients and discuss resource gaps.	Public Health & Medical Services	Medical Surge
Objective 4: Anticipate guidance that non-Radiation Injury Treatment Network (RITN) hospitals will need with regard to receiving radiation-injured patients; of particular concern	Medical Countermeasures Dispensing	Responder Safety & Health

Exercise Objective	Core Capability	Healthcare Preparedness Capability
is triaging, treatment and tracking/surveillance of self-referral cases from the area of radiation impact and distribution of medical countermeasures.		
Objective 5: Identify the responsibilities and resources necessary for mass care capabilities to support RITN patients and their families during ongoing treatment at Los Angeles RITN treatment centers (City of Hope).	Mass Care Services	Emergency Operations Coordination

ANALYSIS OF CAPABILITIES

Question Block 1: Pre-Arrival of Patients

The following are the primary concerns at this point in the scenario for:

Emergency Management	City of Long Beach Dept of Health and Human Services, Los Angeles County Public Health Department	COH (RITN Facility)	Non-RITN Hospitals	Los Alamitos FCC
• Coordinate/develop communications for both staff and the public. • Prepare for behavioral/mental health needs of the people who are arriving from the disaster and the staff. • Start to think about outpatient lodging and transportation.	• Educate local providers on this type of injury and prepare them for an influx. Get in front of misinformation. • Education and information that is accurate and released often through the PIO. • Try to get a patient number that will be sent to the Los Angeles area in order to do planning for both inpatient and outpatient needs. • MHOAC to initiate bed polling and report information to CDPH.	• Determine what patients can be discharged • Update RITN bed availability to RITN network • Cease elective treatments and consider reducing/ delaying care to patients with slow disease progression • Look at when it may be necessary to transition to alternate standards of care • Consider deploying a team of doctors to evaluate incoming patients at another location (outpatient or inpatient status)	• Prepare to accept patients discharged from COH (decompress) • Situational awareness communications to understand healthcare system needs and support • Respond to HAvBED polling for beds and resources coordinated by the Medical Alert Center (MAC). • Leverage other hospitals in the area that do BMT (e.g., Saint John's and UCLA) for radiation injury treatments	• Establish the patient reception area at the air base in Los Alamitos • Notify hospitals that are going to receive patients • Notify Los Angeles (LA) County EOC through the MAC • Assign incoming patients based on reported RITN bed numbers.

Activation: Following the federal disaster declaration, the Los Alamitos FCC would receive an alert for activation from the U.S. Department of Health and Human Services (HHS), which would initiate activities for opening the FCC and the Patient Reception Area (PRA). The HHS Secretary Operations Center (SOC) determines the patient distribution strategy across all NDMS hospitals to include the RITN hospitals for radiation injury patients.

RITN and NDMS/HHS Coordination: The role of RITN is to provide the specialty RITN bed data/reports to HHS. HHS will review the bed data across the country to make determinations about where to send patients. The local FCC will work with the LA County Emergency Operations Center (EOC) and Medical Alert Center (MAC) to poll hospitals and determine bed availability in the area. If there is no bed availability, then patients won't be sent to the Los Alamitos FCC. Currently the RITN beds are not part of the HAvBED polling system; there is support for the integration but it has not happened to date. The current protocol is for COH to provide the RITN specific bed

information to RITN/HHS and it is not shared directly to the county or state. It may be useful to include direct sharing of this information to the FCC and LA County EMSA/Public Health so there is more immediate awareness of the capability/capacity prior to receiving information from HHS.

The VA gets bed reports twice monthly from the hospitals that have signed the Memorandum of Understanding (MOU) with NDMS, but in this type of incident would be coordinating with the County EOC to get real time bed and resource availability information. Once HHS determines the number of patients being sent to the Los Alamitos FCC, the FCC notifies the local hospitals that they will be receiving patients. At that time the patients are within 24 hours of arrival to the area.

Operation of the FCC: Transport from the Los Alamitos FCC/PRA would be via AMR. In addition to ambulance assets, AMR has buses and other vehicles that could be used. The buses would be utilized for the non-medical attendants that accompany the patients. The ambulances could transport two patients per vehicle. The VA also has transportation vehicles that can hold up to 35 people.

Patient tracking for NDMS uses the Joint Patient Assessment and Tracking System (JPATS); this is accessed by either the Service Action Team (SAT) or the FCC team. Daily entry of the NDMS patient and their care giver is required. COH indicated that they would like access and just in time training on the system in order to test its use during the full scale exercise. The regional patient tracking mechanism is through ReddiNet but at this time JPATS is not interoperable with other tracking systems.

Strengths

Strength 1: There are a large number of hospitals in the LA area and a robust system to support decompression of COH particularly with the time available from incident notification until receipt of the RITN patients. There are also other large BMT facilities that can potentially be leveraged in planning.

Strength 2: There are sufficient transportation assets to move patients from the FCC in Long Beach to COH in Duarte to include both AMR and VA resources. COH has some vehicles to transport outpatients from their lodging location to the hospital for care.

Areas for Improvement

Area for Improvement 1: Continue to include the LA County EMSA partners in planning and exercising for receipt of NDMS and RITN patients. It is important to understand in advance the type of resources that would be needed and the expectations for coordinating housing and transportation logistics. Related recommendations include:

- Initial notification protocols should include the County and State emergency management partners
- Establish a liaison between the FCC and the County EOC to facilitate information sharing and resource coordination
- Ensure an understanding of the resources/beds that would be important in this scenario so that the MAC can rapidly add those categories to HAvBED and start tracking those resources for the LA Operational Area (OA). Other resource types aside from beds may include staff types such as polling to get numbers of available BMT specialists, radiological oncologists, etc.

Area for Improvement 2: COH should update protocols for RITN bed reporting to include direct reporting to the County EOC and the Los Alamitos FCC (in addition to the RITN Control Cell).

Area for Improvement 3: In addition to the action to continue to work at the federal level to add RITN bed types to the HAvBED system, consider adding these bed types locally (e.g., hematology, oncology) to the ReddiNet system to capture these across the hospital system to include non-RITN hospitals.

Area for Improvement 4: Public messaging strategies for this type of incident (i.e., radiological/nuclear detonation that results in radiation injuries) should be developed in advance and incorporated into existing emergency response plans. References to assist with messaging strategies and templates include, but are not limited to:

- U.S. HHS Radiation Emergency Medical Management (REMM) website - Information Resources for Public Information Officers. http://www.remm.nlm.gov/remm_pio.htm
- FEMA. "Improvised Nuclear Device Response and Recovery: Communicating in the Immediate Aftermath" – June 2013. http://www.fema.gov/media-library-data/20130726-1919-25045-0618/communicating_in_the_immediate_aftermath__final_june_2013_508_ok.pdf

Area for Improvement 5: Provide additional training opportunities to COH staff to become familiar with JPATS and determine possible COH employee responsibilities for updating JPATS if a SAT team is not available. Incorporate the use of JPATS into future NDMS or RITN exercises to build and maintain hospital proficiency with JPATS to include exploring how it may or may not integrate with internal patient tracking systems.

Area for Improvement 6: There are 42 hospitals in the LA area that may receive NDMS patients but COH is currently the only RITN hospital in southern California. There are a number of other facilities in the LA area that have BMT capability. Continue efforts to add these hospitals (e.g.,

UCLA, Saint John's) to RITN. It is possible to become a RITN center even if not affiliated with NMDP.

Area for Improvement 7: Continue to look at strategies to leverage capabilities and space at other hospitals, for example, deploy staff with acute radiation sickness (ARS) experience/expertise from COH to other hospitals to distribute patient care, particularly outpatient care.

Question Block 2: Arrival of Patients

Standard indicators would be used by COH clinicians to determine whether the patient requires inpatient or outpatient care, such as having co-morbidities and the white cell counts. It was recognized that the patients would arrive stabilized but would not have labs and limited/no medical records. There was a brief discussion as to whether a triage team from COH should deploy to the FCC to leverage their expertise in evaluation for either inpatient or outpatient radiation injury care prior to transport (i.e., conduct the assessment/triage operations at a physical location other than COH).

The inpatient and surge considerations at COH were their ability to change staffing ratios based on the disaster declaration and ability to move current patients out of the hospital to free up beds. Staffing and resources may still be an issue even when space/beds are made available. Established processes would be used to request and obtain resources, i.e., request to the County via the MAC which elevates as necessary to the region via the Medical and Health Operational Area Coordinator (MHOAC).

Outpatient and Mass Care Considerations: COH would be able to provide guidance to non-RITN hospitals that could be disseminated by the MAC. This would include guidelines/symptoms that warrants transport to a specialized facility such as COH.

COH would take the lead on lodging for the outpatients and NDMS would be the lead entity to secure lodging for the non-medical attendants accompanying the patients. Financial reimbursement will come from NDMS at the federal per diem rate. SAT teams (if deployed) or the FCC will be responsible for processing all of the medical and lodging expenses. A concern is that many of the RITN patients will require 60-90 days of care and the current coverage is for only 30 days. This issue of reimbursement is recognized and being raised at the federal level.

Outpatients may be housed in the hotel units on the COH campus; the process would be to move the current people out of that area (usually it is full with family members of patients). The estimate was that approximately 30 rooms were available in that area. COH also has day-to-day operations where people stay at nearby hotels and are transported on site for care; this model and assets would be leveraged for those that require outpatient care. A family assistance center would also be established at COH for the patients and the family members. If people are staying off campus at several hotels, it may be worthwhile to establish something at those locations to easily provide information and support.

LA Department of Public Social Services (DPSS) has the overarching mass care plan to include setting up shelters and family assistance centers. The plan exists but it is necessary to solidify the plan for this scenario at COH and/or outline the options in a plan for family assistance centers.

The Red Cross is available to support as needed but would look to the FCC or EOC Command for the request to activate.

Resource Request Process and Prioritization of Limited Resources: Locally, the prioritization of scarce resources would be decisions made jointly by the LA County Health Officer, Director of the LA County Health Agency, EMSA Director, MHOAC, and RDMHS. This is the policy group of medical experts that are leveraged in any scenario where resource prioritization is required. Granulocyte-colony stimulating factor (G-CSF) would be procured through normal vendor channels rather than rely on the Strategic National Stockpile (SNS) which only has a very limited supply. There likely will be a nationwide shortage of G-CSF following this type of disaster so patients may need to be triaged/prioritized as to who needs the drug most.

Local quantities of G-CSF are reported through RITN to the HHS SOC to help understand regional resources and the need to potentially request the SNS. It was also noted that the HHS SOC can increase vendor manufacturing if needed through MOUs.

Behavioral Health Resources: COH would utilize their Public Information Officer (PIO) to communicate and educate staff and existing patients in order to alleviate fears. A phone line would also be established with a recorded message of frequently asked questions in order to reduce the burden on staff having to respond to large numbers of phone calls. In addition, COH has a sizable Behavioral/Mental Health group to assist with incoming patients and their non-medical attendant as far as grief counseling related to the recent trauma (e.g., relocation, lost friends and family members, current sickness). Grief counseling will turn into a 24/7 operation and become overwhelming so would also look to the City of Duarte resources and places of worship for assistance. LA County has 4000 mental health employees that can be requested through the MAC in order to augment the internal hospital and local assets. Federal mental health teams can also be deployed (psychological first aid); the decisions as to where to deploy these teams across the country would be made at the command center.

Strengths

Strength 1: RITN facility (COH) clinicians have expertise to be able to rapidly and effectively triage patients to inpatient or outpatient status given basic lab/cell count information.

Strength 2: Hospital and Emergency Management partners were familiar with the MAC and ICS resource request process and will implement this to fulfill both medical and logistical (e.g., lodging) needs.

Strength 3: There are significant behavioral/mental health resources both within COH and in LA County that can be leveraged for response to this remote disaster that becomes local such as NDMS patient movement.

Areas for Improvement

Area for Improvement 1: Continue discussions to determine the utility and feasibility of having a specialist triage team comprised of COH staff that can deploy to the FCC and assist with triage when the RITN patients arrive. The onsite triage team would assess the incoming patients to determine if they require inpatient or outpatient care and transport them appropriately. If consensus is reached on this approach, a plan will need to be developed. As possible, leverage best practices from other RITN jurisdictions that have implemented this process.

Area for Improvement 2: Additional planning is needed to determine what lodging will be used for non-medical attendants arriving with patients; this requires collaboration between local and federal partners. Details from the federal NDMS plans as far as reimbursement and duration of coverage need to be incorporated into the plans.

Area for Improvement 3: Review outpatient lodging plans that include use of hotels and ensure that any concerns regarding cost, transportation, and willingness to take ARS patients are addressed in advance. If possible, outpatients should be centralized in 3-4 locations to streamline provision of mass care/family assistance services to include transportation, feeding, security, mental health support, patient tracking, and (if warranted) onsite patient care.

- Educate hotel staff in advance to include housekeeping (non-medical radiation training)

Area for Improvement 4: Continue discussions about the use of commercial laboratories (e.g., LabCorp) to perform the blood draws and cell count tests to alleviate the burden on specialty hospitals like COH.

Area for Improvement 5: In addition to staff messaging, offer education opportunities on radiation to reduce anxiety and ensure that people come to work during a disaster. These should be offered both to medical staff as well as support staff such as administrative and environmental services (as well as other relevant community members that may support mass care operations).

- Explore RITN sponsored Radiation Emergency Assistance Center/Training Site (REAC/TS) training for medical personnel (https://orise.orau.gov/reacts/capabilities/continuing-medical-education/default.aspx)
- Conduct and promote RITN trainings (http://ritn.net/training/) and consider downloading to have access in the event that infrastructure goes down.

Area for Improvement 6: Determine how to integrate faith-based organizations and the American Red Cross into outpatient and non-medical attendee sheltering operations.

HOTWASH

Strengths

- COH is the largest BMT facility west of the Mississippi with much expertise.
- LA County is extremely well resourced and capable of disaster response, just need to build in expectations for this program to best prepare that response.
- There was strong representation by key agencies at the TTX and it is essential to build both relationships and awareness of this program in advance.
- TTX was very valuable to discuss issues leading up to the full scale exercise occurring 1 week later.

Improvement Planning

- Need to continue to work out the planning details between local, state, and federal partners.
- Patient tracking is a large concern – where the person is and what kind of care they are receiving. Agencies need to coordinate on this to ensure that resources and time are not wasted.
- Further training and experience using the JPATS system, starting with use during the August 11 full scale exercise.
- Continue discussions on the most effective way to triage patients as inpatient or outpatient upon arrival (by whom and does it occur at the FCC or COH).

APPENDIX A: IMPROVEMENT PLAN

This improvement plan template has been developed specifically for the RITN centers participating in the 2016 RITN Regional Exercises. City of Hope and partner organizations 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.

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APPENDIX C: ACRONYMS

Acronym	Term
AAR	After Action Report
AMR	American Medical Response
ARC	American Red Cross
ARS	Acute Radiation Syndrome
ASPR	Assistant Secretary for Preparedness and Response
BMT	Bone Marrow Transplant
CDPH	California Department of Public Health
COH	City of Hope
DPSS	Department of Public Social Services (LA County)
EMSA	Emergency Medical Services Agency
EOC	Emergency Operations Center
FCC	Federal Coordinating Center
FEMA	Federal Emergency Management Agency
G-CSF	Granulocyte-Colony Stimulating Factor
HHS	Health and Human Services
ICS	Incident Command System
IND	Improvised Nuclear Device
JPATS	Joint Patient Assessment and Tracking System
MAC	Medical Alert Center
MHOAC	Medical and Health Operational Area Coordinator
MOU	Memorandum of Understanding
NDMS	National Disaster Medical System
NMDP	National Marrow Donor Program
OA	Operational Area
PRA	Patient Reception Area
PIO	Public Information Officer
RDMHS	Regional Disaster Medical Health Specialist
REAC/TS	Radiation Emergency Assistance Center/Training Site
REMM	Radiation Emergency Medical Management
RITN	Radiation Injury Treatment Network
SAT	Service Action Team
SITREP	Situation Report
SNS	Strategic National Stockpile
SOC	Secretary Operations Center (DHHS)
TTX	Tabletop Exercise
UCLA	University of California – Los Angeles
VA	Veterans Administration