



Tranquil Terminus

After-Action Report/Improvement Plan

April 11, 2018

The After-Action Report/Improvement Plan (AAR/IP) aligns exercise objectives with preparedness doctrine to include the National Preparedness Goal and related frameworks and guidance. Exercise information required for preparedness reporting and trend analysis is included; users are encouraged to add additional sections as needed to support their own organizational needs.

EXERCISE OVERVIEW

Exercise Name	Tranquil Terminus
Exercise Dates	April 9-12, 2018
Scope	The coordination and movement of multiple highly infectious patients across state lines involving multiregional jurisdictions and agencies. Emergency Medical Services (EMS) reception and transport of highly infectious patients plays an integral part in the safe movement of multiple patients.
Mission Area(s)	Protection and Response
Core Capabilities	<p>Protection</p> <ul style="list-style-type: none"> ▪ Planning ▪ Operational Coordination ▪ Physical Protective Measures ▪ Risk Management for Protection Programs and Activities <p>Response</p> <ul style="list-style-type: none"> ▪ Planning ▪ Operational Coordination ▪ Critical Transportation ▪ Environmental Response/Health and Safety ▪ Operational Communications ▪ Public Health, Healthcare, and Medical Services
Objectives	<ol style="list-style-type: none"> 1. Central Dispatch Office will ensure and maintain proper communication with the high risk ambulance crew prior to and during all stages of patient transport and maintain effective communication with Unified Command. 2. High Risk Ambulance (HRA) supervisor will maintain proper communication with Central Dispatch Office (CDO) prior to and during all stages of the patient transport. 3. HRA care providers will safely and properly don PPE. 4. HRA care providers safely receives patients from air ambulance staff without contamination or breach in PPE. 5. HRA care providers safely transfers care of patients to the receiving facility staff without contamination or breach in PPE. 6. HRA care providers safely doff PPE without contamination or breach in PPE.
Threat or Hazard	Ebola virus disease



Exercise Name	Tranquil Terminus
Scenario	<p>Several individuals from a national, faith-based organization were working in remote communities in Liberia as part of a summer missionary trip and have since returned home to their respective residences</p> <p>Two weeks following their return home, eight individuals were admitted to their local hospitals and diagnosed, through laboratory confirmation, with Ebola.</p> <p>As part of the national HID strategy, two patients were transported to the Region IX Ebola Treatment Center, Cedars Sinai Medical Center.</p>
Sponsor	<p>U.S. Department of Health and Human Services U.S. Assistant Secretary of Preparedness and Response</p>
Participating Organizations	<p>City of Los Angeles:</p> <ul style="list-style-type: none"> ▪ Los Angeles World Airports <p>County of Los Angeles</p> <ul style="list-style-type: none"> ▪ Department of Health Services ▪ Department of Public Health <p>California Department of Public Health McCormick Ambulance Services CARE Ambulance Services Cedars Sinai Medical Center</p>



ANALYSIS OF CORE CAPABILITIES

Aligning exercise objectives and core capabilities provides a consistent taxonomy for evaluation that transcends individual exercises to support preparedness reporting and trend analysis. Table 1 includes the exercise objectives, aligned core capabilities, and performance ratings for each core capability as observed during the exercise and determined by the evaluation team.

Objective	Core Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
CDO will ensure and maintain proper communication with the high risk ambulance crew prior to and during all stages of patient transport and maintain effective communication with Unified Command.	Operational Communications		S		
High Risk Ambulance (HRA) supervisor will maintain proper communication with Central Dispatch Office (CDO) prior to and during all stages of the patient transport	Operational Communications	P			
HRA care providers will safely and properly don PPE.	Physical Protective Measures	P			
HRA care providers safely receives patients from air ambulance staff without contamination or breach in PPE.	Operation Coordination Critical Transport Environmental Response Health and Safety	P			
HRA care providers safely transfers care of patients to the receiving facility staff without contamination or breach in PPE.	Operation Coordination Environmental Response Health and Safety	P			
HRA care providers safely doff PPE without contamination or breach in PPE.	Physical Protective Measures		S		



Table 1. Summary of Core Capability Performance**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).

The following sections provide an overview of the performance related to each exercise objective and associated core capability, highlighting strengths and areas for improvement.



Objective 1: CDO will ensure and maintain proper communication with the high risk ambulance care providers prior to and during all stages of patient transport and maintain effective communication with Unified Command

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability 1 – Operational Communications

Strengths

The partial capability level can be attributed to the following strengths:

Strength 1: CDO notified high risk ambulance providers within 1 hour of receiving information from EMS Duty Officer of incoming highly infectious disease patient.

Strength 2: CDO was able to identify primary crew for the transport within 1 hour of notification.

Strength 3: CDO was able to identify a second back up crew within 1 hour of notification. It was already established that CARE Ambulance would be the primary back-up, but their dispatch personnel declined to be the back-up because the high risk ambulance was not in their possession at the time. As a result, CDO reached out to AMR, and AMR identified that they would be the backup.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: There was a level of artificiality knowing that this was an exercise. CDO was able to identify the primary and back up crews within 1 hour of receiving notification, only after it took some prompting from our EMS Duty Officer. CDO thought the notification they received from the EMS Duty Officer was information only and that no actions needed to be taken. Had it not been an exercise, the notification to the HRA may have taken longer, if at all.

Analysis: The process of notification and communication between CDO and the HRA during a high risk infectious disease transport needs to be outlined.

Area for Improvement 2: Need better communication between CDO and the HRA supervisor. CDO did not act as the point of contact for the HRA. They instructed the HRA care providers to contact the EMS Liaison directly for more information regarding the transport; which for the purpose of this exercise is acceptable, but may not be feasible for a local regional EID transport.

Analysis: We need to establish CDO's role during the transport and determine if they should be the point of contact between the HRA and EMS Liaison. We also need to confirm if Public Health's Command Center will open for a local regional EID transport. If so, we need to determine if an EMS Liaison would be represented there.



Area for Improvement 3: Need better communication between CDO and EMS Liaison at Unified Command. Even though the HRA ambulance supervisor contacted CDO during transport, CDO did not relay information to the EMS Liaison. The EMS Liaison had to contact the HRA supervisors for information on the patient. Since CDO did not communicate with the EMS Liaison, Unified Command was not kept abreast of the patient's whereabouts.

Analysis: The process of communication between all parties directly involved in transport needs to be outlined with guidelines established. Once CDO has identified the primary and backup HRA providers, direct communication between the HRA supervisor and the EMS Liaison will be established during a regional EID transport. For a local EID transport, the HRA supervisor will maintain communication with CDO as needed. We will consider having the HRA communicate with the receiving facility to provide patient information only, such as changes in the patient's status.

Objective 2: High Risk Ambulance (HRA) provider will maintain proper communication with Central Dispatch Office (CDO) prior to and during all stages of the patient transport

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability 1 – Operational Communications

Strengths

The partial capability level can be attributed to the following strengths:

Strength 1: HRA providers were able to identify themselves as the primary and back up transport crews to CDO immediately from the time of request.

Strength 2: The HRA supervisor maintained communication with CDO during all stages of the transport.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: The HRA supervisors were put on hold each time they called CDO and spoke to different individuals.

Analysis: CDO should have provided a direct line and a single point of contact for the transport. Internal communication guidelines need improvement during a regional and local EID transport. For future EID transports, CDO's role will be to identify the HRA providers and be the point of contact should any problems occur during a local transport request.



Objective 3: HRA care providers will safely and properly don PPE.

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability 1 – Physical Protective Measures

Strengths

The full capability level can be attributed to the following strengths:

Strength 1: There was a trained observer and buddy for each transport team. The trained observer read each step of the donning checklist out loud; the buddy was present to assist with donning.

Strength 2: Donning PPE was fast and efficient. Only took 20 minutes for both teams to be ready.

Strength 3: Both trained observers verified the integrity of the PPE ensemble.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: Although a blood pressure machine was present, no vitals were taken to ensure all HRA care providers' ability to use a PAPR prior to donning PPE.

Reference: U.S. Department of Labor Occupational Safety and Health Administration: Respiratory Protection – 1910.134

Analysis: Donning a PAPR is not a usual occurrence for these healthcare providers. It will take more practice and diligence to make sure vital signs are taken prior to donning.

Objective 4: HRA care providers safely receives patients from air ambulance staff without contamination or breach in PPE.

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability 1 – Operational Coordination

Strengths

The full capability level can be attributed to the following strengths:

Strength 1: The transfer of care from the air medical crew to our HRA care providers was done quickly and safely without contamination.

Strength 2: HRA supervisors and trained observers displayed strong leadership and organization in getting the care providers in PPE onto the tarmac.



Core Capability 2 – Environmental Response Health and Safety

Strength 1: The trained observer/safety monitor maintained situational awareness by making sure the HRA care providers in PPE remained comfortable. He directed them to get some shade under a parked aircraft wing while waiting for the patient to arrive.

Strength 2: One of the HRA care provider's suit tore while sitting in the HRA. The HRA care provider quickly mitigated the breach by: first, inspecting the area for gross contamination, and secondly, applying duct tape to the tear.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: Continue to maintain situational awareness for the trained observer and those in PPE.

Analysis: Maintaining situational awareness will ensure the safety of those in PPE.

Area for Improvement 2: Need to be mindful of objects that can potentially tear PPE when entering and exiting the HRA. Continue to follow breach protocols to prevent further contamination.

Analysis: Wearing PPE with a PAPR can be cumbersome, making it difficult to maneuver around especially in tight quarters. Care providers need to take their time when getting in and out of small spaces and be aware of objects that can potentially cause a breach.

Area for Improvement 3: Need to develop procedures for when a breach in PPE occurs when taking care of wet patients while in transit.

Analysis: A breach in PPE while in transit with a wet patient is a challenge. According to the Center of Disease and Control, the person in PPE needs to be immediately removed to assess the extent of the breach. We need to work with external partners on finding an appropriate location in which the person in PPE can safely doff PPE.

Objective 5: HRA care providers safely transfers care of patients to the receiving facility staff without contamination or breach in PPE.

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability 1 – Operational Coordination

Strengths

The full capability level can be attributed to the following strengths:

Strength 1: The use of FaceTime with a mobile device in the back of the HRA during transport allowed the medical team at Cedars-Sinai to visualize the patient. By using a share location capability, the patient's exact location and estimated time of arrival was known at the RETC



Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: Develop a policy for the HRA on how to share location using a mobile device for future EID transports.

Core Capability 2 – Environmental Response Health and Safety

Strength 1: The back compartment of the HRA remained cool and comfortable for the care providers in PPE.

Strength 2: Spill kit with all necessary items were organized in a container and easily accessible for use should the patient vomit in route to the receiving facility.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: Continue to participate in exercises with Ebola Treatment Centers.

Analysis: Exercises and drills help improve processes through repetition and familiarity.

Area for Improvement 2: Continue to practice spill management procedures to become familiar with the safe handling of infectious waste.

Analysis: Care providers need to be familiar with handling spills during transport for their safety and preventing the spread of disease.

Objective 6: HRA care providers safely doff PPE without contamination or breach in PPE.

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability 1 – Physical Protective Measures

Strengths

The full capability level can be attributed to the following strengths:

Strength 1: The doffing area was prepped with clear delineation between clean and dirty zones.

Strength 2: All supplies for doffing and extra equipment were brought by the HRA supervisor vehicle. The HRA crew were self-sufficient in case the receiving facility did not have all the supplies needed for doffing PPE.

Areas for Improvement

The following areas require improvement to achieve the full capability level:



Area for Improvement 1: The trained observer did not methodically read each step of the doffing checklist out loud. Instead, the steps were summarized and condensed. As a result, the care providers in PPE could not easily follow what was being directed at them.

Analysis: Each step of the doffing checklist was written to be read out loud so that it could be easily followed by those wearing PPE. Summarizing the steps caused confusion and incorrect procedure risking self-contamination. The trained observers need to be reminded that doffing cannot be rushed.

Area for Improvement 2: Care providers had a difficult time removing boot covers without self-contamination.

Analysis: Boot covers are made with a very thick material making it difficult to remove especially if worn over work boots or tennis shoes. Need to consider using shears to remove the boot covers in the doffing checklist.



Appendix A: IMPROVEMENT PLAN

This IP has been developed specifically for Los Angeles County EMS Agency as a result of Tranquil Terminus conducted on April 11, 2018.

Core Capability	Issue/Area for Improvement	Corrective Action	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Core Capability Operational Communication	1. Communication between CDO and HRA	Establish communication guidelines for high risk transports for CDO and the HRA care providers.	Los Angeles County EMS Agency	Ami Boonjaluksa and Troy Goodspeed	July 2018	August 2018
Core Capability Environmental Response Health and Safety	1. Roles and responsibility of the trained observer	Develop training specific for the trained observer with the focus on expectations and responsibilities.	HRA providers	David Konieczny, Lyle Hanson, and Ken Liebman	July 2018	Ongoing
Core Capability Physical Protective Measures	1. Removing boot covers caused self-contamination	Revise doffing checklist to make removing boot covers easier	Los Angeles County EMS Agency	Ami Boonjaluksa and David Konieczny		May 2018 by David Konieczny
Core Capability Environmental Response Health and Safety	1. Need to develop breach protocols for a PPE breach while transporting a wet patient.	Work with external partners, in particular Fire EMS, to develop a memorandum of understanding to use a fire station as a safe location to doff PPE in the event of a PPE breach and/or HRA provider emergency.	Los Angeles County EMS Agency	Ami Boonjaluksa	August 2018	December 2018

APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations
Federal
U.S. Dept. of Health and Human Services
U.S. Assistant Secretary for Preparedness and Response
State
California Dept. of Public Health
Los Angeles
Cedar Sinai Medical Center
Los Angeles County Emergency Medical Services Agency
Los Angeles County Dept. of Public Health
Los Angeles World Airport
WestMed/McCormick Ambulance
CARE Ambulance