

# ASPR TRACIE Technical Assistance Request

**Requestor:**

**Requestor Phone:**

**Requestor Email:**

**Request Receipt Date (by ASPR TRACIE):** 22 December 2016

**Response Date:** 29 December 2016

**Type of TA Request:** Standard

## Request:

The requestor inquired about existing ASPR TRACIE resources related to the transfer of patients with highly infectious diseases.

## Response:

Staff identified resources included in existing ASPR TRACIE Topic Collections. Additionally, staff identified resources that have been collected in support of a project to develop a playbook focused on the transport of Ebola and other highly infectious disease patients. Note that some of the listed guidance documents were specific to the recent Ebola outbreak and are no longer in effect, though they include information that may be applicable during future outbreaks.

## I. Topic Collection Resources

The following resources are included in either the Viral Hemorrhagic Fever/Ebola Topic Collection or the Pre-Hospital Topic Collection.

Bratt, J., Robinson, A., and Alcorta, R. (n.d.). [Strategies and Considerations for the Deployment of EMS Personal Protective Equipment in Response to an Ebola Outbreak](#). (Accessed 8/1/2016.) Maryland Institute for Emergency Medical Service Systems.

This article describes protection of emergency medical services personnel through personal protective equipment (PPE), including requirements, PPE cost (and how to estimate it), PPE deployment strategies, and personnel requirements.

Centers for Disease Control and Prevention and the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response. (2014). [Detailed Emergency Medical Services \(EMS\) Checklist for Ebola Preparedness](#).

This checklist was designed to help emergency medical services personnel “prepare to detect,” “prepare to protect,” and “prepare to respond” to patients with Ebola.

Centers for Disease Control and Prevention. (2014). [EMS \(Emergency Medical Services\) and Ebola: Field Experience with Transporting Patients](#).

Speakers from Emory University and the University of Nebraska Medical Center share

emergency medical services field experiences with two patients. The session provides information on patient transport, training, equipment, policy, and procedures, and how to identify partners in planning for the transport of patients.

Centers for Disease Control and Prevention. (2016). [Guidance for Developing a Plan for Interfacility Transport of Persons Under Investigation or Confirmed Patients with Ebola Virus Disease in the United States.](#)

This document provides guidance on developing plans for interfacility air or ground transport of persons under investigation and Ebola patients.

Centers for Disease Control and Prevention. (2015). [Identify, Isolate, Inform: Emergency Medical Services \(EMS\) Systems and 9-1-1 Public Safety Answering Points \(PSAPs\) for Management of Patients Who Present with Possible Ebola Virus Disease \(Ebola\) in the United States.](#)

This algorithm provides the steps that emergency medical service providers can take when providing patient care in the field to those with Ebola. The resource also lists steps for decontaminating transport vehicles.

Centers for Disease Control and Prevention. (2015). [Interim Guidance for Emergency Medical Services \(EMS\) Systems and 9-1-1 Public Safety Answering Points \(PSAPs\) for Management of Patients under Investigation \(PUIs\) for Ebola Virus Disease \(EVD\) in the United States.](#)

This guidance was developed to ensure that emergency medical services providers and other first responders are safe and patients are appropriately managed while handling inquiries and responding to patients under investigation.

Centers for Disease Control and Prevention. (2015). [Q&A's about the Transport of Pediatric Patients \(< 18 years of age\) Under Investigation or with Confirmed Ebola.](#)

This webpage is intended to provide first responders with information to help protect themselves, younger patients, and patients' family members by answering the most frequently asked questions.

Emergency Medical Services Authority, Emergency Medical Directors Association of California, and Emergency Medical Services Administrators Association of California. (2014). [Recommended Policy and Procedures for Emergency Medical Services \(EMS\) Personnel for the Contact, Management, and Transport of Potential Ebola Virus Disease \(EVD\) Patients.](#)

This document provides guidance for development of local policies and protocols for the effective management of patients with Ebola and the safety of EMS personnel. This information is intended for: Managers of 9-1-1 Public Safety Answering Points (PSAPs), local emergency medical services agencies (LEMSAs), EMS Systems, law enforcement agencies and fire service agencies, as well as individual EMS providers (including emergency medical technicians, paramedics, and medical first responders).

Gabriel, E., Randolph, J., Levy, D., et al. (2014). [Ebola Preparedness for Emergency Medical Services](#). U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response.

This 55-minute webinar features speakers from the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response, and Centers for Disease Control and Prevention. The presenters discuss the Detailed Emergency Medical Services Checklist for Ebola Preparedness, which highlights activities that EMS agencies and systems should consider to prepare for managing patients with Ebola and other infectious diseases.

InterAgency Board for Equipment Standardization and Interoperability. (2014). [Recommendations on Selection and Use of Personal Protective Equipment for First Responders against Ebola Exposure Hazards](#).

The InterAgency Board for Equipment Standardization and Interoperability reviewed current U.S. government guidance related to personal protective equipment (PPE) in order to develop recommendations for first responders on PPE selection and decontamination. The recommendations include descriptions of PPE items for high and low risk exposures and detailed specifications/standards for recommended PPE.

Lowe, J., Jelden, K.C., Schenarts, P.J., et al. (2014). [Considerations for Safe EMS Transport of Patients Infected with Ebola Virus](#). Prehospital Emergency Care. 19(2).

The authors discuss the coordinated response between the Nebraska Biocontainment Unit (through the Nebraska Medical Center in Omaha) and Omaha Fire Department's EMS to transport patients with confirmed Ebola virus from West Africa from the airport to the high-level isolation unit. Three critical areas have been identified from their experience and are addressed in this article: ambulance preparation, appropriate selection and use of personal protective equipment, and environmental decontamination.

National Association of State EMS Officials. (2015). [NASEMSO After Action Review: Lessons Learned, Best Practices and Recommendations - Ebola Disease Outbreak](#).

NASEMSO's Domestic Preparedness Committee prepared this document to highlight critical dates during the Ebola outbreak, provide background information on the disease, describe lessons learned from the response, identify best practices, and recommend actions to federal partners.

National Highway Traffic Safety Administration. (2007). [EMS Pandemic Influenza Guidelines for Statewide Adoption](#).

This guidance document highlights two tasks assigned to the Department of Transportation in the National Strategy for Pandemic Influenza: 6.1.13.6 (emergency management services-specific pandemic influenza guidelines) and 6.1.4.2 (protocols for 9-1-1 centers and public safety answering points).

New Hampshire Division of Public Health Services, and New Hampshire Bureau of Emergency Medical Services. (2015). [Ebola Preparedness for Emergency Medical Services.](#)

This document is intended to provide interim guidance to EMS providers to prepare for a suspect Ebola virus disease patient. It includes information on steps that EMS personnel should take immediately as preventative measures, how to screen suspect cases, how to use personnel protective equipment, and steps to take to environmentally clean ambulances and medical equipment.

New York State Department of Health, and New York State Emergency Medical Services. (2014). [Ebola Virus Disease \(EVD\) In-Service EMS Training Outline.](#)

This document provides information on Ebola (e.g., how it is transmitted, signs and symptoms), and several recommendations to EMS personnel including use of personal protective equipment, cleaning EMS transport vehicles after transporting a patient with suspected or confirmed Ebola, follow-up and/or reporting measures by EMS personnel after caring for a suspected or confirmed Ebola patient, among others.

Stout, T. and Garza, A. (2015). [Emergency Medical Services \(EMS\) and Ebola.](#) International Society for Disease Surveillance.

This one-hour webinar discusses how emergency medical services (EMS) in the U.S. and Canada responded to the threat of Ebola. It focuses on two main areas affecting EMS providers and their public health partners: EMS agency Ebola information sharing and best practices development, and EMS data surveillance approaches.

U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response. (n.d.). [Ebola Information for EMS Providers, Agencies, and Systems.](#) (Accessed 8/1/2016.)

This webpage provides an overview and links to presentations relevant to emergency medical services providers, agencies, and systems and links to information on patient evaluation and diagnosis, personal protective equipment, patient privacy issues, patient movement, and waste management and disposal.

U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response. (2015). [Air to Ground Transport Fact Sheet: Planning Considerations When Developing Standard Operating Procedures for the Transfer of an Ebola \(or Other Highly Infectious Disease\) Patient from/to an Air Transport Provider to/from a Ground Transport Provider.](#)

This fact sheet can help transport providers and healthcare facilities develop standard operating procedures for air-to-ground transfers of Ebola virus disease patients. It focuses on six elements for consideration: securing and preparing the ground unit(s), communicating with state and local government partners, identifying and resolving airfield issues, securing an appropriate protective force, identifying and resolving travel route issues, and managing public and media communications.

U.S. Department of Health and Human Services. (2006). [Emergency Medical Service and Non-Emergent \(Medical\) Transport Organizations Pandemic Influenza Planning Checklist](#).

This checklist was created to help emergency medical services and non-emergent (medical) transport organizations measure and improve their preparedness for responding to pandemic influenza.

Virginia Department of Health. (n.d.). [Ebola Virus Disease \(EVD\)](#). (Accessed 8/2/2016.)

This webpage highlights guidance and other documents to assist emergency medical services (EMS) providers and agencies in understanding Ebola. It includes links to the plans and guidance of each Regional EMS Council in Virginia.

## II. Additional Resources

The following resources were identified to support the development of the transport playbook. This list is not exhaustive and additional resources are likely to be identified as work continues on the project.

American Medical Response. (2014). [Ebola Patient Preparation for Transport, Patient Movement, and Decontamination Procedures](#).

The document describes procedures to prepare EMS personnel and vehicles for the interfacility transport of patients under investigation for or known to be infected with Ebola.

California Emergency Medical Services Authority, Emergency Medical Director's Association of California, and Emergency Medical Services Administrator's Association of California. (2014). [Recommended Policy and Procedures for Emergency Medical Services \(EMS\) Personnel for the Contact, Management, and Transport of Potential Ebola Virus Disease \(EVD\) Patients](#).

This document provides guidance for California EMS, public safety answering points, and other first responders on the development of local policies and protocols related to management of patients with Ebola virus disease.

Casey, M., Nguyen, D., Idriss, B., et al. (2015). [Potential Exposure to Ebola Virus from Body Fluids due to Ambulance Compartment Permeability in Sierra Leone](#). *Prehospital Disaster Medicine*. 30(6):625-627.

This study examined the separation between the patient compartment and driver cabin of transport vehicles and decontamination practices to determine possible driver exposure to Ebola.

Centers for Disease Control and Prevention. (n.d.). [Example: Standard Operating Procedure \(SOP\) for Air-to-Ground \(Air-Ground\) Patient Handoff](#).

This document provides guidance for the handoff of a patient between a ground and an air ambulance company.

Centers for Disease Control and Prevention. (n.d.). [Example: Standard Operating Procedure \(SOP\) for Decontamination of an Ambulance that has Transported a Person under Investigation or Patient with Confirmed Ebola.](#)

This document is a model SOP for the decontamination of a patient with suspected or confirmed Ebola virus disease.

Centers for Disease Control and Prevention. (n.d.). [Example: Standard Operating Procedure \(SOP\) for Patient Handoff between a Healthcare Facility and a Transporting Ambulance.](#)

This document provides guidance for the handoff of a patient between a hospital or clinic and an ambulance agency.

Centers for Disease Control and Prevention. (2015). [Guidance on Personal Protective Equipment \(PPE\) to be Used by Healthcare Workers During Management of Patients with Confirmed Ebola or Persons Under Investigation \(PUIs\) for Ebola who are Clinically Unstable or Have Bleeding, Vomiting, or Diarrhea in U.S. Hospitals, Including Procedures for Donning and Doffing PPE.](#)

This CDC webpage includes guidance on the types of personal protective equipment (PPE) that should be used by those caring for patients with Ebola. It also includes steps for donning and doffing PPE as well as what trained observers should do to ensure these steps are followed.

Coignard-Biehler, H, Isakov, A., and Stephenson, J. (2015). [Pre-hospital Transportation in Western Countries for Ebola Patients, Comparison of Guidelines.](#) Intensive Care Medicine. 41:1472-1476.

This article compares Ebola transport procedures in three western nations and identifies common principles.

International Academies of Emergency Dispatch. (2014). [Emerging Infectious Disease Surveillance Tool \(SRI/MERS/Ebola\).](#)

This protocol assists in the identification of symptoms of a potential emerging infectious disease and the dispatch of appropriate response assets.

International Association of Emergency Medical Services Chiefs. (2014). [Ebola Outbreak in Western Africa – EMS Response Issues.](#)

This reference document is a collection of Ebola-related resources relevant to EMS chiefs.

Isakov, A., Jamison, A., Miles, W., and Ribner, B. (2014). [Safe Management of Patients with Serious Communicable Diseases: Recent Experience with Ebola Virus](#). *Annals of Internal Medicine*. 161:829-830.

This article shares the perspective of the Grady EMS Biosafety Transport Program and the Emory University Hospital Serious Communicable Disease Unit on the transport of patients with a confirmed serious communicable disease.

Isakov, A., Miles, W., Gibbs, S. et al. (2015). [Transport and Management of Patients with Confirmed or Suspected Ebola Virus Disease](#). *Annals of Emergency Medicine*. 66(3):297-305.

This article describes the practices of EMS agencies with experience transporting patients with Ebola virus disease to the hospitals of Emory University and the University of Nebraska.

Ringen, K., Landrigan, P., Stull, J., et al. (2015). [Occupational Safety and Health Protections Against Ebola Virus Disease](#). *American Journal of Industrial Medicine*.

This article encourages the use of a precautionary approach to worker protections when planning for epidemics with incomplete evidence about modes of disease transmission.

Thoms, W., Wilson, W., Grimm, K., et al. (2015). [Long-Range Transportation of Ebola-Exposed Patients: An Evidence-Based Protocol](#). *American Journal of Infectious Diseases and Microbiology*. 2(6A):19-24.

This article explores the use of a large military transport aircraft to safely transport multiple Ebola-exposed patients from western Africa to the United States. The described protocol designates three zones to separate asymptomatic patients, patients with early symptoms under monitoring, and patients who develop symptoms during the flight.