

# INTERIM

## EMS Guidance for Patient with Suspected or Known Ebola Virus Disease (EVD)

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## **Introduction**

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 emergency medical services providers (including emergency medical technicians [EMTs], paramedics, and medical first responders).

This document suggests best practices derived from numerous sources and are presented for use by local jurisdictions, private providers, and Public Safety Answering Point personnel to develop local protocols for screening suspect cases, providing treatment, and transport of potential or positive Ebola patients. Information and protocols around this issue are subject to frequent changes based on national guidance. Updates to these guidelines will be provided as needed. Please monitor Mountain-Valley EMS Agency's website at [www.mvemsa.org](http://www.mvemsa.org) for updates. Other pertinent guidelines can be found at Centers for Disease Control and Prevention (CDC) and California Department of Public Health (CDPH) websites.

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## Section 1

### **Determination of Suspected or Known Ebola Virus Disease (EVD) by EMS**

#### **I. Pre-Hospital 9-1-1 Call**

**A patient is considered a “Person Under Investigation (PUI)” if they answer, “YES” to number 1 and “YES” to number 2 below.**

##### **1. Patient’s Signs & Symptoms**

- a. Does the patient have any of the following symptoms?
  - i. Fever or chills
  - ii. Headache, joint pain, or muscle aches
  - iii. Weakness or fatigue
  - iv. Stomach pain, diarrhea, or vomiting
  - v. Abnormal bleeding

**AND**

##### **2. Patient Exposure History**

- a. Within the past 21 days before the onset of symptoms did the patient:
  - i. Reside in, or travel within, the infected regions of
  - ii. West Africa (Sierra Leone, Guinea, or Liberia) **Or**
  - iii. Has the patient had contact with an individual with confirmed Ebola Virus Disease within the previous 21 days?

#### **II. Interfacility Transfer**

##### **1. Known Ebola Virus Disease**

- a. Patients in this category have positive blood tests for Ebola. These patients represent the highest risk of infection to individuals with whom they come into contact
- b. These patients are more likely to be transferred from one facility to another facility

## Section 2

### **Appropriate Personal Protective Equipment (PPE)**

#### **I. The following principles apply to EMS personnel caring for Person Under Investigation (PUI)**

\*PPE should be put on before entering the scene and continue to be worn until personnel are no longer in contact with the patient.

\*No skin should be exposed on the EMS personnel donning PPE

\*PPE should be carefully removed while under observation in an area designated by the receiving hospital following procedures under “doffing” below.

##### 1. PPE Options

PPE guidance for EMS/First Responders will be provided in this space holder once CalOSHA finalizes the guidance document.

CDC recommendation for PPE in health facilities:

*“Interim Guidance for 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 in the United States”* The link is found at <http://www.cdc.gov/vhf/ebola/hcp/interim-guidance-emergency-medical-services-systems-911-public-safety-answering-points-management-patients-known-suspected-united-states.html>

“Recommendations on Selection and Use of Personal Protective Equipment for First Responders against Ebola Exposure Hazards” The link is found at:

[https://iab.gov/Uploads/IAB%20Ebola%20PPE%20Recommendations\\_10%2024%2014.pdf](https://iab.gov/Uploads/IAB%20Ebola%20PPE%20Recommendations_10%2024%2014.pdf)

#### **II. Donning and Doffing PPE**

1. The following principles apply to EMS personnel as well as to hospital personnel caring for Ebola infected patients

- a. Prior to working with Ebola patients, all healthcare workers involved in the care of Ebola patients must have received repeated training and have demonstrated competency in performing all Ebola-related infection control practices and procedures, and specifically in donning/doffing proper PPE.

- b. While working in PPE, healthcare workers caring for Ebola patients should have no skin exposed.
- c. A trained observer to ensure proper completion of established PPE protocols must supervise each step of the donning/doffing procedure. This may be as simple as having one provider put on PPE and manage the patient while the other provider does not engage in patient care but serves in the role of trained observer and driver.
- d. If blood, body fluids, secretions, or excretions from a patient with suspected Ebola come into direct contact with the EMS provider's skin or mucous membranes then the EMS provider should immediately stop working. The doffing of PPE correctly and cautiously is highly recommended so as to avoid a secondary exposure due to hastily removing equipment secondary to exposure-induced stress. The EMS provider should wash the effective skin surfaces with soap and water and mucous membranes (e.g., conjunctiva) should be irrigated with large amounts of water or eyewash solution. Report exposure to an occupational health provider or immediate supervisor for follow-up.
- e. Recommended PPE should be used by EMS personnel as follows:
  - i. PPE should be put on before entering the scene and continue to be worn until personnel are no longer in contact with the patient.
  - ii. PPE should be carefully put on under observation as specified in the CDC's "Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease in U.S. Hospitals, Including Procedures for Putting On (Donning) and Removing (Doffing)."<sup>1</sup>
  - iii. PPE should be carefully removed while under observation in an area designated by the receiving hospital and follow proper procedures as specified in the CDC's guidance.
- f. All personnel should be trained in proper donning and doffing of recommended PPE that is implemented and available locally. Particular attention should be devoted to doffing, as the PPE should be considered contaminated.

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<sup>1</sup> <http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html>

- g. Appropriate procedures for disposal of contaminated material are outlined in Section 6 of this document

### Section 3

#### **Treatment Protocols for Suspected or Known EVD Cases**

Patient treatment considerations begin with the strategy of limiting personnel and equipment exposure to the suspected or known EVD patient. The number of EMS personnel involved in patient contact should be held to the minimum necessary for treatment and transport.

If the patient meets the criteria of a “Patient Under Investigation (PUI)” the EMS personnel should initiate ALL Patient contact from at least 3 feet away and don appropriate PPE as outlined in Section 2 of this document.

Pre-hospital providers should avoid all ALS procedures and provide supportive care.

**Please see Appendix B for Decision Flow Diagram**

### Section 4

#### **Specialized Transport Units/Teams**

#### **Considerations for EMS Transportation Including Development and Use of Specialized Transportation Resources**

A balance must be achieved between providing high quality medical care to the patient and protecting EMS personnel. **EMS personnel must be trained in the appropriate clinical and epidemiological screening of persons presenting with medical complaints and should ask prior to patient encounter.** Accurate pre-arrival screening and information from PSAP or from local public health for a person being monitored is an important step. **Please see Appendix C regarding PSAP and call screening.**

#### **I. Infectious Disease Ambulance Response Team (IDART)**

1. An Infection Disease Ambulance Response Team (IDART), See Appendix A, is dedicated to responding to and transporting patients with undefined risk but suspected of Ebola infection should be considered for 911 responses.
  - a. IDART is available to the member counties of Mountain-Valley EMS Agency via American Medical Response. The IDART team will depart from Contra Costa County and respond to the location requesting transport.
  - b. **An IDART team can be requested through the Mountain-Valley EMS Agency Duty Officer at (209) 272-0901**



2. An IDART should always be used to transport patients confirmed to have Ebola or patients known to be very high risk and being monitored by public health.
3. If an IDART is unavailable please follow the guidance for a “Non-Designated Unit” below.

## **II. Non-designated Units**

1. If a non-specialized unit responds to or is involved with the transport of a patient meeting high index of suspicion for Ebola infection, they may call in a specialized transport unit, if the clinical situation allows. Alternatively, they can minimize contamination of the ambulance by installing pre-cut plastic sheeting. Personnel who are not involved in the direct patient care can do this.

**An example of specialized infectious disease ambulance response teams can be found in Appendix A: Infectious Disease Ambulance Response Teams (IDART).**

2. All ambulances transporting symptomatic patients (PUI) will need to be prepared prior to transport.
  - a. It is recommended that the ambulance be outfitted with polyethylene plastic sheeting (e.g., Visqueen) to protect the patient compartment and to isolate the back from the front cabin. Specially configured ambulances may have special-request availability.
  - b. It is recommended that all units carry pre-cut and numbered sheeting and tape to rapidly shield the patient compartment of an ambulance. The sheeting should also isolate the patient compartment from the driver compartment.
  - c. If an “**EMS Screened Positive Patient**” is transported in a non-plastic sheeted ambulance, decontamination becomes much more difficult. (see **Decontamination of Ambulance Vehicles – Section 6** for further information).
  - d. The scene should be turned over to local law enforcement, Environmental Health and Public Health. If there are asymptomatic persons in the same household as the symptomatic patient, to the extent possible, keep them in the house/apartment to await Public Health.

## Section 5

### **Hand-Off Protocols to ER Staff**

**\*Currently there are no designated hospitals for receiving EVD patients under investigation from the pre-hospital environment. All patients will be transported per MVEMSA patient destination/transport protocol.**

Hospitals should have a specific protocol for the receipt from the field by EMS of patients with highly infectious diseases, in this case, Ebola. The objective is to develop and maintain a “field of isolation” that would minimize broader contamination of the facility, including caregivers, other patients and the public.

#### **I. Arrival at the Hospital**

- a. Stay with the patient in the ambulance until the hospital staff is prepared to receive the patient
- b. Anticipate patient handoff to hospital staff occurring at the ambulance and not inside the hospital
- c. If patient handoff occurs directly in an isolation room in the hospital it may be at a location other than the emergency department
  - i. Anticipate doffing PPE at the isolation room/anteroom interface or a location chosen by the hospital staff
- d. Coordinate patient handoff with any procedures the hospital may have in place
- e. EMS Personnel will doff PPE at the hospital, using the hospital protocol and monitor. If no hospital monitor, EMS personnel not in PPE will read the doffing checklist step by step.

## Section 6

### **Decontamination of Ambulance/Equipment and Disposing of Medical Waste**

#### **I. CDC Guidance for Decontamination**

- a. EMS personnel performing cleaning and disinfection should wear recommended PPE and consider use of additional barriers (e.g., rubber boots or shoe and leg coverings) if needed.
- b. Patient-care surfaces (including stretchers, railings, medical equipment control panels, and adjacent flooring, walls and work surfaces) are likely to become contaminated and should be cleaned and disinfected after transport.

- c. A blood spill or spill of other body fluid or substance (e.g., feces or vomit) should be managed through removal of bulk spill matter, cleaning the site, and then disinfecting the site. For large spills, a chemical disinfectant with sufficient potency is needed to overcome the tendency of proteins in blood and other body substances to neutralize the disinfectant's active ingredient.
- d. An EPA-registered hospital disinfectant with label claims for viruses that share some technical similarities to Ebola (such as, norovirus, rotavirus, adenovirus, poliovirus) and instructions for cleaning and decontaminating surfaces or objects soiled with blood or body fluids should be used according to those instructions. After the bulk waste is wiped up, the surface should be disinfected as described above.
- e. Contaminated reusable patient care equipment should be placed in biohazard bags and labeled for cleaning and disinfection according to agency policies. Reusable equipment should be cleaned and disinfected according to manufacturer's instructions by trained personnel wearing correct PPE. Avoid contamination of reusable porous surfaces that cannot be made single use.
- f. Use only a mattress and pillow with plastic or other covering that are impermeable to fluids. To reduce exposure among staff to potentially contaminated textiles (cloth products) while laundering, discard all linens, non-fluid-impermeable pillows or mattresses as appropriate.
- g. The Ebola virus is a Category A infectious substance regulated by the U.S. Department of Transportation's (DOT) Hazardous Materials Regulations (HMR, 49 C.F.R., Parts 171-180). Any item transported for disposal that is contaminated or suspected of being contaminated with a Category A infectious substance must be packaged and transported in accordance with the HMR. This includes medical equipment, sharps, linens, and used health care products (such as soiled absorbent pads or dressings, kidney-shaped emesis pans, portable toilets, used Personal Protection Equipment [e.g., gowns, masks, gloves, goggles, face shields, respirators, booties] or byproducts of cleaning) contaminated or suspected of being contaminated with a Category A infectious substance.
- h. The military has developed a more detailed protocol:  
*Decontamination of Vehicles & Equipment Used for Transportation of Potential Ebola Virus Disease (EVD) Patients or Related Equipment:*  
*Technical Information Paper 13-031-0914*  
<http://disasterlit.nlm.nih.gov/record/9182>

## Section 7

### **Protocol for Patients with Suspected or Known EVD Refusing EMS Transport**

- I. Refer to MVEMSA policy 570.35 “Refusal of EMS Service”
  - a. **If a Patient Under Investigation for EVD refuses transport the crew is to contact Valley Regional Emergency Communications Center (VRECC).**
  - b. **VRECC contacts MVEMSA Duty Officer.**
  - c. **MVEMSA Duty Officer will contact Public Health Duty Officer for direction.**
  - d. **The crew will remain on scene until a directive is given to them by either the PH Duty Officer or MVEMSA DO.**

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## Appendix A

### **Infectious Disease Ambulance Response Teams (IDART)**

Jurisdictions who have the resources to establish field specialized Infectious Disease Ambulance Response Teams (IDART) may wish to consider some of the principles below (Note: The use of the term “Strike Team” is discouraged for these resources as Ambulance Strike Teams already exist and are used for completely different circumstances). This concept could be applied to units providing elective interfacility transports for confirmed or known high-risk patients.

IDART is available to the member counties of Mountain-Valley EMS Agency via American Medical Response. The IDART team will depart from Contra Costa County and respond to the location requesting transport.

**An IDART team can be requested through the Mountain-Valley EMS Agency Duty Officer at (209) 272-0901**

**Goal:** An IDART Program is intended to provide a strategic ambulance asset, supported by appropriate medical oversight, to the pre-hospital and medical community facing the challenges of managing emerging infectious diseases.

#### **Objectives:**

1. To provide reliable specialized emergency medical transportation resource for patients with suspected and confirmed cases of known and emerging infectious diseases.
2. Assure the highest level of competency in EMS personnel responsible for the medical transportation of suspect or confirmed disease that warrants activation of IDART.
3. Reduce risk by minimizing the exposure of first responders and non-IDART ambulance personnel needed to suspected or confirmed incidents of infectious disease.
4. The IDART program would be flexible, with deployments based upon reasonable estimates of threat to the system.
5. IDART personnel would be recruited to serve on a dedicated team of prehospital professionals with specialized training and competencies to qualify them to effectively manage high-risk infectious disease medical transportation.

**Concept of Operations:** Use of IDARTS is not intended to minimize efforts to adequately train and equip health care providers to safely manage patients suspected of having serious infectious disease. However, the expectation that all providers in all medical settings can achieve a uniform level of technical expertise in the management of patients with a potentially highly infectious disease is unrealistic.

The IDART approach provides a small but highly trained team of EMS providers (paramedics and EMTs) skilled in PPE donning/doffing, isolation and safe medical transport of at risk patients. The asset would be accessible 24/7, 365 to respond to all settings for patients with suspect or confirmed conditions.

An IDART unit could be utilized in the following ways:

1. If during a 911 call the dispatcher learns of a possible suspect case e.g. caller reports risk factors of Ebola the unit would be deployed. Fire First Responders might not be deployed to reduce potential for exposure and risk, however this approach could vary from jurisdiction to jurisdiction.
2. If during a 911 call the dispatcher learns from an ambulatory health care setting of a suspect case the unit would be deployed. Fire First Responders might not be deployed to reduce potential for exposure and risk (See 1, above).
3. If a determination is made on scene of a possible suspect case through initial screening by either first responders or first on scene emergency ambulance personnel, the IDART unit could be subsequently deployed. In the absence of clinical demands to the contrary, the number of personnel remaining in contact with the patient while the IDART responds should be minimized.
4. Air to ground and ground to air transfers of suspect patients.
5. Response to a hospital facility for planned or urgent interfacility transfer of patients to receiving center.
6. IDART response times may be greater in some cases however control of the environment to reduce the spread of the disease and protection of the workforce in are the highest priorities when responding to these events.

IDART personnel will develop proficiency through competency-based training. This could include:

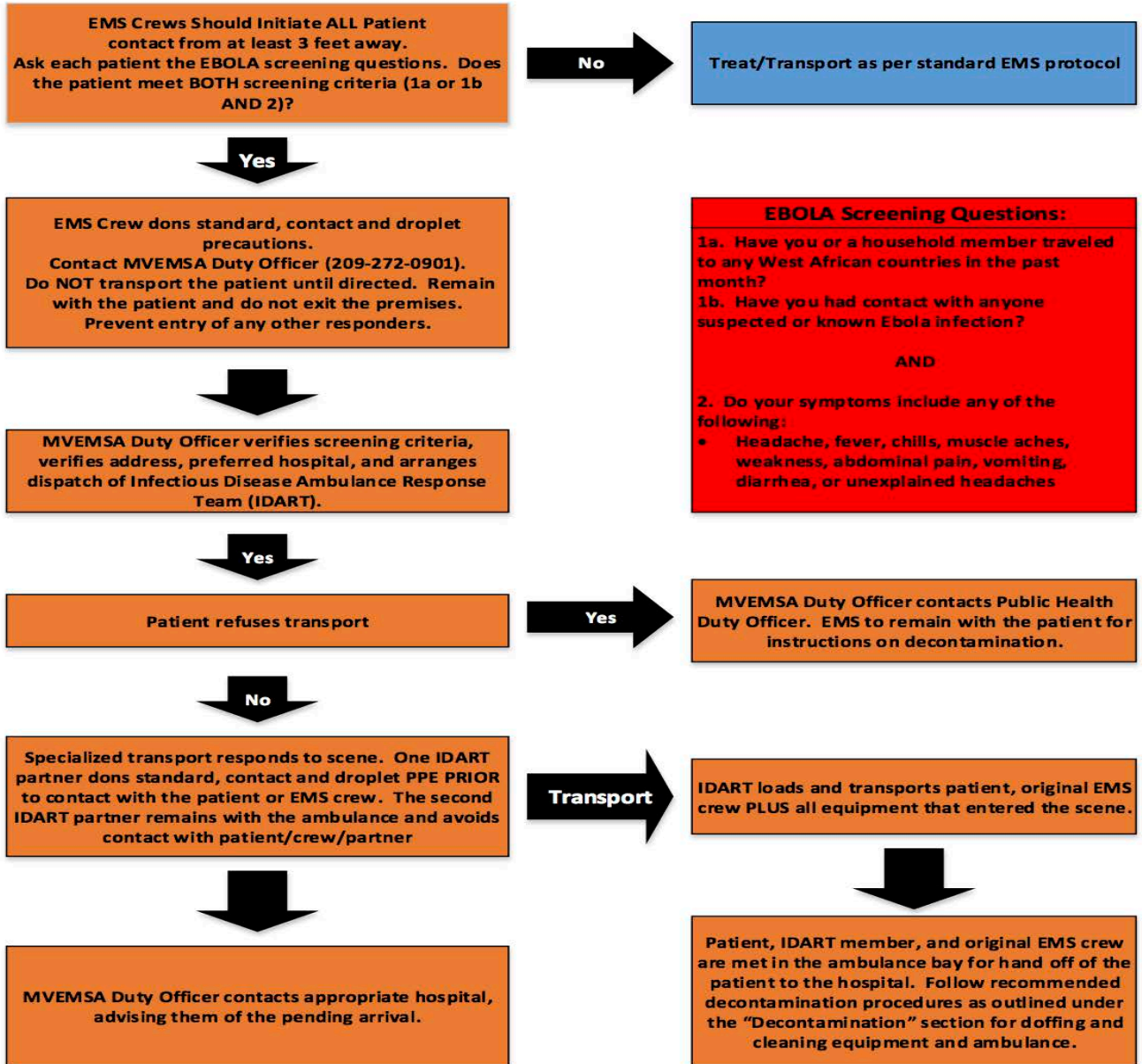
1. Overview of Emerging Infectious Disease, Mechanisms of transmission and principles for exposure risk.
2. Appropriate medical management of the patient during transport including mechanisms to limit patient contact to reduce exposure and potential for inoculation.
3. Instruction and competency testing in all levels of PPE both standard and extensive PPE including \*Powered Air Purifying Respirator (PAPR's) and respirators (Self-Contained Breathing Apparatus – SCBA). \*For those who have the recommended equipment.
4. Extensive competency in (donning and doffing with buddy) at all times
5. Isolation procedures including draping of the inside of the ambulance
6. Hospital early alert and notification procedures

7. Procedures for patient handoff for each receiving in county receiving facility
8. Procedures for decontamination of ambulance, equipment and personnel post transportation
9. Procedures for disposal, sterilization and cleaning of contaminated materials and provider clothing.
10. Protocols for reporting of accidental breach of PPE, exposure or inoculation

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## Appendix B

### MVEMSA Ebola Decision Flow Diagram



**EBOLA Screening Questions:**

1a. Have you or a household member traveled to any West African countries in the past month?

1b. Have you had contact with anyone suspected or known Ebola infection?

AND

2. Do your symptoms include any of the following:

- Headache, fever, chills, muscle aches, weakness, abdominal pain, vomiting, diarrhea, or unexplained headaches

**Provide Only Supportive Measures**

- Pre-hospital providers should avoid all ALS procedures and provide supportive care
- For EMS Screened Positive patients in respiratory or cardiac arrest, do not attempt resuscitation. Contact the EMS duty officer.



## Appendix C

### EMS Dispatch Screening Process

#### Public Safety Answering Point (PSAP) Screening

##### **Policy and Protocol Issue:**

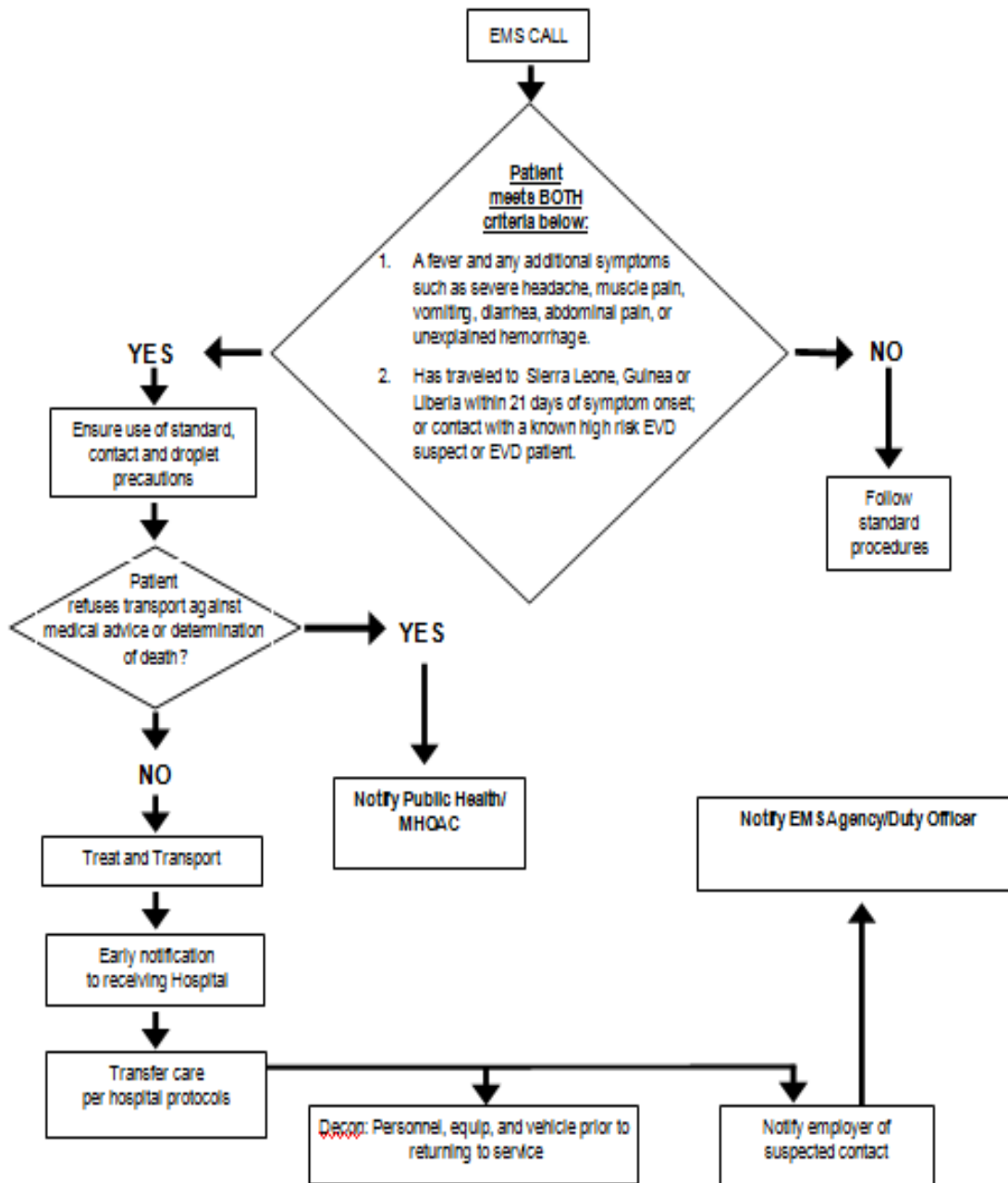
The decision to initiate PSAP screening of callers requesting medical assistance through 911 should be made in collaboration with the LEMSA and local health department leadership. The EMS work group recommends this practice to identify patient encounters that may require first responders to don Personal Protective Equipment (PPE) prior to contact. The method chosen for patient screening for Ebola symptoms and epidemiological factors is at the discretion of the local jurisdiction, e.g. local Emergency Medical Services Agency Medical Director. This does not preclude first responders and paramedics from obtaining a travel and symptom history before entering the residence.

#### **I. Travel History Screening**

For jurisdictions using PSAP screening cards, PSAP dispatchers will query patients reporting infectious disease symptoms about recent travel or contact with returning travelers from the countries of Sierra Leone, Guinea, or Liberia. If the caller indicates travel from one of the above countries within the last 21 days, or, contact with someone else who returned within the last 21 days from one of the above countries, the patient will be considered a potential Ebola case. In the pre-hospital setting, the use of the terminology “**EMS Screened Positive Patient**” is being recommended for use by all PSAPs and EMS providers for consistent communication throughout the state.

It is recommended, whether doing PSAP screening or not, that EMS personnel conduct travel screening queries upon arrival at the patient’s location. Screening of patients with infectious disease symptoms should be conducted while maintaining a physical distance of at least three feet from the patient. This distance should be increased if the patient is actively vomiting or coughing. It is recommended that only one EMS responder conduct screening. The patient is asked about travel from any of the countries of Sierra Leone, Guinea, or Liberia within the previous 21 days whether or not that person is ill. If the patient’s history is positive for said travel and/or contact, the EMS responder should remove himself or herself from the vicinity of the patient and don appropriate Personal Protective Equipment (PPE). If the patient is positive as a suspected Ebola case, subsequent notification should be made of an “**EMS Screened Positive Patient.**”

Patients are not considered contagious unless there is both a travel and symptom history and/or close contact with a confirmed case of Ebola Virus Disease.



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