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

SCOPE: Applies to emergency medical services providers (including emergency medical technicians (EMTs), paramedics, and medical first responders who could be providing patient care in the field—such as law enforcement and fire service personnel). For more detailed information, reference "*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*" (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).

DISPATCH/9-1-1 PSAPS

1 Inquire about travel and direct exposure history within the previous 21 days.

- Has patient traveled to, or lived in, a country with widespread Ebola virus transmission or uncertain control measures (a list of countries can be accessed at the following link: http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/distribution-map.html)?
- Has patient had contact with blood or body fluids (such as urine, saliva, vomit, sweat, or diarrhea) of a person who is confirmed or suspected to have Ebola?

NO → **If ALL responses for Box #1 are "No," continue with usual triage, assessment, and instructions**

YES TO ANY

2 Ask about signs and symptoms.

Does the patient have signs or symptoms of Ebola: Fever, severe headache, muscle pain, weakness, fatigue, diarrhea, vomiting, abdominal (stomach) pain, or unexplained hemorrhage (bleeding or bruising)?

NO →

- **If ALL responses for Box #2 are "No," continue with usual triage, assessment, and instructions**
- Contact public health authority, if appropriate

YES – Patient may meet criteria for suspected Ebola Infection

3 Provide Instructions to Patients and EMS Providers.

- Instruct other people at the scene to restrict contact with patient unless wearing appropriate personal protective equipment (PPE).
- Alert any first responders and EMS providers being dispatched of potential for a patient with possible exposure/signs and symptoms of Ebola **before they arrive on scene**.
- Advise EMS providers that at a minimum, they should use the following PPE before direct contact with a patient has any of these symptoms: fever, fatigue, headache, muscle pain, or weakness (http://www.cdc.gov/vhf/ebola/hcp/ed-management-patients-possible-ebola.html):
  - Face shield and surgical face mask,
  - Impermeable gown, and
  - Two pairs of gloves.
- If a patient is exhibiting obvious bleeding, vomiting, copious diarrhea or there is a concern for bleeding, vomiting, or diarrhea, advise EMS providers before entering the scene to wear PPE recommended for use by healthcare workers managing Ebola patients in U.S. hospitals (http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html).
- If responding at an airport or other port of entry to the United States, the PSAP or EMS unit should notify the CDC Quarantine Station for the port of entry. Contact information for CDC Quarantine Stations can be accessed at http://www.cdc.gov/quarantine/quarantinestationcontactlistfull.html.

4 Medical director may consider additional questions/ actions specific to the local area/region.

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EMS dispatched

Additional Resources

CDC's Case Definition for Ebola Virus Disease (EVD): http://www.cdc.gov/vhf/ebola/hcp/case-definition.html.

International Academy of Emergency Dispatch protocols: http://www.emergencydispatch.org/sites/default/files/pdf/ebola_updates/MPDS-EIDS_Tool_(Ebola)_v5.0.1_NAE.pdf.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

EMS—PRIOR TO ARRIVAL AT PATIENT

Considerations for Infection Control and PPE

- If 9-1-1 PSAP call takers advise that the patient is suspected to have Ebola, EMS providers should put on the PPE appropriate for suspected or confirmed cases of Ebola before entering the scene.
- Avoid direct contact with a patient who may have Ebola without wearing appropriate PPE.
- PPE should be put on before entering a scene to attend to a suspected Ebola patient and continued to be worn until providers are no longer in contact with the patient. PPE should be carefully put on and taken off under the supervision of a trained observer as described in the "*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)*" (http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html).
- If, based on the initial screening, the EMS provider suspects the patient has Ebola then level of PPE should be reassessed before coming within 3 feet of the patient.
- **To minimize potential exposure,**
  - Limit the number of EMS providers to essential personnel only who provide care for a patient with suspected Ebola. All EMS providers having direct contact with a suspected Ebola patient must wear PPE.
  - One EMS provider should approach the patient and perform the initial screening from at least 3 feet away from the patient.
  - Keep the other emergency responders further away, while assuring they are still able to support the provider with primary assessment duties. Consider the strategy of one provider putting on PPE and managing the patient while the other provider does not engage in patient care but serves in the role of trained observer.
  - Use caution when approaching a patient with possible Ebola. On rare occasions, illness can cause delirium, with erratic behavior (e.g., flailing or staggering) that can place EMS providers at additional risk of exposure.
- There may be situations where a patient must be carried and multiple providers are required to put on PPE. EMS providers wearing PPE who have cared for the patient must remain in the back of the ambulance and should not serve as the driver.
- If needed, consider requesting additional resources, such as a dedicated driver.

Occupational Exposure

- If blood, body fluids, secretions, or excretions from a patient with suspected Ebola come into direct contact with an EMS provider's unprotected skin or mucous membranes, then the EMS provider should immediately stop working and:
  - Immediately wash the affected skin surfaces with a cleansing or antiseptic solution. Mucous membranes (e.g., conjunctiva) should be irrigated with a large amount of water or eyewash solution, as per usual protocols.
- All wipes and solution should be placed in a biohazard bag.
- Place all waste in a biohazard bag.
- Notify your chain of command and report exposure to an occupational health provider, supervisor or designated infection control officer for follow-up as soon as possible.
- Follow agency policy for medical evaluation and follow-up care and monitoring.

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EMS ARRIVAL AT SCENE

Has PSAP call taker advised that the patient is suspected to have Ebola and EMS personnel should put on the PPE appropriate for suspected or confirmed cases of Ebola before entering the scene?

NO

2 Inquire about travel and direct exposure history within the previous 21 days.

- Has patient traveled to, or lived in, a country with widespread Ebola virus transmission or uncertain control measures (a list of countries can be accessed at the following link: http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/distribution-map.html)?
- Has patient had contact with blood or body fluids (such as urine, saliva, vomit, sweat, or diarrhea) of a person who is confirmed or suspected to have Ebola?

NO

If ALL responses for Box #2 are "no," continue with usual triage, assessment, and care

YES – Patient meets criteria for suspected Ebola Infection

1 Consider appropriate PPE in the EMS setting for a person with suspected Ebola.

Is the patient exhibiting obvious bleeding, vomiting, or diarrhea or has a clinical condition that warrants invasive or aerosol-generating procedures (e.g., intubation, suctioning, active resuscitation)?

If no, then EMS personnel should at a minimum wear the following PPE (link: http://www.cdc.gov/vhf/ebola/hcp/ed-management-patients-possible-ebola.html):

- Face shield and surgical face mask
- Impermeable gown, and
- Two pairs of gloves

If yes, then use PPE recommended for use by healthcare workers managing Ebola patients in U.S. hospitals (http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html).

YES TO ANY

3 Assess signs and symptoms.

- Does the patient have fever, severe headache, muscle pain, weakness, fatigue, diarrhea, vomiting, abdominal (stomach) pain, diarrhea, or unexplained hemorrhage (bleeding or bruising)?

NO

- Continue with usual triage, assessment, and care
- Contact appropriate public health authority

YES – Patient meets criteria for suspected Ebola Infection

4 Isolate patient immediately and revisit Step #1 from EMS Arrival at Scene. Consider:

If you anticipate performing pre-hospital resuscitation procedures such as endotracheal intubation, open suctioning of airways, or cardiopulmonary resuscitation, conduct these procedures while wearing the PPE recommended for use by healthcare workers managing Ebola patients in U.S. hospitals (http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html).

5 Avoid unnecessary direct contact while managing patient, then prepare to transfer to an appropriate facility.

- Limit the number of providers to essential personnel only who provide care for a patient with suspected Ebola. All EMS providers having direct contact with a suspected Ebola patient must wear PPE.
- Remove and keep nonessential equipment away from the patient, so as to minimize contamination, on the scene and in the ambulance.
- Do not perform phlebotomy or any other invasive procedures unless urgently required for patient care or stabilization. Handle any needles and sharps with extreme care and dispose in puncture-proof, sealed containers that are specific to the care of this patient, in accordance with OSHA's Bloodborne Pathogens Standard. Do not dispose of used needles and sharps in containers that have sharps from other patients in them.
- Consider giving the patient oral medicine to reduce nausea, per medical director protocols and consistent with scope of practice.
- If patient is vomiting, give them a large red biohazard bag to contain any emesis. For profuse diarrhea, consider wrapping the patient in an impermeable sheet to reduce contamination of other surfaces.

Suspected Ebola Patients Should Only be Transported to a Healthcare Facility Prepared to Further Evaluate and Manage the Patient According to the Community's Predefined Transportation/ Destination Plan Developed by Public Health Officials, Hospital, Medical and EMS Personnel.

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TRANSPORT TO A HEALTHCARE FACILITY

6 Prepare for transport according to agency/local protocol.

- Separate the driver from the patient compartment.
- The driver should contact the receiving emergency department or hospital and follow previously agreed upon local or regional protocols to transport the patient to the receiving hospital. This will allow the facility to prepare for receipt of the patient.

7 Follow infection control principles during transport to the hospital.

- Avoid contamination of reusable porous surfaces that are not designated for single use. Use only a mattress and pillow with plastic or other covering that fluids cannot penetrate. Cover the stretcher with an impermeable material.
- During transport, ensure that an appropriate disinfectant U.S. Environmental Protection Agency {EPA} - approved hospital grade disinfectant with a non-enveloped virus claim) is available (for example, in spray bottles or as commercially prepared wipes).
- Provide patient care, as needed, to minimize the contact with patient and following infection control guidelines as noted below. If performing pre-hospital resuscitation procedures such as endotracheal intubation, open suctioning of airways, and cardiopulmonary resuscitation, conduct these procedures under safer circumstances (e.g., stopped vehicle, hospital destination) and wear the PPE recommended by CDC to use during aerosol generating procedures (http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html).

AT HOSPITAL

8 After patient transfer, perform supervised/observed doffing of PPE.

In collaboration with the receiving hospital, EMS agencies should consider how best to facilitate

- A supervised doffing process. Doffing of PPE must
  - Be performed in a designated location
  - Adhere to established procedures and in the presence of a trained observer in order to prevent self-contamination or other exposure to Ebola virus.
- A shower for EMS providers, if available, or an area to change into clean clothing.

See guidance on PPE doffing for more information: http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html.

9 Decontaminate and disinfect (clean) vehicle and equipment while wearing appropriate PPE. Address disposal of waste.

- Consider prepositioning a trained crew wearing appropriate PPE to perform these operations, so that EMS personnel can focus on doffing PPE, communicating with hospital, and finishing appropriate documentation.
- Put on fresh PPE as recommended by CDC before decontaminating and disinfecting the vehicle when body fluids from a patient with suspected Ebola are present. If no body fluids are present then minimal PPE should be worn, including face shield and surgical mask; impermeable gown, and two pairs of gloves.
- Use an EPA-registered hospital disinfectant with a label claiming inactivation for a non-enveloped virus (e.g., norovirus, rotavirus, adenovirus, poliovirus) to disinfect environmental surfaces of vehicle and equipment used with suspected or confirmed Ebola virus infection. (http://www.cdc.gov/vhf/ebola/hcp/environmental-infection-control-in-hospitals.html).
  - Follow instructions for cleaning and decontaminating surfaces or objects soiled with blood or body fluids.
  - After the bulk waste is wiped up, the surface should be disinfected as described below. There should be the same careful attention to the safety of the EMS providers during the cleaning and disinfection of the transport vehicle as there is during the care of the patient.
- A blood spill or spill of other body fluid or substance should be managed by personnel wearing correct PPE, and includes 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. ,(http://www.cdc.gov/vhf/ebola/hcp/environmental-infection-control-in-hospitals.html).
- Clean and disinfect patient-care surfaces and equipment, and other areas that are likely to become after each transport. Avoid contamination of reusable porous surfaces that are not designated as single use.
- Place contaminated reusable patient care equipment (e.g., glucometer, blood pressure cuff) in biohazard bags and label for cleaning and disinfection. Clean and disinfect reusable equipment according to agency policies and manufacturer's instructions by trained personnel wearing correct PPE.
- Discard any bodily secretions (such as urine or vomit) as directed by hospital staff.
- EMS systems should work with designated receiving hospitals to dispose of waste from suspected Ebola patients. Discarded materials suspected of being contaminated with Ebola (i.e., used PPE, used linens, non-fluid-impermeable pillows or mattresses and bulk waste) that are transported to an off-site disposal facility must be packaged and transported in accordance with the Hazardous Materials Regulations (HMR, 49 C.F.R. Parts 171-180).
- Leave vehicle to dry as normal.
- Once cleaning is complete, doff PPE using same procedures and trained observer in a designated area as with the patient care crew.