Annex J. Fatality Management

Purpose
The purpose of this annex is to describe the procedures for safe handling and processing of remains for Alaska’s healthcare staff and mortuary professionals, and to describe the roles and responsibilities of state, local, and healthcare partners in fatality management for patients with Ebola Virus Disease (EVD).

Situation
In patients who die of EVD, Ebola virus can be detected throughout the body. The virus can be transmitted in postmortem care settings by laceration or puncture with contaminated instruments used during postmortem care, through direct handling of human remains without appropriate personal protective equipment (PPE), and through splashes of blood or other body fluids (e.g., blood, urine, saliva, feces, vomit, semen, breast milk) to unprotected mucosa (e.g., eyes, nose, or mouth). The Ebola virus can still infect people who come into contact with a person who has recently died with EVD. Persons at highest risk of exposure to EVD from contact with a decedent in the occupational setting include healthcare staff and mortuary professionals involved in postmortem handling and care. The body of a patient with EVD may have a very high viral load and should be considered highly infectious. In the very unlikely event of a death in Alaska from possible EVD, strict adherence to guidelines is needed to protect healthcare and mortuary staff.

Assumptions
• The State Medical Examiners’ Office (SMEO) is the lead agency for the medical and legal investigative work related to unanticipated, sudden or violent deaths; this includes determining the cause and manner of death.
• The Section of Epidemiology is a support entity and will provide subject matter expertise on the epidemiological and clinical aspects of EVD.

Procedures
• Deaths from suspected or confirmed EVD should be immediately reported to the State Medical Examiner’s Office (907-334-2200) and to the Section of Epidemiology (907-269-8000).
• Autopsies on patients who die of EVD should be avoided. If an autopsy appears warranted, the state health department and CDC should be consulted first.
• Documented deaths that occur in the hospital or under care of a physician do not fall under the jurisdiction of the SMEO and will not be received by the SMEO for autopsy.
• Deaths that occur outside of medical supervision, such as at home, but are highly suspicious of being caused by EVD, will not be received by the SMEO.
• Moving or handling human remains of a person suspected of dying from EVD should only be performed by personnel wearing appropriate personal protective equipment (PPE) and trained in handling infected human remains.
• Staff should receive PPE training specific to EVD.
PPE for Postmortem Care Personnel

- Prior to contact with the body, postmortem care personnel must wear the appropriate PPE according to CDC guidance (see: http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html).
- PPE should be in place before contact with the body, worn during the process of collection and placement in body bags, and should be carefully removed after and discarded appropriately (see: Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus (http://www.cdc.gov/vhf/ebola/hcp/environmental-infection-control-in-hospitals.html).
- Hand hygiene (washing hands thoroughly with soap and water or an alcohol based hand rub) should be performed immediately following the removal of PPE. If hands are visibly soiled, use soap and water.

Postmortem Preparation

- At the site of death, the body should be wrapped in a plastic body bag or shroud. Wrapping of the body should be done in a way that prevents contamination of the outside of the body bag/shroud.
- Gowns and gloves should be changed if they become heavily contaminated with blood or body fluids. Intravenous lines or endotracheal tubes should be left in place.
- Avoid washing or cleaning the body. After the body is placed in the first body bag/shroud, the body should be immediately placed in a body bag and zippered closed. (NOTE: BioSeal or another sealed containment system may be used in place of the shroud and/or body bag. If using BioSeal, or other sealed system, the body should still be double sealed, either in two layers of BioSeal, the inner layer as a plastic shroud, or with either layer as a body bag.)
- Prior to transport to the morgue, perform surface decontamination of the corpse-containing body bags by removing visible soil on outer bag surfaces with EPA-registered disinfectants which can kill a wide range of viruses. Follow the product’s label instructions.
- After the visible soil has been removed, reapply the disinfectant to the entire bag surface and allow to air dry. Following the removal of the body, the patient room should be cleaned and disinfected. Reusable equipment should be cleaned and disinfected according to standard procedures.
- For more information on environmental infection control, refer to CDC’s Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus (available at: http://www.cdc.gov/vhf/ebola/hcp/environmental-infection-control-in-hospitals.html).

Deaths that Occur Outside the Hospital Environment

- Deaths that occur outside of the hospital setting should be managed as described above. In cases where there is a strong suspicion of EVD, blood samples will be collected at the scene; however, the body will not be moved to the SMEO, unless there are other factors involved. The body should be sealed as above and moved to a funeral home.
- Blood samples will be transported to the Alaska State Public Health Laboratory (ASPHL) for testing.
- Contact the Section of Epidemiology (907-269-8000) and the ASPHL for testing and shipping instructions.
Mortuary Care

- Do not perform embalming. The risks of occupational exposure to Ebola virus while embalming outweighs its advantages; therefore, bodies infected with Ebola virus should not be embalmed.
- Do not open the body bags.
- Do not remove remains from the body bags. Bagged bodies should be placed directly into a hermetically sealed casket.
- Mortuary care personnel should wear the appropriate PPE as described in the CDC guidance denoted above when handling the bagged remains.
- In the event of leakage of fluids from the body bag, thoroughly clean and decontaminate areas of the environment with EPA-registered disinfectants, which can kill a broad range of viruses in accordance with label instructions.
- Reusable equipment should be cleaned and disinfected according to standard procedures.
- For more information on environmental infection control, refer to CDC’s Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus (available at: http://www.cdc.gov/vhf/ebola/hcp/environmental-infection-control-in-hospitals.html).

Disposition of Remains

- Remains should be cremated or buried promptly in a hermetically sealed casket.
- Once the bagged body is placed in the sealed casket, no additional cleaning is needed unless leakage has occurred.
- No PPE is needed when handling the cremated remains or the hermetically sealed closed casket.
- In communities in which there is no available burial in winter, bodies should be stored as above, in double-Bioseal or other body bags, then in a hermetically sealed casket until burial can be performed.

Transportation of human remains

- Transportation of remains that contain Ebola virus should be minimized to the extent possible.
- All transportation, including local transport, for example, for mortuary care or burial, should be coordinated with relevant local and state authorities in advance.
- All transportation via air within the state should be coordinated with relevant local and state authorities in advance.
- Interstate transport should be coordinated with CDC by calling the Emergency Operations Center at 770-488-7100. The mode of transportation (i.e., airline or ground transport), must be considered carefully, taking into account distance and the most expeditious route.
- Although Ebola virus is a Category A infectious substance regulated by the U.S. Department of Transportation’s Hazardous Materials Regulations (HMR, 49 Code of Federal Regulations Parts 171-180), DOT has issued guidance that human remains contaminated with a category A infectious substance are excepted from the HMR (available at: http://phmsa.dot.gov/portal/site/PHMSA/menuitem.6f23687cf7b00b0f22e4c6962d9c8789/?vgnextoid=4d1800e36b978410VgnVCM100000d2c97898RCRD&vgnextchannel=d248724dd7d6c010VgnVCM10000080e8a8c0RCRD&vgnext).
Transportation of remains that contain Ebola virus outside the United States would need to comply with the regulations of the country of destination, and should be coordinated in advance with relevant authorities.

**Individuals driving or riding in a vehicle carrying human remains**

- PPE is not required for individuals driving or riding in a vehicle carrying human remains, provided that drivers or riders will not be handling the remains of a suspected or confirmed case of EVD, and the remains are safely contained and the body bag is disinfected as described above.

**References**

- CDC. Medical Examiners, Coroners, and Biologic Terrorism A Guidebook for Surveillance and Case Management. *MMWR* 2004;53(RR08);1-27. (http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5308a1.htm)