

# EBOLA Virus Disease

## WEST AFRICA **Ebola Outbreak**



October 2014

# Mandatory information

This power point presentation is mandatory for all system personnel. It is required that everyone become aware of this information. (2 hours of continuing education credit)

Send to the EMS office, a signed statement from the Chief/Owner/Coordinator that this information has been shared with all department EMS providers. A form for this statement may be found at the end of this presentation. The requested deadline for completion is 10/31/2014.

Thank you, Kim

## South Cook County EMS

We are all aware of the current Ebola outbreak in West Africa, and the diagnosed case in Dallas. The safety of all our EMS partners and first responders is paramount. This ppt is a good review of many of the recommendations of authorities. Please keep in mind that Ebola, or any potential WMD or nouveau (new) disease, is something that we have all been trained to respond to. This is not a new science, just a threat you have thought about and discussed and trained for over the years. Be smart, vigilant and informed. Appropriate PPE is always indicated when you take care of a potentially infected or contaminated patient. Again, this is not a new concept. You know what to do. It is frightening, but do not get caught up on social or political ignorance. You are prepared. The State, Region 7 and South Cook County EMS have disaster plans that would be utilized as needed. Obviously, updated direction from appropriate experts would guide us. Plan ahead. Make sure you have sufficient supplies to keep yourselves safe. You were prepared for flu and SARS, and have had MCI and disaster training. We are here to help. Please ask questions.

Be Smart and Be Safe

Bernie

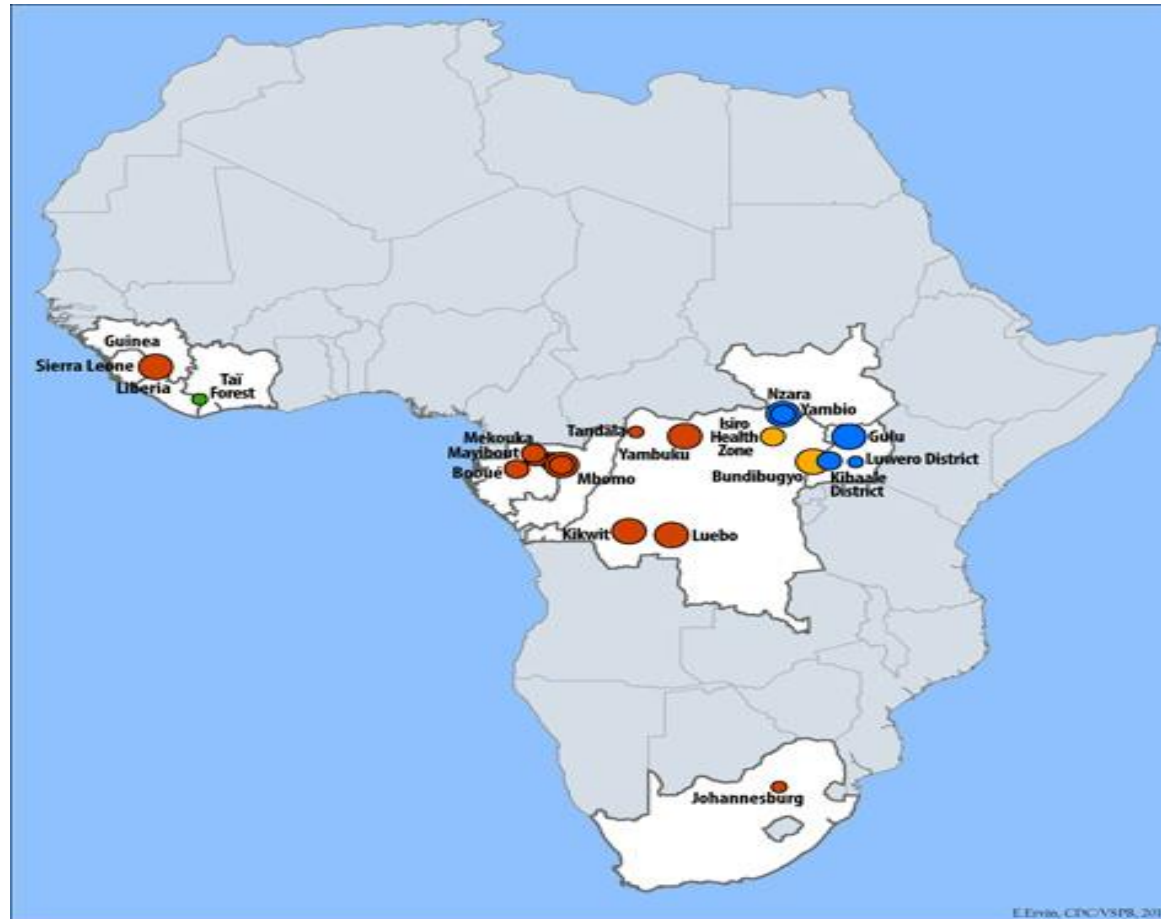
# Interim Guidance for Emergency Medical Services (EMS) Systems

- “EMS personnel” means pre-hospital EMS, law enforcement and fire service first responders.
- The following EMS personnel practices are based on the most up-to-date Ebola clinical recommendations and information from appropriate public health authorities and EMS medical direction. Further information will be provided if the rules change...

# What is Ebola Virus Disease (EVD)?

- Ebola virus disease (also known as Ebola hemorrhagic fever) is a severe, often-fatal disease caused by infection with a species of Ebola virus.
- The first Ebola virus species was discovered in 1976 in what is now the Democratic Republic of the Congo near the Ebola River.
- Since then, outbreaks have appeared sporadically.

# Ebola Outbreaks 1976-2014



**EBOLAVIRUS OUTBREAKS BY SPECIES AND SIZE, 1976 - 2014**

**Species**

- Zaire ebolavirus
- Sudan ebolavirus
- Tai Forest ebolavirus
- Bundibugyo ebolavirus

**Number of Cases**

- 1 - 10
- 11 - 100
- 101 - 425



# Transmission

- [Close contact](#) with an infected person.
- Ebola is spread through direct contact with: blood or body fluids (such as saliva, sweat, semen, stool or urine) of an infected person or animal or through contact with objects that have been contaminated with the blood or other body fluids of an infected person.

# Symptoms

- The incubation period ranges from 2 to 21 days (most commonly 8-10 days)
- Early symptoms include sudden fever, chills, and muscle aches.
- Nausea, vomiting, chest pain, sore throat, abdominal pain, and diarrhea may follow.
- Symptoms become increasingly severe; mental confusion, bleeding inside and outside the body, shock, and multi-organ failure.



# Treatment

Standard treatment for Ebola HF is still limited to supportive therapy.

Experimental drug therapy

Zmapp, Tekmira

Vaccines- None

# Current Situation

## **Total Cases CDC**

Updated: August 19, 2014

Suspected and Confirmed Case Count: **2240**

Suspected Case Deaths: **1229**

Laboratory Confirmed Cases: **1383**

## **WHO**

18 Aug 2014

Total confirmed, probable, and suspect cases and deaths from Ebola virus disease :

Cases: **2473**

Deaths: **1350.**

# Key Points:



The likelihood of contracting Ebola is extremely low unless a person has direct unprotected contact with the blood or body fluids (like urine, saliva, feces, vomit, sweat, and semen) of a person who is sick with Ebola or direct handling of bats or nonhuman primates from areas with Ebola outbreaks.

When the risk of Ebola is elevated in the community, it is important for Dispatchers to question callers about:

- Residence in, or travel to, a country where an Ebola outbreak is occurring;
- Signs and symptoms of Ebola (such as fever, vomiting, diarrhea); and
- Other risk factors, like having touched someone who is sick with Ebola.

Dispatchers should inform EMS personnel of this information before they get to the location so they can prepare with the correct personal protective equipment (PPE)

## Key Points (cont'd)

- EMS should check for symptoms and risk factors for Ebola. EMS should notify the receiving healthcare facility in advance when they are bringing a patient with suspected Ebola, so that proper infection control precautions can be taken.
- The likelihood of contracting Ebola is extremely low unless a person has direct unprotected contact with the body fluids of a person (like urine, saliva, feces, vomit, sweat, and semen) of a person who is sick with Ebola or direct handling of bats or nonhuman primates from areas with Ebola outbreaks



## Scene safety:

- If Dispatch advises that the patient is suspected of having Ebola, EMS personnel should put on PPE appropriate for suspected cases of Ebola before entering the scene.
- Keep the patient separated from other persons as much as possible.
- Use caution when approaching a patient with Ebola. Illness can cause delirium, with erratic behavior that can place EMS personnel at risk of infection, e.g., flailing or staggering.

# P.P.E./BSI



Use of standard, contact, and droplet precautions is sufficient for most situations when treating a patient with a suspected case of Ebola as defined above. EMS personnel should wear:

- Gloves
- Gown (fluid resistant or impermeable)
- Eye protection (goggles or face shield that fully covers the front and sides of the face)
- Facemask

Additional PPE might be required in certain situations (e.g., large amounts of blood and body fluids present in the environment), including but not limited to double gloving, disposable shoe covers, and leg coverings.

# Pre-hospital resuscitation procedures

Such as endotracheal intubation, open suctioning of airways, and cardiopulmonary resuscitation frequently result in a large amount of body fluids, such as saliva and vomit. Performing these procedures in a less controlled environment (e.g., moving vehicle) increases risk of exposure for EMS personnel

# During pre-hospital resuscitation procedures

(intubation, open suctioning of airways, cardiopulmonary resuscitation):

- In addition to recommended PPE, respiratory protection that is at least as protective as a NIOSH-certified fit-tested N95 filtering face piece respirator or higher should be worn (instead of a facemask).
- Additional PPE should be considered for these situations due to the potential increased risk for contact with blood and body fluids including, but not limited to, double gloving, disposable shoe covers, and leg coverings.



# Environmental infection control

## Ambulance Disinfection



- Wear recommended PPE (previously described) and consider use of additional barriers (e.g., shoe and leg coverings) if needed.
- Wear face protection (facemask with goggles or face shield) when performing tasks such as liquid waste disposal that can generate splashes.
- Use an EPA-registered disinfectant with a label claim for one of the non-enveloped viruses (e.g., norovirus, rotavirus, adenovirus, poliovirus) to disinfect environmental surfaces. Disinfectant should be available in spray bottles or as commercially prepared wipes for use during transport.
- Spray and wipe clean any surface that becomes potentially contaminated during transport. These surfaces should be immediately sprayed and wiped clean (if using a commercially prepared disinfectant wipe) and the process repeated to limit environmental contamination.
- An EPA-registered 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

# During patient assessment and management

All patients should be assessed for symptoms of Ebola (fever of greater than 38.6 degrees Celsius or 101.5 degrees Fahrenheit, and additional symptoms such as severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage). If the patient has symptoms of Ebola, then ask the patient about risk factors within the past 3 weeks before the onset of symptoms, including:

- Contact with blood or body fluids of a patient known to have or suspected to have Ebola;
- Residence in—or travel to— a country where an Ebola outbreak is occurring



# If Exposed

EMS personnel with exposure to blood, bodily fluids, secretions, or excretions from a patient with suspected or confirmed Ebola should immediately:

- Contact occupational health/supervisor for assessment and access to post-exposure management services following the current recommendations of the appropriate authorities.



# The sky is not falling.....

- **Remember:** Ebola must be reported to local, state, and federal public health authorities.



# Keeping Up

## What's New

<http://www.cdc.gov/vhf/ebola/outbreaks/guinea/index.html>

August 19, 2014: [Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus](#)

August 18, 2014: [Sequence for Putting On and Removing Personal Protective Equipment \(PPE\)\[PDF - 2 pages\]](#)

August 14, 2014: [Guidance on Air Medical Transport for Patients with Ebola Virus Disease](#)

August 13, 2014: [HAN 365: CDC Ebola Update #1](#)

August 12, 2014: [What CDC is Doing](#)

# Additional Information

- CDC

EOC at **770-488-7100**

<http://www.cdc.gov/vhf/ebola/hcp/index.html>

- FDOH / PBC Epidemiology Program

561-671-4184

561-840-4500 afterhours

# South Cook County EMS Verification form

The \_\_\_\_\_ (dept. name)  
EMS personnel and other important first  
responders, as necessary, have reviewed this  
educational information and have had the  
opportunity to ask questions regarding the  
content.

Signature: \_\_\_\_\_  
(chief/owner/coord)

Date: \_\_\_\_\_ (deadline 10/30/14)

# Acknowledgement

We would like to thank Kevin Bernard from the Morris Hospital EMS system for developing the draft of this ppt for distribution to the EMS community.