NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
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Commissioner

2014 ALERT #22

Evaluating Patients for Ebola Virus Disease in New York City

- No cases of Ebola Virus Disease (EVD) have been identified and diagnosed in the United States.
- Report immediately to the New York City Health Department (1-866-692-3641) any patient with fever who traveled to Guinea, Sierra Leone, Liberia, or Lagos, Nigeria within 21 days of symptom onset (*See* www.cdc.gov/ebola *for most up to date list of affected areas*).
  - Ask about contact to a suspected or known EVD patient, work in a laboratory or healthcare setting, physical contact with a deceased person, or attendance at a funeral when in an area affected by the EVD outbreak.
  - Isolate any patient being evaluated for possible EVD in a single room with a private bathroom, and use standard, contact, and droplet precautions.
  - Limit phlebotomy, and only perform essential diagnostic and other clinical laboratory tests.
- The Health Department will determine if diagnostic testing for EVD is indicated and will package and ship specimens for testing.

Please Share this Alert with All Primary Care, Family Medicine, Emergency Medicine, Internal Medicine, Pediatrics, Infectious Disease, Laboratory Medicine, Pathology, Critical Care and Infection Control Staff in Your Facility

August 11, 2014

Dear Colleagues,

The current outbreak of Ebola virus disease (EVD) in West Africa continues to expand. As of August 8, 2014, over 1700 suspected and confirmed EVD cases have been identified in Guinea, Sierra Leone, Liberia and Lagos, Nigeria, and more than 950 have died. An air traveler from Liberia recently died from EVD in Lagos, Nigeria, where the situation continues to evolve. No cases have been identified and confirmed in the United States (US). Two Americans with EVD due to healthcare-related exposures in Liberia were flown to the US for treatment. (*For most current outbreak information: See* www.cdc.gov/ebola)

Reporting suspect cases of EVD to the New York City (NYC) Health Department
Introduction of EVD into the US is possible but unlikely. The greatest risk of imported EVD is among healthcare personnel working in affected countries caring for EVD patients or anyone with recent unprotected, direct contact with a suspected or confirmed EVD patient.

The Health Department requests that all healthcare providers in NYC hospitals and outpatient settings facilitate rapid identification of potential EVD cases as follows:

1. **Collect a travel history in all patients presenting with fever.** Asking about travel is particularly important in acute care settings to rapidly recognize any potential communicable disease associated with an overseas outbreak.

2. **Immediately isolate – using standard, contact and droplet precautions - patients who meet the following criteria:** Travel within 21 days of illness onset to an EVD outbreak affected area, as defined by CDC (See http://www.cdc.gov/vhf/ebola/hcp/case-definition.html), **AND EITHER**
    a) Fever ($\geq$38.6^{o} C or 101.5 ^{o} F) **OR**
    b) Concerning illness for EVD (e.g., severe illness with thrombocytopenia and elevated transaminases)

3. **Ask patients meeting the criteria above whether they had any of the following High or Low Risk Exposures when in the EVD outbreak affected area and within the 21 days preceding illness onset**:
    a. Have any contact with a person with known or suspected EVD?
    b. Work or spend time in a health care facility where EVD patients were being treated?
    c. Work in a laboratory where specimens from EVD patients were being analyzed or processed?
    d. Participate in funeral rites or have other exposure to human remains in the EVD outbreak affected area?

4. **Immediately call the Health Department at 1-866-692-3641 to report any patient who meets the reporting criteria (see #2 above).** Be prepared to discuss clinical information, travel history, and High or Low Risk Exposures (see #3 above) to help the Health Department decide whether to test for Ebola virus (*See algorithm in attached Figure*).

    If the patient has no exposures listed above under #3 ("No Known Risk Exposures") and no concerning clinical manifestations of EVD, the Health Department will recommend evaluation for other causes of illness first and close monitoring of the patient for several days. Patients with No Known Risk Exposures who remain hospitalized should be kept in isolation using standard, droplet, and contact precautions until the Health Department determines that EVD is unlikely. If the patient does not need to be hospitalized, the Health Department will recommend voluntary isolation at home until the Health Department determines that EVD is unlikely. During this time, the Health Department will monitor the patient's status daily.

Triaging, Evaluating and Managing Suspected EVD Patients in NYC Healthcare Settings

Triage. In outpatient settings and emergency departments, healthcare personnel should routinely and immediately ask any patient presenting with fever about travel to Guinea, Sierra Leone, Liberia, or Lagos, Nigeria within 21 days of illness onset (monitor CDC website at www.cdc.gov/ebola as list of affected countries may change). All patients reporting fever and travel to an affected country should be masked immediately and escorted to a private room for immediate medical evaluation. The Health Department has EVD-related resources available on our website at http://www.nyc.gov/html/doh/html/hcp/infectious-diseases.shtml, including travel triage posters in multiple languages, to prompt patients with fever and other symptoms to let their provider know if they recently traveled.

Clinical Evaluation. All patients should be asked detailed questions about risk exposures in an affected country, as described above in #3. The differential diagnosis should consider the most common causes of fever in travelers returning from sub-Saharan Africa, including malaria, acute gastroenteritis, typhoid fever, influenza and rickettsial infection. After a suspected EVD patient is reported to the Health Department, a medical epidemiologist will review clinical details with the patient's clinicians and, if indicated, consult CDC to determine whether Ebola virus testing is indicated.

Routine Clinical Laboratory Testing. The New York State and New York City Health Departments have developed interim guidance for clinical laboratories on how to safely receive, process, test, and dispose of specimens from suspected or confirmed EVD patients. (See attached "*Interim NYS/NYC Laboratory Guidelines for Handling Specimens from Cases or Suspected Cases of Ebola Virus Disease*"). In addition to this detailed guidance, the Health Department reminds laboratory partners to:

- Limit phlebotomy and laboratory testing to tests essential for clinical care.
- Label all specimens to indicate that they originate from a suspected EVD patient.
- Maintain a log of all personnel handling any specimen from suspected or confirmed EVD patients, including dates and times when the specimen was handled by each staff member and the identity of the patient (i.e., medical record number).

Diagnostic testing for Ebola virus. If testing has been approved by DOHMH, collect a minimum of 4 mL of whole blood preserved with EDTA, clot activator, sodium polyanethol sulfonate (SPS), or citrate in a ***plastic*** collection tube, and store at 4°C.[1] Diagnostic testing for Ebola virus is currently available at CDC. The Health Department will facilitate testing through the NYC Public Health Laboratory, which will arrange for packaging and shipping specimens for testing at CDC. Ebola virus generally is detectable in infected patients on the third day after illness onset by reverse transcription real-time (rRT) PCR.

<u>Isolation and Infection Control Principles and Practices for Suspected EVD Patients</u>

Patients with suspected or confirmed EVD can be managed safely using established infection control principles and precautions:

- All suspect and confirmed EVD patients should be isolated in a single room with a private bathroom that contains dedicated medical equipment. Airborne infection isolation rooms (negative pressure) are acceptable, but not required.
- Hospital personnel entering this room must use standard, contact, and droplet precautions: gloves, gowns, mask, and eye protection.
- Avoid aerosol-generating procedures, such as open suctioning of airways and intubation. If intubation or other aerosol-generating procedures are required, airborne precautions are needed as well, and should be performed in an airborne infection isolation room (negative pressure). Patients with severe pulmonary disease should be placed in airborne isolation.
- Use disposable medical equipment whenever possible.
- Hand hygiene with soap and water or alcohol-based hand rubs must be performed diligently by all personnel after removing protective gear.

[1] http://www.cdc.gov/vhf/ebola/hcp/interim-guidance-specimen-collection-submission-patients-suspected-infection-ebola.html

- Restrict entry to a patient's room to healthcare personnel; visitors should be considered on a case-by-case basis.
- Maintain a log of all persons who have contact with the EVD patient since arrival at the facility.
- Implement diligent environmental cleaning processes and procedures, using EPA-registered hospital disinfectants.
- Linen should be placed in clearly-labelled, leak-proof bags at the site of use, transported directly to the laundry area, and laundered promptly according to routine healthcare laundry procedures.[2] (See the CDC website for more detailed guidance at www.cdc.gov/ebola)

If a suspected or confirmed EVD patient dies, the NYC Office of the Chief Medical Examiner must be contacted immediately at 212-447-2030. The Office of the Chief Medical Examiner will take custody of the decedent and make the final determination about disposition of the remains.

EVD Transmission and Clinical Illness

Transmission of EVD is thought to initially occur after contact with or consumption of an infected animal, such as a bat or chimpanzee. Person-to-person spread of EVD then occurs through contact with body fluid of EVD cases either in healthcare facilities or community settings (e.g., caring for sick individuals, washing and preparing decedents for burial). EVD illness typically presents 4 to 10 days after exposure (range: 2 to 21 days), with the abrupt onset of fever, malaise, and other symptoms, such as myalgia, headache, vomiting and diarrhea. Temperatures of 39^0C to 40^0C (102.2^0F to 104^0F) and relative bradycardia are often reported early in the disease course. An erythematous, non-pruritic, maculopapular or confluent rash, often beginning on the trunk, buttocks, and upper extremities 5 to 7 days after illness onset, has been reported in roughly half of patients. Multiple foci of hemorrhage, most often observed in the conjunctiva, may also be seen and occur at the peak of illness. Thrombocytopenia, leukopenia, lymphocytopenia, with an increased percentage of neutrophils, and elevated transaminases, with aspartate aminotransferase (AST) typically greater than alanine aminotransferase (ALT), are the most common laboratory abnormalities. Coagulation disorders, including disseminated intravascular coagulation (DIC), occur frequently. Renal function, generally normal in early disease, may worsen by the second week of illness, when most deaths from EVD occur. Prostration, obtundation, hypotension, renal failure, and shock herald the terminal phase of the illness. In one review, median survival from onset of illness to death was 9 days. The case fatality rate for the current outbreak has been approximately 50-60%.[3,4]

The EVD outbreak in Africa is rapidly evolving. Please check CDC's website regularly for accurate, up-to-date information, and call the Health Department about any patients for whom you suspect EVD. As always, we appreciate our partnership with clinical colleagues in protecting the health of New Yorkers.

Sincerely,

Marcelle Layton, MD
Assistant Commissioner, Bureau of Communicable Disease

Jennifer Rakeman, PhD
Assistant Commissioner, Public Health Laboratory

[2] www.cdc.gov/ncidod/hip/enviro/guide.htm

[3] Kortepeter MG, Bausch DG and Bray M. Basic clinical and laboratory features of filoviral hemorrhagic fever. J Infect Dis. 2011; 204(Suppl 4):S810-16.

[4] Feldmann H and Geisbert TW. Ebola haemorrhagic fever. Lancet. 2011 Mar 5;377(9768):849-62.