KEY MESSAGES – EBOLA VIRUS DISEASE, WEST AFRICA

Updated October 16, 2014

**Newly updated information is indicated in red*

The Centers for Disease Control and Prevention (CDC) is working with other U.S. government agencies, the World Health Organization (WHO), and other domestic and international partners in an international response to the current Ebola outbreak in West Africa. This document summarizes key messages about the outbreak and the response. It will be updated as new information becomes available and will be distributed regularly. Please share this document with others as appropriate.

Contents

OUTBREAK SUMMARY

- On August 8, WHO declared that the current Ebola outbreak is a Public Health Emergency of International Concern (PHEIC).
- The 2014 Ebola epidemic is the largest in history, affecting multiple countries in West Africa.
    - Most of the cases have been reported in three countries: Guinea, Liberia, and Sierra Leone.
    - There were a small number of cases in Nigeria that have been linked to a man from Liberia who traveled to Lagos, Nigeria and died from Ebola.
        - On September 20, WHO reported that the Ebola outbreak in Nigeria was contained. No new Ebola cases have been reported in Nigeria since September 5.
    - In Senegal, one case has been confirmed. No deaths or additional suspected cases have been reported. The case is in a man from Guinea who traveled by road to Senegal.
- An outbreak of Ebola is occurring in the Democratic Republic of the Congo that is unrelated to the outbreak in West Africa. For more information, see http://www.cdc.gov/vhf/ebola/outbreaks/drc/2014-august.html.
- On October 5, Uganda's Ministry of Health released a statement confirming a case of Marburg, a fatal illness caused by the Marburg virus, which is related to the Ebola virus. The patient, a man who worked as a radiographer in a health center, did not survive. One contact of the person developed signs and has been isolated for further monitoring. The case is not related to the Ebola outbreak in West Africa.
- On September 23, CDC released an MMWR article, "Estimating the Future Number of Cases in the Ebola Epidemic – Liberia and Sierra Leone, 2014-2015," which estimated the future number of Ebola cases if current trends continue. The projected numbers were adjusted to account for estimated underreporting of cases.
    - Without additional interventions or changes in community behavior, CDC estimates that by January 20, 2015, there will be a total of approximately 550,000 Ebola cases in Liberia and Sierra Leone, or 1.4 million cases if corrections for underreporting are made.

  - Cases in Liberia are currently doubling every 15-20 days, and those in Sierra Leone and Guinea are doubling every 30-40 days.
  - The MMWR is available at http://www.cdc.gov/mmwr/preview/mmwrhtml/su63e0923a1.htm, and a Q&A on the report is available at http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/qa-mmwr-estimating-future-cases.html.
- CDC's response to Ebola is the agency's largest international outbreak response ever.
  - USAID continues to lead the public health component of the United States' overseas response to the Ebola outbreak, while the Department of Defense, CDC, Department of State, and other departments and agencies are supporting the whole-of-government approach to this national security priority. In the United States, the Department of Health and Human Services, including CDC, is in charge of the strategic effort to fortify the U.S. public health and treatment infrastructure. The National Institutes of Health (NIH) and the Food and Drug Administration (FDA) are leading the effort to develop and test vaccines and new treatments.
- On September 16, President Obama announced additional U.S. government support for the response in West Africa, including significant U.S. military funding and engagement.
  - U.S. Africa Command (AFRICOM) is setting up a regional command in Monrovia, Liberia, to facilitate the coordination of the response and to expedite the transportation of equipment, supplies, and personnel.
  - Additional Ebola treatment units are being established in the affected areas, as well as a site to train up to 500 health workers per week to care for patients.
  - The U.S. Public Health Service Commissioned Corps has deployed 65 health workers to support a state-of-the-art Department of Defense hospital that will be placed in Monrovia to provide care to health workers who become sick.
- On October 6, Spain confirmed a case of Ebola in a healthcare worker who had treated a patient repatriated from West Africa.
- On September 30, CDC confirmed the first case of Ebola to be diagnosed in the United States in a person who had traveled from Liberia to Dallas, Texas. The patient passed away on October 8.
  - On October 10, a healthcare worker who provided care for the index patient tested positive for Ebola.
  - On October 15, a second healthcare worker who provided care for the index patient tested positive for Ebola.

EBOLA AND THE UNITED STATES

- On September 30, CDC confirmed the first case of Ebola to be diagnosed in the United States in a person who had traveled from Liberia to Dallas, Texas.
  - The patient had no symptoms when leaving West Africa, but developed symptoms approximately four days after arriving in the United States on September 20. The patient sought medical care at Texas Health Presbyterian Hospital of Dallas on September 26, was evaluated, and was discharged home.
  - The patient was then admitted to the same Dallas hospital on September 28. The medical facility isolated the patient and sent specimens for testing at CDC and at a Texas lab participating in CDC's Laboratory Response Network. Test results from both laboratories on September 30 confirmed that the patient had Ebola. The patient passed away on October 8, 2014.
  - The ill person did not exhibit symptoms of Ebola during the flights from West Africa to Dallas.

  - CDC does not recommend that people on the same commercial airline flights undergo monitoring, since Ebola is contagious only if the person is experiencing active symptoms.
- On October 10, a healthcare worker who provided care for the index patient at Texas Health Presbyterian Hospital has tested positive for Ebola.
  - The healthcare worker was isolated after initial reports of fever.
  - CDC has interviewed the healthcare worker to identify any contacts or potential exposures in the community.
- On October 15, a second healthcare worker who provided care for the index patient at Texas Health Presbyterian Hospital tested positive for Ebola.
  - On the morning of October 14, the healthcare worker reported to the hospital with a low-grade fever and was isolated.
  - The healthcare worker had traveled by air October 13, the day before she reported symptoms. Because of the proximity in time between the evening flight and the first report of illness, CDC is reaching out to passengers who flew on the flight from Cleveland to Dallas.
    - The healthcare worker did not exhibit signs or symptoms while on the flight.
  - Public health professionals have begun interviewing passengers about the flight, answering their questions, and arranging follow up.
- Because of the ongoing investigation, it is not unexpected that there would be additional exposures.
- A team from CDC has deployed to Dallas to assist with the investigation. They are supported 24/7 by CDC's Emergency Operations Center and Ebola experts at CDC's Atlanta headquarters.
  - The team has worked closely with state and local health departments in finding, assessing, and assisting everyone who came into contact with the Ebola patient.
- Medical and public health professionals across the country have been preparing to respond.
- Although the risk of rapid spread of Ebola in in the United States is very low, CDC and partners are taking precautions to isolate any cases of Ebola and prevent the spread of the disease.
- Any hospital following strict CDC infection control recommendations and that can isolate a patient in their own room with a private bathroom is capable of safely managing a patient with Ebola.
- Ebola virus is **not** spread through air or by water, or by any food grown or legally purchased in the United States.
  - There is a small chance that Ebola could be spread by handling or eating bushmeat (wild animals hunted for food) that has been illegally imported from Africa; however to date, there have been no reports of human illness in the United States from preparing or consuming illegally imported bushmeat.
- CDC and partners are taking precautions to prevent the spread of Ebola to other countries.
  - CDC has issued a Warning, Level 3 (the highest level) travel notice for 3 countries where the Ebola outbreak is severe. U.S. citizens should avoid all nonessential travel to Guinea, Liberia, and Sierra Leone.
  - Exit screening efforts in West Africa help prevent travelers who have been exposed to Ebola or who are sick with Ebola from getting on commercial planes, buses, trains, or ships.
    - All travelers returning to the U.S. from countries with Ebola outbreaks in West Africa are advised to monitor their health for 21 days. If they develop symptoms, they should immediately contact their doctor prior to seeking medical care.
  - Every day, CDC works closely with partners at U.S. international airports and other ports of entry to look for sick travelers with possible contagious diseases.
  - CDC has enhanced its outreach with the Department of Homeland Security (DHS) and other partners at ports of entry (primarily international airports) to use routine procedures for identifying and reporting travelers who show signs of infectious disease.

- CDC and DHS are beginning enhanced entry screening at five U.S. airports to take additional steps to help prevent further spread of Ebola and to ensure that anyone found to be sick with Ebola at U.S. airports gets appropriate care immediately.
- Entry screening at five U.S. airports (New York's JFK International, Washington-Dulles, Newark, Chicago-O'Hare, and Atlanta airport) will enable evaluation of over 94% of travelers from countries with Ebola outbreaks.
- CDC encourages all U.S. healthcare providers to do the following when patients present with Ebola-like symptoms:
  - Assess patients for
    - Fever (100.4°F or 38.0°C or greater)
    - Severe headache, muscle pain, vomiting, diarrhea, abdominal (stomach) pain, or unexplained hemorrhage (bleeding or bruising).
  - Ask patients with Ebola-like symptoms about their travel histories to determine if they have traveled to West Africa within the last 3 weeks.
  - Contact your state or local health department if you suspect a possible case of Ebola.

EBOLA CASES AND DEATHS

- As of October 12, 2014, a total of 8997 cases of Ebola (5006 laboratory-confirmed) and 4493 deaths have been reported.
- For specific areas where cases have been identified, see CDC's Ebola outbreak webpage (http://www.cdc.gov/vhf/ebola/outbreaks/guinea/index.html).

Countries with Widespread Transmission

Country	Total Cases	Laboratory-Confirmed Cases	Total Deaths
Guinea	1472	1184	843
Liberia	4249	950	2458
Sierra Leone	3252	2849	1183
Total	**8973**	**4983**	**4484**

Countries with Travel-associated Cases

Country	Total Cases	Laboratory-Confirmed Cases	Total Deaths
Senegal	1	1	0
Spain	1	1	0
United States	2	2	1
Total	**4**	**4**	**1**

Countries with Localized Transmission

Country	Total Cases	Laboratory-Confirmed Cases	Total Deaths
Nigeria	20	19	8
Total	**20**	**19**	**8**

EBOLA IN U.S. HEALTH WORKERS (IN WEST AFRICA)

- In 2014, four U.S. health workers who were infected with Ebola virus in West Africa were transported to hospitals in the United States.
    - Three of the patients have recovered and have been released from the hospital after laboratory testing confirmed that they no longer have Ebola virus in their blood. CDC has advised the hospital that there is no public health concern with their release and that they do not pose a risk to household contacts or to the public.
    - One patient admitted in September remains hospitalized.
- CDC has received many calls from health departments and hospitals about patients under investigation for possible Ebola. These calls have been triaged appropriately and samples have been sent to CDC for testing.

BACKGROUND ON EBOLA

- Ebola virus disease, previously known as Ebola hemorrhagic fever, is a rare and deadly disease caused by infection with one of the Ebola virus species (Zaire, Sudan, Bundibugyo, or Tai Forest virus).
- Ebola viruses are found in several African countries. The first Ebola virus was discovered in 1976 near the Ebola River in what is now the Democratic Republic of the Congo. Since then, outbreaks have appeared sporadically in Africa.
- Based on evidence and the nature of other similar viruses, researchers believe that Ebola virus disease is animal-borne (zoonotic) and that bats are the most likely reservoir.
- CDC and partners have 38 years of experience in stopping Ebola outbreaks.

TRANSMISSION

- Ebola virus is spread through direct contact with the blood or body fluids (including but not limited to feces, saliva, sweat, urine, vomit, and semen) of a person who is sick with Ebola. The virus in blood and body fluids can enter another person's body through broken skin or unprotected mucous membranes in, for example, the eyes, nose, or mouth.
    - The virus also can be spread through contact with objects (like needles and syringes) that have been contaminated with the virus, or with infected animals.
    - Ebola is **not** spread through the air or by water or, in general, by food; however, in Africa, Ebola may be spread as a result of handling bushmeat (wild animals hunted for food) and contact with infected bats.
    - There is no evidence that mosquitos or other insects can transmit Ebola virus. Only mammals (for example, humans, bats, monkeys and apes) have shown the ability to become infected with and spread Ebola virus.
    - Although Ebola virus has been detected in breast milk, it is not known if the virus can be transmitted from mothers to their infants through breastfeeding. When safe alternatives to breastfeeding and infant care exist, mothers with probable or confirmed Ebola should not have close contact with their infants (including breastfeeding).
- Ebola virus is killed with hospital-grade disinfectants (such as household bleach). Ebola virus dried on surfaces such as doorknobs and countertops can survive for several hours; however, virus in body fluids (such as blood) can survive up to several days at room temperature.
- While available information suggests the virus may be found in several kinds of animals, it is not believed that pets (like dogs and cats) are at significant risk for Ebola. Only a few species of mammals (for example, humans, monkeys, and apes) have shown the ability to become infected with and spread Ebola virus.

- The incubation period, from exposure to when signs or symptoms appear, is 2 to 21 days, but the average is 8 to 10 days.
- Genetic analysis of the virus in the current outbreak indicates it is closely related to variants of Ebola virus (species *Zaire ebolavirus*) identified earlier in the Democratic Republic of the Congo and Gabon.

SIGNS AND SYMPTOMS

- Signs of Ebola include fever (greater than 101.5°F or 38.6°C) and symptoms such as severe headache, muscle pain, vomiting, diarrhea, abdominal (stomach) pain, or unexplained hemorrhage (bleeding or bruising).

RISK

- Health workers caring for Ebola patients and the family and friends in close contact with Ebola patients are at the highest risk of getting sick because they may come in contact with the blood or body fluids of sick patients, for example, by changing sheets after an ill person has vomited. Human-to-human transmission is the way that most people are now getting Ebola in West Africa.
- People also can become sick with Ebola after coming in contact with infected wildlife. For example, in Africa, Ebola may be spread as a result of handling bushmeat (wild animals hunted for food) and contact with infected bats.

PREVENTION

- There is no FDA-approved vaccine available for Ebola.
- If you must travel to or are in an area affected by the Ebola outbreak, make sure to do the following:
    - Practice careful hygiene. For example, wash your hands with soap and water or an alcohol-based hand sanitizer and avoid contact with blood and body fluids (including but not limited to feces, saliva, sweat, urine, vomit, and semen).
    - Avoid handling items that may have come in contact with an infected person's blood or body fluids (such as clothes, bedding, needles, and medical equipment).
    - Avoid funeral or burial rituals that require handling the body of someone who has died from Ebola.
    - Avoid contact with bats and nonhuman primates or blood, fluids, and raw meat prepared from these animals.
    - Avoid facilities in West Africa where Ebola patients are being treated. The U.S. Embassy or consulate is often able to provide advice on healthcare facilities.
    - Seek medical care immediately if you develop fever, headache, muscle pain, diarrhea, vomiting, stomach pain, or unexplained bruising or bleeding.
        - Call in advance to tell the doctor about recent travel and symptoms before going to the office or emergency room. Advance notice will help the doctor provide care and protect other people who may be in the office.
        - Limit your contact with other people when you go to the doctor. Do not travel anywhere else.
- If you were exposed to Ebola during your trip, call your doctor or 9-1-1 even if you do not have symptoms.
    - Your doctor should evaluate your exposure level and any symptoms and consult with public health authorities to determine whether actions, such as medical evaluation and testing for Ebola, monitoring, or travel restrictions are needed.

- Even if not exposed to Ebola, travelers returning from Guinea, Liberia, and Sierra Leone are advised to take the following steps:
    - Monitor your health for 21 days.
        - During the time that you are monitoring your health, you can continue your normal activities, including work.
    - Seek medical care immediately if you develop fever and additional Ebola symptoms like severe headache, muscle pain, vomiting, diarrhea, stomach pain, or unexplained bleeding or bruising.
        - Call in advance to tell the doctor about recent travel and symptoms before going to the office or emergency room. Advance notice will help the doctor provide care and protect other people who may be in the office.
    - If you get symptoms of Ebola, it is important to stay away from other people and to call your doctor right away.

TREATMENT

- No FDA-approved vaccine or medicine (e.g., antiviral drug) is available for Ebola.
- Symptoms of Ebola are treated as they appear. The following basic interventions, when used early, can significantly improve the chances of survival:
    - Providing intravenous fluids and balancing electrolytes (body salts)
    - Maintaining oxygen status and blood pressure
    - Treating other infections if they occur
- Experimental vaccines and treatments for Ebola are under development, but they have not yet been fully tested for safety or effectiveness.
    - ZMapp, developed by Mapp Biopharmaceutical Inc., is an experimental treatment for use with individuals infected with Ebola virus. The product is a combination of three different monoclonal antibodies that bind to the protein of the Ebola virus. It has been effective in treating macaque monkeys with Ebola.
    - It is too early to know if ZMapp can benefit Ebola patients because the drug is still in an experimental stage and has not yet been tested in humans for safety or effectiveness in clinical trials. Some patients infected with Ebola virus do get better spontaneously or with supportive care.
        - The best way to know if treatment with the product is effective is to conduct a randomized controlled clinical trial in people to compare outcomes of patients who received the treatment to patients who did not. No such studies have been conducted to date.
        - On September 2, HHS announced a contract with Mapp Biopharmaceutical Inc. to develop and manufacture ZMapp toward the goal of U.S. Food and Drug Administration approval. As part of the project, Mapp Biopharmaceutical will manufacture a small amount of the drug for early stage clinical safety studies and nonclinical studies needed to demonstrate the drug's safety and effectiveness in people.
- Some investigational Ebola vaccines have been developed. NIH has begun initial human testing to assess the safety and immune response of an investigational vaccine to prevent Ebola virus disease. The Department of Defense (DoD) has also begun human testing of a different investigational vaccine.
- Two companies, Tekmira and BioCryst Pharmaceuticals, have received funding from the DoD to develop potential drugs to treat Ebola. BioCryst, with NIH support, is working to develop an antiviral drug to treat Ebola; the first phase of (human) safety testing is expected to begin later this year.

RECOVERY

- Recovery from Ebola depends on good supportive clinical care and the patient's immune response. Available evidence shows that people who recover from Ebola infection develop antibodies that last for at least 10 years, and possibly longer. It isn't known if people who recover are immune for life or if they can become infected with a different species of Ebola.
- Some people who have recovered from Ebola have developed long-term complications, such as joint and muscle pain and vision problems.

CDC RECOMMENDATIONS AND GUIDANCE

HEALTHCARE WORKERS IN WEST AFRICA

- Healthcare workers who may be exposed to people with Ebola should follow these steps:
  - Wear protective clothing, including masks, gloves, gowns, and eye protection.
  - Practice proper infection control and sterilization measures. For more information, see "Infection Control for Viral Hemorrhagic Fevers in the African Health Care Setting" (www.cdc.gov/vhf/abroad/vhf-manual.html).
  - Develop a triage system so Ebola patients can be identified and properly handled.
  - Isolate patients with Ebola from other patients.
  - Avoid direct, unprotected contact with the bodies of people who have died from Ebola.
  - Notify health officials if you have had direct contact with the blood or body fluids, such as but not limited to, feces, saliva, urine, vomit, and semen of a person who is sick with Ebola. The virus can enter the body through broken skin or unprotected mucous membranes in, for example, the eyes, nose, or mouth.

HEALTHCARE PROVIDERS IN THE UNITED STATES

- CDC encourages all U.S. healthcare providers to
  - Assess patients for
    - Fever (100.4°F or 38.0°C or higher)
    - Severe headache, muscle pain, vomiting, diarrhea, abdominal (stomach) pain, or unexplained hemorrhage (bleeding or bruising).
  - Ask patients with Ebola-like symptoms about their travel histories to determine if they have traveled to West Africa within the last three weeks.
  - Know what to do if they have a patient with Ebola symptoms:
    - First, properly isolate the patient.
    - Then, follow infection control precautions to prevent the spread of Ebola. Avoid contact with blood and body fluids of infected people.
- CDC has posted a Medscape Expert Commentary for healthcare providers whose patients are travelers with concerns about Ebola.
  - The commentary includes information about the Ebola outbreak in West Africa, the transmission of Ebola virus, and how to talk to travelers about their risk.
  - The video is available on the CDC website at http://wwwnc.cdc.gov/travel/page/clinician-updates
- U.S. healthcare workers should follow CDC's "Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Hemorrhagic Fever in U.S. Hospitals" (www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html).

  - CDC recommends standard, contact, and droplet precautions for management of hospitalized patients with known or suspected Ebola. These precautions can be found in "2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Setting" at www.cdc.gov/hicpac/2007IP/2007ip_part3.html.
- A CDC Health Alert Network (HAN) notice providing guidance to U.S. healthcare workers and hospitals regarding Ebola was distributed by CDC on August 1, and five updates have followed. The most recent HAN notice about Ebola was distributed on October 2 (http://www.bt.cdc.gov/han/han00371.asp).

INFECTION CONTROL

- Any U.S. hospital that is following CDC's infection control recommendations and that can isolate a patient in a single patient room is capable of safely managing a patient with Ebola virus disease.
  - These patients need intensive supportive care.
  - Healthcare providers should use standard, contact, and droplet precautions when caring for these patients.
- Early recognition
  - Early recognition is critical for infection control. Any patient who is suspected of having Ebola needs to be isolated until the diagnosis is confirmed or Ebola is ruled out.
  - Healthcare providers should consider travel history, symptoms, and risks of exposure before recommending testing for Ebola. CDC has provided guidance for specimen collection, transport, testing and submission for persons under investigation for Ebola in the United States (http://www.cdc.gov/vhf/ebola/hcp/interim-guidance-specimen-collection-submission-patients-suspected-infection-ebola.html).
- Patient placement
  - Patients should be placed in a single patient room (containing a private bathroom) with the door closed.
  - Facilities should maintain a log of all people entering the patient's room.
  - Use only a mattress and pillow with waterproof plastic or other waterproof covering. Do not place patients with suspected or confirmed Ebola virus infection in carpeted rooms and remove all upholstered furniture and decorative curtains from patient rooms before use.
- Protecting healthcare providers
  - All people entering the patient room should wear at least: gloves, gown (fluid resistant or waterproof), eye protection (goggles or face shield), and a facemask.
  - Additional personal protective equipment (PPE) might be required in certain situations (for example, large amounts of blood, other body fluids, vomit, or feces present in the environment), including but not limited to double gloving, disposable shoe covers, and leg coverings.
  - Healthcare providers should frequently perform hand hygiene before and after all patient contact, contact with potentially infectious material, and before putting on and upon removal of PPE, including gloves.
- Patient care equipment
  - Dedicated medical equipment (preferably disposable) should be used to provide patient care.
  - All non-dedicated, non-disposable medical equipment used for patient care should be cleaned and disinfected according to the manufacturer's instructions and hospital policies.
- Considerations for care of confirmed Ebola patients
  - Limit the use of needles and other sharps as much as possible.
  - Phlebotomy, procedures, and laboratory testing should be limited to the minimum necessary for essential diagnostic evaluation and medical care.

  - All needles and sharps should be handled with extreme care and disposed of in puncture-proof, sealed containers.
  - Avoid aerosol-generating procedures. If performing aerosol-generating procedures, use a combination of measures to reduce exposures from patients with Ebola virus disease. (See CDC's guidance for more details on how to perform aerosol generating procedures safely: www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html.)
- Environmental infection control
  - Daily cleaning and disinfection of hard, non-porous surfaces should be done using a U.S. Environmental Protection Agency (EPA)-registered hospital disinfectant with a label claim for a non-enveloped virus.
  - Healthcare providers performing environmental cleaning and disinfection should wear recommended PPE (described above) and consider use of additional barriers (such as, shoe and leg coverings) if needed.
  - Eye protection (face shield or goggles) and face mask should be worn when performing tasks (such as liquid waste disposal) that can generate splashes.
  - For detailed information on environmental infection control, see CDC's "Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus" (www.cdc.gov/vhf/ebola/hcp/environmental-infection-control-in-hospitals.html).
- Duration of precautions
  - The duration of precautions should be determined on a case-by-case basis, in conjunction with local, state, and federal health authorities.
    - Factors that should be considered include, but are not limited to: presence of symptoms related to Ebola, da(()1 toBT/F9 3ø0083}>TC-21(s)-3(tr)-3(os)-3gote, 10(goth)5(de)4(rg)4(c)-4(o)-7(n)11(i)ti

- CDC has downgraded the travel notice for Nigeria to a Watch, Level 1 because of the decreased risk of Ebola in Nigeria. Travelers to Nigeria should practice usual precautions. If no further cases of Ebola are reported in Nigeria, CDC will remove this travel notice.
- If you travel to Guinea, Liberia, or Sierra Leone, make sure to do the following:
    - Visit CDC's Travelers' Health website (wwwnc.cdc.gov/travel) for more information about the outbreak and for other health recommendations specific to these countries.
    - Practice careful hygiene. For example, wash your hands with soap and water or an alcohol-based hand sanitizer and avoid contact with blood and body fluids (including but not limited to feces, saliva, sweat, urine, vomit, and semen).
    - Do not handle items that may have come in contact with an infected person's blood or body fluids.
    - Avoid funeral or burial rituals that require handling the body of someone who has died from Ebola.
    - Avoid contact with animals or raw meat.
    - Avoid facilities in West Africa where patients with Ebola are being treated. The U.S. Embassy or consulate is often able to provide advice on healthcare facilities.
    - Seek medical care immediately if you develop fever and additional Ebola symptoms like severe headache, muscle pain, vomiting, diarrhea, stomach pain, or unexplained bleeding or bruising.
        - Call in advance to tell the doctor about recent travel and symptoms before going to the office or emergency room. Advance notice will help the doctor provide care and protect other people who may be in the office.
        - Limit your contact with other people when you go to the doctor. Do not travel anywhere else.
- Travelers who have been exposed to Ebola will not be permitted to travel on commercial planes, buses, trains, or ships.
    - These travelers may have to extend their stay for at least 21 days until authorities ensure it is safe for them to travel or they must secure a charter flight to the United States.
- Travelers returning from Guinea, Liberia, and Sierra Leone are advised to call their doctor if they were exposed to Ebola during their trip, even if they do not have symptoms.
    - Your doctor should evaluate your exposure level and any symptoms and consult with public health authorities to determine whether additional actions, such as medical evaluation and testing for Ebola, monitoring, or travel restrictions are needed.
- Even if not exposed to Ebola, travelers returning from Guinea, Liberia, and Sierra Leone are advised to take the following steps:
    - Monitor your health for 21 days.
        - During the time that you are monitoring your health, you can continue your normal activities, including work.
    - Seek medical care immediately if you develop fever and additional Ebola symptoms like severe headache, muscle pain, vomiting, diarrhea, stomach pain, or unexplained bleeding or bruising.
        - Call in advance to tell the doctor about your recent travel and symptoms before going to the office or emergency room. Advance notice will help the doctor provide care and protect other people who may be in the office.
    - If you get symptoms of Ebola, it is important to stay apart from other people and to call your doctor right away.

COLLEGES, UNIVERSITIES, AND STUDENTS

- CDC has issued advice for colleges, universities, and students about study abroad, foreign exchange, and other education-related travel, as well as advice for students who have recently traveled from a country in which widespread Ebola outbreaks are occurring.
    - CDC advises that all non-essential travel, including education-related travel, to Guinea, Liberia, and Sierra Leone be postponed until further notice.
    - Students, faculty, and staff who have recently traveled to countries where widespread Ebola outbreaks are occurring should consult with school authorities on what instructions to follow, and monitor their health for 21 days after returning.
    - CDC advises colleges and universities to identify students, faculty, and staff who, within the past 21 days, have been in countries where widespread Ebola outbreaks are occurring and conduct a risk assessment for each person to determine his or her level of risk exposure, as well as the appropriate public health response and medical care based on CDC's Interim Guidance for Monitoring and Movement of Persons with Ebola Virus Disease Exposure (www.cdc.gov/vhf/ebola/hcp/monitoring-and-movement-of-persons-with-exposure.html).
- The full text of the guidance is available at http://wwwnc.cdc.gov/travel/page/advice-for-colleges-universities-and-students-about-ebola-in-west-africa.

HUMANITARIAN AID WORKERS

- CDC has developed recommendations for humanitarian aid workers traveling to Guinea, Liberia, and Sierra Leone during the Ebola outbreaks in these countries.
- The recommendations include steps to take before departure, during travel, and upon return to the United States.
    - Before traveling, CDC advises that humanitarian aid workers visit with a travel medicine provider, pack needed medical supplies and first aid items, verify whether their health insurance plan will provide appropriate coverage, identify travel restrictions that may affect their travel, register with the U.S. embassy and locate places where they can get health care in their destination country.
    - During travel, CDC recommends that aid workers practice careful hygiene such as the following: wash your hands with soap and water or an alcohol-based hand sanitizer and avoid contact with blood, body fluids, and bodies of people who have died from Ebola; avoid contact with animals, raw or undercooked meat, and bushmeat; and avoid facilities in West Africa where Ebola patients are being treated.
        - Aid workers who may have been exposed to Ebola during travel should notify their organization and the U.S. embassy or consulate at their destination.
    - After returning to the U.S., aid workers are encouraged to monitor their health for 21 days and to seek medical care immediately if they develop symptoms of Ebola infection.
        - Aid workers who may have been exposed to Ebola during their trip are advised to call their doctor even if they do not have symptoms.
- The guidance also notes special precautions for humanitarian aid workers working in health care settings.
    - Aid workers working in health care settings should follow additional precautions, including but not limited to wearing the right personal protective equipment, using proper prevention and control measures, learning the signs and symptoms of Ebola to properly identify and triage patients, and avoiding direct, unprotected contact with bodies of people have died from Ebola.
    - The full text of the guidance can be found on CDC's website at http://wwwnc.cdc.gov/travel/page/humanitarian-workers-ebola.

HUMANITARIAN AID ORGANIZATIONS

- Humanitarian aid workers play a vital role in the Ebola outbreak res9aenouesm

- These recommendations were issued to reduce the risk of Ebola spreading to other passengers or crew and to ensure that people infected with Ebola are able to quickly access appropriate medical care.
- The guidance balances the public health risk to others, the rights of individuals, and the impact of the recommendations on the welfare of the countries with widespread Ebola transmission and is based on the least restrictive means necessary to protect the public's health.
- CDC's recommendations for travel restrictions apply to people with certain levels of Ebola exposure. Establishing a person's level of exposure helps determine how much monitoring is needed and if it is safe for the person to travel by commercial conveyance.
    - Ebola exposure levels are classified as high risk, some risk, or no known exposure.
- For people with certain levels of exposure who are sick with fever or other symptoms of Ebola, specific public health actions may be needed.
    - These actions can include medical evaluation with infection control precautions and only allowing air medical transport if air travel is needed.
- The guidance also details restrictions for people with certain levels of exposure even if they do not have fever or other symptoms of Ebola. Although people without symptoms are not infectious, CDC recommends certain precautions because of the possibility that symptoms could develop during travel, particularly during long international flights.
    - Travelers who have been exposed to Ebola will not be permitted to travel on commercial planes, buses, trains, or ships.
    - These travelers may have to extend their stay for at least 21 days until authorities ensure it is safe for them to travel or they must secure a charter flight to the United States.
- Airline crew should not work on aircraft while under conditional release.

LABORATORIES

- CDC recommends that U.S. healthcare workers contact their state and/or local health department and CDC to determine the proper category for shipment of clinical specimens based on clinical history and risk assessment by CDC. No specimens should be shipped to CDC without consultation with CDC and local/state health departments.
    - State guidelines may differ and state or local health departments should be consulted before shipping.
    - For updated guidance on specimen submission, see www.cdc.gov/ncezid/dhcpp/vspb/specimens.html
    - CDC has developed interim guidance for laboratory workers and other healthcare personnel who collect or handle specimens in the United States on the appropriate steps for collecting, transporting, and testing specimens from patients who are suspected to be infected with Ebola virus. The guidance is available on CDC's website www.cdc.gov/vhf/ebola/hcp/interim-guidance-specimen-collection-submission-patients-suspected-infection-ebola.html.
- Ebola virus is detected in blood only after onset of symptoms, most notably fever.
    - It may take up to 3 days post-onset of symptoms for the virus to reach detectable levels.
    - Virus is generally detectable by real-time RT-PCR between 3 to 10 days post-onset of symptoms, but has been detected for several months in certain secretions (e.g., semen).
    - Specimens ideally should be taken when a symptomatic patient seeks care and is suspected of having been exposed to Ebola; however, if symptom onset occurred less than 3 days before the patient seeks care, a subsequent specimen will be required to completely rule out Ebola.

WHAT CDC IS DOING

- CDC has activated its Emergency Operations Center (EOC) to help coordinate technical assistance and control activities with partners.
    - On August 6, CDC elevated the EOC to a Level 1 activation, its highest level, because of the significance of the outbreak.
    - CDC supports countries with widespread Ebola transmission in establishing their own national and sub-national EOCs. All 3 West African countries at the center of the epidemic now have an Incident Manager, reporting to the President of the country, to lead response efforts.
- Hundreds of CDC staff members have provided logistics, staffing, communication, analytics, management, and other support functions for the response. CDC has deployed several teams of public health experts to the West Africa region. CDC staff are deployed to Guinea, Liberia, Nigeria, Senegal, and Sierra Leone to assist with response efforts, including surveillance, contact tracing, data management, laboratory testing, and health education.
    - CDC continues to send additional public health experts to the affected and neighboring countries.
    - CDC experts have been deployed to non-affected border countries in West Africa, including Cote d'Ivoire, to conduct assessments of Ebola preparedness in those countries.
    - CDC staff are assisting with setting up an emergency response structure, contact tracing, providing advice on exit screening and infection control at major airports, and providing training and education countries with widespread Ebola virus transmission.
    - CDC's health promotion teams, consisting of health communicators and public health advisors deployed to Guinea, Liberia, and Sierra Leone, are working closely with country embassies, UNICEF, WHO, ministries of health, and nongovernment organizations to develop public health messages and implement social mobilization activities.
        - In all 3 countries, CDC health communicators are meeting with local community leaders beyond capital cities.
        - CDC is partnering with major telecommunications companies in the affected countries (ORANGE and Cellcom in Guinea; Africell in Sierra Leone; and Cellcom and Lonestar in Liberia).
            - These providers disseminate radio and TV program information, public service announcements, and text (SMS) and interactive voice response (IVR) messages on Ebola with support from CDC.
            - CDC is assisting in training and preparing responses for national emergency call centers responding to Ebola.
        - CDC engaged with UNICEF and Focus 1000 in the development of a Knowledge, Attitudes, and Practices (KAP) study and preliminary report in Sierra Leone and is using this report to inform future message strategies.
            - Focus 1000 released the final report from its first national KAP survey in Sierra Leone. CDC and partners are using these results to inform the second phase of the national Ebola Communication Response. Phase 1 focused on "Ebola is Real." The proposed Phase 2 is "Action Against Ebola."
        - In Liberia, CDC supports the Carter Center's trainings for chiefs and security personnel in 15 counties to improve Ebola response activities.
            - The resulting report from the Carter Center's trainings and observations informs next steps in micro-planning health promotion activities, working at the county level, and supporting messaging through radio PSAs translated into tribal languages.
            - CDC and the Carter Center supported a conference with the chiefs and elders of 15 Liberian counties, in which the leaders agreed to join the fight against Ebola

and distribute prevention messages to their communities. The group also called on government and partners to support their efforts.

- Africell (a telecommunications company in Sierra Leone with 2.6 million subscribers) is broadcasting daily 30-minute radio programs, weekly hour-long TV segments, and sending text messages on Ebola with the support of CDC, the U.S. Embassy, and the non-governmental organization, BBC Media Action.
- CDC's Ebola radio spots for West African communities are broadcast throughout the day by UNICEF, the U.S. Embassy, and other distribution outlets for public dissemination on radio and megaphones in churches, trucks, and public buildings in Freetown and Kenema, Sierra Leone.
- CDC is working with UNICEF and WHO in Sierra Leone and Liberia to develop national key messages.
- CDC is working with USAID and UNICEF to prepare communication strategies to educate local populations on community care centers and home health and hygiene kits disseminated by other agencies.
- CDC and the Carter Center developed PSAs recorded by President Jimmy Carter for audiences in West Africa.
- CDC, the U.S. embassy, and UNFPA developed a distribution plan for messages by President Obama in Guinea, translated into French.
- CDC is working with UNICEF and WHO on trainings for general community health worker volunteers throughout the region.
- An Ebola Field Communications Site provides resources and information to support CDC staff working in West Africa. It serves as a knowledge management platform to inform and coordinate the development of communications content and strategies with CDC staff working in the Emergency Operations Center in Atlanta.

- CDC is working closely with U.S. Agency for International Development (USAID), Office of Foreign Disaster Assistance (OFDA), to support the deployment to Liberia of a Disaster Assistance Response Team (DART), which is overseeing the U.S. government's Ebola response in West Africa.
  - CDC, in partnership with WHO's Global Outbreak Alert and Response Network and the U.S. National Institutes of Health (NIH), provided a field laboratory to Liberia to increase the number of specimens being tested for Ebola. The lab is currently operating at full capacity and is only the second site in Liberia capable of testing specimens from patients with suspected Ebola.
  - The DART continues to support the Government of Liberia (GoL) and U.N. agencies to plan, construct, and run Ebola Treatment Units throughout Liberia. On September 12, the International Medical Corps (IMC) opened an initial 10 beds at a new USAID/OFDA-funded 70-bed ETU in Bong County, Liberia. The DART also provided two generators to support the Island Clinic ETU in Monrovia, scheduled to open in the coming days.
- MSF has started to distribute 25,000 Home Protection Kits in Liberia, to be followed by another 25,000 kits soon, and UNICEF is preparing to send 50,000 similar Home Protection Kits to Liberia as well.
  - These kits, which contain soap, chlorine, buckets, and personal protective gear such as gowns, masks, and gloves, provide needed supplies for infection control for the Liberian population while they wait for enough Ebola Treatment Unit beds to come online.
  - CDC is providing technical assistance to these partners to help strengthen the effectiveness of the kits, including communication strategies and support for the development of training and low literacy instructions. To help support these efforts, CDC is training call center responders and developing materials to help call center staff answer callers' concerns and questions.

- CDC staff are working with USAID counterparts to strategize the health promotion, messaging, and risk mitigation needs surrounding the next phases and strategies in the Liberia response.
- CDC is working with airlines to address crew and airline staff concerns while ensuring the ability of humanitarian and public health organizations to transport assistance into the affected countries.
- CDC is also working with airlines, airports, and ministries of health in West Africa to provide technical assistance for developing exit screening and travel restriction in countries with Ebola outbreaks. This includes:
    - Assessing the capacity of countries and airports to conduct exit screening
    - Assisting with development of exit screening protocols
    - Training staff on exit screening protocols and appropriate PPE use
    - CDC has issued a Warning, Level 3 notice for U.S. citizens to avoid nonessential travel to the West African nations of Guinea (http://wwwnc.cdc.gov/travel/notices/warning/ebola-guinea), Liberia (http://wwwnc.cdc.gov/travel/notices/warning/ebola-liberia), and Sierra Leone (http://wwwnc.cdc.gov/travel/notices/warning/ebola-sierra-leone).
- CDC also has issued a Watch, Level 1 travel notice to advise about practicing usual precautions for people traveling to Nigeria (http://wwwnc.cdc.gov/travel/notices/alert/ebola-nigeria).
- Every day, CDC works closely with partners at U.S. international airports and other ports of entry to look for sick travelers with possible contagious diseases.
- CDC has developed and posted Ebola-specific travel messages for electronic monitors to reach travelers from West Africa and posters for TSA screening areas of airports to reach outbound travelers. Visit wwwnc.cdc.gov/travel/page/infographics-travelers to see the messages.
- CDC has developed a Travel Health Alert Notice (T-HAN) that is being handed out by CBP to people arriving in the United States from countries with Ebola outbreaks.
    - The T-HAN reminds travelers to monitor for symptoms for 21 days after arriving in the United States. It also advises people to call their doctor if they were exposed during their time in a country with an Ebola outbreak.
    - The T-HAN also provides advice to the travelers' doctor about information and guidance related to Ebola infection control, prevention, and diagnosis.
- CDC and the Department of Homeland Security (DHS) are beginning enhanced entry screening at 5 U.S. airports to take additional steps to help prevent further spread of Ebola and to ensure that anyone found to be sick with Ebola at U.S. airports gets appropriate care immediately.
    - Entry screening at 5 U.S. airports (New York's JFK International, Washington-Dulles, Newark, Chicago, and Atlanta) will evaluate over 94% of travelers arriving from the affected countries in West Africa.
    - Enhanced entry screening is part of a layered process that includes processes already in place to detect ill travelers arriving in the United States. Every day CDC works closely with partners such as Customs and Border Protection, airlines, and emergency medical services to look for sick travelers with possible contagious diseases. These processes have been strengthened during the Ebola response through guidance and training to partners.
- CDC and WHO do not recommend stopping travel from countries with Ebola outbreaks. The key to controlling this outbreak is to focus on stopping the spread at its source, and international humanitarian assistance must continue.
- CDC is actively working to educate U.S. healthcare workers on how to isolate patients and how to protect themselves from infection.
    - Resources for U.S. healthcare workers are available at http://www.cdc.gov/vhf/ebola/hcp/index.html.

- CDC has developed a web-based document that identifies rapidly emerging CDC guidelines for Ebola applicable to public health preparedness national standards for state and local planning. See "Top 10 Ebola Response Planning Tips: Ebola Readiness Self-Assessment for State and Local Public Health Officials" at http://www.cdc.gov/vhf/ebola/outbreaks/preparedness/planning-tips-top10.html.
- CDC continues to update its communication products and webpages with new information on the Ebola outbreak for the general public and specific audiences.
- CDC is using social media as a way to share credible, factual information and to dispel misconceptions about Ebola.
    - CDC hosted an Ebola Twitter chat on October 2 that had the largest reach of any CDC chat to date. The chat had a potential reach of 161 million, with an adjusted reach of 25.8 million, and included 7,484 participants. During the one-hour chat, CDC answered 155 questions.
    - CDC hosted a second Ebola Twitter chat on October 8. The chat had a potential reach of 100 million, with an adjusted reach of 12.1 million and included 2,944 participants. During the one-hour chat, CDC answered 160 questions.

TRAINING IN WEST AFRICA

CDC has held numerous trainings in West Africa and plans to conduct more to help prepare health workers, volunteers, and others to control and prevent Ebola in countries with widespread Ebola transmission.

- In Liberia, CDC staff have held Ebola 101 trainings for Ministry of Health call center employees; training-of-trainers (TOT) sessions; and workshops for local leaders. Trainings have covered infection control and Ebola education for
    - Radio broadcasters
    - Hotel staff
    - Community health volunteers
    - Healthcare workers
    - Community stakeholders and leaders
- In Guinea, CDC staff have trained health workers on triage and infection control. Community journalists from local traditional language radio and TV stations were trained on the dissemination of Ebola health promotion information.
- CDC has developed an introductory training course for licensed clinicians intending to work in Ebola treatment units in Africa. This training will be conducted in the United States.
    - For more information on this training, go to http://www.cdc.gov/vhf/ebola/hcp/safety-training-course/index.html.
- CDC is working with airlines, airports, and ministries of health in West Africa to train staff on exit screening protocols and appropriate PPE use.

CDC FOUNDATION

- The CDC Foundation is assisting CDC in the response to the Ebola outbreak in West Africa by providing critical assistance and supplies through donations to the Foundation's Global Disaster Response Fund, which enables CDC staff to respond quickly to changing circumstances and needs.
- CDC has identified a number of significant needs including developing in-country emergency operations centers that will provide a platform for incident response to effectively manage current and future outbreaks. A donor has provided funding to support this effort. In addition, to strengthen the response

going forward, the CDC Foundation is continuing to work with donors to provide funding for much-needed supplies and equipment for use on the ground in Guinea, Sierra Leone, and Liberia.

- The CDC Foundation has received commitments and donations of approximately $40 million toward the Ebola response.
    - This is largely through commitments from Mark Zuckerberg and Dr. Priscilla Chan ($25 million), the Paul G. Allen Family Foundation ($9 million), Robert Wood Johnson Foundation ($1 million), the Gates Foundation ($2 million), HCA ($1 million), The William and Flora Hewlett Foundation ($1.5 million), Exxon Mobil ($250,000), Alcoa Foundation ($80,000) and the Liberian-American Roundtable ($15,000). BD (Becton, Dickinson and Company) has also contributed vital in-kind contributions.
- To date, the CDC Foundation and its donors have provided both materials and services to meet on the ground needs.
    - As examples, these include computers equipped with software and printers for use in the field by CDC and in-country staff, as well as tablets for use by burial teams in Liberia. In addition, the Foundation has provided thermal scanning thermometers for use by some airport screeners in West Africa. And funding is beginning to be deployed to provide logistics support through vehicles and motorcycles, health worker training, medical supplies, laboratory diagnostic equipment, personal protective equipment, generators and public health communication in the region. Importantly, funding also has been provided and is being deployed to establish sustainable emergency operations centers in the most impacted countries of Guinea, Liberia and Sierra Leone.
- There will also be unanticipated needs in response to this epidemic. The CDC Foundation is working closely with CDC to determine needs in affected countries and how funds and resources provided through the Foundation can be deployed to help meet some of these needs.
- More information on CDC Foundation's Global Disaster Response Fund is available at www.cdcfoundation.org/globaldisaster.

STIGMA

West Africans and people who have traveled to West Africa may face stigma during the current Ebola outbreak because the outbreak is associated with a region of the world.

- Stigma involves stereotyping and discriminating against an identifiable group of people, a place, or a nation.
    - Stigma can occur when people associate an infectious disease, such as Ebola, with a population, even though not everyone in that population or from that region is specifically at risk for the disease (for example, West Africans living in the United States).
- Communicators and public health officials can help counter stigma during the Ebola response.
    - Maintain privacy and confidentiality of those seeking healthcare and those who may be part of any contact investigation.
    - Communicate early the risk or lack of risk from associations with products, people, and places.
    - Raise awareness of the potential problem.
    - Share accurate information about how the virus spreads.
    - Explain that Ebola is caused by a virus, not a person.
    - Speak out against negative behaviors, including negative social media statements about groups of people, or exclusion of people who pose no risk from regular activities.

- Be cautious about the images that are shared. Make sure they do not reinforce stereotypes.
- Engage with stigmatized groups in person and through media channels including news media and social media.
- Share the need for social support for people who have returned from the region or are worried about friends or relatives in the affected region.

FOR MORE INFORMATION ABOUT EBOLA

- CDC will continue to post new information about the Ebola outbreak on the following websites as it becomes available:
  - CDC Ebola site: www.cdc.gov/ebola
  - CDC Travelers' Health site: http://wwwnc.cdc.gov/travel/notices
- World Health Organization (WHO) Ebola virus disease (EVD) site: www.who.int/csr/disease/ebola/en/