

KEY MESSAGES – EBOLA VIRUS DISEASE, WEST AFRICA

Updated September 24, 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.

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OUTBREAK SUMMARY

- On August 8, WHO declared that the current Ebola outbreak is a Public Health Emergency of International Concern (PHEIC).
- The 2014 Ebola outbreak is the largest in history and the first Ebola outbreak in West Africa. This outbreak is the first Ebola *epidemic* the world has ever known – affecting multiple countries in West Africa. Although the risk of an Ebola outbreak in the United States is very low, CDC and partners are taking precautions to prevent this from happening.
 - **As of September 24**, no confirmed Ebola cases have been reported in the United States.
 - CDC is communicating with U.S. healthcare workers about how to detect and isolate patients who may have Ebola and how they can protect themselves from infection.
 - Most of the cases have been reported in three countries: Guinea, Liberia, and Sierra Leone.
 - There are 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.
 - 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.
 - The Democratic Republic of the Congo (DRC) has reported cases of Ebola in a remote area of the country. However, WHO received test results showing the Ebola virus strain causing the outbreak in the DRC is different from the strain in the current outbreak in West Africa. These results confirm that the two outbreaks are unrelated.
 - Information on the outbreak in DRC can be found at <http://www.cdc.gov/vhf/ebola/outbreaks/drc/2014-august.html>.
- CDC's response to Ebola is the largest international outbreak response in CDC's history.
 - USAID continues to lead 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. NIH and 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) will set 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 will be 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 will deploy 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.

EBOLA CASES AND DEATHS (WEST AFRICA)

- As of **September 19**, 2014, a total of **5864** cases of Ebola and **2811** deaths have been reported.
 - Guinea reported **1008** cases, including **632** deaths
 - Liberia reported **3022** cases, including **1578** deaths
 - Nigeria reported **20** cases, including 8 deaths
 - On July 25, the Nigerian Ministry of Health confirmed that a man in Lagos died from Ebola infection. The man had been in a hospital since arriving at the Lagos airport from Liberia.
 - Senegal reported 1 case, including 0 deaths
 - Sierra Leone reported **1813** cases, including **593** deaths
- In some Ebola outbreaks in the past, as many as 9 out of 10 people have died (90% death rate). In this outbreak, around half of the people with Ebola have died (**48%** death rate). The death rates have varied in different areas, **which is likely because of the variability of medical care.**
- For specific areas where cases have been identified, see CDC's [Ebola outbreak webpage](http://www.cdc.gov/vhf/ebola/outbreaks/guinea/index.html) (<http://www.cdc.gov/vhf/ebola/outbreaks/guinea/index.html>).

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.
 - Two 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.
 - Two patients admitted in September remain 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. All samples have tested negative for Ebola.

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.

TRANSMISSION

- Ebola virus is spread through direct contact with the blood or body fluids (including but not limited to feces, saliva, 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.
 - 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.
- 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 additional 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.
- 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, urine, vomit, and semen).
 - Do not handle 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 hospitals 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 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, Nigeria, 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. On August 28, the National Institutes of Health (NIH) announced that initial human testing to assess safety and immune response of an investigational vaccine to prevent Ebola virus disease would begin in early September. A different investigational Ebola vaccine will also start testing in humans to assess safety and immune response in September through the U.S. Department of Defense.
- Two companies, Tekmira and BioCryst Pharmaceuticals, received funding from the U.S. Department of Defense and have potential drugs to treat Ebola in early development. 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).
 - Isolate patients with Ebola from other patients.
 - Avoid direct 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
 - Ask patients about their travel histories to determine if they have traveled to West Africa within the last three weeks.
 - Know the signs and symptoms of Ebola – fever (greater than 101.5°F or 38.6°C) and additional symptoms, such as severe headache, muscle pain, vomiting, diarrhea, abdominal (stomach) pain, or unexplained hemorrhage (bleeding or bruising).
 - 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 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 virus disease was distributed by CDC on August 1, and three updates have followed. The most recent updated was distributed on August 28 (<http://emergency.cdc.gov/han/han00368.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 virus disease 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.
 - Disposable materials (such as any single-use PPE, cleaning cloths, wipes, single-use microfiber cloths, linens, food service items) and linens, privacy curtains, and other textiles used in the patient room should be placed in leak-proof containers after use and discarded as regulated medical waste.
 - Sanitary sewers may be used for the safe disposal of patient waste.

- 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, date symptoms resolved, other conditions that would require specific precautions (e.g., tuberculosis, *Clostridium difficile*) and available laboratory information.
- For more details on infection control in U.S. hospitals, see www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html and <http://www.cdc.gov/vhf/ebola/hcp/environmental-infection-control-in-hospitals.html>.

TRAVELERS

- CDC has issued a Warning, Level 3 travel notice for 3 countries. U.S. citizens should avoid all nonessential travel to Guinea, Liberia, and Sierra Leone.
- CDC has issued an Alert, Level 2 travel notice for Nigeria. Travelers to Nigeria should take enhanced precautions to prevent Ebola.
 - CDC also issued an Alert, Level 2 travel notice for the Democratic Republic of the Congo (DRC). A small number of Ebola cases have been reported in the DRC, though current information indicates that this outbreak is not related to the ongoing Ebola outbreaks in Guinea, Liberia, Nigeria, and Sierra Leone.
- An imported case of Ebola has been confirmed in Senegal. CDC does not have special recommendations for travelers to Senegal. If further spread is confirmed in Senegal, CDC will post a travel notice similar to the one currently posted for Nigeria.
- If you travel to any of the affected countries, 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. Avoid contact with blood and body fluids (including but not limited to feces, saliva, 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 hospitals 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 returning from Guinea, Liberia, Nigeria, 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, Nigeria, 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 an Ebola outbreak is 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 the 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 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, Nigeria, 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: 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 hospitals in Ebola-affected countries 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 response, and CDC encourages them to continue the important work being done to stop the disease's spread at its source.
- CDC developed guidance for humanitarian aid organizations whose employees or volunteers are working in countries where an Ebola outbreak is occurring. CDC's goal is to help organizations develop plans and make preparations for safe deployments of their employees or volunteers.
- CDC recommends that organizations provide personal protective equipment (or PPE) to anyone who will be working in a health care setting or in a setting where they will have close contact with people who are sick with Ebola.
- CDC recommends that anyone traveling to countries where outbreaks of Ebola are occurring have full health insurance. Because health care resources in affected countries may be limited or not available, organizations should identify in advance places where employees and volunteers can get health care during their trip.
 - It is also important to make arrangements for medical evacuation in the event that an employee or volunteer becomes ill. Plans should be made for both US citizens and non-US citizens.
- Before employees or volunteers return home, organizations should make sure they are aware of CDC's guidance regarding travelers returning to the United States from countries with Ebola outbreaks.
 - Anyone who is ill or has been exposed to Ebola will not be allowed to travel on commercial flights. Organizations should develop a plan for bringing volunteers and employees back to the United States or their home country if they are exposed to Ebola but do not have symptoms, such as on charter flights.
 - Before employees or volunteers return home, organizations should consider evaluating the risk of exposure of each individual.
 - CDC encourages organizations to have employees or volunteers notify the organization if they suspect exposure to Ebola.
- The full text of this guidance can be found on CDC's website at: <http://wwwnc.cdc.gov/travel/page/advice-humanitarian-aid-organizations-ebola>.

AIRLINE FLIGHT CREWS, CLEANING PERSONNEL, AND CARGO PERSONNEL

- International humanitarian assistance must continue, and CDC encourages airlines to continue flights to and from the region to facilitate transport of teams and supplies essential to control the outbreak.
- CDC's Interim Guidance about Ebola Virus Infection for Airline Flight Crews, Cleaning Personnel, and Cargo Personnel is posted on CDC's website at www.cdc.gov/quarantine/air/managing-sick-travelers/ebola-guidance-airlines.html.

MONITORING AND MOVEMENT OF PEOPLE WITH EBOLA

- CDC developed interim guidance to provide public health authorities and other partners with a framework for evaluating people's level of exposure to Ebola and initiating appropriate public health actions on the basis of exposure level and clinical assessment.
 - The full text of CDC's Interim Guidance for Monitoring and Movement of Persons with Ebola Virus Disease Exposure is available on CDC's website at www.cdc.gov/vhf/ebola/hcp/monitoring-and-movement-of-persons-with-exposure.html.
- These recommendations were issued to reduce the risk of Ebola spreading to other airline 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 Ebola-affected countries 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 will help 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 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.

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 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 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 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 in the affected countries.
 - 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 study and preliminary report in Sierra Leone and is using this report to inform future message strategies.
 - In Liberia, CDC is contributing messaging and supporting the Carter Center's trainings for leaders in 15 counties to improve Ebola response activities.
 - 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.
- Communicators are developing training and messaging for communities with low literacy about transmission, safe burial practices, and psycho-social support.
- CDC and the Carter Center developed PSAs recorded by President Jimmy Carter for audiences in West Africa.
- CDC's Health Promotion Team, the U.S. embassy, and UNFPA developed a distribution plan for messages by President Obama in Guinea, translated into French.
- In Liberia, CDC is working with UNICEF and WHO on trainings for general community health worker volunteers.
- **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 Disaster Assistance Response Team (DART) continues to support the Government of Liberia (GoL) and U.N. agencies to plan, construct, and run ETUs 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 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 restrictions in the countries where Ebola outbreaks are occurring. 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

- Training in-country staff to provide future trainings
- 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 an Alert, Level 2 travel notice to advise about enhanced precautions for people traveling to Nigeria (<http://wwwnc.cdc.gov/travel/notices/alert/ebola-nigeria>) and the Democratic Republic of the Congo for an unrelated outbreak of Ebola (<http://wwwnc.cdc.gov/travel/notices/alert/ebola-in-democratic-republic-of-the-congo>).
 - At this time, CDC is not doing enhanced screening of arriving travelers because standard procedures are already in place for monitoring arriving travelers for illness at U.S. international airports, seaports, or land borders.
 - CDC is working closely with Customs and Border Protection (CBP) and other partners at ports of entry (primarily international airports) to use routine procedures to identify travelers who show signs of infectious disease. In response to the outbreak, these procedures have been enhanced through guidance and training. CDC's quarantine station staff respond as needed, for example by evaluating ill travelers identified by CBP officers.
 - If an ill traveler is identified during or after a flight, CDC will conduct an investigation of exposed travelers and work with the airline, federal partners, and state and local health departments to notify exposed travelers and take any necessary public health action.
 - 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 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.
- In late August, CDC returned a staff member from West Africa by charter flight after the employee had low-risk contact with an international health worker who recently tested positive for Ebola.
 - The CDC staff member worked in close proximity (within three feet) in the same room with the ill person for a prolonged period when that individual had symptoms.
 - The returning CDC staff person was rotating back to the United States, as scheduled, from his assignment in West Africa.
 - The CDC staff person was not sick with Ebola, did not show symptoms of the disease, and therefore posed no Ebola-related risk to friends, family, co-workers, or the public.
 - The exposed staff person was not restricted to staying at home and returned to assigned work duties at CDC during the 21-day period of symptom monitoring.
 - All CDC staff members, including persons returning by charter flight, are monitoring their health when they return from their work in the Ebola response. Monitoring means checking for fever

twice daily and contacting their doctor or health care provider immediately if they develop fever or other symptoms.

TRAINING

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 the affected countries.

- 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 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.
- The CDC Foundation has received generous funding from a number of donors such as the Paul G. Allen Family Foundation, Robert Wood Johnson Foundation, and the Bill & Melinda Gates Foundation and is in the process of seeking funding from additional donors. In addition, the CDC Foundation's Board of Directors has committed \$1 million from the Foundation toward CDC's response.
- To date, the CDC Foundation has made initial shipments or ordered items for use by CDC staff working with local in-country personnel in the four most impacted nations—Liberia, Sierra Leone, Guinea and Nigeria. These items include forehead thermometers and batteries and face shields to assist in the medical response. Laptop computers and printers are also being provided for disease tracking and communications across the impacted countries.
- Donor funding is also being deployed for communication and outreach programs to reach healthcare workers and the public.
- The CDC Foundation is in discussions with a number of donors who have offered philanthropic support to secure needed medical supplies and other products and services.

- 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 product, an animal, 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/