What You Need to Know about Ebola

The 2014 Ebola epidemic is the largest in history

This outbreak is affecting multiple countries in West Africa, and CDC has confirmed the first travel-associated case of Ebola to be diagnosed in the United States. About half the people who have gotten Ebola in this outbreak have died.

Although the risk of Ebola spreading in the United States is very low, CDC and its partners are taking actions to prevent this from happening.

A person infected with Ebola can’t spread the disease until symptoms appear

The time from exposure to when signs or symptoms of the disease appear (the incubation period) is 2 to 21 days, but the average time is 8 to 10 days. Signs of Ebola include fever (higher than 101.5°F) and symptoms like severe headache, muscle pain, vomiting, diarrhea, stomach pain, or unexplained bleeding or bruising.

Ebola is spread through direct contact with blood and body fluids

Ebola is spread through direct contact (through broken skin or through your eyes, nose, or mouth) with

- Blood and body fluids (like urine, feces, saliva, vomit, sweat, and semen) of a person who is sick with Ebola.
- Objects (like needles) that have been contaminated with the blood or body fluids of a person sick with Ebola.

Ebola is not spread through the air, water, or food.

Protect yourself against Ebola

There is no FDA-approved vaccine available for Ebola. Experimental vaccines and treatments for Ebola are under development, but they have not yet been fully tested for safety or effectiveness.

To protect yourself from Ebola

- DO wash your hands often with soap and water or use an alcohol-based hand sanitizer.
- Do NOT touch the blood or body fluids (like urine, feces, saliva, vomit, sweat, and semen) of people who are sick.
- Do NOT handle items that may have come in contact with a sick person’s blood or body fluids, like clothes, bedding, needles, or medical equipment.
- Do NOT touch the body of someone who has died of Ebola.
“We recognize that even a single case of Ebola in the United States seems threatening, but the simple truth is that we do know how to stop the spread of Ebola between people.”

—Beth Bell, MD, MPH, Director of the National Center for Emerging and Zoonotic Infectious Diseases

What to do if you are exposed to Ebola

If you have traveled to an area with an Ebola outbreak or had close contact with a person sick with Ebola, you may be at risk if you

- Had direct contact with blood or body fluids or items that came into contact with blood or body fluids from a person with Ebola.
- Touched bats or nonhuman primates (like apes or monkeys) or blood, fluids, or raw meat prepared from these animals.
- Went into hospitals where Ebola patients were being treated and had close contact with the patients.
- Touched the body of a person who died of Ebola.

You should check for signs and symptoms of Ebola for 21 days

- Take your temperature every morning and evening.
- Watch for other Ebola symptoms, like severe headache, muscle pain, vomiting, diarrhea, stomach pain, or unexplained bleeding or bruising.
- Call your doctor even if you do not have symptoms. The doctor can evaluate your exposure level and any symptoms and consult with public health authorities to determine if actions are needed.

During the time that you are watching for signs and symptoms, you can continue your normal activities, including going to work.

If you get sick after you come back from an area with an Ebola outbreak

- Get medical care RIGHT AWAY if you have a fever (higher than 101.5°F), severe headache, muscle pain, vomiting, diarrhea, stomach pain, or unexplained bleeding or bruising.
- Tell your doctor about your recent travel to West Africa or contact with a person who was sick with Ebola and your symptoms BEFORE you go to the doctor’s office or emergency room. Calling before you go to the doctor’s office or emergency room will help the staff care for you and protect other people.
Michigan being vigilant against the threat of Ebola
State, medical community preparing for any potential risks

LANSING, Mich – Gov. Rick Snyder today announced that although there is no immediate threat of Ebola in Michigan, the state is vigilantly working with the health and medical community to be prepared to deal with any threat the virus could pose to Michiganders.

Snyder, the Michigan Department of Community Health (MDCH), the Michigan State Police (MSP), the Michigan Association for Local Public Health (MALPH), and Michigan’s other health and hospital professionals want to reassure all Michiganders that the state and its medical community are preparing for, and being vigilant against, any threat the Ebola virus may pose to our state and its citizens.

“Nothing is more important than the health and safety of Michigan families,” Snyder said. “Although the Ebola virus has not been detected in Michigan and hopefully will never reach our state, if a case is found I am confident that our health care system and our public health infrastructure are ready to effectively respond.”

While the risk of an Ebola outbreak in the United States is very low, emergency response plans are in place and coordination is occurring between the state, the Centers for Disease Control and Prevention (CDC), and local healthcare partners to make sure Michigan is prepared for any possible threat. These plans have been developed and are routinely tested in coordination with local health and emergency response partners. As Michigan monitors the Ebola outbreak in West Africa, the state has focused additional efforts on maintaining situational awareness, through continual information sharing and outreach to local health partners.

“Michigan’s state public health laboratory, our Office of Public Health Preparedness, and our front line disease epidemiologists in Michigan have been committed to monitoring surveillance and any potential risks of Ebola in Michigan for quite some time now,” said MDCH Director Nick Lyon. “With the top experts in the state following the issue so closely, Michigan residents can be assured that our state and local health partners are prepared to quickly and effectively respond to infectious disease issues to protect the health of our communities.”

Through the use of Michigan’s Health Alert Network which connects public health officials, healthcare systems and professionals, local preparedness healthcare coalitions, and emergency responders
including emergency medical services workers, MDCH has worked to ensure all public health preparedness partners have the information they need to prepare for a case of Ebola being found in Michigan. Further, Michigan hospitals are prepared to follow strict CDC infection control recommendations in the event they need to respond and isolate a patient.

“Michigan hospitals have been working closely with the state in following the Ebola outbreak and preparing to respond in the event of a case being found here,” said Spencer Johnson, president of the Michigan Health & Hospital Association. “Our hospitals and physicians are ready to serve Michigan residents, and for anyone with recent travel to West Africa and who may be showing symptoms, please contact your physician as soon as possible.”

Michigan already has well-established and effective surveillance and communication processes in place and is in constant contact with partners across the state. To prepare for any potential case of Ebola, the state has been:

- Providing weekly communications to partners about updated outbreak guidance materials from the CDC,
- Assessing inventory of the personal protective equipment needed for an Ebola response,
- Responding to calls from healthcare professionals on a daily basis regarding potential infectious diseases including reviewing patient symptoms, case reports, and patient travel.
- Preparing to activate the State Emergency Operations Center in the event a case is found in Michigan and conducting exercises and drills to test preparedness.

“Local public health departments have been in continuous contact with hospital infection control departments and sending up-to-the-minute CDC guidance to all first responders, clinics, physicians, and local elected officials through local health alert systems,” said Meghan Swain, executive director of the Michigan Association for Local Public Health. “There are several joint planning and exercises occurring across the state between local public health, healthcare, and EMS systems to ensure the population is safe.”

Additional steps have been taken to prepare to deal with any potential threat in a swift and effective manner, including:

- Having a state laboratory with the capabilities to complete testing of suspected Ebola cases, greatly increasing the ability to respond quickly and accurately. Michigan is one of 14 states with this capability.
- Detroit Metropolitan Airport has a CDC quarantine station staffed and ready to isolate patients, although there are no direct flights from West Africa to Detroit,
- Michigan has 1,024 isolation beds available across the state, among its 191 hospitals.

"The State of Michigan has existing emergency plans in place to address potential health emergencies," said Col. Krispe Kibbey Etue, state director of emergency management and homeland security and director of the Michigan State Police. "We are engaged with the federal government and proactively working with our state and local emergency management coordinators and health officials to respond in the event of an Ebola outbreak. We are actively monitoring the situation and will act as warranted to ensure the safety of our citizens."

Michigan residents can also be vigilant by understanding what the Ebola virus is:

- The Ebola virus is currently in three West Africa countries of Guinea, Liberia and Sierra Leone. Avoiding non-essential travel to those countries is recommended.
• Ebola is not spread through casual contact; but 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 already sick with Ebola.
• The virus in blood and body fluids can enter another person’s body through broken skin or for example, the eyes, nose, or mouth.
• Symptoms of Ebola include a fever (greater than 101.5°F or 38.6°C) and additional symptoms, such as severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained bleeding or bruising.
• Residents who have recently returned from West Africa and develop a fever should contact their healthcare provider immediately. If symptoms are present and the patient has traveled from an Ebola-affected country in the last three weeks, the patient should be properly isolated.

Additional information on Ebola and how to prevent it is available on the [CDC’s website](https://www.cdc.gov/).
Evaluating Patients for Possible Ebola Virus Disease: Recommendations for Healthcare Personnel and Health Officials

Summary: The first case of Ebola Virus Disease (Ebola) diagnosed in the United States was reported to CDC by Dallas County Health and Human Services on September 28, 2014, and laboratory-confirmed by CDC and the Texas Laboratory Response Network (LRN) laboratory on September 30. The patient departed Monrovia, Liberia, on September 19, and arrived in Dallas, Texas, on September 20. The patient was asymptomatic during travel and upon his arrival in the United States; he fell ill on September 24 and sought medical care at Texas Health Presbyterian Hospital of Dallas on September 26. He was treated and released. On September 28, he returned to the same hospital, and was admitted for treatment.

The purpose of this HAN Advisory is to remind healthcare personnel and health officials to:

(1) increase their vigilance in inquiring about a history of travel to West Africa in the 21 days before illness onset for any patient presenting with fever or other symptoms consistent with Ebola;

(2) isolate patients who report a travel history to an Ebola-affected country (currently Liberia, Sierra Leone, and Guinea) and who are exhibiting Ebola symptoms in a private room with a private bathroom and implement standard, contact, and droplet precautions (gowns, facemask, eye protection, and gloves); and

(3) immediately notify the local/state health department.

Please disseminate this information to infectious disease specialists, intensive care physicians, primary care physicians, and infection control specialists, as well as to emergency departments, urgent care centers, and microbiology laboratories.

Background

The first known case of Ebola with illness onset and laboratory confirmation in the United States occurred in Dallas, Texas, on September 2014, in a traveler from Liberia. The West African countries of Liberia, Sierra Leone, and Guinea are experiencing the largest Ebola epidemic in history. From March 24, 2014, through September 23, 2014, there have been 6,574 total cases (3,626 were laboratory-confirmed) and 3,091 total deaths reported in Africa. Ebola is a rare and deadly disease caused by infection with one of four viruses (Ebolavirus genus) that cause disease in humans. Ebola infection is associated with fever of greater than 38.6°C or 101.5°F, and additional symptoms such as severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage. Ebola is spread through direct contact (through broken skin or mucous membranes) with blood or body fluids (including but not limited to urine, saliva, feces, vomit, sweat, breast milk, and semen) of a person who is sick with Ebola or contact with objects (such as needles and syringes) that have been contaminated with these fluids. Ebola is not spread through the air or water. The main source for spread is human-to-human transmission. Avoiding contact with infected persons (as well as potentially infected corpses) and their blood and body fluids is of paramount importance. Persons are not contagious before they are symptomatic. The incubation period
(the time from exposure until onset of symptoms) is typically 8-10 days, but can range from 2-21 days. Additional information is available at http://www.cdc.gov/vhf/ebola/index.html.

**Recommendations**

Early recognition is critical to controlling the spread of Ebola virus. Consequently, healthcare personnel should elicit the patient’s travel history and consider the possibility of Ebola in patients who present with fever, myalgia, severe headache, abdominal pain, vomiting, diarrhea, or unexplained bleeding or bruising. Should the patient report a history of recent travel to one of the affected West African countries (Liberia, Sierra Leone, and Guinea) and exhibit such symptoms, immediate action should be taken. The Ebola algorithm for the evaluation of a returned traveler and the checklist for evaluation of a patient being evaluated for Ebola are available at http://www.cdc.gov/vhf/ebola/pdf/ebola-algorithm.pdf and http://www.cdc.gov/vhf/ebola/pdf/checklist-patients-evaluated-us- evd.pdf.

Patients in whom a diagnosis of Ebola is being considered should be isolated in a single room (with a private bathroom), and healthcare personnel should follow standard, contact, and droplet precautions, including the use of appropriate personal protective equipment (PPE). Infection control personnel and the local health department should be immediately contacted for consultation.

The following guidance documents provide additional information about clinical presentation and clinical course of Ebola virus disease, infection control, and patient management:


The case definitions for persons under investigation (PUI) for Ebola, probable cases, and confirmed cases as well as classification of exposure risk levels are at http://www.cdc.gov/vhf/ebola/hcp/case-definition.html.

Persons at highest risk of developing infection are:

- those who have had direct contact with the blood and body fluids of an individual diagnosed with Ebola – this includes any person who provided care for an Ebola patient, such as a healthcare provider or family member not adhering to recommended infection control precautions (i.e., not wearing recommended PPE).
- those who have had close physical contact with an individual diagnosed with Ebola.
- those who lived with or visited the Ebola-diagnosed patient while he or she was ill.

Persons who have been exposed, but who are asymptomatic, should be instructed to monitor their health for the development of fever or symptoms for 21 days after the last exposure. Guidelines for monitoring and movement of persons who have been exposed to Ebola are available at http://www.cdc.gov/vhf/ebola/hcp/monitoring-and-movement-of-persons-with-exposure.html.

Diagnostic tests are available for detection of Ebola at LRN laboratories as well as CDC. Consultation with CDC is required before shipping specimens to CDC. Information about diagnostic testing for Ebola can be found at http://www.cdc.gov/vhf/ebola/hcp/interim-guidance-specimen-collection-submission-patients-suspected-infection-ebola.html.

Healthcare personnel in the United States should immediately contact their state or local health department regarding any person being evaluated for Ebola if the medical evaluation suggests that diagnostic testing may be indicated. If there is a high index of suspicion, U.S. health departments should immediately report any probable cases or persons under investigation (PUI).
to CDC’s Emergency Operations Center at 770-488-7100.

The Centers for Disease Control and Prevention (CDC) protects people’s health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national, and international organizations.

Categories of Health Alert Network messages:

- **Health Alert**: Requires immediate action or attention; highest level of importance
- **Health Advisory**: May not require immediate action; provides important information for a specific incident or situation
- **Health Update**: Unlikely to require immediate action; provides updated information regarding an incident or situation
- **HAN Info Service**: Does not require immediate action; provides general public health information

This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, HAN coordinators, and clinician organizations##
KEY MESSAGES – EBOLA VIRUS DISEASE, WEST AFRICA

Updated October 9, 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 ............................................................................................................................................2
Ebola and the United States ...............................................................................................................................3
Ebola Cases and Deaths ....................................................................................................................................5
Ebola in U.S. Health Workers (in West Africa) .................................................................................................5
Background on Ebola .........................................................................................................................................6
  Transmission ..................................................................................................................................................6
  Signs and symptoms ......................................................................................................................................6
  Risk ...............................................................................................................................................................7
  Prevention ....................................................................................................................................................7
  Treatment .....................................................................................................................................................8
  Recovery ......................................................................................................................................................8
CDC Recommendations and Guidance .............................................................................................................9
  Healthcare workers in West Africa ................................................................................................................9
  Healthcare providers in the United States .....................................................................................................9
  Infection control ..........................................................................................................................................10
  Travelers .......................................................................................................................................................11
  Colleges, universities, and students ..............................................................................................................12
  Humanitarian aid workers ............................................................................................................................13
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.
  - 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 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.
  - 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.
- 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.
- 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 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](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](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) 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.
  - 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 was admitted to a 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](http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/laboratory-response-network.html). Test results from both laboratories confirmed that the patient had Ebola.
    - A CDC team was dispatched to Dallas to assist with the investigation on September 30.
    - The patient passed away on October 8, 2014.
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.
- 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.
- CDC recognizes that even a single case of Ebola diagnosed in the United States raises concerns. Medical and public health professionals across the country have been preparing to respond.
- Although the risk of an Ebola outbreak in the United States is very low, CDC and partners are taking precautions to contain 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.
- If someone is not sick with Ebola, you cannot get Ebola from touching him or her.
  - 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.
- A person who has been exposed to Ebola but does not have symptoms is not infectious.
- 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 seek medical care.
  - CDC has enhanced its outreach 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. 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.
Because of the Ebola outbreak, CDC and Customs and Border Protection (CBP) are beginning enhanced entry screening to detect possible cases of Ebola in travelers who have traveled to the United States from or through Guinea, Liberia, and Sierra Leone. Enhanced entry screening at 5 U.S. airports (New York’s JFK International, Washington-Dulles, Newark, Chicago-O’Hare, and Atlanta airport) will evaluate over 94% of travelers from the affected countries in West Africa.

CDC encourages all U.S. healthcare providers to
- Ask patients with Ebola-like symptoms about their travel histories to determine if they have traveled to West Africa within the last 3 weeks.
- Know the signs and symptoms of Ebola – fever (greater than 101.5°F or 38.6°C) or additional symptoms, such as severe headache, muscle pain, vomiting, diarrhea, abdominal (stomach) pain, or unexplained hemorrhage (bleeding or bruising).
- Contact your health care provider if you suspect Ebola symptoms.

**EBOLA CASES AND DEATHS**

- As of October 5, 2014, a total of 8033 cases of Ebola (4461 laboratory-confirmed) and 3865 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

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Cases</th>
<th>Laboratory-Confirmed Cases</th>
<th>Total Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guinea</td>
<td>1298</td>
<td>1044</td>
<td>768</td>
</tr>
<tr>
<td>Liberia</td>
<td>3924</td>
<td>941</td>
<td>2210</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>2789</td>
<td>2455</td>
<td>879</td>
</tr>
<tr>
<td>Total</td>
<td>8011</td>
<td>4440</td>
<td>3857</td>
</tr>
</tbody>
</table>

### Countries with Travel-associated Cases

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Cases</th>
<th>Laboratory-Confirmed Cases</th>
<th>Total Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senegal</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>United States</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

### Countries with Localized Transmission

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Cases</th>
<th>Laboratory-Confirmed Cases</th>
<th>Total Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>20</td>
<td>19</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>19</td>
<td>8</td>
</tr>
</tbody>
</table>

**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.

**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 mosquitoes 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.
- 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:
  o 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).
  o 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).
  o Avoid funeral or burial rituals that require handling the body of someone who has died from Ebola.
  o Avoid contact with bats and nonhuman primates or blood, fluids, and raw meat prepared from these animals.
  o Avoid hospitals and Ebola treatment units in West Africa where Ebola patients are being treated. The U.S. Embassy or consulate is often able to provide advice on healthcare facilities.
  o 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.
  o 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:
  o Monitor your health for 21 days.
    ▪ During the time that you are monitoring your health, you can continue your normal activities, including work.
  o 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 a different investigational vaccine.
- Two companies, Tekmira and BioCryst Pharmaceuticals, 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).
  - 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 with Ebola-like symptoms 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
- 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, date symptoms resolved, other conditions that would require specific precautions (e.g., tuberculosis, Clostridium difficile) and available laboratory information.


The Ebola virus is a Category A infectious substance regulated by the U.S. Department of Transportation’s (DOT) Hazardous materials Regulations (HMR, 49 C.F.R., Parts 171-180). Any item transported for disposal that is contaminated or suspected of being contaminated with a Category A infectious substance must be packaged and transported in accordance with the HMR. This includes medical equipment, sharps, linens, and used health care products (such as soiled absorbent pads or dressings, kidney-shaped emesis pans, portable toilets, used Personal Protection Equipment [gowns, masks, gloves, goggles, face shields, respirators, booties, etc.] or byproducts of cleaning) contaminated or suspected of being contaminated with a Category A infectious substance.

For more details, see Department of Transportation Guidance for Transporting Ebola Contaminated Items, a Category A Infectious Substance (http://www.phmsa.dot.gov/portal/site/PHMSA/menuitem.6f23687cf7b00b0f22e4c6962d9c8789/?vgnextoid=4d1800e36b978410VgnVCM100000d2c97898RCRD&vgnextchannel=d248724dd7d6c010VgnVCM1000008e8a8c0RCRD&vgnextfmt=print)

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 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 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. 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 hospitals and Ebola treatment units 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 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).


### 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 hospitals and Ebola treatment units 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 who have died from 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.
  o 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.
  o 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.
  o Before employees or volunteers return home, organizations should consider evaluating the risk of exposure of each individual.
  o 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.

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.

• 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.
  - 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.

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 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, 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 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 (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.
  - 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 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
CDC has issued a Warning, Level 3 notice for U.S. citizens to avoid nonessential travel to the West African nations of

- 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).
  - 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 handed out by CBP to people arriving in the United States from a country with Ebola.
  - 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 provides advice to the travelers’ doctor about information and guidance related to Ebola infection control, prevention, and diagnosis.

- 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.

- Because of the Ebola outbreak, CDC and Customs and Border Protection (CBP) are beginning enhanced entry screening to detect possible cases of Ebola in travelers who have traveled to the United States from or through Guinea, Liberia, and Sierra Leone. Enhanced entry screening at 5 U.S. airports (New York's JFK International, Washington-Dulles, Newark, Chicago-O'Hare, and Atlanta airport) will evaluate over 94% of travelers from the affected countries in West Africa.

- CDC is actively working to educate U.S. healthcare workers on how to isolate patients and how to protect themselves from infection.


- 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.

### 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 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, Liberia and Nigeria.
- The CDC Foundation has received generous funding from a number of donors such as the Paul G. Allen Family Foundation, Robert Wood Johnson Foundation, HCA, Exxon Mobil, The William and Flora Hewlett Foundation and the Bill & Melinda Gates Foundation and is in the process of seeking funding from additional donors. BD has also provided vital in-kind contributions. 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 and its donors have provided funding and in-kind donations to assist in CDC’s Ebola response in West Africa.
  - For instance, the CDC Foundation and its donors have provided 200 computers equipped with software and printers for use in the field by CDC and in-country staff, as well as 50 tablets for use by burial teams in Liberia.
  - In addition, the Foundation has provided thermal scanning thermometers for use by airport screeners.
  - Funding has been provided for health worker training, medical supplies, laboratory diagnostic equipment, personal protective equipment 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.
  - Donations are also providing personal protective equipment for U.S. health worker training prior to workers’ deployment to West Africa.
- Donor funding is also being deployed for communication and outreach programs to reach healthcare workers and the public.
- 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.
  o 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.
  o Maintain privacy and confidentiality of those seeking healthcare and those who may be part of any contact investigation.
  o Communicate early the risk or lack of risk from associations with products, people, and places.
  o Raise awareness of the potential problem.
  o Share accurate information about how the virus spreads.
  o Explain that Ebola is caused by a virus, not a person.
  o 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.
  o Be cautious about the images that are shared. Make sure they do not reinforce stereotypes.
  o Engage with stigmatized groups in person and through media channels including news media and social media.
  o 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:
  o CDC Ebola site: www.cdc.gov/ebola
  o 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/