

Harris County
Public Health
Building a Healthy Community

Ebola and Local Public Health: What You Need to Know

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Chronic
Disease



Food
Safety



Emergency
Preparedness



Environmental
Health



Infectious
Disease



Injury



Social, Mental,
and Emotional
Wellbeing

What is Public Health?

“What we as a society do
collectively
to assure the conditions in which people
can be healthy.”

The Future of the Public's Health in the 21st Century, Institute of Medicine, 2003



Local Public Health **AND** Healthcare



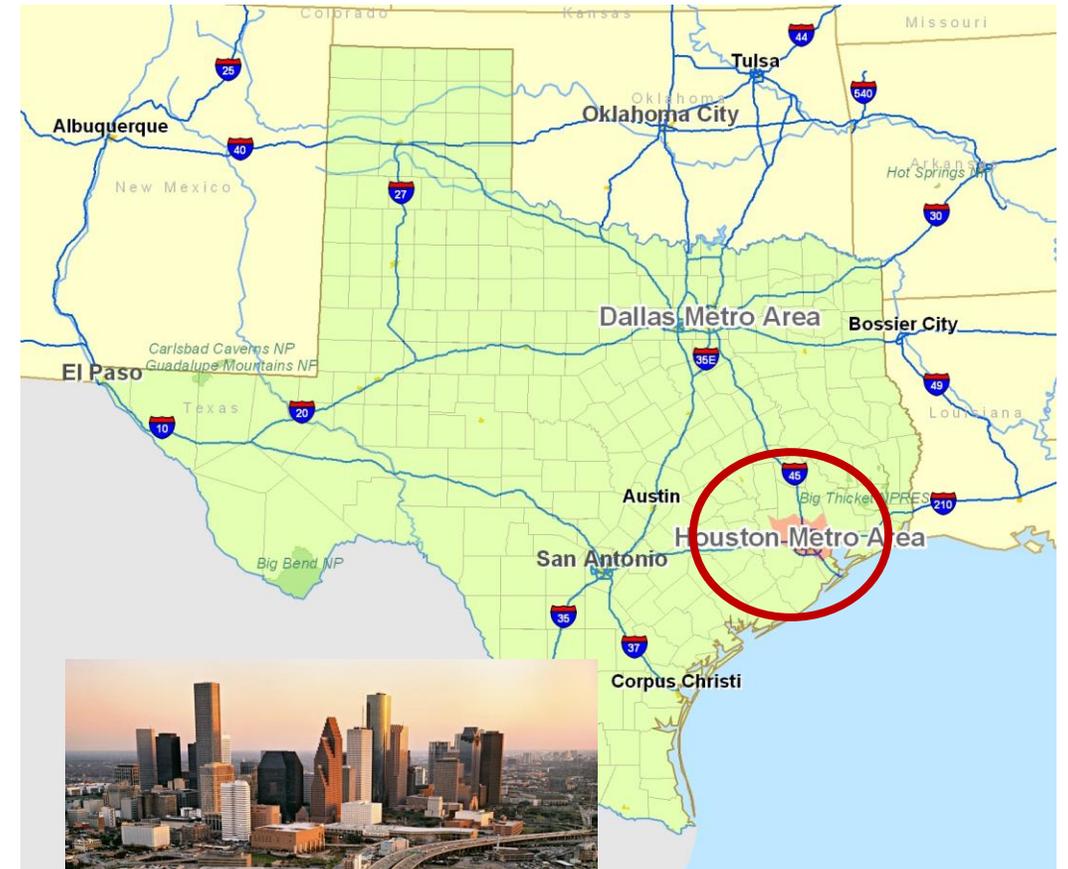
Public Health	Medicine
Focuses on populations	Focuses on the individual
Emphasizes prevention and health promotion for the whole community	Emphasizes diagnosis, treatment and care for the whole patient
Employs interventions aimed at the environment, human behavior, lifestyle and medical care	Employs provision of medical care
Stimulated by threats to the health of populations	Stimulated by needs of patients

"Public Health vs. Medicine," Harvey Fineburg, MD, PhD, Harvard University School of Public Health, 1999.



HCPH & Harris County

- HCPH serves as the county health department for Harris County (TX) with a staff of 600
- Third most populous county in the nation with estimated population of **4.34 million**
- Spread over 1,700+ square miles (size of Rhode Island)
- Geographically, politically, & demographically diverse



What is Ebola?

- Severe, often fatal, disease caused by a virus.
- Is **NOT** spread through the air, water or food
- Spread through **direct contact** with bodily fluids of someone sick with Ebola:
 - Blood
 - Semen
 - Vomit
 - Sweat
 - Stool
 - Saliva
 - Mucus
 - Tears
 - Urine
 - Breast Milk
- No specific medicine or vaccine
- Ebola is contagious once symptoms appear.



What are the Symptoms of Ebola?

WEST AFRICA
Ebola Outbreak

Early Symptoms:
Ebola can only be spread to others after symptoms begin. Symptoms can appear from 2 to 21 days after exposure.

- **Fever**
- **Stomach pain**
- **Headache**
- **Muscle pain**
- **Diarrhea**
- **Unexplained bleeding or bruising**
- **Vomiting**



Chronic Disease



Food Safety



Emergency Preparedness



Environmental Health



Infectious Disease



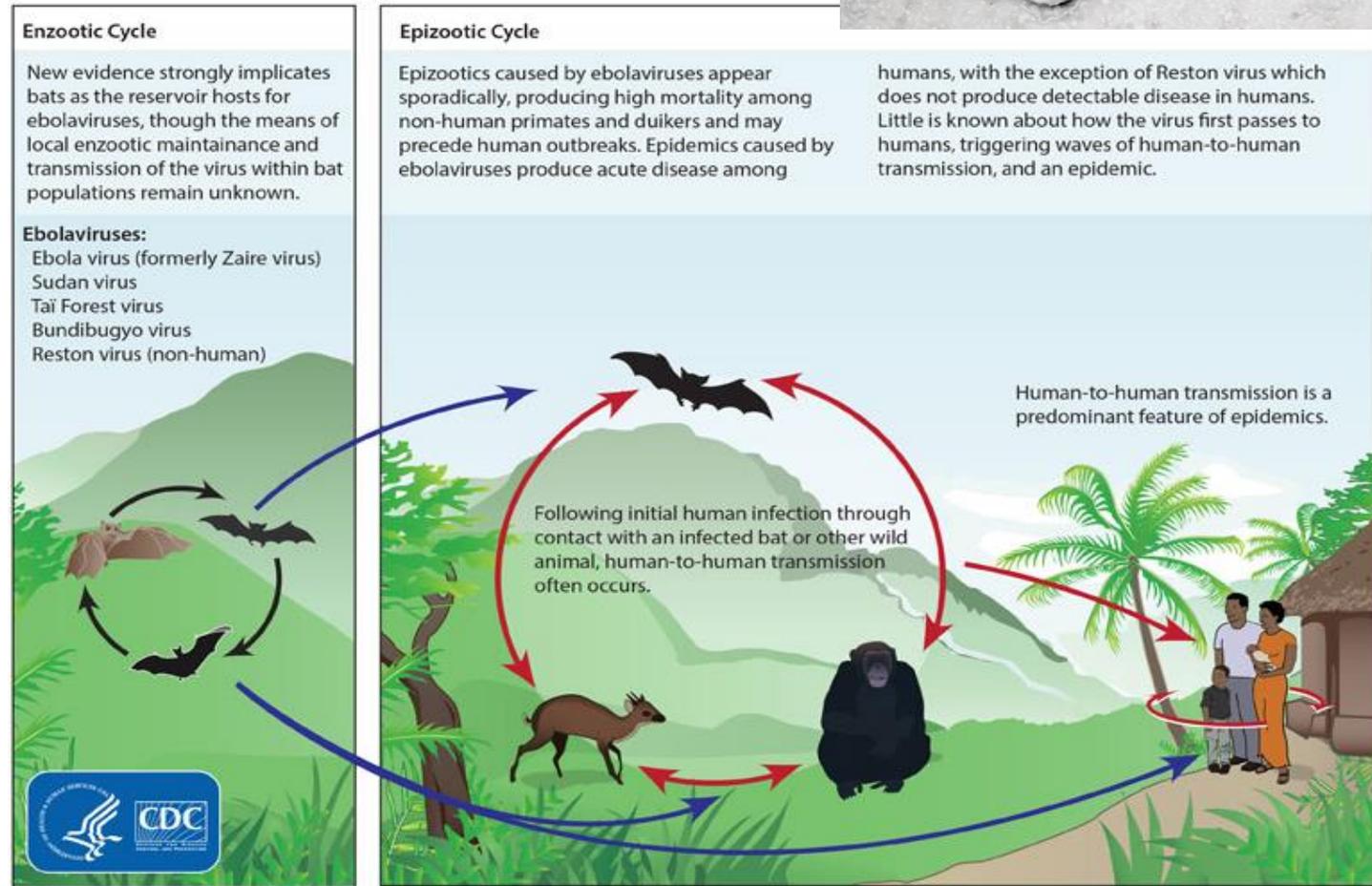
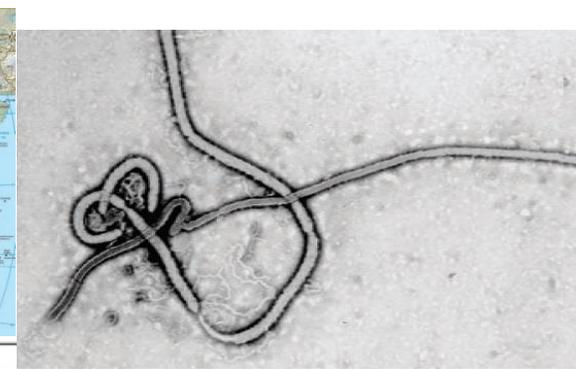
Injury



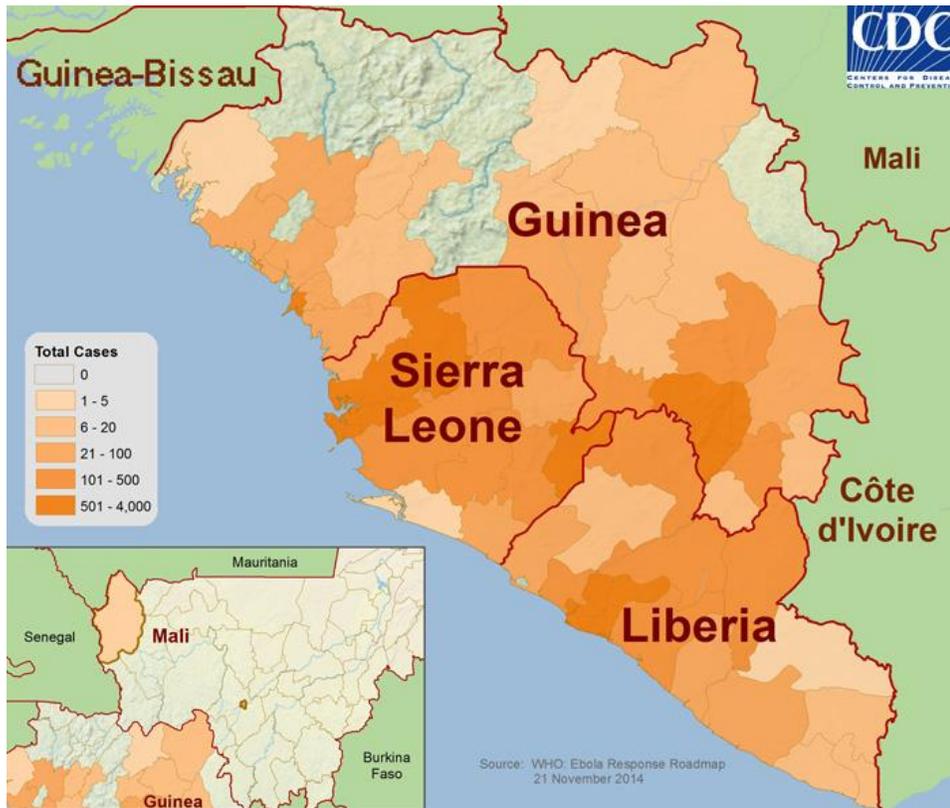
Social, Mental, and Emotional Wellbeing

Ebola: History

- First diagnosed in Africa in 1976 - Death rates as high as 80 to 90%
- Earlier outbreaks occurred in Africa, mostly in remote villages near tropical rainforests
 - ✓ wild animals spread Ebola to people
 - ✓ afterward, it was spread from person-to-person by direct contact with body fluids
- Other outbreaks in Africa: 1990s-2000s



2014 Ebola Outbreak, West Africa

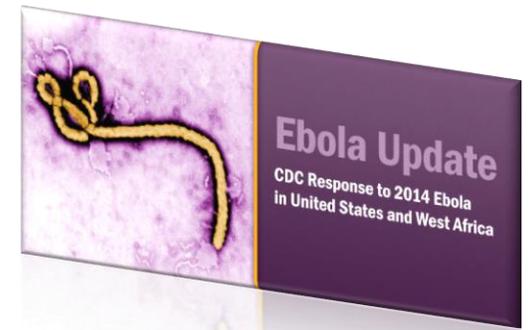


- Largest Ebola outbreak in history – (mainly in **Sierra Leone, Guinea, Liberia**)
- Current death rate – approximately 50%
- A small number of cases have been diagnosed in various countries outside West Africa
- WHO, CDC and other partners are responding to this rapidly evolving situation.
- [Click here](#) for the most current information

The latest map can be found on CDC's Ebola website:
<http://www.cdc.gov/vhf/ebola/resources/distribution-map-guinea-outbreak.html>



2014 Ebola History, United States (as of 11/6/2014)



- **September 30, 2014** - CDC confirmed the first case in the U.S. (#1)
- **October 11, 2014** - nurse caring for patient was confirmed with Ebola (#2)
- **October 15, 2014** - additional nurse caring for patient confirmed (#3)
- **October 23, 2014** – medical aid worker returning from Guinea confirmed (#4)
- **Throughout** – CDC and other public health officials are:
 - ✓ Conducting **“contact tracing”** (identifying persons in contact with patients)
 - ✓ Placing contacts in either **isolation** or **“symptoms watch”** for **21 days**
 - ✓ Providing health care staff with **guidance on infection control** practices



Ebola: Keeping Things in Perspective

Public Concern About Contracting Ebola Compared With H1N1/Swine Flu

Now, thinking about the Ebola virus that has been in the news, did you, personally, worry yesterday about getting the Ebola virus, or not?

Now, thinking about the H1N1 virus, also known as the swine flu virus, that has been in the news, did you, personally, worry yesterday about getting swine flu, or not?

	% Yes, worried	% No, did not worry	Number of Americans believed to have virus
EBOLA VIRUS			
2014 Oct 4-5	22	77	6
H1N1/SWINE FLU VIRUS			
2009 Apr 28	22	78	~14 million to ~34 million
2009 Apr 30	25	75	~14 million to ~34 million
2009 May 3	19	81	~14 million to ~34 million
2009 May 5	17	83	~14 million to ~34 million
2009 May 19	13	87	~14 million to ~34 million
2009 Jun 13-15	8	92	~14 million to ~34 million
2009 Aug 26	17	82	~14 million to ~34 million

Note: H1N1 data for "Number of Americans believed to have virus" provided by CDC

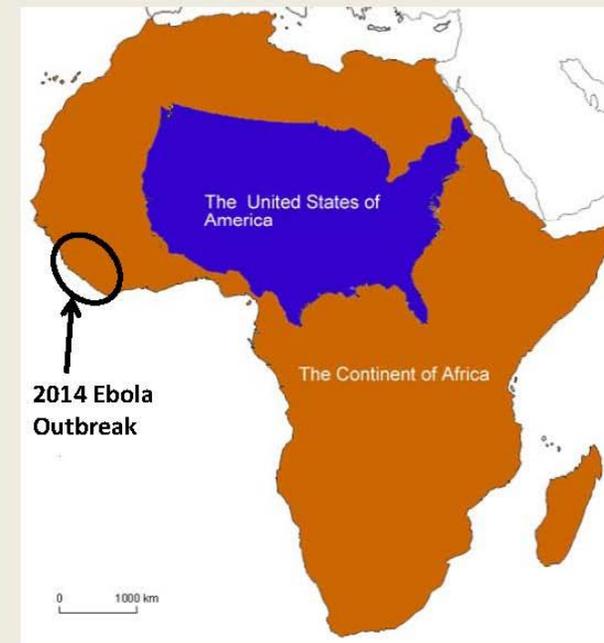
Source: Gallup poll – 10/21/14

Africa is the 2nd Largest Continent

Four times bigger than continental US

Current Ebola activity is focused in VERY SMALL PART of West Africa

Other areas of Africa do not pose an Ebola travel risk*



*An unrelated, small outbreak of Ebola has also occurred in the Democratic Republic of the Congo

Source: Colorado Department of Health

Ebola: Am I at Risk?

- Based on current situation, CDC's definition of a Person Under Investigation (PUI) includes:
 - ✓ visited **Guinea, Liberia, or Sierra Leone** within **3 weeks**;
 - ✓ have developed **fever or other symptoms**; and/or,
 - ✓ been in contact with someone **diagnosed with Ebola**.
- If above applies, we ask for people to contact their healthcare provider; if it does not apply, then **no risk**.
- **The average person is more likely to be exposed to the flu, measles, or another infectious disease rather than Ebola.**

EBOLA: Am I At Risk?



You can **ONLY** get Ebola from having **DIRECT CONTACT** with another sick person by:

- **Touching** a person who is sick with Ebola.
- **Touching** a person who died from Ebola.
- **Touching** body fluids (**blood, vomit, urine, feces, sweat, semen, saliva, breast milk, and tears**) or objects soiled with the **body fluids** of a person with Ebola.

Fever ($\geq 100.4^{\circ}\text{F}$ or 38°C) and/or Ebola-related symptoms:



SYMPTOMS: FEVER HEADACHE WEAKNESS VOMITING DIARRHEA STOMACH PAIN

If you have visited a country affected by the Ebola Outbreak, and develop a **FEVER** within **21 Days**, **Seek Medical Care Right Away.**

- **Alert** the doctor's office or emergency room about your symptoms before going.
- Tell your doctor if you had **direct contact** with a person who might have had Ebola.

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Harris County Public Health
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Ebola: Post-Arrival Monitoring for Travelers from Impacted Countries

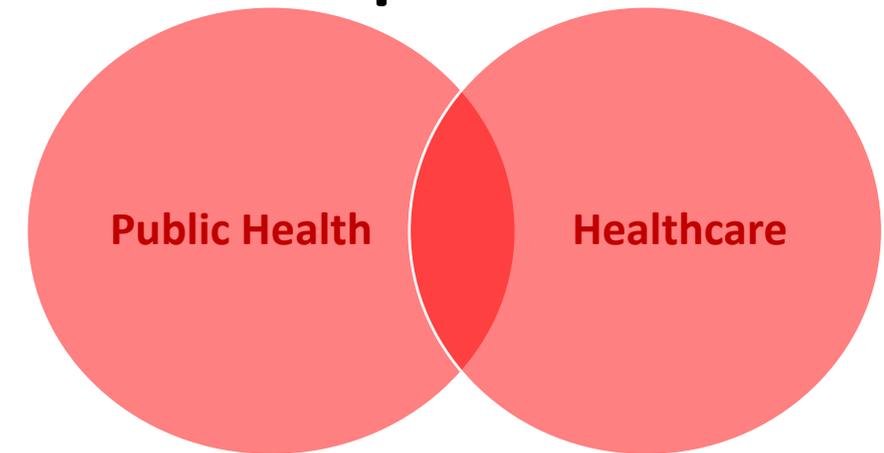
- Travelers arrive at 1 of 5 US airports
- U.S. Customs and Border Control
 - ✓ conducts entry screening
 - ✓ travelers receive a check and report Ebola kit
- CDC notifies local health department of travelers coming to their jurisdiction
- Local health department:
 - ✓ contacts travelers
 - ✓ conducts Ebola evaluation/screening
 - ✓ monitors travelers for symptoms for 3 weeks after



Ebola: The Combined Local Health Response

- **Two key “over-arching” principles**

1. Healthcare system is the “front line” for Ebola care
2. Public health supports the healthcare system



- **Public Health: Emphasis is on preventing spread of the disease**

- ✓ **Isolation** – must be early and complete
- ✓ **Contact Investigation** – must be thorough and comprehensive (e.g. healthcare, family, friends)
- ✓ **Infection Control** – must be applied accurately, carefully, and relentlessly (e.g. monitoring contacts for symptoms)



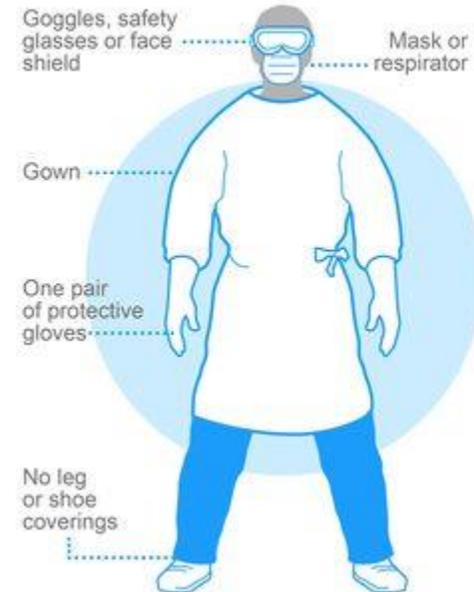
Infection Control - Personal Protective Equipment (PPE)

According to CDC guidance:

- **At a minimum all skin must covered with a fluid resistant barrier**
- At a minimum, when entering a patient's room **wear** -
 - ✓ Gloves
 - ✓ Gown (fluid resistant or impermeable)
 - ✓ Eye protection (goggles or face shield)
 - ✓ Facemask
- ***During care of a suspected or confirmed Ebola patient consider additional PPE, including:***
 - ✓ Double gloving
 - ✓ Disposable shoe covers
 - ✓ Leg coverings

CDC'S PROTECTIVE GEAR CHANGES FOR HEALTH WORKERS

PREVIOUS GUIDELINES



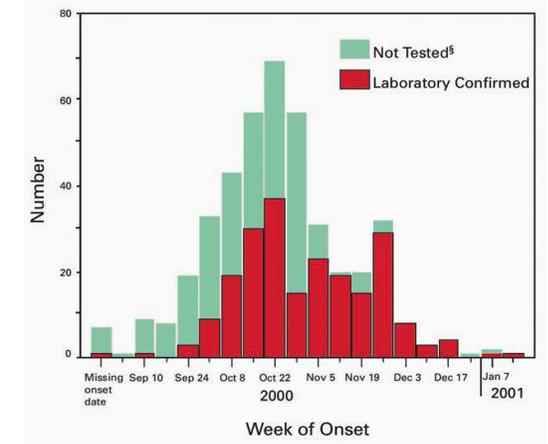
NEW GUIDELINES



USA TODAY

Ebola: Public Health Response

HCPH support activities:



- **Identify and monitor** travelers from affected countries with fever or symptoms
- **Guide** healthcare providers for specific patients in evaluation process
 - ✓ “Rule-in” other diseases / “Rule-out” Ebola
- **Coordinate** appropriate lab testing as part of evaluation for ill patients
- **Communicate** with healthcare community on areas such as use of personal protective equipment (**PPE**), isolation, coordination of care, etc.



Current HCPH Preparedness Activities – Internal

- **Stay informed:**
 - ✓ Establish an *HCPH Ebola Readiness Team*
 - ✓ Share information with team through regular daily “Tag-Ups”
- **Coordinate internal readiness activities:**
 - ✓ Participate in or develop systems to receive and share information
 - ✓ Review legal considerations
 - ✓ Establish/review contracts to ensure ability to respond
 - ✓ Support front-line HCPH departmental activities



Current HCPH Preparedness Activities - External

Work with external partners:

- Federal
- State
- Regional
- Local

Commissioners Court, OEM, law enforcement, cities within Harris County, (including city of Houston), Texas Medical Center, Harris County Medical Society and other partners



Ebola: HCPH Public Information Response

(Developed Ebola web page and outreach materials to be sent to stakeholders, partners and associations of affected countries etc.)

Your Community: Ebola - What You Need to Know

Quick Take-Aways

- The likelihood of an Ebola outbreak occurring in the U.S. remains extremely low, even considering the confirmation of cases that may be diagnosed here.
- The infection control and contact investigation practices used in the U.S. are very advanced and well configured to contain infectious diseases, including Ebola.
- The U.S. public health system has specific procedures in place to help identify and isolate persons who are sick with Ebola and to do the same for their contacts.
- And finally, we would like to remind everyone that they are more likely to become ill with flu, measles and other vaccine-preventable illnesses than Ebola.

What is Ebola and am I at risk?
Ebola is a severe and often fatal disease caused by a virus. A large outbreak is now occurring in West Africa but you can only get Ebola by being in direct contact with body fluids (blood, vomit, urine, stool, or sweat) of a person who is sick with Ebola. You cannot get Ebola through the air, food or water.

The risk of Ebola being spread in a school is extremely low. Coming into contact with people who do not have fever or other symptoms poses no risk to the public, even with recent travel to the affected countries in Africa.

Who should seek medical attention?
If you visited a country affected by the Ebola outbreak (Guinea, Liberia, Sierra Leone) and develop a fever within 21 days you should seek medical care right away. You should call your doctor's office or emergency room about your recent travel and any symptoms. Symptoms may include fever, headache, vomiting, diarrhea, or stomach pain.

What if an employee or co-worker has recently traveled to/from one of the affected countries?

- Supervisors should notify the Medical Director/Human Resources department even if the person has no current illness.
- Supervisors should make sure staff who have visited an Ebola-affected country in the past 21 days and have developed a fever or other symptoms have been told to:
 - call their healthcare provider so he/she will be expecting them and
 - seek medical care right away.

Where Can I Get More Information About Ebola?

- HCPHES has developed an Ebola page to assist our partners and stakeholders in remaining informed about issues relevant to Ebola (<http://www.hcpbes.org/response/Ebola.htm>).
- The Centers for Disease Control and Prevention has more information about Ebola, their prevention activities, and the outbreak in West Africa (<http://www.cdc.gov/efebola/>).
- American Psychological Association has published an online article on [Managing your fear about Ebola](http://www.apa.org/helpcenter/ebola-fear.aspx) (<http://www.apa.org/helpcenter/ebola-fear.aspx>).

Available 24/7: 713-439-6000 www.hcpbes.org

Businesses & Employers: Ebola - What You Need to Know

Quick Take-Aways

- The likelihood of a widespread Ebola outbreak occurring in the U.S. remains extremely low, even with the current confirmed cases.
- You can only become infected with Ebola if you have direct contact with someone who has the disease, they are showing symptoms and you've handled their bodily fluids.
- Even for people who have traveled to affected countries (Guinea, Liberia and Sierra Leone), if they are symptom free for 21 days, they don't have Ebola and are not contagious.

What is Ebola and are my other employees or customers at risk?
Ebola is a severe and often fatal disease caused by a virus. A large outbreak is now occurring in West African countries of Guinea, Liberia and Sierra Leone. There are a few confirmed cases in the U.S. You can only get Ebola by having direct contact with an infected person who is showing symptoms and you touched or handled their bodily fluids (vomit, urine, stool, semen, spit or sweat).

You cannot get Ebola through the air, water or food. Ebola symptoms include fever, headache, vomiting, diarrhea or stomach pain.

What if a co-worker or customer recently traveled to one of the affected countries?

- Supervisors should notify the Medical Director/Human Resources department even if the person isn't currently ill.
- Supervisors of employees who have visited an Ebola-affected country in the past 21 days and have developed a fever or other symptoms should immediately direct them to:
 - call their healthcare provider and describe travel and symptoms so he/she will be expecting them, and
 - seek medical care right away.
- Even if people have traveled to the affected countries, and they are symptom free for 21 days, they don't have Ebola and aren't contagious.

Where Can I Get More Information About Ebola?

- HCPHES has developed an Ebola page to assist our partners and stakeholders in remaining informed about issues relevant to Ebola (<http://www.hcpbes.org/response/Ebola.htm>).
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Educational Settings: Ebola - What You Need to Know

Quick Take-Aways

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- The infection control and contact investigation practices used in the U.S. are very advanced and well configured to contain infectious diseases, including Ebola.
- The U.S. public health system has specific procedures in place to help identify and isolate persons who are sick with Ebola and to do the same for their contacts.
- And finally, we would like to remind everyone that they are more likely to become ill with flu, measles and other vaccine-preventable illnesses than Ebola.

What is Ebola and am I at risk?
Ebola is a severe and often fatal disease caused by a virus. A large outbreak is now occurring in West Africa as you can only get Ebola by being in direct contact with body fluids (blood, vomit, urine, stool, or sweat) of a person who is sick with Ebola. You cannot get Ebola through the air, food or water.

The risk of Ebola in a school is extremely low. Coming into contact with people who do not have fever or other symptoms poses no risk to the public, even with recent travel to the affected countries in Africa.

Who should seek medical attention?
If you visited a country affected by the Ebola outbreak (Guinea, Liberia, Sierra Leone) and develop a fever within 21 days you should seek medical care right away. You should alert your doctor's office or emergency room about your recent travel and any symptoms. Symptoms may include fever, headache, vomiting, diarrhea, or stomach pain.

What if a student has recently traveled to/from one of the affected countries?

- Contact your local health department for guidance even if the student has no current illness.
- Ensure that students who have visited an Ebola-affected country in the past 21 days and have developed a fever or other symptoms have been told to:
 - call their healthcare provider so he/she will be expecting them and
 - seek medical care right away.

Where Can I Get More Information About Ebola?
When reviewing information about Ebola, please remember that only two people have ever developed Ebola while in the U.S. and that public risk to exposure to Ebola is very low.

- HCPHES has developed an Ebola page to assist our partners and stakeholders in remaining informed about issues relevant to Ebola (<http://www.hcpbes.org/response/Ebola.htm>).
- The Centers for Disease Control and Prevention has more information about Ebola, their prevention activities, and the outbreak in West Africa (<http://www.cdc.gov/efebola/>).
- Advice for Colleges, Universities, and Students about Ebola in West Africa (<http://www.cdc.gov/travel/page/advice-for-colleges-universities-and-students-about-ebola-in-west-africa>).

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Your Pets: Ebola - What You Need to Know

Quick Take-Aways

- There have been no confirmed cases of Ebola being found in dogs or cats in the U.S. or in West Africa, even though some pets of Ebola patients have been monitored.
- The likelihood of an Ebola outbreak occurring in the U.S. remains extremely low, therefore the risk of dogs or cats is also extremely low.
- The CDC requires that pets brought into the U.S. be healthy and vaccinated, and monkeys and African rodents are not permitted to be brought to the U.S. under any circumstances.
- And finally, we would like to remind everyone that pets should have up to date rabies vaccinations to keep them and the public healthy and safe.

What is the risk of Ebola to my dog or cat?

- The chances of a dog or cat being exposed to Ebola in the U.S. is extremely low. The only way to get Ebola is by being in direct contact with body fluids (blood, vomit, urine, stool or sweat) of a person who is sick with Ebola. You cannot get Ebola through the air, food or water.
- There is no evidence that a dog or cat can become ill with Ebola. There is no reason to get your dog or cat tested for Ebola and there is currently no Ebola vaccine for pets. At this time there have been no reports of a person getting Ebola from a dog or cat.

What about other animals and Ebola?

- West African fruit bats are considered to be carriers of Ebola. Bats in the U.S. are not known to carry Ebola so the risk is extremely low of an Ebola outbreak from bats occurring in the U.S. However, bats in the U.S. are known to carry rabies and other diseases so you should never attempt to touch a bat, living or dead.
- Healthy monkeys already in the U.S. without exposure to an infected Ebola person are not at risk for spreading Ebola. However, Monkeys are at risk for Ebola and should not be allowed to have contact with anyone who may have Ebola.

What should I do if my pet is exposed to someone who has Ebola?
If your pet has been exposed to someone with Ebola, immediately contact your veterinarian and your local public health department. Based on the specific situation public health officials and veterinarians will work together to evaluate your pet on a case by case basis.

Where Can I Get More Information About Ebola?

- HCPHES has developed an Ebola page to assist our partners and stakeholders in remaining informed about issues relevant to Ebola (<http://www.hcpbes.org/response/Ebola.htm>).
- The Centers for Disease Control and Prevention has more information about Ebola, their prevention activities, and the outbreak in West Africa, including information about pets (<http://www.cdc.gov/efebola/>).
- The American Veterinary Medical Association has answers to frequently asked questions about pets and Ebola (<http://www.avma.org/public/HealthPages/Ebola-virus-FAQ.aspx>).

Available 24/7: 713-439-6000 www.hcpbes.org

Healthcare Providers: Ebola - What You Need to Know

Quick Take-Aways

- The likelihood of an Ebola outbreak occurring in the U.S. remains extremely low, even considering the confirmation of cases that may be diagnosed here.
- The infection control and contact investigation practices used in the U.S. are very advanced and well configured to contain infectious diseases, including Ebola.
- The U.S. public health system has specific procedures in place to help identify and isolate persons who are sick with Ebola and to do the same for their contacts.
- And finally, we would like to remind everyone that they are more likely to become ill with flu, measles and other vaccine-preventable illnesses than Ebola.

Healthcare providers commonly evaluate for infectious or travel-related disease.
Whenever a reportable condition is suspected, providers must contact their local health department for guidance and assistance. Public health is an important partner with the medical community and can provide information to help coordinate careful, safe and thorough patient evaluation.

Travel-related conditions with fever may include a number of diseases.
Consider Ebola if the patient traveled to Guinea, Liberia or Sierra Leone in the last 21 days and has fever, severe headache, muscle pain, weakness, diarrhea, vomiting, abdominal pain, or unexplained hemorrhage.

As you know, clinical evaluation (including appropriate laboratory testing) ultimately determines a final diagnosis. The most likely presentations of travel-related fever in patients are from malaria or other tropical diseases, not Ebola.

It is important for healthcare providers to remain vigilant and contact public health immediately whenever they are considering a possible Ebola diagnosis, even if the final diagnosis turns out to be a more common tropical disease.

As you know, clinical evaluation (including appropriate laboratory testing) ultimately determines a final diagnosis. The most likely presentations of travel-related fever in patients are from malaria or other tropical diseases, not Ebola.

It is important to remember that even if a person is diagnosed with Ebola in a community, the community at-large would not be at risk. Since Ebola is spread by direct contact with a person diagnosed with Ebola or the bodily fluids of a person diagnosed with Ebola, the risk for further transmission is limited to those in direct contact and not to the community at large.

Additional Information About Ebola
When reviewing information about Ebola, please remember that only two people have ever developed Ebola while in the U.S. and that public risk to exposure to Ebola is very low.

- HCPHES has developed an Ebola page to assist our partners and stakeholders in remaining informed about issues relevant to Ebola (<http://www.hcpbes.org/response/Ebola.htm>).
- The Centers for Disease Control and Prevention has more information about Ebola, their prevention activities, and the outbreak in West Africa (<http://www.cdc.gov/efebola/>).

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Ebola: HCPH Public Information Response *(continued)*

(Developed Ebola web page and outreach materials to be sent to stakeholders, partners and associations of affected countries etc.)

EBOLA: Am I At Risk?



You can **ONLY** get Ebola from having **DIRECT CONTACT** with another sick person by:

- **Touching** a person who is sick with Ebola.
- **Touching** a person who died from Ebola.
- **Touching** body fluids (**blood, vomit, urine, feces, sweat**) or objects soiled with the **body fluids** of a person with Ebola

Fever ($\geq 100.4^{\circ}\text{F}$ or 38°C) and/or Ebola-related symptoms:



SYMPTOMS: FEVER HEADACHE WEAKNESS VOMITING DIARRHEA STOMACH PAIN

If you have visited a country affected by the Ebola Outbreak, and develop a **FEVER** within **21 Days**, **Seek Medical Care Right Away.**

- **Alert** the doctor's office or emergency room about your symptoms before going.
- Tell your doctor if you had **direct contact** with a person who might have had Ebola.

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Simple Ebola Assessment Tool

Has the patient had fever (subjective or $\geq 100.4^{\circ}\text{F}$ or 38°C) and/or ebola-related symptoms: severe headache, muscle pain, weakness, diarrhea, vomiting, abdominal pain, or unexplained hemorrhage (bleeding or bruising)?

YES NO

Has the patient traveled to Guinea, Liberia or Sierra Leone in the **last 21 days?**



YES NO

Immediately Isolate the patient and call your local health department.

Continue medical assessment. Ebola precautions are not recommended.

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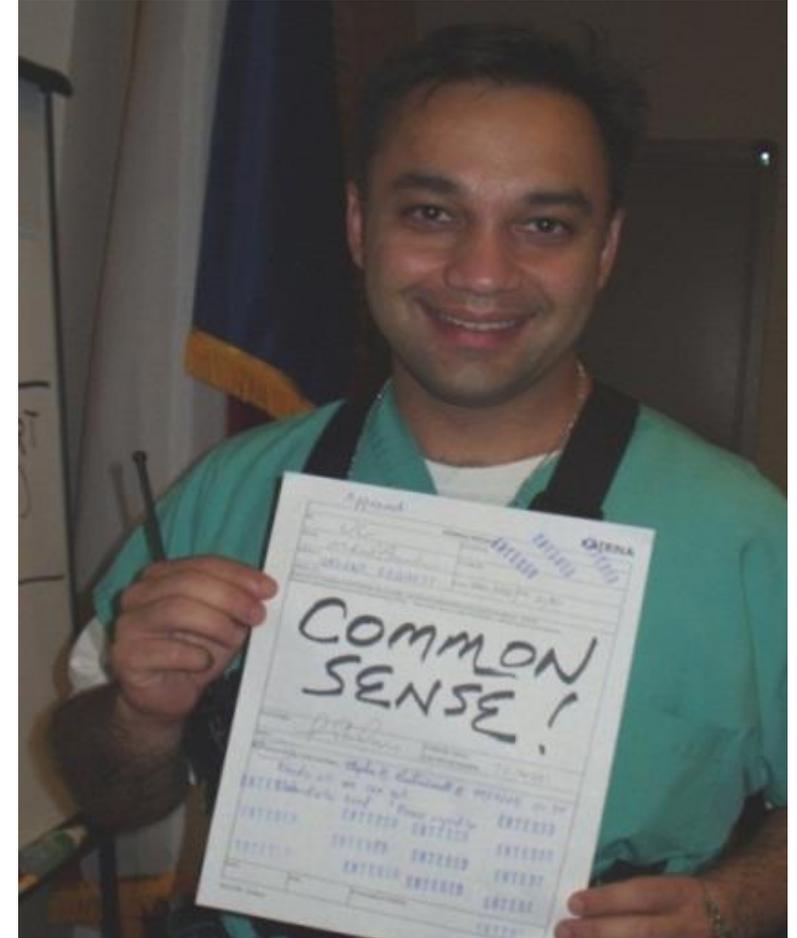


Some Things YOU Can Do to Help:

- **Partner** with your local health department to learn about their activities related to Ebola;
- **Remember** the key relationship involving elected leadership, public health, emergency management, and the community;
- **Monitor** our web site (www.hcphtx.org) and CDC (www.cdc.gov) - evolving situation and things change rapidly;
- **Share** CDC and/or your local health department's public health messages and outreach materials with your family, friends, and co-workers; and,
- **Provide** informed, calming messages of compassion and support.



The role of public health just makes *“common sense”*



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