



Wisconsin State Laboratory of Hygiene

UNIVERSITY OF WISCONSIN-MADISON



"Improving the Culture of Laboratory Biosafety"

April 30, 2015

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Objectives

- Explain why there is a focus on improving the culture of laboratory biosafety and biosecurity.
- Discuss the Wisconsin State Laboratory of Hygiene 3 year plan for WCLN laboratories.
- Summarize the outcomes/benchmarks of the 3 year plan.



Why Are We Talking About Biosafety Again?



MOHAMMED ELISHAHY/ANADOLU AGENCY/GETTY IMAGES



Headlines!



It's 10 o'Clock -- Do You Know Where Your Bubonic Plague Is?

Spilled smallpox, missing SARS, and rogue scientists with mutant H1N1. If you're not scared, you should be.

BY LAURIE GARRETT

Anthrax scare reveals more CDC lab safety problems

By Associated Press
July 11, 2014

After Lapses, C.D.C. Admits a Lax Culture at Labs

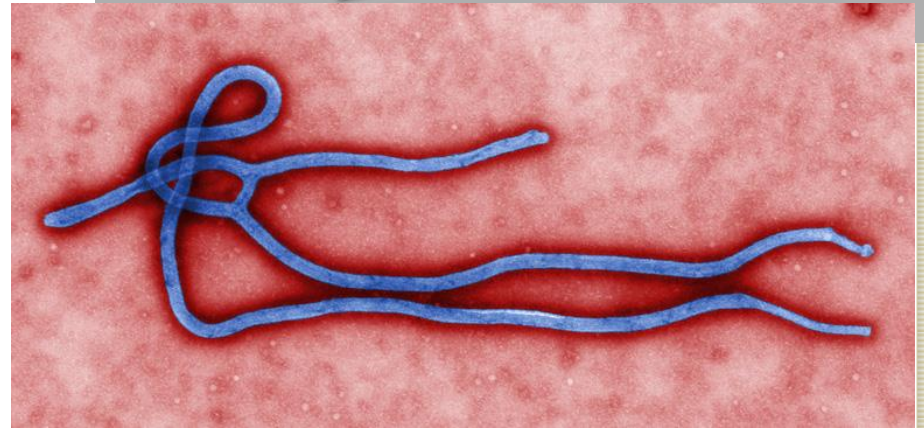
By RICHARD FAUSSET and DONALD G. MCNEAL Jr.,
JULY 13, 2014

Smallpox find was among hundreds of other long-lost vials, FDA says
By LAUREN RAAB, July 16, 2014

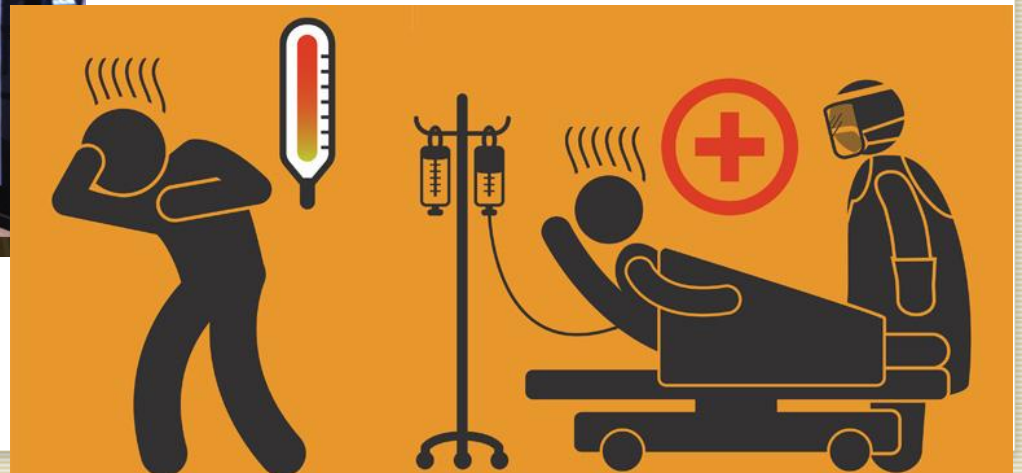
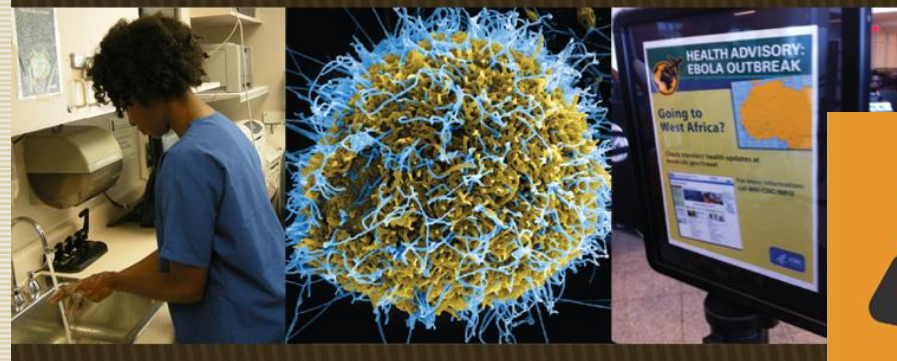
Frieden Testifies At Hearing On CDC Lab Safety Lapses

CBS Evening News 7/16/14

EBOLA!

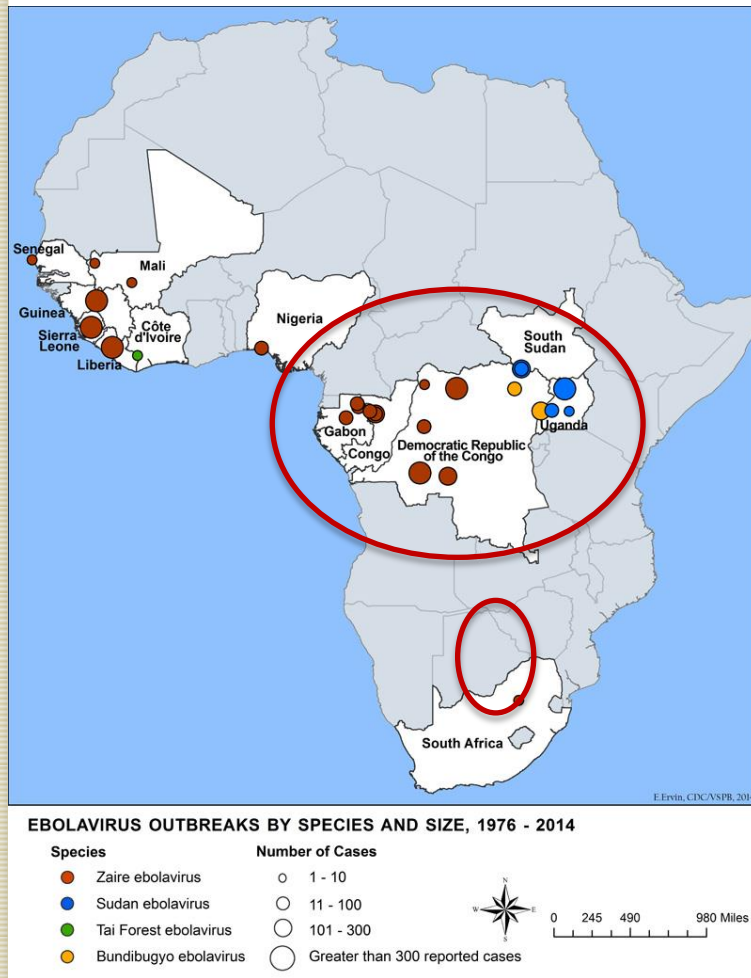


What You Need to Know about Ebola





Cases of Ebola Virus Disease in Africa (1976 – 2014)



(<http://www.cdc.gov/vhf/ebola/outbreaks/history/distribution-map.html>)

Country	Town	Cases	Deaths	Species	Year
Dem. Rep. of Congo	multiple	66	49	Zaire ebolavirus	2014
M	multiple	22495	8981	Zaire ebolavirus	2014
Uganda	Luwero District	6*	3*	Sudan ebolavirus	2012
Dem. Rep. of Congo	Isiro Health Zone	36*	13*	Bundibugyo ebolavirus	2012
Uganda	Kibaale District	11*	4*	Sudan ebolavirus	2012
Uganda	Luwero District	1	1	Sudan ebolavirus	2011
Dem. Rep. of Congo	Luebo	32	15	Zaire ebolavirus	2008
Uganda	Bundibugyo	149	37	Bundibugyo ebolavirus	2007
Dem. Rep. of Congo	Luebo	264	187	Zaire ebolavirus	2007
South Sudan	Yambio	17	7	Zaire ebolavirus	2004
Republic of Congo	Mbomo	35	29	Zaire ebolavirus	2003
Republic of Congo	Mbomo	143	128	Zaire ebolavirus	2002
Republic of Congo	Not specified	57	43	Zaire ebolavirus	2001
Gabon	Libreville	65	53	Zaire ebolavirus	2001
Uganda	Gulu	425	224	Sudan ebolavirus	2000
South Africa	Johannesburg	2	1	Zaire ebolavirus	1996
Gabon	Booue	60	45	Zaire ebolavirus	1996
Gabon	Mayibout	37	21	Zaire ebolavirus	1996
Dem. Rep. of Congo	Kikwit	315	250	Zaire ebolavirus	1995
Côte d'Ivoire (Ivory Coast)	Tai Forest	1	0	Tai Forest ebolavirus	1994
Gabon	Mekouka	52	31	Zaire ebolavirus	1994
South Sudan	Nzara	34	22	Sudan ebolavirus	1979
Dem. Rep. of Congo	Tandala	1	1	Zaire ebolavirus	1977
South Sudan	Nzara	284	151	Sudan ebolavirus	1976
Dem. Rep. of Congo	Yambuku	318	280	Zaire ebolavirus	1976

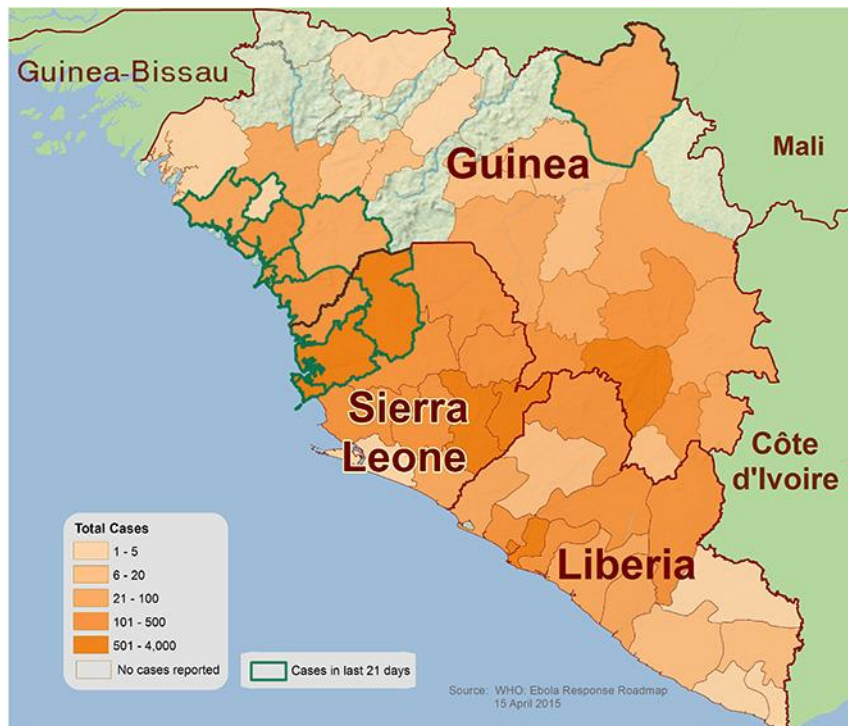
*Numbers reflect laboratory confirmed cases only.

Information for Specific Groups

- Travelers(<http://www.cdc.gov/vhf/ebola/travelers/index.html>)

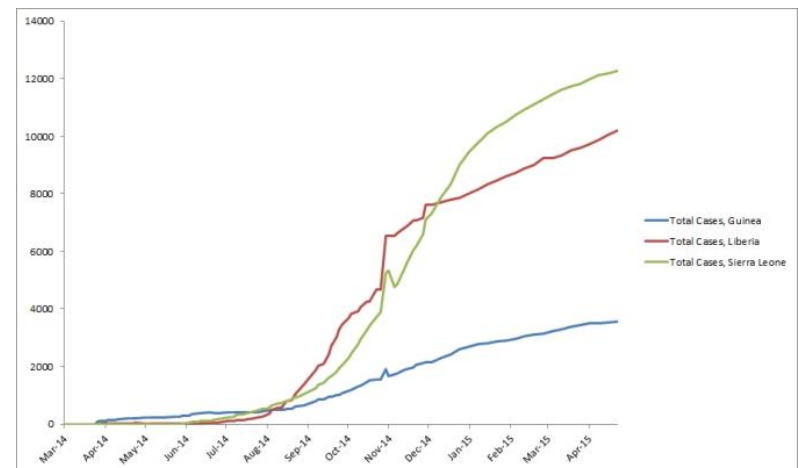


2014-15 Ebola Outbreak in West Africa (*As of 4/23/15*)



Countries with Widespread Transmission

Country	Total Cases (Suspected, Probable, and Confirmed)	Laboratory- Confirmed Cases	Total Deaths
Guinea	3568	3144	2362
Liberia*	10212	3151	4573
Sierra Leone	12294	8581	3885
Total	26074	14876	10820



<http://www.cdc.gov/vhf/ebola/about.html>

Why should we be concerned about emerging diseases occurring abroad?



image from opentights.org

H3N2v
H5N1

Ebola

MERS-Coronavirus

EVD Cases (United States)



- EVD has been diagnosed in the United States in four people, one (the index patient) who traveled to Dallas, Texas from Liberia, two healthcare workers who cared for the index patient, and one medical aid worker who traveled to New York City from Guinea
 - **Index patient** – Symptoms developed on September 24, 2014 approximately four days after arrival, sought medical care at Texas Health Presbyterian Hospital of Dallas on September 26, was admitted to hospital on September 28, testing confirmed EVD on **September 30**, patient died October 8.
 - **TX Healthcare Worker, Case 2** – Cared for index patient, was self-monitoring and presented to hospital reporting low-grade fever, diagnosed with EVD on **October 10**, recovered and released from NIH Clinical Center October 24.
 - **TX Healthcare Worker, Case 3** – Cared for index patient, was self-monitoring and reported low-grade fever, diagnosed with EVD on **October 15**, recovered and released from Emory University Hospital in Atlanta October 28.
 - **NY Medical Aid Worker, Case 4** – Worked with Ebola patients in Guinea, was self-monitoring and reported fever, diagnosed with EVD on **October 24**, recovered and released from Bellevue Hospital in New York City November 11.

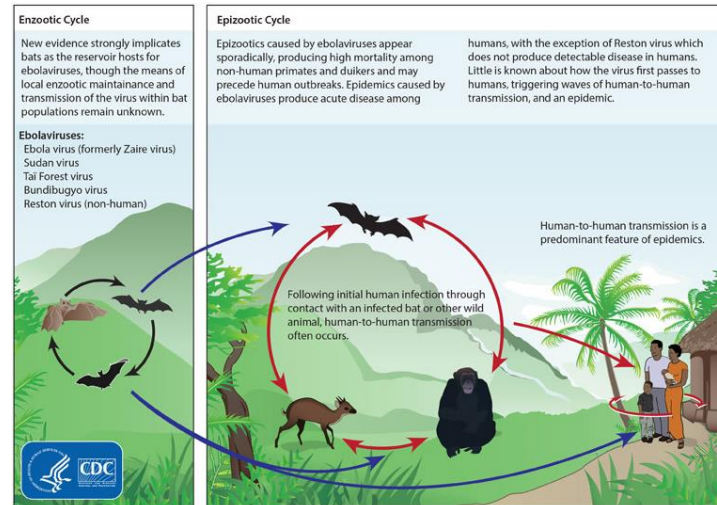
Information on U.S. EVD cases available at <http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/united-states-imported-case.html>.



Transmission

In nature

- Fruit bats likely reservoir
- Bush meat



In humans

- Direct contact with blood and body fluids
 - Traditional burial preparation and mourner contact with the body
 - Skin of patients highly infected
 - Parenteral inoculation(via sharps)
 - Broken skin and mucous membrane contact
- Contact with environments contaminated with body fluids



Ebola: Impacts in the Healthcare Setting



CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People™

SEARCH

CDC A-Z INDEX

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Ebola (Ebola Virus Disease)

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Non-U.S. Healthcare Settings +

Communication Resources +

U.S. Healthcare Workers and Settings

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Language: English



PREPARING FOR EBOLA - A TIERED APPROACH

EMERGENCY SERVICES

PERSONAL PROTECTIVE EQUIPMENT (PPE)

HOSPITALS

EVALUATING PATIENTS

OUTPATIENT AND AMBULATORY CARE SETTINGS

CLEANING AND DISINFECTING HEALTHCARE ENVIRONMENTS

LABORATORIES

More From CDC

- Interim U.S. Guidance for Monitoring and Movement of Persons with Potential Ebola Virus Exposure
- Epidemiologic Risk Factors to Consider when Evaluating a Person for Exposure to Ebola Virus
- Influenza Vaccination Recommendations for People Being Actively Monitored for Potential Ebola Virus Exposure
- Top 10 Ebola Response Planning Tips: Ebola Readiness Self-Assessment for State and Local Public Health Officials
- Ebola 101 for Healthcare Professionals [PPT - 33 pages]
- Sierra Leone Trial to Introduce a Vaccine against Ebola (STRIVE)

International (Non U.S.) Settings

- Breastfeeding
- Hand Hygiene
- Risk of Transmission
- Training for West Africa

More >

Non CDC Resources

- Emory Healthcare @
- Nebraska Medical Center @
- World Health Organization (WHO) @



Find in page



Highlight All

Match Case



Ebola Planning Continues...



Ebola (Ebola Virus Disease)

U.S. Healthcare Workers and Settings

Preparing for Ebola - A Tiered Approach

Emergency Services

Personal Protective Equipment (PPE)

Hospitals

Outpatient and Ambulatory Care Settings

Laboratories

Cleaning and Disinfecting Healthcare Environments

More From CDC

International (Non U.S.) Settings

Non CDC Resources

Ebola Virus Disease (Ebola)
Algorithm for Evaluation of the Returned Traveler

FEVER (subjective or $\geq 100.4^{\circ}\text{F}$ or 38.0°C) or compatible Ebola symptoms* in a patient who has resided in or traveled to a country with wide-spread Ebola transmission** in the 21 days before illness onset
* headache, weakness, muscle pain, vomiting, diarrhea, abdominal pain, or hemorrhage

NO
Report asymptomatic patients with high- or low-risk exposures (see below) in the past 21 days to the health department

YES

1. Isolate patient in single room with a private bathroom and with the door to hallway closed
2. Implement standard, contact, and droplet precautions
3. Notify the hospital infection control program and other appropriate staff
4. Evaluate for any risk exposures for Ebola
5. IMMEDIATELY report to the health department

HIGH-RISK EXPOSURE
Percutaneous (e.g., needle stick) or mucous membrane contact with blood or body fluids from an Ebola patient
OR
Direct skin contact with, or exposure to blood or body fluids of an Ebola patient
OR
Processing blood or body fluids from an Ebola patient without appropriate personal protective equipment (PPE) or biosafety precautions
OR
Direct contact with a dead body (including during funeral rites) in a country with wide-spread Ebola transmission** without appropriate PPE

LOW-RISK EXPOSURE
Household members of an Ebola patient and others who had brief direct contact (e.g., shaking hands) with an Ebola patient without appropriate PPE
OR
Healthcare personnel in facilities with confirmed or probable Ebola patients who have been in the care area for a prolonged period of time while not wearing recommended PPE

NO KNOWN EXPOSURE
Residence in or travel to a country with wide-spread Ebola transmission** without HIGH- or LOW-risk exposure

Review Case with Health Department Including:

- Severity of illness
- Laboratory findings (e.g., platelet counts)
- Alternative diagnoses

Ebola suspected **Ebola not suspected**

TESTING IS INDICATED

The health department will arrange specimen transport and testing at a Public Health Laboratory and CDC

The health department, in consultation with CDC, will provide guidance to the hospital on all aspects of patient care and management

TESTING IS NOT INDICATED

If patient requires in-hospital management:

- Decisions regarding infection control precautions should be based on the patient's clinical situation and in consultation with hospital infection control and the health department
- If patient's symptoms progress or change, re-assess need for testing with the health department

If patient does not require in-hospital management:

- Alert the health department before discharge to arrange appropriate discharge instructions and to determine if the patient should self-monitor for illness
- Self-monitoring includes taking temperature twice a day for 21 days after their last exposure to an Ebola patient

**U.S. Department of Health and Human Services
Centers for Disease Control and Prevention**

** CDC Website to check current countries with wide-spread transmission:
<http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/case-counts.html>
This algorithm is used to assist healthcare providers identify and manage patients who may have Ebola. The clinical criteria used in this algorithm is single-symptom consistent with Ebola (other than the CDC case definition of a Person Under Investigation (PUI) for Ebola, which is more specific. Public health consultation alone does not imply that Ebola testing is necessary. More information on the PUI case definition: <http://www.cdc.gov/vhf/ebola/hcp/case-definition.html>

<http://www.cdc.gov/vhf/ebola/>



WI DHS

Key Elements of Planning

General Information	▼
Wisconsin DHS is hosting regularly scheduled webcasts for partners to provide information regarding important Ebola preparedness topics, in addition to providing online resources. Archived and upcoming webcasts can be accessed at the provided in the Webcast tab.	
<ul style="list-style-type: none">■ CDC National Calls ?■ CDC Ebola 101 ?■ CDC Pets and Ebola ?■ DHS Ebola and Pets Algorithm	
Preparedness	^
Screening	^
Monitoring	^
Transport of Patients	^
Hospital Categories	^
Personal Protective Equipment	^
Collection and Testing of Specimens	^
Decontamination	^
Waste	^
Human Remains	^
Ebola Traveler Notification	^
DHS Contact Information	^
DHS Partner Webcasts	^
Wisconsin's Ebola Preparedness Updates	^

Last Revised: January 7, 2015



Ebola Hospital Categorization

Wisconsin Department of Health Services Division of Public Health

CATEGORY ONE (TREATMENT) HOSPITALS

- *Category One Hospitals* are pre-identified facilities prepared to care for a *confirmed* Ebola patient.
- In Wisconsin, these facilities are the University of Wisconsin Hospital and the American Family Children's Hospital, the Medical College of Wisconsin and Froedtert Hospital, and Children's Hospital of Wisconsin.

CATEGORY TWO (ASSESSMENT) HOSPITALS

- *Category Two Hospitals* are those facilities that can care for a *potential* Ebola case for up to 96 hours while confirmatory testing takes place or transportation arranged.
- These hospitals should focus on the following areas while preparing:
 - **Transportation and Isolation:** Points of facility entry for ambulances or ambulatory patients, transportation routes within the hospital, and a private room should be pre-identified, along with an area for donning and doffing PPE.
 - **Evaluation and Treatment:** A patient care team should be pre-selected and infectious disease specialists should be available for immediate consultation (phone consultation is acceptable).
 - **Laboratory Testing:** Protocols should be in place to safely collect specimens – both for testing at the hospital and for testing at the state public health laboratory and/or CDC. Procedures should be in place to collect and ship specimens for Ebola testing with the assistance of DHS. Facilities should be able to safely collect blood specimens in 4 ml plastic EDTA tubes for Ebola testing. Facilities should have the materials and certified staff to package and ship blood specimens as Suspect Category A Infectious Substances.
 - **Healthcare Worker Protection and Environmental Controls:** All members of the patient care team should have adequate supplies of PPE until Ebola testing can be performed. Team members should be properly trained in donning and doffing of PPE. Protocols and supplies should be available for the proper cleaning and disinfection of the patient room and medical equipment. Facilities should be prepared to properly package and store and potentially contaminated waste in a secure area in the event the patient tests positive for Ebola.
 - For more complete guidance, please see <http://www.cdc.gov/vhf/ebola/hcp/preparing-ebola-assessment-hospitals.html>

CATEGORY THREE (FRONTLINE) HOSPITALS

- *Category Three Hospitals* can screen, identify, and isolate a patient with risk factors and symptoms of Ebola, but are unable to care for suspect or confirmed Ebola patients.
- These facilities should have a transfer plan in place with a *Category Two* facility in the event that they identify a suspect patient.
- If these facilities identify a suspect case of Ebola, they should immediately call the 24/7 provider hotline at the Wisconsin Department of Health Services.

<https://www.dhs.wisconsin.gov/disease/ebola-virus-disease-partnerinfo.htm>

Ebola: Impacts in the Laboratory



Ebola (Ebola Virus Disease)

Ebola (Ebola Virus Disease)

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Specimen Collection, Transport, and Submission

Packing and Shipping Specimens

Managing and Testing Routine Clinical Specimens

Select Agent Regulations

Non-CDC Resources

CDC > Ebola (Ebola Virus Disease) > U.S. Healthcare Workers and Settings

Laboratories

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Managing and Testing Routine Clinical Specimens



[Managing and Testing Routine Clinical Specimens](#)

Specimen Collection, Transport, and Submission



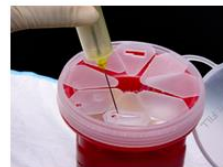
[Specimen Collection, Transport, and Submission](#)

Packing and Shipping Specimens



[Packing and Shipping Specimens](#)

Waste Management



[Waste Management](#)

Language: English

U.S. Preparedness and Procedures

- Preparing for Ebola - A Tiered Approach
- Personal Protective Equipment (PPE)
- Evaluating Patients
- Cleaning and Disinfecting

U.S. Settings

- Emergency Services
- Hospitals
- Outpatient Settings
- Information for Laboratories

International (Non U.S.) Settings

- Breastfeeding
- Hand Hygiene
- Risk of Transmission
- Training for West Africa

More >

Testing for Ebola in the Clinical Lab

Upping the ante



The screenshot shows the FDA's website for Medical Devices, specifically the Emergency Use Authorizations section. The page is titled "Emergency Use Authorizations" and lists various medical devices that have been authorized for emergency use. The list includes:

- EZ1 Real-time RT-PCR Assay (DoD) - October 10, 2014
- CDC Ebola Virus NP Real-time RT-PCR Assay (CDC) - March 2, 2015
- CDC Ebola Virus VP40 Real-time RT-PCR Assay (CDC) - March 2, 2015
- FilmArray Biothreat-E Test (BioFire Defense, LLC) - October 25, 2014
- FilmArray NGDS BT-E Assay (BioFire Defense, LLC) - March 2, 2015
- RealStar® Ebolavirus RT-PCR Kit 1.0 (Altona Diagnostics GmbH) - November 26, 2014
- LightMix® Ebola Zaire rRT-PCR Test (Roche Molecular Systems, Inc.) - December 23, 2014
- ReEBOV™ Antigen Rapid Test (Corgenix Inc.) - March 16, 2015
- Xpert® Ebola Assay (Cepheid) - March 23, 2015

<http://www.fda.gov/medicaldevices/safety/emergencysituations/ucm161496.htm>



Ebola Virus Information for Lab Professionals

(NOTE: Updated January 30, 2015)

Inquiries regarding suspect Ebola virus cases should be directed to the Wisconsin Division of Public Health at 608-267-9003 during office hours (M-F, 7:45 a.m. – 4:30 p.m.) and 608-258-0099 after hours and weekends.

The Wisconsin State Laboratory of Hygiene (WSLH) can perform the RT-PCR test for Ebola virus. This is the same test being performed by more than 40 state and local public health laboratories and the CDC.

Testing for Ebola virus infection **MUST** be approved by the Wisconsin Division of Public Health and the CDC. Please contact DPH at 608-267-9003 during office hours (M-F, 7:45 a.m. – 4:30 p.m.) and 608-258-0099 after hours and weekends.

DPH will work with healthcare facilities to have specimens delivered to the WSLH. Specimens **MUST** be accompanied by the following forms:

- **CDC submission form CDC 50.34** <http://www.cdc.gov/laboratory/specimen-submission/form.html> (NOTE: This form needs to be filled out on-line. Once form is completed, click the printer icon on the PDF toolbar at the top. A barcode will be automatically generated on the form. You can then save the form and print it off to accompany the specimens.)
- **CDC Viral Special Pathogens Branch submission form** www.cdc.gov/ncezid/dhcpp/vspb/pdf/specimen-submission.pdf
- **WSLH requisition form CDD-A** (NOTE: Hospital/clinical laboratories should already have this form.)
- **Chain of custody form**

For more information, please read the 11/24/2014 DPH memo "WSLH is Now Approved to Test for Ebola Virus" (PDF).

Important guidance from Wisconsin Division of Public Health, CDC:

Wisconsin Division of Public Health –

WSLH is Now Approved to Test for Ebola Virus – Issued November 24, 2014



<http://www.slh.wisc.edu/clinical/diseases/ebola-virus-information-for-lab-professionals/>

Emerging Diseases Beyond Ebola...



- Ebola virus
- EV-D68
- MERS CoV
- Dengue fever
- Chikungunya
- ...and let's not forget Influenza
 - H5N1, H7N9, HPAI





...and don't forget about other more common Lab Acquired

TABLE 1 Comparison of 10 most common symptomatic LAIs over time

1930–1978 ^a			1979–2004		
Agent ^b	No. of cases	No. of deaths	Agent	No. of cases	No. of deaths
<i>Brucella</i> spp.	426	5	<i>Mycobacterium tuberculosis</i>	199	0
<i>Coxiella burnetii</i>	280	1	Arboviruses ^c	192	3
Hepatitis B virus	268	3	<i>Coxiella burnetii</i>	177	1
<i>Salmonella typhi</i>	258	20	Hantavirus	155	1
<i>Francisella tularensis</i>	225	2	<i>Brucella</i> spp.	143	4 ^d
<i>Mycobacterium tuberculosis</i>	194	4	Hepatitis B virus	82	1
<i>Blastomyces dermatitidis</i>	162	0	<i>Shigella</i> spp.	66	0
Venezuelan equine encephalitis virus	146	1	<i>Salmonella</i> spp.	64	2 ^e
<i>Chlamydia psittaci</i>	116	10	Hepatitis C (formerly non-A, non-B)	32	1
<i>Coccidioides immitis</i>	93	2	<i>Neisseria meningitidis</i>	31	11
Totals	2,168	48		1,141	24

^aAdapted from Pike, 1978.

^bNot included are 113 cases of hemorrhagic fever contracted from wild rodents in one laboratory in Russia in 1962 (Kulagin, 1962).

^cTypical arboviruses and orbiviruses, rhabdoviruses, and arenaviruses that are associated with arthropods or have zoonotic cycles (SALS, 1980).

^dAll deaths were aborted fetuses.

^eOne death was associated with a secondary exposure case.

Biological Safety *Principles and Practices* 4th Edition, ASM 2006



APHL Position Statement: Improving Biosafety in Our Nation's Laboratories

"The Association of Public Health Laboratories (APHL) supports the enhancement of biosafety practices in the nation's laboratories through the development of consensus standards, improved reporting of exposure events, identification of true risk and best practices, and by implementing routine risk assessments and standardized training"

-April 2015-

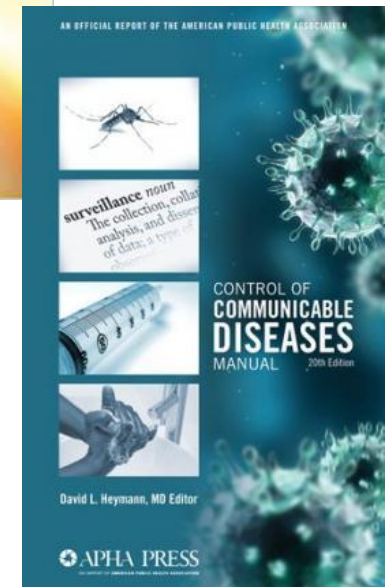
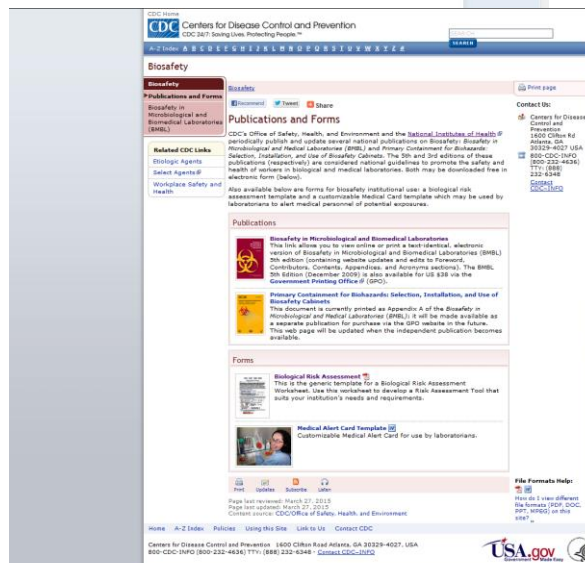
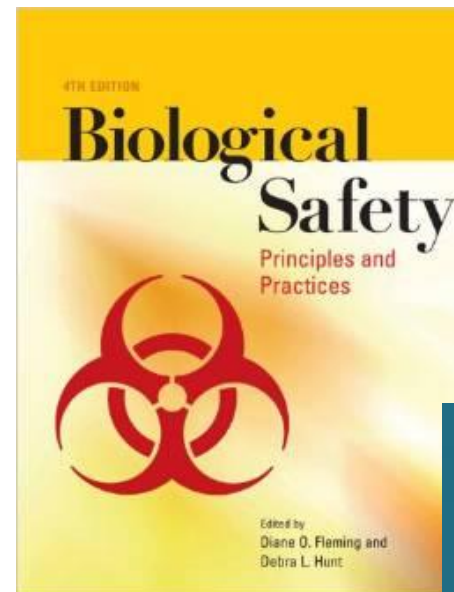
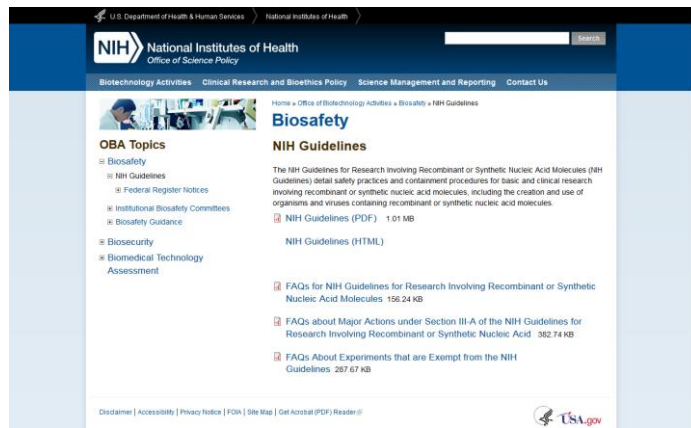


A Culture of Biosafety –Why?

- Reduces injuries and exposures
- Establishes team concept - all laboratory personnel share equal responsibility for maintaining safe workplace
- Ensures management's commitment to safety
- Staff are comfortable reporting incidents or near misses - viewed as opportunities for improvement
- Improves compliance with safety practices and regulations
- Safety is a critical component of a laboratory CQI program



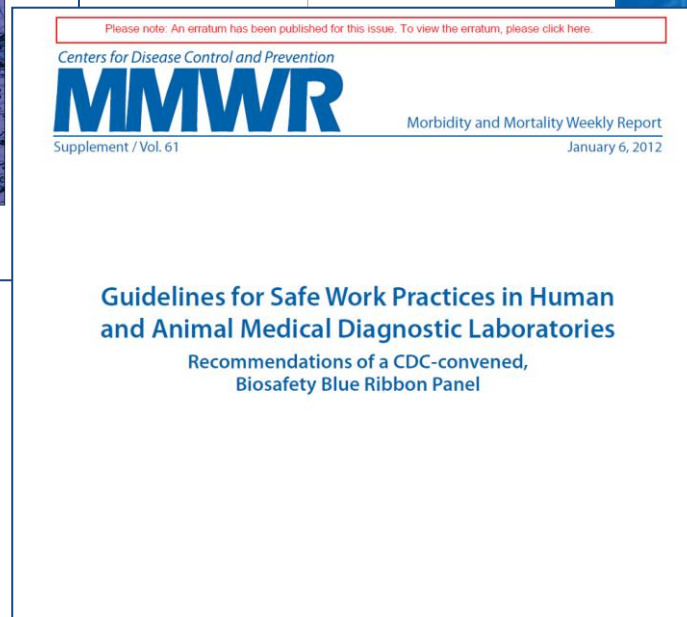
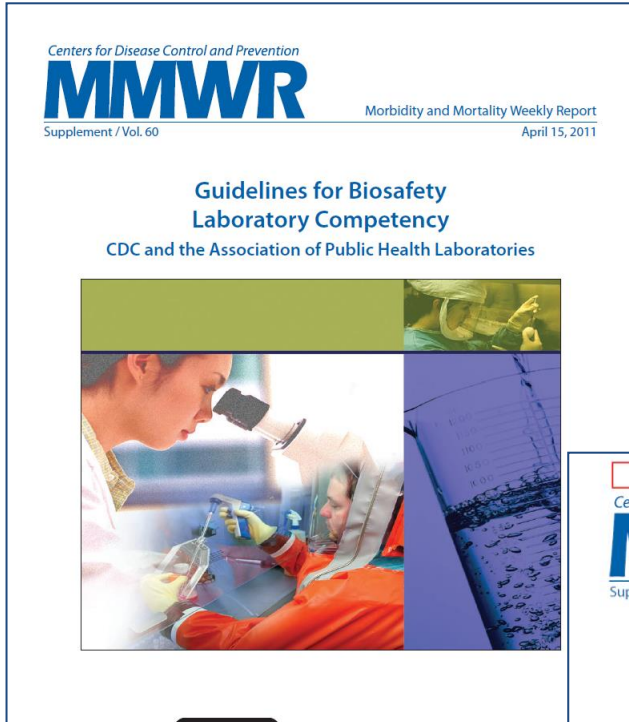
General Biosafety Resources



<http://osp.od.nih.gov/office-biotechnology-activities/biosafety/nih-guidelines>
<http://www.cdc.gov/biosafety/publications/index.htm>



Biosafety Guidelines





Ebola: Laboratory Update

Laboratory testing (Non-Ebola) of specimens from suspect Ebola case

- Strict adherence to **Standard Precautions** is a basic starting point
- Understand the basic ***Principles of Biosafety***
- Each laboratory needs to perform a **Risk Assessment** to determine whether they can safely perform routine testing in their diagnostic lab



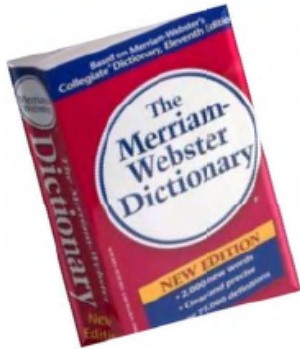
Laboratory Biosafety

Principles of Biosafety

- The primary objective of biosafety is the ***containment*** of potentially harmful biological agents
- The purpose of ***containment*** is to reduce/eliminate exposure of lab workers, other persons within the institution, and the outside environment to biohazardous agents
- Key elements of ***containment*** include:
 - **Laboratory practice and technique**
 - **Safety equipment (primary barriers and PPE)**
 - **Facility design and construction (secondary barriers)**



Step 1: Risk Assessment



Risk can be defined as the probability that a health effect will occur after an individual has been exposed to a specified amount of hazard.



Risk assessment is the process of gathering all available information on a hazardous substance and evaluating it to determine the possible risks associated with exposure. This is followed by determining the mitigation strategies necessary to provide protection. There is no one standard approach to the RA process.

The risk can be mitigated but never zero.
Goal: Predict, Identify and Mitigate Risk



Lab Safety Begins With Risk Assessment

- Assess biological risks
 - Identify hazards
 - Consider the agent, the host, and the environment
 - Estimate risk based on likelihood and severity of the occurrence
- Risk mitigation and exposure avoidance
 - Identify and implement controls and work practices
- Monitor effectiveness
 - Review all accidents, exposures and near misses
 - Review effectiveness of control measures
 - Identify training needs
 - Modify procedures



What should the Risk Assessment Cover?

- **Pre-analytical activities** from the time the specimen is collected, transported, unpackaged, centrifuged, aliquoted, and moves through the lab
- **Analytical activities**
- **Post-analytical activities** – clean up of the lab and destruction of the specimen and lab generated materials



What Are We Going to Do to Improve the Culture of Laboratory Biosafety in Wisconsin?



We want to be #1 in laboratory biosafety



WCLN Ultimate Goal

For all WCLN members to be prepared to respond to any emerging biohazard threat and to be able to do so in a manner where all laboratory employees, all facility coworkers and the surrounding community, are confident that all laboratory testing is being conducted as safely as possible in order to protect not only the health of the laboratory employees but the health of the community they serve.





Epidemiology and Laboratory Capacity (ELC) Funding

- Domestic Ebola supplemental funding opportunity for public health
- Funding objective:
 - To enhance laboratory biosafety and biosecurity capacity at the WSLH.
 - To support public health partners to assess, develop and implement measures to improve laboratory biological safety practices for dealing with current and emerging infectious diseases.
- Funding covers a 3 year project



Support from Partners

- Engage support from LabTAG for commitment to a 3 year project to improve laboratory biosafety and biosecurity.
- APHL will provide subject matter expert guidance.
- Engage State Training Coordinators from other states to develop trainings and tools that are useful to all states.
- Engage all WCLN laboratories and ask for feedback.





It All Begins With Risk Assessment



Year 1 of the Project:

- Explain the project to WCLN members.
- Revise current “Laboratory Biosafety: Performing a Risk Assessment” guidance document.
- Roll-out revised risk assessment tool at 2015 Regional Meetings and ask all WCLN laboratories to perform a risk assessment.
- Develop a tool for collecting risk assessment data from WCLN laboratories to identify common biosafety issues.



Next Steps: Risk Mitigation Strategies

Year 2 of the Project:

- Review the risk assessment data reported by WCLN members and identify common gaps in biosafety/biosecurity.
- WSLH and LabTAG develop risk mitigation strategies/tools/trainings to address the identified common gaps.
- Review the collective results from the 2015 risk assessment at the 2016 Regional Meetings and roll-out mitigation strategies/tools/trainings for the WCLN members to apply in their laboratories.





Evaluate Our Progress

Year 3 of the Project:

- Ask WCLN members to repeat the original risk assessment and report their results.
- Collaborate with LabTAG to review results and to identify any further trainings or tools that may help mitigate any remaining biosafety issues.
- Review our laboratory biosafety progress at the 2017 Regional Meeting and roll-out any further aids to continue improving our culture of laboratory biosafety in WI.
- Expand culture of laboratory biosafety/biosecurity to all areas of the clinical laboratory.





Additional Activities

- **Provide training** on biosafety/biosecurity related topics.
 - Packaging and shipping training
 - Biosafety/biosecurity best practices
- **Maintain a library** of links to biosafety/biosecurity resources on our “WCLN Resources” webpage: <http://www.slh.wisc.edu/wcln-surveillance/wcln/wcln-resources/>
- **Conduct drills/exercises** to determine competency in select areas of biosafety/biosecurity.
 - Packaging and shipping drills

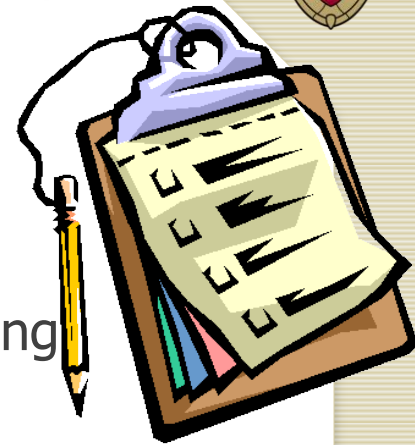
Ebola Hospital Preparedness Site Visits



- CDC and WDPH has visited all Category I facilities that have prepared to care for a known positive Ebola patient.
- WDPH has organized a team to visit all Category II facilities that have planned to care for a suspect Ebola patient for up to ≥ 72 hours while the patient is being assessed for Ebola infection.
 - Infection Prevention
 - Physician
 - WSLH CDD
 - Environmental Health
 - Wiscon
 - Preparedness/EMS Representative



Laboratory Checklist for Ebola Site Visits



- Have you performed a risk assessment?
- How is the specimen handed off for testing?
- Who is performing testing and where is the testing being performed?
- Are competency records for testing while wearing PPE in place and is competency being maintained on a regular basis?
- Are competency records for donning and doffing PPE in place and is competency being maintained on a regular basis?
- Is the test menu adequate to care for the patient?
- Is a spill kit in the room where testing is being performed?
- Where and how do you dispose of waste and how do you decontaminate the work area?
- How are the results being reported?
- Who is packaging and shipping the specimen and where?



Can We Improve the Culture of Biosafety/Biosecurity in Our WI Laboratories?



We Can't Do it Without Your Participation and Help!





What questions do you have for us?



What are your recommendations as we move forward?

- Send your ideas to erin.bowles@slh.wisc.edu