



Commonwealth of Massachusetts
Department of Public Health

Helping People Lead Healthy Lives In Healthy Communities

Ebola Update

Kevin Cranston, MDiv
Director, Bureau of Infectious Disease

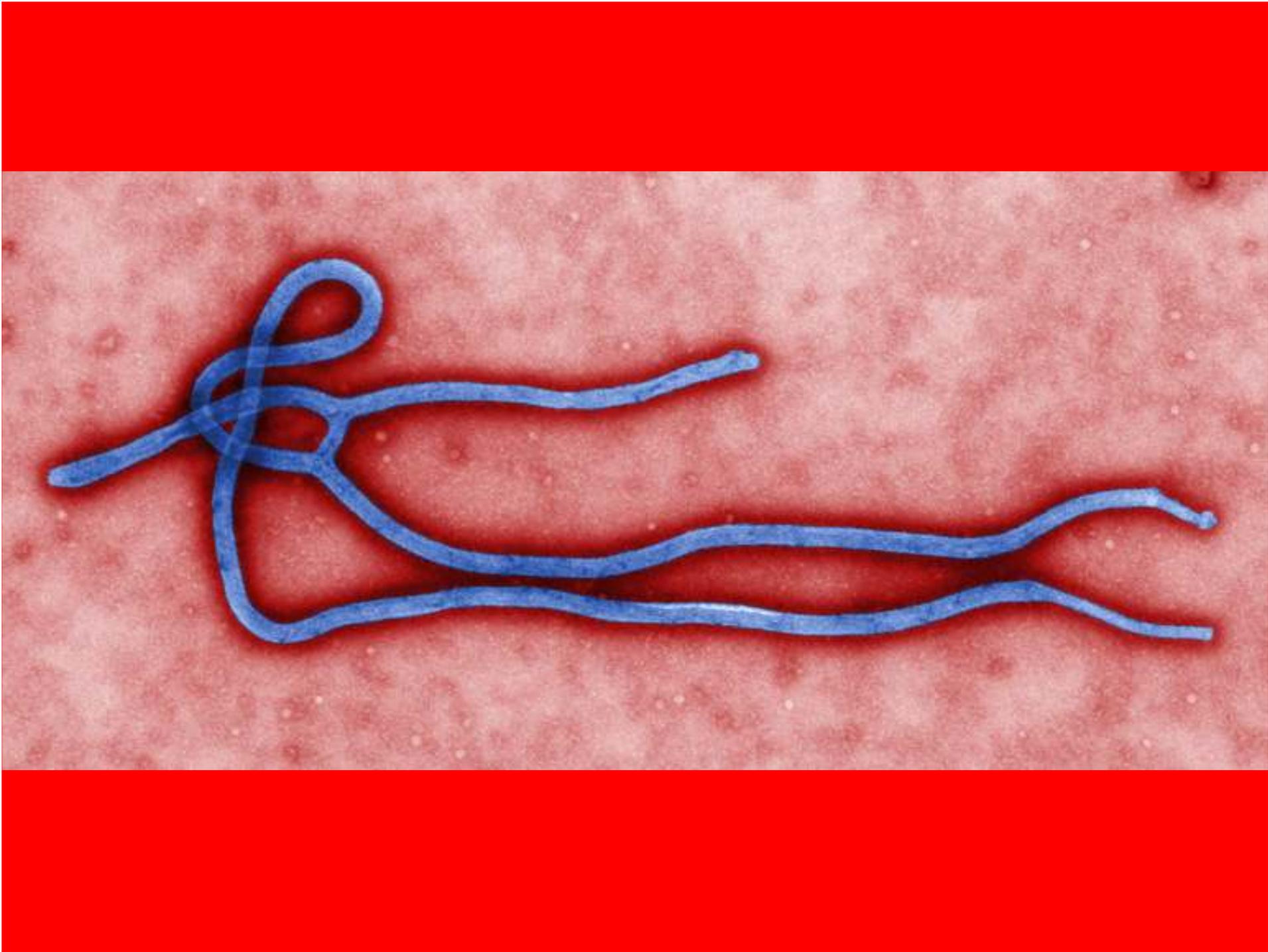
Alfred DeMaria, Jr., MD
Medical Director, Bureau of Infectious Disease
State Epidemiologist

Michael Pentella, PhD, D(ABMM)
Director, Bureau of Laboratory Sciences

Mary Clark, JD, MPH
Director, Office of Preparedness and Emergency Management

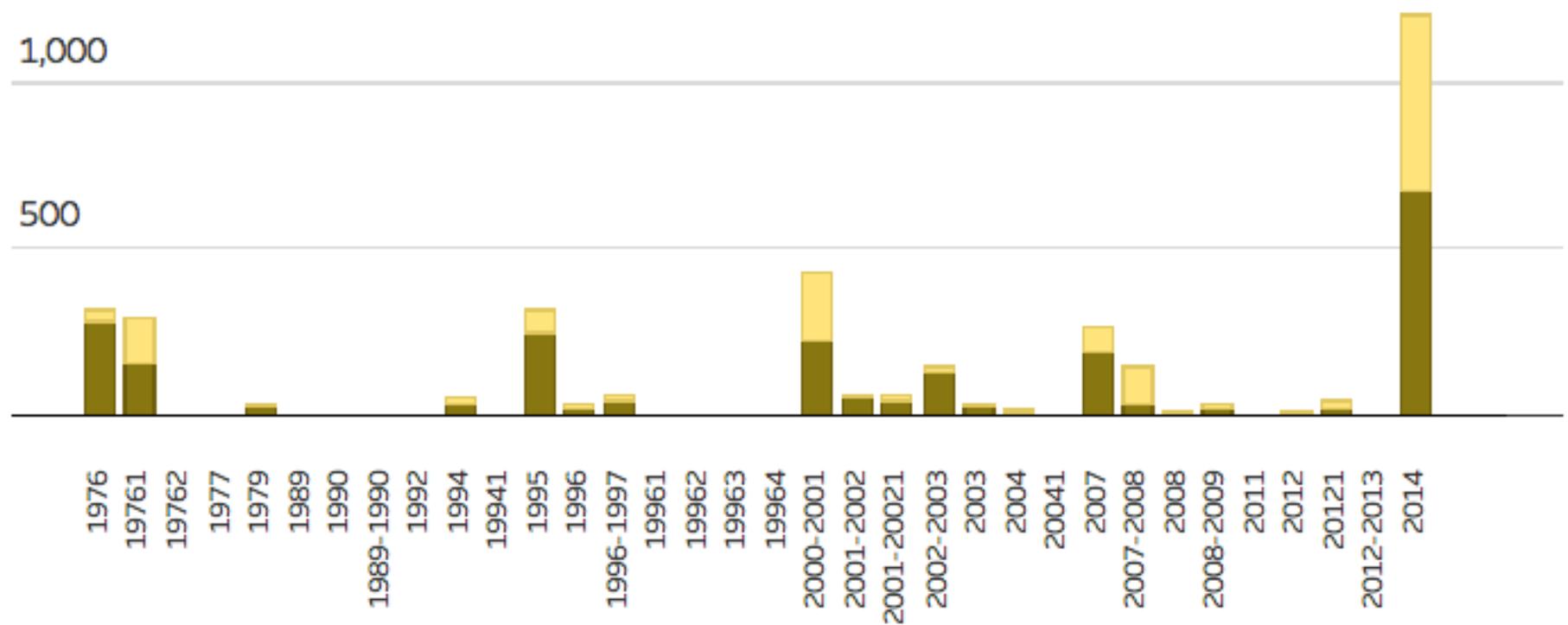


Massachusetts Public Health Council
November 12, 2014



Ebola cases

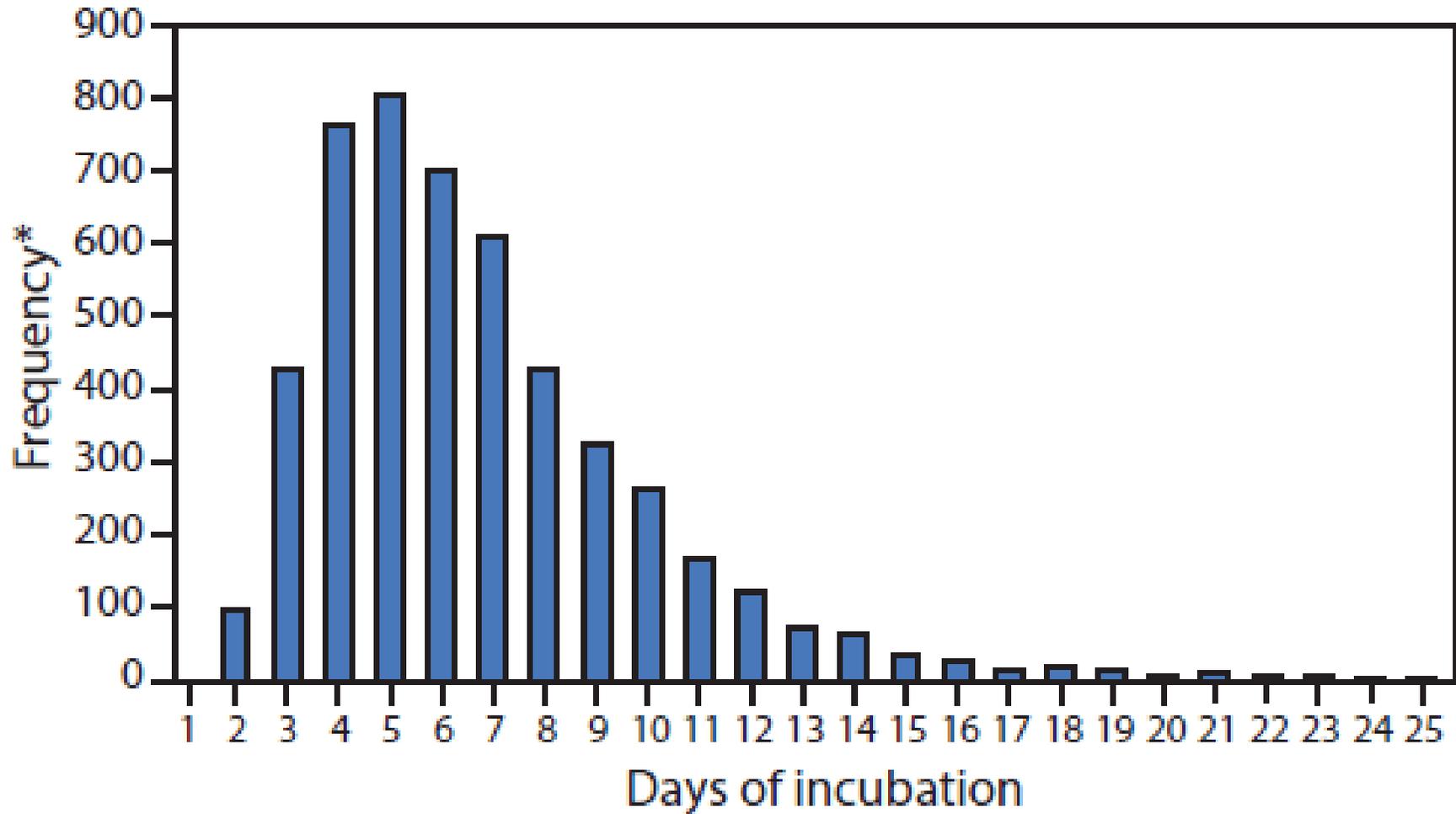
■ Died ■ Survived



Source: CDC, WHO



Distribution of Ebola Virus Incubation Period by Days of Incubation



Ebola haemorrhagic fever in
Sudan, 1976
Report of a WHO/International
Study Team

Bulletin of the World Health Organization,
56 (2): 247-270 (1978)

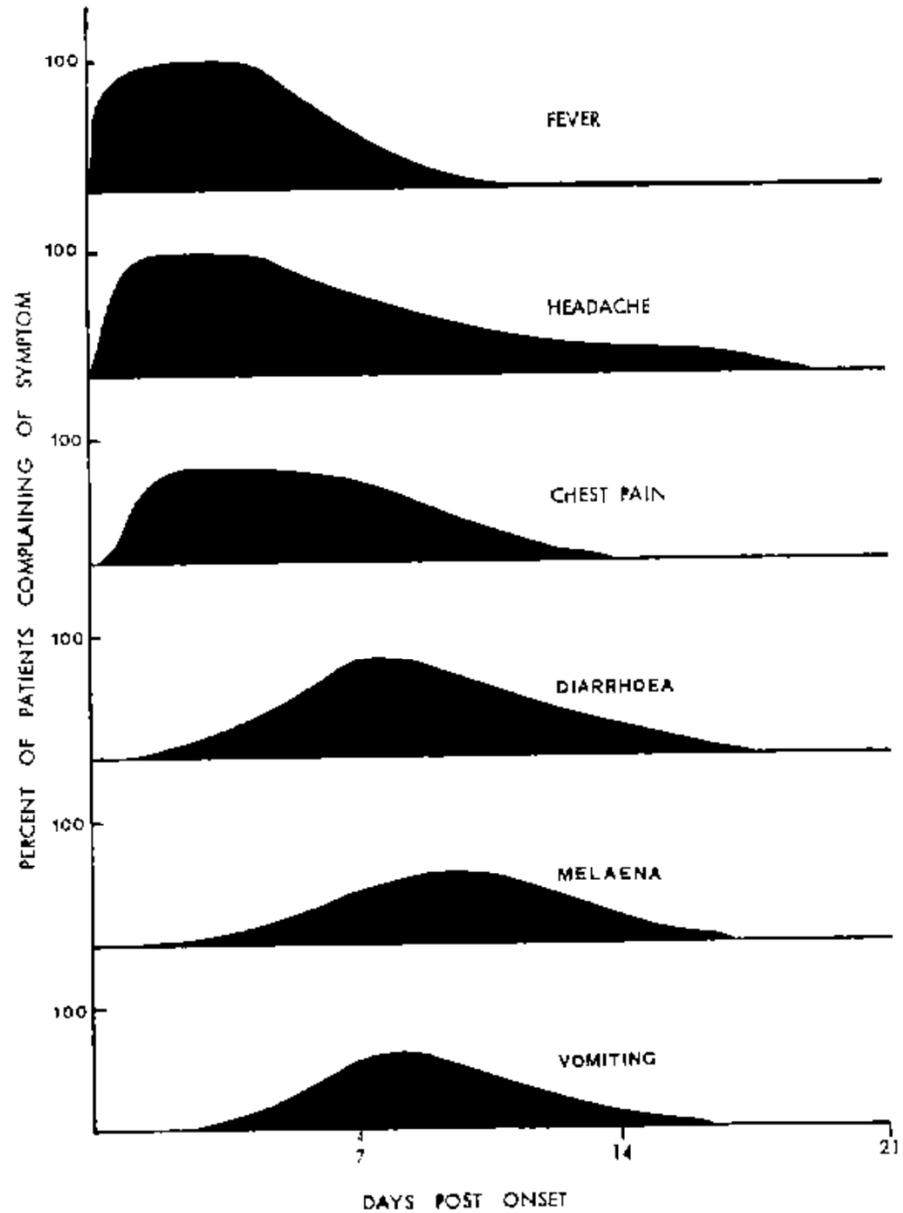


Fig. 2. Frequency and duration of symptoms of Ebola haemorrhagic fever.

Ebola Virus Transmission

- ❖ **Asymptomatic people, incubating infection, non-infectious**
- ❖ **Virus in blood and body fluids, including stool, vomitus, urine, saliva, semen, vaginal fluid and sweat**
 - ❖ **Virus may be present in fluid, but not necessarily effectively infectious**
 - ❖ **Some fluids contain virus after recovery**
- ❖ **Infectiousness least early in disease, with increased risk after day 5 as complications become more severe.**
- ❖ **Not airborne**
- ❖ **Contaminated PPE a problem, but other fomites and inanimate surfaces not documented to play a role in transmission**

Facts *about*
Ebola
in the U.S.

You **CAN'T** get Ebola
through **AIR**



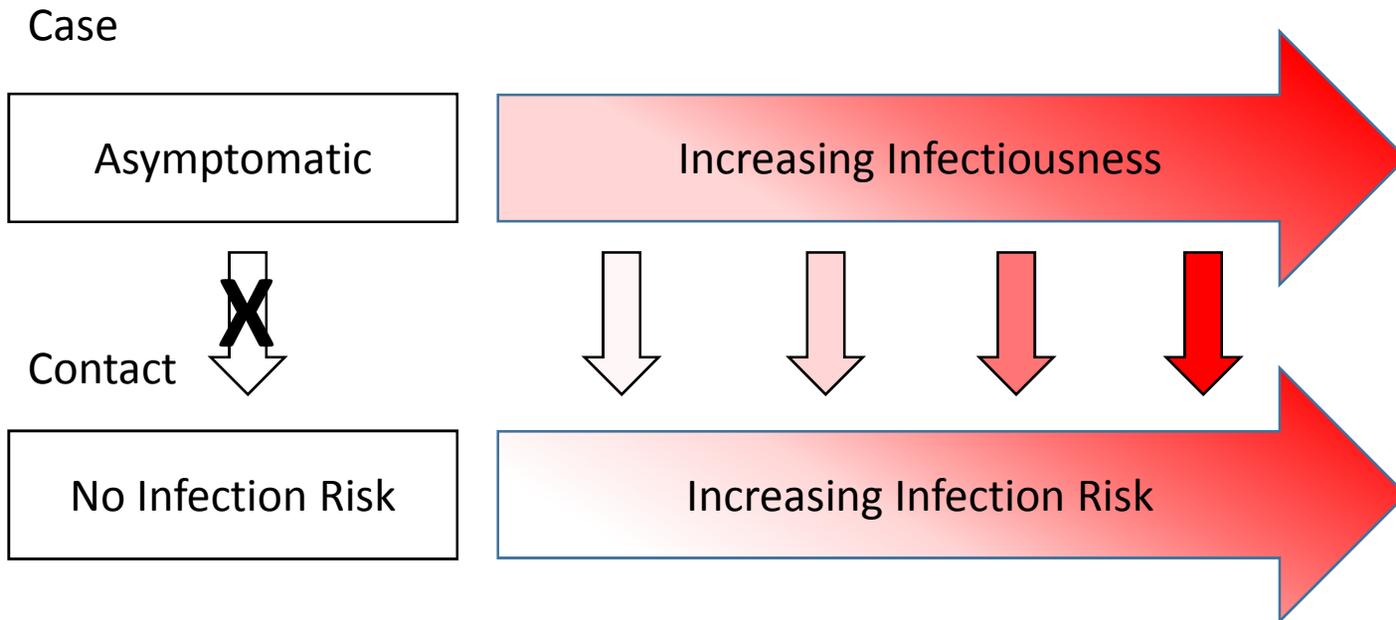
You **CAN'T** get Ebola
through **WATER**



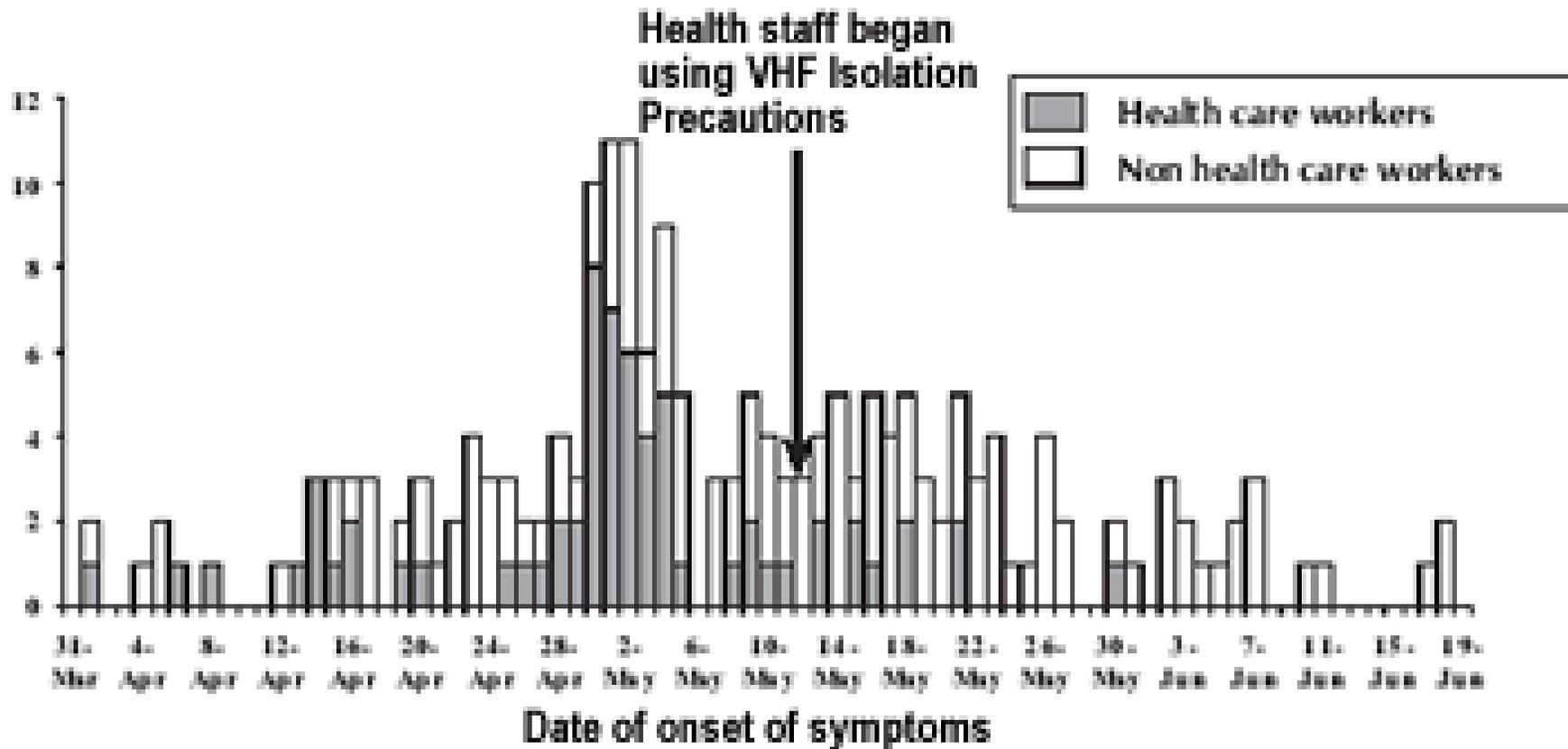
You **CAN'T** get Ebola
through **FOOD** grown or
legally purchased in the U.S.

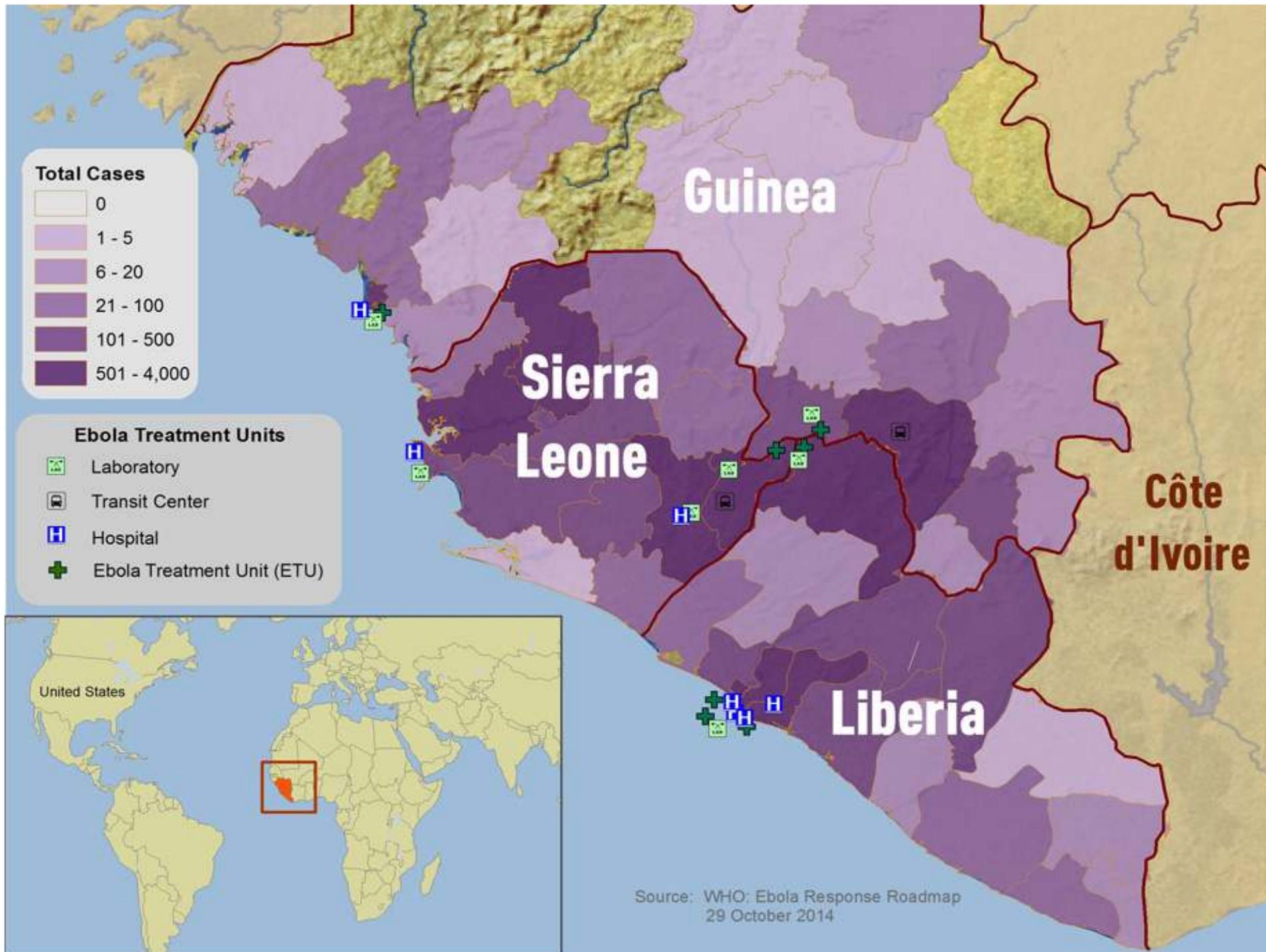


Risk of Ebola Transmission



Number of deaths





Goggles, safety glasses or
face shield
Mask or respirator

Gloves

Impermeable gown
that reaches from the
neck to at least
mid-thigh



**Original C.D.C.
guidelines**

Hood that
covers the neck

Second layer of
gloves

Suit will be
standardized,
but the changes
were not
specified



Fluid-resistant leg and
shoe coverings

**Some of the things
hospitals and the C.D.C. are
adding to the original guidelines**

Changes announced by C.D.C.



Categorization of Risk

CDC, October 27, 2014

❖ High risk

- ❖ Unprotected direct exposure to blood or body fluid of someone with symptomatic Ebola virus disease**

❖ Some risk

- ❖ Close contact in a country with a large Ebola outbreak even with PPE or contact without evident blood or body fluid contact**

❖ Low (but not zero) risk

- ❖ Presence in a country with widespread Ebola transmission, potential brief contact with a case**

Recommended Control Measures

CDC, October 27, 2014

(all for 21 days after last exposure)

❖ Symptomatic

- ❖ Isolation, unless Ebola ruled out**

❖ High risk

- ❖ Quarantine, but non-congregate activity allowed**
- ❖ Travel restrictions**
- ❖ Direct active monitoring**

❖ Some risk

- ❖ Direct active monitoring**
- ❖ Other measures on a case-by-case basis**

❖ Low risk

- ❖ Active monitoring**
- ❖ No restrictions**



SPHL Ebola response to ongoing Ebola outbreak: internal, statewide & national

Massachusetts Department of Public Health

Boston Public Health Commission

UPDATE - October 22, 2014



Boston Public Health Commission
Massachusetts Department of Public Health

Clinical Advisory

Management of Suspected Ebola Virus Cases or

EVD was first described in 1976, and since that time outbreaks have occurred in rural areas of Africa. The virus is transmitted through direct contact with body fluids from infected patients, including saliva, sweat, breast milk, and blood. There is no evidence that infection is transmitted prior to symptom onset. In 2014, there have been thousands of cases reported in areas of Guinea, Liberia, and Sierra Leone. Currently, there is no evidence of Ebola virus circulation in Africa, or elsewhere other than in the three countries listed. There is



DEVAL L. PATRICK
GOVERNOR
JOHN W. POLANOWICZ
SECRETARY
CHERYL BARTLETT, RN
COMMISSIONER

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
William A. Hinton State Laboratory Institute
305 South Street, Jamaica Plain, MA 02130

Tel: 617-624-8088
Fax: 617-624-5587
www.mass.gov/dph



DEVAL L. PATRICK
GOVERNOR
JOHN W. POLANOWICZ
SECRETARY
CHERYL BARTLETT, RN
COMMISSIONER

The Commonwealth
Executive Office
Dept
William A. H
305 South S

ALL specimens sent for all

Laboratory Risk Assessment

For a Suspect Patient with a High Possibility of Ebola Virus Disease (EVD)

Revised: August 25, 2014

Standard precautions have been highly effective in preventing transmission of bloodborne infection in the clinical laboratory. Standard precautions should be effective in preventing the transmission of Ebola virus and other viral hemorrhagic fever agents in the clinical laboratory. However, Ebola virus is a high consequence pathogen, and there has been limited experience handling specimens potentially contaminated with such a high consequence pathogen in a clinical laboratory using current specimen handling procedures and automated instrumentation. Therefore, this risk assessment is provided for enhanced precautions in handling specimens from patients who may be at risk of having Ebola virus infection. This risk assessment represents reasonable precautions for this level of risk, but given the lack of experience and data, laboratories may want to elevate precautions even further based on their individual assessments and resources. If more information becomes available on the risk of transmission, this risk assessment may change.

MA Public Health Laboratory Frequently Asked Questions

William A. Hinton State Laboratory Institute, 305 South Street, Jamaica Plain, MA 02130

Note: All information in this fact sheet is subject to update at any time. Updates will be posted on the MA-PHL website.

Introduction

To provide clinical laboratory support in the event of a case of hemorrhagic fever in Massachusetts, guidance for sample types, testing by the MA State Public Health Laboratory Institute, specimen submission forms and packaging & shipping of a case of EVD or individual identified as having potential contact with a case of EVD first be immediately reported to the local board of health or health department, or the Massachusetts Department of Public Health (MDPH).

What criteria are currently used for a patient under investigation for Ebola Virus Disease (EVD)?

Clinical criteria: includes fever of >100.4 °F, and additional symptoms such as diarrhea, abdominal pain, or unexplained hemorrhage, AND

Epidemiologic risk factors: within the past 3 weeks before the onset of symptoms, residence in or travel to an area of active Ebola transmission, or direct handling of bats, rodents, or other animals in an area of active Ebola transmission. For more information, visit the CDC website for current info: <http://www.cdc.gov/vhf/ebola/hcp/case-definition>

What types of specimens should I collect for Ebola diagnosis?

Specimen type(s) approved for FDA Experimental Use Approval (EUA) Ebola virus: blood (≥ 4mL) preserved with EDTA (purple top) or plasma (≥ 4mL) preserved with EDTA (white top). Courier to MA-PHL at

Checklist for Collection/ Handling/ Packaging of Suspect Ebola Samples

October 23, 2014

Sample Collection and Transport to the facility clinical laboratory:

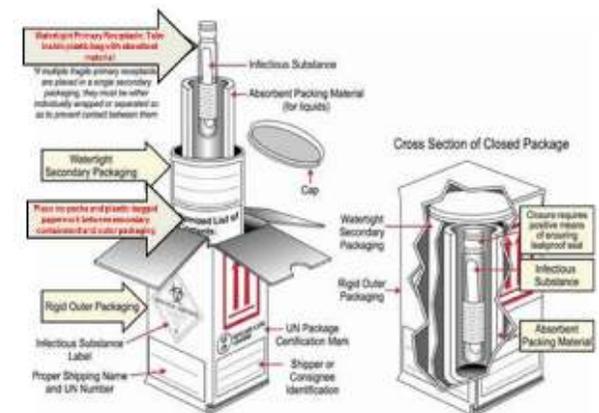
- Notify your facility's clinical laboratory director/ supervisor prior to sample collection.
- Assemble collection and transport supplies and review PPE procedures prior to room entry. <http://www.cdc.gov/vhf/ebola/hcp/case-definition>
- Wearing appropriate PPE, draw two (≥ 4 mL) purple top (EDTA) plastic tubes of blood with safety needles. Ensure they are labeled.
- Disinfect tube with the approved hospital disinfectant.
- Place both tubes in ziplock plastic bag at bedside, disinfect outside of bag with hospital disinfectant.
- Place the ziplock bag in a durable, leak-proof secondary container.
- Disinfect outside of the secondary container with hospital disinfectant.
- Hand-carry secondary container to the facility laboratory and physically handoff to the laboratory. Do NOT use the pneumatic tube or other automated transport systems.

Sample Packaging for Transport to the MA Public Health Laboratory (MA-PHL):

Specimens must be packaged and shipped by staff trained and certified in packaging and shipping.

- Remove ziplock bag from secondary container.
- Add absorbent packing material to secondary container.
- Place the inner shipping container inside the box; add frozen ice packs and ziplock-bagged HSLI

Triple Packaging System



SPHL connects with clinical labs for Ebola response efforts

- July 31: emailed clinical advisory regarding Ebola
- Aug 8: Risk Assessment guidance tool issued for clinical labs (national model)
- Aug 18: Lab FAQ issued
- Aug 25: Risk Assessment guidance v 2
- Sep 29: Advised clinical labs of packaging and shipping requirements
- Oct 8: Completed validation of DOD test
- Oct 21: Surveyed labs for malaria testing capability
- Oct 22: Reached out to neighboring states to perform testing when needed
- Oct 24: Presented on national conference call hosted by APHL
- Oct 28: Met with New England Lab Directors to discuss biosafety and best practices

Coordination of Planning

- MDPH senior coordinating committee established in August, led by the Commissioner
 - OPEM
 - General Counsel
 - Bureau of Infectious Disease
 - Health Care Safety & Quality
 - OEMS
 - State Lab
 - Legislative Affairs
 - Communications
- Unified Command with MEMA

DPH actions

- Working since August to share information & develop guidance for health system & other partners
- Joint guidance with BPHC
- Briefing & collaboration with MEMA
- Discipline-specific & statewide conference calls
 - Hospitals, colleges & universities, local health, EMS, public safety, community health centers, long term care, home care providers, emergency management, ESF team members, others
 - Bring subject matter experts together to provide updates on our guidance, review new or revised CDC guidance, & answer questions
- Joint Committee on Public Health & briefings with Congressional delegation staff

DPH Resources

- Clinical guidance & support
- 24/7 Epidemiology Program consultation for first responders & others at **617-983-6800**
- State Public Health Laboratory one of the handful of labs certified to perform diagnostic testing with confirmatory testing at CDC if positive result
- www.mass.gov/dph/ebola
- AskEbola@state.ma.us