

SCHOOL OF MEDICINE

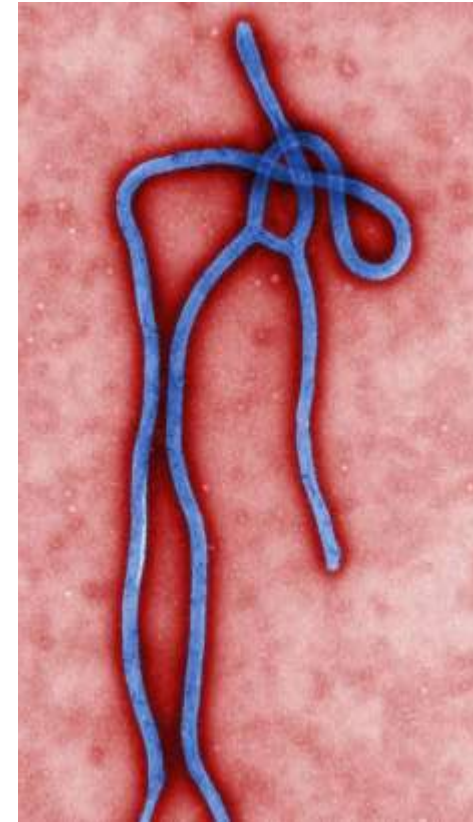
Occupational and Medical Surveillance: Emory's Experience with Ebola

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Background on Ebola

- Family Filoviridae
 - Two genera: *marburgvirus* and *ebolavirus*
 - Enveloped, negative, single-stranded RNA viruses
- Five species of Ebola viruses
 - Ebola (EBOV)
 - Sudan (SUDV)
 - Tai Forest (TAFV)
 - Bundibugyo (BDBV)
 - Reston (RESTV)
- Transmitted by contaminated body fluids
- Mortality from Ebola virus disease (EVD) historically has ranged from 40-88%



Cynthia Goldsmith/CDC

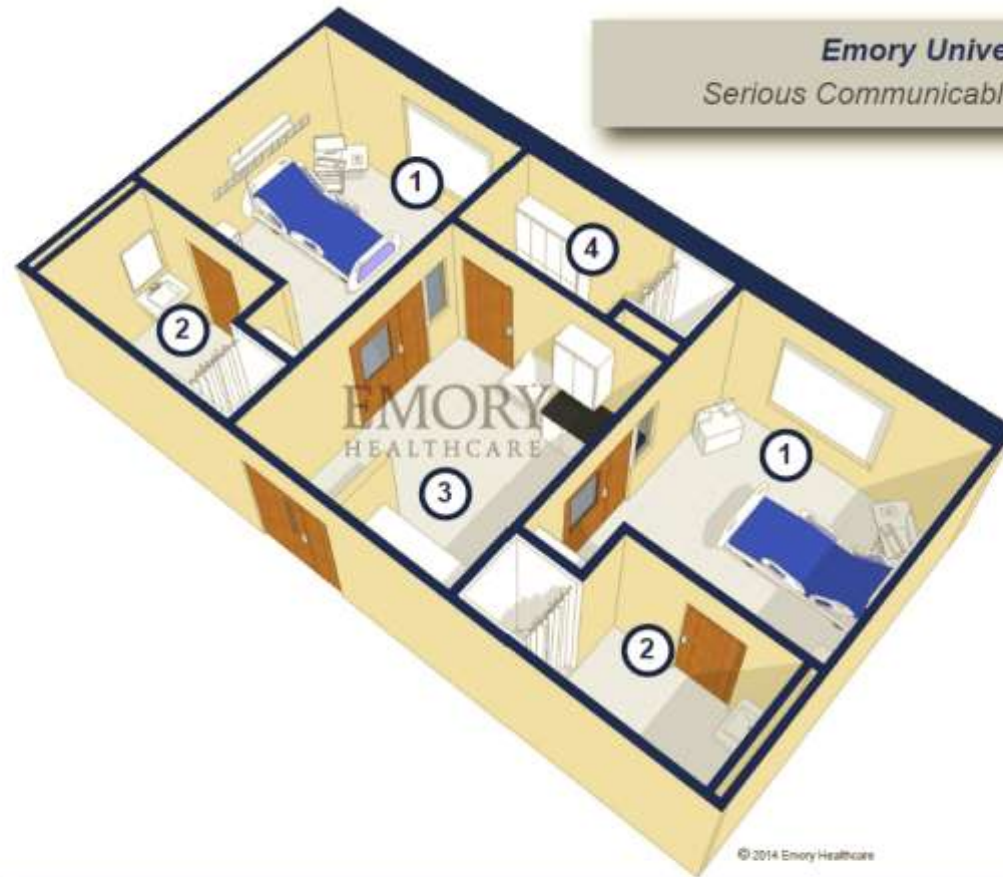


The Cases at Emory

- Late July, we were informed that two humanitarians from the US had become infected with EBOV in Liberia
- During the first week of August, both were transferred by air ambulance to our hospital, 3 days apart
 - 33 year old male physician, day 11 of illness at arrival
 - 59 year old female missionary, day 15 of illness at arrival



Serious Communicable Diseases Unit



*Emory University Hospital
Serious Communicable Disease Unit*

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Emergency Preparedness

PPE

- Risk assessment based on conditions presented by patient
- ID physicians, nurses, waste handlers, lab personnel

Waste Management

- ID physicians, nurses, waste handlers, lab personnel

Transport of Patient Samples

- Lab Personnel
- DOT Training



Personal Protective Equipment

- Disposable Scrubs
- Tyvek Suit
- Double Gloves
- PAPR
- Booties





Logistics

- Separate procedures for entering the ante-room and entering the patient room
- Nurses – 8 hr shifts in patient room
- Spotters – observing from the ante-room

- Waste Disposal
 - Chemical and Biological Indicators used for autoclave validation
 - Stericycle pick-up



Staff - Healthcare Providers (HCP)

- Direct HCPs
 - Physicians
 - Nurses
 - Lab Personnel
 - Waste Handlers
- Indirect HCPs
 - EHS staff
 - Security Personnel





Staff requirements

- Team meeting everyday to review plans and protocols
 - Open forum for questions and concerns from any team member
- Only approved personnel allowed in isolation area
 - Log of everyone who entered room





Direct HCP Symptom Questionnaire

Requirements

- Health monitoring for all direct HCPs
- Temperature check
- Symptom check

Distribution & Accessibility

- Started as a word document
- Developed electronic version a few days later using iForm Builder
- Email sent to all direct HCPs
- Link to access electronic document
- Accessible from home, work, mobile device





Monitoring Staff

- All personnel are required to record the following into a online registry
 - Twice daily temperature (beginning and end of shift)
 - Symptom review (included area for explanation of symptoms)
 - Electronic Signature
- Duration?
 - Each day from the first day of contact with:
 - Patient
 - Lab specimens
 - Soiled laundry/linens/body fluids
 - 21 days after last shift in the unit

Direct Healthcare Provider (including Lab Personnel)

Symptom Questionnaire (Ebola Virus)

* Required

Employee Name: *

Employee ID #

Date: *

Month: [v] Day: [v] 2014 [v]

Time: *

HR: [v] Min: [v] AM: [v]

Cell Phone Number

Best Contact #

1) Temperature *

in degrees F

2) Nausea/Vomiting *

Yes

No

2.1) if yes, please explain:

3) Diarrhea: *

Yes

No

3.1) if yes, please explain:

4) Headache: *

Yes

No



Monitoring Staff (cont'd)

- ~50 staff used the survey
- Occupational Health Staff reviewed each submission
- Information from iform downloaded into a central database
- Challenge- continuous recording of temperature
- Reminders to check temperature and symptoms were sent every other day





If Symptomatic...

- Symptomatic = $>100^{\circ}\text{F}$ temp or headache, joint/muscle aches, weakness, diarrhea, vomiting, stomach pain, or lack of appetite
- Contact Occupational Injury Management for telephone triage and counselling
- ***DO NOT LEAVE THE UNIT*** until further directions are given from medical personnel



Exposure Procedure

- CDC's "Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Hemorrhagic Fever in US Hospitals"
- If exposed (at Emory):
 - Stop working immediately and wash the affected area with soap and water
 - Mucous membranes should be irrigated with copious amounts of water or eyewash solution
 - Immediately contact Occupational Health for assessment
 - Complete incident report online (PeopleSoft) once medical assistance is provided



Contributors to this process development

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Questions?

