Highly Infectious Diseases:

Presented by the

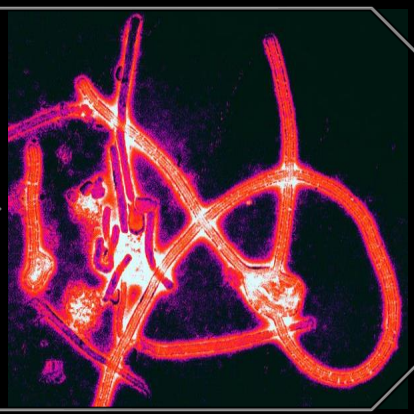
Albuquerque Regional Coalition for Healthcare Preparedness - HID Subcommittee

Objectives

1. Discuss the evolution of Ebola and HID awareness from the perspectives of Frontline Facilities, Assessment Hospitals, and EMS/Transport Agencies
2. Discuss the need for and Formation of the ARCH-P HID Subcommittee

Objectives

3. Discuss the current state of readiness of our coalition and region
4. Discuss important lessons learned about HID preparedness



2015 2016 2017 2018 2019

2014

2014

UNMH Spring & Summer 2014

- A Missionary and a Teacher present to the Emergency Department (ED)
- Fever, malaise
- History of travel to West Africa
- Patients tell triage staff there is a viral outbreak in the location they were staying

2014

UNMH Spring & Summer 2014

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- Fever, malaise
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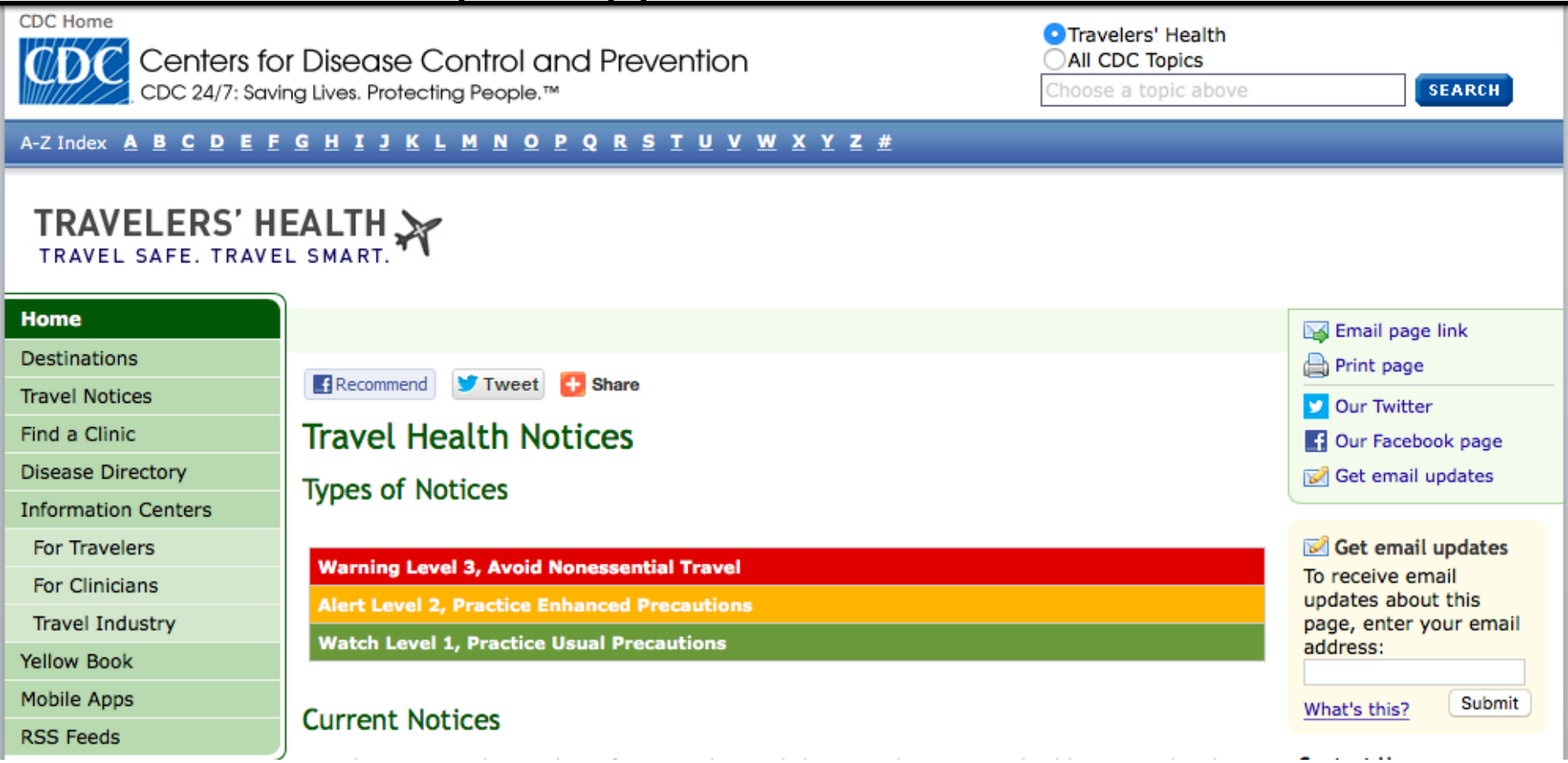
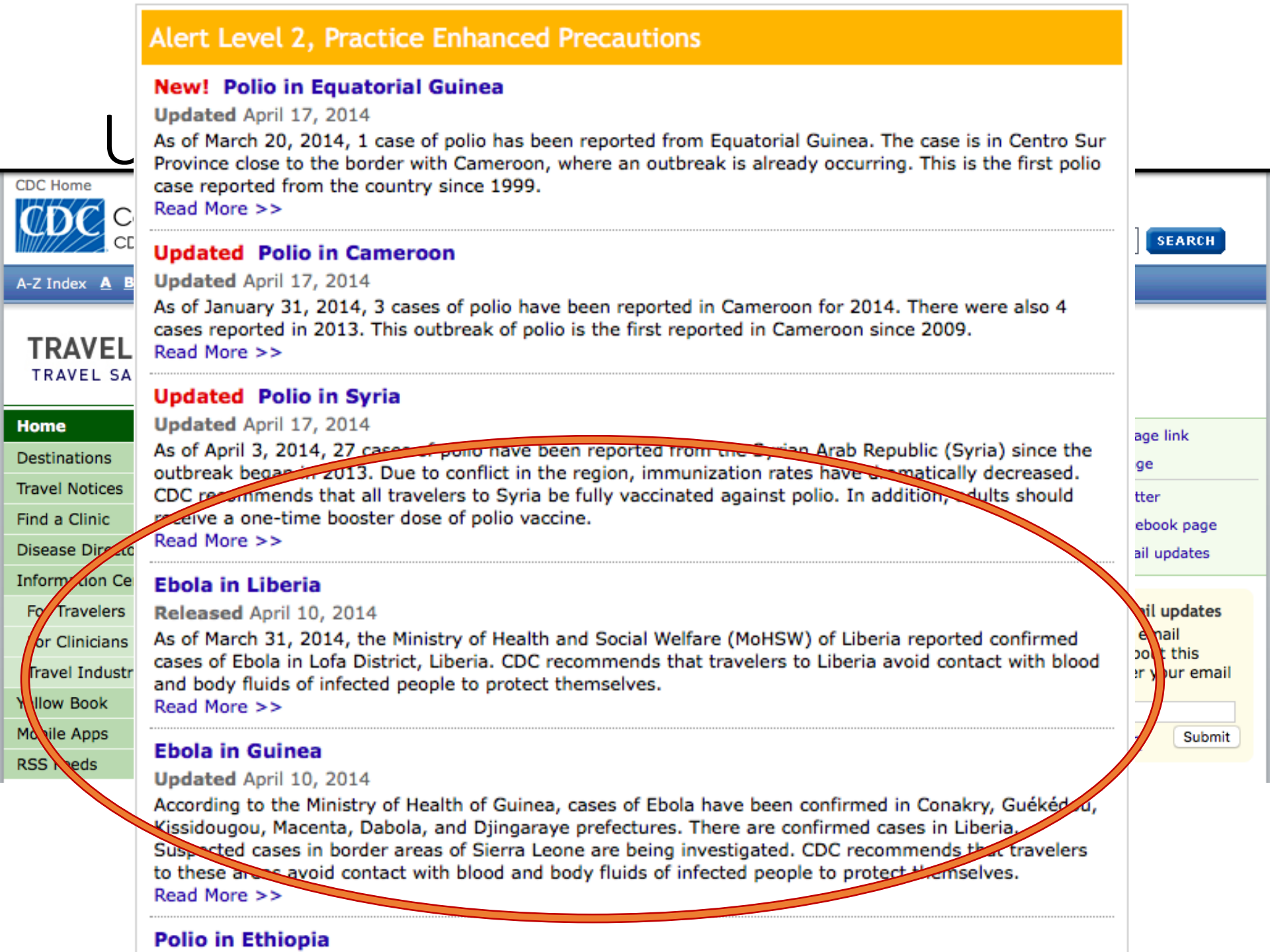
UNMH Spring & Summer 2014





CDC Home

SEARCH

A-Z Index A B

TRAVEL

TRAVEL SA

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Alert Level 2, Practice Enhanced Precautions

New! Polio in Equatorial Guinea

Updated April 17, 2014

As of March 20, 2014, 1 case of polio has been reported from Equatorial Guinea. The case is in Centro Sur Province close to the border with Cameroon, where an outbreak is already occurring. This is the first polio case reported from the country since 1999.

Read More >>

Updated Polio in Cameroon

Updated April 17, 2014

As of January 31, 2014, 3 cases of polio have been reported in Cameroon for 2014. There were also 4 cases reported in 2013. This outbreak of polio is the first reported in Cameroon since 2009.

Read More >>

Updated Polio in Syria

Updated April 17, 2014

As of April 3, 2014, 27 cases of polio have been reported from the Syrian Arab Republic (Syria) since the outbreak began in 2013. Due to conflict in the region, immunization rates have dramatically decreased. CDC recommends that all travelers to Syria be fully vaccinated against polio. In addition, adults should receive a one-time booster dose of polio vaccine.

Read More >>

Ebola in Liberia

Released April 10, 2014

As of March 31, 2014, the Ministry of Health and Social Welfare (MoHSW) of Liberia reported confirmed cases of Ebola in Lofa District, Liberia. CDC recommends that travelers to Liberia avoid contact with blood and body fluids of infected people to protect themselves.

Read More >>

Ebola in Guinea

Updated April 10, 2014

According to the Ministry of Health of Guinea, cases of Ebola have been confirmed in Conakry, Guékédou, Kissidougou, Macenta, Dabola, and Djingaraye prefectures. There are confirmed cases in Liberia. Suspected cases in border areas of Sierra Leone are being investigated. CDC recommends that travelers to these areas avoid contact with blood and body fluids of infected people to protect themselves.

Read More >>

Polio in Ethiopia

PREVENTION

The risk of acquiring VHF is low for international travelers. Travelers at increased risk for exposure include those engaging in animal research, health care workers, and others providing care for patients in the community, particularly where outbreaks of VHF are occurring.

Prevention should focus on avoiding contact with host or vector species in endemic countries. Travelers should not visit locations where an outbreak is occurring, avoid contact with rodents and bats, and avoid livestock in RVF- and CCHF-endemic areas. To prevent vectorborne disease, travelers should use insecticide-treated bed nets and wear insect repellent.

Standard precautions and contact and droplet precautions for suspected VHF case-patients are recommended to avoid transmission. Direct contact should be avoided with corpses of patients suspected of having died of Ebola, Marburg, or Old World arenavirus infection. Contact with or consumption of primates, bats, and other bushmeat should be avoided. Bat-inhabited caves or mines should be avoided. Investigational vaccines exist for Argentine hemorrhagic fever and RVF; however, neither is approved by FDA nor are they commonly available in the United States.

CDC website: www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/vhf.htm

2014

July 28th 2014

- First CDC Tele-briefing on the Ebola outbreak in West Africa US Healthcare was oblivious
- CDC teams deployed to Guinea, Sierra Leone, and Liberia
- Largest outbreak in history
  - →1,201 reported cases
  - →627 deaths
- Two US healthcare workers were hospitalized in the US with Ebola after working abroad

2014

September 30, 2014

- On September 30th, the CDC announced that Thomas Eric Duncan had been diagnosed with Ebola and was hospitalized in Dallas.

- Hospitals had to quickly develop process and find safe locations to house patients with confirmed or suspected Ebola.

2014

October 2014 - UNMH

- UNMH established their EOC
- Third potential patient presented to UNMH during this time. Best lesson learned was the use of the EOC to coordinate preparedness efforts

2014

October 2, 2014 – Presbyterian

PRESBYTERIAN

ALBUQUERQUE AMBULANCE
EMERGENCY MEDICAL SERVICES

EBOLA ALERT

2014

Recommendations for PPE- CDC deferred to University of Nebraska & Emory Biocontainment Units

2014

October 20th – Training initiated

PRESBYTERIAN

ALBUQUERQUE AMBULANCE EMERGENCY MEDICAL SERVICES

- Mandatory computer-based learning modules developed
- Hands on donning and doffing training for the patient care team

2014

October 2014: Assessment Hospitals Initiated Training

Presbyterian	UNMH
• Mandatory computer-based learning modules developed • PPE checklists created • Hands on donning and doffing training for the patient care team • Cleaning and waste disposal procedures created	• Hands on donning and doffing training for the patient care team • PPE checklists created • Ebola Unit (E-Unit) established on MICU and creation of a mobile wall • Cleaning and waste disposal procedures created

2014

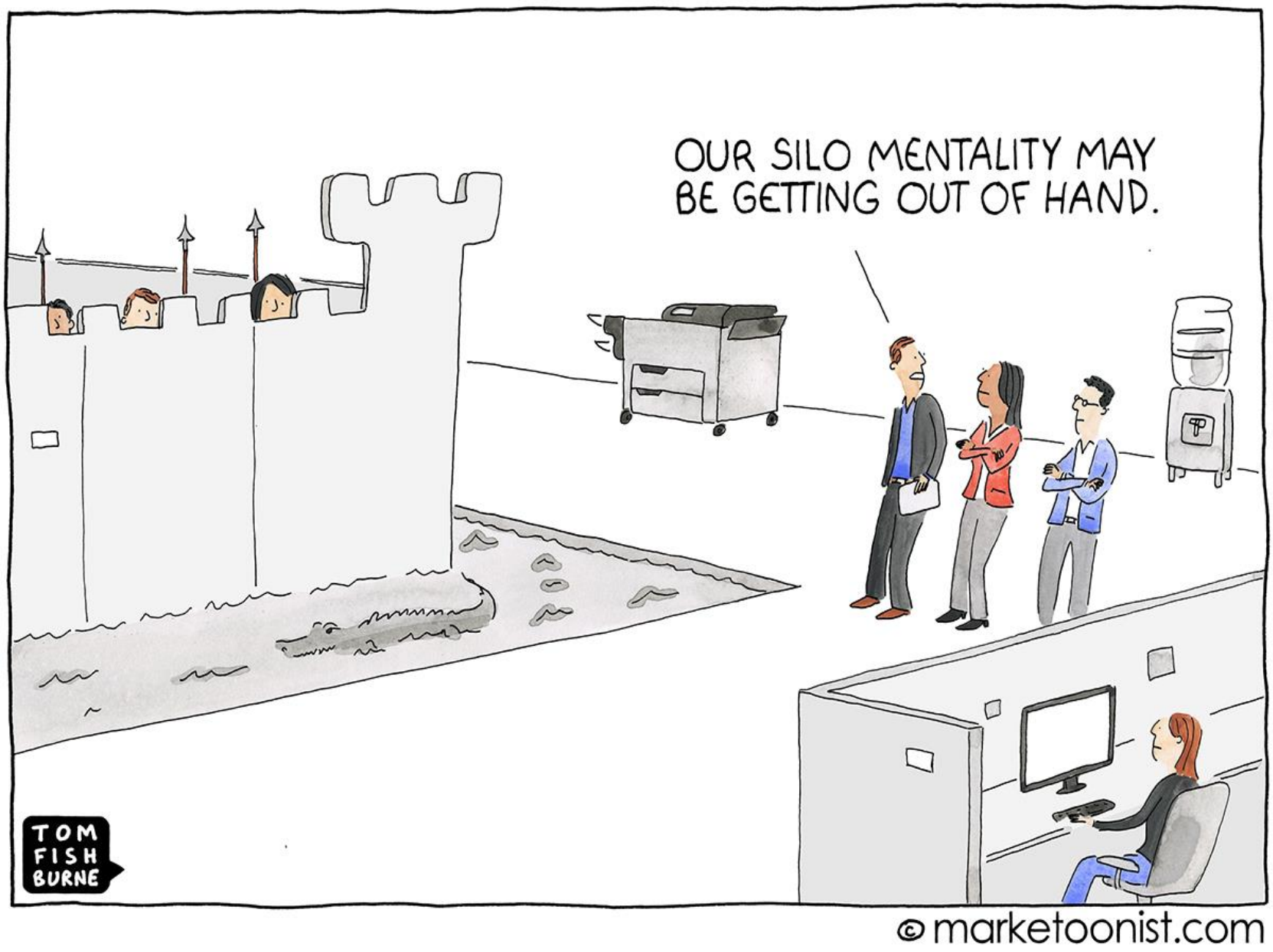
Volunteer Patient Care Teams

- Presbyterian, UNMH, and AAS began to establish **volunteer** patient care teams.

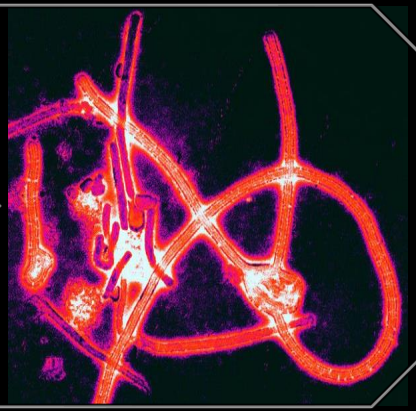
- Presbyterian and UNMH were able to create robust teams due to positive response from staff. (UNMH 250+ and Pres 70+)

- AAS CCT was able to train 350 field employees

2014


OUR SILO MENTALITY MAY BE GETTING OUT OF HAND.
TOM FISH BURNE
© marketoonist.com

2014



2016 2017 2018 2019

2015

2015

Well Controlled Chaos – Early 2015

- CDC solidified their recommendations
- Training was formalized and no longer in the moment

2015

EID Screening Tool for 911 Dispatch

Early 2015 –

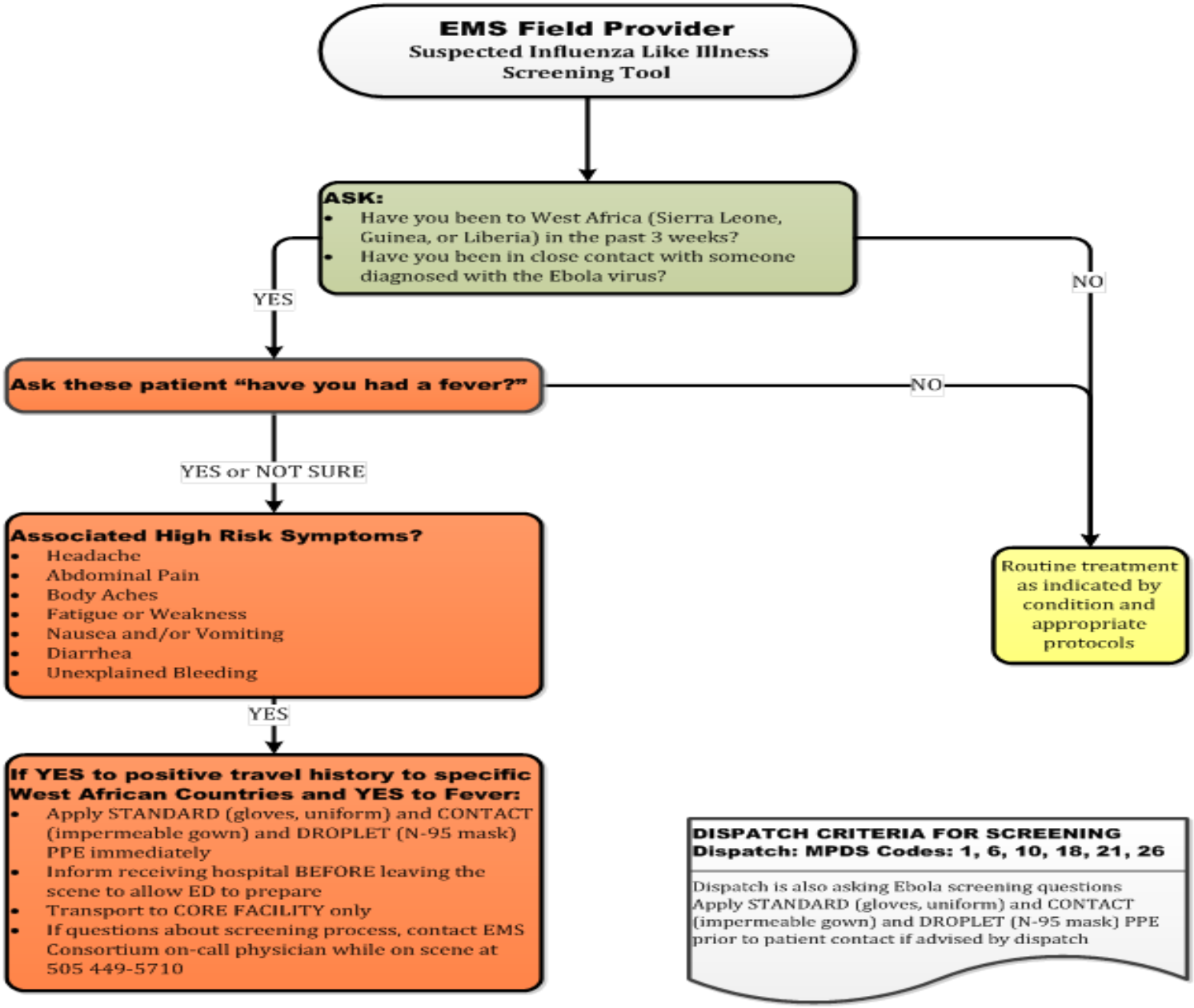
- Emerging Infectious Disease Screening tool used

June 2015 –

- Full drill with a *wet* patient completed with NMDOH
- Drill successful → **no staff exposures!**

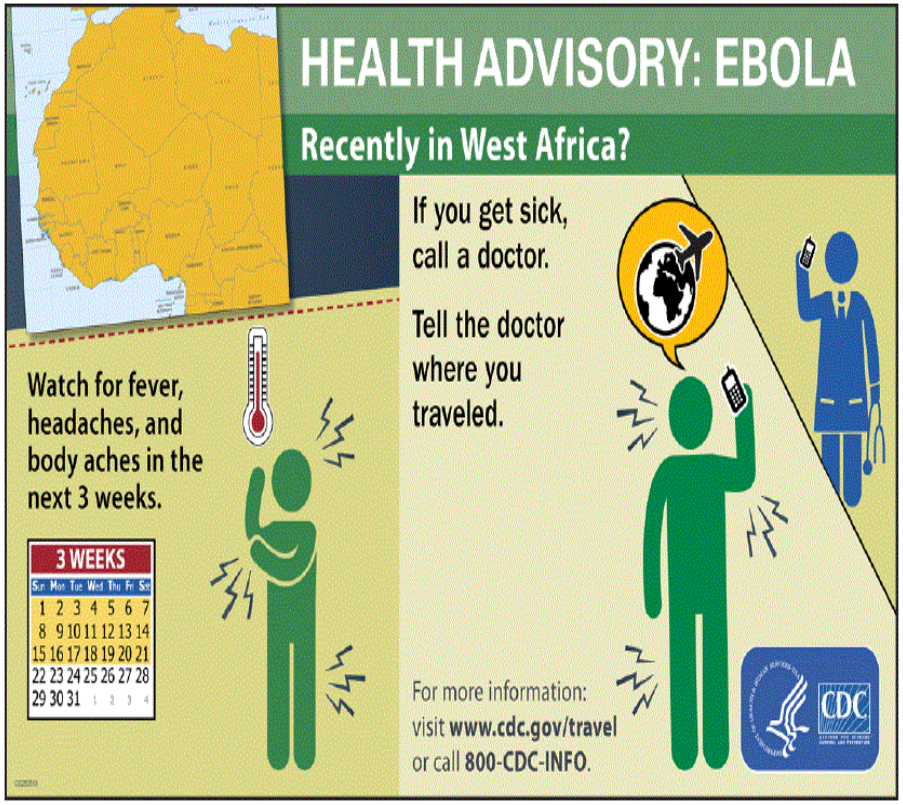
2015

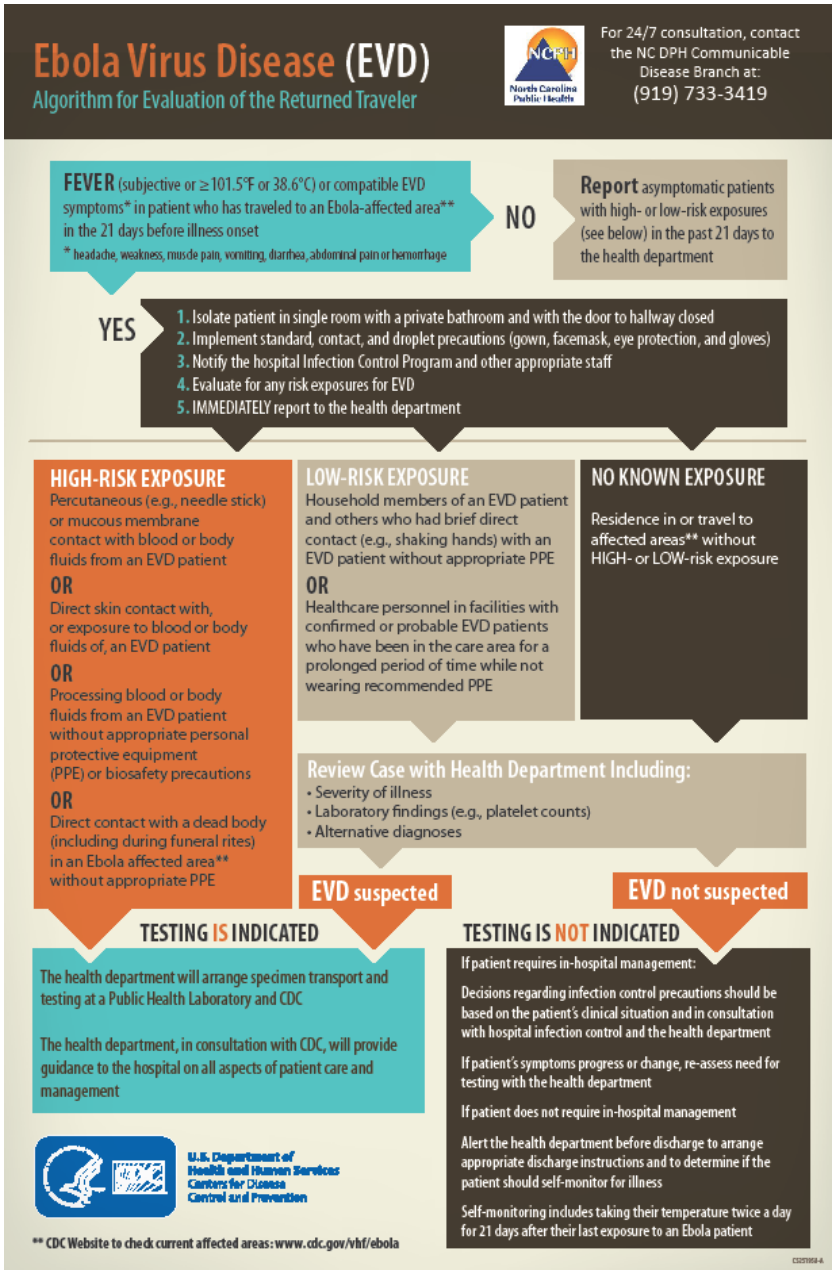
ILI Screening Tool for EMS

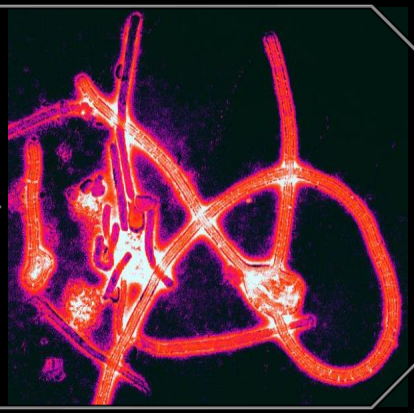


2015

Healthcare Facility Screening Questions



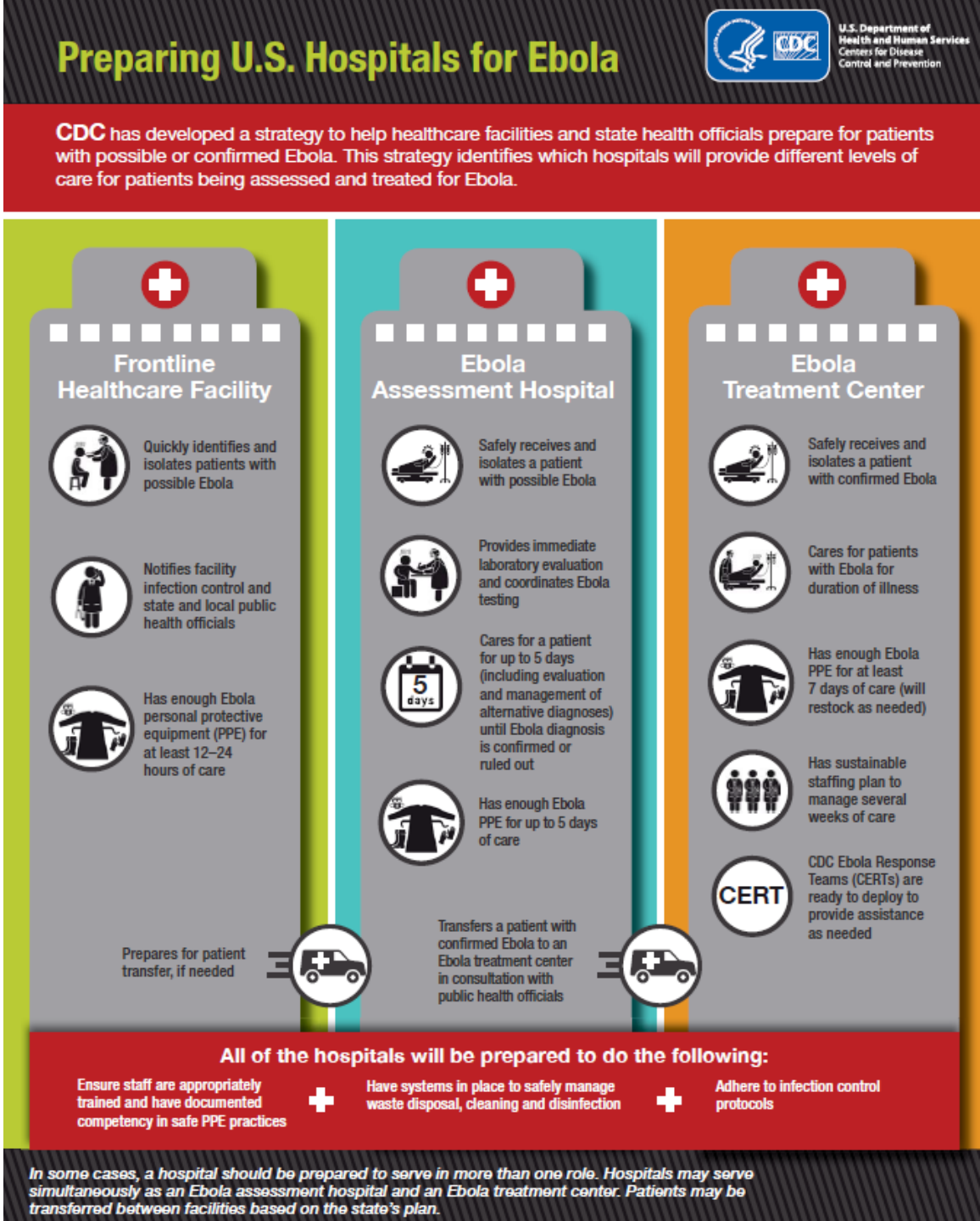


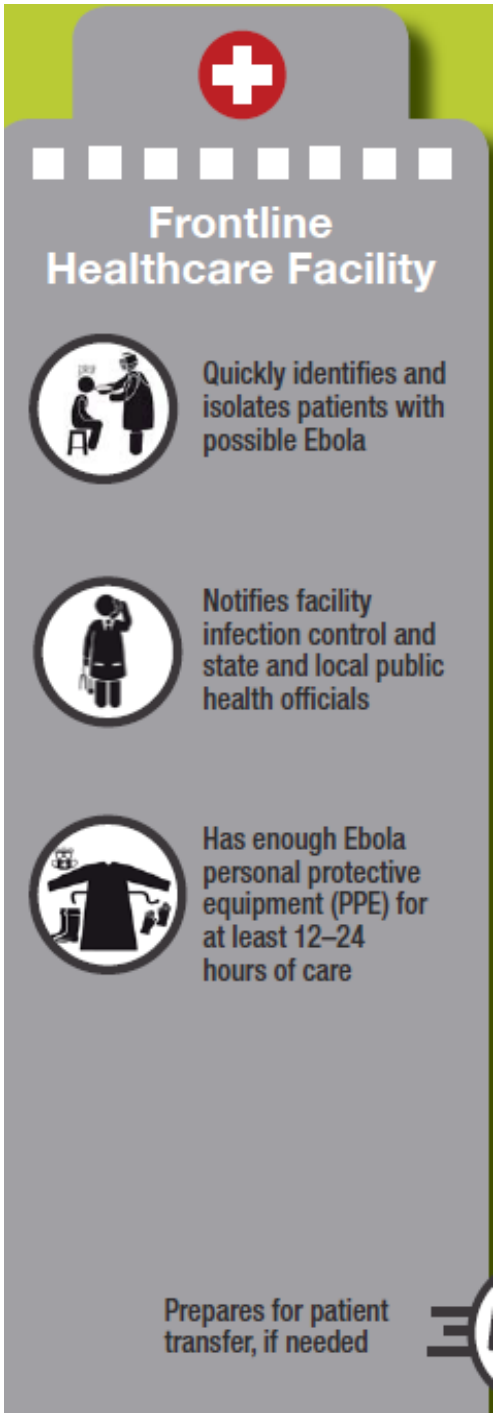
2014 2015  2017 2018 2019

2016

2016

What level of care does your healthcare facility provide?





FRONTLINE FACILITY

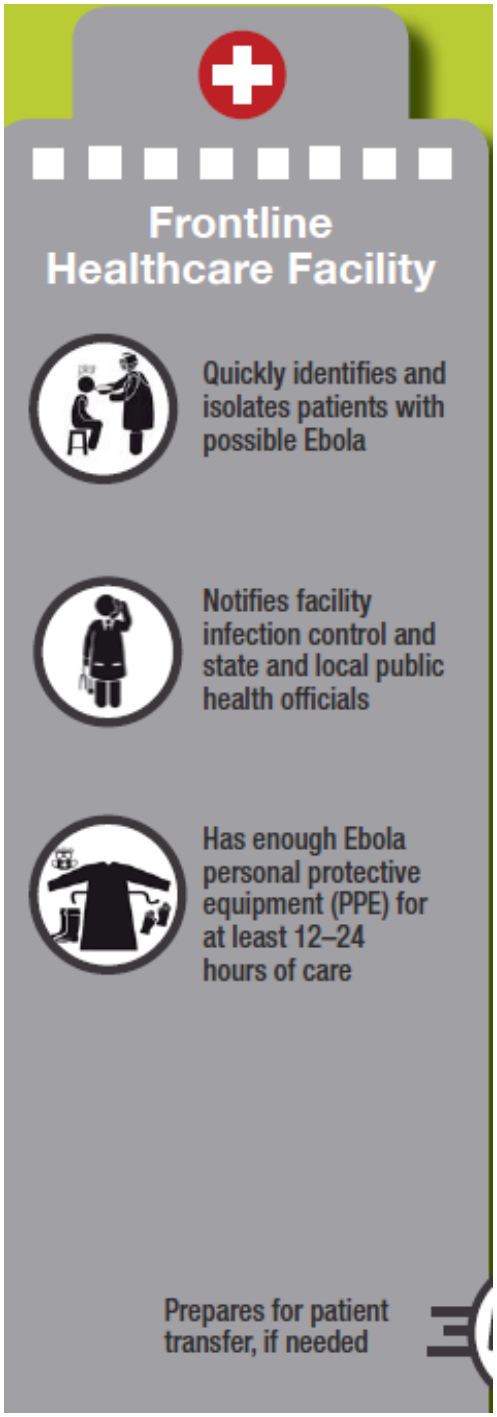
ROLE and KEY POINTS

1. Rapid Identification
   - ❑ Travel history
   - ❑ Exposure history
   - ❑ Signs/Symptoms
     - Fever, bleeding, vomiting, diarrhea

2. Immediate Isolation and don PPE
   - ❑ Patient – put on mask during triage
   - ❑ Staff – put on mask

3. Immediate Notification
   - ❑ Hospital/facility Infection Control
   - ❑ Appropriate facility staff
   - ❑ NM DOH – 505.827.0006

CDC. (2018). Interim guidance for preparing frontline healthcare facilities for patients under investigation (PUI) for Ebola Virus Disease: (EVD) . Assessed https://www.cdc.gov/vhf/ebola/healthcare-us/preparing/frontline-healthcare-facilities.html



FRONTLINE FACILITY

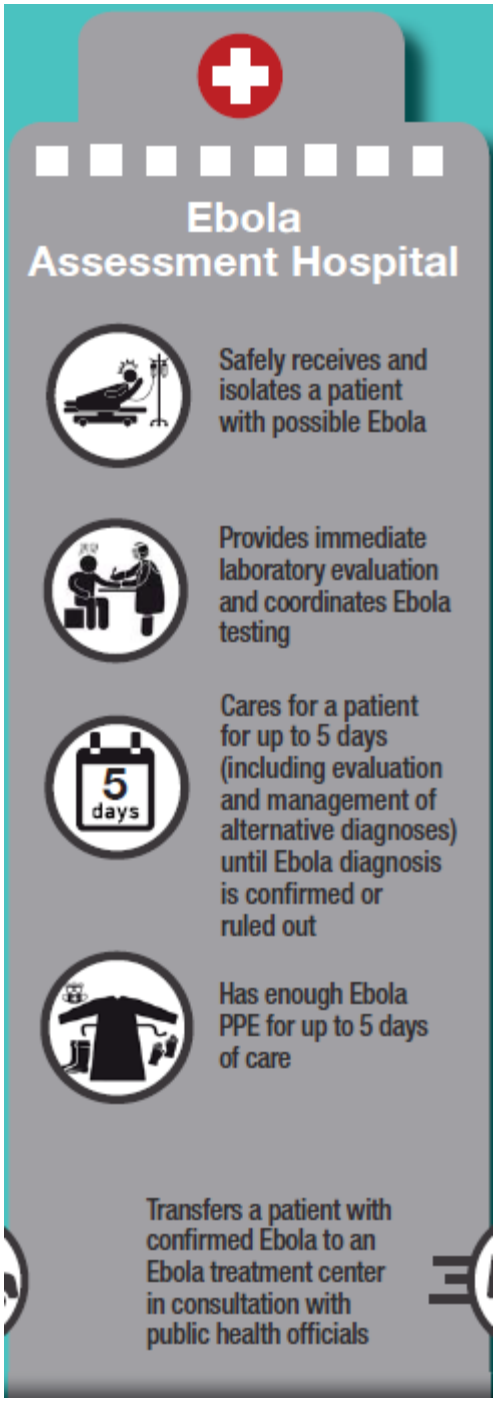
ROLE and KEY POINTS

4. Be prepared to care for patient for up to **24 hours.**

5. Prepare patient to transfer to a nearby Assessment Facility until testing confirms case.

6. Prepare patient for transfer to the CDC/NMDOH determined Treatment Facility.

CDC. (2018). Interim guidance for preparing frontline healthcare facilities for patients under investigation (PUI) for Ebola Virus Disease: (EVD) . Assessed https://www.cdc.gov/vhf/ebola/healthcare-us/preparing/frontline-healthcare-facilities.html



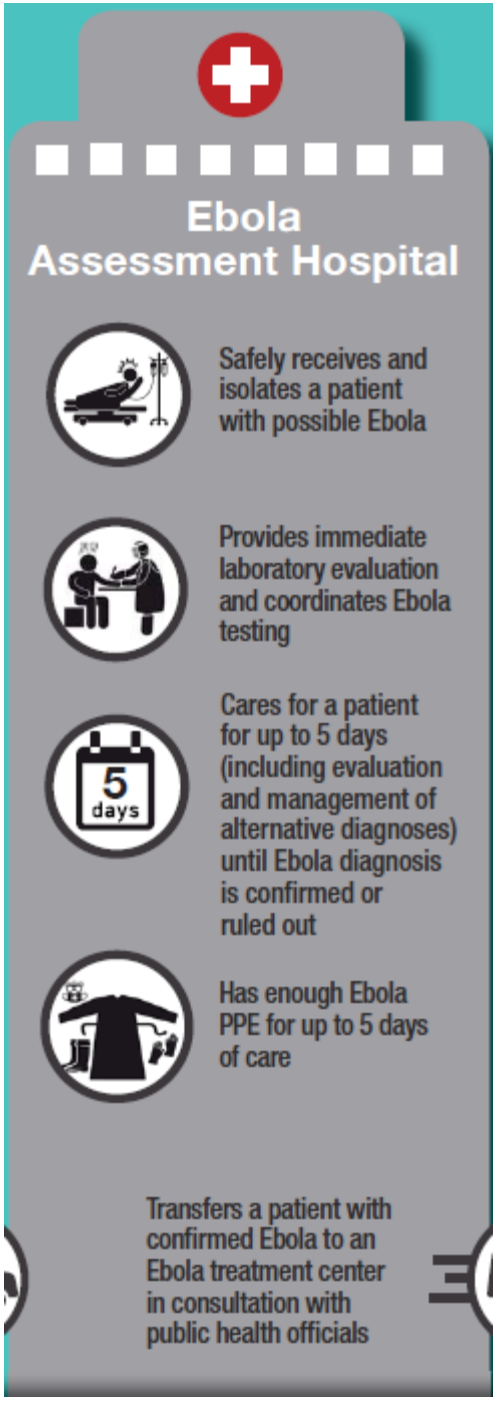
ASSESSMENT FACILITY

ROLE and KEY POINTS

1. Agreement between Hospital Administration and NM DOH

2. Rapid Identification
   - ❑ Travel history
   - ❑ Exposure history
   - ❑ Signs/Symptoms
     - Fever, bleeding, vomiting, diarrhea,

3. Immediate Isolation and don PPE
   - ❑ Patient – put on mask during triage
   - ❑ Staff – put on mask



ASSESSMENT FACILITY

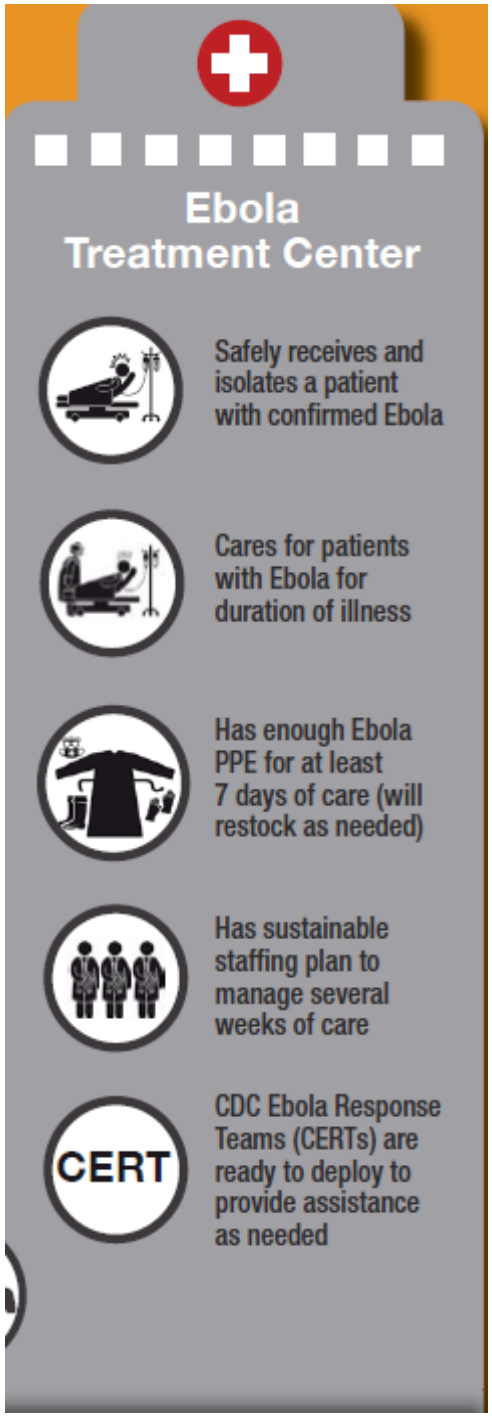
ROLE and KEY POINTS

4. Immediate Notification
   - ❑ Hospital/facility Infection Control
   - ❑ Appropriate facility staff
   - ❑ NM DOH – **505.827.0006**

5. Be prepared to care for patient for up to **96 hours**

6. Prepare the patient to transfer to an identified Treatment Facility.
   - ❑ Transfer decisions are determined by the CDC, NM DOH, and referring and accepting physicians based on the patient's acuity level.

CDC. (2018). Interim guidance for preparing Ebola Assessment Hospitals. Assessed https://www.cdc.gov/vhf/ebola/healthcare-us/preparing/assessment-hospitals.html



TREATMENT FACILITY

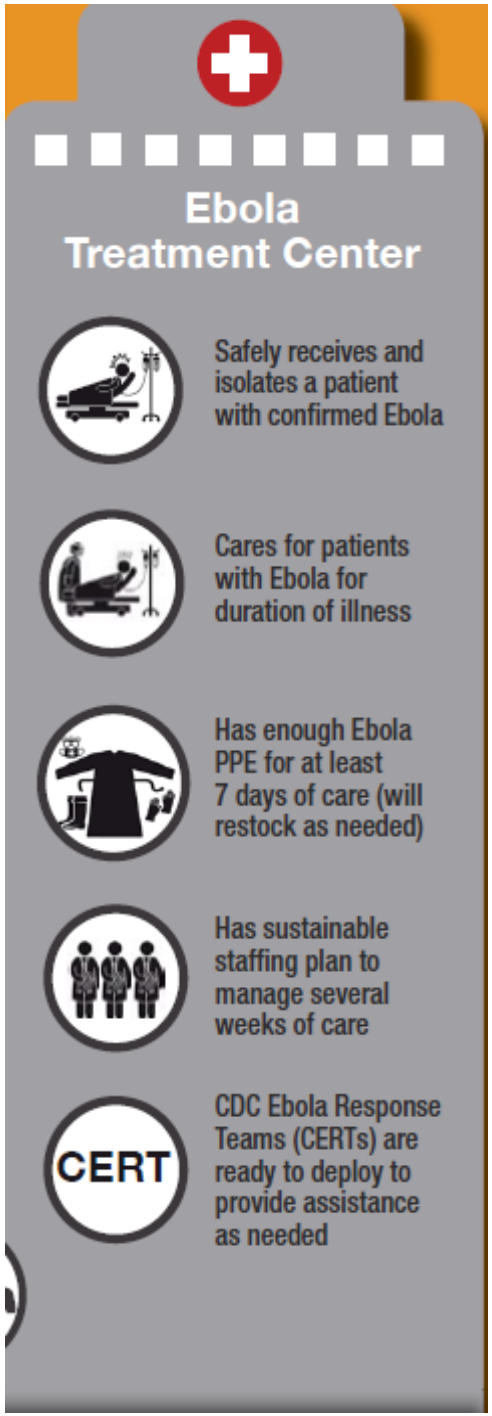
ROLE and KEY POINTS

1. Agreement between Hospital Administration and NM DOH
   - ❑ CDC determination following a site visit from a multidisciplinary team

2. Decision to receive patient with EVD informed by discussions with NMDOH and referring physician, and depends on acuity of patient.

3. Safety receives and isolates patient

TREATMENT FACILITY



ROLE and KEY POINTS

4. Prepared to provide comprehensive care to individuals diagnosed with EVD for the duration of a patient's illness.

5. Enough PPE to provide 7 days of care and ability to restock as needed.

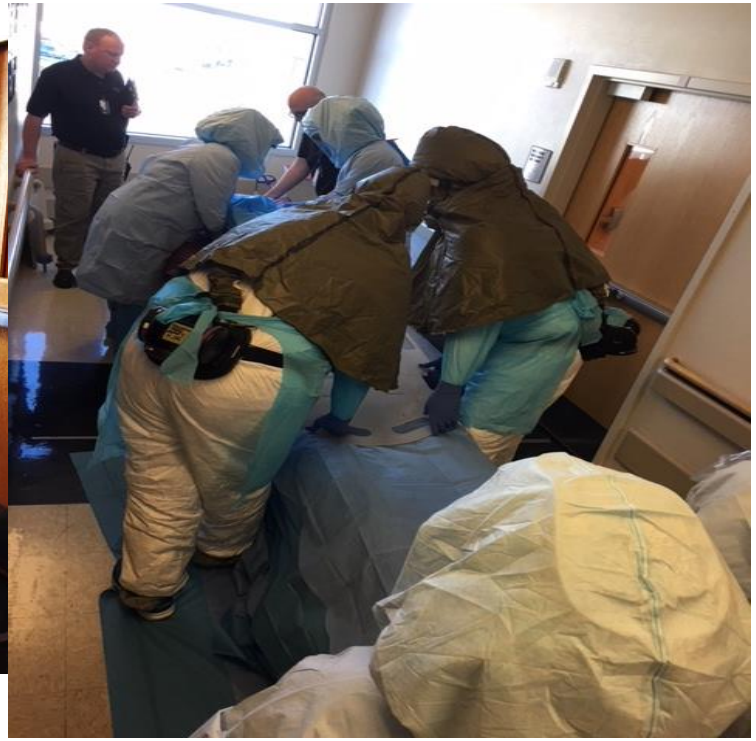
6. Appropriately trained and staffed care team to manage several weeks of care.

CDC. (2018). Interim guidance for preparing Ebola Treatment Centers. Assessed https://www.cdc.gov/vhf/ebola/healthcare-us/preparing/treatment-centers.html

2016

First Full Scale Regional Exercise – October

- UNMH and AAS conducted regional drill using a mannequin as a *wet* patient.

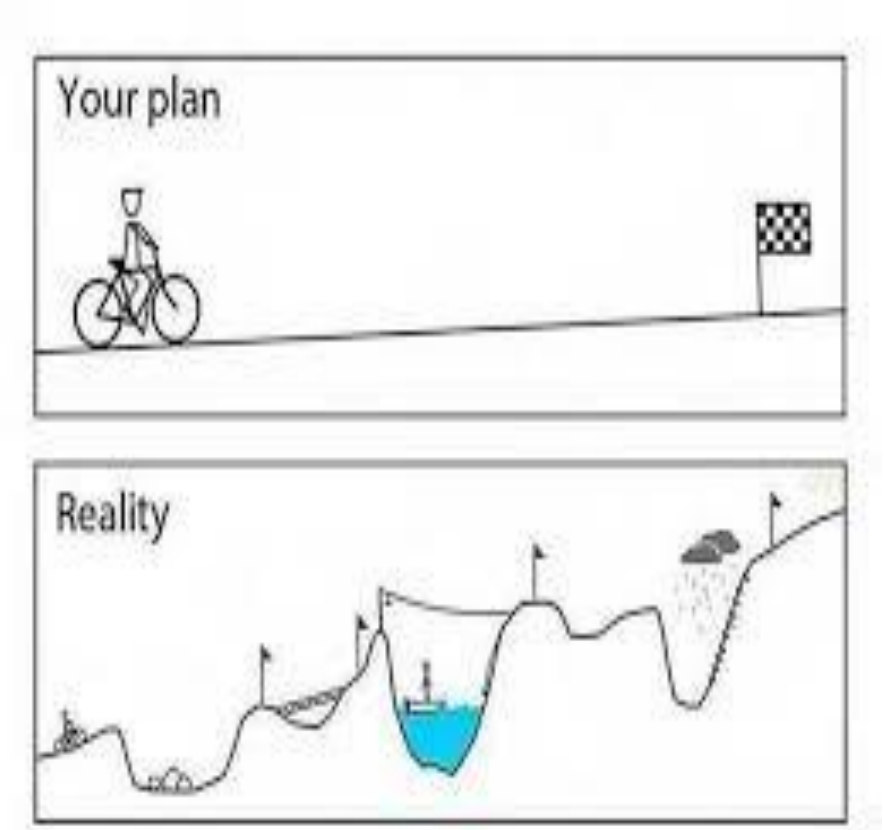


2016

Opportunities & Lessons from First Exercise

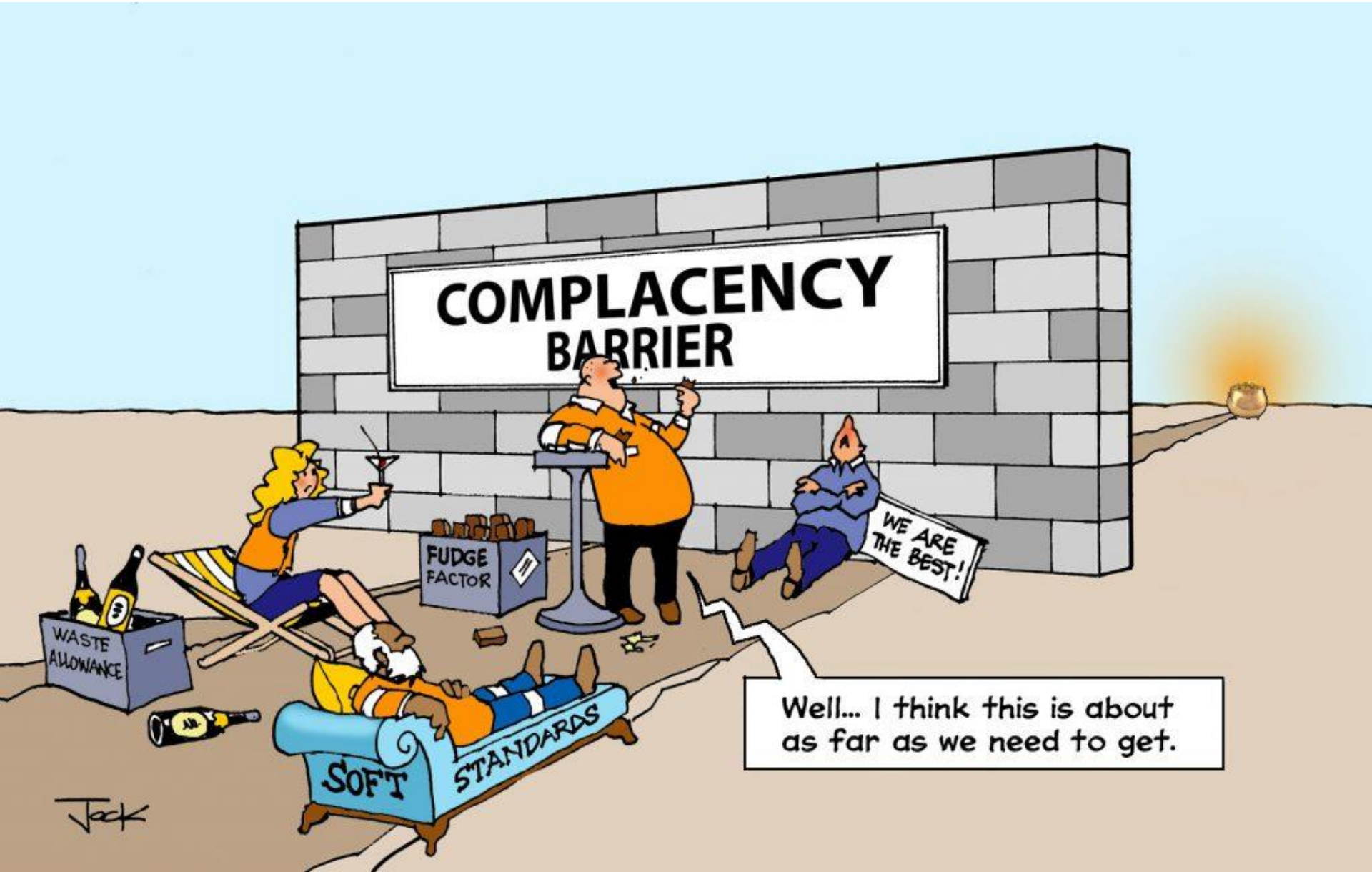
Discoveries

1. We had to communicate and work together.
2. The importance of drills was clearly demonstrated by the previous responses to potential patients



2016

And then…



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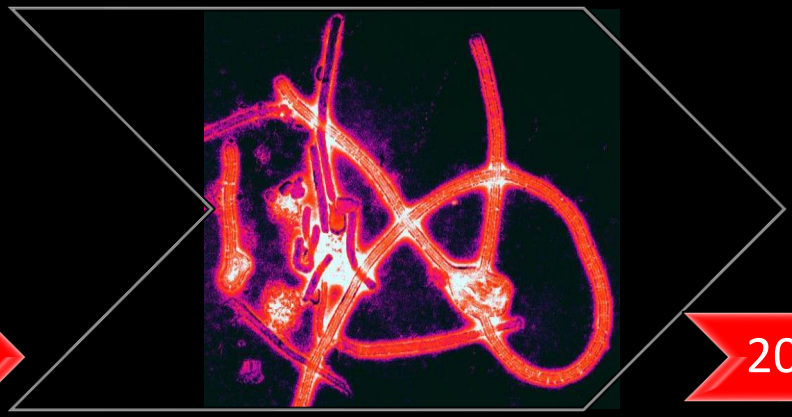


2018 2019

2017

2017

The ARCH-P

In the early 2000s, Healthcare Coalitions were implemented following the 9/11 and anthrax events to improve preparedness and response capabilities to mass casualties events.

2017

The ARCH-P

The healthcare coalitions have evolved to support community and regional healthcare organizations for an All-hazards emergency preparedness, response and recovery efforts.

2017

New ARCH-P Focus

- Tabletop exercises for HID patients
- Group presentation by Assessment Facility Infection Preventionists, EMS Representatives, and Emergency Managers
- Realized need for Highly Infectious Disease Subcommittee

Ebola >>> HID

ANTICIPATING EMERGING INFECTIOUS DISEASE EPIDEMICS

World Health Organization

Anticipating emerging infectious disease epidemics: an informal consultation
1-2 December 2015, Geneva

drawn live
graphic recording
Drawing Change

2017

The ARCH-P Highly Infectious Disease Subcommittee

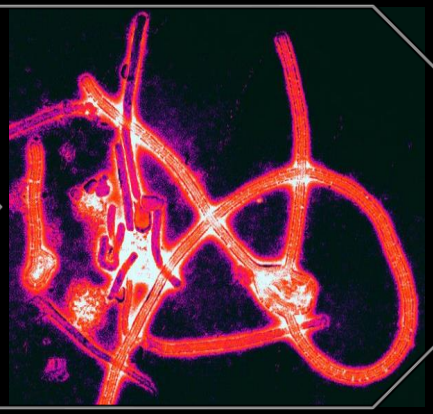
Under the umbrella of ARCH-P, the Highly Infectious Disease Subcommittee was created to focus on infectious disease preparedness, response and recovery.

2017

Subcommittee Scope:

- Encourage and support collaboration among the healthcare facilities (EMS, Frontline, and Assessment facilities) within the ARCH-P Coalition
- Support optimal healthcare delivery to all New Mexico populations in the event of a single patient presentation or the influx of patients with a suspected highly infectious disease.

2014 2015 2016 2017



2019

2018

2018

Drills

2018

Presbyterian

2018

Presbyterian

2018

UNMH

2018

Presbyterian

- Patient masked during triage within one minute of HID recognition.
- Patient placed in DECON/Isolation room within 8 minutes of HID recognition.

2018

Overarching Lessons

Communication –

- Clear and concise information needs to be provided to dispatch and receiving patient.
  - More patient details suggested
- EMS and Nursing staff debrief/hand-off before or after moving patient from Ambulance to Decon
  - Multiple flow processes based on timing

2018

Overarching Lessons

Entry/Exit Pathways –

- External privacy curtains
- One external entry/exit point – contaminated with patient entry and removal of gurney
- CDC/ NMDOH recommends single flow (clean dirty)
- EMS re-enter Decon for doffing support
    - Considerations

2018

Overarching Lessons

EMS Doffing support –

- Trained observer –
  - Just in time review of EMS doffing instructions
- EMS staff waited for communication of each step before proceeding to touch and remove PPE
- Team work and support between EMS staff

ARCH-P COALITION HIGHLY INFECTIOUS DISEASE (HID) SUBCOMMITTEE
Bug of the Month
January 2019

Bacterial Meningitis Factsheet (*Haemophilus influenzae* type B *(Hib)*)

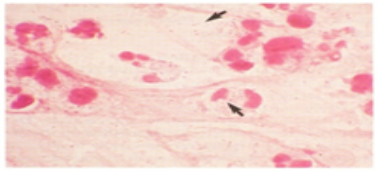


Figure 15-4

Bacteria:
- *Haemophilus species*
- Gram negative coccobacilli, encapsulated

Geographic origin/Risk groups:
- Global, especially resource-poor areas
- Age groups: <5 years of age, almos
- rates of disease

Transmission and Exposure:
- Exchange or direct contact with resp
- Exposure to individuals with asympt
- Humans are the only host

Incubation period:
- 2 – 4 days

Signs and Symptoms:
- Meningitis - Abrupt onset of fever, n with bulging fontanelle in infants or progressive stupor or coma is comn
- Mortality rate 5%, 6% survivors hav significant disability of some type.

Diagnosis:
- Cerebrospinal fluid (CSF) cultures w
- Alternate testing method includes s

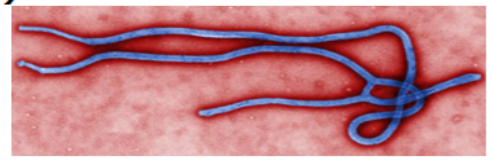
Treatment:
- Treat with effective antibiotics. It is
- Supportive care for airway, low bloc

Prevention:
- Haemophilus (Hib) Vaccination avail
  - recommended for all children
- Respiratory/Droplet precautions for
- Diligent hand hygiene practices and

Resources:
Chachere, C. A., CLS (ASCP), RN, CIC, & H *Microbes* (4th ed.). Washington D.C.: Asso (APIC).

ARCH-P COALITION HIGHLY INFECTIOUS DISEASE (HID) SUBCOMMITTEE
Bug of the Month
December 2018

Ebola Virus Disease (EVD) Factsheet



Virus:
- genus *Ebolavirus*, family Filoviridae
- Six species of viruses: Ebola virus (*Zaire ebolavirus*); Sudan virus (*Sudan ebolavirus*); Tai Forest virus (*Tia Forest ebolavirus*, formerly *Cote d'Ivoire ebolavirus*); Bundibugyo virus (*Bundibugyo ebolavirus*); Reston virus (*Reston ebolavirus*); and Bombali virus (*Bombali ebolavirus*)

Geographic origin:
- Africa: Democratic Republic of the Congo (DRC), Gabon, Guinea, Ivory Coast, Liberia, Republic of the Congo (ROC), Sierra Leone, Sudan, Uganda
- As of August 1, 2018 – North Kivu and Ituri provinces of the Democratic Republic of Congo (DRC), 10th outbreak since EVD was identified in 1970s.
  - As on December 26, 2018, total of 591 EVD cases (543 confirmed and 48 probable cases) with 357 deaths (60% case fatality ratio).

Transmission and Exposure:
- Zoonotic transmission from infected fruit bats or nonhuman primates
- Handling and consumption of wild animals infected with EVD.
- Human-to-human transmission via contact with blood, body fluids and semen from a male who recovered from EVD.
- Contact transmission through contaminated items/objects (clothes, bedding, needles, syringes, etc.)
- An individual is only contagious when symptoms are present
- Individuals most at risk: Healthcare providers, family members and friends with close contact with EVD patients, individuals assisting with the deceased.

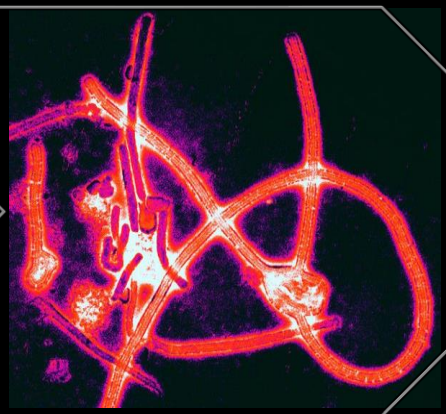
Incubation period: 2 – 21 days, average 8 – 10 days

Signs and Symptoms:
- Fever, headache, fatigue, muscle pain, weakness, diarrhea, vomiting, stomach pain, and unexplained bleeding or bruising.

Diagnosis:
- Suspect EVD in persons who have traveled to and from endemic areas and present with symptoms suggestive of EVD; Isolate patient.
- Confirmation through laboratory testing will be guided by NM DOH and NMDOH Scientific Laboratory Division or another identified reference laboratory.

Treatment:

2014 2015 2016 2017 2018



2019

and beyond

2019

Current and Future Plans

NMDOH Coalition contract requirements for each Coalition must have a HID Subcommittee:

- Exercise requirements each year
- MOU for PPE Cache
- Managed Inventory system for PPE viewable by all
- 911 answering points and EMS participation

2019

Managed Inventory system for PPE viewable by all

Facility Name	PPE Category	Inventory Item Name	Facility Item Number	Manufacturer	Manufacturer's #	Vendor	Expirat... Date	Unit of Measure (#/package)	# Days In Stock at Facility
UNMH	Foot Covering/Shoes	COVER BOOT XL	20642	KIMB	69672	OMV		BX	

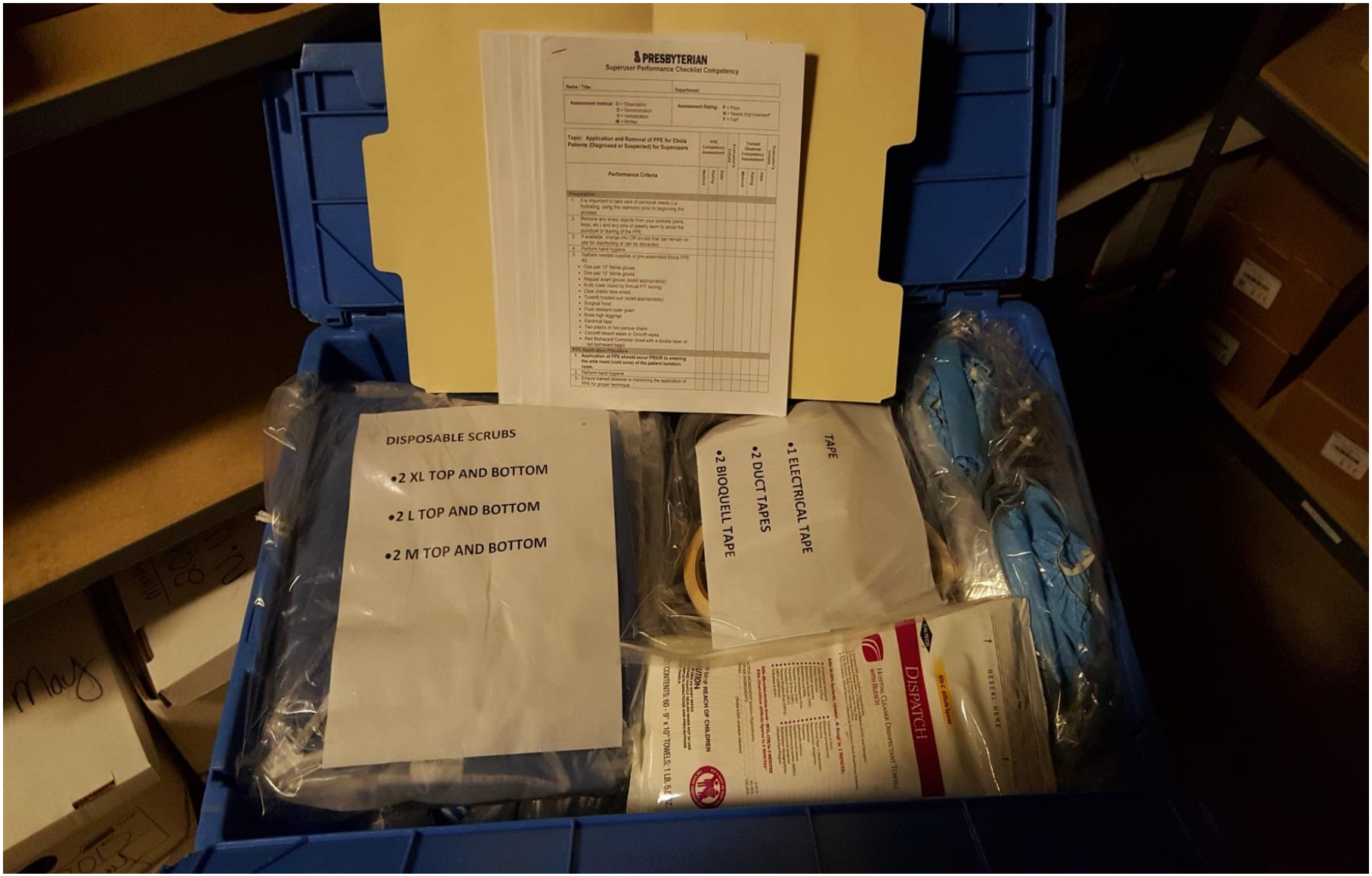
- **Facility Name**
- **PPE Category**
- **Inventory Item Name**
- **Facility Item Number**
- **Manufacturer**
- **Manufacturer's #**
- **Vendor**
- **Expiration Date**
- **Unit of Measure (#/package)**
- **# Days In Stock at Facility**
- **Difficulty Obtaining**
- **Person Completing Notes**
- **Date Completed**

2019

HID Ambulance

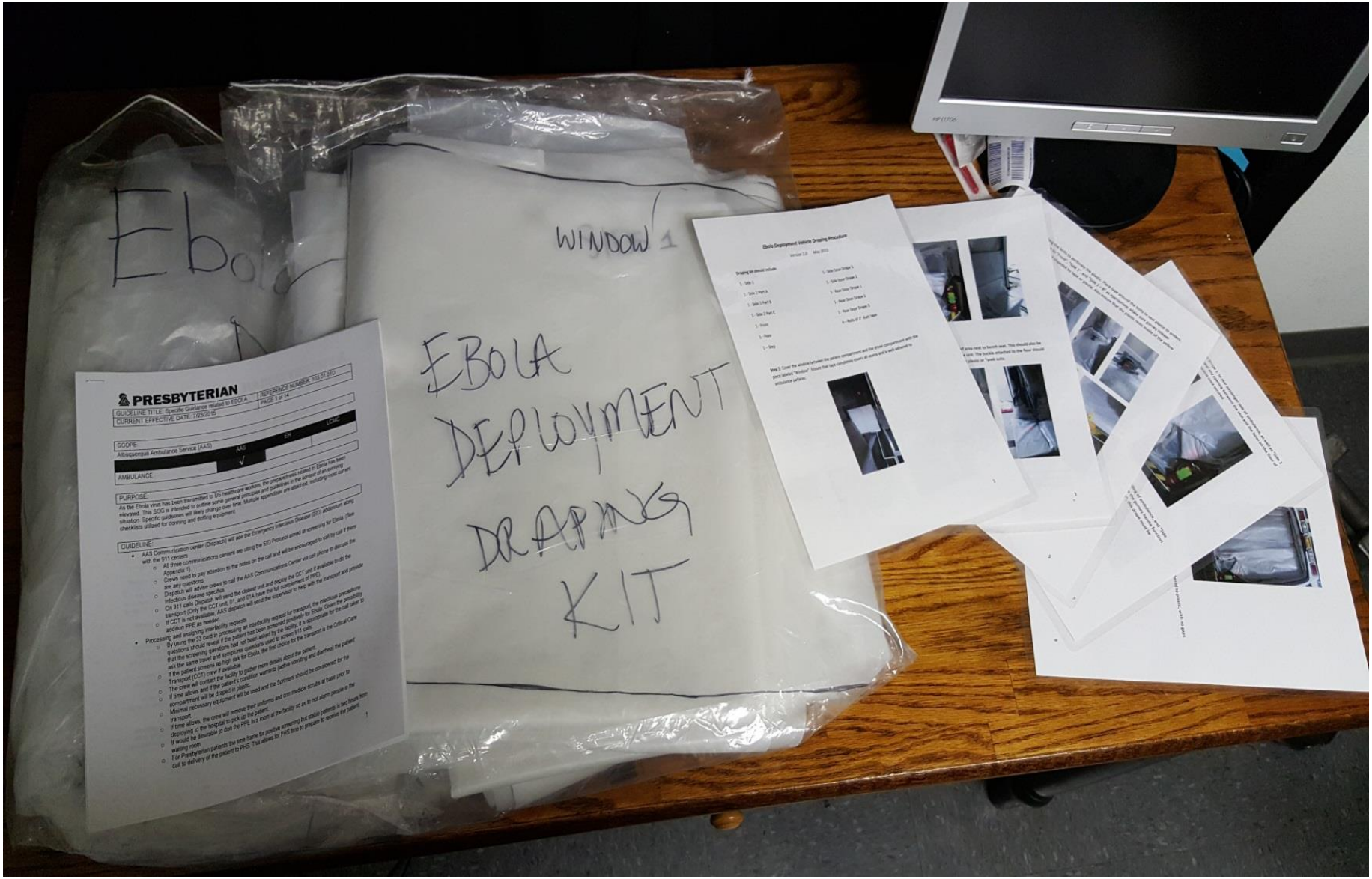
2019

Current EMS HID Kits



2019

Ambulance Draping Kits



Going forward…

Join Us!

If you are in the Albuquerque area

OR

Reach out! We will be happy to help you set up your own HID Subcommittee within your coalition

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Questions?